

# Monterey Bay National Marine Sanctuary Marine Protected Area Impacts and Effectiveness

## Management Issue

Monitoring in the recently established central California coast Marine Protected Areas (MPAs) is necessary for further understanding of how this new level of protection will impact Monterey Bay National Marine Sanctuary (MBNMS or Sanctuary) 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, which includes 29 MPAs (21 within Sanctuary jurisdiction) representing approximately 204 square miles (~18 percent) 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.

## Questions and Information Needs

- 1) How have the MPAs impacted the biologic and habitat resources within and outside the protected areas over different temporal scales?
- 2) What are the natural and anthropogenic factors influencing the MPAs?
- 3) How does protection of biologic communities within the MPAs influence local populations (i.e., evaluate the "spillover effect")?
- 4) What are the socioeconomic effects of the State MPAs?

## 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

## Potential Key Partners and Information Sources

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 Game, fishermen, Alliance of Communities for Sustainable Fisheries



Map of central coast state marine protected areas. Map credit: California Department of Fish and Game

Current as of 11/28/2012

For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>

## Management Support 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

## Planned Use of Products and Actions

- Assess efficacy of MPAs relative to management goals of protecting marine life
- Integrate results from multiple studies to inform regional management and protection



*The kelp forests, typical to coastal California, tower 100 feet above the ocean floor forming a lush habitat teeming with life. This habitat rivals coral reefs and rainforests for richness and diversity. Photo credit: MBNMS*

## Program References

### MBNMS Management Plan

- Marine Protected Areas Action Plan, Strategy MPA-6, MPA-9

### MBNMS Condition Report

- What is the abundance and distribution of major habitat types and how is it changing? (Offshore Environment – Question 5)
- What is the condition of biologically-structured habitats and how is it changing? (Offshore Environment – Question 6)
- What are the levels of human activities that may influence habitat quality and how are they changing? (Offshore Environment – Question 8)
- What is the status of biodiversity and how is it changing? (Offshore Environment – Question 9)
- What is the status of environmentally sustainable fishing and how is it changing? (Offshore Environment – Question 10)
- What is the status of key species and how is it changing? (Nearshore and Estuarine Environments – Question 12)
- What are the levels of human activities that may influence living resource quality and how are they changing? (Nearshore and Estuarine Environments – Question 14)

### ONMS Performance Measures

- Complete description of the compositions, structure and function of the various habitats and ecosystems in the MBNMS
- By 2017, 100% of marine zones or networks of zones have methods implemented to assess their effectiveness

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