



Monterey Bay National Marine Sanctuary Sanctuary Office Report



Volume 8, Number 5

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

REPORTING PERIOD: OCTOBER 7, 2011 – NOVEMBER 25, 2011

ABOUT THE SANCTUARY

Designated in 1992, 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. 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

NOAA Ocean Guardian School Program and Rotary Clubs Partner to Protect the Ocean

The NOAA Ocean Guardian School program run by the Office of National Marine Sanctuaries has partnered with Rotary Club National and International to bring the message of ocean protection and stewardship to schools around California and potentially the country. The Ocean Guardian School program works directly with schools to encourage students, staff, and parents to implement a stewardship based project on school grounds that provides environmental benefits to the ocean and its resources. Implementing the pilot year in California, the Rotary Club National and International has agreed to take on the NOAA Ocean Guardian School program as one of its focus themes, providing club members the opportunity to work with schools to develop their stewardship project and helping with implementation. This partnership has the potential to bring this program to more schools, making the ocean connection to students a hundred of miles from the coast.

U.S. Coast Guard reports no visual evidence of oil found onboard the S.S.

Montebello, a shipwrecked tanker near the Monterey Bay National Marine Sanctuary

A recent 11-day on-scene assessment operation to determine if oil is present aboard the Union Oil Company tanker S.S. *Montebello*, sunk by a Japanese submarine during WWII off Cambria, California, is complete. Led by the U.S. Coast Guard (USCG), the Unified Command determined there is no substantial oil threat from the *Montebello* to California waters and shorelines. The USCG awarded the 2.2 million dollar contract to Global Diving and Salvage, Inc. in September 2011. The assessment included a visual survey of the wreck to determine its condition; cleaning portions of the steel hull so ultrasonic tests (UT) of the hull thickness could be recorded; neutron back-scatter to determine each tank's content of oil/water interface; drilling and drawing tank samples; collection of sediment samples for lab analysis; and recovery of steel hull coupons to be used in a metallurgic corrosion study. A final report of the assessment from the USCG will be completed sometime next spring. The assessment operation was funded entirely by the Oil Spill Liability Trust Fund, a tax paid by the oil industry and not the general taxpayer. Approximately \$5 million was budgeted for the operation. NOAA staff participated in the onboard assessment (Robert Schwemmer, ONMS), and in the Unified Command (Jordan Stout, OR&R; Lisa Symons, ONMS; and Erica Burton, MBNMS).

NOAA awards grant to save endangered sea turtles from toxic red tides in the Gulf of Mexico

Florida scientists and veterinarians studying the causes of sea turtle deaths in the Gulf of Mexico have been awarded \$227,793 for the first year of an anticipated three-year, \$653,379 project to determine how the red tide toxin, or brevetoxin, affects turtle health.

Endangered sea turtles inhabit areas in the Gulf of Mexico where toxic red tides are caused by algal blooms, leading to sickness and death. Turtle deaths from red tides have spiked in recent years, threatening populations in the Gulf of Mexico. This research will advance treatment and rehabilitation procedures by predicting threatening conditions and allowing more rapid and targeted care by coastal resource managers.

Sarah Milton, Ph.D. professor of biology at Florida Atlantic University, will lead the research team and will be assisted by scientists and veterinarians from Harbor Branch Institute, Mote Marine Laboratory and Florida Fish and Wildlife Research Institute.

"Sea turtles are physically robust animals, often surviving boat strikes or shark attacks, but they have proven to be highly sensitive to pollution, and are good indicators of environmental degradation," said Milton. "In recent years, red tide events in the Gulf of Mexico have led to hundreds of sea turtle deaths."

The project was funded through a national competition of the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) Program run by NOAA's National Ocean Service/National Centers for Coastal Ocean Science.

National Marine Sanctuary News

Channel Islands NMS

On November 1, 2011 a notice of availability was published in the Federal Register for the U.S. Coast Guard's completed Port Access Route Study for vessel approaches to the ports of Los Angeles and Long Beach. Recommended vessel traffic modifications, which stem directly from input provided by NOAA, call for:

- Creating traffic lanes south of the Channel Islands to increase predictability by providing a defined route for vessel traffic transiting south of the islands.
- Decreasing the width of the separation scheme in the Santa Barbara Channel to help in preserving the marine environment. The current separation scheme would be reduced from 4nm to 3nm, moving the southern inbound lane 1nm toward the northern lane, and reducing the separation zone between the lanes from 2nm to 1nm. The northern outbound lane would remain in place. Decreasing the width of the separation zone and shifting the southern lane 1nm to the north, will move vessel traffic away the Channel Islands National Marine Sanctuary.

Should the Coast Guard decide to move ahead with the proposed modifications, a federal rulemaking process will be conducted, to include consultations with NOAA (National Marine Fisheries Service and Office of National Marine Sanctuaries). Proposed shipping lane modifications would also require approval by the International Maritime Organization.

Background (optional): The unusual spate of confirmed vessel strikes on endangered whales off the California coast over the last few years, starting in 2007, is a serious issue with possible population level impacts on ESA-listed species. In May 2011 staff from the Channel Islands National Marine Sanctuary (CINMS), NMFS Southwest Regional Office Protected Resources Division, and NMFS Southwest Regional Fisheries Science Center collaborated to provide the U.S. Coast Guard whale-related information and recommendations to be considered in a Port Access Route Study (PARS) for the ports of Los Angeles and Long Beach. The whale data included over a decade's worth of whale sightings in the Santa Barbara Channel collected by the Channel Islands Naturalist Corps. The Sanctuary Advisory Council also provided a comment letter and input at several Coast Guard briefings over the past two years. The full Port Access Route Study is available at regulations.gov (keyword: USCG-2009-0765).

Florida Keys NMS

Travelers along the Florida Keys Scenic Highway — the southernmost 110 miles of U.S. 1 — will now learn about Florida Keys National Marine Sanctuary when they stop at any of four visitor centers located from Key Largo to Key West. In addition to providing travel information and the highway history, the double-sided, six-foot signs identify Florida Keys National Marine Sanctuary on a large map and along with selected ships from the sanctuary's Shipwreck Trail, lighthouses and coral reefs. The signs also have an audio component in three languages for international visitors. The signs provide a brief description of the sanctuary and its Florida Keys Eco-Discovery Center and convey the importance of being eco-friendly while traveling the 100+ miles of bridges and roadways. Each year, approximately 50,000 people stop at each of the four centers with the new signs: Key Largo Chamber of Commerce, Pigeon Key Foundation & Marine Science Center, Lower Keys Chamber of Commerce, and Key West Tropical Forest & Botanical Garden. Sanctuary Science Interpreter Nancy Diersing is an advisory board member for the Florida Keys Scenic Corridor Alliance, the non-profit organization that oversees scenic highway projects. Scenic highway grant funds made the project possible.

Gulf of the Farallones NMS

Gulf of the Farallones National Marine Sanctuary (GFNMS), in partnership with the U.S. Geological Survey is pleased to welcome Benét Duncan, a fellow with the Postdocs Applying Climate Expertise program. Benét's two-year project is to create a set of linked environmental and biological climate change indicators and a subsequent collaborative climate change monitoring plan for the GFNMS region. In Phase I of the project, Benét will complete a review of existing literature and indicator reports for other regions, determine the regional climate models available for use for the area, and define the indicator selection criteria. Phases II and III will utilize workshops with regional experts, data analysis, and climate modeling to reduce a set of candidate climate indicators to final indicators. In Phase IV, a working group will assist with defining monitoring goals for the region and integrating the final climate change indicators into a collaborative monitoring plan.

Olympic Coast NMS

The NOAA Dive Center assisted Olympic Coast National Marine Sanctuary with the recovery of two oceanographic moorings with equipment valued at over \$10K and 6 weeks of data. Early fall storms had buried mooring anchors in sediment, making them irretrievable from the surface. Between April and October since 2000, the sanctuary has deployed 12 or more moorings to collect oceanographic data to document water circulation and upwelling, low oxygen, and algal bloom events. Because funding does not support a more robust mooring design, the sanctuary retrieves moorings before they are lost to the Pacific Ocean's winter storms. Under the current budget situation we would not have been able to replace the equipment. The assistance of CDR Joel Dulaigh PHS, LT Ryan Wattam NOAA, Jim Bostick, and Zachary Hileman prevented abandonment of the moorings and the loss of valuable data and equipment. The successful dive operation was conducted off the sanctuary's R/V *Tatoosh*.



MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



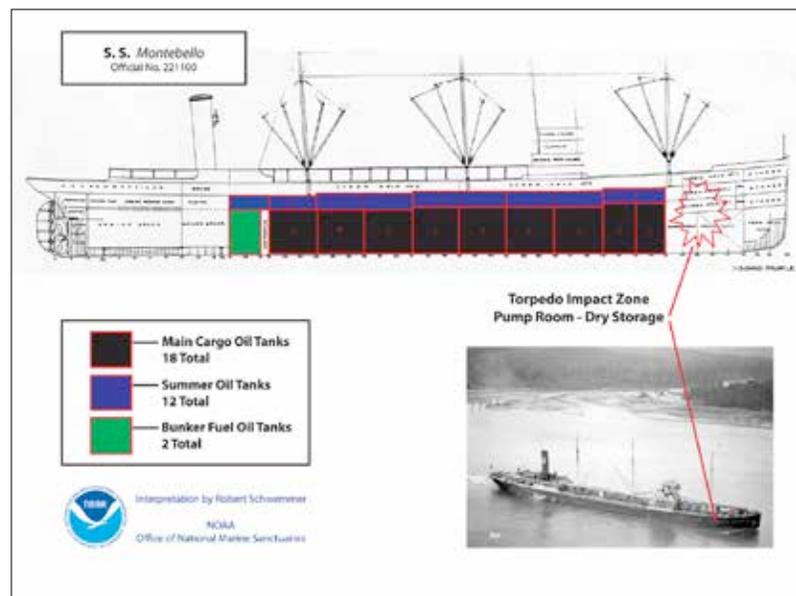
MANAGEMENT

"Your Sanctuary" television show unveiled

MBNMS staff and Access Monterey Peninsula (AMP) hosted a kick-off premiere celebration on October 26th. Approximately 40 guests attended. This was a networking opportunity designed to build excitement for the new television show and to inspire conversation centered on future possibilities.

MBNMS Sponsors High School Sailing Regatta

MBNMS sponsored the Sea Otter Regatta at the Monterey Peninsula Yacht Club on October 1st and 2nd. Over 250 sailors, coaches and parents from all over California converged on Monterey Bay for the largest high school sailing regatta on the West Coast and the first regatta of the season. MBNMS donated a perpetual trophy and contributed resources to make this a "Green Regatta" based on principals developed by Sailors for the Sea organization. Paul Michel, MBNMS Superintendent, welcomed the crowd at the Skippers meeting, and sanctuary partners were on hand to distribute reusable water bottles and talk with sailors about the sanctuary. This effort is aligned with our Ecosystem Based Management Initiative to engage and promote sustainable uses of the sanctuary.



Drawing of the S.S. *Montebello* pre-loss, illustrating the oil tank locations and torpedo impact zone.

Credit: Robert Schwemmer/NOAA National Marine Sanctuaries.

MBNMS provides scientific support to the Environmental Unit of the S.S. *Montebello* survey

The U.S. Coast Guard awarded a contract to Global Diving and Salvage Inc. to determine if oil is present aboard the sunken oil tanker S.S. *Montebello*, which sits 900 feet below the ocean surface approximately 6.5 miles off the coast of Cambria, California, just south of Monterey Bay National Marine Sanctuary (MBNMS). The S.S. *Montebello* sank after a Japanese submarine torpedoed the large oil tanker on December 23, 1941. At the time of sinking, the ship was carrying up to 3 million gallons of crude oil. Multiple dive operations have been conducted between 1996 and 2010 to survey the site and determine the hull's integrity, including two site characterization surveys by National Marine Sanctuaries. To date, no signs of leakage have been detected, and from previous scans, the hull appears to be intact. Starting the week of October 10, NOAA is providing expertise in maritime history, biology, and scientific support to assist US Coast Guard as they assess the wreck's condition with a remotely-operated vehicle, determine the ship's corrosion status, the volume of oil on board, and the oil's physical and chemical properties. MBNMS staff is a representative of the Unified Command's Environmental Unit during the 2011 survey, and has served on the S.S. *Montebello* Assessment

Task Force since 2009 evaluating the potential pollution threat. Information on the *Montebello* is available at <http://montereybay.noaa.gov/maritime/fmontebello.html>.

"Styrofoam free" decal program expanded to City of Seaside

On October 11, Sanctuary staff trained volunteers from Sustainable Seaside to offer decals to restaurants in the City of Seaside that say: "This establishment is styrofoam free for our oceans." The City of Seaside has had an ordinance in effect prohibiting expanded polystyrene (EPS) in foodservice businesses since July 2010, but non-compliance remains widespread. Instead of launching a negative campaign against offending restaurants, this project aims to provide recognition for compliant businesses while increasing the awareness of patrons. The Mayor of Seaside attended the presentation. EPS is a significant contributor to marine debris in the MBNMS

and beyond, and can also lead to negative effects on human health. Thus far, 45 restaurants have agreed to display the decal. The project is a joint effort between the Monterey Chapter of Surfrider Foundation, city governments, and local sustainability groups, with MBNMS support.

Assemblymember Monning Forum

MBNMS staff attended Assemblymember Monning's recent forum at CSUMB. This large annual stakeholder meeting is an opportunity for participants to align themselves in small break out groups to discuss environmental action & policy needs for the region. The majority of the morning meeting involved discussion centering around the following issues: transportation, green alternatives, ocean issues, water quality, agriculture, and coastal development.

America's Cup Ocean Health project launched in San Francisco

The October 17th meeting was attended by National Ocean Services, Gulf of the Farallones, and Monterey Bay National Marine Sanctuary. Global leaders in the arena of ocean conservation, oceanographic research, and environmental sustainability gathered to celebrate the launch of the America's Cup Health Ocean Project, the global initiative of the 34th America's Cup to educate the world's populations about the issues facing our oceans and inspire them to act. Driven by its commitment to have the 34th America's Cup be "more than a sport," the America's Cup Event Authority (ACEA) has set an ambitious goal with the AC Healthy Ocean Project to develop the world's largest communication outreach program focused on improving ocean health. To accomplish this goal, ACEA has partnered with some of the leading voices in the ocean conservation field, including Dr. Sylvia Earle and her organization Mission Blue, Ocean Elders, Sailors for the Sea, One World One Ocean, and the IUCN, the International Union for the Conservation of Nature. The America's Cup Healthy Ocean Project provides an unparalleled opportunity to show the world that the California Coast is more than just a beautiful view; it is a delicate ecosystem that directly relates to the health of the ocean. A consortium of Bay Area ocean and Bay health-related organizations are partnering with the AC Healthy Ocean Project to focus on opportunities within San Francisco Bay that will continue to showcase the Bay Area's leadership in these issues. San Francisco Bay-based partners include the Aquarium of the Bay, the Marine Mammal Center, Mission Blue, National Marine Sanctuaries, NOAA, Sailors for the Sea and Save the Bay.

RESEARCH AND MONITORING

Rare Stranding of Olive Ridley Sea Turtle in Pacific Grove

An Olive Ridley sea turtle that beached itself in Pacific Grove on October 5, is being cared for at the Monterey Bay Aquarium until it can be returned to the wild. The turtle, likely lured north by warmer-than-usual surface waters, was rescued by aquarium staff and is being kept behind the scenes in a heated holding pool. An MBNMS enforcement officer and staff were on site to observe the rescue. Sea turtles are seen occasionally in Monterey Bay, notably Leatherback sea turtles that can withstand colder ocean temperatures. Other species also visit the bay when surface waters warm up, and this fall has been unusually warm – with surface temperatures approaching 60 degrees F. Sometimes these turtles are "cold-stunned" when warmer currents disappear, stranding the turtles in colder bay waters. This may be the case for a 72-pound Olive Ridley sea turtle, which beached itself at Stanford University's Hopkins Marine Station in Pacific Grove. Aquarium staff received permission from federal wildlife authorities to capture the turtle and bring it to the aquarium for short-term care. After the veterinary exam, the turtle was placed in a 78-degree holding tank in a behind-the-scenes holding area. The turtle will remain there until its condition stabilizes and it can either be transferred to another rescue facility or returned to the wild. For more information, visit SIMoN's "What's New" page at <http://sanctuariesimon.org/news/index.php/2011/10/rare-stranding-of-olive-ridley-sea-turtle-in-pacific-grove/>.

UC Santa Cruz Class Adopts Monterey Bay Community Supported Fishery Effort as Class Project

On September 26, MBNMS staff delivered a presentation on the effort to build a community supported fishery (CSF) in the Monterey Bay area to Professor Don Croll's undergraduate Marine Conservation Biology class at the University of California, Santa Cruz. As a semester-long class project, the students will work in small groups to help develop several key components of the CSF project, such as creating species profiles and seasonal availability charts. A CSF is a seafood version of popular community supported agriculture (CSA) programs. The model has been proven to be successful in increasing consumer access to sustainably caught local seafood and creating new markets for small-scale fishermen. MBNMS is supportive of this effort as a means to encourage sustainable uses of Sanctuary resources, consistent with the Sanctuary's Ecosystem Based Management Initiative.

MBNMS Facilitates Communications Among Ocean Acidification Scientists

Many scientists are working within the Monterey Bay National Marine Sanctuary on ocean acidification research, and their studies should be represented within management plans to address ocean acidification. MBNMS Staff and Research Activity Panel surveyed regional institutions for those conducting ocean acidification research, and compiled information for the Sanctuary region. This list of regional ocean acidification studies is being shared with ONMS and broader NOAA groups developing management plans to address ocean acidification; including the California Current Acidification Network (C-CAN). The C-CAN is a collaborative effort between

members of the West Coast shellfish industry and scientists to explore what is causing shellfish losses on the Pacific coast, what role ocean acidification and other factors might be playing in this problem, and how to adapt to these changes in order to sustain West Coast shellfish resources. Scientists working on ocean acidification research in the MBNMS were asked to join the C-CAN listserv and help develop a west coast ocean acidification monitoring network. This effort will help include the MBNMS region into large discussions, and MBNMS could benefit from the development of C-CAN products.

UC Santa Cruz kelp forest ecology class linked to SIMoN Photo Library

On October 7th Sanctuary Integrated Monitoring Network (SIMoN) staff successfully linked 64 species descriptions from a UC Santa Cruz class web site (http://bio.classes.ucsc.edu/bio161/2011/index_species_list.html) to dynamically search the SIMoN Photo Library (<http://sanctuariesimon.org/photos/index.php>). Students in the kelp forest ecology class, an upper division undergraduate course that combines lectures with field work, must learn to identify over 120 species in the field, including 64 invertebrates. All photos of invertebrates (>250) used by the students were upgraded using MBNMS NOAA images and by adding a search link for each species. This link connects the user to the SIMoN Photo Library, returning results from a search for each particular species and providing students with 100s of additional images to study.

SIMoN staff lectures on NOAA aquaculture policy to MLML graduate seminar class

On October 13, Sanctuary Integrated Monitoring Network (SIMoN) staff was invited to give a guest lecture to a Moss Landing Marine Lab (MLML) graduate class. Dr. Michael Graham teaches a class on marine aquaculture for masters-level students at the lab. Dr. Graham invited Dr. Steve Lonhart to give a guest lecture on NOAA's policy regarding aquaculture, and in particular, how the sanctuary fits in to the existing policy and regulatory framework already established within (and outside of) NOAA.

SIMoN staff successfully completes dives for 2011 BSNC project using the R/V FULMAR

From October 17 - 19, SIMoN staff successfully surveyed 5 sites for the Big Sur Nearshore Characterization (BSNC) project using the R/V FULMAR, ending the 2011 BSNC diving season. The 3-day trip allowed divers to survey areas near Ragged Point, at the southern end of the 70-mile stretch of coastline actively managed for landslides by CalTrans. Dive sites included locations near Redwood Creek, Spruce Creek, Ragged Point, and Salmon Creek. This project builds upon marine resources surveys initially conducted from 2003 to 2005 as part of the Coast Highway Management Plan (CHMP) for Highway 1 in Big Sur.

New Deep Sea Research Project Added to SIMoN Website

On October 14, Sanctuary Integrated Monitoring Network (SIMoN) staff expanded the SIMoN database by adding information on an ongoing research project. The project, "Ecological Assessment of a Lost Shipping Container in the MBNMS," describes the initial results of an MBNMS/MBARI research cruise to the shipping container on Smooth Ridge lost by the M/V Med Taipei in 2004. The project page describes methods used during the cruise, explains findings, and includes several images from the project. The project can be seen at: http://www.sanctuariesimon.org/monterey/sections/deepSea/project_info.php?projectID=100388&sec=ds

Technical Report about Shipping Vessel Traffic in the MBNMS Published

On October 13, the Naval Postgraduate School (NPS) released a technical report titled "Monthly Distribution of Shipping Vessels within the Monterey Bay National Marine Sanctuary, January – December 2010." This report was prepared in conjunction with the MBNMS/MBARI March 2011 research cruise to a lost shipping container to help inform resource managers about the threat of container loss from vessels transiting the Sanctuary. Using Automated Identification System (AIS) message data, both total shipping and cargo shipping totals were calculated and monthly density plots were generated to show those areas which are most impacted by vessel traffic. In addition to informing the issue of lost shipping containers, these plots can also be used by the MBNMS and NOAA's other West Coast Sanctuaries to understand interactions between shipping and wildlife, especially within the context of ship strikes to whales. The report is available for public distribution and can be downloaded at: <http://edocs.nps.edu/npspubs/scholarly/TR/2011/NPS-OC-11-007.pdf>.

"Oceans Need their Giants" article uses black rockfish image from SIMoN

Imagery from the Sanctuary Integrated Monitoring Network (SIMoN) photo library was recently published in Spain. Dr. Salvador Herrando-Perez, a Spanish researcher at the University of Adelaide in Australia, published an article on the importance of large body-size fish in fishery management. In particular, he is using the results of a case study (Berkeley et al. 2004) published in the science journal *Ecology* on black rockfish (*Sebastes melanops*). Herrando-Perez writes monthly articles on key conservation issues for the Spanish science magazine *Quercus* (www.quercus.es), which presents scientific and conservation research to non-scientists. He simplifies complex science projects and emphasizes their usefulness in applied ecology and conservation. An expanded, English version of the article can be viewed at: <http://conservationbytes.com/2011/11/02/oceans-need-their-giants/#more-6395>.

Last of the West Coast Observatory moorings pulled from MBNMS

In FY04, ONMS made an initial investment of \$500K to develop a regional observing system within marine sanctuaries along the west coast of the US. After several strategic planning meetings, it was decided that the program would purchase instruments to enhance an existing system maintained by the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO: <http://www.piscoweb.org>). After seven successful years, the last of moorings was pulled and the program in MBNMS has folded due to a lack of funds. To learn more about this program and see a list of publications, visit the SIMoN web site at:

http://sanctuarysimon.org/monterey/sections/oceanography/project_info.php?projectID=100330&sec=o

Rare Sighting of a Green Sea Turtle in Monterey

On November 7, a rare sighting of a Green sea turtle (*Chelonia mydas*) was made by MBNMS staff at wharf #2 in Monterey, CA. Opportunistic photos and videos were captured by staff and sent to local sea turtle experts, whom positively identified it as a relatively old male Green sea turtle. Green sea turtles are generally found south of San Diego, but in the eastern Pacific, have been sighted as far north as southern Alaska. This turtle was certainly outside of its normal range, and is considered a very rare sighting in Monterey, especially in such close proximity to shore and a public wharf. To view a video of the turtle, click on the story under "What's New" at www.sanctuarysimon.org.



Green sea turtle (*Chelonia mydas*) spotted off wharf #2 in Monterey.

Credit: Chad King, NOAA/MBNMS

SIMoN Staff Continues Invasive Species Study in Monterey Harbor

On November 7, SIMoN staff (Chad King and Steve Lonhart) continued to collect photo quadrat data from a series of cement pier pilings in Monterey Harbor. These pilings are infested with multiple invasive species, including the invasive bryozoan *Watersipora subtorquata*. Taken monthly, this time series of digital images from the same locations provides insight on the community dynamics of both invasive and native species, as both algae and invertebrates compete for limited space. Turnover and changes in percent cover, particularly for invasive and cryptogenic species, have been surprisingly fast, operating at scales of days to weeks. Staff was joined by Rietta Hohman (Farallones Marine Sanctuary Association) and Emily Aiken (California State University Monterey Bay), who are interested in diving in support of MBNMS projects.

Sanctuary Research Activity Panel Met

Monterey Bay National Marine Sanctuary Research Activity Panel (RAP) held a public meeting at Moss Landing Marine Laboratories, Moss Landing, California on November 18th. Agenda items included: Integrating Marine Life Management Act and Marine Life Protection Act, Monterey Bay Shelf Benthic Exchange Project, Local Sentinel Site Concept, Characterizing the Deep, 2012 Ed Ricketts Memorial Award Nominations, and Sanctuary Research Update. For RAP information see, <http://montereybay.noaa.gov/sac/rap/objectives.html>.

Staff supports long-term erosion monitoring in Elkhorn Slough

Since 2001, ESNERR and MBNMS staffs survey 30 permanent sites in the main channel of Elkhorn Slough to assess bank erosion rates. MBNMS was again involved in 2011, providing boat support and science staff to conduct surveys. Staff assessed 1) distance from permanent stakes to bank and vegetation edge; 2) vegetation type and percent cover; 3) cliff height and maximum undercutting; and 4) hole density due to burrowing invertebrates small (e.g., isopods and crabs). Additionally, staff searched targeted habitats for invasive species. Dr. Kerstin Wasson, Research Coordinator at ESNERR, analyzed rates of change to compare between different sampling times and across sites. Unfortunately, bank erosion and vegetation retreat continue to occur at high rates in the main channel and Parsons Slough entrance. Rates were highest in most places during the first and last years of the decade that we have been monitoring, and lowest in the middle years. Rates of bank erosion and vegetation loss continued in all periods, ranging from 15-35 cm/year.

SIMoN staff presents at Western Society of Naturalists annual conference

From November 11-13, Dr. Steve Lonhart attended the annual meeting of the Western Society of Naturalists (WSN). Lonhart co-authored a talk with Drs. Jared Figurski and Jan Freiwald (UC Santa Cruz) and Dr. Curt Storlazzi (USGS). Entitled "Biological responses to burial and exhumation of bedrock reefs in central California", the presentation covered efforts to characterize the biological

response of bedrock-associated species that are seasonally buried by 1-4 cm of sediment. Communities in stable (never buried) vs. dynamic (seasonally buried) areas were very different, and it appears that burial-exhumation drives communities to diverge more than adjacent, stable areas. Lonhart also chaired a session on species-habitat associations and judged 15 student posters (60 were presented).

SIMoN staff represents ONMS at Smithsonian workshop for the MarineGEO initiative

On November 16 and 17, Dr. Steve Lonhart was an invited participant to a workshop focused on the Smithsonian's MarineGEO initiative. The Smithsonian Institution is "launching MarineGEO, the first truly global-scale network of ecological observatories dedicated to understanding changes in the structure and function of marine ecosystems. This network is unique in its commitment to standardized, long-term measurements and innovative experiments across traditional disciplinary boundaries, occurring at unprecedented spatial and temporal scales. It is only this approach that can lead to fundamental understanding and sustainability of our oceans. MarineGEO will provide a critical framework (now lacking) that combines the strengths of the Smithsonian with those of other partner organizations and institutions throughout the world to: 1) transform our understanding of biological/ecological processes in marine ecosystems, including forces of change and their consequences and 2) provide the science needed to improve ocean health (e.g. resilience and sustainability)." Other participants included Dr. Bruce Menge of PISCO, Marie Bundy of the NERRs, USGS, NSF's OOI and NEON, NOAA's IOOS and OA Program (Dr. Libby Jewett), among others.

Japanese TV show interviews staff regarding giant kelp

On November 19th, Dr. Steve Lonhart was interviewed and filmed underwater for the weekly Japanese TV science show called "KISEKI NO CHIKYU MONOGATARI" (roughly translated as "Miraculous stories of the Earth"; <http://www.tv-asahi.co.jp/miracle-earth/trailer/cur/>). This is a year-round, 30-min documentary show airing on TV ASAHI, Sunday 6:30-7:00 pm. A film crew from Japan captured "how people in Monterey and Carmel coexist with nature" and in particular how human interactions with giant kelp (the species forming kelp forests close to shore) affect the rest of the kelp forest community. Underwater footage captured on Saturday at Stillwater Cove was focused on survey protocols used to evaluate kelp forests inside and outside state MPAs. The episode is expected to air in late January or early February, and a copy of the show will be sent to staff.

MBNMS Provide B-roll to Japanese TV Science Show

MBNMS Staff collated and provided approximately 14 GB of high-definition underwater video and hundreds of high-resolution digital photos to the weekly Japanese TV science show called "KISEKI NO CHIKYU MONOGATARI" (roughly translated as "Miraculous stories of the Earth"; <http://www.tv-asahi.co.jp/miracle-earth/trailer/cur/>). This B-roll will be incorporated into an upcoming episode about kelp forests. Film crew from the show also captured underwater footage of an MBNMS research diver at Stillwater cove on November 19. The episode is expected to air in late January or early February, and a copy of the show will be sent to staff.

MBNMS Staff Speak to CSUCI Students about MBNMS Management/Policy and SIMoN

On November 18th, at Moss Landing Marine Laboratories, MBNMS staff spoke with 10 students from the Coastal Marine Management class from California State University, Channel Islands (CSUCI). This class makes a yearly trip up the coast of California, visiting locations that reveal some of the practical applications of marine resource management policy within various NGOs and government programs. Topics covered included the history of the Sanctuary program and the MBNMS, the NMSA, basic MBNMS prohibitions, and select joint management plan topics and their recent timeline of events. The SIMoN program and its website were also discussed.

RESOURCE PROTECTION

Assistant Chief of the USDA Natural Resources Conservation Service meets with MBNMS Water Quality Staff to Build on History of Collaboration

On Oct. 3, the new Assistant Chief to the NRCS James Gore met with MBNMS Water Quality Staff as part of a statewide tour of priority NRCS programs. Mr. Gore showed enthusiasm and support for the unique USDA/NOAA collaboration through the Agriculture Water Quality Alliance. We discussed current priorities and methods of expanding this collaborative model through the America's Great Outdoors Initiative (AGO). The MBNMS is working closely with the NRCS and many agency and community partners to develop the Monterey Bay AGO. The purpose of the Monterey Bay AGO Initiative is to work together to identify partnership opportunities and determine actions for natural resource protection and enhancement that achieve water quality protection and publicize voluntary stewardship and collaborative regulatory planning in the watersheds that drain to the Monterey Bay National Marine Sanctuary.

MBNMS and The Monitoring Enterprise of the Ocean Science Trust meet for EBMI

MBNMS and OST met this week to collaborate on future socio economics information needs for the Central California Coast. Currently, MBNMS and The Monitoring Enterprise have separately contracted Ecotrust to synthesize existing socioeconomic

information to generate a socioeconomic profile for the Central California Coast. Future potential collaborative work includes surveying recreational and commercial users, conducting telephone surveys, and mapping Ocean uses.

MBNMS and The Nature Conservancy meet for EBMI

MBNMS and TNC met this week to share progress on the Central Coast Groundfish project and the EBM Initiative. The Nature Conservancy has been working closely with trawl fisherman from Morro Bay to San Francisco to develop spatial fishing plans for Groundfishing. Opportunities for collaboration to achieve the EBM goal of promoting sustainable uses in the sanctuary are being developed.



Volunteer David Terry out at the Pico storm drain in Pacific Grove. This storm drain flows throughout the year but never as much as on First Flush! This picture was taken at about 2:15 am on Wednesday, October 5th, 2011.

Credit: Lisa Emanuelson, NOAA/MBNMS

Volunteers Monitor Runoff from First Storm of the Season

The 12th Annual First Flush monitoring event was conducted in the very early hours of October 5th, 2011 with the help of 79 volunteers monitoring 37 storm drain outfalls that discharge into the Monterey Bay National Marine Sanctuary. The large storm brought rain to the Central Coast of California beginning at midnight in Half Moon Bay, 45 minutes later in Santa Cruz, and finally Monterey area volunteers mobilizing at 1:45 AM. Volunteers collected a time series of water samples for analysis of common urban pollutants that include heavy metals, indicator bacteria, nutrients and suspended sediment. This program is funded by local municipalities and the Sewer Authority Mid-Coastside in partnership with the Coastal Watershed Council and the San Mateo Resource Conservation District. All the data is used by local cities working through their NPDES permits to improve water quality flowing into the MBNMS.

Federal Agency Coordination

MBNMS staff arranged a conference call with the US Army Corps of Engineers to discuss dredge disposal from Monterey Harbor. The Monterey Harbor is planning to use their dredged material for a beach nourishment project along the southern coast of the Monterey Bay. Although MBNMS staff previously met with the City

Harbormaster and regulatory agencies to provide recommendations related to environmental analysis of the project, none has been required as part of other-agency permits. Currently, the MBNMS is working to help organize a volunteer monitoring effort of the site with local researchers.

Inter-Agency Regulatory Coordination

MBNMS staff have been in discussion with the California Regional Water Quality Control Board (RWQCB) over a General National Pollutant Discharge Elimination System (NPDES) Permit they are poised to approve at their December meeting. MBNMS staff are in consultation under the purview of the Memorandum of Agreement for water quality in the MBNMS. To make a long complicated story short, the RWQCB has agreed to remove "brine from desalination discharge" as an approved activity allowed under this General Permit. This completes an outstanding resource protection permitting issue.

Ecosystem Based Management (EBM) Initiative coordinates with Integrated Ecosystem Assessment Communications Team

Scientists, communication experts, and resource managers from NOAA Fisheries, NOAA Science Centers, and National Marine Sanctuaries are working as a team to develop simple communications messages for the California Current Integrated Ecosystem Assessment (IEA). The team is preparing a website content, main messages, examples, and a glossy brochure to share with agencies, policy makers and partners on the use of the Integrated Ecosystem Assessment for managers. The main goals of the communications are to ensure that key stakeholders can articulate what the California Current Integrated Assessment is, and its value for informing management decisions. Resource managers and other potential users also can articulate its value to them and that key stakeholders understand the current state of the California Current, its challenges and potential solutions. The MBNMS EBM Initiative is being used as an example of how the IEA can be applied to make better informed management decisions.

MBNM Lost Fishing Gear Removal conducts 2-week cruise on the R/V FULMAR

On October 23, MBNMS begins its third and final Lost Fishing Gear Removal cruise, searching for gear at locations identified by the sanctuary and the National Marine Fisheries Service, as well as locations identified by local fishermen. MBNMS, working closely with CBNMS, Marine Applied Research and Exploration, CSU Monterey Bay, MPC MATE Center, UC Davis' SeaDoc Society, Cal Academy, and a number of other partners will use the sanctuary-owned Phantom ROV to survey target sites and remove fishing nets, pots and traps in the Point Sur and Soquel Canyon SMCA. The main goals are to: reduce benthic and pelagic hazards to marine organisms posed by fishing debris lost in deepwater; refine deepwater retrieval procedures; reduce navigational hazards for fishermen and other boaters; conduct site surveys and characterizations; and provide outreach through images and HD video. Deepwater gear removal requires specialized methods and equipment, and the ROV has been outfitted with the necessary gear as well as 3 cameras (including HD) to record findings. As part of the outreach component, the cruise will include a number of additional passengers including Congressmen Farr and staff, EPA officials, Cal Academy scientists and Steinhart biologists. Mission progress can be tracked on the MBNMS facebook page, and a press release will be sent out on Nov 1st.



Trap found at Soquel Canyon.

Credit: NOAA/MBNMS

Joint Oil Spill Planning with Gulf of the Farallones National Marine Sanctuary

On October 27, several members of the MBNMS staff met with Gulf of the Farallones National Marine Sanctuary (GFNMS) emergency response staff to learn how MBNMS can provide effective personnel back-up assistance in the event of a significant oil spill event within the GFNMS. GFNMS staff presented a plan where MBNMS staff would help maintain core sanctuary operations, if GFNMS staff were tasked to respond to an oil spill immediately threatening sanctuary resources. Such planning is a result of lessons learned from the COSCO BUSAN oil spill and is part of ongoing efforts to work collaboratively across sanctuary sites and optimize use of in-house assets for effective resource protection.

ENFORCEMENT

MBNMS Law Enforcement Technical Advisory Committee Meets in Monterey

On September 29, the MBNMS hosted the quarterly meeting of the MBNMS Law Enforcement Technical Advisory Committee (LETAC) to coordinate marine enforcement within the sanctuary region. Law enforcement representatives attended from five federal agencies, two state agencies and two local agencies. Interest in collaborative enforcement remains high, and the LETAC continues to foster closer working relationships among law enforcement agencies operating within the sanctuary.

Dangerous Interactions Between Whales and Spectators

Between October 25 and November 1, humpback whales pursued prey unusually close to shore at Santa Cruz. Optimal weather conditions, the close proximity of the whales to the shoreline, increased tourism due to a surf competition, and a widely syndicated photo of whales lunge feeding adjacent to a kayaker prompted hundreds of people to paddle, sail, and motor out to the feeding site. The Monterey Bay National Marine Sanctuary (MBNMS) received reports of kayakers being overturned, individuals falling onto the heads of whales, and a sailboat rudder being crushed by surfacing whales. MBNMS issued a statement to the press urging the public to follow responsible wildlife viewing guidelines, helped coordinate enforcement patrols by NOAA Office for Law Enforcement (OLE) and partner agencies, and re-activated seasonal Team OCEAN volunteers to provide interpretive presence on the water. After several days, the whales pursued their prey offshore to other locations, but MBNMS, OLE, and enforcement partners continued monitoring the Santa Cruz area to manage any further interaction between whales and spectators. The event garnered significant media interest at local, regional, and national levels.

Enforcement Training for State Park Rangers

On November 2, Scott Kathey conducted a training session for nine California State Park rangers and two Fish & Game wardens in San Simeon. The training is part of ongoing cooperative enforcement agreements between NOAA and state enforcement agencies that leverage critical enforcement assets to protect sanctuary resources.

EDUCATION AND OUTREACH PROGRAMS

Monterey Peninsula Yacht Club Cruisers Club Hosts Presentation on Community Supported Fishery

On October 18, MBNMS staff delivered a presentation on the effort to create a community supported fishery (CSF) in the Monterey Bay area to the Cruisers Club of the Monterey Peninsula Yacht Club at their monthly meeting. Club members were enthusiastic about the plans for the Local Catch Monterey Bay CSF and had many questions about the program. A CSF is a local fish version of popular community supported agriculture (CSA) programs. The model has been proven to be successful in increasing consumer access to sustainably-caught local seafood and creating new markets for small-scale fishermen.

Blue Ocean Film Festival

MBNMS staff had an impromptu meeting with organizers of the Blue Ocean Film Festival. The film festival is slated to occur in Monterey from September 24-30, 2012. Organizers quickly reviewed their plans for an improved and streamlined festival for the next iteration.

Entire School District Commits to Protecting the Ocean

The NOAA Ocean Guardian School program run by the Office of National Marine Sanctuaries has partnered with the Carmel Unified School District to make each school located within the district more "blue." The Ocean Guardian School program works directly with schools to encourage students, staff, and parents to implement a stewardship based project on school grounds that provides environmental benefits to the ocean and its resources. Each of the seven schools located within the district has taken the pledge to protect the ocean and all of the creatures that live in it and around its shores. With funds provided by NOAA and the Carmel Community Foundation, the Carmel Unified School district will become the first school district in the nation to become NOAA Ocean Guardians.

Monterey County Vintners & the MBNMS

Recently, the Monterey County Vintners launched a marketing campaign known as "The Blue Grand Canyon" to set themselves apart from the better known wine regions of Napa & Sonoma. They are using the atmospheric influences & beauty of the ocean to highlight the unique climate conditions responsible for their tasty wines. MBNMS staff have been fostering a budding relationship with this organization & have offered information along the way. In a culmination of this effort, on November 12th the Monterey County Vintners will be hosting an inaugural event known as the "Best of the Blue". The MBNMS will host a partner table at this event.

MBNMS in VIA Magazine

VIA magazine, a publication of AAA, features information on page 46 of this month's issue entitled "A Toast to Monterey County". The article highlights the convergence of land and sea conditions idea for winemaking along California's Central Coast. In addition, the article makes mention of the "Best of the Blue" event & the MBNMS.

Live TV Interview with Mayor

Deirdre Whalen participated in a live TV show with the Mayor of Pacific Grove, who hosts a regular program on the local cable access station. The 45-minute session was aired live and followed the format of a host asking questions. Topics of interest revolved around the sanctuary's new Exploration Center, the Tale of the Whale campaign, the Lost Fishing Gear Project, and the SS Montebello assessment.

Business Outreach

MBNMS staff met with the Advertising & Marketing Director of the Monterey Plaza Hotel to discuss the possibility of mutually beneficial improved outreach with regard to the presence of the MBNMS. Like other beautiful hotels in the area, the Monterey Plaza is uniquely situated directly over the waters of MBNMS, and is host to a tremendous amount of national & international visitors. Currently this hotel makes no mention of the MBNMS on their website or in advertising materials. The conversation revolved around win-win opportunities for heightened awareness.

Sanctuary Exploration Center Leadership Committee Meets

The National Marine Sanctuary Foundation hosted a meeting of the Leadership Committee formed for the capital campaign of the Monterey Bay National Marine Sanctuary's Exploration Center. The group has raised \$3M for the center's exhibits and is seeking to close out the campaign with a final push for \$400,000 to cover campaign costs and to set aside funds for exhibit needs anticipated for the first year of operations. Sanctuary staff have been supporting the effort over the past three years and are excited to be moving forward on the exhibit fabrication contracts. The Sanctuary Exploration Center will open the summer of 2012

WEB SITE (<http://montereybay.noaa.gov/>)

Recent Updates

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

- MBNMS Collaborates with AMP Public Television on New TV show
<http://montereybay.noaa.gov/new/welcome.html#amp>
- S.S. Montebello Videos
<http://montereybay.noaa.gov/maritime/frmontebello.html>

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.*

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.sanctuariesimon.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 web site at: <http://www.montereybay.noaa.gov>.

To learn more about the Sanctuary Advisory Council please visit:
<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 encompassing 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/>

Get involved and stay informed!

To learn how to get involved in the Sanctuary visit:
<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>.



MBNMS Staff

Paul Michel – Superintendent
Karen Grimmer – Deputy Superintendent
John Hunt – Deputy Superintendent
Andrew DeVogelaere – Research Coordinator
Erica Burton – Research Assistant
Jennifer Brown – Research Associate
Steve Lonhart – SIMoN Scientist
Chad King – SIMoN Data Analyst
Oren Frey – Sea Grant Fellow
Dawn Hayes – Education & Outreach Coordinator
Liz Love – Education Specialist
Lisa Uttal – Visitor Center Project Manager
Scott Kathey – Regulatory Coordinator
Deirdre Whalen – Community and Government Relations Coordinator
Lisa Lurie – Agriculture Water Quality Coordinator
Bridget Hoover – WQ Protection Program Director
Carolyn Skinder – Southern Education & Outreach Coordinator
Lisa Emanuelson – Citizen Watershed Monitoring Network Coordinator
Rikki Dunsmore – Resource Protection Specialist
Raymond Chisolm – Program Specialist
Nicole Capps – Advisory Council Coordinator
Andrew White – Network Manager
Sophie De Beukelaer – GIS Analyst
David Minard – R/V Fulmar Captain
Hans Burning – R/V Fulmar Mate
Erik Larson – R/V Fulmar Operator

- Contact Information -

Monterey Bay National Marine Sanctuary

299 Foam Street
Monterey, CA 93940
Phone (831) 647-4201
Fax (831) 647-4250