

Ocean Protection Council Science Advisory Team Working Group: Exploring the Role of California’s Marine Protected Area Network as a Climate Resilience Tool

Overview

California Ocean Science Trust will convene a working group of the Ocean Protection Council’s Science Advisory Team (OPC SAT) to focus on developing a strategy for evaluating the performance of California’s marine protected area (MPA) network in the face of climate change. Specifically, the working group will develop a scientific guidance document for the Ocean Protection Council (OPC), California Department of Fish and Wildlife (CDFW), and Fish and Game Commission (FCG) that identifies existing science and data gaps, and makes recommendations on the best approach to assess and monitor the ability of California’s MPA network to provide ecosystem resistance and resilience against climate-driven impacts.

About the OPC SAT

The [OPC SAT is a team of interdisciplinary scientists](#) appointed by OPC to provide scientific advice on ocean and coastal issues. Working groups of the OPC SAT are composed of both SAT members and external experts and are formed to access, analyze, and synthesize scientific information on a particular topic or issue to inform policy, management, or investment decisions.

Background

California is a world leader in developing and managing a science-based and stakeholder-driven network of MPAs. The State’s individual MPAs were created to protect marine ecosystems and designed to be ecologically connected, with the goal of conserving marine life and habitats along the entire coast of California. In recent years, the effects of climate change on marine ecosystems have come more sharply into focus and there is growing scientific interest in understanding the role that MPAs may play in building ecosystem resilience and providing societal benefits in the face of climate change. Assessing California’s MPA network holistically through the lens of climate impacts and adaptation may illuminate additional benefits beyond those considered at the time of designation of the MPA network. However, this is an emerging field of study and there is a clear role for scientific guidance to inform this effort.

Previous global scale studies have identified general characteristics of MPAs that can enhance their ability to promote resistance and resilience in the face of climate change. This project will help to advance these studies in California waters and may complement the required 2022 decadal review of California’s MPA network performance.



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Working Group Scope

OST will convene a SAT working group to develop a scientific guidance document that creates a roadmap for exploring the role of California's MPA network in imparting climate resistance and resilience, addressing the question: *How can we meaningfully and effectively assess the capacity of California's MPA network to provide ecological and societal resistance and resilience to climate change, and what further research is needed to deepen our understanding of that function?*

Deliverables

In consultation with OPC, the working group will develop a scientific guidance document that will contain actionable recommendations to inform how California's MPA network could be assessed and used as a tool to provide ecological and societal resilience to climate change. The guidance and recommendations provided will include, but will not be limited to:

- **Definitions of ecological and societal resistance and resilience** to climate change for California's MPA network;
- **A list of quantifiable, tractable scientific questions and associated methods** that could reasonably be used to assess the performance of California's MPA network in the context of climate change and appropriate analytical approaches for answering those questions;
- **A list of current and ongoing scientific projects and data** that address, or could address, the use of California's MPA network as a tool for resilience;
- **A description of the current scientific understanding** of the MPA network's function through a climate change lens; and
- **A gap analysis to identify research and monitoring needs** to better address how MPAs may perform in the face of climate change and priorities to fill these gaps.

Process and Timeline

The Working Group will be convened from November 2019 - August 2020. Working Group members will conduct their work primarily via webinar/conference calls, with in-person meetings convened as needed. The exact process and timeline will be determined in collaboration with Working Group members.

Conflict of Interest Statement

Ocean Protection Council grantees who serve as principal or co-principal investigators of MPA long-term monitoring projects were not considered for Working Group membership beyond one Working Group member, the PI Liaison. As long-term monitoring PI expertise will be essential in answering the charge of the Working Group, having a PI Liaison will ensure clear and effective communication and knowledge-sharing between the Working Group and the long-term monitoring PIs. Any funding decisions stemming from Working Group recommendations will be made via a separate process. Working Group members will receive no preference in funding decisions and will be judged by the same standards as all other applicants, per award guidelines.



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Working Group Membership

Working group members were identified by soliciting nominations from the OPC SAT, OST, OPC and CDFW, and determined in consultation with the SAT Executive Committee [per SAT working procedures]. Members have expertise and cumulatively represent the following fields: marine protected area science, marine ecology, ecological modeling, social science, oceanography, and climate science. Working group members were offered an honorarium for their participation.

Gretchen Hofmann, University of California, Santa Barbara (co-chair)

Elliott Hazen, NOAA Southwest Fisheries Science Center (co-chair)

Jenn Caselle, University of California, Santa Barbara (Long Term Monitoring PI Liaison)

Rich Ambrose, University of California, Los Angeles

Debbie Aseltine-Neilson, California Department of Fish and Wildlife

Francis Chan, Oregon State University

Arielle Levine, San Diego State University

Fiorenza Michelli, Center for Ocean Solutions, Stanford University

Jennifer Sunday, McGill University, Canada

Will White, Oregon State University

Contacts

Ocean Science Trust

Hayley Carter, Senior Science Officer, hayley.carter@oceansciencetrust.org

Ocean Protection Council

Justine Kimball, OPC Senior Climate Change Program Manager, justine.kimball@resources.ca.gov

Michael Esgro, OPC Marine Ecosystems Program Manager, michael.esgro@resources.ca.gov

California Department of Fish and Wildlife

Chenchen Shen, Environmental Scientist, Chenchen.Shen@wildlife.ca.gov

Debbie Aseltine-Neilson, Senior Environmental Scientist Specialist,

Debbie.Aseltine-Neilson@wildlife.ca.gov

Acknowledgments

Funding for this work is provided by the California Ocean Protection Council.

