

California's Statewide MPA Network

Ongoing Monitoring: A Smart Investment in Ocean Health

A foundation for our future

California's investment of \$16 million in MPA monitoring is securing an assessment of the ecological and socioeconomic conditions of ocean ecosystems along the length of its coast. This 'benchmark' – completed in the Central Coast and underway in the 3 remaining regions – provides a starting point for long-term MPA monitoring.

This investment establishes a point of reference for assessing any future impact, such as an oil spill, tsunami, ocean acidification or climate change, as well as how MPAs are performing as a conservation tool, and will serve California in perpetuity .

Strategically monitoring MPAs provides a mechanism to track changes in our oceans. Additionally, MPAs are natural laboratories; they provide California the unprecedented opportunity to test and refine new models for fisheries management, and to learn about the effects of climate change and pollution so managers can adapt resource strategies accordingly.

Long-term scientific monitoring is essential for evaluating MPA network performance, and it will also serve California decision-makers broadly, across a variety of agencies and mandates.

An innovative monitoring approach

California has undertaken an innovative and cost-effective approach to monitoring:

- **Creating a new framework to assess performance.** The MPA Monitoring Enterprise has led the development of a new framework for monitoring - one that assesses the 'performance' of MPA networks by measuring 'the pulse points' of ecosystems and answering key strategically selected questions needed to support management decisions of state and federal agencies. North Central and South Coast regional monitoring plans have been developed through a broad consultative, science-based process to apply the framework appropriately to each region. These plans have been adopted by the California Fish and Game Commission (F&GC) as an appendix to the MLPA Master Plan, thus formally establishing them as part of the policy guiding MLPA implementation.
- **Empowering communities with science.** Under this framework, MPA monitoring provides a basis for research that serves fisheries management and fishermen. Further, California tribes and tribal communities hold deep knowledge of ocean ecosystems and often share common stewardship goals. These common goals provide a foundation for long-term partnerships with mutual benefits that integrate multiple forms of scientific knowledge to track ocean health. The clarity of the framework and the public accessibility and interactivity hosted by the community data platform OceanSpaces (oceanspaces.org) incentivize citizen engagement and citizen scientists which, in turn, serve to offset costs and promote stewardship.

- **Serving decision-makers across the spectrum.** A healthy ocean is a priority for the state, and is a driver of California's vibrant economy. Ocean health matters across decision-making contexts, and MPA monitoring is being designed to deliver on those fronts. California's goal is for MPA monitoring to directly address the mission and mandates of the community of agencies charged with California's ocean health. For example, the MPA Monitoring Enterprise and partners are intersecting water quality and MPA monitoring. By understanding legal drivers and shared interests/questions we can disentangle the effects of water pollution from those of fishing thereby providing resource managers the information they need to understand stressors and apply appropriate mitigation. California's MPA monitoring frameworks start with the management questions, and are designed to address those questions.

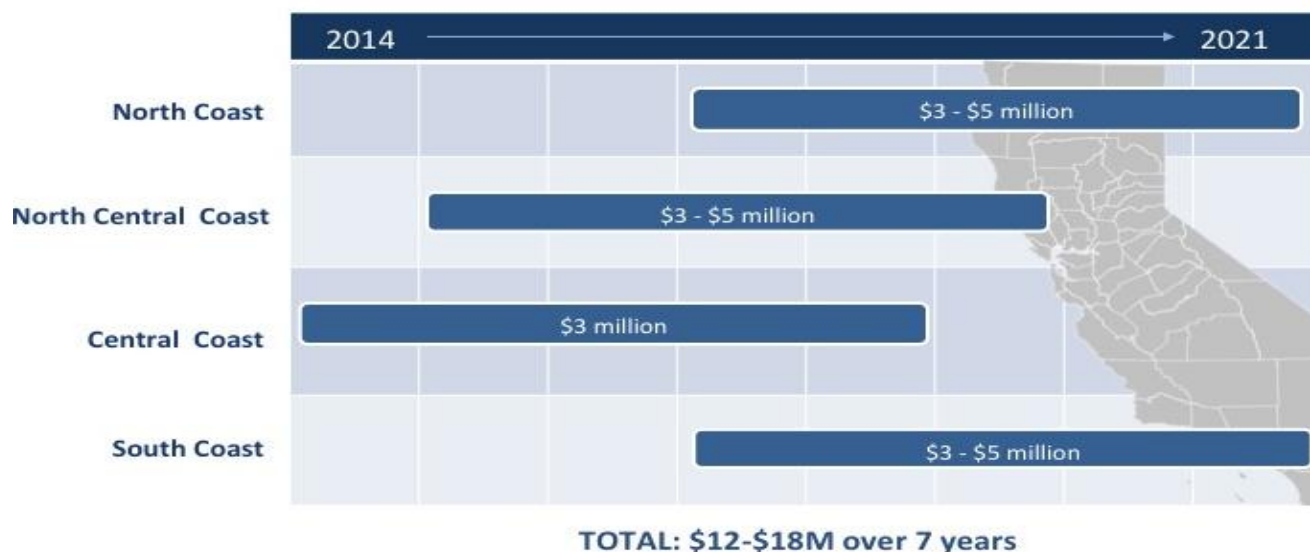
Extracting the most value for our investment

As we consider *what* to monitor in support of *which* decisions, we understand that to extract the most value from monitoring MPAs will require a portfolio of long and short term investments; some resources will provide for near-term indications of MPA performance, while other resources necessarily must be allocated for longer-term questions, such as understanding the impact of ocean acidification and climate change on our coastal ecosystems. These 'longer-term' investments will pay dividends over coming decades.

- **Understanding costs means understanding priorities.** Building an effective monitoring program requires answering a number of questions. How much money are we willing/able to spend on monitoring? Are there habitats of particular management concern? How do we balance questions that can be answered quickly with those that will require many years of data collection? The MPA monitoring plans developed by the MPA Monitoring Enterprise provide an approach to answer such questions and build an effective monitoring program.
- **Partnerships are key.** State support can seed partnerships and attract additional funding. The MPA Monitoring Enterprise is putting in place tools and processes to build a mosaic of monitoring and research partners. The first step is an assessment of the capacity and interest among academic, citizen, tribal and local entities to play a role. Poised to launch in June 2014, this assessment will give California a clear pathway to identify and build upon existing and ongoing monitoring, engage collaboratively and incentivize partnerships
- **Thoughtful resource allocations toward enhanced efficiency.** Identifying the management question, learning from data collected, leveraging partnerships, responding to opportunities, and incentivizing engagement all serve to streamline costs while growing a constituency. California will allocate monitoring funding strategically to stretch its investment and maximize its utility.

Strategically balancing resource allocation is critical to building on California's substantial investment and maximizing the benefits of the MPA network while ensuring management decisions are adequately supported.

“Phase 2” – Beyond baseline monitoring: A monitoring investment portfolio through 2021



Note: Costs range between ~\$3M-\$5M over 5-year periods per region – the range reflects expected variance in existing monitoring efforts available to be leveraged. These values reflect the *minimum* monitoring effort; additional funding will serve to build in additional robustness to the data that will serve more broadly and provide CA greater opportunity and value.

Costs do not include OST/MPA ME operating costs, which are covered through 2017 by an existing grant from OPC and matched with foundation funding.

Monitoring California’s new network of marine protected areas is explicitly called for in the Marine Life Protection Act that created them. Understanding whether the network is meeting the goals of the MLPA requires ongoing monitoring that is designed to inform their adaptive management. During the designation process, the cost estimates for monitoring were staggering, in the tens of millions a year. California has deployed smart, novel strategies—engaging in public/private partnerships, re-visioning monitoring frameworks that are parsimonious in execution while rigorous in providing decision-support, mobilizing communities of academic, citizen and tribal scientists—that have lowered the cost significantly. Our monitoring strategy is designed to adapt to changing conditions, flex to capture cross-sectoral and emerging issues, and engage and merge ongoing efforts. California has the system in place to deploy monitoring funds with agility while maintaining critical oversight and control, seeding monitoring to attract additional funding. Throughout the ‘baseline’ monitoring programs we have learned a great deal from our vast outreach; our academic institutions, system of funders and citizen scientists are prepared to engage creatively. With ongoing monitoring, California is delivering on a promise made to broad constituency during MPA designation: fishermen, tribes, conservationists, decision-makers will all have ready access to data that support near-term and long-term decisions that provide for the health of our oceans and the economy that benefits from it.