



Pacific Fishery Management Council

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Marc Gorelnik, Chair | Charles A. Tracy, Executive Director

May 10, 2021

Dr. Paul Doremus
Acting Assistant Administrator for NOAA Fisheries
NOAA Fisheries
1315 East-West Highway, 14th Floor
Silver Spring, MD 20910

Dear Dr. Doremus:

At its March and April 2021 meetings, the Pacific Fishery Management Council (Pacific Council or Council) reviewed Executive Order (EO) 14008, Tackling the Climate Crisis at Home and Abroad, and offers these comments responding to Section 216(c). This section of the EO directs the National Oceanic and Atmospheric Administration (NOAA) to collect input from fishery management councils (among other stakeholders) on how to make fisheries and protected resources more resilient to climate change, including changes in management and conservation measures and improvements in science, monitoring, and cooperative research.

Reduction of greenhouse gas emissions is the most direct way to increase the resilience of U.S. fisheries and ecosystems. In addition, there are a growing number of innovative and science-based tools and approaches to help fisheries, communities, and management entities adapt to the effects of climate change, and thereby increase resilience.

The Pacific Council has long taken an interest in ecosystem-based fisheries management. The Council has expressed this commitment through the development of a Fishery Ecosystem Plan (FEP), adopted in 2013. The FEP has served as a vehicle to catalog, coordinate, and further the Council's efforts to integrate ecosystem-based fishery management principles into its decision-making. The FEP serves as a basis for the Council to take into account the effects of climate change on the fisheries it manages and, by extension, West Coast fishing communities that depend on those fisheries.

To consider climate change effects, the Council needs information on the changing status of the ecosystem. The FEP calls for an annual report on the status of the California Current Ecosystem (CCE), produced by the Integrated Ecosystem Assessment Team at the National Marine Fisheries Service (NMFS) Northwest and Southwest Fishery Science Centers, and presented to the Council at each of its March meetings since 2014. This report tracks a range of environmental indicators covering physical-climatological, biological, and social processes. When annually reviewing this ecosystem status report, the Council may recommend further development and refinement of status

report indicators. While this status report does not currently interpret status report indicators to track climate change (as opposed to periodic or cyclical climate variability), Council feedback could encourage the report authors to move in that direction.

The Council's FEP also identifies initiatives that help the Council focus on ecosystem issues across its fishery management plans. Through this initiative process, the Council has been considering the implications of climate change on its managed fisheries and related West Coast fishing communities since September 2017. The purpose of this Climate and Communities Initiative (CCI) is to help the Council, its advisory bodies, and the public better understand the effects of near-term climate shifts and long-term climate change on our fish, fisheries, and fishing communities, and identify ways in which the Council could incorporate such understanding into its decision-making.

At the outset of the initiative, the Council's Ecosystem Workgroup worked with NMFS scientists to organize a series of webinars on the effects of climate variability and climate change on the CCE. This was followed by a workshop, co-sponsored with The Nature Conservancy, allowing stakeholder input into the development of the CCI.

This groundwork led the Council to embark on a climate change scenario planning process in mid-2019. Scenario planning is a well-established method that helps organizations meet new challenges. An organization constructs a few alternative plausible descriptions for how the future might play out and considers the implications. Through this method, the Council developed four alternative climate change scenarios for the CCE; these formed the basis of four regionally-focused workshops. In the workshops an array of stakeholders explored the implications of these alternative futures and identified adaptation strategies across a range of possible outcomes.

A [report summarizing the outcomes of the workshops](#) was presented to the Council in March 2021. The Council is now using the outcomes to identify strategies for making Council decisions more resilient to the effects of climate change. Some of these strategies are beyond Council authority, and therefore would take the form of recommendations to other government entities and stakeholder groups.

These potential strategies would make management processes better able to quickly respond to sudden changes in stock status and availability; help prepare the fishing industry for changing conditions, for example through innovative marketing mechanisms; foster community-level efforts to collaborate on climate change adaptation strategies; and promote the collection and analysis of environmental data, so that processes may be understood in "real time." At its September 2021 meeting, the Council plans to review candidate strategies and identify concrete actions to better respond to the effects of climate change.

In addition to efforts stemming from the CCI, the Council has, for many years, employed a variety of methods to account for ecosystem status in its management processes. For example, abundance forecasts for several salmon stocks use environmental variables and the method for setting and monitoring Pacific sardine catch limits employs water temperature as a variable. Although these methods were not developed to explicitly account for climate change, by including environmental variables, climate change affects the estimates. Moving forward, these methods will allow the Council to build climate change effects into the management process.

In summary, the Council has a long history of accounting for ecosystem effects in its management processes. As the climate crisis becomes more apparent, the Council has a sound basis to account for and respond to the effects of climate change on the fisheries we manage and on West Coast communities depending on those fisheries. On behalf of the Council, I would also like to express our appreciation for the special project funding we have received from NMFS that has enabled this work. In addition, all the Regional Fishery Management Councils rely on NOAA's ability to conduct scientific monitoring and stock assessments, which are essential to our ability to manage fisheries and work toward resilience in the face of climate change. It is vitally important that NOAA receive the budgetary and logistical support needed to provide these services. As climate change manifests itself in more profound effects on society, continuing this work will undoubtedly become ever more central to the Council's work. If you have any questions, please contact Mr. Chuck Tracy, Pacific Council Executive Director, or Dr. Kit Dahl, Council staff lead for ecosystem issues.

Sincerely,

A handwritten signature in black ink, appearing to read "Marc Gorelnik". The signature is fluid and cursive, with the first name "Marc" being more prominent than the last name "Gorelnik".

Marc Gorelnik
Pacific Council Chair

KRD:ael

cc: Pacific Council members
RFMC Executive Directors
Dr. Kevin Werner
Ms. Kristen Koch