

## **May 22, 2019 PFMC Ecosystem Workgroup Webinar**

*For this webinar, the EWG will discuss a draft Vision statement for the California Current Ecosystem, a draft Purpose statement for the Fishery Ecosystem Plan, and draft sets of Goals and Objectives to address and implement the Vision and Purpose. These are early draft versions, and will likely change before the Council meeting to discuss the FEP Update in September 2019.*

*March 2019 comments from Council advisory bodies and the public, which the EWG reviewed and considered in drafting May 2019 alternative goals and objectives, are available at the Council's March 2019 briefing book website under agenda item E.3:*

<https://www.pcouncil.org/resources/archives/briefing-books/march-2019-briefing-book/#ecoMar2019>

### **March 2019 Alternative Draft Vision for the California Current Ecosystem**

The California Current Ecosystem (CCE) is a biodiverse and climatically variable eastern boundary current system with species that connect the broader ecosystem across terrestrial, estuarine, and ocean environments. The Pacific Fishery Management Council (Council) is committed to managing thriving and sustainable CCE fisheries for their inherent value, and the benefit of current and future generations, and to support and preserve the abundance and diversity of the CCE's living marine resources. The Council's vision for the future of the CCE is an ecosystem that: includes adequate habitat protections to support healthy populations of fish and other marine species; allows the dynamic relationships among CCE species to build and maintain resiliency that will help buffer those species' populations against climate change and other potential long-term adverse effects on fishery resources and the marine environment; and, continues to provide ecosystem services to humans such that future generations will have a multiplicity of options available with respect to future uses of these resources.

### **May 2019 Alternative Draft Vision for the California Current Ecosystem**

The Pacific Fishery Management Council (Council) envisions a CCE that supports long-term sustainable fisheries. This vision necessitates sustaining species' populations and the dynamic relationships among them, and managing fisheries in the face of climate change and other potential adverse effects to fishery resources and the marine environment. With effective fisheries management, the CCE can provide ecosystem services for current and future generations that ensure jobs and incomes that contribute to the social wellbeing and culture of fishing communities.

## **Purpose of the Fishery Ecosystem Plan (Presented in March, no additional May alternative)**

The purpose of the Fishery Ecosystem Plan (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 Fishery Management Plans (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 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 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 Current 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.

## **March 2019 Alternative Goals and Objectives (Goals 1, 2, and 4 are Objectives 1, 2, and 3 from the existing FEP; March 2019 Goal 3 was new as of that meeting.)**

Goal 1: Improve and integrate information used in Council decision-making across the existing FMPs by:

Objective 1a: Providing opportunities for the Council and its advisory bodies to consider physical, biological, social, and economic information on CCE climate conditions, climate change, habitat conditions, and ecosystem interactions;

Objective 1b: Identifying measures and indicators, and informing reference points to monitor and understand trends and drivers in key ecosystem features;

Objective 1c: Identifying and addressing gaps in ecosystem knowledge, particularly with respect to the cumulative and longer-term effects of fishing on marine ecosystems;

Objective 1d: Examining the potential for a science and management framework that allows for managing fish stocks at spatial scales relevant to the structure of those stocks.

Goal 2: Build toward fuller assessment of the greatest long-term benefits from the conservation and management of marine fisheries, of optimum yield, and of the tradeoffs needed to achieve those benefits while maintaining the integrity of the CCE through:

Objective 2a: Assessing trophic energy flows and other ecological interactions within the CCE;

Objective 2b: Assessing the full range of cultural, social, and economic benefits that fish and other living marine organisms generate through their interactions in the ecosystem;

Objective 2c: Improving assessment of how fisheries affect and are affected by the present and potential future states of the marine ecosystem.

Goal 3: Manage species and habitats to protect ecosystem functions, and to provide sustainable commercial, recreational, and cultural and subsistence fisheries to future generations by:

Objective 3a: Providing adequate buffers against the uncertainties of environmental and human-induced impacts to the marine environment by developing safeguards in fisheries management measures;

Objective 3b: Working beyond the Council process to reduce non-fisheries stressors to managed species and habitats;

Objective 3c: Increasing knowledge and information on the potential effects and responses of managed species and habitats to a changing climate.

Goal 4: Provide administrative structure and procedures for coordinating conservation and management measures for the living marine resources of the U.S. West Coast EEZ by:

Objective 4a: Guiding annual and regular reporting of status and trends to the Council;

Objective 4b: Providing a nexus to regional, national, and international ecosystem-based management endeavors, particularly to address the consequences of non-fishing activities on fisheries and fish habitat;

Objective 4c: Identifying ecological relationships within the CCE to provide support for cross-FMP work to conserve non-target species essential to the flow of trophic energy within the CCE.

## **May 2019 Alternative Goals and Objectives**

Goal 1: The FEP should provide a framework and process 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 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: Explore the greatest long-term benefits from the conservation and management of marine fisheries, and the tradeoffs needed to achieve those benefits while maintaining the integrity of the CCE.

Objective 2a: Map trophic energy flows and other ecological interactions within the CCE;

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

Objective 2c: Characterize how fisheries affect and are affected by the present and potential future states of the marine ecosystem;

Objective 2d: Identify research and monitoring priorities to address knowledge gaps.

Goal 3: Maintain managed species' populations at levels that support the CCE's long-term historical fluctuations in species composition, predator-prey relations, and availability of harvestable surplus of targeted species.

Objective 3a: 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 3b: Consider the status of mid- and lower-trophic level populations consumed by predators that feed on a variety of species to better understand the potential ecosystem effects of overfishing;

Objective 3c: Assess and monitor the species diversity and trophic levels of landed catch over appropriate timescales to understand the effects of climate variability on catch variability;

Objective 3d: 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 3e: Assess the trend in marine mammal abundance, their consumption of managed species and the trend in harvestable surplus of various managed fish species, since the establishment of the 1972 Marine Mammal Protection Act.

Goal 4: Promote fisheries management that ensures continued CCE services for the well-being of West Coast communities and the nation.

Objective 4a: Continue to provide for commercial, recreational, ceremonial, subsistence, and non-consumptive uses of the marine environment;

Objective 4b: Assess whether Council management programs and measures support ecosystem services essential to the ongoing engagement of fishing communities in West Coast fisheries;

Objective 4c: Continue to monitor the effects of non-fishing activities on the CCE and, to the extent possible, work to ensure that conservation benefits derived from closing areas to fishing are not undermined by negative effects of non-fishing activities;

Objective 4d: Support education efforts to promote understanding of CCE biophysical processes and how the CCE affects human well-being.

Objective 4e: 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 5: Minimize the cumulative adverse effects of CCE fisheries on marine habitats to the extent practicable.

Objective 5a: Assess whether changes in ocean chemistry or other environmental factors affect managed species' functional habitat such that species' historical habitat becomes smaller or unusable;

Objective 5b: Consider whether marine protected areas within the CCE are adequately diverse in terms of the types of marine habitat protected, and appropriate in size and location to the needs of managed species and fishing communities;

Objective 5c: Promote awareness of and encourage lost fishing gear recovery projects, and promote the development of fishing gear recovery technology as well as fishing gear recycling programs as a means of protecting habitat from derelict fishing gear and ghost fishing.

Goal 6: Manage fisheries to support goals for protected species' recovery.

Objective 6a: 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 6b: Identify cross-FMP work that can conserve protected species essential to the flow of trophic energy within the CCE;

Objective 6c: 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.

Objective 6d: Determine if the significant increase in pinnipeds and northern resident killer whales has reduced the availability of Chinook salmon for southern resident killer whales and fisheries.

Goal 7: Plan for the effects of climate variability and change on ecosystem services and consider long-term adaptation strategies.

Objective 7a: Improve monitoring capacity and include climate variability and change considerations into stock assessments and forecasts;

Objective 7b: : Assess the effects of climate variability and change on the long-term stability and distribution of managed species' populations and, where possible, develop management measures to improve that stability and conduct research to understand changing distributions;

Objective 7c: Ensure that fisheries management adapts to the effects of climate variability and change, ocean acidification, marine heatwaves and hypoxia;

Objective 7d: Support education efforts to promote understanding of potential risks and benefits to CCE services from climate variability and change.