

Cordell Bank National Marine Sanctuary

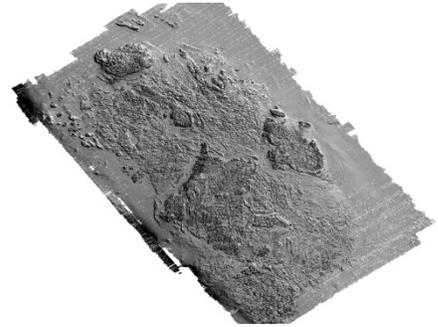
Substrate Characterization

Management Issue

Limited baseline information on substrate extent and distribution reduces the ability of Cordell Bank National Marine Sanctuary (CBNMS or Sanctuary) to understand resources and recognize or respond to existing and emerging pressures and threats to Sanctuary resources.

Description

Large portions of the Sanctuary are not characterized with regard to substrate type; only 30% of the Sanctuary is even mapped. Reliable habitat maps require state-of-the-art surveys using multi-beam sonar; substrate classification analysis; and habitat verification by image analysis from underwater vehicles such as remotely operated vehicles (ROVs) or Autonomous Underwater Vehicles (AUVs). Knowing the different substrate types, and their coverage and distribution, is crucial for effective resource management, for meeting the National Marine Sanctuary Act requirement to characterize sanctuaries, and for identifying and informing CBNMS research and monitoring needs.



High resolution benthic map of Cordell Bank. Credit: CSUMB, CBNMS

Questions and Information Needs

- 1) Where are the priority areas for mapping?
- 2) From substrate classification and groundtruthing data, what are the habitat types and their distributions in the Sanctuary?
- 3) Where are sensitive habitat types?
- 4) How is habitat changing spatially and temporally, particularly with regard to ongoing human activities or with regard to prohibitions of activities such as trawling in certain areas?
- 5) Where should exploration, research, and monitoring be focused to characterize and groundtruth habitat, including physical and biological habitat?

Scientific Approach and Actions

- Inventory existing maps and prioritize areas for additional mapping
- Surveys using multi-beam sonar
- Analysis for habitat classification and other characteristics
- Verification of habitat using ROVs or AUVs

Key Partners and Information Sources

US Geologic Survey, NOAA Office of Exploration and Research, NOAA National Marine Fisheries Service, California State University Monterey Bay Seafloor Mapping Lab

Management Support Products

- Data and maps of habitat types
- Reports on distribution of habitat and changes over time

Planned Use of Products and Actions

- Better management of sensitive habitat areas
- Informed selection of research and monitoring sites
- Informed response to vessel groundings and other emergencies

Updated: 12/3/2014

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

Program References

CBNMS Management Plan

- Management Plan Conservation Science Action Plan CS-2

CBNMS Condition Report

- What is the abundance and distribution of major habitat types and how is it changing?
- What is the condition of biologically-structured habitats and how is it changing?
- What are the levels of human activities that may influence habitat quality and how are they changing?

ONMS Performance Measures

- Number of sites in which habitat, based on long-term monitoring data, is being maintained or improve
- Percentage of the Sanctuary System that is adequately characterized.

Updated: 12/3/2014

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