

# Monterey Bay National Marine Sanctuary

## Socioeconomics and the Human Dimension

### Management Issue

Human activities clearly influence the quantity and quality of Monterey Bay National Marine Sanctuary (MBNMS or Sanctuary) resources, including water quality, habitat, living resources, and maritime archaeological resources. However, more data on the spatial distribution and intensity of human activities and how those activities change through time are necessary to assess the level of these impacts.

### Description

The Sanctuary and surrounding communities are inherently linked. Many human activities influence the condition of Sanctuary resources, with some activities having a positive impact, and others having a negative impact. Because it is not feasible to manage natural or ecological processes, management of human uses is vital to the protection of Sanctuary resources. As such, good data regarding human uses and activities is critical to understanding anthropogenic effects to the Sanctuary as well as benefits gained from the utilization of marine and coastal resources. In addition, data are needed to gauge the effectiveness of management activity, and investigate the costs and benefits of Sanctuary regulations being considered, such as MPAs. To better understand the relationship between human activities, the condition of Sanctuary resources, and the effectiveness of Sanctuary regulations, we need additional data on the level and location of various human activities that occur in and adjacent to the sanctuary.



*Two kayakers in the foreground of the cruise ship Celebrity Infinity, anchored inside of Monterey Bay. Photo credit: MBNMS/SIMoN*

### Questions and Information Needs

- 1) What is the geographic distribution of human activities that influence the condition of Sanctuary resources? Are there hot spots?
- 2) What are the past, current, and projected future levels of these human activities? What are the projected impacts on Sanctuary resources?
- 3) How have Sanctuary regulations impacted human activities in and around the Sanctuary?
- 4) How do we determine the overall impact of multiple human activities (some with negative and some with positive influence) on Sanctuary resources?
- 5) What is the socioeconomic and demographic background of the affected area?
- 6) What businesses are affected by the Sanctuary and how?
- 7) How is human well-being affected by changes in the ecological status and trends in the Sanctuary?

### Scientific Approach and Actions

- Analyze existing demographic [e.g., Current Population Surveys (CPSs)] and socioeconomic data for Central California area communities to determine the extent that these coastal communities are affected by Sanctuary activities and regulations
- Identify gaps in available data and methods to collect these data
- Understand and predict the level of human activity through space and time through programs such as the System-Wide Monitoring (SWiM) Program, which is designed to track natural and anthropogenic impacts on the Sanctuary at specific spatial and temporal scales through collaborative monitoring efforts

*Current as of 11/28/2012*

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

## Scientific Approach and Actions *(continued)*

- Facilitate graduate student seminars to better gauge the Sanctuary's effectiveness at dealing with the negative and positive effects of human activity
- Conduct online surveys regarding coastal and marine resource usage in order to gather data such as the economic impact and social significance of various human activities, and connect those activities to ecological and biological attributes of the marine environment

## Potential Key Partners and Information Sources

Monterey Bay National Marine Sanctuary Foundation, Partnership for Interdisciplinary Studies of Coastal Oceans, Monterey Bay Aquarium Research Institute, California Sea Grant, National Center for Ecological Analysis and Synthesis, California State University Monterey Bay, Natural Equity, Monterey Institute of International Studies

## Management Support Products

- Publications, such as "Economic Assessment of the Monterey Bay National Marine Sanctuary Communities," which outline recommendations to Sanctuary managers regarding how they can help support local economic growth and improve resource protection at the same time
- Reports such as SWiM Program reports outlining findings, which inform Sanctuary managers of current conditions and trends, guiding them in decision making
- Surveys that collect data regarding marine resource usage via the internet
- A website with graphs and maps of human use activity trends

## Planned Use of Products and Actions

- The use of this information will be integral in developing management tools and strategies, in addition to assessing the applicability and effectiveness of current approaches
- Methods have been developed (e.g., La Franchi 2009) to use data from surveys to predict how people will be affected as the biological and ecological attributes of the marine environment change

## Program References

### MBNMS Management Plan

- Coastal Armoring Action Plan, Strategy CA-1
- Desalination Action Plan, Strategy DESAL-1
- Marine Protected Areas Action Plan, Strategy MPA-6, MPA-9
- Beach Closures and Microbial Contamination Action Plan, Strategy BC-1
- Water Quality Protection Program Implementation Action Plan, Strategy WQPP-16

### MBNMS Condition Report

- What are the levels of human activities that may influence water quality and how are they changing? (Offshore, Nearshore, and Estuarine Environment – Question 4)
- What are the levels of human activities that may influence habitat quality and how are they changing? (Offshore, Nearshore, and Estuarine Environment – Question 8)
- What are the levels of human activities that may influence living resource quality and how are they changing? (Offshore, Nearshore, and Estuarine Environment – Question 14)
- What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing? Offshore, Nearshore, and Estuarine Environment – Question 17)

### ONMS Performance Measures

- Number of sites in which water quality, based on long-term monitoring data, is being maintained or improved
- Number of sites in which habitat, based on long-term monitoring data, is being maintained or improved
- Number of sites in which select living marine resources (LMRs), based on long-term monitoring data, are being maintained or improved

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