



Monterey Bay National Marine Sanctuary

Sanctuary Office Report



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A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

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

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.

OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT First National Estuarine Research Reserve Turns 40

The South Slough Sanctuary, which was dedicated as the first unit of the National Estuarine Research Reserve System (NERRS) on June 27, 1974, celebrates its 40th birthday this year. Now known as the South Slough (pronounced "slew") National Estuarine Research Reserve, it's a 5,000-acre natural wonderland located in the Coos estuary in Oregon. The reserve operates as one of 28 NERR sites throughout the nation that provide habitat protection and are managed for the purpose of long-term research, education, and coastal stewardship. On Aug. 6, state, tribal, and local leaders gathered to paddle along the South Slough Reserve to mark the anniversary.

New Method Tests Impacts of Sea Level Rise on Coastal Systems

Simulation is an important part of a sea level rise study. A team from the National Estuarine Research Reserve's Science Collaborative in Alabama and Mississippi has figured out how to manipulate sea level rise with minimal environmental disturbance. The method uses a low-cost device placed directly in coastal wetlands to simulate a wide range of sea level rise scenarios, while still allowing for natural tidal ebb and flow. The team submitted a full description of the device and its applications for publication in the peer-reviewed journal, *Methods in Ecology and Evolution*.

MARINE PROTECTED AREA CENTER

University of Michigan Grad Students Complete Report on Community Engagement for MPA Center

A team of graduate students completed a year-long project on lessons learned about how MPAs engage with local communities, resulting in a synthesis report on the topic. The team interviewed dozens of MPA managers and community members to highlight challenges and successful examples of community engagement. Lauren Wenzel and Ellen Brody served as agency clients and mentors to the student team at the School of Natural Resources and the Environment.

OFFICE OF NATIONAL MARINE SANCTUARIES

OceansLIVE Brings Charles W. Morgan's Stellwagen Bank Sail to the Web

On July 11, 12 and 13, the restored former whaleship *Charles W. Morgan* continued its historic 38th Voyage with a visit to NOAA's Stellwagen Bank National Marine Sanctuary. All three days of the *Morgan's* journey to the sanctuary were broadcast live on www.OceansLIVE.org, connecting thousands of viewers with this powerful voyage through exclusive streaming footage and guest interviews from the deck of the ship and the OceansLIVE studio in Provincetown, Massachusetts. The 170-year-old *Morgan*, which was restored to sailing condition by Mystic Seaport in Mystic, Connecticut, is traveling around New England this summer on a mission of whale education and conservation. After visiting Stellwagen Bank, it continued on to Boston, where it docked alongside the USS *Constitution* and was highlighted at Fenway Park during a Boston Red Sox game. OceansLIVE is hosted by NOAA's Office of National Marine Sanctuaries in partnership with URI's Inner Space Center, UConn's Northeast Underwater Research, Technology & Education Center (NURTEC) and the National Marine Sanctuary Foundation. Archived shows available on www.OceansLIVE.org.

Significance: The 38th Voyage of the Charles W. Morgan is a highly visible event that connects the whaling heritage of New England with modern-day efforts to protect endangered whales. These OceansLIVE broadcasts provide a powerful tool to connect widespread audiences with this voyage, the whales, and NOAA's extensive whale research and conservation work.

NATIONAL MARINE SANCTUARY NEWS

Channel Islands NMS

Ventura County tourism panel discusses the role of the Channel Islands and sanctuary in marketing to local visitors at Sanctuary Advisory Council meeting

On July 18, 2014 the Channel Islands National Marine Sanctuary hosted a tourism panel with representatives from the Oxnard Convention & Visitors Bureau and the Ventura Visitors & Convention Bureau to discuss best practices to increase responsible tourism within the sanctuary. Susan Smith, CEO of the Oxnard Convention and Visitors Bureau, stated that tourism generated \$6.8 billion within the Central Coast region in 2012 alone, supporting 73,000 jobs. Susan suggested the sanctuary proactively increase marketing efforts to promote sustainable growth of the tourism industry at the Channel Islands. Steven Buenger, Executive Board Member and Vice Chair of the Oxnard Convention & Visitors Bureau, described how social media campaigns can lead to substantial increases in website visits. Michelle Gilmour, Visitor Services Manager for the Ventura Visitors & Convention Bureau, said now is the perfect time for the sanctuary to attend trade shows, and that it would be great to have tables at these shows that are staffed with sanctuary personnel and equipped with outreach materials to answer public questions.

Olympic Coast NMS

Olive Snail Die-Off in Olympic Coast

Olympic Coast National Marine Sanctuary (OCNMS) received a report of an unusual die-off of olive snails (*Olivella biplicata*) along beaches of Makah Bay and immediately alerted marine resource partners to be on the alert. Messages were relayed to colleagues dealing with harmful algal blooms (HABs) at National Marine Fisheries Service Marine Biotoxin Program, Olympic Region Harmful Algal Bloom, Olympic National Park and tribes in case this was related to a HAB event. Earlier in the week, OCNMS had serviced its nearshore oceanographic moorings, which included water and plankton samples and dissolved oxygen measurements, in case this also might be related to a low oxygen event. That info was forwarded to the resource agencies as well. Follow-up investigations are in progress.

West Coast National Marine Sanctuaries Host Successful “Get Into Your Sanctuary Day” On August 2

The West Coast Regional Office and the five west coast national marine sanctuaries (Olympic Coast, Cordell Bank, Gulf of the Farallones, Monterey Bay and Channel Islands) launched a “Get Into Your Sanctuary Day” event on Saturday August 2, 2014. The event was designed to promote national marine sanctuaries as iconic travel destinations by highlighting both popular and off the beaten path adventures that each national marine sanctuary on the West Coast has to offer.

During the “Get Into Your Sanctuary Day”, representatives from each West Coast national marine sanctuary partook in a day of recreation and sustainable tourism activities and shared their unique experiences and photos on their respective national marine sanctuary Facebook and Twitter accounts. Additionally, the local community, tourism vendors, and travelers contributed to the event by posting their sanctuary “connection” or experiences. Participation in the event was followed across all social media accounts through the use of #VisitSanctuaries. A final report tracking social media metrics across all participating social media accounts, as well as lessons learned and future recommendations will follow. We encourage all national marine sanctuary sites to keep the conversation of sustainable travel and recreation active through the continued use of #VisitSanctuaries. Travel and tourism is a program wide priority and highlighting our national marine sanctuaries as travel and tourism destinations through social media is one way to quickly and easily reach out to a number of constituents who may otherwise not realize the connection healthy oceans have on our economy.

Gulf of the Farallones and Cordell Bank NMSs

Staff Complete Response to Boundary Expansion Comments

Staff from CBNMS and GFNMS completed responses to over 1000 comments that came in during the public comment period for the proposed boundary expansion of the two sites. The team worked diligently to complete the responses in a timely manner to keep the expansion process on track.



MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



MANAGEMENT

Monterey Bay Sanctuary Advisory Council meets in Santa Cruz to discuss introduced species, anthropogenic sound, sea star wasting syndrome

The Monterey Bay NMS Advisory Council met on Friday, April 25, in Santa Cruz. The council welcomed four new members and elected new executive committee officers. Members received presentations on the revised introduced species rule from Karen Grimmer, MBNMS Resource Protection, the impact of anthropogenic sound on marine mammals from Karin Forney, Southwest Fisheries Science Center, and an update on the sea star wasting syndrome from Laura Anderson, University of California, Santa Cruz. The council took several actions at Friday's meeting, including a motion to commend the Sanctuary for its work on Leatherback Sea Turtle education and outreach, and a motion to reaffirm the council's 2013 resolution on the introduced species rule.

MBNMS Advisory Council Charter Revision Underway

Monterey Bay National Marine Sanctuary's Advisory Council subcommittee met 5/9 to begin the editorial process on the current Council Charter and Protocols. Revisions proposed include: Protocols for motions, Member training and accountability, Member selection, term limits (per HQ), Alternative meetings, a youth seat and role clarification. Monthly meetings will occur through July, in consultation with Rebecca Holyoke, leading to a presentation of a draft MBNMS Charter and Protocols document at the August advisory meeting. Advisory Council Charters are revised every five years. While there is no requirement to involve advisory council members in this process, MBNMS prefers to have an open and engaged discussion.

Collaboration with Salinas Tourism Efforts: Development of Stories for Media

Recently, MBNMS staff meet with the organization known as Salinas 411. Their primary goal is to promote the Salinas area as a travel & tourism destination. In a few months, they will be hosting an impressive list of journalists from 27 well-known media organizations. Our conversation revolved around ideas to incorporate the proximity of MBNMS to the Salinas area, and to broaden the marketing appeal to include the sanctuary. Staff have sent a list of potential ideas for storylines onward and have offered to be available to accommodate special ocean experiences.

Jeopardy! - The category is . . . "National Marine Sanctuaries"

On July 9, production staff for the Jeopardy! television quiz show informed MBNMS staff that they plan to use an MBNMS video clip of elephant seals to supplement a future quiz question about the sanctuary. The producers are developing a category about national marine sanctuaries for use on the program. This episode will air September 22nd.

Superintendent Statement Issued to Address Humpback Whale Encroachment

On July 31, MBNMS issued a superintendent statement to the media regarding spectator encroachment on nearshore humpback whale feeding activity. During the previous week, sanctuary staff had received multiple reports of vessels (including paddle boards and kayaks) encroaching on humpback whales and wildlife within Monterey Bay. Whale activity has spiked due to an influx of large anchovy schools running inshore within the bay. MBNMS is using interpretive outreach and stepped up USCG/OLE enforcement patrols to address whale/human interaction issues.

Recreation & Tourism Campaign - Get Into Your Sanctuary

MBNMS staff lent full support to the WCR-inspired 'Get Into Your Sanctuary' campaign via social media. Staff posted approximately 3 Facebook posts / week /for a month, aimed at inspiring community members and businesses to take full advantage of the gorgeous wildlife & recreation opportunities available in MBNMS. The effort exceeded expectations and resulted in additional positive outreach about MBNMS. Final metrics are currently being tallied & will be reported on shortly.

RESEARCH AND MONITORING

Meeting to discuss central California science diver training

On April 23 Sanctuary Integrated Monitoring Network (SIMoN) staff attended an information exchange meeting at Moss Landing Marine Labs. Four Dive Safety Officers from local academic institutions and dive supervisors from NOAA and the CA Department of Fish and Wildlife met to discuss science diver training to meet standards set by the American Academy of Underwater Sciences, and to better ensure steady enrollment in all Monterey Bay area science diving classes. Currently enrollment spikes and dips among local academic dive programs, and an effort is underway to share resources and classes among institutions to better meet the needs of all involved. There was also a brief discussion of ensuring that divers were receiving training suitable for underwater research in Monterey Bay, as well as diving with NOAA divers.

California Citizen Science Initiative (CCSI) Workshop a success

On April 23 and 24, 2014 MBNMS staff attended a 2-day workshop hosted by the California Ocean Science Trust (CalOST) on the California Citizen Science Initiative, which is an effort to better understand both the challenge and opportunity of involving citizen science programs in marine protected area (MPA) monitoring. CalOST staff consulted academic literature and engaged extensively with citizen science groups in the central coast of California, where MPA monitoring is entering its next phase and there is an opportunity to expand and strengthen partnerships. Questions addressed included: What do CalOST and state partners need to know when partnering with citizen science groups? What do citizen science groups need to know when getting involved in MPA Monitoring? What kinds of support can foster strong relationships with citizen science groups as part of a larger MPA monitoring community? What are the next steps from this workshop? What do we need to keep the momentum going? CalOST is writing a guidance document that will help both CCSI participants and resource agency managers.

SIMoN staff attends second MPA Collaborative meeting

On April 22, 2014 Sanctuary Integrated Monitoring Network (SIMoN) staff attended the second Santa Cruz County MPA Collaborative meeting at Seacliff State Beach Visitor Center. Participants came prepared with their organization's list of MPA resources and a "wish list" of potential implementation projects. Calla Allison, Director of Community Partnerships for the MPA Collaborative Implementation Project, facilitated the meeting and gathered information on how to better inform the public about the locations and rules associated with the state's MPAs in central California. The MBNMS Sanctuary Exploration Center and Coastal Discovery Center both figure to play prominent roles in educating the public about MPAs.

Dr. Nancy Foster Scholar arrives at MBNMS

April 21, 2014 was the first day of Nyssa Silbiger's 6-wk stay at MBNMS as our visiting Dr. Nancy Foster Scholar. Nyssa is a Ph.D. student at the University of Hawai'i and her dissertation is focused on three questions relating to the impacts of environmental variability on the accretion-erosion balance on Hawaiian coral reefs: 1) What are the baseline net erosion rates across the Hawaiian Archipelago and how do these rates change across different spatial scales, 2) what are the main environmental drivers of the accretion-erosion balance on coral reefs, and 3) how will the accretion-erosion balance shift with the predicted rise in ocean acidity and sea surface temperatures? While visiting MBNMS Nyssa will be diving extensively in Monterey Harbor and in the kelp forest adjacent to Hopkins Marine Station collecting distribution data and both habitat- and species-specific associations for the invasive bryozoan *Watersipora subtorquata*.

High Attendance at Annual Sanctuary Currents Symposium April 26th

The annual Monterey Bay National Marine Sanctuary Currents Symposium was held on Saturday April 26, 2014 at California State University Monterey Bay. Participation was the greatest in recent years, with more than 350 people in attendance. The symposium theme was "Marine Debris: How Do You Pitch In?" Discussions centered around plenary sessions featuring internationally-recognized scientists, a research poster session, and exhibitry throughout the day. Invited speakers presented the many scales of problems and solutions, ranging from the small plastic nurdles to a state-size garbage patch, from the deep sea to the intertidal, from local policies to the international arena.

SIMoN staff kicks off lecture series at the Coastal Discovery Center in Cambria

On May 2nd SIMoN staff gave an 80 minute presentation to docents, volunteers, and concerned citizens about sea star syndrome (S3) and Kelp Watch 2014. This was the first talk of the 2014 Lecture Series hosted by Carolyn Skinder and Monterey Bay National Marine Sanctuary for the general public in Cambria. Over 25 audience members at the Rabobank conference hall listened attentively and asked insightful questions about both the mass mortality event of sea stars, and about potential radiation from Fukushima arriving to our shores in 2014.

Dr. Nancy Foster Scholar begins invasive species research

On April 30 and May 1, 2014 Nyssa Silbiger, our visiting Dr. Nancy Foster Scholar, began testing underwater methods to collect data on pilings in Monterey Harbor. As part of a project with Dr. Lisa Needles at Cal Poly SLO, Nyssa and MBNMS staff are designing sampling methods to assess percent cover of the invasive bryozoan *Watersipora subtorquata*, as well as other invasive species and natives that live on the pilings in both Morro Bay and Monterey Harbors. With the recent mass mortality event of sea stars along the eastern Pacific, Dr. Needles is leading an effort to determine how the loss of an important mesopredator from these benthic communities will alter community function and structure. Once the methods have been tested, they will be applied to multiple harbors along the California coast.

First-ever study describes deep-sea animal communities on and around a sunken shipping container

In March 2011, a research team led Monterey Bay National Marine Sanctuary and Monterey Bay Aquarium Research Institute completed an ROV survey of a lost shipping container near Monterey Bay. During this survey, they collected extensive video footage, and seafloor sediment at various distances from the container. They then compared the animals found on the container, on the nearby seafloor, and on the surrounding seafloor out to 500 meters away from the container. In early May, 2014 they published their findings in the journal *Marine Pollution Bulletin*. This collaborative research project has already helped government agencies in formulating standards for how containers are weighed, stacked, and lashed down. It has also spurred interest from both governmental agencies and the shipping industry in finding a way to track the number of containers lost at sea each year.

Sparking an Interest in Healthy Oceans at Lafayette Elementary School

On May 7th Jennifer Brown, Ecosystem Scientist for Monterey Bay National Marine Sanctuary, was a guest science teacher for 80+ kindergarten students at Lafayette Elementary School. The students 'grew' a kelp forest and learned about adaptations of kelp forest inhabitants. Students were delighted and amazed to see (using a watershed model) how activities in their town can impact water quality in the sanctuary, which is many miles away. Students were invited to participate in coastal clean-ups as a way to improve the health of their local watersheds and coastal ocean habitats.

MBNMS Research Activity Panel Meets at Monterey Institute of International Studies

On May 9th, the MBNMS Research Activity Panel (RAP) met at Monterey Institute of International Studies (MIIS) in Monterey, CA. Agenda items included: results of sand mining plant study, results of Pleasure Point surf property value study, update on collaborative marine vessels course, National Ocean Economics Program (NOEP) Report, “State of the U.S. Ocean and Coastal Economies 2014”, Marine Sanctuaries Conservation Series publication, RAP membership update, Sanctuary Advisory Council update, west coast research coordination update, and Sanctuary Currents Symposium.

REEF divers arrive for 11th year of kelp forest surveys

On the evening of May 16th, Sanctuary Integrated Monitoring Network (SIMoN) staff presented a detailed lecture on the key features identifying the invertebrates and algae surveyed by REEF (Reef Environmental Education Foundation) citizen science divers conducting kelp forest surveys in the Monterey Bay area from May 16-21st. The lecture was hosted at the main office and included all 12 REEF divers, some coming from as far away as Chicago. After 1.5 hours covering 58 invertebrates and 6 seaweeds, the participants were well prepared for their surveys.

REEF has conducted annual monitoring with the Pacific Advanced Assessment Team (AAT) at Monterey Bay NMS and Olympic Coast NMS for the past 11 years. The Advanced Assessment Team (AAT) spends 4-6 days in May conducting surveys at specific sites within MBNMS, most of which are off of a local dive charter vessel. These targeted efforts complement year-round REEF surveys that volunteers collect on their own.

The AAT has completed over 3,300 REEF surveys within MBNMS. That represents about 2,800 hours of bottom time that volunteers have spent documenting the fish and invertebrate populations of the sanctuary. 171 fish species and 57 invertebrate and algae species have been documented by REEF volunteers and it is expected the AAT will complete an additional 120 surveys this week. As with all REEF data, summary reports are freely available online through the REEF website. A summary of MBNMS data can be found at -- <http://www.reef.org/MBNMSdata> -- and REEF provides raw data to scientists and resource agencies upon request.

California Grunion reappear on Monterey beach

During the full moon on May 14th, California Grunion (*Leuresthes tenuis*) was observed on Del Monte Beach, Monterey, California. Sanctuary staff and visiting Nancy Foster Scholar surveyed the beach during the evening, high tide. The run was light; less than 50 fish, presumably “scouts”. Five Black-crowned Night-Heron were observed at the waterline hunting for the small silvery fish. California Grunion spawn on sandy beaches during spring and summer months, on the first four nights of the full and new moons (centered around high tide). They are more commonly found in southern California and northern Baja California, but occasionally are observed in Monterey and as far north as Tomales Bay. Grunion are small, slender fish with greenish backs, silver-blue stripe on sides, and silver bellies. They can reach a maximum total length of 8 inches. Sanctuary staff and local experts will continue to survey Monterey beaches during the remaining seven possible spawning events from May through August.

Applied Marine and Watershed Science Master’s Program

California State University Monterey Bay has a Master’s Program in applied marine and watershed science. The external advisory committee held their annual meeting to review the curriculum, and suggest modifications to the program. Monterey Bay National Marine Sanctuary benefits from the Program by incorporating science and resource protection needs into course curricula and by graduate students addressing research needs through their Master Theses.

Dr. Nancy Foster Scholar supports MPA research

From May 21-30, 2014 Nyssa Silbiger, our visiting Dr. Nancy Foster Scholar, assisted fellow doctoral student Olivia Rhoades (UC Davis, Bodega Marine Lab) with diving research focused on fishes inside and outside of state MPAs. Olivia is collecting data on ‘flight initiation distance’ by fishes to the approach of divers. FID is an indicator of fish behavior and has been shown to shorter inside tropical MPAs versus longer distances outside nearby MPAs, where divers take fishes using spears. The longer the distance, the more wary the fish and higher likelihood of flight, presumably as an avoidance response to a perceived predator. Nyssa and two other divers (Alexa Rosendale and Steve Lonhart) have sampled sites over the past 10 days using the UC Santa Cruz 20-ft Boston whaler *Lucy M.* Sites sampled include Stillwater Cove, Pescadero Point, Inner Pinnacles, McAbee, and Hopkins. Olivia will continue this research through September 2014.

New sea star genera and species described from Davidson Seamount

A deep-sea, sea star observed and collected at Davidson Seamount during a 2006 Monterey Bay National Marine Sanctuary (MBNMS) research expedition has been taxonomically described and assigned a new genera and species name (*Bathyporania ascendens* n. sp.) in the May publication of Zootaxa. Scientists from the Smithsonian Institution (C.L. Mah) and Louisiana State University (D.W. Foltz) assigned the genera, Bathyporania n. gen. for the deep depth at which the specimen was collected; and the species epithet ascendens refers to the in situ observation of the animal’s climb up the upper branches of a deep-sea coral. In addition, this new specimen, along with other taxa collected elsewhere, resulted in a revision of the family Poraniidae; included in the publication.

SIMoN Photo Library used to enhance intertidal visits by kids

Chelsey Marshian of Peninsula Kids (peninsulakids.com) contacted Sanctuary Integrated Monitoring Network (SIMoN) staff regarding use of images from the SIMoN Photo Library (sanctuarysimon.org/photos/index.php). Peninsula Kids is a website where you’ll find all the latest events and fun activities to do with kids in the Monterey Bay area. Chelsey asked to download images from the SIMoN Photo Library depicting sea life from our local tide pools and use the images to make a free printable scavenger hunt/checklist for kids. The link for the downloadable PDF is at <http://peninsulakids.com/tide-pool-resources-free-printable-scavenger-hunt/>.

MBNMS Scientists Re-visit a Lost Shipping Container and Sur Ridge

From June 5-9, scientists from Monterey Bay National Marine Sanctuary (MBNMS) and Monterey Bay Aquarium Research Institute (MBARI) used a remotely-operated vehicle (ROV) to revisit a lost shipping container resting on the seafloor at 1,280 meters (more than 4,200 feet deep) and further explored Sur Ridge. The scientific team executed one successful ROV dive to the container on day one of the expedition. The team visually inspected the container, which was last visited in December 2013, and collected animal samples. After discovering abundant and diverse assemblages of deep-sea corals on Sur Ridge in December 2013, the team completed four exploratory ROV dives over three days on this undersea hill that is about the size of Manhattan. Anecdotally, the diversity of bamboo corals (family Isididae), in particular, were very high. Large forests of bubblegum coral (*Paragorgia* sp) and various sponges whimsically colored the seafloor. To read the daily cruise log from the mission team, go to <http://sanctuariesimon.org/news/index.php/2014/06/sur-ridge-and-lost-shipping-container-cruise-log-june-5-9-2014/>.

SIMoN staff help assess climate change vulnerability along the north-central coast

On June 10-11, staff attended the "Vulnerability Assessment Workshop for the North-central California Coast and Ocean" in San Francisco hosted by Gulf of the Farallones National Marine Sanctuary and partners (e.g., Bay Area Ecosystems Climate Change Consortium, California Landscape Conservation Cooperative, EcoAdapt, Farallones Marine Sanctuary Association, Golden Gate National Recreation Area, National Park Service Pacific West Region, Point Blue Conservation Science, and Point Reyes National Seashore). This workshop was the second of two workshops to inform the development of vulnerability assessments for species, habitats and ecosystem services in the north central coast region as part of the Climate-Smart Adaptation Project. The study region for this workshop (Pt. Ano Nuevo to Pt. Arena) overlaps with the northern portion of MBNMS, and given the similarity of habitats, species and ecosystem services in MBNMS and the study region, much of the information gathered in this workshop will have direct relevance to MBNMS. Ultimately, products from the Climate-Smart Adaptation Project can help resource managers develop adaptive management actions to take in response to, and in preparation for, climate change impacts.

SIMoN staff provides input to CalOST on Draft MPA Monitoring Plan

On June 5th, Jennifer Brown (SIMoN - Sanctuary Integrated Monitoring Network), in collaboration with Greg Williams (CCIEA - California Current Integrated Ecosystem Assessment Science Team), submitted comments to the California Ocean Science Trust (CalOST) on the Draft Central Coast MPA Monitoring Plan. MBNMS and the CCIEA are in the process of developing portfolios of indicators of ecosystem condition and health for 8 major habitats in MBNMS. As part of this process we are evaluating the indicators being used in complementary efforts along the west coast, including the CalOST-developed MPA Monitoring Plans. The comments included a preliminary evaluation of indicator utility, relevance to Office of National Marine Sanctuary Condition Reports, and availability of regional monitoring data. A follow-up discussion with CalOST on these comments and more broadly on indicator development and assessment of the condition of resources in the central California is being schedule for late-June.

Stanford science divers conduct survey for diseased sea stars

On June 18th, Sanctuary Integrated Monitoring Network (SIMoN) staff supervised 6 volunteer divers from Stanford University. Freya Sommer, the Diving Safety Officer at Hopkins Marine Station, is training graduate and undergraduate divers in a one-week, intensive science diving methods course. She offered the services of the students, who were given a 45-min lecture the previous evening about sea star wasting disease and how to collect survey data, as well as an introduction to MBNMS and the sanctuary system. Divers surveyed over 700 square meters of habitat in a kelp forest located within Lovers Point State Marine Reserve and collected data on the size of bat stars and their health status. Until recently bat stars were not impacted by the disease, but ongoing monitoring efforts and reports from local divers indicate bat stars are now being affected by the disease.

CalOST draft survey reviewed by SIMoN staff

On June 19, Sanctuary Integrated Monitoring Network (SIMoN) staff reviewed the draft version of a web-based survey being developed by the California Ocean Science Trust (CalOST). Dr. Benet Duncan and staff at CalOST are currently wrapping up development of the Central Coast Monitoring Survey, which represents the next step in the Central Coast MPA monitoring planning process. The survey gathers information about research and monitoring projects taking place in central California that may be able to provide information on the effectiveness of MPAs established in 2007.

GFNMS intern trained to enter images into SIMoN Photo Library

On June 19, Gulf of the Farallones NMS intern Jamila Tull learned how to use the recently improved photo uploader for the Sanctuary Integrated Monitoring Network (SIMoN) Photo Library (sanctuariesimon.org/photos/index.php). With the newly developed system, batches of photos can be uploaded with common metadata, which in turn streamlines the process and reduces staff time spent entering images into the system. Jamila will be entering images from around GFNMS, highlighting the cutting-edge science and incredible diversity of life found in the sanctuary.

SIMoN staff provides diver training for Great Annual Fish Count

On the evening of June 18th, Sanctuary Integrated Monitoring Network (SIMoN) staff gave a 2 hr presentation to the Dive Club of Silicon Valley in Santa Clara. Dr. Steve Lonhart was invited to speak to club members about identifying invertebrates that are surveyed by Reef Environmental Education Foundation (REEF) citizen scientists. Club members were preparing for the July 19th Great Annual Fish Count (GAFC). The GAFC (fishcount.org) has expanded to include sampling targeted species of invertebrates and algae. These divers almost exclusively dive in the Monterey Bay National Marine Sanctuary when making local dive trips.

Research divers trained to monitor state MPAs by MBNMS staff

From June 23-27, Sanctuary Integrated Monitoring Network (SIMoN) staff trained 24 science divers to collect data inside and outside of state MPAs for the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) at the University of California at Santa Cruz (UCSC). Research divers were from UCSC, Moss Landing Marine Labs, CSU Monterey Bay, and the California Department of Fish and Wildlife. The diversity of university divers is due to a lack of funding to hire subtidal technicians to complete MPA monitoring,

and therefore there is a strong reliance on volunteer science divers from multiple institutions. As part of the training program, students learned to identify hundreds of invertebrates and algae. Divers spent an entire day in the classroom and then four days diving in the Lovers Point State Marine Reserve, with shore access from Stanford's Hopkins Marine Station. This training is part of a close and long-term collaboration between PISCO UCSC and MBNMS, and contributes significantly to continuing the longest and largest dataset on kelp forests in central California.

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MBNMS Research Activity Panel Meets at Elkhorn Slough National Estuarine Research Reserve

On July 11th, the MBNMS Research Activity Panel (RAP) met at Elkhorn Slough National Estuarine Research Reserve (ESNERR) in Watsonville, CA. Agenda items included: Estuarine Conservation Research at the Elkhorn Slough Reserve, Carmel Bay Larval Dispersal Study, RAP continuation as working group of Sanctuary Advisory Council, Sanctuary Nomination Process, and RAP Participation in CCIEA Indicator Development and Conceptual Models.

MBNMS Research Staff Completes Southern California Cruise with MBARI

Monterey Bay National Marine Sanctuary research team member Chad King was aboard Monterey Bay Aquarium Research Institute's (MBARI) research vessel, "Western Flyer" to the Santa Cruz Basin near the Channel Islands from July 7-13. The purpose of this cruise, led by Dr. Peter Brewer of MBARI, was to test the accuracy of objects detected on the seafloor by sidescan sonar installed on an autonomous underwater vehicle (AUV). The AUV was launched three times during this cruise to acquire data in addition to a previous mapping expedition to this area. Targets identified were confirmed by visiting them with the remotely-operated vehicle (ROV) "Doc Ricketts." Over 600 targets were visited during this cruise, and there were no false positives, making this method of pre-ROV reconnaissance very efficient and accurate. Most of the targets were US Navy military training debris such as rockets, chemical boosters, and training drones. Chad also assisted with identifying organisms observed during the ROV dives and entered the information into MBARI's Video Annotation Reference System (VARs).

SIMoN staff trains on innovative underwater camera system

From August 3rd to 9th, SIMoN (Sanctuary Integrated Monitoring Network) staff worked with an ONMS team in Key Largo, FL as part of a collaboration with the Catlin Seaview Survey Team, Underwater Earth (a non-profit), and Google Ocean. The ONMS team trained on two separate 3D imagery systems, and acquired imagery from multiple sites throughout the upper FKNMS. These images will support the science, education, and management programs at the FKNMS. The goal of the collaboration moving forward is to collect imagery throughout the sanctuary system, first starting with coral reef ecosystems and then branching into temperate and freshwater ecosystems. This imagery will also be compared to historical imagery (as available), and is the basis of the Global Reef Record (<http://globalreefrecord.org>).

RESOURCE PROTECTION

MBNMS hosts Fishermen Outreach meeting in Morro Bay

MBNMS staff hosted a fishermen outreach meeting in Morro Bay on April 16th at the Cables/Fisheries office. The purpose of the meeting was to present information on the MB Collaborative EFH proposal, and address any concerns from fishermen and fishery representatives on the contents of the proposal, which was submitted to PFMC in July 2013. Ten people attended, included two Monterey Bay fishermen, and the discussions focused on the process for developing the proposal, why the proposal focuses on trawl fishery regulations, what is proposed in the southern region of the sanctuary, and how the collaborative group will be working together moving forward.

MBNMS WQPP Leads Effort to Develop an Integrated Regional Monitoring Program

On Friday, April 18th, representatives from Monterey Bay area cities, counties, wastewater facilities, research organizations, state and federal government met to continue the discussion and feasibility of an integrated regional water quality monitoring program for the Monterey Bay area. Over the last several years, new monitoring requirements have been required for Areas of Special Biological Significance, CA Ocean Plan and Phase II Municipal Separate Storm Sewer Systems (MS4). We are trying to develop a program that

meets the new regulatory requirements while designing a meaningful monitoring strategy that will answer important questions related to status and trends and effectiveness of programs and management practices.

Snapshot Day 2014 Training for Monterey and Santa Cruz Counties

On Saturday April 26th and Sunday April 27th, WQPP staff conducted trainings for the upcoming fifteenth annual Snapshot Day. The Monterey area training had 66 attendees while the Santa Cruz area training had 27. This annual one day water quality monitoring event focuses on Monitoring creeks and rivers that flowing into the MBNMS. Volunteers collect field measurements for pH, air and water temperature, electrical conductivity, dissolved oxygen and transparency. Lab samples are collected for analysis of bacteria (E. coli and total coliform) and nutrients (nitrate and orthophosphate). Trainings covered Snapshot Day's history, monitored parameters, how to collect samples and conduct field measurements and sites.

WOW - Fifteenth Straight Year for a Successful Snapshot Day!

On Saturday, May 3rd, over 150 volunteers turned out to measure water quality in streams flowing to Monterey Bay National Marine Sanctuary from Pacifica to Cambria. It was a beautiful sunny day on the Central Coast and volunteers gathered at four different hubs to receive final instructions and be praised by local officials including; CA State Assemblyman Mark Stone, Mayor of Santa Cruz Lynn Robinson, Monterey County Supervisor Jane Parker, and our very own Sanctuary Superintendent Paul Michel. This event would not be possible without our partners, specifically the San Mateo County RCD, Coastal Watershed Council, and the Upper Salinas - Las Tablas Resource Conservation District.

Coast Guard Auxiliary Pilots Help Search for Entangled Whales in MBNMS

During the first week of May, two entangled whales were sighted separately within the MBNMS. Staff tracked efforts by a trained whale entanglement team (WET) to relocate and assist the whales and arranged for aerial search support by US Coast Guard Auxiliary Air (AuxAir) Squadron 11N to help survey the large search area. Though the aerial search did not detect the subject whale, it served as a successful initial effort by MBNMS to coordinate volunteer aerial assets on short notice to assist WET.

Humpback Saga from Sanctuary to Sanctuary

On April 27, a humpback whale entangled in crab pot gear was sighted by the POINT SUR CLIPPER, a whale watch boat, in Monterey Bay National Marine Sanctuary. A NOAA Whale Entanglement Team (WET) cut the 100-lb crab pot free, but lines and floats still remained. WET attached a satellite transmitter to the end of one of the remaining lines and tracked the whale for over 2 weeks, seeking an opportunity to complete the disentanglement. The line had dug several inches deep into the flesh of the peduncle near the fluke. The whale traveled over 600 miles to Channel Islands National Marine Sanctuary where WET finally completed the disentanglement on May 15.

Water Quality Collaboration Meeting

Members of the Monterey Bay National Marine Sanctuary's (MBNMS) Water Quality Protection Program team attended a meeting with collaborators, organized by The Nature Conservancy staffers, to discuss how regulatory incentives can motivate water quality improvements in regard to the Regional Water Quality Control Board's agricultural order. The meeting was attended by environmental organizations, grower support organizations, regulatory agencies and research organizations for the purpose of finding ways to incentivize water quality improvements by proposing third party collaborations growers could join to achieve regulatory compliance. Discussions with the regional board regarding the next Ag Order are scheduled to begin in September.

Hydraulic Fracturing (Fracking) Main Topic at WQPP Committee Meeting

On June 5th, staff from the CA Dept. of Conservation's Division of Oil, Gas, and Geothermal Resources, along with representatives from USEPA and CA Coastal Commission, met with the MBNMS Water Quality Protection Program Committee to inform the group on activities related to hydraulic fracturing for oil and its potential to affect water quality in watersheds draining to MBNMS. This very informative meeting included topics such as new regulations, description of fracking and well stimulation, locations of closest oil fields, and resources available for additional information.

Summer Run Training and Water Sampling

On the evening of June 5th volunteers gathered to learn more about the Monterey Bay National Marine Sanctuary (MBNMS) and the Monterey Regional Stormwater Management Program's (MRSWMP) monitoring program. Volunteers were trained to collect water samples and conduct field measurements for the upcoming Summer Run, the last of four annual sampling events funded by MRSWMP and coordinated by sanctuary staff. On Saturday June 7th, volunteers monitored 14 storm drain outfalls and collected samples and field measurements at the 4 sites that had flowing water.

Urban Watch 2014 Kicks off!

On June 4th, volunteers attended training for the Urban Watch 2014 program, funded by the City of Pacific Grove. Volunteers will meet twice per month to monitor storm drain outfalls for trash, detergents, chlorine, ammonia, and phosphate - all common urban pollutants. Volunteers are trained to use a LaMotte Storm Drain Pollution Detection Kit and other field equipment.

Agriculture Water Quality Alliance (AWQA) Partner Meeting

Monterey Bay National Marine Sanctuary's agricultural water quality coordinator facilitated an AWQA meeting to discuss the Satellite Irrigation Management Support (SIMS) resource for managing agricultural irrigation to meet crop needs. By matching water addition to evapo-transpiration occurring from the crop, the water needs of the plant can be met with reduced water in comparison with normal irrigation water application. AWQA partners discussed the incentives and benefits to farmers and to the Central California Coastal region of using SIMS and provided feedback to SIMS designers for how to make the tool more user friendly for growers.

WQPP Staff get trained in data upload procedures for statewide WQ database

On June 10th, WQPP staff organized a training that was funded by the MBSF with a grant from the Department of Water Resources Integrated Regional Water Management Program. In addition to the WQPP staff, representatives from Elkhorn Slough Foundation and the Central Coast Wetlands Group also participated in this hands on training. Moss Landing Marine Lab's Regional Data Center (MLML RDC) staff provided the training; presenting the tools and resources that are available to check and submit water quality data to the MLML RDC and the California Environmental Data Exchange Network (CEDEN).

Regional Monitoring Effort Presented at Stormwater Meeting

On June 19th, the WQPP Director gave a presentation on the conceptual regional water quality monitoring program for the Monterey Bay area to a group of stormwater practitioners from all over the Central Coast. The meeting was organized by the Central Coast Low Impact Development (LID) Initiative and the City of Salinas and highlighted Rapid Assessment Methodologies (RAMs) for stormwater best management practices.

Irrigation Management Efficiency and Water Conservation in Nurseries

On June 19th, WQPP staff assisted UC Cooperative Extension researchers at the Irrigation Management Efficiency and Conservation seminar. Traditionally nurseries have applied water to plants based on a daily watering schedule. By instead applying water based on input from soil moisture sensors, the plant receives water from micro-sprinklers when it needs water rather than based on a rote schedule. As a result the plants are healthier due to lower incidence of root disease, and about 30% less water is used.

2014 Urban Watch Season Began in Pacific Grove!

On Monday June 16th, Urban Watch teams started off their summer of monitoring, a program funded by the City of Pacific Grove. Since 1997, Urban Watch volunteers have collected data at storm drain outfalls with flowing water. Storm drains are monitored once per month, June through October, for common urban pollutants (detergents, chlorine, ammonia and phosphate) and once per month for trash by two teams of volunteers- a day time team and an evening team. Both teams started off the season by conducting water testing at the 10 sites monitored for Urban Watch. The daytime team further completed trash assessments at 5 sites in the first week as well.

Pacific Grove's new dry weather storm drain diversion pump goes online

On June 9th, the third phase of a dry weather diversion system in Pacific Grove, came online. The diversion system pumps storm drain water into the sanitary sewer during dry weather months. These storm drain flows can contain common urban pollutants such as detergents, metals, ammonia, phosphate and chlorine that would otherwise go straight into the Monterey Bay National Marine Sanctuary. The diversion system now extends from Eardley at the Monterey City boundary west just beyond Lovers Point, and includes runoff from well over half of the most populated areas in Pacific Grove. WQPP staff were contracted to conduct the water quality monitoring of the diversion sump, associated outfalls and receiving water, which was initiated on June 17th. Monitoring of the sump will be conducted twice monthly as well as samples collected at the outfall if water is flowing. Receiving water at the point of contact for any storm drain flows will be conducted once per month on the beach at Hopkins Marine Station.

MBNMS Releases Draft Environmental Assessment for Desal Slant Test Well Intake

On Friday, June 27, 2014, MBNMS Resource Protection staff, as the federal NEPA lead, released a draft Environmental Assessment for the California American Water slant test well intake project, for a 30 day public comment period <http://montereybay.noaa.gov/new/welcome.html#draftea>. The purpose of slant test well is to obtain information regarding the geologic, hydrogeologic, and water quality characteristics of the underlying aquifers. The data obtained during the 24-month testing and monitoring phase will be used to facilitate the planning and final design of a proposed subsurface slant well intake system and desalination plant to serve as the primary future water supply source of the Monterey Peninsula.

Monterey County Sustainability Working Group

On June 26th, Monterey Bay National Marine Sanctuary's agricultural water quality coordinator participated in the Monterey County Sustainability Working Group and provided leadership regarding USDA Western Sustainability Agriculture Research and Education grant funding for agricultural sustainability projects. By participating in working groups and collaborative projects, we can leverage the effectiveness of our efforts to improve the water quality of runoff from agricultural lands.

Irrigation and Nutrient Management Technical Advisory Committee Meeting

On July 9th, the Technical Advisory Committee met to provide feedback and advise on projects proposed for implementation under a Proposition 84 Grant entitled "Salinas Valley Irrigation and Nutrient Management Program." The projects proposed for reducing nitrate contamination of surface and ground waters in the lower Salinas Valley include two vegetated ditches, a wetland restoration, implementation of a woodchip bioreactor and a CIMIS station for measuring crop evapotranspiration.

Whale-Sized Event at MBNMS

During the past week, humpback whales have gathered at the head of Monterey Canyon to lunge feed on abundant sardine schools within 3 miles of shore. Warm, clear weather and calm seas have made it easier for boaters to motor and paddle out to observe the spectacle up close. MBNMS and NOAA OLE have received complaints that some observers are getting too close to the whales. MBNMS has conducted messaging through the media, and OLE has arranged joint interpretive enforcement patrols with the US Coast Guard as well as Coast Guard-only patrols to promote voluntary compliance with NOAA protocols for viewing whales. MBNMS has enlisted assistance from a US Coast Guard Air Auxiliary squadron to monitor the area from the air and report any observed encroachment activity. MBNMS staff have monitored whale watch activity and are also investigating assistance from US Coast Guard Auxiliary flotillas to message recommended safe stand-off distances to whale observers.

USS NIMITZ Anchor Drill in MBNMS

On July 24, MBNMS staff were informed that the aircraft carrier USS NIMITZ was coordinating with Monterey Harbor for use of one

of two established cruise ship anchorage sites for an anchor drill on July 25. The NIMITZ is a 101,600 ton vessel with an overall length of 1,100 feet. Its anchors weigh 30 tons each, and the weight of a single link of anchor chain is 360 pounds. Thus the weight of the anchor chain deployed in sufficient scope on the seafloor would likely exceed the weight of the anchor itself and stretch for hundreds of feet. Since this could cause significant damage to rocky reef habitat near anchorage site A, MBNMS staff requested that the NIMITZ use site B. Anchoring is not prohibited within MBNMS, but the sheer size of the NIMITZ's anchor presents unique risks to sanctuary habitats. The NIMITZ subsequently informed MBNMS staff that neither anchorage site near Monterey Harbor was suitable due to nearby shoaling, shallow water depth, and vessel traffic patterns. An alternate site (sandy bottom, 85 feet in depth) in northern Monterey Bay was selected instead. MBNMS staff provided access to web-based environmental maps that ship's staff could use to choose an anchor site outside of MPAs and sensitive rocky habitat areas.

US Air Force Notification of Missile Test within MBNMS

On July 25, MBNMS was notified by an official at Vandenberg Air Force Base that the 30th Space Wing plans to test an AIM-9X Sidewinder air-to-air missile over the Davidson Seamount Management Zone (DSMZ). The missile is expected to expend its solid rocket fuel in flight and fall into the ocean, where it will not be recovered. The 10-foot long, 5-inch diameter supersonic missile weighs 188 pounds, but the depleted missile body will weigh less, having no 21-pound warhead and an empty fuel cell. MBNMS staff has coordinated with Air Force planners to choose an impact area within the DSMZ that is as distant as possible from the seamount itself to avoid negative impacts to seamount habitat.

MBNMS Acoustic Webpage updated

Bren School Fellow, Hilary Walecka is working with the Resource Protection Coordinator on a number of RP issues as part of her 10-week long fellowship. One of her assignments has been to update the existing RP webpage on Acoustics with more current and relevant information. Hilary has completed a draft webpage, which is currently under review from the new ONMS Noise Working Group and MBNMS staff. The new page will contain background information on noise sources and impacts in the sanctuary, current NOAA/ONMS strategies and research efforts that are underway, and where the public can find publications, podcasts and websites related to underwater acoustics.

ENFORCEMENT

MBNMS Staff Receive 8-Hour HAZWOPER Recertification Training

On April 7, 2014, eight Monterey Bay National Marine Sanctuary and West Coast Region staff took the 8 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training in Monterey, California. The course focused on safety issues for a response to vessel groundings, including: oil or diesel spills, OSHA Hazwoper requirements, site characterization, site specific safety and health plans, physical and chemical hazards, hazard communication standards, and repelling shallow slopes with harnesses and ropes. The course meets basic post-emergency response requirements as well as fulfilling annual refresher training under 29 CFR 1910.120.

Sailboat Grounding at Del Monte Beach

On May 10, the 26-foot sailing vessel POCO A POCO parted its mooring near Monterey Harbor and grounded on Del Monte Beach during high winds and violent seas. NOAA Officer Bob Yerena responded immediately and was instrumental in working with the City of Monterey to have the vessel pulled shoreward before its certain destruction by ocean forces. The vessel and all associated debris were completely removed within two days due to Officer Yerena's quick response and interaction with the owner.

Panga Grounding at Pescadero Creek

On the morning of May 12, an abandoned panga was discovered near the mouth of Pescadero Creek in the northern management area of MBNMS. The San Mateo Sheriff's Office and Homeland Security Investigations (HSI) removed the vessel and collected approximately 30 bales of marijuana found in a vehicle on the beach. The vessel was removed from the beach on May 13 and all fuel aboard the vessel was contained, with no evidence of a previous spill.

MBNMS Adding Webpage About Aircraft and Unmanned Aircraft Systems (UAS)

Monterey Bay National Marine Sanctuary is developing a new page for its website to provide information to the public about NOAA regulatory restrictions on aerial operations within its boundaries. A recent surge in the use of aerial drones within the sanctuary has prompted the need by MBNMS to clarify that such aircraft are restricted within sanctuary overflight zones in the same manner as traditional aircraft. MBNMS has also proposed an added Q&A statement about UASs for the ONMS web section to address application of aircraft restrictions to aerial drones in sanctuaries.

Abandoned Super Panga Found Beached at Point Sierra Nevada

On June 26th, law enforcement officials discovered a 45-foot panga abandoned on a remote coastal beach near Point Sierra Nevada in the southern part of MBNMS. The vessel had a central integrated fuel tank with an estimated maximum capacity of 500+ gallons. Eleven portable fuel containers were found onboard with additional fuel. No fuel spill or release of debris occurred within the sanctuary, and no suspects or cargo were taken into custody. The San Luis Obispo Sheriff's Office coordinated removal of the panga within 24 hours of its discovery.

Panga Abandoned on the Shoreline in San Simeon

On July 9, a 32-foot panga was discovered abandoned on the shoreline near the mouth of San Simeon Creek. No narcotics or personnel were taken into custody at the scene. The San Luis Obispo Sheriff's Office quickly seized the boat and removed it to Morro Bay Harbor the same day. There was no reported spill, and all fuel was contained within the vessel.

F/V CRYSTAL SEA Runs Aground at Moss Landing

At 0550 hours on July 23, the 66-ft purse seine vessel CRYSTAL SEA ran aground on a sandy shoal off Moss Landing Harbor. The steel-hulled vessel had 2,000 gallons of diesel fuel in its 10,600 gallon fuel tank, but no spill or discharge of debris occurred. The vessel launched its net tender which successfully towed the boat off the sand bar within an hour of the grounding. The boat traveled to safe harbor for inspection, and the sanctuary incurred no significant damage from the incident.

Super Panga Abandoned off Santa Cruz County Shoreline

On the morning of Saturday, August 2, a 45-ft panga was discovered motoring in circles about 6nm SW of Point Ano Nuevo. No one was aboard. Six individuals were arrested and two vans containing more than 5000 lbs of marijuana were seized by law enforcement authorities later that morning at a nearby inland location. The vessel contained several 55-gallon drums and 12-gallon containers filled with gasoline. No spill was reported. The Coast Guard and Homeland Security Investigations have seized the vessel and moved it to safe harbor.

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

Santa Cruz World Surfing Reserve Summit held at the Sanctuary Exploration Center

Monterey Bay National Marine Sanctuary hosted Save The Waves in a summit to discuss the Santa Cruz World Surfing Reserve. The Santa Cruz community's most influential non-profit, business, and government leaders were convened to draft a conservation plan for the Santa Cruz World Surfing Reserve. Three key issues addressed were water, quality, marine debris, and sea-level rise/coastal erosion.

140 students from MacQuiddy Elementary visit sanctuary exploration center

In April 2014 six separate 2nd-4th grade classes visited the Sanctuary Exploration Center in Santa Cruz. While on the field trips students participated in a guided tour of the Exploration Center and a guided activity on the beach where they learned about marine invertebrates. These classes were part of the Multicultural Education for Resources Issues Threatening Oceans (MERITO) program. As part of MERITO, these classes will also learn how they can protect their watershed through presentations and additional field trips.

Sanctuary Exploration Center 2014 Docent Training Holds Graduation!

On Wednesday April 30th 22 newly trained Sanctuary Exploration Center docents graduated the 2014 docent training program. This six-week class, totaling 40 hours of instruction has focused on watersheds, MBNMS regulations, current sanctuary research, biodiversity, MPAs, fisheries, climate change, ocean observing, and seasons within the sanctuary. Additionally, they learned effective interpretation tools and techniques and practiced interpreting our exhibits to the public. These new docents will begin interpret exhibits to the public, conduct guided tours, assist in daily operations, and participate in events and programs.

Sanctuary Celebration Marks the Santa Cruz Wharf's centennial

A celebration of Monterey Bay National Marine Sanctuary kicked off a series of events this year to mark the 100-year anniversary of the Santa Cruz Wharf. Presentations by the Honorable Leon Panetta, Congressman Sam Farr, Santa Cruz Mayor Lynn Robinson, O'Neill Sea Odyssey's Dan Haifley and Superintendent Paul Michel were graced offshore by whales breaching and dolphins swimming nearby. Over 25 booths with children's activities, a sanctuary-led scavenger hunt, great music and a mural painted by Wyland took place throughout the busy day on the wharf.

MBNMS Discover Your Central Coast Lecture Series in Cambria a success!

The MBNMS Discover Your Central Coast lecture series in May was well attended by residents and members of partnering agencies and NGOs in San Luis Obispo County. This year's speakers focused on newsworthy events and research on threatened and endangered species from Big Sur to Cambria. Topics included; the seastar wasting disease; the effects of domoic acid poisoning on leatherback sea turtles; the status and monitoring of California Condors; and the impact of white shark attacks on the southern sea otter population.

Coastal Discovery Center partners with Cambria Education Foundation

Monterey Bay National Marine Sanctuary's Coastal Discovery Center was invited to play a significant role in a Cambria Education Foundation fundraiser, Wednesday night attracting over 300 residents. An evening barbeque was paired with interactive educational activities at Santa Lucia Middle School such as plankton lab, marine mammals of the Central Coast, a SCUBA diving demo, responsible fishing practices in marine protected areas, fish printing and the creation of a 10 by 4 ft mural of the ocean depicting endangered species and ocean pledges by the students.

2nd Annual Beneath the Waves Film Festival @ Sanctuary Exploration Center

Over 35 short films were shown throughout the day at the Sanctuary Exploration Center with keynote speaker presentations for 3 sessions. Live music, hula dancers and "The Singing Scientist" provided entertainment while exhibitors from different private and public organizations shared their ocean stories with the public. Visitors to the Beneath the Waves Film festival had a chance to have a live conversation with underwater habitat Aquarius scientists and Fabien Cousteau during their Mission-31 off the Florida Keys.

MBNMS Multicultural Education for Resource Issues Threatening Oceans (MERITO) Academy Program wraps up 2014 school year with over 500 students

From October 2013 through May 2014, 24 elementary and middle school classes participated in the MERITO Academy Program, including 526 students, 73 adults and 14 teachers. During fall, the teachers provided the bilingual pre-survey to all students prior to a

MERITO Watershed Orientation, which was conducted with all classes. Classes were able to use the MERITO Academy Activity Guide to learn and reinforce concepts during class time. In spring, the teachers scheduled 24 field trips to a variety of Sanctuary locations, such as Pt. Pinos tidepools, Elkhorn Slough mudflats, Slough supported hikes/plankton labs, the Aquarium, and other wildlife area excursions. New this year, we piloted 14 of the 24 school class programs at the Sanctuary Exploration Center, where students rotated through a variety of indoor exhibits experiences and then visited the Santa Cruz beach to conduct hands-on outdoor activities. The students enjoyed the new Exploration Center programs, and teachers were happy to have a new field trip offering. Finally, at the end of the year, classes wrapped up with a post survey and thank you notes, and then teachers were eligible to receive a \$600 stipend/per class to help cover bus transportation and school activity supplies. This was the 11th year for the MERITO Academy, and turned out to be a very good one with overall appreciation to Brian Ahler, the MERITO Coordinator and a special thank you to Chelsea Prindle, Education Specialist for supporting the new Exploration Center programs.

MBNMS Hosts National Association of Black SCUBA Divers Youth Education Summit

From June 22 to June 28, twenty-five youth (ages 13-17) attended a week-long education summit focused on the Monterey Bay National Marine Sanctuary and marine conservation issues.

The National Association of Black SCUBA divers youth education summit exposes young SCUBA divers to the diverse ecosystems and relevant science of one sanctuary each year. The students traveled from across the country for a hands-on introduction to the marine sanctuary that included research diving, snorkeling, science cruise, ocean kayaking, and a visit to the Sanctuary Exploration Center, among many other activities.

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MBNMS volunteers visit the Olympic Coast National Marine Sanctuary

Eight volunteers from the Monterey Bay National Marine Sanctuary (MBNMS) were hosted by the Olympic Coast National Marine Sanctuary (OCNMS) as part of a National Marine Sanctuary docent exchange program from July 13-19th. The week-long experience of OCNMS and the Olympic Peninsula included several field experiences including; tidepooling on the outer coast and Strait of Juan de Fuca; a guided hike to the Elwha River dam site to learn about dam removal and restoration efforts; a visit to OCNMS partner, Feiro Marine Life Center; a visit to Makah and Quileute Coastal Tribe educational sites, and a trip through Sanctuary waters on the RV *Tatoosh*. In addition, volunteers from MBNMS assisted at their host's visitor center, helped out at the at the 20th anniversary celebration of OCNMS and met to exchange ideas on volunteer programs. OCNMS volunteers plan to partake in an exchange to MBNMS in the winter of 2015.

Public library reaches out to MBNMS

Monterey Bay National Marine Sanctuary's Coastal Discovery Center staff joined forces with Save the Whales' Tom Kieckhefer at the Paso Robles Library this week to teach over 100 children about the marine mammals of the Central Coast. Topics included marine mammal identification, adaptations, communication, underwater noise pollution and solutions to trash and noise pollution. One of the program highlights was dressing up a participant as a grey whale, complete with baleen!

MBNMS Helps California State Parks celebrate 150th anniversary

MBNMS teamed up with California State Parks to celebrate their 150th anniversary at an exhibit at Paso Robles Mid State Fair. The exhibit included a scaled down model of San Simeon Cove, which focused on proper wildlife viewing etiquette and fishing regulations on the pier. Children eagerly participated in a fishing game to learn how to identify species and measure their fish to determine its legal size. An estimated 20,000 people passed by the exhibit at the Mid-State Fair between July 14th through July 27th.

MBNMS holds a meeting to discuss Plankton Monitoring and Education

Monterey Bay National Marine Sanctuary and the University of California - Santa Cruz, O'Neill Sea Odyssey, Elkhorn Slough Estuarine Research Reserve, the Exploratorium and CeNCOOS came together in a meeting to discuss plankton collection and monitoring in the sanctuary. The goal of this meeting was to discuss what and where plankton was being collected, the stories behind these organisms, what scientific questions were being asked and what kind of plankton data could potentially be collected by citizens. Effort was also put into identifying the nexus between the science, education and policy so in the future when plankton is collected and viewed at the Sanctuary Exploration Center, it can be useful as a long term data set for both policy and research.

NEWS COVERAGE

Surfing Reserve Sees First Summit

http://www.santacruzsentinel.com/news/ci_25639891/surfing-reserve-sees-first-summit

Santa Cruz Sentinel
April 25, 2014

State chips in on pollution solution at Santa Cruz's Cowell Beach

http://www.montereyherald.com/breakingnews/ci_25639909/state-chips-pollution-solution-at-santa-cruzs-cowell

Monterey Herald
April 25, 2014

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

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.seasonsintthesea.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 Ocean Explorer

<http://oceanexplorer.noaa.gov/>

Encyclopedia of the Sanctuaries

<http://www.ocean.com/Library/Encyclopedia/>

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/>

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Vacant – Advisory Council Coordinator
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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>

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