

Pacific Coast Fishery Ecosystem Plan for the U.S. Portion of the California Current Large Marine Ecosystem

Pacific Fishery Management Council

Proposed revisions to Chapters 1 and 2 as part of the five-year review

As part of the five-year review of its Fishery Ecosystem Plan, in September 2019 the Council adopted for public review a revision of Chapters 1 and 2 including the vision statement and purpose, goals, and objectives. The Council will take final action to adopt these changes at its March 2020 meeting. The deadline to submit written public comment for that meeting will be in early February 2020.

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 California Current Ecosystem that continues to provide ecosystem services to current and future generations—including 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: The FEP should 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;

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Goal 2: Conserve and manage species' populations to achieve the greatest long-term benefits from marine fisheries and consider the tradeoffs needed to realize those benefits by taking into account the CCE's long-term historical fluctuations in species composition, predator-prey relations, and availability of harvestable surplus of targeted species.

Objective 2a: Continue to rebuild individual overfished stocks and minimize overfishing and bycatch in Council-managed species under the authority of the FMPs, taking into account the CCE's known fluctuations in environmental conditions and productivity;

Objective 2b: 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 2c: Assess and monitor species diversity and trophic levels of catch over appropriate timescales to understand the effects of climate variability and change on fisheries' harvest and variability;

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

Objective 2e: Characterize the cultural, social, and economic benefits that fish and other marine organisms generate through their interactions in the ecosystem.

Goal 3: Promote 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: Assess whether Council management programs and measures support ecosystem services essential to the ongoing engagement of fishing communities in West Coast fisheries and to providing working harbors for West Coast communities;

Objective 3c: Continue to monitor the effects of non-fishing activities on the ecosystem and, to the extent possible, ensure that conservation benefits derived from closing areas to fishing are not undermined by negative effects of non-fishing activities;

Objective 3d: 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;

Objective 3e: Promote fair and equitable allocation of resources in a manner such that no particular sector, group or entity acquires an excessive share of the privileges.

Goal 4: Minimize the cumulative adverse effects of human activities on marine habitats to the extent practicable.

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Objective 4a: Assess whether changes in ocean chemistry or other environmental factors affect managed species' functional habitat at any life stage, such that species' historical habitat becomes smaller or unusable;

Objective 4b: When developing or modifying habitat protection and other fisheries closed areas within the CCE, consider protections for diverse types of marine habitat, ensuring that closed areas are appropriate in size and location to the needs of managed species and fishing communities;

Objective 4c: 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: Assess the status of protected species' populations to understand trophic energy flows and other ecological interactions, including predator-prey interactions, especially as populations reach carrying capacity;

Objective 5b: Identify cross-FMP work that can conserve protected species essential to the flow of trophic energy within the CCE;

Objective 5c: While continuing to manage and minimize bycatch of protected species under the FMPs, ensure that cross-FMP bycatch of protected species is sufficiently minimized so that those species' populations may recover to sustainable levels.

Goal 6: Plan for the effects of climate variability and change on ecosystem services and consider long-term adaptation strategies.

Objective 6a: Improve monitoring capacity and include climate variability and change considerations into stock assessments and forecasts;

Objective 6b: 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;

Objective 6c: Develop management measures to improve fisheries stability and adaptability to the effects of climate variability and change, ocean acidification, marine heatwaves, and hypoxia.

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

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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 at least 20XX. 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;
- in March 2015 and in each subsequent odd-numbered year, assess whether there are new ecosystem initiative proposals that could be added to the appendix; and
- in March 20XX, assess whether to initiate a review and update of the FEP.

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

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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.