Monterey Bay National Marine Sanctuary
Sanctuary Office Report
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ABOUT THE SANCTUARY
Designated in 1992, the Monterey Bay National Marine Sanctuary (MBNMS or Sanctuary) is a federally protected marine area offshore of California’s central coast. Stretching from Marin to Cambria, the MBNMS encompasses a shoreline of 276 miles and 6,094 square statute miles of ocean.

Supporting one of the world’s most diverse marine ecosystems, it is home to numerous mammals, seabirds, fishes, invertebrates and plants in a remarkably productive coastal environment. The MBNMS was established for the purpose of resource protection, research, education and public use of this national treasure.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) AND OFFICE OF NATIONAL MARINE SANCTUARIES (ONMS) NEWS

California State Coastal Conservancy Approves Grant for Sanctuary Exploration Center
The California State Coastal Conservancy has approved a $500,000 grant for the Monterey Bay National Marine Sanctuary Exploration Center. The grant will be disbursed to the City of Santa Cruz for use in the construction of interpretive exhibits. “This is a major milestone for the Sanctuary Exploration Center project here in Santa Cruz. We are extremely grateful to the Conservancy for this grant,” said Fred Keeley, chairman of the Leadership Committee for the Sanctuary Exploration Center’s capital campaign and treasurer for Santa Cruz County. State Senator Joe Simitian (11th District) and Assemblyman Bill Monning (27th District) contributed additional letters of support. Construction began last month on the 12,333-square-foot facility being built by the City of Santa Cruz in partnership with the National Oceanic and Atmospheric Administration’s National Marine Sanctuary Program and the National Marine Sanctuary Foundation. Approximately 200,000 visitors per year are expected to visit the Exploration Center, which will be located near the Santa Cruz Beach Boardwalk. The capital campaign is expected to be completed next year, and the Sanctuary Exploration Center’s Grand Opening is slated for the summer of 2012.

NOAA’s Ocean Guardian School Helps Ban Plastic Bags in Pacific Grove
Pacific Grove Middle School, a NOAA Ocean Guardian School, lobbied the City of Pacific Grove to ban plastic bags, which resulted in the City changing their permit for use of public facilities to specifically prohibit helium balloons. Pacific Grove Middle Schools were motivated to take action after seeing the number of balloons that emptied out into the sanctuary after the first major rainfall. This information was provided to them by a teacher at the school who participates in Monterey Bay National Marine Sanctuary’s First Flush monitoring program. After this great success the students also presented their results to the school board which resulted in Pacific Grove Middle School reexamining the use of balloons for birthday celebrations and then elected to ban the use of balloons on school grounds as well. The NOAA Ocean Guardian Schools is a highly successful program that encourages schools to conduct a school or community based stewardship project that results in a direct environmental change. This includes such things as recycling, reducing the use of single use plastics, school gardens, and restoration.

NOAA Releases Interactive California Ocean Uses Atlas Online Data Viewer
The National Marine Protected Areas Center (MPAC) has launched the California Ocean Uses Atlas online data viewer, an interactive application developed in collaboration with NOAA’s Special Projects Office. Use data were collected through a series of participatory workshops for ocean use experts held between October 2008 and July 2009. This viewer provides data on 27 different uses, representing the suite of human ocean activities, covering the area from California’s coastline to the exclusive economic zone. Visitors can answer simple spatial queries on overlapping human uses in California’s ocean, and display use data relative to marine protected areas and other background layers. Data displayed in the viewer reflects the “Dominant Use Areas” for each activity, defined as where most of the use happens most of the time, and as mapped by multiple, independent groups. More detailed information on the general footprint for each use, GIS data, and maps are available online.
National Marine Sanctuary News

Channel Islands NMS
On November 4, Channel Islands National Marine Sanctuary (CINMS) aerial operations personnel Natalie Senyk and Ben Waltenberger conducted the first in a year-long series of aerial survey missions to examine populations and densities of whales, and shipping traffic, within the Navy’s Pacific Missile Test Range. US Navy’s Naval Air Systems Command (NAVAIR) is providing funding for flights, and CINMS is providing expert personnel to fly surveys and process and analyze collected data. The partnership addresses the shared needs of NOAA and the US Navy to better understand whale distributions within the Pacific Missile Test Range, which overlaps with the sanctuary. The Navy will use collected data to enhance predictive models that can identify best areas to conduct defense tests to minimize environmental impacts. CINMS will be using the collected data to better understand whale distributions in the vicinity of the sanctuary, and as part of continued monitoring of whales and ship strikes. Due to new California Air Resources Board regulations affecting ship fuels, the majority of large vessel traffic in the vicinity of the CINMS region is currently transiting through the Pacific Missile Test Range in lieu of designated traffic lanes within the Santa Barbara Channel. The November 4th flight was conducted onboard an offshore equipped Bell Jet Ranger Helicopter using the Sanctuary Aerial Monitoring and Spatial Analysis Program (SAMSAP) software, and covered transect lengths totaling 470 nautical miles. In addition to marine mammal surveys, personnel recorded and photographed commercial fishing vessels and marine debris (mostly balloons). Future flights are scheduled at approximately two-week intervals through 2011.

Gulf of the Farallones NMS
On Wednesday, October 27, staff from the Office of National Marine Sanctuaries, the National Marine Sanctuary Foundation, and Gulf of the Farallones National Marine Sanctuary attended the grand opening of the Seal Cove Stairway and a suite of interpretive signs at the Fitzgerald Marine Reserve in Moss Beach, CA. The project is in partnership with the California State Lands Commission and the San Mateo County Parks Department. The interpretive signage provides information on coastal wildlife, marine ecosystems, and the cultural history of the area. Funding for the bluff-to-beach staircase came from a settlement fund with a shipping corporation when, in 1998, one of its vessels, the oil tanker Command, leaked 3,000 tons of oil into the sanctuary, fouling beaches and killing about 1,500 seabirds and damaging other marine life. NOAA/Gulf of the Farallones National Marine Sanctuary is one of the fund trustee agencies.

Staff from PRBO Conservation Science presented information from the Applied California Current Ecosystem Studies (ACCESS) cruises to the international organization, North Pacific Marine Science Organization (PISCES) at their annual meeting in Portland OR, last week. PISCES is an intergovernmental scientific organization, was established in 1992 to promote and coordinate marine research in the northern North Pacific and adjacent seas. Its present members are Canada, Japan, and People’s Republic of China, Republic of Korea, the Russian Federation, and the United States of America. PRBO presented data on using plankton (copepods) as a surrogate indicator of ecosystem health. These types of data can be used to scale effectiveness of management actions and determine how the ecosystem variables influence the effectiveness of management actions.

Papahānaumokuākea Marine National Monument
The numbers are staggering. Over the past decade, since the creation of the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, nearly 700 tons of derelict fishing gear has been removed from the reefs and beaches of Papahānaumokuākea Marine National Monument. These 1,398,460 pounds of mostly nets, ropes and line is equivalent to 350 cars or 152 average-weight elephants! What happens to all of this marine debris once it’s collected and shipped back to O‘ahu? In 2002, the Hawai‘i Nets to Energy public-private partnership was formed to help proactively dispose of marine debris by using it to create electricity. Since the beginning of the program, enough power has been produced to support the energy needs of more than 600 O‘ahu homes for a full year each. On Nov. 23, 2010 representatives from the Hawai‘i Nets to Energy partnership including the NOAA Marine Debris Program, Schnitzer Steel, Covanta Energy/HPower, the U.S. Coast Guard and Papahānaumokuākea Marine National Monument are creating a media opportunity to tour and view processing and energy production operations at two key Nets to Energy private partner facilities: Schnitzer Steel and Covanta Energy/HPower. Reporters will learn about the history of the Hawai‘i Nets to Energy program, marine debris removal efforts in the Northwestern Hawaiian Islands and what the future holds for addressing marine debris in Hawai‘i. Marine debris accumulates in and around the Northwestern Hawaiian Islands due to ocean currents and winds. Much of the debris is made up of derelict fishing nets. Each year marine debris removal efforts are shared between NOAA and the U.S. Coast Guard on a rotational basis. This media opportunity is the last in a series of media events associated with the commemoration of the 10th Anniversary of the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve.
PISCO contributes to CMSP with new insights on coastal convergent fronts

Dr. Brock Woodson, a former PISCO post-doc and currently at Stanford’s Environmental Fluid Mechanics Lab, presented data on the importance of nearshore fronts to patterns of larval recruitment. Fronts in the ocean have long been appreciated as biological hotspots with high densities of multiple trophic levels from phytoplankton to whales, including larvae of many marine organisms. However, the influence of fronts on the dispersal and recruitment of larvae in the coastal zone has largely been ignored. In many regions of the California Current (CC), there are regions of persistent fronts or frontal activity that arise due to topographic or bathymetric steering of upwelling currents, internal tidal activity, or strong tidal forcing. A new method for computing front probability and a long-term monitoring effort compiled by PISCO allows examination of fronts and recruitment along the CC Large Marine Ecosystem (LME). Recruitment of marine intertidal invertebrates is correlated with front probability from Oregon to the Southern CA bight. Nearshore species of rockfishes show striking patterns compared to mid-shelf species and recruitment is also correlated with front probability. Areas with persistent fronts contribute significantly to the productivity of adjacent nearshore ecosystems. This kind of information is
key for CMSP: placing structures in such areas could severely disrupt productivity, either by altering current dynamics or by artificially supporting higher-order predators attracted to the structures (e.g., wave energy systems, aquaculture pens). Most of the ecological data were collected in collaboration with MBNMS, using the R/V FULMAR as the primary research platform.

Central California Coast Trawl Impact Study

On November 8 and 9, Monterey Bay National Marine Sanctuary, collaborated with The Nature Conservancy, California State University Monterey Bay, and Marine Applied Research and Exploration (MARE) on a research cruise focused on studying trawling impacts. The main objectives of this multi-year project are to improve our understanding of the impact of bottom trawling on benthic communities and to monitor the changes in seafloor communities post trawling. The science team worked aboard the F/V Donna Kathleen and deployed a Remotely Operated Vehicle (ROV), Beagle, to collect HD video and images from the continental shelf at 150-170 meters. The results of this study will inform the Monterey Bay National Marine Sanctuary's "Bottom Trawling Effects on Benthic Habitats" action plan and help achieve our goal to evaluate and minimize the adverse effects of bottom trawling.

Davidson Seamount presented to the Western Dredging Association

The annual meeting of the Western Dredging Association met in Monterey to share information on dredging, navigation, marine engineering and construction for the region Northern, Central and South America. They requested a banquet presentation on Davidson Seamount as the latest addition to the Sanctuary program. This provided a very positive shared interest in application of advanced technology to gather images and study unique geology and biology. The dredging community is an important stakeholder in the Monterey Bay Sanctuary, and a shared wonder of the ocean was a positive way to enhance communication among agencies and user groups.

SIMoN staff presents at Western Society of Naturalists annual conference

From November 11-15, Dr. Steve Lonhart attended the annual meeting of the Western Society of Naturalists (WSN). Lonhart co-authored a talk with recent UC Santa Cruz graduate Sarah Traiger. Entitled "Short-term, small-scale growth and distribution of an invasive bryozoan in Monterey Harbor," the presentation covered efforts to quantify the growth and spread of Watersipora subtorquata on pier pilings in the marina. This invasive bryozoan has the propensity to overgrow other species, forming monocultures in areas with moderate to high flow. Lonhart also chaired a session on invasive species and judged 11 student posters (64 were presented).

Summary of SCUBA Diving Operations Conducted From R/V FULMAR FY 10

A summary of SCUBA diving operations conducted from the R/V FULMAR in fiscal year 2010 was posted on the Sanctuary Integrated Monitoring Network (SIMoN) website (www.sanctuarysimon.org/regional_docs/site_build/2010_Fulmar_divingreport.pdf). During FY10, 496 dives were conducted at 54 unique dive sites by 47 individual divers, totaling 371 hours of bottom time.

SIMoN staff supports Australian effort to eradicate invasive kelp

Dr. Steffan Howe (Manager of Marine Science, Research and Management Effectiveness Branch at Parks Victoria, Australia) contacted SIMoN staff requesting information on the invasive Asian kelp Undaria pinnatifida. Howe and his staff are currently responding to an Undaria invasion in Apollo Bay harbor in western Victoria (SE Australia) where it was first reported last year. They attempted physical removal but this has been unsuccessful. At present Undaria has not spread beyond the harbor so there is still some (small) hope that it can be eradicated before it spreads along the west coast. The harbor has a narrow entrance and it may be possible to block this entrance and flush the harbor to kill of the Undaria (either with freshwater or some sort of biocide). Howe was very interested in learning more about techniques that were used in Monterey Bay and southern California.

RESOURCE PROTECTION

Water Quality Topic at National Geographic Workshop

On November 4th, Resource Protection staff met with National Geographic staff to review and strategize for the upcoming Marine Recreation Community Workshop in Monterey on December 15th. This workshop is timely as it will promote sustainable uses of the sanctuary, connect researchers with the recreation community and highlight the MBNMS as a special place to visit. Sanctuary staff will give a presentation on water quality during the “State of the Bay” session.

MBNMS Advises on Rural Roads Erosion Control Program

On November 8th, MBNMS Staff participated in a technical advisory committee meeting for the San Mateo County Rural Roads Program. Led by the San Mateo County Resource Conservation District, this program seeks to improve rural road maintenance to reduce runoff and protect local streams and coastal marine resources. The goals of the project are to identify areas of high erosion risk, develop site-specific plans to address impacts from high priority roads, educate landowners on rural road Best Management Practices, and assist landowners with implementation of practices to reduce erosion.
Coastal Construction Field Visit
MBNMS staff coordinated a site visit among CA Coastal Commission regulatory staff, construction representatives, engineers, and building owners to evaluate habitat and review permit requirements of the proposed coastal construction project below the Fishhopper. This restaurant, located on pilings above the MBNMS, is currently suffering structural damage, and will need future repairs.

Santa Cruz Harbor Dredge Disposal
MBNMS staff has been coordinating with state, federal and local agencies to review and evaluate the Santa Cruz Harbor Dredge Disposal Plan for the 2010-2011 seasons. Disposal operations are planned to begin on November 22nd.

Comment Letter to NMFS on Proposed Black Abalone Critical Habitat Designation
MBNMS coordinated a draft comment letter to NMFS for MB, GF, and CI regarding the proposed black abalone critical habitat designation. The specific areas listed begin at Del Mar Landing Ecological Reserve in the north to Cayucos in the south and include the Farallon Islands, Ano Nuevo Island and the Channel Islands. Under the ESA, "federal agencies are required to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat." Some of the management activities affected by this designation include dredging, in-water construction, sand replenishment, NPDES-permitted activities, coastal development and sidecasting, agricultural activities, oil and chemical spills and cleanup, vessel grounding, construction and operation of power plants, construction and operation of desalination plants, construction and operation of tidal and wave energy projects, construction and operation of LNG projects, mineral and petroleum exploration and extraction, non-native species introduction and management, kelp harvesting, and activities leading to global climate change.

West Coast Governor’s Agreement on Ocean Health hosts workshop for input on regional ocean partnership funding for Coastal and Marine Spatial Planning
On July 19, 2010 President Obama signed an Executive Order establishing a National Policy for the Stewardship of the Ocean, adopting the Final Recommendations of the Interagency Ocean Policy Task Force. In September 2010 NOAA announced a competitive Regional Ocean Partnership Funding Program (ROPFP), to support regional ocean partnerships and encourage coastal and marine spatial planning processes that lead to the development of a comprehensive, multi-objectives, multi-sectoral regional plan within five years. The West Coast Governor’s Agreement (WCGA) is engaging tribes, government agencies, scientists and technical experts, and stakeholders in a process to identify regional coastal and marine spatial planning priorities and needs that will support a coordinated regional proposal from the WCGA to NOAA in response to the ROPFP for the West Coast. Monterey Bay National Marine Sanctuary staff attended a West Coast workshop in San Francisco on November 12, 2010 to provide input and feedback on ecosystem-based management marine spatial planning efforts by the Sanctuary.

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

Fundraising Event with the MBNMS Coastal Discovery Center
On Nov. 12th and 13th, a combined tabling event was held by the Coastal Discovery Center, (CA State Parks and the MBNMS) and the Marine Mammal Center as part of a fund-raiser for the Cambria Education Foundation, a non-profit group which raises money for local schools. Held at the National Geographic Theater lobby at Hearst Castle Visitor’s Center in San Simeon, the tabling event complimented an IMAX feature on whales. The table presentation consisted of whale artifacts, NOAA’s educational materials on marine debris, marine entanglement displays and a short documentary about humpback whale rescues in Hawaii featuring NOAA’s Hawaiian Islands Humpback Whale National Marine Sanctuary’s rescue experts, In the Wake of Giants. The event was a great success; reaching over 600 people and educating the local public about the kinds of programs the Coastal Discovery Center have to offer.

MBNMS Train California Teachers to Implement Voices of the Bay Fisheries Education Curriculum
MBNMS Education team staff hosted a Voices of the Bay (VoB) Fisheries Education Professional Development Workshop on November 20th in Monterey. The purpose of the workshop was to introduce educators from throughout California (Napa to San Diego) to the curriculum. 14 teachers learned about California fisheries, fisheries science and management as well as Monterey Bay fishing history. Following morning lectures, teachers were introduced to the “Capturing the Voices” curriculum module by conducting oral history interviews of two local fishermen. The in-class workshop was followed up with a research cruise aboard the R/V Fulmar to conduct Humboldt Squid research. The research cruise brought together the teachers from the workshop, scientists from Stanford University's Hopkins Marine Station and from NOAA's National Marine Fisheries Service and Monterey Bay commercial fishermen. Collaborations among scientists, fishermen and educators continue to be the cornerstone for the Voices of the Bay Fisheries Education place-based education program providing hands-on fishing community learning experiences.
WEB SITE (http://montereybay.noaa.gov/)

Recent Updates
Visit the web pages listed below to see recently updated sections of the MBNMS web site.

  http://montereybay.noaa.gov/monitoringnetwork/events.html#reports

Follow the MBNMS on Facebook and Twitter!

Please take a few moments to peruse the site. Your feedback is greatly appreciated. Comments and suggestions can be sent to andrew.white@noaa.gov.

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FUN, OCEAN RELATED WEB SITES

NOAA Online Media Library
http://sanctuaries.noaa.gov/photos

Encyclopedia of the Sanctuaries
http://www.ocean.com/Library/Encyclopedia/

Oceans Live
http://www.oceanslive.org/portal/

SIMON
www.mbnms-simon.org

Office of National Marine Sanctuaries
http://www.sanctuaries.nos.noaa.gov/

NOAA Ocean Explorer
http://oceanexplorer.noaa.gov/

National Data Buoy Center
http://www.ndbc.noaa.gov/rmd.shtml

National Ocean Service
http://www.nos.noaa.gov/

National Oceanic & Atmospheric Administration
http://www.noaa.gov/

Thank You Ocean
http://www.thankyouocean.org/
Learn More About Your Sanctuary
The Sanctuary Office Report is produced bi-monthly by the Monterey Bay National Marine Sanctuary in conjunction with Sanctuary Advisory Council meetings. To learn more about the Sanctuary please visit our website at: [http://www.montereybay.noaa.gov](http://www.montereybay.noaa.gov).

To learn more about the Sanctuary Advisory Council please visit: [http://www.montereybay.noaa.gov/intro/advisory.html](http://www.montereybay.noaa.gov/intro/advisory.html)

The Office of National Marine Sanctuaries
The Monterey Bay National Marine Sanctuary is one of 14 marine protected areas in the National Marine Sanctuary System that encompass more than 150,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. Visit the ONMS web site at: [http://www.sanctuaries.nos.noaa.gov/](http://www.sanctuaries.nos.noaa.gov/)

Get involved and stay informed!
To learn how to get involved in the Sanctuary visit: [http://montereybay.noaa.gov/educate/internship.html](http://montereybay.noaa.gov/educate/internship.html)

Sign up for the MBNMS listserv to receive email notices about upcoming Sanctuary events, and public meetings of the Sanctuary Advisory Council and its Working Groups: [http://montereybay.noaa.gov/discussiongroups/disgroups.html](http://montereybay.noaa.gov/discussiongroups/disgroups.html).

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