Monterey Bay National Marine Sanctuary

Sanctuary Office Report

Volume 11, Number 1

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS REPORTING PERIOD: DECEMBER 3 2013 – FEBRUARY 10 2014

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, 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

New ONMS Conservation Series Reports Address Commercial Fishing in CA Sanctuaries

NOAA's Office of National Marine Sanctuaries has released six new reports covering the scope and impacts of commercial fisheries in the four national marine sanctuaries in California (Cordell Bank, Channel Islands, Gulf of the Farallones and Monterey Bay). Published as part of the ONMS Conservation series, four of the reports address the economic impacts of fisheries in each sanctuary on local economies, catch sizes and value broken down by gear type and location, and additional topics identified specifically by sanctuary management. A fifth report summarizes findings across all four sanctuaries, while the sixth focuses specifically on the hook-and-line fishery for halibut in Monterey Bay. The reports are available on the ONMS website here: http://sanctuaries.noaa.gov/science/conservation/welcome.html.

Dedication and Blessing of NOAA Inouye Regional Center

After 10 years of planning, design and construction, the new NOAA Inouye Regional Center was dedicated on Dec. 16, 2013. Located on Ford Island in Pearl Harbor, the center utilizes two historic aircraft hangers that are joined by a modern structure to create a 315,000-square-foot facility on a 35-acre campus to house 700 staff, including the offices of Hawaiian Islands Humpback Whale National Marine Sanctuary. The modern facility is LEED Gold Certified and includes exhibits, a library, cafeteria, auditorium, classroom, Science on a Sphere, dive center, training rooms, conference and meeting rooms, laboratories, necropsy rooms, and a media room. ONMS will move into the facility at the end of January, ahead of schedule in order to save on its present lease costs. Currently, sanctuary staff is coordinating logistics to move out of the Hawaii Kai offices including moving furniture to offices on other islands.

ONMS Hosts Call on Developing Sustainable Financing Project for the World Parks Congress

ONMS organized a call with UNDP, the World Bank, TNC, and the GEF to discuss a possible project on developing a best practices guide and/or capacity development opportunities on sustainable financing for the World Parks Congress. In conversation with a number of partners and colleagues over the last couple months, ONMS had identified this as a theme of importance, and invited partners to discuss collaborative opportunities. After discussion, the partners agreed to form an ad hoc task force to provide a marine component to a project already developed and funded by UNDP that will result in a "quick guide" of best practices, online learning modules, and a one-day workshop before the Congress.

Voyage to Discovery Essay Contest Celebrates African-Americans in U.S. maritime history

National Marine Sanctuary Foundation is accepting submissions for the 2nd Annual Voyage to Discovery Essay Contest, which encourages students to research and write an original essay about African-Americans in U.S. maritime history. The essay is open to 7th-12th grade students, and two winners will be selected to receive scholarships. Submissions will be accepted until April 4. For more information, visit http://www.voyagetodiscovery.org/essay_contest.htm

Deepwater Explorations Proposed for Okeanos Explorer Mission to NW Gulf of Mexico

In March and April this year, NOAA Ship *Okeanos Explorer* will be conducting mapping and ROV surveys in the Gulf of Mexico. The telepresence-enabled explorations will allow interdisciplinary collaborations to document the physical, biological and cultural treasures of the deep seafloor in the Gulf. ONMS and Texas A&M University Galveston submitted a proposal for the *Okeanos Explorer* mission to explore sites in the NW Gulf of Mexico, south of Flower Garden Banks NMS. Areas of the continental slope have been proposed for detailed multi-beam mapping to identify hardground habitats and explore their relationships to the reefs and banks at the edge of the continental shelf. ROV explorations have also been proposed within the Keathley Canyon. The deepwater canyon is suspected to contain large brine flows, which may have influenced the character and biology of the steep, narrow canyon. A return to the Monterrey Shipwrecks is also proposed in order to explore the biological communities and further document the historical artifacts in and around the wrecks. The proposal has been submitted to NOAA OER for consideration as they plan *Okeanos Explorer*'s mission to the Gulf.

National Marine Sanctuary News

Stellwagen Bank NMS
Stellwagen Bank National Marine Sanctuary and the South Shore Natural Science Center in Norwell, MA presented a family event featuring the sanctuary's maritime heritage. Staff and volunteers from both organizations helped transform 73 children and their parents into marine archaeologists through activities such as "Explore a Shipwreck", SCUBA and Survival Suit Dress Up, Sonar Image Matching, and "Diving for Facts." This event is part of *A Child's Sanctuary* programming and is the first in a maritime heritage series to be held this year with five partner organizations in Massachusetts and New Hampshire. The sanctuary will provide each site with a training workshop for staff and volunteers, an activity kit, guidebook, and kickoff event. In exchange, each partner will offer the activities throughout the year through summer camps, community events and school programs. The goal is to reach many thousands more than the sanctuary could reach on its own, and to create or expand partnerships with groups that complement the sanctuary's mission. This program is funded in part through the NOAA *Preserve America* Initiative.

Gulf of the Farallones NMS
On January 14th the Farallones sanctuary honored hundreds of individuals who have volunteered time and talent to protect the sanctuary's wildlife and habitats in several capacities. Some donated thousands of their hours over two decades to be guardians of the coast. In the past 12 months volunteers have contributed 15,620 hours, none of which are taxpayer-funded. Seventy-seven qualified for special awards, and thirteen outstandingly dedicated volunteers were honored with twenty-year service awards.
The sanctuary has long been a proponent of public involvement in its work, through its Beach Watch coastal monitoring, outreach, and advising the sanctuary in policy and management practices. This inclusive approach to stewardship has greatly amplified the agency's ability to manage sensitive biological habitat in proximity to a major urban center of nearly 8 million people. Other programs include Rocky Shores Monitoring, ACCESS Research Cruises, Marine Debris Monitoring, and Visitor Center staffing. The sanctuary's nonprofit partner, the Farallones Marine Sanctuary Association, manages some of the programs. Volunteers have played key roles in responding to oil spills, and have been congressionally recognized for their contributions.

Hawaiian Islands Humpback Whale NMS
The Sanctuary Interagency Law Enforcement Task Force met last month to discuss a number of things related to coordinated enforcement within the Hawaiian Islands Humpback Whale National Marine Sanctuary. Representatives from NOAA Office of Law Enforcement, U.S. Coast Guard, State Department of Land and Natural Resource Division of Conservation and Resource Enforcement, NOAA General Counsel and the sanctuary met to discuss the enforcement and compliance of humpback whale regulations. In addition, the draft action plan for Compliance and Enforcement was presented to the task force, many who had participated in the advisory council working group that developed many of the recommendations included in the plan.

Gray's Reef NMS
George Sedberry served as the National Ocean Service co-chairman of the Southeast and Caribbean Focus Area Selection Team for NOAA's Habitat Blueprint. The Team is charged with selecting one or more habitat areas to include in the Blueprint, which will address the growing challenge of coastal and marine habitat loss and degradation to:

- continue support of sustainable and abundant fish populations for recovering threatened and endangered species
- protect coastal and marine areas and habitats at risk
- support resilient coastal communities
- increase coastal/marine tourism, access, and recreation

Supporting at least one of these five outcomes is a fundamental requirement for any candidate Habitat Focus Area. The Team will be refining these and additional selection criteria and will select areas in need of NOAA's attention for conservation or restoration.

Cordell Bank NMS
The staff of Cordell Bank National Marine Sanctuary is preparing for an office move to refurbished buildings on the administrative campus for Point Reyes National Seashore (PORE). The staff has outgrown its current space in the red barn, also on the Point Reyes campus. A core team of Dan Howard, Superintendent; Michael Carver, Deputy Superintendent; and Dani Lipski, Research Coordinator; are working closely with PORE staff on design, construction, and contracting for the new offices. Other staff members have also contributed to the furniture and IT infrastructure layout. The new buildings will greatly improve the working environment for staff by allowing for adequate storage, quiet work spaces, and meeting spaces. It also provides work space for visiting colleagues from GFNMS or other sites. In addition, in the new location CBNMS will be located adjacent to PORE science staff to facilitate collaboration. The move is expected to be completed in phases and may occur as early as spring 2014.

MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

MANAGEMENT

Monterey Bay Sanctuary Advisory Council Votes Unanimously to Establish New Recreation and Tourism Working Group
The MBNMS Advisory Council met at Moss Landing Marine Labs on December 12, 2013, to discuss multiple important issues affecting the sanctuary, including desalination, seismic airgun surveys and interaction and engagement with the fishing community. Following a compelling presentation by Deirdre Whalen, MBNMS staff, and Brian Nelson, SAC diving member, on the value of tourism and recreation in the sanctuary, the advisory council voted unanimously to establish a new Recreation and Tourism Working Group to serve as the primary conduit for communicating with tourism and recreation business owners through innovative engagement strategies. Recommendations from council members on future activities for this new working group include the development of private-public partnerships, a "whale tail" certification for sustainable businesses, and increased visibility of the sanctuary along the Highway 1 corridor.

RESEARCH AND MONITORING

MBNMS teams with MBARI to revisit shipping container lost at sea
December 11-16, 2013, a team of scientists from Monterey Bay National Marine Sanctuary (MBNMS) and Monterey Bay Aquarium Research Institute (MBARI) will revisit a lost shipping container resting on the seafloor about 20 kilometers (12 miles) outside of Monterey Bay using a remotely-operated vehicle (ROV). The scientists will assess the container's current condition, assess impacts to sea life, assess toxicity of container paint, and test the effectiveness of new types of environmentally friendly paint. Shortly after midnight on February 26, 2004 in the middle of a winter storm, the merchant vessel *Med Taipei* was directly offshore of Monterey Bay, when stacks of containers began to break free of their lashings and topple sideways. Fifteen of the 40-foot-long containers fell overboard into the MBNMS. In June 2004, MBARI researchers discovered one of the lost containers during a marine biology dive at a depth of about 1,300 meters (4,200 feet). According to the U.S. Customs manifest, the container holds about 1,159 steel-belted tires. Other containers that fell overboard held cyclone fencing, leather chairs, and mattress pads. In March 2011, MBNMS and MBARI scientists first documented the state of the container and its impact on the local ecology. This initial study showed an adverse affect to seafloor life of an area greater than 20 times its footprint. A mini-documentary about the 2011 research cruise can be viewed on YouTube (http://www.youtube.com/watch?v=PRU2PxMOh18), and more detailed project information can be found on Sanctuary Integrated Monitoring Network (http://sanctuarysimon.org/projects/100388/ecological-assessment-of-a-lost-shipping-container-in-the-mbnms). Each year, an estimated 10,000 shipping containers fall off container ships at sea. Although many of these containers may float at the surface for days or weeks, most eventually sink to the seafloor. The immediate impacts of these containers and their cumulative ecological role as deep-sea stepping stones of trash between ports are unknown.

"Touch Down" Success for Day one of Lost Shipping Container Cruise
This week a team of scientists from Monterey Bay National Marine Sanctuary (MBNMS) and Monterey Bay Aquarium Research Institute (MBARI) are revisiting a lost shipping container resting on the seafloor at 1,280 meters (more than 4,200 feet deep) using a remotely-operated vehicle (ROV). The scientific team executed two extremely successful ROV dives to the container on day one of the expedition. Sediment and animal samples were taken from the container, near the container and as far as 500 meters away. This work should help answer questions about any toxic effects from the container (such as heavy metals), and how the community living on and near the container has changed. To read the latest updates from the mission team, go to http://sanctuarysimon.org/news/index.php/2013/12/lost-shipping-container-and-benthic-ecology-cruise-log-dec-11-16-2013/. The mission was just picked up by Popular Science, see: http://www.popsci.com/article/rov-heads-seafloor-explore-lost-shipping-container?dom=PSC&loc=recent&lnk=2&con=rov-heads-to-seafloor-to-explore-lost-shipping-container

RV FULMAR supports MBNMS science divers off the coast of Big Sur
From December 2-8, 2013 science divers from MBNMS and UC Santa Cruz conducted several science diving operations while aboard the RV FULMAR off the coast of Big Sur. Although conditions during the week were highly variable, resulting in multiple shifts in the schedule, science divers were able to complete three tasks: 1) completion of the Alder Creek Landlside survey sites, 2) relocation of the downed seaplane, and 3) two surveys as part of the Big Sur Nearshore Characterization.

Monterey Bay National Marine Sanctuary explores potential collaboration to customize Ocean Health Index for the sanctuary
The Ocean Health Index (OHI; http://www.oceanhealthindex.org) is an approach for assessing ocean health based on ten socio-ecological goals that represent key benefits of healthy marine ecosystems (e.g., coastal protection, clean water, biodiversity, food provisioning). A global assessment of ocean health was completed in 2012, and updated in 2013, by calculating OHI scores for all coastal countries. OHI project scientists are now scoping locations for smaller-scale applications of the index. On Friday, December 1st, Monterey Bay National Marine Sanctuary (MBNMS) staff met with OHI scientists to learn about the OHI and discuss its potential application to the sanctuary. Topics covered included availability of data sets, especially 10+ year time series, related to the OHI goals, and the potential application of index outputs to MBNMS science and resource management needs, including future condition reports and management plan review. Following the meeting, MBNMS staff provided OHI scientist with an extensive summary of available MBNMS and SIMoN web-based resources, technical reports and datasets, which will contribute to an assessment of the feasibility of developing an OHI for MBNMS.

MBNMS and MBARI Revisit Lost Shipping Container, Explore Sur Ridge
From Dec. 11 to 16, 2013, a team of scientists from NOAA's Monterey Bay National Marine Sanctuary (MBNMS) and the Monterey Bay Aquarium Research Institute (MBARI) revisited a lost shipping container resting on the seafloor about 12 miles outside of Monterey Bay using a remotely operated vehicle, or ROV. The team surveyed the container's current condition and collected samples to help determine its impact on the surrounding marine life. In addition, the scientists visited research sites as deep as 10,500 feet and made some startling discoveries on the first-ever ROV exploration of Sur Ridge. Daily logs were written for the Web during the research cruise, and other information was posted to Twitter and Facebook sites. Several media outlets, including Popular Science, National Geographic and Discovery Canada, picked up the story. The collected mission blogs, photos and updates are available on the ONMS homepage here:http://sanctuaries.noaa.gov/news/features/shippingcontainers.html.

SIMoN staff continues invasive species study in Monterey Harbor
On December 9, SIMoN staff (Chad King and Steve Lonhart) and a new NOAA Volunteer Diver (Brad Carter) 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.

California Academy of Sciences aquarists charter RV FULMAR to collect exhibit animals off the coast of Big Sur
From December 11-13, 2013 aquarists and diving safety staff from CAS (California Academy of Sciences) conducted several science diving operations while aboard the RV FULMAR off the coast of Big Sur. Conditions were excellent, with no wind or surge and 20-40 ft visibility. Aquarists primarily collected large barnacles covered with strawberry anemones, and a couple of small rocks with orange cup corals and cobalt sponge. Specimens were maintained in three large plastic bins (100-200 gallons each) and lifted off the FULMAR by crane.

MBNMS staff attend separate UCSC Diving and Boating Safety Board meetings
On December 16, MBNMS staff attended the UC Santa Cruz Dive Control Board meeting. Dr. Steve Lonhart serves as a NOAA representative on the DCB, and was recently asked to also be a NOAA representative on the UCSC Scientific Boating Safety. UCSC is a founding member of the Scientific Boating Safety Association, which was created to standardize boat training in the scientific community and consists of members from universities and colleges throughout the United States. Issues with differences between the NOAA and AAUS medical exams continue to be discussed, with NOAA standards currently inhibiting some divers from participating in NOAA research. In addition, several UCSC small boats are available for use by MBNMS staff and at very reasonable re-charge rates. There are also opportunities for MBNMS staff to receive additional training on small boats for little to no cost.

SIMoN staff attend CalOST workshop for citizen science divers
On December 18, SIMoN staff attended a workshop in Oakland hosted by the California Ocean Science Trust (CalOST), a nonprofit 501(c)(3) public benefit corporation established pursuant to the California Ocean Resources Stewardship Act (CORSA) of 2000, whose mission is to advance a constructive role for science in decision-making by promoting collaboration and mutual understanding among scientists, citizens, managers, and policymakers working toward sustained, healthy, and productive coastal and ocean ecosystems. Staff and divers from REEF (Reef Environmental Education Foundation) attended and discussed with CalOST staff how to engage citizen science divers from REEF for survey work inside and outside of state MPAs.

MBNMS Research Activity Panel Meets at CSU Monterey Bay
On January 10th, the MBNMS Research Activity Panel (RAP) met at California State University Monterey Bay (CSUMB), in Seaside, CA. Agenda items included: CSUMB Research Update, Sanctuary Advisory Council Update, MBNMS FY14 Annual Operation Plan, Big Sur Region Research Update, Oil Spills and Long-term Monitoring Programs, Sanctuary Currents Symposium, and Western Society of Naturalists Meeting Summary.

SIMoN staff contribute to and test sea star wasting disease survey protocols
On December 19, SIMoN staff worked closely with UCSC's Dr. Pete Raimondi, Dr. Mark Carr and Melissa Miner on the subtidal survey protocols for the wasting disease that is wiping out certain species of sea stars along the entire eastern Pacific. Both intertidally and in the shallow subtidal, sea star syndrome (S3) is causing stars to disintegrate and dissolve. The mechanism for S3 is not known, but scientists working with Raimondi are determining whether S3 is due to a bacterial or viral infection. Academics and agencies alike are scrambling for funds to sample the spatial extent and severity of S3. The protocols being developed allow divers to collect data in a standardized format to ensure comparability throughout the eastern Pacific, from Canada to Mexico. Working closely with investigators from UCSC and Washington State University, Dr. Steve Lonhart is helping to develop S3 subtidal survey protocols, and on January 17th MBNMS staff assisted with field testing a prototype data sheet and underwater survey methods. In MBNMS the plan is to re-survey PISCO subtidal monitoring sites, surveying for just sea stars but increasing sampling effort relative to normal PISCO protocols.

Kelp Watch 2014 project page on SIMoN web site
On January 18th a new project page describing Kelp Watch 2014 was posted on the Sanctuary Integrated Monitoring Network (SIMoN) web site, which has metadata on over 140 research and monitoring projects taking place in Cordell Bank, Gulf of the Farallones, and Monterey Bay NMS sites. The purpose is to monitor potential radiation absorbed by our California beds of giant kelp *Macrocystis pyrifera* and bull kelp *Nereocystis luetkeana*, two species of canopy forming kelp that form important habitat along the coast of the eastern Pacific. The major isotopes in seawater arriving from the damaged Japanese Fukushima reactor are Cs-134 and Cs-137, and may reach the shores of the eastern Pacific by mid-2014 and be incorporated by kelp into its tissue. To learn more about the project, go to: http://sanctuarysimon.org/projects/project_info.php?projectID=100400&site=true.

Subtidal sea star syndrome surveys begin in Monterey Bay
On January 27th, research divers from the University of California at Santa Cruz and NOAA divers from MBNMS (King and Lonhart) began systematic surveys of nearshore subtidal kelp forests to count sea stars and urchins that are either affected by or have possibly survived a wide-spread sea star wasting disease. Divers completed surveys along Cannery Row, visiting three sites and sampling at three depth zones per site. Stars (and recently urchins) have been devastated by an unknown disease that causes rapid disintegration. A coast-wide effort from British Columbia to Baja California is underway to track the extent of the disease and its impacts on sea star and urchin populations. The disease was first noted in October of 2013, and has rapidly reduced populations of stars in both the rocky intertidal and nearshore subtidal.

MBNMS hosts Ocean Health Index scientists
On Friday January 31st, Monterey Bay National Marine Sanctuary (MBNMS) staff hosted a day-long meeting with scientists from the Ocean Health Index (OHI) to discuss a regional application of the index to the sanctuary. The Ocean Health Index (OHI; http://www.oceanhealthindex.org) is an approach for assessing ocean health based on ten socio-ecological goals that represent key benefits of healthy marine ecosystems (e.g., coastal protection, clean water, biodiversity, food provisioning, tourism & recreation). Discussions focused primarily on availability of regional data sets for each of the ten goals, especially 10+ year time series, and the utility of index outputs for MBNMS science and resource management needs, including future condition reports and management plan review. In the next few weeks, MBNMS will assist OHI scientists in developing an outline and timeline for the MBNMS OHI project, with the ultimate goal of submitting a proposal to the Moore Foundation.

MBNMS Vessel Traffic Analysis Report is available
In 2013, MBNMS staff collaborated with Southwest Fisheries Science Center (SWFSC) and Naval Postgraduate School (NPS) staff to analyze the use of the recommended tracks by cargo vessels and tankers to help determine if any additional management implementations are necessary to protect the Sanctuary's resources. SWFSC staff developed 2009 density maps for tankers and cargo vessels based on Automatic Identification System (AIS) data from Marine Cadastre. NPS staff developed a Matlab code to detail daily deviations inshore of the recommended tracks by cargo vessels and tankers for AIS data from September 2009 to December 2012. Sanctuary staff reviews AIS data daily to note any deviations and are working with United States Coast Guard staff to follow up with vessels traveling more than three nautical miles inshore of the recommended track for vessels 300 gross tons and above. The report, "Monterey Bay National Marine Sanctuary (MBNMS) Vessel Traffic Analysis: 2009-2012" (3.5M PDF), details how these three AIS data analyses do indicate that a great majority of the vessels that transit through the MBNMS are complying with the IMO recommended tracks.

Dive locker inspection completed
On February 4th, staff conducted a mandatory annual Dive Unit Safety Assessment (DUSA), an annual self-inspection process designed to promote safe diving operations at the unit level. Individual diving units are responsible for ensuring that this inspection is completed and documented. The DUSA Checklist was submitted to the NOS Line Office Dive Officer. There were very few deficiencies, and all areas of concern are being addressed. For more information email Dr. Steve.Lonhart@noaa.gov.

Sea star syndrome meeting at Hopkins Marine Station
On February 4th, staff attended a meeting of local scientists to discuss a wide-spread sea star wasting disease. Stars (and more recently urchins) have been devastated by an unknown disease that causes rapid disintegration. Within the sanctuary, the disease was first noted in October of 2013, and has rapidly reduced populations of stars in both the rocky intertidal and nearshore subtidal. Dr. Fio Micheli and her colleagues at Stanford are working with MBNMS staff and Drs. Mark Carr and Pete Raimondi from UC Santa Cruz to conduct both intertidal and subtidal surveys to describe the extent of the disease and to determine the ecological impacts. In addition to the loss of adults, this winter appears to be a banner year of recruitment for several of the sea star species, and efforts are underway to monitor recruitment and growth of these tiny sea stars.

RESOURCE PROTECTION

Sanctuary Partners Comment on FDA Food Safety Regulations
On Dec. 2nd, Monterey Bay National Marine Sanctuary staff facilitated a Farm Food Safety Conservation Network (FFSCN) phone conference call with Mike Mahovic from the Food and Drug Administration with regard to commenting on the Environmental Impact Statement of the Food Safety Modernization Act (FSMA). Members of the FFSCN are concerned with the environmental and natural resource conservation impacts of proposed food safety guidelines and have been following both the science and potential farm and conservation impacts associated with FSMA rules. Several partner organizations involved in the FFSCN provided comments on FSMA rules related to produce and have voiced concerns regarding the impacts on organic farming, small farms and habitat for wild animals near farm fields. Mike Mahovic provided suggestions on the process and detail appreciated in comments on the EIS so that concerns and alternatives can be most effectively considered and incorporated into the rules and guidance by the FDA.

Regional Monitoring Discussion to Include Impaired Waterbodies
On Dec. 4th, Monterey Bay National Marine Sanctuary staff coordinated a day-long meeting with a core team of partners working to develop a regional water quality monitoring program within the MBNMS to measure inputs to the ocean from urban areas, wastewater treatment plants, and major rivers. This concept is being expanded to include fresh water systems in the watersheds due to recent stormwater permit requirements for monitoring Total Maximum Daily Loads (TMDL) and the 303(d) listings of impaired waterbodies. The meeting was attended by the Central Coast Regional Water Quality Control Board staff, multiple counties, cities and interested parties who fall under this requirement. All parties are supportive of the effort and encouraged further information gathering to define the scope.

Water Quality Protection Program Committee Meets to Celebrate 2013 Accomplishments
On Dec. 5th, the Water Quality Protection Program Committee met for its final meeting of 2013. We celebrated many accomplishments including successful negotiations of an Irrigation Nutrient Management grant, completion of an online web portal to track water quality management practices, a final report on "Bar built" estuary health and management, monitoring program for Areas of Special Biological Significance, and completion of the Santa Cruz County $12.5M Integrated Regional Management Program grant, to name a few. The Committee also planned and reviewed speaker proposals for the upcoming *Monterey Bay Conference on Water Quality* that will take place on Wednesday February 5, 2014.

MBNMS develops Agricultural Water Quality Alliance Accomplishments Report
MBNMS finalized and printed 300 copies of the Agricultural Water Quality Alliance (AWQA) Accomplishments Report 2011-2013 for distribution at events and through partner organizations. This Report highlights the accomplishments of the AWQA partnership efforts over a three year period. AWQA is a regional partnership that brings together farmers, ranchers, resource conservation agencies, researchers, and agricultural and environmental organizations to protect the health of Sanctuary waters and the productivity of Central Coast farmlands. AWQA's regional approach focuses on industry led initiatives and voluntary, collaborative solutions to tackling water quality problems. Highlighted examples of AWQA Accomplishments in our 2010-2013 report were conducting forums on co-managing food safety and the environment, outreach to Spanish speaking and Chinese growers, the development of a work plan for the America's Great Outdoor initiative, a case study in gully stabilization, and the completion of a web-based tool to track management practices aimed at improving water quality.

Sanctuary facilitates Hillslope Farming Meeting to Reduce Sediment Loss and Improve Water Quality
The Agricultural Water Quality Alliance (AWQA) educational meeting on Hillside Farming issues and conservation practices, facilitated by Monterey Bay National Marine Sanctuary, was attended by resource conservation professionals, researchers, the agricultural commissioner's office and growers. Presentations on structural improvements and management practices showed management practices to prevent soil erosion when facing the difficult challenge of growing crops on slopes. Powerpoint presentations pertaining to an array of practices such as row alignment, cover crops, the effect of plastic cover on runoff discharge, and how to detain and dissipate runoff were provided. Photos of practices failures and successes revealed the catastrophic consequences when conservation measures are undersized, mis-timed or not implemented. Preventing sediment loss can help prevent the entry of soil particles into creeks and rivers and reduce contamination by pollutants that adhere to sediments such as pesticides and phosphorus. Conservation professionals will incorporate the information and learnings from the session into the services they provide to growers and landowners.

MBNMS begins development of a Coastal Regional Sediment Management Plan for the Santa Cruz Littoral Cell
After 18 months to complete an interagency transfer from the US Army Corps of Engineers to MBNMS and clear an MOA and other contract documentation, an MBNMS contract award was approved for Brad Damitz to develop a *Coastal Regional Sediment Management Plan for the Santa Cruz Littoral Cell.* The scope is from Moss Landing northwards to the Santa Cruz-San Mateo County line and similar to the completed CRSMP for Southern Monterey Bay, this plan will be developed in order to restore and maintain coastal beaches and other critical areas of sediment deficit, reduce the proliferation of coastal armoring structures such as seawalls and revetments, restore coastal sandy habitats throughout the Region, enhance public safety and coastal access, and sustain recreation and tourism. Brad will serve as project coordinator, and will be coordinating the overall plan development including public outreach, local government and stakeholder input. The MB resource protection coordinator will oversee coordination in partnership with the USACE project manager and the state Coastal Sediment Management Plan Workgroup.

MBNMS staff attend public forums hosted by CA Ocean Science Trust and CA Dept Fish & Wildlife
OST and CDFW hosted three forums along the central coast this week in Morro Bay, Pacific Grove and Santa Cruz in order to share information and take public input of their efforts to develop a Central Coast MPA monitoring plan. The forums were well attended, and MBNMS and WCR staff were able to provide comments related to successful partnerships and collaborations between Sanctuaries and the State on supporting state MPAs for enforcement, education and outreach, and monitoring, well as the importance of continued long-term monitoring of the sites.

MBNMS support Whale Aware Proposal for Hollings Grant
In partnership with California's National Marine Sanctuaries, Point Blue has launched a new program, "Whale Aware," with the goal of using science and innovative technology to protect endangered whales from being injured or killed by commercial vessel traffic in the increasingly busy shipping lanes off the coast of California. This program, to be implemented in partnership with the Sanctuaries and the U.S. Coast Guard over the next five years, will include publicity and educational efforts that will engage businesses, recreational interests, and the whale watching public in our efforts. Since whales and their food are in constant motion rather than fixed points on a map, the "Whale Aware" program integrates the use of a smart phone/tablet application (app) called Spotter (developed by Conserve.IO). Spotter is a publicly available and user-friendly application that provides an easy means for just about anyone to report whale sightings. The app is intended for use by researchers, commercial ship operators, charter fishing boat operators, whale watching naturalists, and recreational and commercial fishers to document whale sightings in near real-time. Point Blue will develop a robust data collection program, package the information for use by the agencies, and maximize public engagement in the collection of whale sightings. The resulting data will provide NOAA with the information they need to request that the U.S. Coast Guard's Vessel Traffic Service ask ship operators to slow down or change course as they approach areas where whales are present. MBNMS supported this grant with a letter of support and will continue to support Whale Aware efforts as possible.

MBNMS Continues to Track Desalination Efforts
On January 13th MBNMS staff and WCR Director met with representatives from the Deep Water Desalination project. They updated staff on the status of their efforts to build a regional desalination facility and presented the latest findings to assess the seawater intake effects on fish larval populations at 25m and 40m depths. In addition, sanctuary staff continue to track other desalination projects and are currently acting as federal lead in the NEPA environmental review of the California American Water test slant well project.

Essential Fish Habitat Stakeholder Group meets to discuss Voluntary Management Areas
A subset of the larger, EFH stakeholder group met as a technical committee to investigate some options for tracking use and compliance for the three proposed Voluntary Management Areas (VMAs) that were included in the MBNMS EFH collaborative proposal. The group looked at a range of options that included TNC's eCatch database and Marine Traffic AIS data subscriptions. We weighed the comparisons and costs, and will be making recommendations to the larger group at the next meeting in February.

MPWC SAC Subcommittee meets at Exploration Center
In December of 2012, the MBNMS SAC passed a motion to have an ad hoc subcommittee study the Motorized Personal Watercraft rule as it applies to surfer safety. The group met once in January 2013, and met again on January 11, 2014 to discuss a number of options that could be considered under the current MPWC regs. One option is for the MPWC users to establish a volunteer safety team at Mavericks that would apply for a sanctuary permit, and it would be subject to a set of minimum required criteria. The established criteria is based on the current permit requirements for a public safety agency, and a voluntary safety team would be expected to meet the same rigorous requirements for supervision, oversight, training, control and command, etc. The group plans to meet in February for a follow up discussion on this pathway after getting input from the tow-in community and other constituencies on its feasibility.

Western SARE grant Expert Advisory Panel Meeting
The MBNMS Agricultural Water Quality Coordinator facilitated the first Expert Advisory Panel (EAP) Meeting on 1/22/14 for the Western SARE grant, which funds the sharing of tools and technologies for farm irrigation and nutrient management services provided by conservation professionals. Represented on the EAP are an NRCS agronomist, consultant, UCCE researchers, Resource Conservation District irrigation experts, Farm Bureau, NASA researcher and a representative from the Ag sustainability Institute at UC Davis. The grant promotes a peer review process to develop standard practices and a list of technologies that professionals can use for providing consultations and assessments to growers for how to most effectively utilize water and fertilizer resources. In this meeting we developed a list of the range of technologies available for irrigation management and how to access them. The practices, tools and technologies that can assist conservation professionals will be posted online and made available on the awqa.org website.

EcoFarm Conference at Asilomar
The MBNMS Agricultural Water Quality Coordinator attended the EcoFarm Conference (www.eco-fam.org) on 1/23/14. The EcoFarm Conference is a widely attended event with a diverse range of speakers, attendees, exhibitors, and sponsors. Workshops lead by agricultural visionaries discussed a range of topics including carbon sequestration in soils on ranch lands, how the Farm Bill influences agricultural sustainability, and how to develop cooperatives and networks to build a better farm economy. Practical technical topics were also represented, such as how to compute nitrogen balances for fertilizer addition, ranching during the drought, and how to control rodents. Temple Grandin spoke on how her autism helped her "see in visual images vs words" so that she could design more safe and humane handling practices and structures for cattle movement in slaughterhouses and feedlots. The ideas discussed and opportunity for networking with innovators in the agricultural field provided insights and relationships that can strengthen our outreach and education to the local agricultural community.

Monterey Bay Sea Level Rise Study Technical Advisory Group meeting
The second meeting for this TAG focused on a variety of topics related to SLR and climate change adaptations. Morning presentations included an economic analysis of SLR adaptation Strategies from Sarah Newkirk with TNC, an update on the Southern Monterey Bay SCOUP project by City of Monterey, the process involved with the Monterey County LCP grant by Ross Clark with MLML, and then the public kick of for the Santa Cruz Littoral Cell Coastal Regional Sediment Management Plan, which is funded by the US Army Corp and managed by MBNMS with coordination provided by Brad Damitz. The CA Coastal Commission presented on the new draft SLR guidelines that are currently out for public review. The afternoon focused on the results of the Monterey Bay SLR Vulnerability Study, which was conducted by ESA, INC consultants and has some very interesting implications for future coastal planning in this region.

Monterey Bay Conference on Water Quality a Huge Success
The Water Quality Protection Program Committee planned an annual conference on February 5th targeting professionals and the public. Panels highlighted status of water quality conditions in the ocean and watersheds, innovative research and technology, and motivation to make a difference in your community. We partnered with the California Coastal Commission to add a resource fair after with organizations providing information about volunteer opportunities, drought tolerant landscaping, low impact development, and other local resources. Over 150 people were there throughout the afternoon from a diversity of disciplines including elected officials, water districts, agriculture industry, consultants, museum staff, local government, media, SAC members, academics, etc. The keynote was by Catherine Kuhlman, Executive Director of the CA Ocean Protection Council.

Launch of Central Coast Conservation Action Tracker (CCAT)
On Wednesday 2/5/14 at the Monterey Bay Conference on Water Quality, the web-based tool, Central Coast Conservation Action Tracker (CCAT) www.ccactiontracker.org , was publically launched and conservation organizations were invited to join this web network and enter their Conservation Projects and Actions. CCAT displays the what, why, when, who and how of conservation efforts taking place on California's Central Coast. The purpose of CCAT is to display project information so that the public and CCAT organizations can track the level of effort (# of projects), types of projects, outcomes and goals, and the partner organizations involved. The map based interactive tool allows users to query for key words or for objectives of interest to them in their research and displays an interactive map. This tool will allow organizations to be more strategic and less redundant in their conservation planning, to find partner organizations for collaborative efforts, and to publicize their conservation activities.

Discussions Continue for a Central Coast Regional Water Quality Monitoring Program
On Friday, Feb. 1st, WQPP staff with partners from Central Coast Long-term Environmental Network, UC Davis, and the City of Monterey traveled to San Luis Obispo to meet with CC Regional Water Quality Control Board staff to continue to conceptualize a regional water quality monitoring program that would include stormwater, TMDLs, ASBS, POTWs and Ocean Plan permitted dischargers. We have interest from most dischargers but the details need to be worked out for funding, permit compliance, and organizational structure. A large regional meeting of all involved will be planned in March.

Meeting to Discuss the Agricultural Order and Aid Farmer Compliance
The Agricultural Water Quality Coordinator for MBNMS attended a meeting at the Agriculture and Land Based Training Association (ALBA) on 2/7/14. This meeting provided information and guidance to English and Spanish speaking growers in complying with the Regional Water Quality Control Board's Agricultural Order. Farmers were provided an overview of the pollution problems created by agriculture on the Central Coast and why regulations have been imposed to reduce pollutants (sediment, nutrients and pesticides) entering surface and ground waters from agricultural runoff. Each farmer completed a Farm Plan during the event with guidance from ALBA trainers and the RCD of Monterey County. The emphasis of the meeting was on why conservation is important toward protecting and improving water resources. The Farm Plan aids individual farmers in considering practices that they could apply on their farm to reduce pollution and increases awareness of the watershed and water bodies their runoff drains toward.

ENFORCEMENT

Wrecked Seaplane Positively Identified
On December 5, Monterey Bay National Marine Sanctuary (MBNMS) divers and University of California, Santa Cruz dive partners conducted a detailed survey of a seaplane wreck site discovered in September. The plane made an emergency ocean landing and then sank in September 2012. The divers recovered items and information that positively identify the aircraft identity, and MBNMS and NOAA Office of Law Enforcement are coordinating with the responsible party for removal of the debris from the sanctuary.

LETAC Discusses Panga Response Efforts
On December 5, twenty members of the Monterey Bay National Marine Sanctuary (MBNMS) Law Enforcement Technical Advisory Committee (LETAC) met to discuss marine enforcement issues of common interest within the sanctuary. The group focused on recent increased abandonment of drug boats (Pangas) on MBNMS shorelines in Monterey and Santa Cruz counties to ensure that federal, state, and local law enforcement agencies are coordinated in response and salvage efforts. This is part of ongoing coordination between agencies on enforcement matters in the MBNMS.

MBNMS Coordination With NOAA ORR and Coast Guard Auxiliary Pays Dividends
On December 22, a US Coast Guard Auxiliary air crew found a large 100-person liferaft aground and intact along a remote stretch of the Big Sur coastline, nearly a week after the raft malfunctioned in the dead of night and deployed from a vessel en route to San Francisco. The raft was too large for recovery by the transiting vessel and was left adrift. The MBNMS R/V FULMAR encountered the raft 28 hours later and reported its updated position. MBNMS then requested and received a trajectory analysis from NOAA ORR based on the two position reports. Within 3 hours of the request, the NOAA Office of Response and Restoration provided two trajectory maps with indicated search areas for both a grounded or refloated raft. MBNMS tapped a recently developed partnership with the Coast Guard Auxiliary Air Squadron in San Francisco to request an aerial search for the raft. NOAA OLE has contacted the owner regarding salvage. This incident highlights the effectiveness of team play between three NOAA offices, the Coast Guard, and Coast Guard volunteers in accomplishing MBNMS goals.

MBNMS Successful Coordination With Forest Service During Pfeiffer Ridge Fire
The Pfeiffer Fire started on December 17th 2013 around midnight in the vicinity of Pfeiffer Ridge in the Monterey Ranger District of Los Padres National Forest. The fire burned over 900 acres of coastal redwood forest over a 4-5 day period and was now 100 percent contained. At the height of the fire, four helicopters utilized nearshore areas of the sanctuary to collect water for fire suppression efforts. Since helicopter crews could not avoid low flight operations over nearshore areas, MBNMS resource protection staff successfully coordinated with Forest Service staff to develop air operations plans that avoided key marine wildlife areas along the coast. Once again, an existing partnership relationship proved key to protecting sanctuary resources in an emergency.

Panga With Drugs Abandoned at Arroyo de la Cruz
On December 23, five people were observed unloading bales from a 45-ft panga grounded on the shoreline at Arroyo de la Cruz in the southern Big Sur region. When State Parks rangers and Sheriff's deputies arrived on scene, they found that the smugglers had abandoned 30 - 40 bales of marijuana in the boat. No spills or environmental damage resulted from this landing. Known as a "super panga", the boat was custom built for drug running - longer than the traditional fishing pangas often used as boats of convenience by drug smugglers. The boat was refloated and taken to safe harbor. MBNMS continues to coordinate with resource protection partners and US Immigration and Customs Enforcement to mitigate environmental threats from increased abandonment of pangas in the sanctuary.

Flying Amphibians Coming to a Sanctuary Near You
A new marine-launched aircraft design has appeared at MBNMS known as an amphibious trike. It is essentially a motorized hang glider with both pontoons and wheels, giving it flexible access and easy transfer between land, sea, and air. Since the operator sits on (rather than inside) the craft when motoring on the sea, it qualifies as a motorized personal watercraft under MBNMS regulations. Once airborne, it qualifies as a motorized aircraft under sanctuary regulations. Since this type of craft can go just about anywhere on a nice day and tends to fly low and slow, it presents some unique resource protection issues for marine sanctuaries.

EDUCATION, VOLUNTEER AND OUTREACH

Full proposal submitted for FY14 NOAA Preserve America Initiative Internal Funding
MBNMS staff submitted a full proposal for Preserve America Initiative Internal Funding to update the video featuring the wreck of the SS *Montebello*, currently being run at their Coastal Discovery Center in San Simeon Bay. A recent mission to the wreck has determined the threat of crude oil leaking from its hull is no longer an issue, contrary to what is outlined in the current video. The development of a new video, using old footage, supplemented with new, will not only tell the story of this important WWII wreck on California's shores, but will highlight the technologies used to characterize the wreck and how important monitoring these resources are to ocean health. These elements help to develop the cultural landscape of this sparsely populated but highly engaged region of MBNMS.

Students come from afar to monitor intertidal
Forty-one students from Hoover High School traveled from Fresno to monitor a site in San Simeon this week as part of the Long Term Monitoring Program and Experiential Training for Students (LiMPETS) program. Hoover HS teacher, Becky Shiner, prepared her students well by practicing field methods and identification of intertidal organisms in their Advanced Science Topics class. Led by staff and docents from the Sanctuary's Coastal Discovery Center, the students had a beautiful sunny day to collect data, followed by a visit to the Coastal Discovery Center to enter data on-line, and talk about careers in marine biology. Follow-up comments from the students: "It was great to actually see all the algae and invertebrates, all together, and alive, in one place. We practiced monitoring with the enlarged photos many times, but seeing and handling "the real stuff" was a whole different experience!

Docents explore coastal caves
Coastal Discovery Center docents took advantage of the low tide this past week to explore their own "back yard" by kayak. There are several caves along the south shore of San Simeon Cove, once used by shore-whalers in the late 1800s, that are easily accessible by kayak during minus tides. Led by a local kayak concessionaire, docents were carefully escorted in and out of caves made of 6 ft to 20- ft high scoured ceilings, while at the same time examining cave-dwelling intertidal invertebrates. The hands-on experience was part of a continued docent training to further the understanding of the cultural and natural history of San Simeon Cove.

Sanctuary Exploration Center volunteers explore Fitzgerald Marine Reserve
On Monday December 2nd, Sanctuary Exploration Center staff and volunteers participated in a guided tour of Fitzgerald Marine Reserve. While at the reserve, volunteers explored and interacted with diverse intertidal communities. This excursion was part of the monthly volunteer enrichment series, which includes a quarterly field trip to explore a new habitat within the sanctuary. Gaining first hand experiences within the sanctuary helps volunteers communicate and connect with visitors at the Exploration Center.

Joint education meeting creates new synergy
The Sanctuary Education Panel and Monterey Bay Environmental Educators Network met at Monterey Bay Aquarium Research Institute (MBARI) on Dec. 4. The goal of the meeting were to bring the two groups together to better understand the extensive and diverse coastal and marine education efforts taking place in our region. Approximately 30 participants representing a variety of education groups shared what their organizations are doing and made connections to potential new partners and collaborations. The group was also treated to a presentation on MBARI by Dr. George Matsumoto.

New seabird and shorebird info made available on sanctuary website
A new section on seabirds and shorebirds was added to the wildlife viewing pages of Monterey Bay National Marine Sanctuary's website. The information describes why more than 180 different marine birds visit or live in the sanctuary. Did you know Elkhorn Slough (and it's associated National Estuarine Research Reserve) is one of our nation's premier bird watching sites, or that Monterey Bay offers some of the best offshore birding in the world? Learn more at http://montereybay.noaa.gov/visitor/access/introbirds.html.

Sanctuary Exploration Center Docents Monitor Wilder Ranch Intertidal Site
On December 30th Exploration Center staff and volunteers conducted their first survey of Wilder Ranch Intertidal Site. This survey was done as part of the LiMPETS monitoring network, the data from which is used to inform management decisions statewide. The Sanctuary Exploration Center team has committed to monitor this site quarterly through 2014 (depending on tides). This monitoring project provides not only a great opportunity for volunteers to visit a restricted site in the sanctuary, but also for LiMPETS to gain consistent, high frequency monitoring data from one of their less visited sites. If successful, this team could expand its monitoring to other sites within the sanctuary.

Fourth Annual Whalefest
Staff participated in the 4th annual Monterey Whalefest this past weekend, a community event to build awareness about the Monterey Bay National Marine Sanctuary as well as all things whale. The family-oriented celebration took place on and around Fisherman's Wharf in Monterey and was enjoyed by thousands. Staff set up a booth with fun and interactive activities and displays on marine debris. West Coast Regional Director William Douros gave an excellent presentation on the "Serengeti of the Sea." Did you know that the Monterey Bay is now the *Whale Watching Capital of the World!*™

Collaborative Meeting to Discuss Team OCEAN and Bay Net futures
On January 29th a group of eighteen individuals representing nine businesses, agencies and NGO's met to discuss the Team OCEAN and Bay Net docent programs as they relate to outreach and wildlife disturbances in the nearshore habitat. Topics discussed in detail were the prevalence of disturbances, how to address disturbances, and how best to fund effective interpretive programs such as Team OCEAN and Bay Net to deal. There is currently no funding for these programs. Ideas brought to the table were life sized cutouts of law enforcement staff with a message about disturbances, another idea was including a donation for Team OCEAN and Bay Net on rental booking sites and cost sharing for coastal viewing telescopes. Many great ideas were discussed and a willingness to work collaboratively in the future were agreed upon by the group.

Volunteers mobilize to collect storm water samples for ASBS Program
On February 6 four teams of volunteers sampled fifteen storm drain outfalls discharging into Areas of Special Biological Significance (ASBS). The ASBS program is a comprehensive monitoring program that includes outfall monitoring, paired receiving water monitoring at some sites, and reference site monitoring at sites from Marin County to southern Big Sur. The ASBS program monitors storm drain outfalls for bacteria, oils, grease, toxicity, and at larger outfalls for toxicity, ammonia, urea, nitrate, phosphate, trace metals, mercury, pyrethroids, OP pesticides and PAHs. Smaller outfalls are monitored for one storm per winter season while larger outfalls and reference sites are monitored for three storms per winter season. The storm that came ashore along the central California coastline in the early hours of Thursday 2/6, dropped slightly over a 1/2" of rain.

NEWS COVERAGE

Organizations team up to promote, focus on Santa Cruz Wharf
http://www.santacruzsentinel.com/rss/ci_24804728%3fsource=rss
Santa Cruz Sentinel
December 27, 2013

Shark Net app lets users track great whites off California
http://www.montereyherald.com/news/ci_24864840/shark-net-app-lets-users-track-great-whites?source=rss
Monterey Herald
January 7, 2014

Low tides expose bones, but don't pick them up, federal official warns
http://www.sanluisobispo.com/2014/01/08/2867538/low-tides-expose-bones-but-dont.html
The Cambrian
January 8, 2014

MBARI scientists with an unexpected free day are the first to view underwater ridge
http://www.montereycountyweekly.com/archives/2014/0116/article_ef175f16-7e39-11e3-9b15-0019bb30f31a.html
Monterey County Weekly
January 16, 2014

Whalefest Monterey Offers Fun, Education
http://www.thecalifornian.com/article/20140123/LIFESTYLE/301230009/Whalefest-Monterey-offers-fun-education?nclick_check=1
The Californian
January 22, 2014

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

Recent Updates
Monterey Bay National Marine Sanctuary is pleased to announce the release of our new website, designed with a fresh new look and easy navigation. The homepage features upcoming events & news, and quick links to get you where you want to go with one click. The new website contains the latest information about our programs as well as new content, like "Things to Do" featuring fun ways to experience your sanctuary, from tide pooling and fishing to whale watching. We hope you enjoy browsing our new site!

Follow 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

Seasons in the Sea
http://www.seasonsinthesea.com

Thank You Ocean
http://www.thankyouocean.org/

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

SIMON
http://www.sanctuarysimon.org

Oceans Live
http://oceanslive.gso.uri.edu/

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

NOAA Marine Debris
http://marinedebris.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/

UPCOMING EVENTS

Sanctuary Currents Symposium
Marine Debris: How do you pitch in?
Saturday, April 26, 2014
California State University, Monterey Bay
http://montereybay.noaa.gov/research/currsymp2014/welcome.html

15th Annual Snapshot Day
May 3rd
http://montereybay.noaa.gov/monitoringnetwork/about_us.html#snapshot

MBNMS Staff

Paul Michel – Superintendent
Dawn Hayes – Deputy Superintendent and Program Operations Coordinator

Research
Andrew DeVogelaere – Research Coordinator and SIMoN Director
Erica Burton – Research Specialist
Jennifer Brown – SIMoN Ecosystem Scientist
Steve Lonhart – SIMoN Senior Scientist
Chad King – SIMoN Data Analyst

Education
Liz Love – Acting Education Coordinator
Lisa Uttal – Interim Exploration Center Director
Carolyn Skinder – Southern Region Program Coordinator
Chelsea Prindle – Education Specialist
Sarah Stegner – Exploration Center Gift and Bookstore Manager
Brittany Cooper – Coastal Discovery Center Docent Coordinator
Brian Ahlers—Program Specialist

Resource Protection
Karen Grimmer – Resource Protection Coordinator
Scott Kathey – Regulatory/Emergency Response Coordinator
Deirdre Whalen – Government and Community Relations Coordinator/Permit Coordinator
Sophie De Beukelaer – GIS Analyst
Pamela Krone-Davis – Agriculture Water Quality Coordinator
Bridget Hoover – Water Quality Protection Program Director
Lisa Emanuelson – Citizen Watershed Monitoring Network Coordinator

Program Operations
Raymond Chisolm – Program Specialist
Sara Hutto – Advisory Council Coordinator
Andrew White – Network Manager and Webmaster

Learn More About Your Sanctuary

The Sanctuary Office Report is produced bi-monthly by Monterey Bay National Marine Sanctuary staff 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/getinvolved/welcome.html

Sign up for the MBNMS listserv to receive email notices about upcoming Sanctuary events, and public meetings of the Sanctuary Advisory Council and Working Groups:
http://montereybay.noaa.gov/intro/elists.html#educate

- Contact Information -

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