



Science Needs Assessment

Marine Protected Area Impacts and Effectiveness

Conservation Issue

Monitoring in state-established marine protected areas (MPAs) is necessary to better understand how this new level of protection will impact Monterey Bay National Marine Sanctuary (MBNMS) resources.

Description

In April 2007, the California Fish and Game Commission approved a network of MPAs designed for the central coast of California ranging from Pigeon Point in San Mateo County south to Point Conception in Santa Barbara County. The central coast network of MPAs went into effect September 21, 2007, and includes 29 MPAs (21 within MBNMS) comprising approximately 204 square miles (~18%) of the area's state waters, with 85 square miles designated as no-take state marine reserves. To assess the impact of the new MPAs on sanctuary resources, managers need monitoring information that compares the biologic resources within and outside the MPAs, an assessment of the natural and anthropogenic factors influencing these resources, and an evaluation of the "spillover effect" of resources protected by MPAs on adjacent populations.



A fish-eating anemone (*Piscivora lofotensis*) attached to a boulder within a healthy kelp forest inside the Point Lobos State Marine Reserve. Photo: Chad King/NOAA

Data and Analysis Needs

1. Effects of state MPAs on biologic and habitat resources within and outside the protected areas over different temporal scales
2. Natural and anthropogenic factors that influence state MPAs
3. Effects of protection of biologic communities within state MPAs on local populations (i.e., "spillover effect")
4. Socioeconomic effects of state MPAs
5. Efficacy of MPAs for protecting marine life
6. Integrated results from multiple studies to inform regional management and protection

Potential Products

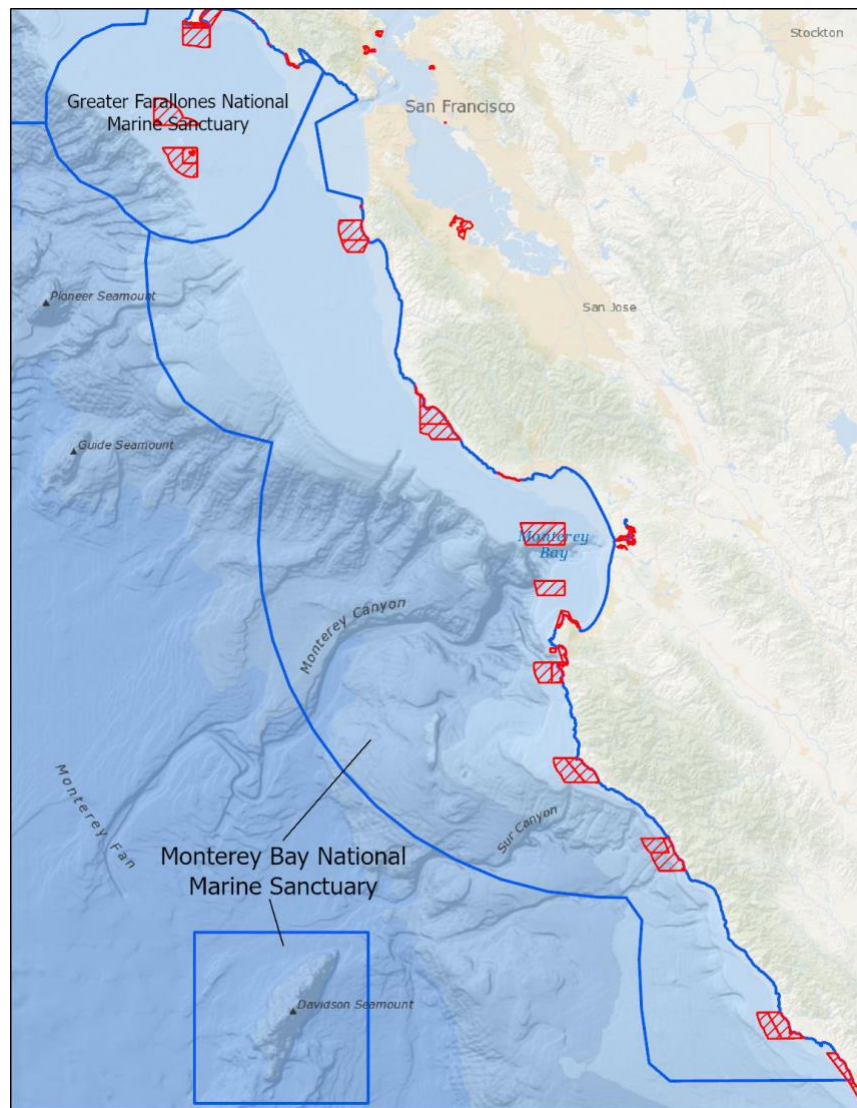
- Evaluation of new MPAs as potential tools to aid in conservation, as well as restoration of key species
- Characterization of the relationship between biological communities, oceanographic conditions, and anthropogenic influences within MPAs

Suggested Scientific Approach and Actions

- Collaborations between biologists and oceanographers to characterize the relationship between nearshore oceanographic processes, water quality, and marine life within and outside the MPAs
- Establish and maintain monitoring programs to detect changes in biological resources within and outside the MPAs
- Analyze demographic and socioeconomic data for central California area communities to determine the extent that these coastal communities are affected by state MPAs

Key Partners

Marine Protected Areas Monitoring Enterprise, California Ocean Science Trust, California Sea Grant, Partnership for Interdisciplinary Studies of Coastal Oceans, Moss Landing Marine Labs, NOAA's MPA Center, National Marine Fisheries Service, California Department of Fish and Wildlife, fishers, Alliance of Communities for Sustainable Fisheries



Map of central California state marine protected areas (in red hashed boxes). Image: Chad King/NOAA

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