

# **Pacific Coast Fishery Ecosystem Plan for the U.S. Portion of the California Current Large Marine Ecosystem Revised Chapters 1 & 2**

## **Pacific Fishery Management Council**

*At its March 2020 meeting, the Council adopted this revised version of Chapters 1 and 2.*

### **Chapter 1 Vision, Purpose, Goals and Objectives**

The California Current Ecosystem (CCE) is a dynamic, diverse environment in the eastern North Pacific Ocean. Spanning nearly 3,000 km from southern British Columbia, Canada to Baja California, Mexico, the CCE encompasses the United States Exclusive Economic Zone (EEZ), the coastal land-sea interface, and adjacent terrestrial watersheds along the U.S. West Coast.

The Pacific Fishery Management Council (Council or PFMC) first adopted a Pacific Coast Fishery Ecosystem Plan (FEP) in 2013. In 2019, the Council began revising and updating its FEP, starting with a discussion of the FEP's visionary language. This draft Chapter 1 begins with statements of the Council's vision for the CCE, and includes the purpose statement for the FEP itself, and a set of Goals and Objectives for the CCE and for the Council's work in the ecosystem.

#### **1.1 Vision for the California Current Ecosystem**

*The Pacific Fishery Management Council envisions a thriving and resilient California Current Ecosystem that continues to provide benefits to current and future generations and supports livelihoods, fishing opportunities, and cultural practices that contribute to the wellbeing of fishing communities and the nation.*

To achieve this vision, the Council manages species to healthy population levels that provide sustainable harvest opportunities while preserving biodiversity and ecological relationships. The Council also develops management measures to ensure fair and equitable sharing of harvest benefits, to conserve habitats, and to minimize the bycatch of protected and non-target marine life. These Council policies are implemented through its fishery management plans (FMPs) and through this FEP to improve managed species resiliency to variability and change in the climate and ocean environment. The Council is supported in this work through the continued commitment of partner agencies to scientific research and ongoing monitoring of the biological, ecological, physical, social, and economic characteristics of the ecosystem.

## 1.2 Purpose of the Fishery Ecosystem Plan

The purpose of the FEP is to enhance the Council's species-specific management programs with more ecosystem science, broader ecosystem considerations, and management policies that coordinate Council management across its FMPs and the CCE. An FEP should provide a framework for considering policy choices and trade-offs as they affect FMP species and the broader CCE. The FEP should also coordinate information across FMPs for decision-making within the Council process and for consultations with other regional, national, or international entities on actions affecting the CCE or FMP species. Additionally, an FEP should identify and prioritize research needs and provide recommendations to address gaps in ecosystem knowledge and FMP policies, particularly with respect to the cumulative effects of fisheries management on marine ecosystems and fishing communities. The Council intends its work under this FEP to serve as an open and transparent forum for all who wish to civilly engage in the discussions of how the public resources of the CCE should be conserved and managed.

The FEP is meant to be an informational document, and is not meant to be prescriptive relative to Council fisheries management. Information in the FEP, results of the Integrated Ecosystem Assessment (IEA), and the Annual State of the California Ecosystem Report are available for consideration during the routine management processes for fisheries managed in each FMP. How exactly these items will affect fishery management decisions is at the discretion of the Council.

## 1.3 Goals and Objectives

The FEP's goals and objectives, below, are intended to address the Council's Vision for the CCE (Section 1.1) and Purpose for the FEP (Section 1.2). This FEP and related activities integrate fisheries management policies across all Council FMPs, while recognizing that the Council's authority is generally limited to managing fisheries and the effects of fisheries on the marine ecosystem, protected species, and to consultations on the effects of non-fishing activities on essential fish habitat (EFH). The Council's work often requires Council members to think about their larger goals for the ecosystem itself. Chapter 5 of this FEP, PFMC Policy Priorities for Ocean Resource Management, discusses the Council's CCE policy priorities as they apply to ocean resource management and policy processes external to the Council.

Goal 1: Provide a framework and public forum to improve and integrate ecosystem information for use in Council decision-making.

Objective 1a: Provide annual and regular opportunities for the Council and its advisory bodies to consider physical, biological, social, and economic information on the CCE with an emphasis on environmental and climate conditions, climate change, habitat conditions, ecosystem interactions, and changing socio-economic drivers;

Objective 1b: Identify research and monitoring priorities to address knowledge gaps, including indicators and reference points to monitor trends and drivers in key ecosystem features;

Objective 1c: Provide a nexus to regional, national, and international ecosystem-based management endeavors;

Goal 2: Conserve and manage species' populations and the ecological relationships among them to realize long-term benefits from marine fisheries while avoiding irreversible or long-term adverse effects on fishery resources and the marine environment.

Objective 2a: Map trophic energy flows and other ecological interactions within the CCE to better understand trophic relationships and the potential ecosystem effects of fishing, and to understand the effects of trends in marine mammal, seabird, and other protected species' populations and diets on fish stock abundance;

Objective 2b: Assess variability in fisheries income and vessel participation rates to ascertain whether CCE fishing rates have affected long-term stability and wellbeing for fishing communities;

Goal 3: Implement fisheries management that ensures continued ecosystem services for the well-being of West Coast communities and the nation.

Objective 3a: Continue to provide for commercial, recreational, ceremonial, subsistence, and non-consumptive uses of the marine environment;

Objective 3b: Continue to monitor and engage in opportunities to minimize and mitigate the effects of non-fishing activities on the ecosystem to better ensure that conservation benefits are not undermined by negative impacts of these activities;

Objective 3c: Support education efforts to promote understanding of CCE biophysical processes, how the ecosystem affects human well-being, and of the potential risks and benefits to ecosystem services from climate variability and change;

Goal 4: Protect and restore marine habitat diversity and integrity to the extent practicable.

Objective 4a: Maintain a diverse portfolio of protected habitat types in a way that meets the needs of the ecosystem and fishing communities;

Objective 4b: Promote awareness of and encourage lost fishing gear recovery projects, the development of fishing gear recovery technology, and fishing gear recycling programs as a means of protecting habitat from derelict fishing gear and ghost fishing.

Goal 5: Manage fisheries to support goals for protected species' recovery.

Objective 5a: Review the status and trends of protected species' populations to facilitate understanding their role in the ecosystem within and across FMPs;

Objective 5b: Manage and minimize bycatch and bycatch mortality of protected species within and across FMPs to the extent practicable;

Goal 6: Promote fishery management that is sufficiently adaptive to account for the effects of climate variability and change, ocean acidification, marine heat waves, harmful algal blooms, and hypoxia.

Objective 6a: Improve monitoring of the ecosystem and climate variability;

Objective 6b: Incorporate climate and ecosystem data into stock assessments and forecasts when applicable;

Objective 6c: Assess the effects of climate variability and change on the ecosystem's long-term stability and recommend research needed to understand the effects of potential shifts in species' abundance and distribution.

## **Chapter 2 Ecosystem Issues in the Council Process**

This draft Chapter 2 provides 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. 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 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. 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-~~XX~~, 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, 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, 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 indicator 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**

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 (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 report's to Council work.

### 2.3 Ecosystem Status Reports

In support of its ecosystem-based management processes, the Council asked that 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 Ecosystem Status Report in November 2012. Since March 2014, NMFS's Northwest and Southwest Fisheries Science Centers have collaborated to deliver ecosystem status reports 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 Scientific and Statistical Committee 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 ecosystem reports, it anticipates

continuing to review the reports' contents so that they may be tailored to provide information that best meets management needs.