A BIOGEOGRAPHIC ASSESSMENT OF LIVING MARINE RESOURCES OF THE CHANNEL ISLANDS NATIONAL MARINE SANCTUARY

In Support of the CINMS Management Plan Review

GOAL

To analyze relevant and comprehensive spatial data to evaluate potential implications of boundary expansion alternatives currently under consideration by the Channel Islands National Marine Sanctuary (CINMS).

PROJECT OVERVIEW

CINMS is currently undergoing a process to update its Management Plan. One component of that process involves evaluating six different boundary expansion alternatives including one no-action alternative. To address this issue, NOAA's Biogeography Program (BP), in consultation with the National Marine Sanctuary Program (NMSP), will conduct a spatially-articulated characterization of the marine fauna in and around CINMS. The study area extends from Morro Bay in the north to 30 kilometers south of Santa Catalina Island. This characterization will begin by gathering existing comprehensive and spatially explicit biological and environmental data from all available sources. Data extent, quality, and position within the study area will be evaluated. Modeling, data integration, and a quantitative assessment of biotic and habitat resources will then be produced for each of the boundary alternatives. The results of this work will be used to identify both potentially important ecological areas and time periods.

The CINMS biogeographic assessment will complement and build upon a similar effort currently being conducted by the BP for three sanctuaries in northern/central California (Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries). The biogeographic assessment for these three sanctuaries was conducted to identify important biological zones, time periods, and ecological linkages within an analysis area that extends from Point Arena south to Point Sal.

Anticipated products and activities from the CINMS assessment will include: 1) a biogeographic analysis and development of a marine geographic information system (GIS) for the area; 2) a robust quantitative ecological "cost-benefit" analysis of boundary alternatives for resources in the study area (birds, mammals, fish, invertebrates, and habitats critical to those groups); and 3) support for the development of a custom GIS tool to support Sanctuary management for future analyses of biological resources under their purview.

QUESTIONS TO BE ADDRESSED

1. What data currently exists allowing NMSP to identify regions within and outside of the study area important to species, communities, and ecosystems?
2. Does an analysis of existing data reveal biologically meaningful and statistically significant patterns in the distribution of marine associated fauna and flora?
3. Which habitats and locations are unique and productive (e.g. high diversity), and how are these areas utilized by living marine resources?
4. Where existing data is insufficient to address the above questions, can we model potential distribution patterns (occurrence likelihood) to aid in the assessment?
5. How do these patterns relate to the six proposed boundary alternatives?
6. Are there resulting patterns from the analysis that would suggest additional alternatives beyond the six currently under consideration?
7. What significant gaps exist in our knowledge of biological and physical characteristics of the study area?

PROJECT PERIOD

January 2003 through May 2004

CONTACT INFORMATION

John D. Christensen - CINMS Project Manager
NOAA/NOS/NCCOS
301-713-3028 x 153
john.christensen@noaa.gov

Chris Caldow – Lead Project Analyst
NOAA/NOS/NCCOS
301-713-3028 x 164
chris.caldow@noaa.gov

Chris Mobley - CINMS Sanctuary Manger
805-966-7107
NOAA/NOS/NMSP
chris.mobley@noaa.gov

Michael Murray - CINMS Management Plan Coordinator
805-966-7107
michael.murray@noaa.gov

http://biogeo.nos.noaa.gov/projects/assess/ca_nms/cinms