

A Biogeographic Assessment
off North/Central California in Support
of the Cordell Bank, Gulf of the Farallones
and Monterey Bay National Marine
Sanctuaries



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FOR MORE INFORMATION

For more information or to download this report, please contact the NCCOS Biogeography Branch at 301-713-3028, visit: http://ccma.nos.noaa.gov/products/biogeography/canms_cd/welcome.html or contact tracy.gill@noaa.gov

Photographs on the report cover (front and back) are from the following individuals; we greatly appreciate their contribution. Sophie Webb of Oikonos Ecosystem Knowledge provided all but two images; other photos were provided by Jan Roletto of the Gulf of Farallones National Marine Sanctuary, who took the photo of the spouting whale on the back, and Nick Metheny, who took the photo of common murre, the third small image from the left on the back.

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**A Biogeographic Assessment off North/Central California:
In Support of the National Marine Sanctuaries of Cordell Bank,
Gulf of Farallones and Monterey Bay**

Phase II: Environmental Setting and Update to Marine Birds and Mammals

Prepared for NOAA's National Marine Sanctuary Program

by the

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ABOUT THIS DOCUMENT

This document is Phase II of a biogeographic assessment completed in 2004, described below. In the spring of 2001, NOAA's National Marine Sanctuary Program (NMSP) and National Centers for Coastal Ocean Science (NCCOS) launched a project to assess biogeographic patterns of selected marine species and habitats found within and adjacent to the boundaries of three west coast National Marine Sanctuaries off north/central California: Monterey Bay, Gulf of the Farallones and Cordell Bank. Sanctuary staff were conducting a joint review to update sanctuary management plans. To support this review, the NCCOS's Biogeography Branch led a partnership effort to conduct a robust analytical assessment to define important biological areas and time periods within and adjacent to current sanctuary boundaries. The assessment was based on a synthesis of many data sets that were provided by project partners.

Phase I assessment products include a CD-ROM and website containing two reports, geographic analyses and related data and results, hundreds of maps, a description of the ecosystem components and their linkages, and future activities to be addressed in Phase II. Phase I products are available at: http://ccma.nos.noaa.gov/products/biogeography/canms_cd/welcome.html

Phase II was initiated in the autumn of 2004 to complete the analyses of marine mammals and to update the marine bird colony information. In addition to updates to the bird and mammal chapters, an environmental settings chapter was added, containing new data and maps as well as existing maps and information from related NCCOS reports on the region. This report and related products will be available at the following site by December 2007: http://ccma.nos.noaa.gov/products/biogeography/canms_cd/welcome.html

Results of these assessments are being used to assist the NMSP and state of California in addressing issues such as: evaluating potential modification of sanctuary and reserve boundaries, and changing management strategies or administration based on the principles of biogeography.

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EXECUTIVE SUMMARY

NOAA's National Centers for Coastal Ocean Science (NCCOS) conducts and supports research, monitoring, assessments, and technical assistance to meet NOAA's coastal stewardship and management responsibilities. In 2001 the Biogeography Branch of NCCOS partnered with NOAA's National Marine Sanctuary Program (NMSP) to conduct biogeographic assessments to support the management plan updates for the sanctuaries.

The first biogeographic assessment conducted in this partnership focused on three sanctuaries off north/central California: Cordell Bank, Gulf of the Farallones and Monterey Bay. Phase I of this assessment was conducted from 2001 to 2004, with the primary goal to identify and gather the best available data and information to characterize and identify important biological areas and time periods within the study area. The study area encompasses the three sanctuaries and extends along the coastal ocean off California from Pt. Arena to Pt. Sal (35°-39°N). This partnership project was lead by the NCCOS Biogeography Branch, but included over 90 contributors and 25 collaborating institutions. Phase I results include: 1) a report on the overall assessment that includes hundreds of maps, tables and analyses; 2) an ecological linkage report on the marine and estuarine ecosystems along the coast of north/central California, and 3) related geographic information system (GIS) data and other summary data files, which are available for viewing and download in several formats at the following website:
http://ccma.nos.noaa.gov/products/biogeography/canms_cd/welcome.html

Phase II (this report) was initiated in the Fall of 2004 to complete the analyses of marine mammals and update the marine bird colony information. Phase II resulted in significant updates to the bird and mammal chapters, as well as adding an environmental settings chapter, which contains new and existing data and maps on the study area. Specifically, the following Phase II topics and items were either revised or developed new for Phase II:

- environmental, ecological settings – new maps on marine physiographic features, sea surface temperature and fronts, chlorophyll and productivity
- all bird colony or roost maps, including a summary of marine bird colonies
- updated at-sea data CDAS data set (1980-2003)
- all mammal maps and descriptions
- new overall density maps for eight mammal species
- new summary pinniped rookery/haulout map
- new maps on at-sea richness for cetaceans and pinnipeds
- most text in the mammal chapter
- new summary tables for mammals on population status and spatial and temporal patterns

This report and related products (report, maps, tables, GIS data) will be available on CD-ROM and at the following website in February 2007:

http://ccma.nos.noaa.gov/products/biogeography/canms_cd/welcome.html

Results of this assessment are being used to assist the NMSP and state of California in addressing issues such as evaluating potential modification of sanctuary and reserve boundaries, and changes in management strategies or administration, based on the data and analyses of these biogeographic products.



Figure 1.0 Region of interest for biogeographic assessment off north/central California

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