Staff Recommendation
January 24, 2023

Item 8

Action Item:
Consideration and Approval of Disbursement of Funds to Support Estuarine Marine Protected Area Monitoring

Lindsay Bonito, MPA Program Manager

Recommended Action: Authorization to disburse up to $750,000 to San Jose State University Research Foundation for the assessment and monitoring of California's estuary marine protected areas (MPAs).

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 inform and improve management of estuarine marine protected areas, which are often near communities burdened by environmental and social injustice.

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 the adopted State Water Resources Control Board's Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling; and

3. 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 $750,000 to San Jose State University Research Foundation for the assessment and monitoring of California's estuary marine protected areas (MPAs).

This authorization is subject to the condition that prior to disbursement of funds, San Jose State University Research Foundation 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 $750,000 to San Jose State University Research Foundation for the continued assessment and monitoring of California's estuary MPAs. Estuaries are dynamic and delicate ecosystems, providing numerous services to human and wildlife populations alike. At the intersection of salt and freshwater, estuaries are home to unique plant and animal communities that have adapted to brackish water and the ever-changing conditions within. While estuaries have high natural variation in their environmental conditions, they are quite susceptible to local human impacts, including coastal development, sedimentation, pollution and eutrophication and global stressors like climate change, ocean acidification and sea level rise. To better understand how MPA implementation has offered protections to this ecosystem and gather baseline assessments of California's estuarine protected areas, a statewide estuarine MPA monitoring program, funded by OPC, was established in 2019. Of California's 124 marine protected areas, 23 are defined as estuarine. Through this effort, a monitoring framework was developed by identifying gaps in existing datasets and building from existing estuarine monitoring frameworks. Advised by a Management Advisory Committee, standardized protocols were created to

monitor biotic and abiotic indicators efficiently and consistently with direct connections to MPA management needs. Throughout 2021, the monitoring program successfully sampled 15 sites statewide over 2 seasons (10 MPAs and 5 Non-MPAs), covering a considerable diversity of coastal wetlands and estuaries, ranging from large seismic fault estuaries like Tomales Bay to small ephemeral bar-built estuaries like San Mateo Creek Lagoon.

This project will continue the work established through the last round of funding by supporting the critically important long-term monitoring of MPA estuaries. Lacking data pre-MPA implementation, continued monitoring is essential to fully understand the effect of MPA protections on the system through time. The project team will continue to refine protocols and the monitoring framework based on the initial baseline assessments and develop resiliency and climate change metrics as well. This work will be foundational to the revision of the MPA Monitoring Action Plan, which is slated to be updated based on long-term monitoring results from all key habitat monitoring groups, including estuaries.

Project Summary:

Background:

Uniquely situated at the nexus of marine, freshwater, and terrestrial realms, estuaries are one of the most productive coastal ecosystems. Estuaries provide important habitat which supports both biodiversity and ecosystem services including food provisioning, sediment transport buffering, water purification, carbon storage, buffering against sea level rise and storm surge, and recreation. Despite their importance to California's human and natural populations, estuaries were relatively understudied compared to other habitats within the MPA Network. Identifying this monitoring gap, the Ocean Protection Council authorized funding at its November 2019 meeting to support the establishment of a statewide estuary MPA monitoring program (EMPA). The project team, led by the Central Coast Wetlands Group, was tasked to develop research questions and indictors guided by the MPA Monitoring Action Plan, develop standardized monitoring protocols, pilot test protocols to complete a baseline assessment of EMPAs, and develop an approach for long-term, coordinated, statewide estuary monitoring into the future.

Over the past two years, the research team has made significant strides in establishing a statewide estuarine MPA monitoring program. The research team, supported by a statewide Management Advisory Committee, developed an

integrated monitoring framework, sampling design, standard protocols, and data management tools to facilitate collection, integration, and dissemination of data in a consistent and accessible manner. An easy-to-navigate website is publicly available which houses a monitoring manual and 16 standardized operating procedures to provide details and documentation of the scientific basis and the tools necessary to implement the monitoring program. The technical team has also produced an Implementation Blueprint report focusing on the elements necessary to sustain long-term implementation of the monitoring program. The final report illustrates how data collected through the monitoring program can be used to answer scientific and management questions about estuary health and stress, and how that information can inform management decisions. In addition to developing scientific evaluation of the MPA Network, EMPA researchers participated in the OPC-hosted summer webinar series "Ask the Researcher", to share their MPA science with the general public. The webinar series was responsive to community feedback requesting opportunity to interact directly with MPA monitoring scientists.

This continued funding for estuarine MPA monitoring will allow for further refinement of pilot protocols and support critically important long-term monitoring of an understudied suite of MPAs in California's Network. Data collected during the 2023 season will inform the development of the MPA Monitoring Action Plan and provide insight into climate impacts and resiliency of the MPA Network to climactic perturbations within estuarine systems.

Project Summary:

This project team will accomplish the following objectives:

- Continue to test and refine indicators and protocols through focused field data collection at 15 sites statewide, including sites at California's estuary MPAs (EMPA) and associated reference sites. Data collection will be conducted in 2023 and will be stratified across a variety of estuary types, e.g. lagoons vs. perennially open systems. Sampling will assess conditions and trends of key metrics:
    - Abundance, distribution, and conditions of habitats
    - Populations of native, culturally important, and special-status species
    - Populations of invasive species
    - Climate change, including sea level rise, ocean acidification, and flow/sediment delivery

- Develop adaptive management recommendations to inform the next iteration of the MPA Monitoring Action Plan.

Equity and Environmental Justice Benefits:

Many of California's estuarine MPAs are located within or near communities burdened by environmental and social injustice. Estuaries provide needed ecological benefits that in turn benefit nearby human communities as well, including water filtration for toxins and heavy metals, buffering impacts of coastal erosion and sea-level rise to infrastructure, and providing refuge for fish communities.

About the Grantee:

This collaborative project will be co-led by the Central Coast Wetlands Group (CCWG) and the Southern California Coastal Water Research Project. CCWG is a research consortium dedicated to coordinating the advancement of wetland science and management in California. SCCWRP is joint powers agency focused on collaborative research and monitoring of freshwater, estuarine and marine resources. Together, CCWG and SCCWRP bring decades of experience in estuary research and restoration as well as water quality and land use planning efforts. CCWG and SCCWRP will develop a team of statewide collaborators with broad representation and regional expertise.

Project Timeline:

Spring 2023 – Winter 2024.

Project Financing:

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to $750,000 to San Jose State University Research Foundation for the assessment and monitoring of California's estuary MPAs.

OTC Interim Mitigation Program Fund FY 21/22	$750,000
TOTAL	**$750,000**

The anticipated source of funds will be from the OTC Interim Mitigation Program Fund FY 21/22 appropriation. These funds are derived from payments made by

power plants still using OTC technology as mitigation until they come into compliance as mandated by the State Water Resources Control Board's Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling. This project aligns with OTC Policy since MPAs have the potential to offset some negative ecological impacts caused by OTC systems.

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 coastal water quality.
- 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.
- Address coastal water contamination from biological pathogens.
- 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 categorically exempt from review under the California Environmental Quality Act ("CEQA") pursuant to 14 Cal. Code of Regulations Section 15306 because provide rational for compliance.