



Staff Recommendation

September 10, 2024

Item 9b

Action Item:

Consideration and Approval of Disbursement of Funds to Advance Adaptive Management and Monitoring of the MPA Network

Staci Lewis, Ph.D., Marine Protected Area Network Program Manager

Recommended Action: Authorization to disburse up to \$2,250,000 to advance adaptive management and monitoring of the California Marine Protected Area (MPA) Network through the following projects:

9b.1 Up to \$250,000 to the University of California Santa Barbara to develop publicly available mapping tools of the MPA Network.

9b.2 Up to \$250,000 to the University of California Santa Cruz to update the connectivity model of the MPA Network.

9b.3 Up to \$1,750,000 to the University of California San Diego/California Sea Grant (CASG) to administer a request for proposals (RFP) for continued ecological monitoring of deep rocky reef habitats in the MPA Network in 2025 and 2026.

Location: Statewide

Strategic Plan Goals and Objectives:

Goal 3: Enhance Coastal and Marine Biodiversity; Objective 3.1: Protect and Restore Coastal and Marine Ecosystems; Target 3.1.1 and associated actions.

Equity and Environmental Justice Considerations: Project outcomes will improve management of marine protected areas, many of which are located in close proximity to and utilized by members of communities burdened by environmental and social justice issues.

Findings and Resolution:

Staff recommends that the Ocean Protection Council (OPC) adopt the following findings:

“Based on the accompanying staff report and attached exhibit(s), OPC hereby finds that:

1. The proposed projects are consistent with the purposes of Division 26.5 of the Public Resources Code, the California Ocean Protection Act;
2. The proposed projects are consistent with OPC's Proposition 68 Grant Guidelines, adopted May 2019 and the updated Proposition 68 Grant Guidelines pending adoption September 10, 2024;
3. The proposed project is consistent with the Budget Act of 2024, which included a \$27 million Greenhouse Gas Reduction Fund appropriation for ocean protection and resilience to climate change; and
4. The proposed projects are not ‘legal projects’ that trigger the California Environmental Quality Act (CEQA) pursuant to Public Resources Code section, section 15378.”

Staff further recommends that OPC adopt the following resolution pursuant to Sections 35500 *et seq.* of the Public Resources Code:

“OPC hereby approves the disbursement of up to \$2,250,000 to advance adaptive management and monitoring of the California Marine Protected Area (MPA) Network through the following projects:

- Up to \$250,000 to the University of California Santa Barbara to develop publicly available mapping tools of the MPA Network.
- Up to \$250,000 to the Regents of the University of California Santa Cruz to update the connectivity model of the MPA Network.
- Up to \$1,750,000 to the University of California San Diego/California Sea Grant (CASG) to administer a request for proposals (RFP) for continued ecological monitoring of deep rocky reef habitats in the MPA Network in 2025 and 2026.

This authorization is subject to the condition that prior to disbursement of funds, the grantees shall submit for the review and approval of the Executive Director of the OPC detailed work plans, schedules, staff requirements, budgets, and the names of any contractors intended to be used to complete the projects, as well as discrete deliverables that can be produced in intervals to ensure the projects are on target for successful completion. All projects will be developed under a shared understanding of process, management and delivery.”

Executive Summary:

Staff recommends that OPC approve the disbursement of up to \$500,000 to fund two projects for the purpose of advancing the recommendations of the MPA Decadal Management Review (DMR) and supporting adaptive management of the MPA Network: up to \$250,000 to the University of California Santa Barbara to develop publicly available mapping tools of the MPA Network and up to \$250,000 to the University of California Santa Cruz to update the connectivity model of the MPA Network. Completed in 2023, the first-ever [Decadal Management Review](#) of the MPA Network included 28 priority recommendations to advance adaptive management of the Network. These proposed projects advance science-based approaches outlined in DMR recommendation 4 to evaluate proposed changes to the MPA Network: one to enhance mapping tools, and another to update assessments of ecological connectivity between MPAs. This combined investment will improve understanding of the basic functioning of the MPA Network and how proposed changes will affect Network performance.

Staff also recommends the disbursement of \$1,750,000 for continued long-term monitoring of California's MPAs in deep rocky reef/mid-depth habitats (> 30 meters deep). Since 2019,^{1,2,3,4} guided by California's MPA Monitoring Action Plan, OPC has funded MPA long-term monitoring of key habitats and human uses to inform the adaptive management of the MPA Network. Monitoring California's extensive mid-depth habitats is one of the greatest challenges - technologically, logistically, and economically. To address these challenges, a mid-depth technical expert panel (TEP) was convened by OPC in Summer 2024. Its final report will be completed in mid-September 2024 and used to develop the scope of an RFP. This investment will support the RFP process and monitoring in 2025 and 2026 and allow the inclusion of mid-depth habitats in the broader monitoring of MPA habitats being conducted through 2026. OPC's continued investment is vital to support ongoing long-term monitoring of the MPA Network to inform adaptive management and contribute to broader state priorities, such as sustainable fisheries and climate resilience.

1 [OPC 2019 staff recommendation for initial MPA long-term monitoring funding.](#)

2 [OPC 2019 staff recommendation for initial monitoring and assessment of estuarine MPAs.](#)

3 [OPC 2022 staff recommendation for monitoring of MPA habitats in 2023.](#)

4 [OPC 2023 staff recommendation for long-term monitoring of MPA habitats in 2024-2026, except deep rocky reef.](#)

Project Summaries:

Background:

Guided by [MPA Monitoring Action Plan](#), OPC has committed more than \$30 million to monitor and evaluate MPAs and allow resource managers to understand of how the Network is performing with respect to its core goals. This investment has resulted in a series of [technical monitoring reports](#), as well as the first-ever [Decadal Management Review](#) of the MPA Network released in 2023. This groundbreaking document provides updates on the four pillars of the MPA Management Program, including Research & Monitoring, as well as a science-based evaluation of the Network's progress towards meeting the goals of the [Marine Life Protection Act](#). In the Review, monitoring results provided strong evidence that, for many habitats and species across the state, MPAs are working to improve ocean health.

As part of the Decadal Management Review process, California Department of Fish and Wildlife (CDFW) and OPC developed a [prioritized list of adaptive management recommendations](#) that was informed by public comment and tribal consultation, including a recommendation to apply lessons learned to inform proposed changes to the MPA Network (Recommendation #4) and a recommendation to improve and sustain cost-effective long-term MPA monitoring (Recommendation #16). Advancing Recommendation #4, California Fish and Game Commission received [20 petitions for proposed changes](#) to the MPA Network [following a public call for petitions](#) in December 2023. In total, twenty petitions were received with eighty specific actions that would result in proposed changes to the Network, if approved. In March 2024, the Commission referred all twenty petitions to CDFW for evaluation. As MPA policy lead, OPC is collaborating with the Department throughout the petition evaluation process, including identifying strategic investments to refine or develop tools for an objective, transparent, and science-based approach to petition evaluation.

To advance Recommendation #11 and support ongoing monitoring and adaptive management of the MPA Network, California Sea Grant (in consultation with OPC and CDFW) facilitated an expert technical panel (TEP) in Summer 2024 to discuss monitoring results, incorporate lessons learned, and discuss ways to drive innovation and improve equity outcomes in California's MPA monitoring program for deep rocky reef habitats (> 30 meters deep). Monitoring California's extensive mid-depth habitats is one of the greatest challenges in MPA monitoring – technologically, logistically, and economically. Since 2004, the State's monitoring program has relied heavily on remotely operated vehicle (ROV) strip transect methods and has established a substantial time-series across the statewide MPA Network. However, the effectiveness of these monitoring efforts has been challenging to evaluate due to spatial and temporal data gaps, varying sampling designs and analytical approaches, and uncertainty over cost effectiveness. To address

these challenges, the TEP was tasked with developing key findings and recommendations for collecting and analyzing critical biological and ecological data for California’s mid-depth habitats. Building upon TEP recommendations, which will be finalized by mid-September 2024, OPC staff is recommending that California Sea Grant administer a competitive RFP, in consultation with OPC and CDFW, to determine the selected project(s) for monitoring in the deep rocky reefs (> 30 meters depth) habitats in 2025 and 2026.

Project Descriptions:

To advance adaptive management of the MPA Network, OPC staff recommends funding for two projects (9b.1 and 9b.2) to support the evaluation of MPA change petitions by enhancing the state’s ability to help answer key questions around MPA performance. OPC staff recommend a third project (9b.3) to continue long-term monitoring of California’s MPAs in deep rocky reef/mid-depth habitats.

9b.1 Development of publicly available mapping tools of the MPA Network.

Assessing proposed changes to the MPA Network received via MPA petitions will require various tools that enable data visualization and collaborative mapping for robust analysis. This project will ultimately lead to a public mapping tool (anticipated in October 2024) that allows people to visualize the design of the existing MPA Network and to compare to proposed changes, including changes to habitat size and spacing of the MPA Network as proposed by the MPA petitions. Specifically, this proposed project would fund the SeaSketch Lab at the University of Santa Barbara’s National Center for Ecological Analysis and Synthesis to digitize MPA petitions, synthesize data regarding habitat size and spacing, and create a report feature of the public platform that is downloadable and outlines habitat information. SeaSketch is an updated version of MarineMap, a mapping tool utilized in the original MPA Network design process.

9b.2 Updating the connectivity model of the MPA Network.

An important design criterion of the MPA Network was locating MPAs in areas that were predicted to be highly connected to other MPAs, in order to enhance resiliency in the protected ecological communities. The [current MPA Network model](#), which was used for the decadal review,^{5,6} was a combined connectivity/contribution model. It combined a Regional Ocean Modeling System (ROMS) assessment, covering a “normal” oceanographic period of 1999-2012, with a habitat layer for all MPA designated habitats. However, updates to the model are needed to reflect that such “normal” oceanographic conditions may shift in the future under climate change, and to fill gaps in

5 [OPC 2019 staff recommendation to develop the MPA connectivity model](#).

6 [OPC 2022 staff recommendation to expand the MPA connectivity model for the DMR](#).

the habitat layer for near-shore areas. This proposed project would result in an updated Network model by updating the ROMS environmental and oceanographic baseline data through 2013-2022 to be more representative of current and future conditions and updating the habitat layer to reduce the unmapped zones in the model, resulting in more accurate evaluation of current conditions impacting the MPA Network and how proposed changes could contribute to connectivity and ecological stability.

9b.3 Ecological monitoring of deep rocky reef habitats in the MPA Network.

Effective management of California’s MPA Network requires consistent, ongoing, and adaptive monitoring to evaluate the status and health of the Network. A competitive solicitation, administered by California Sea Grant, will build upon recent expert panel recommendations for effective monitoring in deep rocky reef/mid-depth habitats (> 30 meters deep). Selected projects will support ongoing monitoring of the MPA Network with data collection to occur in 2025 and 2026.

Monitoring will achieve the following objective:

- Collect additional biological and environmental data (e.g. fish and invertebrate abundance and size structure, community composition, and biodiversity; habitat type and quality) in Tier I MPAs⁷ and at associated reference sites, according to standards and best practices established by the Technical Expert Panel, convened starting in June and running until mid-September 2024.

Equity and Environmental Justice Considerations:

Adaptive management and monitoring of the MPA Network are essential to ensure that the Network functions effectively to protect biodiversity and marine habitats, and thereby improves overall ecosystem health. Healthy marine ecosystems translate directly to economic, cultural, and health benefits for coastal communities. Many of California’s MPAs are located within or near communities burdened by environmental and social injustice. Moreover, many of the habitats contained within MPAs provide needed ecological benefits that in turn improve the well-being of nearby human communities. For example, rocky intertidal habitats provide accessible opportunities for the public to observe marine life, protect against shoreline erosion, and harbor harvested species.

⁷ Tier 1: required long-term monitoring sites as described in the [MPA Monitoring Action Plan](#).

About the Grantees:

Principal Investigators (PIs) at both the University of California Santa Barbara (UCSB) and the University of California Santa Cruz (UCSC) have extensive experience with advancing California’s MPA Network and monitoring priorities, familiarity with existing data streams, and rigorous theoretical grounding in quantitative approaches for MPA evaluation. PIs at UCSB’s National Center for Ecological Analysis and Synthesis are the original developers of the SeaSketch (originally MarineMap) platform, which has been leveraged throughout the design, implementation, evaluation, and modification of the California MPA Network. PIs at UCSC conducted the first connectivity assessment of the MPA Network and led the recommendations to advance proposed changes to the Network on the basis of ecological science.

California Sea Grant has an established, highly respected process for evaluating, prioritizing, and administering research grants related to coastal and ocean resources and has a proven track record of supporting state agencies’ research efforts. California Sea Grant is experienced at managing large contracts and grants, has excellent knowledge of and familiarity with the state’s scientific community, and has successfully managed other solicitation and award efforts on behalf of OPC, including OPC’s previous investments in long-term MPA monitoring.

Project Timeline:

The two projects supporting the MPA petition evaluation process (9b.1 and 9b.2) will run from Fall 2025 to Spring 2027. Data analysis, reporting, and dissemination to state agencies will take place in 2025 and 2026 with work anticipated to be completed by Spring 2027.

The competitive RFP under 9b.3 to select and implement monitoring programs in deep rocky reef habitats of the MPA Network will run from fall 2024 to winter 2027. Field monitoring will take place 2025 and 2026 with data analysis and reporting to be completed by winter 2027.

Project Financing:

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$2,250,000 to support marine protected area (MPA) long-term monitoring in rocky reef habitats for adaptive management of the MPA Network.

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| Ocean Protection Council | \$2,250,000 |
| 9b.1 Development of publicly available mapping tools of the MPA Network | \$250,000 |
| 9b.2 Updating the connectivity model of the MPA Network | \$250,000 |
| 9b.3 Ecological monitoring of deep rocky reef habitats in the MPA Network | \$1,750,000 |
| TOTAL | \$2,250,000 |

The anticipated source of funds will be from the Proposition 68 Chapter 9 Fund, provided by The California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018, Fiscal Year 2020/2021. Chapter 9 funds (Section 80120) may be used to support projects that “conserve, protect and restore marine wildlife and healthy ocean and coastal ecosystems with a focus on the state’s system of marine protected areas and sustainable fisheries.” The proposed projects support the goals of Proposition 68, Chapter 9 to inform adaptive management and monitoring of the MPA Network, allowing the state to conserve marine wildlife and healthy ocean and coastal ecosystems. The proposed investment of \$2,250,000 from the Prop 68 Ch. 9 appropriation additionally supports OPC’s commitment to protecting marine biodiversity.

An alternate funding source may be from the Budget Act of 2024, Greenhouse Gas Reduction Fund appropriation to OPC (Fiscal Year 2024/2025) for projects that advance ocean protection and resilience. The proposed project supports the purpose of this appropriation to restore and increase the resilience of marine wildlife and ocean and coastal ecosystems through adaptive management of the MPA Network.

Consistency with California Ocean Protection Act:

The proposed project is consistent with the Ocean Protection Act, Division 26.5 of the Public Resources Code, because it is consistent with trust-fund allowable projects, defined in Public Resources Code Section 35650(b)(2) as projects which:

- Eliminate or reduce threats to coastal and ocean ecosystems, habitats, and species.
- Improve the management of fisheries and/or foster sustainable fisheries.
- Improve management, conservation, and protection of coastal waters and ocean ecosystems.

- Provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources.
- Protect, conserve, and restore coastal waters and ocean ecosystems.
- Provide funding for adaptive management, planning coordination, monitoring, research, and other necessary activities to minimize the adverse impacts of climate change on California's ocean ecosystem.

Compliance with the California Environmental Quality Act (CEQA):

The proposed project is not a 'legal project' that triggers the California Environmental Quality Act (CEQA) pursuant to Public Resources Code section 21068 and Title 14 of the California Code of Regulations section 15378. If the project were determined to be a 'legal project' under CEQA, it is categorically exempt from review under the California Environmental Quality Act ("CEQA") pursuant to 14 Cal. Code of Regulations Section 15306 because the project involves only data collection, research and resource evaluation activities that will not result in a serious or major disturbance to an environmental resource.