



**Informational Item**  
February 29, 2024

Item 4

## **Information Item:** **Annual State of the Coast and Ocean Report**

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**Location:** Statewide

**Strategic Plan Goals and Objectives:** Target 3.6.1: Create an annual California State of the Coast and Ocean Report starting in 2021 (highlighting Strategic Plan implementation progress and critical issues) and a Report Card by 2025 (utilizing a scientific, indicator-based approach to grading the State of California’s Coast and Ocean).

### **Exhibits:**

Exhibit A: 2023 Annual State of the Coast and Ocean Report

Exhibit B: Establishing Science-Based Indicators for California’s Oceans and Coasts

### **Executive Summary:**

In the [Strategic Plan to Protect California’s Coast and Ocean](#), OPC committed to reporting annually on the implementation of our strategic priorities as well as an overview of critical issues impacting marine and coastal biodiversity in California. The 2023 Annual Coast and Ocean Report (2023 Report; Exhibit A) includes both preliminary indicators for ocean health and a retrospective of OPC accomplishments towards achieving Strategic Plan goals. Indicators were chosen based on data availability and the ability to leverage other efforts. Indicator development was supported by OPC staff, [2023 Summer Interns](#), a partnership with the [West Coast Ocean Alliance](#) (WCOA), and consultation with the OPC Science Advisory Team (SAT). WCOA is also pursuing the development of indicators to track and report on the health of the coast and ocean, but at a regional scale across the West Coast. As ongoing indicator development continues to create the 2025 Coast and Ocean Report Card (2025 Report Card), OPC intends to continue its partnership with WCOA to ensure continued alignment between the efforts.

The selected indicators presented in the 2023 Report represent another step forward to understand important status and trends; however, these indicators do not reflect final indicators for the purposes of the State of the Coast and Ocean Report Card that is due to be completed in 2025. OPC also leveraged the SAT to provide an assessment of potential indicators to pursue in the development of a comprehensive Report Card (Exhibit B) and [approved funding](#) in December 2023 to the Ocean Science Trust (OST) to convene a Task Force to develop the 2025 Coast and Ocean Report Card. Future Annual Coast and Ocean Reports will build out the number and methodology of indicators with the aim of completing a comprehensive, scientific indicator-based approach to grading ocean health indicators for the 2025 Report Card.

## Project Summary:

### Background:

OPC's [2022 Annual Coast and Ocean Report](#) (2022 Report) provided a foundational first step in identifying indicators, as well as a retrospective of activities and accomplishments made to the advance the priorities in the OPC Strategic Plan. This year's report further refines the initial set of indicators, again providing a snapshot of ocean health to reflect critical ocean and coast issues. California is fortunate to have many long-term monitoring efforts to inform preliminary indicators, however, the Annual Coast and Ocean Report also provides a snapshot of monitoring and data gaps that are not spatially or temporally sufficient to summarize trends at a regional or statewide scale. Development of indicators requires high-quality monitoring data that is both spatially and temporally robust. A time-series of 10-20 years is typically required to be able to statistically assess a trend. Developing scientifically sound indicators that can be assessed statewide and on an annual basis can therefore be a challenging effort.

Existing long-term monitoring efforts in California currently report on status and trends. The National Oceanic and Atmospheric Administration (NOAA)'s California Current Integrated Ecosystem Assessment produces an annual [Ecosystem Status Report](#) that covers the waters and climate offshore of California, Oregon, and Washington. This report has been in development for over a decade and is aimed at a scientifically literate audience. Similarly, the State of the California Current Ecosystem Report published in *Frontiers in Marine Science* ([2022 publication](#)) is also aimed at the scientific community. Other regional efforts such as the NOAA National Marine Sanctuaries Condition Reports are more public friendly, but are limited to the regional boundaries and priorities of a Sanctuary (e.g., [Channel Islands](#), [Monterey Bay](#), [Gulf of the Farallones](#), [Cordell Bank](#)). Many other more local or topical monitoring and reporting efforts are active and ongoing in California, but often require working with individual scientists to access and analyze the data appropriately.

The California Office of Environmental Health Hazard Assessment (OEHHA) additionally published the [2022 Report: Indicators of Climate Change in California \(Fourth Edition\)](#). This report documents observed changes in the state’s climate over a course of five years, and climate impacts in the state using 41 indicators. Indicators rely on available data, trends, and narrative explanations. Indicators are not intended for scoring and therefore do not need to be spatially or temporally comprehensive. When possible, OPC aligned indicators with the OEHHA 2022 Report, but will likely diverge as indicator methodology progresses to scoring in the forthcoming 2025 Coast and Ocean Report Card.

### **Project Summary:**

The goal of the 2023 Report is to provide information to the public and Council on critical issues facing California’s coast and ocean, as well as a transparent accounting of OPC progress towards achieving goals in the OPC Strategic Plan. The Report provides preliminary indicator development for eight indicators across OPC Strategic Plan Goals. The indicators included are:

- Goal 1 (Sea Level Rise, Sea Level Rise Planning, Ocean Acidification, Ocean Warming);
- Goal 2 (Public Beach Access, Beach Water Quality); and
- Goal 3 (Kelp, Harmful Algal Blooms).

Selection of indicators in the 2023 Report was based on criteria involving data availability and their potential to integrate with existing initiatives; they do not reflect final indicator development or selection for the 2025 Coast and Ocean Report Card. Ocean Warming and Public Beach Access represent new indicators. Marine Mammals and Fisheries Landings from the 2022 Report were not included in this year’s report given these indicators require further refinement, including standardization for fishing effort and integration of environmental factors, to provide an accurate picture of the health of California’s commercial fisheries.

All indicators are represented by data and trends, a narrative, and anticipated next steps for development and/or improvement. Methodology for scoring a particular threshold was not included in this Report, but will be developed for the 2025 Report Card. OPC’s 2023 accomplishments and progress made toward achieving strategic plan objectives and targets are summarized at the end of each Goal section.

***OPC 2023 Progress and Accomplishments.*** OPC accomplishments include efforts that were completed or had significant findings in 2023, with ongoing efforts and progress made highlighted when appropriate. Also included in the 2023 Report is an update on the OPC SAT and partnership with the Ocean Science Trust and 2023 Summer Internship Program. Key accomplishments that were highlighted include:

- **Launch of the SB 1 Sea-Level Rise Adaptation Planning Grant Program (up to \$95.9 million):** In December 2023, OPC launched the [Senate Bill 1 Sea Level Rise Adaptation Planning Grant Program](#) to provide funding for coastal communities and governments to develop sea level rise adaptation plans and implementation projects to build resilience along the entire coast of California and San Francisco Bay.
- **Draft State of California Sea Level Rise Guidance:** To support sea level rise preparedness in California, OPC partnered with the OST and a scientific Task Force to update California’s Sea Level Rise Guidance with the best available science and updated planning and decision-making guidance. The [draft State of California Sea Level Rise Guidance: 2024 Science and Policy Update](#) (Guidance) features the best available science to update SLR projections through 2150 and will replace the 2018 Update of the State of California Sea-Level Rise Guidance once adopted by OPC. This Guidance is updated approximately every five years and includes updated projected sea level rise and guidance to help state, tribal, local, and regional jurisdictions integrate this science into coastal adaptation projects, resilience planning, and investments.
- **Environmental Justice Small Grants Program:** In October 2022, OPC adopted its first-ever [Equity Plan](#) and approved funding to establish a pilot Environmental Justice Small Grants Program, implementing a strategic priority within the Equity Plan. This summer, OPC announced its partnership with grantee, Justice Outside, to support the development and administration of OPC’s Environmental Justice Small Grants Program. The \$1 million program will support investments for organizations to fulfill small and short-term projects across coastal regions that create positive impacts in California’s environmental justice communities ([OPC Equity Plan](#), Strategy 1.3.7) and advance coastal and ocean conservation priorities in OPC’s Strategic Plan. The program will include extensive and nontraditional outreach to priority communities, an accessible application process, technical assistance and capacity building for grantee partners, and opportunities to mobilize and join larger EJ networks in the state and across the country. The program will begin accepting applications in Spring 2024.
- **Innovative MPA Research:** In January 2023, OPC invested \$2.4 million to support four projects to explore the intersection of MPAs and climate change. These projects, selected through a highly competitive solicitation, will result in a suite of potential management strategies to strengthen climate resilience of MPAs, identify climate vulnerability of fishing communities, explore how MPAs can support improved ocean access for populations historically burdened by environmental injustice, and forecast climate-driven changes that may impact highly sensitive ecosystems. Project outcomes will provide much-needed insight into the role that California’s MPAs may play in providing resilience to climate-driven stressors, such as marine heat waves.

- **Development of Kelp Restoration and Management Plan and Investments:** To address the catastrophic loss of kelp across the state, and to adaptively manage these vital marine ecosystems, the California Department of Fish and Wildlife is leading the development of a statewide, ecosystem-based [Kelp Restoration and Management Plan \(KRMP\)](#) in partnership with OPC. The goal of the KRMP is to develop an adaptive, climate-ready approach to managing, protecting, and restoring giant and bull kelp forest ecosystems statewide. Alongside the launch of the KRMP, OPC invested an unprecedented \$5.6 million to support [projects that will accelerate and scale up kelp research and restoration statewide](#), funded through a competitive call. The five selected projects align with the state’s “learn by doing” approach to kelp conservation, and, in addition to supporting innovative and solutions-oriented science, will engage communities in the restoration of California’s kelp forests.
- **Implementation of Statewide Microplastics Strategy:** OPC adopted a first-of-its-kind [Statewide Microplastics Strategy](#) in 2022, pursuant to Senate Bill 1263 (Portantino, ch. 609, statutes of 2018), which recommends early actions and research priorities to reduce microplastic pollution in California’s marine environment. Since the adoption of the Strategy, OPC has worked with federal, state, and local partners to share information and identify priority investments, such as the development of a statewide plastics monitoring network to fill critical knowledge gaps and inform management action. In 2023, OPC approved over \$4.3 million to advance key projects that address these knowledge and data gaps, and to meet the priority objectives outlined in the Statewide Microplastics Strategy.

### **Equity and Environmental Justice Considerations:**

The 2023 Report includes a new indicator to assess the availability and quality of public beach access along the outer coast, which includes an analysis of ongoing barriers that prevent the public from enjoying California’s coast and beaches. OPC also highlights its accomplishments and progress made to advance equity in 2023 in the 2023 Report, which included implementation of its augural Equity Plan, such as \$1 million in funding to establish a pilot Environmental Justice Small Grants Program. Additionally, OPC approved \$1.5 million to establish an Ocean Corps Pilot Program with the California Conservation Corps, in collaboration with local conservation corps and partners, to support workforce development and enhance coastal climate resilience and provide equitable opportunities for young adults.

As indicators continue to be developed and refined for inclusion in the 2025 Report Card, OPC is committed to integrating equity and human dimensions across indicators and to identify assessment needs to meaningfully inform the impact of the health of California’s coast and ocean on California communities.

### **Future Work on Indicator Development:**

This past year, the Ocean Science Trust (OST) convened the SAT to provide recommendations (Exhibit B), using best available science, for a suite of indicators that can annually provide insight into the health of California’s coast and ocean. Recognizing the end goal of use in the 2025 Report Card, the intent is for these indicators to be both policy-relevant and scorable. While not necessarily tied to specific Strategic Plan objectives or targets, the indicators are necessarily broadly relevant to the priorities in the OPC Strategic Plan. Collectively, the identified indicators are intended to reflect important aspects of California’s many ocean and coastal features, including our state’s diverse ecosystems and multitude of human uses. Importantly, these recommendations do not include the scoring approach necessary for the final Report Card; analysis of data and trends, in a scientifically rigorous way, will require different approaches and considerations per indicator, and shall be explored and established beginning in 2024 through an [OPC funded](#) Task Force convened by OST to develop the 2025 Coast and Ocean Report Card.

As this effort continues, OST and the Task Force will work collaboratively with OPC, state and federal agencies, and the scientific community to develop a partnership-based and durable report card for the purposes of evaluating the health of California’s coast and ocean ecosystems and informing the California public on the status and trends of key coastal, marine, and social indicators. OPC is committed to integrating equity considerations throughout the Annual Coast and Ocean Report for the upcoming year in alignment with OPC’s Strategic Plan objectives 2.1 and 2.2 to enhance engagement with Tribes and underserved communities, strategic priorities in OPC’s Equity Plan, and extensive feedback from the OPC SAT.

Additionally, as part of the process to develop indicators, OPC anticipates identifying information gaps, monitoring needs, and analysis activities required to assess the health of California’s coast and ocean.