



# DAVIDSON SEAMOUNT

## Action Plan Summary

### MONTEREY BAY NATIONAL MARINE SANCTUARY

#### THE ISSUE:

*The National Oceanic and Atmospheric Administration (NOAA) is considering protecting the resources and qualities of the Davidson Seamount through inclusion in the Monterey Bay National Marine Sanctuary (MBNMS).*

#### BACKGROUND INFORMATION

Seamounts are underwater mountains with steep sides rising over 3,280 feet (1,000 meters) above the surrounding seafloor. There are over 30,000 seamounts in the Pacific Ocean alone, yet remarkably, less than 0.1% of the seamounts in the world have been explored.

Studies that have been conducted over seamounts indicate that seamounts function as “oases of life,” with higher species **diversity** and **biomass** found on a seamount and in the waters around it than on the surrounding seafloor. Seamounts rise up high in the water column, creating complex current patterns influencing what lives on and above them. Seamounts also provide substrate, a location for attachment, where organisms can settle and grow. These organisms provide a food source for other animals. Scientists have found that seamounts often provide habitat to endemic species, species found only in a single location.

The National Marine Sanctuaries Act requires a review of boundaries during a management plan review. The MBNMS received many comments during the public scoping period suggesting many boundary expansions, including moving the southern boundary up to 80 miles south, or adding the four seamounts west of the current MBNMS boundary. The MBNMS evaluated these public suggestions and is further considering adding only the Davidson Seamount to the MBNMS.

Davidson Seamount is located 75 miles (120 km) southwest of Monterey and is one of the largest seamounts in the world. It is 26 miles (42 km) long and 8 miles (13 km) wide. From base to crest, Davidson Seamount is 7,874 feet (2,400 m) tall, yet the top still sits 4,101 feet (1,250 meters) below the sea surface.

#### OUR GOAL

The sanctuary's goal is to incorporate Davidson Seamount into the MBNMS and develop and implement a resource protection plan for the seamount, increase understanding of the seamount through characterization and ecological studies and to develop education programs for this and other seamounts throughout the nation.

## SOME OF THE UNIQUE QUALITIES OF THE DAVIDSON SEAMOUNT:

The following criteria, from the NMSA, are used to determine qualification of sites seeking National Marine Sanctuary status. These guidelines were examined by the working group and Sanctuary Advisory Council to determine Davidson Seamount's eligibility and were outlined as follows:

**Conservation Qualities:** Davidson Seamount is the largest seamount in the eastern Pacific Ocean and is one of the largest seamounts in the world. It may have unique links to the nearby Partington and Monterey submarine canyons. The seamount is home to fragile deep sea coral forests estimated to be *more than 100 years old*. It provides habitat for many rare and endemic species.

**Ecological Qualities:** Davidson Seamount has a pristine undersea ecosystem containing a diversity of habitats and sea life. A 2002 research expedition documented previously undiscovered species and species assemblages including large patches of corals and sponges. This biological diversity is not currently known to exist on other central California seamounts.

**Education Qualities:** Davidson Seamount's proximity to the MBNMS and the Monterey Bay Aquarium offer excellent opportunities to educate the public about seamounts, cold-water sponges and corals, and seafloor topography.

**Scientific Qualities:** NOAA has worked in partner-

ship with marine research institutions and universities to explore Davidson Seamount and it is now one of the better-studied seamounts in the world. With a history of detailed research dives and high-resolution maps, scientists can learn a great deal from the information gathered at Davidson Seamount. The seamount's proximity to Monterey scientific research institutions makes it accessible for further study.

**Historical Qualities:** The Davidson Seamount was the first geologic feature described as a seamount. It was first mapped in 1933 and was named for George Davidson, a historic figure in early charting and mapping.

**Aesthetic Qualities:** Hundreds of high-quality photographs, maps and video of Davidson Seamount's unique creatures, including fishes, deep sea corals, and invertebrates as well as the seamount's remarkable topography are available via NOAA websites, visitor centers, CD products, newspaper articles, television broadcasts, and presentations.

## What Are The Threats To Davidson Seamount?

There is currently no comprehensive conservation and management scheme in place to protect the organisms on the seamount or the surrounding ecosystem. Existing federal and state regulations do not protect Davidson Seamount from a variety of potential threats:

**Marine debris/dumping:** The Davidson Seamount area is not presently protected from targeted offshore dumping.

**Bio-prospecting:** Some groups of organisms found on seamounts have been targeted for commercial products. Extensive collection of sensitive species for commercial use, or bio-prospecting, would damage the fragile ecosystem.

**Seafloor harvesting:** Presently, there is no known commercial harvesting activity at Davidson Seamount and no known populations of fish or invertebrates to support a fishery. As discoveries of precious corals or other potential commercial species on Davidson Seamount become public, commercial harvest of any kind, with new deep sea techniques, could cause severe damage.

**Installation of cables or other structures:** Listening arrays have been installed on nearby seamounts and commercial fiberoptic cables have been laid nearby. The large corals and other fragile species could be severely damaged by uncontrolled construction or other seabed disturbance.

**Cumulative research collection:** Worldwide, there has been increased interest in studying deep sea corals such as the large pink bubblegum coral, *Paragorgia*. Davidson Seamount has several rare, slow growing coral species, including *Paragorgia*. Unmanaged collection of slow growing species, even to learn more about them, can damage fragile ecosystems.

## Would Existing Fisheries Be Affected?

Existing fishing activities would not be affected. Two commercial fisheries currently active in the waters above Davidson Seamount – drift gill netting for swordfish and sharks, and trolling for albacore tuna – operate in the top 150 feet (46 meters) of water, 3,951 feet (1,204 meters) above the seamount. Proposed regulations would not affect, in any way, these fisheries. The MBNMS is working with the Pacific Fishery Management Council to draft a regulation prohibiting fishing only at the Davidson Seamount, and only below the 3,000 foot water depth.

## THE SANCTUARY'S ACTION PLAN

The sanctuary's "Davidson Seamount Action Plan" was developed jointly with a variety of stakeholders and partners and includes the following components:

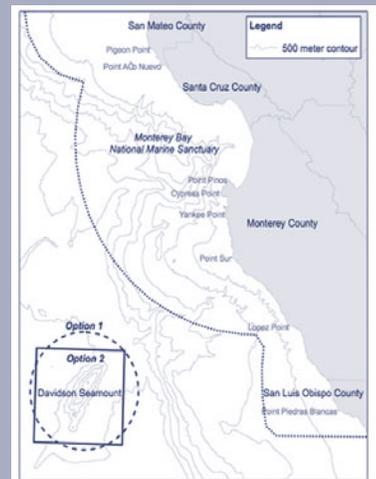
- Developing a Draft Environmental Impact Statement for inclusion of the Davidson Seamount into the Monterey Bay National Marine Sanctuary
- Drafting regulations to prohibit activities harmful to the Davidson Seamount
- Characterizing the Davison Seamount region, including the oceanography, biology, geology, cultural history, and socio-economics of the seamount
- Conducting ecological studies to better understand the seamount, including regular benthic studies, conducting deepwater coral aging and restoration studies, and performing research on the distribution and abundance of species at the Davidson Seamount
- Developing a comprehensive resource protection program to identify and characterize potential threats and to develop an enforcement plan
- Developing outreach and education programs to inform the public about the Davidson Seamount's geologic, oceanographic, and ecologic qualities

*For a complete listing of the sanctuary's "Davidson Seamount Action Plan" please visit [http://sanctuaries.nos.noaa.gov/jointplan/m\\_reptoad.html](http://sanctuaries.nos.noaa.gov/jointplan/m_reptoad.html) and scroll down the page.*

## How Would the Public Benefit?

Some of the public benefits of including Davidson Seamount in the Monterey Bay National Marine Sanctuary are:

- Comprehensive protection of a unique, pristine geologic formation for existing and future generations
- Increased national awareness and public understanding of seamount systems
- Protection of rare, new and fragile species and their ecologically significant habitat
- Enhanced long-term research vital to future resource management

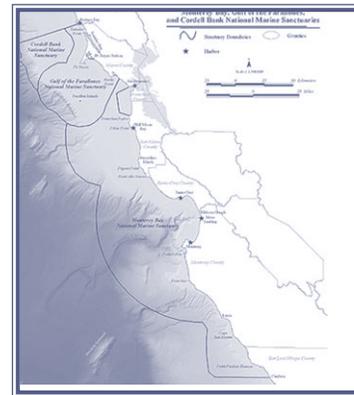


***D***avidson Seamount is one of the largest seamounts in the world and rises more than 7,800 feet (2400 meters) above the ocean floor.

# The Joint Management Plan Review (JMPR)

“Davidson Seamount” is one of the action plans in the MBNMS Draft Management Plan. The MBNMS Draft Management Plan includes twenty-eight plans that, once finalized, will guide sanctuary management for the next five years. The plan is a revision of the original management plan, adopted with sanctuary designation in 1992, and is focused on how to best understand and protect the sanctuary’s resources.

The National Marine Sanctuary Program (NMSP) is updating the management plans for the Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries in what is known as the Joint Management Plan Review (JMPR).



## GLOSSARY

**Biomass:** The total weight of living organisms.

**Diversity:** The number of different species inhabiting a particular area.

## *How You Can Get Involved in the MBNMS Management Plan Process*

The MBNMS welcomes your ideas about important resource management issues in the sanctuary. A Draft Management Plan and Draft Environmental Impact Statement are scheduled for release to the public in 2006. Following their release, hearings will be held in several locations throughout the region to gather public comment. Written comments will be accepted as well. To find out about public hearings, or how to submit written comments, please visit our website at <http://www.sanctuaries.nos.noaa.gov/jointplan>.



George Davidson  
As a young man.

## THE MONTEREY BAY NATIONAL MARINE SANCTUARY

Stretching from Marin to Cambria, the Monterey Bay National Marine Sanctuary encompasses 276 miles of shoreline and 5,322 square miles (4,625 nautical miles) of ocean, extending an average distance of 30 miles from shore. At its deepest point, the sanctuary reaches down 10,663 feet (more than two miles). The sanctuary was established for the purposes of resource protection, research, education, and public use. Its natural resources include one of our nation's largest kelp forests and one of North America's largest underwater canyons. It is home to one of the most diverse marine ecosystems in the world, including 33 marine mammal species, 94 seabird species, 345 fish species, and numerous invertebrates and plants. This remarkably productive marine environment is fringed by spectacular coastal scenery, including sandy beaches, rocky cliffs, rolling hills, and steep mountains.

## Resources

Monterey Bay National Marine Sanctuary

<http://montereybaynoaa.gov/resourcepro/resmanissues/coastal.html>

National Oceanic and Atmospheric Administration's Office of Exploration

<http://www.oceanexplorer.noaa.gov/explorations/02davidson/davidson.html>

Sanctuary Integrated Monitoring Network (SIMoN) <http://www.mbnms-simon.org>

