



Monterey Bay National Marine Sanctuary

Sanctuary Office Report



Volume 9, Number 3

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

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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

ONMS Partners with Native Leaders on Inaugural First Stewards Climate Symposium

From July 17-20, the First Stewards Symposium was held at the National Museum of the American Indian in Washington, DC. The goal of the gathering was to inform the nation about the impacts of climate change on coastal indigenous cultures. Nearly 400 participants, including native leaders, scientists, businesspeople and policymakers, convened to discuss what traditional ecological knowledge can reveal about past, present, and future adaptation to climate change. The Hoh, Makah, and Quileute Tribes and the Quinault Indian Nation of Washington State hosted the event. Other partners included the National Museum of the American Indian, The Nature Conservancy Northwest Indian Fisheries Commission and the Western Pacific Regional Fishery Management Council.

New Local Chapter of the National Marine Sanctuary Foundation in Hawaii

The National Marine Sanctuary Foundation (NMSF) formally established a new chapter in Hawaii. This was the culmination of more than a year of discussions between Office of National Marine Sanctuaries and NMSF leadership. A steering committee representing each of the different Hawaiian Islands had been working on a draft chapter affiliation agreement and by-laws for several months. NMSF

President Jason Patlis flew to Hawaii to spend a full day negotiating aspects of the agreements with the steering committee and the NMSF general counsel, who participated via conference call. The day-long negotiations resulted in unanimous approval of the documents and election of officers for the new chapter. This represents a new chapter in the history of the NMSF and a new direction for the Hawaiian Islands Humpback Whale National Marine Sanctuary in its effort to engage a broad set of donors and businesses to support the sanctuary.

ONMS MPA Capacity Building Program Initiates New Program in Colombia

Gabrielle Johnson and Anne Walton from the International MPA Capacity Building Program joined Nancy Daves from NOAA Fisheries in Bogota, Colombia. As part of the Eastern Tropical Pacific Seascape project, they conducted a needs assessment/ program design series of mini-workshops with 4 different target audiences: coastal and marine resource agencies, military, NGOs and funders. The recommended model that emerged from the needs assessment will initially focus on Colombia and build a replicable and adaptable model for the entire Eastern Tropical Pacific Seascape based on an integrated ocean and coastal management approach (as recommended by the Rio+20 Ocean Declaration). Colombia was chosen as the focal point for the pilot project due to the significant capacity it has already demonstrated, the strong political will expressed from the agencies that will be engaged in building the model, and the fact that Colombia is in the midst of a historic transition from singular focus on security issues to a new focus on decentralized ocean and coastal resource management framed by a triangulated set of priorities including the environment, the economy and society. The initial phase of this new program is expected to be three years in duration.

NOAA Staff Meet with Shipping Industry on Reducing Whale-Ship Collision Risk

NOAA's Office of National Marine Sanctuaries West Coast Region and NOAA's National Marine Fisheries Service Southwest Region staff met with shipping industry representatives, U.S. Coast Guard personnel, and Santa Barbara Air Pollution Control District staff May 8 at the Marine Exchange of Southern California in San Pedro, Calif., to discuss the latest science and management measures to address ship strikes to endangered whales. At the meeting, NOAA researchers presented recent whale stranding, population and behavioral data, and explored potential management and outreach actions to reduce the incidence of strikes on whales as ships approach and depart from the ports of Los Angeles and Long Beach. Notable ideas to come out of the meeting included: using the large ships transiting along the California coastline as platforms for whale sightings; expanding educational materials; training observers to report sightings; and developing an advisory group composed of scientists, shipping representatives and NOAA staff to further develop policy and management actions.

National Marine Sanctuary News

Channel Islands NMS

On July 6, 2012 at a meeting in London, the International Maritime Organization's (IMO) Safety of Navigation Sub-Committee approved proposals by the United States requesting adjustments to vessel traffic separation schemes (TSSs) in the Santa Barbara Channel, near the port of Los Angeles-Long Beach, and at the entry to San Francisco Bay. The proposed changes for the Santa Barbara Channel call for a narrowing of the overall width of the existing TSS to help reduce the likelihood of blue whale ship strikes. The southbound lane would be shifted one nautical mile further away from an area within the sanctuary of known high seasonal use by feeding blue whales. Changes proposed for the approaches to San Francisco Bay are expected to have similar benefits to whales and improve maritime safety. The Safety of Navigation Sub-Committee will next recommend that the IMO's Maritime Safety Committee adopt the amendments when they meet at the end of November, 2012. If adopted, the changes will take effect either six months thereafter or, if requested by the United States, at a later date. The U.S. Coast Guard expects to initiate a domestic rulemaking process within the next few months. Closely assisting the Coast Guard with development of the U.S. proposal has been NOAA staff from the Office of National Marine Sanctuaries and the Protected Resources Division at NMFS' Southwest Regional Office, in coordination with NOAA IMO representatives Stephanie Altman and Trisha Bergmann, who attending the meeting in London.

Cordell Bank NMS

The second part of a three-part teacher education series focusing on climate change impacts to our ocean and estuaries, *Our Changing Ocean and Estuaries*, was hosted by Cordell Bank National Marine Sanctuary, NOAA's San Francisco Bay National Estuarine Research Reserve, Romberg Tiburon Center and Farallones Marine Sanctuary Association. The two-day workshop featured local scientists doing ocean acidification research paired with hands-on activities provided by Channel Islands National Marine Sanctuary's "Acid Ocean" website. A total of 20 teachers received information directly from researchers and had hands-on time to practice activities that focus on ocean acidification. The second day of the workshop was a field trip which allowed teachers to see a presentation on the NOAA Science on a Sphere exhibit at Point Reyes National Seashore and learn about the impact that ocean acidification is currently having on a local oyster aquaculture facility. The workshops were in part funded by the National Marine Sanctuary Foundation's Ernest F. Hollings Ocean Awareness Trust Fund Grant. One more workshop remains in the series.

Flower Gardens Bank NMS

The NOAA Flower Garden Banks National Marine Sanctuary research team and R/V *Manta* Crew, along with Bureau of Ocean Energy Management (BOEM), Texas A&M University Galveston, and Gray's Reef National Marine Sanctuary Team Ocean divers, conducted long-term monitoring at East and West Flower Garden Banks July 23-27, 2012. Between the East and West Flower Garden Bank study sites, a total of 32 random transects, 8 coral cores, 48 fish surveys, 86 repetitive photos, 76 lateral photos, 4 sea urchin and lobster surveys, 2 perimeter videos, and 6 YSI drops were completed. Maintenance was performed on 24 photo stations and invasive species, including lionfish and *Tubastrea sp.*, were removed. During the cruise, divers were visited by a large loggerhead sea turtle and manta rays.

Olympic Coast NMS

During the month of May, Olympic Coast National Marine Sanctuary initiated a revised shoreline debris monitoring program, which was planned as the foundation of a larger, coordinated monitoring effort for Washington State. The revised monitoring approach, following newly published NOAA Shoreline Survey Field Guide methods, was initiated first at sites with the strongest historical data record for shoreline debris. Sanctuary volunteers have been surveying for shoreline debris since 2001, monitoring that has established the historic record or baseline against which the influx of Japan tsunami marine debris can be evaluated. The revised monitoring program included a strengthened volunteer training process, use of NOAA's new survey methods and data categories, and addition of debris types indicative of Japan tsunami debris. In following weeks, sanctuary staff will visit field sites to identify monitoring locations and train volunteers in these new survey methods. It is anticipated that a statewide monitoring program will expand through partnerships to address a broader geographic area.

Papahānaumokuākea MNM

Papahānaumokuākea Marine National Monument technical divers Randy Kosaki, Kelly Gleason, Brian Hauk, and Jason Leonard were joined by PIR UDS Hans Van Tilburg and GRNMS Deputy Superintendent Greg McFall for NOAA's first official training in the use of closed-circuit rebreathers. This advanced technology recycles gases the divers breathe by removing carbon dioxide and actively managing oxygen levels, resulting in increased decompression efficiency while allowing more time underwater. Immediate applications include exploration of mesophotic coral ecosystems (50-150m) and documentation of maritime heritage resources at depths beyond the reach of conventional SCUBA. ONMS has led the charge to get this technology accepted and approved by the NOAA Diving Program, and will continue to develop best practices and procedures for safe use of this technology throughout all of NOAA. PMNM and HIHWNMS 11m boats *Hihimanu* and *Kohola* were used as dive support platforms.



MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



MANAGEMENT

MBNMS divers pass the OMAO Dive Unit Safety Assessment

On May 7 and 8, MBNMS divers were evaluated as part of the Dive Unit Safety Assessment (DUSA), which was overseen by Steve Urick, the NOAA Diving Safety Officer from OMAO. NMFS Unit Diving Supervisor (UDS) Tom Laidig had prepared both MBNMS and NMFS divers for the inspection, which included dive lockers, diving equipment, and a review of all administrative paperwork for nine divers in the Monterey area. Over the course of three separate drills, divers demonstrated rescue skills by surfacing an unconscious diver and towing him/her to the beach, then administering oxygen while awaiting EMS. Urick was impressed by the professionalism of the divers and found only a few items to improve. He indicated this was by far the best diving unit he has inspected to date.

RESEARCH AND MONITORING

SIMoN staff documents potential black abalone recruitment in Monterey Harbor

On April 19, Sanctuary Integrated Monitoring Network (SIMoN) staff continued to collect photo quadrat data from a series of cement pier pilings in Monterey Harbor as part of an ongoing study of the invasive bryozoan *Watersipora subtorquata*. Based on information provided by graduate students at Moss Landing Marine Laboratories, staff divers then investigated a purported sighting of black abalone, an endangered species, nearby on the floating docks. In an area covering <20 square meters, divers saw dozens of red abalone recruits and a handful of what appeared to be black abalone, including one that is over 7 cm in total length. Photos were taken and the identification is being verified.

Thesis defense by graduate student highlights fish interactions with invasive kelp

On April 13, Moss Landing Marine Laboratories graduate student Brynn Hooton defended her Master of Science thesis. Her seminar was titled "Associations between fishes and the invasive kelp *Undaria pinnatifida* in Monterey Harbor" and represented two years of field and laboratory experiments that examined how native fishes utilize the habitat provided by the invasive kelp. Key findings include a higher density of fishes associated with *Undaria* as compared to native algal species, no significant differences in fish diet between those inside vs. outside *Undaria* habitat, and a preference by fishes to shelter in the structural habitat provided by the kelp's sporophyll as opposed to the blade. Dr. Steve Lonhart served as one of Brynn's three thesis advisors and helped her develop several of the experiments.

MBNMS Research Activity Panel Meets at Monterey Institute of International Studies

On May 11th, the MBNMS Research Activity Panel (RAP) met at the Monterey Institute of International Studies (MIIS), in Monterey, CA. Agenda items included: Center for the Blue Economy's 3-5 Year Research Agenda, Sanctuary Advisory Council update, Risk Assessment for the California Current Integrated Ecosystem Assessment, sanctuary research update, Sanctuary Currents Symposium debrief, and RAP membership update.

Institute for Applied Marine Ecology collaborates with the Monterey Bay National Marine Sanctuary

The Institute for Applied Marine Ecology (IfAME) at California State University Monterey Bay recently completed their annual report. IfAME was founded in 2007 to address the significant disconnect between academic science and the needs of federal and state resource managers and policy makers. This year, MBNMS has collaborated with IfAME on deep-water characterization of the MBNMS; central California trawling impact and recovery studies; and Sanctuary Currents, the public science symposium. Sixty-one students from CSUMB have been working on Sanctuary related projects. Andrew DeVogelaere serves on the IfAME Advisory Committee and, this May, began serving as a founding Advisory Board Member for California State University Monterey Bay's Coastal and Watershed Science and Policy Program.

MBNMS staff trains GFNMS contractor as NOAA Science Diver

On June 4th, Steve Lonhart and Chad King conducted the final training session in open water with Carliane Johnson for her NOAA Science Diver certification. Johnson works for GFNMS on the White Shark Stewardship Project, but has had an interest in expanding upon her already extensive diving skills. In order to dive with other NOAA divers, the best method for Johnson was to become a NOAA Science Diver. Lonhart completed NOAA's "Train the trainer" class in 2011 and is one of about a dozen NOAA divers that can train divers to become NOAA Science Divers. Johnson completed swim tests, medical evaluations, written tests, pool sessions, and most recently the open water session. Upon receiving approval from the NOAA Dive Center in Seattle, Johnson will be a NOAA certified diver.

MBNMS staff represents West Coast region of NOS at NOAA NIS symposium

On June 5 and 6, Dr. Steve Lonhart represented the west coast region of NOS at the first NOAA Aquatic Invasive Species Symposium and Workshop held in Silver Spring, Maryland. The objective of the symposium was to provide a forum for NOAA staff and invited key

partners to receive updates regarding federal and regional programs and to share information regarding on-going invasive species activities. Presentations focused on research, prevention and control activities, as well as capacity building efforts and tools. The second day was a workshop format where NOAA staff will explore a collaborative framework to assist with sharing information, collaborating across Line Offices, and implementing strategies to respond to national and regional invasive species priorities. Attendees learned about recent progress with AIS databases, ongoing research, and strategies from among all NOAA Line Offices.

MBNMS staff meets with scientists conducting research at Davidson Seamount

On June 4th, MBNMS research staff met with Dr. Branwen Williams and Evelyn Byer (Claremont Colleges) to discuss the upcoming deep-sea coral survey at Davidson Seamount and Monterey Canyon planned for early 2013. Dr. Williams and Dr. Peter Etnoyer received a NURP grant for their proposal, "Ages, growth rates, and climate reconstructions from deep-sea Primmnoidae corals." The goals of the proposed research are to measure habitat quality for deep-sea corals in terms of abundance, biomass, and geochemistry (^{14}C , ^{13}C , and ^{15}N) of *Calyptrophora* (Family Primmnoidae) aggregations at Davidson Seamount and Monterey Canyon. MBNMS staff will provide science support and facilitate research permitting.

Invasive bryozoan experiment is underway

On June 12, SIMoN staff dove with Emily Aiken (CSU Monterey Bay), an undergraduate studying the invasive bryozoan *Watersipora subtorquata*, a species native to Asia. She is interested in describing the spatial distribution of bryoliths (detached, mobile colonies) relative to their source, which in this case is a cement wall protecting the marina. This large, flat surface is ideal substrate for the sessile bryozoan, which forms large but brittle colonies attached to the cement. Once detached from the wall, the larger pieces are called bryoliths and have the potential to disperse the invader, much like a tumbleweed. Aiken is also tagging and transplanting bryoliths, staging them in a flat area near the harbor, and tracking movement as a function of bryolith size. This type of research is novel for this species and will help us understand the modes and mechanisms contributing to the spread of this invader.



A male shrimp *Heptacarpus palpator* on the invasive bryozoan *Watersipora subtorquata*.

Photo Credit: Steve Lonhart SIMoN/NOAA

New Sanctuaries Conservation Series Report Published

The Monterey Bay National Marine Sanctuary is pleased to announce the release of a new Office of National Marine Sanctuaries (ONMS) Conservation Series Report entitled, "Examining the Conservation Level of Marine Management Areas within the Monterey Bay National Marine Sanctuary: How Protected is the Sanctuary?" This work was conducted as a collaborative class project by the ENV5 645 Advanced Marine Science and Policy class in the Coastal & Watershed Science and Policy graduate program at California State University Monterey Bay. The report is available on the ONMS web site (<http://sanctuaries.noaa.gov/science/conservation/adelaars.html>).

MBNMS staff attends ESRI's Annual International User Conference

From July 23-26, Monterey Bay National Marine Sanctuary staff attended Environmental Systems Research Institute's (ESRI) annual International User Conference, held at the San Diego Convention Center. ESRI is best known for the development of ArcGIS software, the most-used Geographic Information System (GIS) software in the world. Over 15,000 users and developers attended this year's conference, which featured hundreds of technical workshops, paper presentations, hands-on demonstrations, development stations, and exhibitor booths. MBNMS staff gained significant knowledge of ESRI's recently launched "ArcGIS Online," which has revolutionized how maps and information can be shared internally and with the public at large by leveraging ESRI's powerful map services in the cloud. These "web maps" can mash up a variety of data, including MBNMS organizational data, a variety of base maps, authoritative data from other organizations, dynamic data (e.g., weather, buoy information, etc.), and many services, including data query and geocoding (place search). With this new technology, it is possible for MBNMS staff to publish many interactive web maps quickly and easily with powerful collaboration and communication impacts.

SIMoN staff participates in subtidal surveys inside and outside of state MPAs

Between July 18 and August 10th, Sanctuary Integrated Monitoring Network (SIMoN) staff conducted science dives with researchers from the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) at the University of California at Santa Cruz (UCSC). Divers survey fishes, invertebrates and algae inside state MPAs and at adjacent sites lacking protection. Due to a lack of funding, PISCO is relying heavily on volunteers from the past to complete the research. Only 20 sites are targeted, and 8 have been completed thus far.

Ocean Acidification Monitoring Inventory in West Coast National Marine Sanctuaries

During a research coordinators meeting of west coast National Marine Sanctuaries (NMS) held June 14th in Santa Cruz, a working group was formed to build upon a Monterey Bay NMS inventory template of ocean acidification (OA) monitoring to include all west coast sanctuaries. The expanded template is currently under review by research coordinators of west coast sanctuaries, and includes information fields such as project title, description, location, objectives, parameters measured, data users, and expected products. Soon, scientists conducting OA research within west coast sanctuaries will be asked to add project information to the OA inventory. The inventory will help improve understanding of how west coast sanctuaries may best contribute to OA research and monitoring, leverage

resources, position sanctuaries as excellent places to conduct this type of work, and address the West Coast Ocean Acidification Action Plan (http://sanctuaries.noaa.gov/about/pdfs/wc_onms_plan.pdf).

Sooty Shearwaters Satellite-Tracked in West Coast Sanctuaries

A recent publication in the journal *Biological Conservation* describes Sooty Shearwater ranging patterns throughout the California Current Large Marine Ecosystem. Several regional “habitat hotspot” areas are identified, including Monterey Bay. The Sanctuary Integrated Monitoring Network (SIMoN) provided partial funding, and some of the work was completed using the Sanctuary’s R/V *Fulmar*. The research abstract is posted on the MBNMS Research Technical Reports website, where approximately 300 other technical reports either authored by Sanctuary staff or funded, fully or in part, by the MBNMS are posted (<http://montereybay.noaa.gov/research/techreports/techreps.html>).

Threats assessment completed for Davidson Seamount Management Zone

A technical report on resource management threats to Davidson Seamount was completed, "Monterey Bay National Marine Sanctuary: Davidson Seamount Management Zone Threats Assessment", and is available at: <http://montereybay.noaa.gov/research/techreports/trmbnms2012.html>. Davidson Seamount was added to the Sanctuary in 2009, and part of developing a resource protection program for the area includes completing a literature review of threats to the area. The report is 39 pages long, including a 7 page Literature Cited section, and covers threats ranging from vessel traffic to ocean acidification.

SIMoN staff invited to Japanese Tsunami Marine Debris workshop

On July 31 and August 1, Sanctuary Integrated Monitoring Network (SIMoN) staff participated in a Regional Workshop to address Biofouling on Japanese Tsunami Marine Debris in Portland, Oregon. The purpose of the workshop was to "prevent the introduction of marine invasive species from the biofouling community associated with the Japanese tsunami marine debris (JTMD) through a regional coordinated response." A regional Communication & Coordination Team discussed a framework based on existing structures and/or models that address emergency and/or large-scale multi-jurisdictional events. A Tsunami Debris/Biofouling Protocol Team developed a regional, science-based protocol based on existing protocols and/or models that will aid in reducing/eliminating the risk of invasions from the biofouling community associated with JTMD. Representatives on these teams were from Federal agencies, Tribes, States (HI, AK, OR, WA & CA), Province of British Columbia, coastal communities, NGOs, and the invasion biology research community.

RESOURCE PROTECTION

Conservationists, Growers, and Food Safety Professionals Collaborate at 5th Annual Co-Management Forum

On April 18th the MBNMS and partners of the Farm, Food Safety & Conservation Network (FFSCN) hosted the 5th Annual Food Safety and Water Quality Co-Management Forum in Watsonville, CA. 100 conservation and food safety professionals, auditors, federal and state agencies, environmental groups, researchers, and members of the agricultural industry came together for the day to collaborate on new strategies for managing both food safety and protection of natural resources. The goals for this meeting were to present the latest information on existing and pending regulations and food safety guidelines that affect co-management; present the most recent science of risk assessment in an applied, accessible context and to provide networking and problem-solving opportunities between diverse groups. Panel discussions were followed by a visit to a diverse, high-intensity organic vegetable and berry farm adjacent to the Watsonville Sloughs for a series of field stops to hear from the landowner, growers and their food safety professionals how they manage for food safety and environmental quality in a potentially challenging setting and to work through site-specific scenarios to address co-management challenges.



Participants at the 5th Annual Co-Management Forum.
Photo: Lisa Lurie, NOAA

214 Volunteers Participate in Snapshot Day

On Saturday, May 5th, 214 volunteers helped to monitor 186 sites stretching from Pacifica (near San Francisco) south to Morro Bay on the 13th annual Snapshot Day. This one-day water quality event is intended to monitor the condition of creeks and rivers that flow into the MBNMS while promoting stewardship and public awareness. Volunteers collect field measurements for pH, air and water temperature, electrical conductivity, dissolved oxygen, and transparency. Lab samples are collected for analysis of indicator bacteria (*e. coli* and total coliform) and nutrients (nitrate and orthophosphate).

CMSP Planning Meeting

MBNMS participates in coastal and marine spatial planning stakeholder engagement brainstorming session in Oakland May 14th. NOAA representatives from NMFS, Sanctuaries, Coastal Services Center, Seagrass and Coastal Conservancy participated in a discussion to generate ideas on how to improve stakeholder engagement in coastal and marine spatial planning as part of a small grants program. The ideas will result in a white paper with recommendations for future public policy processes.

Pacific Grove Installing Wetlands to Improve Water Quality

A public meeting was held on May 10th in Pacific Grove to inform residents of an opportunity to improve water quality flowing into Greenwood Park and ultimately the MBNMS, by installing vegetation treatments in the park. Because of many years of data from our volunteer programs that have shown problematic levels of indicator

bacteria, detergents and sometimes metals; the City of Pacific Grove was awarded a \$2.1M grant to extend a dry weather diversion and install a wetland treatment in Greenwood Park. MBNMS staff are on the TAC and a consulting firm has been selected to design and permit the restoration project. Ultimately, we hope that this site will reduce urban pollutants through natural filtration and will become a model for other cities achieving multiple benefits of improving aesthetics, water quality and encouraging outdoor enjoyment.

Integrated Regional Monitoring Design Presented to Central Coast Municipalities

On June 4th, MBNMS staff participated in a regional monitoring design for the Central Coast was presented to 27 representatives of city, county, and state government. The purpose of this effort is to develop a regional monitoring collaborative involving both non-point and point source dischargers to attain a better understanding of water quality conditions in the Monterey Bay region that will answer management questions and also satisfy regulatory requirements. Overall, the monitoring design was well received. The next steps are to meet with the appropriate state officials to ensure it meets regulatory compliance and to develop an organization and fee structure to implement the program.

MBNMS Hosts EPA Causal Assessment Workshop

On June 6th and 7th, staff from US EPA's Office of Research and Development, along with state and local representatives, worked through the Causal Assessment/Diagnosis Decision Information System (CADDIS) for the Salinas River. This is a web-based application that provides guidance, tools, and useful information for identifying causes of degradation of streams, rivers and other waterbody types. CADDIS provides resource managers the ability to appropriately identify the pollutant(s) causing the degradation. For this exercise, the focus was on impairment to benthic macro invertebrate communities. The Salinas River was one of three rivers chosen throughout California to test this program.

Urban Watch starts for 2012!

Urban Watch training was conducted on June 4th for 8 volunteers interested in participating in either Monterey or Pacific Grove's Urban Watch Dry Weather Monitoring Program. Volunteers learned about the program, the monitored parameters and sampling locations. For 2012, Pacific Grove volunteers will be conducting upstream watershed monitoring in addition to outfall monitoring. This will assist the City of Pacific Grove to satisfy their current NPDES permit while integrating new requirements for illicit discharge and detection.

Monterey Bay America's Great Outdoors Initiative Advances Regional Collaboration and Stewardship

In 2011, the USDA selected the Monterey Bay region as a pilot project area for the White House's America's Great Outdoors Initiative. The purpose of the MB AGO is for agencies and communities to work together to identify partnership opportunities for natural resource protection and enhancement that achieve water quality protection and publicize voluntary stewardship in the watersheds that drain to the Monterey Bay National Marine Sanctuary. In fiscal years 2011 and 2012, the USDA Natural Resources Conservation Service (NRCS) has advanced the initiative by allocating nearly \$2.8M in additional federal cost-share dollars to implement conservation practices through over 80 contracts with farmers and ranchers in the region.

A multi-stakeholder working group led by the MBNMS coordinates this AGO effort. The working group recently planned and facilitated a community working session to identify priority subwatersheds (based on resource concerns, collaborative feasibility, and potential leverage) to direct future NRCS and other agency funding in 2013. The meeting on July 16, 2012 brought together 30 local leaders representing federal resource management agencies, special districts, environmental and agricultural non-governmental organizations, agricultural industry, and research institutions. Through this working session, we identified priorities and action strategies for watershed-scale collaborative projects, which could leverage the NRCS funding to catalyze other agency and partner involvement. We discussed regional ranking criteria and methods for measuring results.

Integrated Regional Water Management Plan Available for Public Comment

For the last three years, MBNMS WQPP staff have been working with 17 other partner organizations to develop an Integrated Regional Water Management Plan (IRWMP) for Monterey County. An IRWM plan encourages local water resource managers to take a proactive, leadership role in solving water management problems on a local level through collaborative regional planning. The IRWM planning process brought together water and natural resource managers, along with other community stakeholders, to collaboratively plan for and ensure the region's continued water supply reliability, improved water quality, flood management, climate change adaptation and healthy functioning ecosystems—allowing for creative new solutions and greater efficiencies. Through the CA Dept of Water Resources, \$52M was made available through Proposition 84 to the Central Coast region to fund planning and implementation of water related projects. Of that, \$4.7M has been awarded to the Monterey County IRWM region. The full document is now available for public comment until August 18, 2012 and can be downloaded at http://ccwg.mlml.calstate.edu/sites/default/files/irwmp/documents/IRWMP_All.pdf. Public meetings were hosted on July 10th and 11th in Salinas, CA and King City, CA to present sections of the document and provide opportunity for comments.

EDUCATION AND OUTREACH PROGRAMS

Episode 4 of the "Your Sanctuary" television program

You can watch it here: http://www.youtube.com/watch?v=gq_Kuk7fAV0&feature=email
"Your Sanctuary" - The Power of Film. This episode is a jaw-dropping collection of interviews and clips from the top names in Ocean and Marine Mammal filmmaking. Greg MacGillivray, Bob Talbot, and Mark Shelley contribute their wisdom, ocean philosophy, and gorgeous video clips. Bob Talbot reveals tantalizing images from the upcoming MBNMS Exploration Center exhibit in Santa Cruz. Mark Shelley discusses his newly released "Otter 501", and renowned Ocean Champions Sylvia Earle and Greg MacGillivray discuss OneWorldOneOcean in a piece with glorious footage from beneath and above the waves.

Sanctuary Exploration Center Whale Plaza highlighted in Concrete Decor Magazine

The MBNMS Exploration Center Whale Tail Plaza artwork and building plaza is highlighted in a five page article in Concrete Decor magazine. The process of designing and constructing the plaza along with the bronze whale tail artwork were discussed in this magazine article. Please go to the following link and digitally turn to page 52. <http://www.concretedecor.net/current-e-digital-edition/>

MERITO Academy immerses 597 students in the Sanctuary

During the 2011-12 school year, the Monterey Bay National Marine Sanctuary's Multicultural Education for Resource Issues Threatening Oceans (MERITO) program immersed 597 students into the Monterey Bay National Marine Sanctuary and their local watersheds. 17 MERITO Academy classes ran at schools in Marina, Monterey, Seaside, Salinas, Pajaro, and Watsonville to deliver the bilingual marine and coastal watershed program. This year's program was funded in part by a grant from REI and it provides hands-on, inquiry based watershed and ocean science experiences for 5th to 8th grade students who are predominately English language learners. Activities included an introduction to the MBNMS and a watershed model demonstration, field trips to various locations (tidepools, sloughs, mudflats) and new this year was a restoration program provided in partnership with Elkhorn Slough NERR. The school year ended with a family day celebration at ESNERR on May 26th.

Forty-Three New MBNMS Exploration Center Volunteers Graduate!

On July 11, forty three volunteers from around Santa Cruz and Monterey Counties graduated as the inaugural docent class for the Sanctuary Exploration Center. The volunteers completed a 40-hour training course meeting twice a week for 5 weeks. Lectures covered in depth background information for each exhibit in the Center and offered talks by MBNMS staff including Steve Lonhart, Lisa Emanuelson, Chelsea Prindle, Lisa Uttal, Erica Burton and experts from MBARI, NMFS, CSUMB and the Monterey Bay Aquarium. The docents are ready and excited to staff the new facility and educate the public at the Sanctuary Exploration Center Grand Opening July 23rd, 2012.

MBNMS Hosts 3rd “Voices of the Bay Fisheries Education” Workshop

Eighteen formal and informal educators; middle and high school students, from throughout the nation (Santa Rosa CA to Los Angeles CA to Washington DC to Connecticut) were introduced to the MBNMS “Voices of the Bay Fisheries Education” curriculum on July 11th at the new Sanctuary Exploration Center in Santa Cruz. Teachers learned about California fisheries, fisheries science, social science, management and the history of fishing in Monterey Bay. Collaborations among scientists, fishermen and educators continue to be the foundation for the Voices of the Bay Fisheries Education place-based education program. Additionally, providing hands-on learning experiences with the fishing community is a cornerstone for the “Voices of the Bay Fisheries Education” program.

Monterey Bay National Marine Sanctuary Launches New Fisheries Education Website

The Voices of the Bay Fisheries Education website has been publicly launched. This new website allows educators to access the full *Voices of the Bay* fisheries education curriculum, which uses engaging, hands-on activities to provide a deeper understanding of fishing and fishing communities. The website also allows students and the public to research information on: where fish are caught, California fishery species, fishing vessel types, fishing gear, fishery science, seafood markets, fun facts and superstitions. <http://sanctuaries.noaa.gov/education/voicesofthebay/whatsnew.html>

Seasketch Demo

MBNMS staff attended the second Monterey Bay Marine GIS User Group meeting held on Thursday, July 19, 2012 at the NOAA Fisheries Lab in Santa Cruz, Ca. The Monterey Bay Marine GIS User Group supports GIS training, capacity building and increased awareness of marine spatial data sets among the broader GIS science community in Monterey Bay. Started in January 2012, the group aims to foster collaboration among academic, private, state and federal agencies and NGO's in the local marine GIS science community. A presentation of the participatory GIS tool, Seasketch has particular relevance to NMS programs. This tool allows stakeholders to express their opinions and interests in marine spatial planning in a user friendly, low-tech social networking platform.



The ROV pool where participants are able to build their own ROV is always a big hit!

7th Annual Coastal Discovery Center Ocean's Fair held

The Coastal Discovery Center in San Simeon held its 7th annual Ocean's Fair on Sat July 21st to the delight of over 700 visitors! Organized by the Monterey Bay National Marine Sanctuary in collaboration with CA State Parks, the fair celebrates partnering agencies and non-profit groups who focus on conservation and education. Nineteen exhibitors offered hands-on activities or live animal exhibits under the themes of ocean conservation, ocean exploration, water quality, wildlife conservation, land conservation, and citizen safety, and “passport books” were handed out to children to encourage visitation to each booth.

Sponsored by the San Simeon Tourism Alliance, the fair also encouraged visitors to return to the area once they discovered activity, hotel and restaurant options offered in the immediate area via “stay-vacation” opportunity drawings. National and international visitors alike were hosted by docents, local Girl Scouts and 4-H members, the CA Conservation Corps, the Cambria Community Bus and the local emergency response team!

Grand Opening Celebrations for the Monterey Bay National Marine Sanctuary (MBNMS) Exploration Center in Santa Cruz, CA

The Sanctuary Exploration Center in Santa Cruz, CA opened its doors on Monday, July 23rd after 20 months of facility and exhibit construction. Nearly 1000 visitors poured through the doors on this momentous occasion to experience interactive exhibits, a brand new Bob Talbot film featuring MBNMS, and a variety of hands-on activities. A number of NOAA and local government officials joined a gala reception the night before and then spoke at the grand opening ceremony. The local ocean community participated in the outdoor Ocean's Fair exhibits and activities as part of the 2-day event. The Exploration Center provides a jumping off point into the sanctuary for the 3 to 4 million visitors that come to the Santa Cruz Beach Boardwalk area each year. At a time when people are concerned about global climate change, the Sanctuary Exploration Center will help them see the role of the ocean in this global crisis. The Center implemented multiple strategies to achieve a GOLD rating using U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) criteria. The building itself is a model for sustainable, environmentally sensitive design, construction and operation.

New Sanctuary Exploration Center Attendance Exceeds Expectations

The Monterey Bay National Marine Sanctuary Exploration Center in Santa Cruz opened its doors on July 23 and has seen a steady level of visitation every day. In its first nine days of operation 7,356 visitors have come to experience the new interactive exhibits highlighting the MBNMS, the Sanctuary System and NOAA science. The center is open Wednesday - Sunday, 10am - 5pm.



The new Monterey Bay National Marine Sanctuary Exploration Center in Santa Cruz, CA.

Photo: Mark Stove, ExpressivePhotographics.com

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

Recent Updates

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

- Enter the Sanctuary Classic
<http://www.sanctuaryclassic.org/>
- Pilots: Know Before You Go
<http://montereybay.noaa.gov/intro/mp/flight/welcome.html>
- Free “SeaPhoto” for iPhone
<http://sanctuariesimon.org/news/index.php/2012/05/central-california-marine-life-featured-in-new-iphone-ipad-app/>

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
Andrew DeVogelaere – Research Coordinator
Erica Burton – Research Assistant
Jennifer Brown – Research Associate
Steve Lonhart – SIMoN Scientist
Chad King – SIMoN Data Analyst
Dawn Hayes – Education & Outreach Coordinator
Liz Love – Education Specialist
Lisa Uttal – Interim Exploration Center Director
Chelsea Prindle – Fisheries Education Specialist
Craig Justson – Exploration Center Operations Specialist
Jeff Rosaler – Exploration Center Education Specialist
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



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