

# Monterey Bay National Marine Sanctuary

## Impacts of Personal Watercraft on Marine Wildlife

### Management Issue

The ability of managers of the Monterey Bay National Marine Sanctuary (MBNMS or Sanctuary) to educate the public about the impacts of motorized personal watercraft (MPWC) use would be considerably enhanced by a comprehensive literature review of documented MPWC interactions with marine wildlife such as seabirds, marine mammals, and turtles.

### Description

Motorized Personal Watercraft (MPWC) are small, fast, and highly maneuverable craft that possess unconventionally high thrust capability and horsepower relative to their size and weight. This characteristic enables them to make sharp turns at high speeds and to unpredictably accelerate and decelerate, while maintaining controlled stability. Motorized personal watercraft activities have increased in the Sanctuary with the development of larger and more powerful vehicles for use in the marine environment. In contrast to the impacts of conventional motorboats, which transit nearshore areas fairly quickly by maintaining steady speeds and bearings, wildlife disturbance impacts from MPWC tend to be more severe, due to repeated disruptions and accumulated impacts in nearshore areas.



*A personal watercraft user passes near a great egret (Ardea alba).  
Photo credit: MBNMS.*

Sanctuary regulations are designed to minimize disturbance of marine wildlife and other ocean users by restricting use of MPWC to five designated zones and access routes within the MBNMS. A comprehensive literature review summarizing existing studies on MPWC interactions with marine species such as seabirds, marine mammals, and turtles is needed to help MBNMS stakeholder groups understand the risks MPWC pose to these particularly vulnerable types of wildlife.

### Questions and Information Needs

- 1) What are MPWC impacts to wildlife at the surface and submerged? What is the nature of impacts – visual, audible, physical?
- 2) Are specific species more vulnerable to MPWC disturbance than others?
- 3) What marine wildlife species use the surf zone in central California and how does this vary seasonally?
- 4) Do marine wildlife species remain in the surf zone during periods of high surf (15+ foot breakers)? If not, to where do they relocate and for how long? At what surf state do they return?
- 5) Are particular wildlife activities (e.g., feeding, breeding, nesting) more likely than others to be impacted by MPWC use?
- 6) Have certain MPWC management strategies been shown to reduce the frequency and severity of wildlife disturbance?

### Scientific Approach and Actions

- Develop an inventory of existing studies focused on MPWC impacts in both California and non-California marine environments
- Document and summarize scientific findings about impacts to wildlife from MPWC operations
- Analyze relevance of MPWC impact analyses from non-California marine study areas to MBNMS
- Evaluate trends in disturbance and review the extent to which MPWC management has led to improvements

### Key Partners and Information Sources

*Current as of 11/28/2012*

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

NOAA's National Marine Mammal Laboratory, US Fish and Wildlife Service, Surfrider Foundation, Monterey Bay Aquarium, National Park Service, Audubon Canyon Ranch, NOAA Library, university and college libraries, U.S. Environmental Protection Agency, state/county wildlife and natural resource agencies, California Department of Boating and Waterways, state boating agencies



*Southern sea otters (Enhydra lutris nereis) are often present on the water surface in nearshore areas and are among the species believed to be most vulnerable to disturbance by MPWC. Photo credit: Josh Pederson, SIMoN/MBNMS.*

## Management Support Products

- Expanded and updated technical information to support future sanctuary management planning, natural resource protection, and public education and outreach
- Improved understanding of the susceptibility of different species to disturbance by MPWC
- Increased scientific analysis of existing regulations governing MPWC use in the MBNMS
- Literature review data available to the public through the Internet

## Planned Use of Products and Actions

- Present information learned from literature review to stakeholder groups interested in regulation of MPWC in the MBNMS
- Assess whether existing MBNMS MPWC Action Plan and MPWC use zones should be updated based on new information
- Enhance existing signage and educational materials to increase public awareness of MPWC impacts to wildlife

## Program References

### MBNMS Management Plan

- Marine Mammal, Seabird, and Turtle Disturbance Action Plan MMST-1, MMST-7
- Motorized Personal Watercraft Action Plan, Strategy MPWC-3

### MBNMS Condition Report

- What are the levels of human activities that may influence habitat quality and how are they changing? (Nearshore Environment - Question 8)
- What are the levels of human activities that may influence living resource quality and how are they changing? (Nearshore Environment – Question 14)

### ONMS Performance Measures

- 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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