



Monterey Bay National Marine Sanctuary

Sanctuary Office Report

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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, 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

Warming ocean waters in Pacific Ocean turn coral gardens into a graveyard

New findings show that approximately 95 percent of the coral colonies at Jarvis Island in the Pacific Remote Islands Marine National Monument have died following a massive coral bleaching event. Intense El Niño causes waters to become extremely warm, resulting in coral bleaching. A survey conducted by scientists from NOAA's Pacific Islands Fisheries Science Center and partners shows that coral colonies that looked healthy and vibrant a year ago are now dead and dying, due to long periods of being bathed in warmer than normal waters. Scientists found a bit of good news—they sighted for the first time ever a colony of coral species (*Acropora retusa*) at Jarvis Island that is listed as threatened under the Endangered Species Act. Also, a few of the more resilient corals also survived the El Niño event. Scientists in this joint effort between NOAA Fisheries, Woods Hole Oceanographic Institution and Rutgers University are hopeful that some of the living corals will recover due to the remote location, gradually cooling waters and the biological

richness of the area. <http://www.noaa.gov/warming-ocean-waters-pacific-ocean-turn-coral-gardens-graveyard-0>

Celebrate Shark Week with NOAA Fisheries

Grab your fins, everyone. It's that time of year again: Shark Week. NOAA Fisheries is showcasing shark-tastic science, videos and myth-busting facts all week long on the web and our social media channels. Grab your fill of shark videos and learn more about how the United States is leading the way to conserve and protect these top ocean predators that are an integral part of healthy ecosystems. Be sure to also follow NOAA Fisheries on Twitter, Facebook and Instagram for great shark photos, features and more. We're using hashtags #SharkWeek and #SharkWeekNOAA.

<http://www.noaa.gov/celebrate-shark-week-noaa-fisheries>

U.S. experienced at least 8 billion-dollar disasters so far this year

We're only halfway through 2016 and the U.S. has already seen eight weather and climate-related disasters* that have each met or exceeded \$1 billion in damages. These eight disasters resulted in the loss of 30 lives, and caused at least \$13.1 billion, according to an analysis by NOAA's National Centers for Environmental Information (NCEI).

A high number of these events impacted Texas throughout the Spring - most notably - several intense hail storms overly densely populated cities and the April 17 Houston flood event. <http://www.noaa.gov/us-experienced-least-8-billion-dollar-disasters-so-far-year>

How NOAA is transforming science with unmanned systems

At first glance they might be mistaken for toys, but these remote-controlled devices aren't for play. Unmanned aircraft and watercraft are being put to work by NOAA scientists to gather astonishing new data from our wildlands and waterways.

Cost-effective and easy to deploy, these new technologically advanced tools are expanding our knowledge of the environment while minimizing the potentially harmful human footprint that we leave behind when studying remote areas and the sensitive plants and animals that live there. Here are 3 ways NOAA is using unmanned systems from sea and sky:

1) Tracking Arctic change on the high seas; 2) Checking whale health from high above; 3) Mapping marshes where humans shouldn't go. <http://www.noaa.gov/how-noaa-transforming-science-unmanned-systems>

NATIONAL MARINE SANCTUARY NEWS

FKNMS Takes Part in Developing a Plan to Address Florida Marine Debris Issues

FKNMS staff member Steve Werndli participated in the 3rd annual Florida Marine Debris Reduction Plan meeting that brought Florida's marine debris community together to continue developing a statewide plan that describes specific goals, objectives, strategies, and actions to reduce marine debris statewide. Partners from non-governmental organizations, universities, local, state, and federal agencies in Florida addressed different aspects of marine debris, reviewed the current draft of the Florida Marine Debris Reduction Plan, and added additional actions needed to be accomplished. The group prioritized strategies and defined critical next steps to implement the plan. The meeting was facilitated by staff from NOAA's Marine Debris Program and Office of Coastal Management (OCM) and the plan is being prepared by the Florida Department of Environmental Protection (DEP), Florida Coastal Management Program (FCMP) funded in part through a grant agreement from the DEP/FCMP, by a grant provided by the NOAA OCM under the Coastal Zone Management Act of 1972, as amended, NOAA Award No. NA15NOS4190096. FKNMS participation in the development of this plan directly supports the NOS priorities for place-based conservation and coastal resilience: preparedness, response, and recovery, and also promotes inter-agency coordination while assisting in development of a proactive, orderly, and effective plan to reduce the presence of and impacts caused by everyday marine debris and debris generated by severe weather event.

PMNM Describes Largest Known Sponge in the World Discovered in PMNM

On May 24, the peer-reviewed scientific journal *Marine Biodiversity* published an article describing the largest known sponge in the world, discovered during an expedition last summer to explore some of the deepest areas of PMNM aboard the NOAA ship *Okeanos Explorer*. The massive sponge was captured on high-definition video at a depth of 7,000 feet during a remotely operated vehicle dive inside PMNM. The sponge was close to 12 feet long and 7 feet wide, comparable in size to a minivan. It is the largest sponge known to date. The article, titled "The largest sponge in the world?" was authored by PMNM Research Specialist Daniel Wagner and Chris Kelley from the University of Hawai'i, and can be accessed online at <http://link.springer.com/article/10.1007/s12526-016-0508-z>. For more information, visit <http://www.noaa.gov/scientists-discover-largest-sponge-known-during-deep-sea-exploration>. PMNM using advanced technologies to make remarkable discoveries about previously unexplored deep-sea ecosystems of the Monument. Research conducted by PMNM staff reaches international audiences via publication in a prestigious peer-reviewed scientific journal.

Earth Is Blue Magazine Launched

The Headquarters Education & Outreach Division has launched the inaugural issue of *Earth Is Blue: The Magazine of the National Marine Sanctuaries*. Created in partnership with the National Marine Sanctuary Foundation, this yearly 80-page magazine uses vivid imagery and engaging articles to showcase the diversity of amazing marine life within national marine sanctuaries and marine national monuments and to tell stories about the people who depend on them. The print version of the magazine was launched at Capitol Hill Ocean Week 2016, while the online version went live on Friday, June 24th. *Earth Is Blue: The Magazine* brings the Earth Is Blue campaign to a new medium and new audiences. This magazine will enable us to emphasize the importance of marine protected areas to sanctuary visitors, Congressional staff, and Foundation donors alike. Earth Is Blue magazine on the web: <http://sanctuaries.noaa.gov/magazine/1/>

National Marine Sanctuaries and NOAA Ocean Acidification Program host *Ocean Acidification: The Latest Science and Effective Education and Communication* workshop at National Marine Educators Association meeting

On June 27th, 2016, educators from Channel Islands National Marine Sanctuary, the Office of National Marine Sanctuaries, NOAA's Ocean Acidification Program, and NOAA's Education Office hosted a half-day pre-conference workshop at the National Marine Educators Association Conference in Orlando, Florida. The workshop provided participants with an overview of the latest ocean acidification science as well as summarized results of a recently completed NOAA Ocean Acidification Education and Communication Needs Assessment. Participants learned how to develop effective messaging and where to find communication resources, multimedia tools and lesson plans. They also had the opportunity to try out some ocean acidification activities during a hands-on learning session. Additionally, Channel Islands National Marine Sanctuary and NOAA Ocean Acidification Program presented a poster infographic summarizing the results of the ocean acidification education needs assessment during the poster session at the conference.

MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

MANAGEMENT

Monterey Bay National Marine Sanctuary Holds Advisory Council Meeting

On June 17th, the MBNMS Advisory Council met and received a series of presentations and updates on the Management Plan Review timeline and implementation of Sediment Management Plans. Actions taken included: electing Council Chair, Vice Chair and Secretary. The next Advisory Council meeting will be on August 19th in Moss Landing. Sanctuary Advisory Councils are community-based advisory bodies consisting of representatives from various user groups, government agencies and the public at large. The role of the council is to provide advice to the sanctuary superintendent on the designation and/or operation of a national marine sanctuary.

MBNMS Advisory Council receives presentation on Coastal Regional Sediment Management

Coastal erosion along the Southern Monterey Bay coastline is the worst in the state of California according to US Geological Survey. Coastal Regional Sediment Management Plans are developed by scientists, agencies, local experts and community stakeholders work to find solutions to problems of erosion caused by armoring, sea level rise and climate change. MBNMS has developed two Plans in partnership with US Army Corps of Engineers for the [Southern Monterey Bay CRSM Plan](#) and the [Santa Cruz Littoral Cell CRSM Plan](#), for which the latter was completed in 2015. A number of the local cities are looking at some of the options in their Local Plan Updates, and utilizing the assessments of vulnerable coastal infrastructure and notable Beach Erosion Concern Areas (BECAs). MBNMS Resource Protection Coordinator provided an overview to the Advisory Council of the Sanctuary's work on the issue of coastal erosion beginning with the development of the 2008 Coastal Armoring action plan and ending with a 2012 report on an [Evaluation of Erosion Mitigation Alternatives](#) which laid out the economic costs and benefits of each potential solution. This presentation was designed to provide the foundational information for a future Council Workshop on exploring the options for use of dredge spoils for beach nourishment. A Coastal Regional Sediment Management Plan (CRSMP) is a consensus-driven guidance and policy document for a stretch of the California coast that seeks to present ways to: restore and maintain coastal beaches and other critical areas of sediment deficit; reduce the proliferation of protective shoreline structures; sustain recreation and tourism; enhance public safety and access; and restore coastal sandy habitats. The Sanctuary references this information when developing strategies for coastal erosion issues.

RESEARCH AND MONITORING

MBNMS Scientists Revisit Sur Ridge to Survey Deep-sea Corals

During June 1-5, scientists from Monterey Bay National Marine Sanctuary (MBNMS) and Monterey Bay Aquarium Research Institute (MBARI) revisited Sur Ridge to further characterize deep-sea corals living on the undersea geologic feature 28 miles west of Point Sur, central California. Previous visits were single day surveys made available during 2013 and 2014 MBARI missions with other objectives. Accomplishments in June included the following: 1) exploration of western slopes and two "islands" to the east of Sur Ridge; 2) transect surveys to quantify and better characterize the community; 3) coral transplant studies which may lead to methods of restoration; 4) revisiting previously marked corals for growth comparisons; 5) manipulative experiments that tested sea star feeding preferences of corals; 6) collection of five corals for age, growth, and anthropogenic nitrogen studies (U.S. Geological Survey); and 7) water collection for particulate organic carbon analysis (primary food supply for deep-sea corals). Bamboo corals were seen in most areas, and bubblegum and black corals were also seen on many dives. Seven dives totaling more than 30 hours of "bottom time" were completed using MBARI's ROV *Doc Ricketts* aboard R/V *Western Flyer*. Daily logs are available at: <http://sanctuarysimon.org/news/2016/05/mbnms-scientists-to-re-visit-sur-ridge-deep-sea-corals/>. Sur Ridge is considered a sanctuary ecologically significant area (SESA), supported by expansive fields of deep-sea corals and sponges. Research will continue to characterize the area.

On-line news story explores the utility of eDNA to assess biodiversity in Monterey Bay National Marine Sanctuary

The recent publication of a research study on the utility of environmental DNA (aka 'eDNA') to characterize the biodiversity of a kelp forest community in Monterey Bay was the inspiration for an on-line news story on June 2, 2016. The news article titled "Ocean 'dandruff' a new tool for marine biologists", was featured in the San Jose Mercury News

http://www.mercurynews.com/science/ci_29970261/ocean-dandruff-new-tool-marine-biologists and then picked up by the East Bay Times (http://www.eastbaytimes.com/breaking-news/ci_29970262/ocean-dandruff-new-tool-marine-biologists) and Honolulu Star Advertiser (<http://www.staradvertiser.com/breaking-news/ocean-dandruff-a-new-tool-for-marine-biologists/>). The reporter interviewed MBNMS research coordinator Andrew DeVogelaere on the potential for eDNA to help characterize and track biodiversity in the sanctuary. The research study, which was partially supporting by the sanctuary demonstration Marine Biodiversity Observation Network (MBON), was published in the journal Molecular Ecology and is available here <http://onlinelibrary.wiley.com/doi/10.1111/mec.13481/full> National marine sanctuaries are ideal settings to develop and evaluate a Marine Biodiversity Observation Network because they encompass a wide range of marine environments and have a high density of cutting edge research and monitoring efforts.

MBNMS Divers Support NMFS Research

MBNMS and CBNMS provided diver support to NMFS on June 22 and 23 for tests of an underwater photo/sonar observing platform that will aid studies of remote vehicle impacts on fish at depth. Divers helped install and manipulate targets and scales in a 35-foot test tank at the Monterey Bay Aquarium Research Institute for calibration tests of the camera and sonar equipment. Assistance projects such as this improve overall awareness of current advances in marine science and help staff anticipate emerging technologies and attendant issues that may impact future sanctuary management.

RESOURCE PROTECTION

Bulk Freighter Grounding Near-Miss

On Friday, May 20, the 176-meter bulk cargo vessel ULTRA LASCAR lost power around 1150 hrs (PDT) just after entering the precautionary area on final approach to San Francisco Bay from the south. The Singapore flagged vessel (36,780 DWT) was about 8 nm west of the shoreline of Daly City when it lost power and began drifting eastward at about 1.2 kts. It was carrying 3,960 barrels of fuel oil and several thousand tons of salt. The Coast Guard notified MBNMS shortly thereafter to alert both MBNMS and GFNMS of a potential for grounding. MBNMS put its damage assessment team on stand-by and alerted GFNMS and HQ of the incident. NOAA ORR developed a drift analysis for a potential oil spill at the shoreline in the event the vessel were to run aground along its drift trajectory. MBNMS alerted marine research partners that in-water instruments could potentially be impacted by the emergency and that the opportunity existed to collect or retrieve baseline data prior to any potential incident. At approximately 1345 hrs (PDT), the Coast Guard ordered the ULTRA LASCAR to drop its anchor. Fifteen minutes later, the anchor took hold and stopped the vessel's eastward drift 3 nm from shore. The first of three rescue tugs arrived from San Francisco Bay at 1510 hrs (PDT), and two hours later, towing operations began. The potential grounding and spill were averted. This incident demonstrates that the IMO Tracks within MBNMS and recently revised Traffic Separation Scheme off San Francisco are very effective in preventing groundings of large vessels that could create dire consequences for central California national marine sanctuaries. Had these vessel traffic management protocols fostered by NOAA and the Coast Guard not been in place, the ULTRA LASCAR may very well have transited much closer to shore on its approach to the Golden Gate, significantly increasing the potential for a grounding and spill due to shortened reaction time for the crew. The fact that over 3 hours passed before the first response tug could arrive at the incident location just outside San Francisco Bay highlights the absolute necessity for vessel compliance with established IMO tracks through the more remote and ecologically sensitive areas of MBNMS, where estimated tug response times are 17 to 20 hours under the best of circumstances. Finally, this incident reflected a high degree of effective cooperation and collaboration within NOAA and between NOAA and the Coast Guard that's essential for protecting marine sanctuaries.

Semi-Truck Crash Over Coastal Cliff Near Soberanes Point

At 2135 hrs (PDT) on May 19, a large semi-truck carrying 30,000 lbs of strawberries veered off Pacific Coast Highway 1 and crashed into a ravine leading to the sea within MBNMS. Three men were injured in the truck, but there were no fatalities. Fortunately, no fuel, oil, or hydraulic fluid from the truck entered MBNMS. Responding local agencies took special care to secure hazardous materials before salvaging the entire truck. No debris from the vehicle entered the sanctuary. California Highway 1 meanders along the entire coastline of MBNMS, and vehicle crashes near or into the sea occur frequently. The mere presence of MBNMS has heightened awareness among emergency responders of the importance of securing these vehicles quickly and removing environmental threats that could damage sanctuary resources. Twenty-four years of continuous sanctuary outreach and education efforts has reaped many dividends by fostering greater ocean stewardship within local adjacent communities.

MBNMS teams up with State Parks for California BioBlitz

MBNMS Resource Protection staff met at Point Pinos in Pacific Grove on June 8th to participate with California State Parks in the Snapshot Cal Coast Bioblitz, a statewide event during the week of June 4-11, 2016 hosted by Cal Academy and the MPA Collaboratives. MBNMS joined the State Parks group via the iNaturalist app at Point Lobos, and uploaded about 2 dozen photos to the same group project. Bioblitzes bring people together to document biodiversity in one place at one time, recording observations of plants and animals using smartphones or digital cameras and uploading results to the biodiversity recording and social networking platform iNaturalist (www.inaturalist.org). These events are intended to connect people of all backgrounds to the outdoors, inspire everyone to protect biodiversity, and at the same time generate crowdsourced data. Once the images are uploaded, you can select a species (your best guess), and then a scientist will validate the data in real time. For example, we photographed a nudibranch and the scientist identified the species as *Doriopsilla*. The event is a California statewide effort to document the coastal biodiversity through a series of bioblitzes up and down the California Coast, focusing on intertidal zones in marine protected areas (MPAs) and including Sanctuaries.

MBNMS launches Socioeconomic Survey to Wildlife Operators

MBNMS Resource Protection Coordinator is working with the HQ Socioeconomic team and a Hollings Scholar to conduct the first OMB approved survey to wildlife operators in the Monterey Bay region. Participation is voluntary and confidential, will ensure that the information collected is inclusive and that all wildlife viewing business are well represented in the ongoing Management Plan review process. The survey includes data on spatial use of the sanctuary, number of passengers and trips, types of wildlife viewing a business is engaged in, business revenues and expenses, and attitudes and preferences regarding the wildlife viewing industry and the sanctuary. Daniel Chapman, our Hollings Scholar from the University of Rhode Island is currently conducting approximately 50 in-person surveys with individual business owners and will begin analysis of the data in late July. Through the collection of socioeconomic data on wildlife viewing businesses, survey results will be used to support the conservation and management goals of MBNMS regarding marine wildlife, including whales, pinnipeds, sea otters and seabirds within the jurisdiction of the sanctuary.

Managing Seasonal River Flows to MBNMS

Localized erosion of the foreshore at the Carmel River mouth has threatened to reconnect the Carmel River lagoon with the sea at a time when summer sand accretion normally prevents such connection. All rivers leading into MBNMS are open to the sea only seasonally, and their natural hydrologic and ecological properties have been increasingly altered by human activities over decades. Since many of these waterways host endangered anadromous fish species, their seasonal access to the sea must be managed to optimize biological recovery. In order to prevent a premature breach of the Carmel River lagoon, the county coordinated with MBNMS, NMFS, and other agencies to construct a sand berm on June 14 between the beach face and the lagoon inlet. MBNMS monitored the activity from the air and on the ground to ensure that construction impacts remained above mean high water. River breaching and closure activities present a potpourri of socio-economic, legal, political, and environmental issues. Government agencies must work together to preserve/restore ecological services, control flooding, and protect property and recreational values within a tangle of sometimes conflicting federal, state, and local laws. Intermittent river discharges into the sanctuary by engineered means can raise unique management challenges for MBNMS.

Urban Watch Dry Weather Monitoring Program Begins in Pacific Grove

The eighteenth consecutive year of Urban Watch begins in Pacific Grove, CA this month. The Urban Watch Program is a dry season monitoring program in which sanctuary staff and citizens monitor urban runoff from 8 storm drain outfalls around the city twice per month. Urban Watch volunteers test for common urban pollutants: detergents, ammonia, phosphate, and chlorine. Trash assessments have also been included the last few years. All activities are designed to help the city meet its stormwater permit requirements. This program is another example of a long-term successful partnership between the sanctuary and City of Pacific Grove to characterize urban runoff flowing from Pacific Grove streets. Through funding provided by the City, sanctuary staff are able to educate the public about human impacts to water quality while collecting valuable, reliable water quality data to be used for management decisions by local jurisdictions.

Team OCEAN Hits the Water for 2016

Memorial Day weekend marks the start of another year on the water for Team OCEAN staff and volunteers. 2016 marks Team OCEAN's 15th year on the water utilizing volunteers to engage other kayakers and ocean users to discuss wildlife disturbances and how to avoid disturbing our most sensitive marine mammal species: harbor seals and sea otters. Team OCEAN staff and volunteers ply the waters in Elkhorn Slough and off Cannery Row in Monterey and have talked with over 87,000 people over the past 15 years. Team OCEAN utilizes the power of person to person contact to help educate kayakers and other ocean users about the issues surrounding approaching sensitive marine wildlife species. Monterey Bay National Marine Sanctuary's Team OCEAN is a unique program in Monterey Bay and is recognized in the region as one of the most useful ways to reduce marine mammal disturbance.

Water Quality Staff Completes Second Year of E9C Monitoring for Pacific Grove

On June 14, 15 and 16th MBNMS WQPP staff Lisa Emanuelson and 3 WQPP volunteers documented the location of over 41 outfalls in Pacific Grove and collected water samples at outfalls where water was flowing. This is the second year of E9c monitoring for the City of Pacific Grove and is funded through the City of Pacific Grove to satisfy NPDES permit requirements in section E9c. A total 44 outfalls were documented, water was collected at 8 sites. Water samples were analyzed for *E. coli*, enterococcus, nitrate, phosphate, ammonia, urea, total copper, total lead, total zinc, potassium, fluoride, turbidity, total suspended solids, detergents, hardness and color. Monitoring outfalls during dry weather months is critical to understanding all water quality inputs from land based sources and potential impacts to MBNMS. Water quality analytes are those also tested for during the Dry Run and First Flush programs, making all water quality results comparable across programs.

Coast Guard Aviation Support to MBNMS

On June 25, Coast Guard Air Station San Francisco resumed Living Marine Resource flights with MBNMS staff after a hiatus of several years due to funding constraints. The flight enabled staff to search for an entangled humpback whale, check state marine protected areas for poaching, inspect the outcome of a recent river mouth closure to protect ESA fish species, observe charter boat activity around whales, and collect images for a pending investigation. These flights provide enhanced surveillance of activities in the sanctuary. The presence of MBNMS staff allow for very focused attention on activities and locations of concern to MBNMS. They also provide a collateral benefit by acquainting USCG aircrews with issues of concern to NOAA so that they can recognize and report them when flying without NOAA personnel aboard.

Pajaro Compass Kickoff Meeting

The Monterey Bay National Marine Sanctuary (MBNMS) joined the Pajaro Compass initiative (<http://pajarocompass.org/>) to promote voluntary conservation in the Pajaro Valley at the kickoff meeting on 6/23/16. The Pajaro watershed encompasses 1300 square miles of land that drains into the MBNMS, carrying with it pollution from both agricultural and urban runoff. The Pajaro Compass has six conservation thrusts (water resources, biodiversity, agriculture, soil health, recreation and community) and is bringing together diverse stakeholders to collaborate on projects to bring about improvements. Many organizations work on watersheds in ways that influence water quality, resource conservation and sustainability of value adding processes. Through developing a collaborative process, these organizations can help one another conserve shared resources and can promote stewardship.

MBNMS Welcomes New Supervising Enforcement Officer (SEO) for California

On June 21 and 24, MBNMS management staff met with SEO Brian Christy, newly assigned by NOAA's Office of Law Enforcement (OLE) to manage a cadre of uniformed OLE officers to be assigned throughout coastal California over the next 12 months. MBNMS staff discussed enforcement priorities; escorted Lieutenant Christy on a vessel patrol through southern Monterey Bay; introduced him to command and enforcement personnel from Coast Guard Station Monterey; met with state Fish & Wildlife wardens aboard the patrol boat STEELHEAD; surveyed a site of daily marine mammal disturbance; and provided an orientation through Big Sur to discuss the unique enforcement challenges in that remote coastal area. The assignment of a uniformed SEO to manage more than a dozen uniformed OLE officers throughout California is a first for the state. It's part of a nationwide plan by OLE to significantly increase uniformed NOAA enforcement presence and response capability. Uniformed officers operate very differently from special agents and provide enforcement services, such as patrols, visible deterrence, and rapid response that meet typical everyday enforcement needs of marine sanctuaries. Their routine field operations, teamed with the investigative expertise of OLE special agents, will

provide a more comprehensive suite of enforcement tools in support of regulatory compliance goals of MBNMS and other marine sanctuaries in California.

Two Vessel Groundings in Big Sur

On June 27, the 49-ft sailboat VENESSA ran aground at the foot of an 800-ft coastal bluff in a remote part of Big Sur. Two days later, the motor yacht MENT-2-BE started flooding 18 nautical miles offshore over the Sur submarine canyon and was deserted adrift. MBNMS is currently coordinating with the vessel owners, Coast Guard, State Parks, California Department of Fish & Wildlife, California Fire, insurers, salvors, and others to remove these threats. Coast Guard canvassed 265 square miles of ocean in a 2-hour aerial search by a C-27 multi-engine aircraft in an attempt to locate the drifting P/C MENT-2-BE and sent a helicopter to collect aerial photos of the VENESSA wreck site that have aided response and salvage. Resource protection threats in remote and rugged reaches of the sanctuary stretch MBNMS staff resources and highlight the critical importance of our partner relationships and connections within the community. They demonstrate the advantages and synergy that can be achieved through place-based resource management due to the greater connectivity and familiarity between stakeholders at the local level.

2016 Esri International User Conference

Monterey Bay National Marine Sanctuary staff attended the 2016 Esri International User Conference in San Diego from June 27 to June 30, 2016. The conference hosts an impressive 16,000 GIS users, managers and developers and offers a wide variety of technical training and moderated sessions. Staff exchanged workarounds and applicable innovations to support MBNMS GIS projects and research, attended the NOAA Special Interest Group Meeting, which included several lightning talks from NOAA colleagues, and participated in the 1st Annual ESRI Science Symposium focused on Advancing Science through GIS in addition to attending numerous technical workshops. The annual User Conference provides the most significant opportunity for GIS staff to focus on learning how to cultivate a more efficient and effective GIS support system for ONMS.

Watsonville Wetland's Watch Summer Intern Program

The Monterey Bay National Marine Sanctuary (MBNMS) presented information on the land to sea connection to the Watsonville Wetland's Watch summer Green Career Internship program. We discussed the importance of life in MBNMS and how pollution is washed down rivers from farm fields, homes, and urban areas through ditches, storm drains and rivers. We explored different ways to prevent this pollution from entering the ocean. Students are our voices and hearts of the future; therefore, building their awareness of the importance of MBNMS as a rich ecosystem with a great diversity of life that requires our protection is critical to our future.

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

MBNMS' Discover Your Central Coast Lecture Series attracts crowds of 200

This May marked the 7th year of MBNMS' free public lecture series in Cambria. Held on Friday evenings, the series has hosted researchers from NOAA, NMS and collaborating universities and agencies conducting research in southern MBNMS. The four lectures held this year addressed: 1) research on the effects of disturbance of southern sea otters by boaters by Gena Bentall, 2) current studies on the foraging behavior of male elephant seals and foraging range comparison of elephant seals from CA and Mexico by PhD student Sarah Keinle, 3) climate change, ENSO and future weather pattern predictions by local weatherman, John Lindsey, and 4) the recent introduction of 12 juvenile California Condors to San Simeon by Joe Burnett from the Ventana Wildlife Society. The annual public lecture series held in Cambria and offered through the MBNMS office in San Simeon serve to increase awareness of MBNMS, to enhance relationships between MBNMS and partners in conservation protection and to educate the public about current local research in order to increase stewardship. Growing in popularity over the years, up to 200 attendees per lecture have traveled from towns throughout San Luis Obispo County. To view articles on elephant seal foraging on condor lectures,

see: <http://www.sanluisobispo.com/news/local/community/cambrian/cambrian-opinion/article79799412.html> and <http://www.sanluisobispo.com/news/local/community/cambrian/article79785732.html>

Sanctuary Exploration Center hosts First Friday Sustainable Seafood Event

On June 3, 2016, the MBNMS Exploration Center hosted a First Friday art and science family night centered on the importance of choosing sustainable seafood. The event, "Savvy Seafood", featured partnerships with local organizations

and individuals such as Ocean2Table, FishWise, and Santa Cruz artist, Andrew Ward. Over 300 First Friday attendees enjoyed Ocean2Table's pop-up local and sustainable seafood restaurant, themed games, informational booths, and Andrew Ward's art gallery with DIY fish printing of popular, local species. The community was able to celebrate Monterey Bay's sustainable fisheries and discovered how to make sustainable seafood choices. Community events attract and engage new visitors to the Exploration Center to come back and learn more about the Monterey Bay National Marine Sanctuary. Additionally, building partnerships with local organizations and artists are key elements of reaching a broader audience of future ocean stewards with new and creative education methods.

Sanctuary Exploration Center Celebrates World Oceans Day with Save the Whales

On June 11, 2016, the MBNMS Exploration Center celebrated World Oceans Day by bringing attention to the near extinction crisis of the Vaquita porpoise in the Sea of Cortez. A new documentary project, "Souls of the Vermillion Sea" was shown throughout the day to over 100 Center visitors. The organization, Save the Whales was also present to engage visitors of all ages with games, activities, and information to show the importance of the Vaquita, what must be done to protect the species, and why it is going extinct. World Oceans Day is an opportunity to bring awareness to important ocean issues that may differ from what is normally seen in the Monterey Bay National Marine Sanctuary. By showcasing the Vaquita porpoise and its threats, Center visitors realized the connectivity of the ocean and their role in ocean conservation and protection.

Sanctuary Exploration Center Becomes a Certified GREEN Business

The California Green Business Program certified the MBNMS Exploration Center as a "Green Business" for its commitment to lessen its environmental impact. We have voluntarily exceeded the regulatory requirements to reduce water consumption, conserve energy, minimize waste, and implemented practices to decrease pollution. Becoming recognized as a green building that highlights the health and protection of the Sanctuary is a natural component of what this facility stands for. The ability to display a green business certification demonstrates to Center visitors our commitment to environmental awareness and sustainable practices for a healthier Sanctuary. Additionally, it allows visitors to make the connection that actions and infrastructure on land have an impact to our oceans.

Sanctuary Exploration Center Holds CPR Certification for Staff and Volunteers

On June 14, 2016, three MBNMS Exploration Center staff members and nine volunteers became American Red Cross CPR and First Aid certified. These individuals also reviewed and practiced Sanctuary Exploration Center emergency procedures to prepare for the Center's busy summer season. This "above and beyond" training not only better prepared Exploration Center staff and volunteers for potential emergencies, but also provides an opportunity for teambuilding and leadership training. With visitor summer attendance rising, Center staff and volunteers are now better equipped to handle potential emergencies.

"Get Into Your Sanctuary" brings together Santa Cruz Recreational, Business, Tourism and Educational Community at the Monterey Bay National Marine Sanctuary Exploration Center (SEC)

On Saturday, June 25th, members of the public came to the Sanctuary Exploration Center to experience a variety of recreational and educational activities about how, where and when one can get into Monterey Bay National Marine Sanctuary. The day began with Superintendent Paul Michel on a Venture Quest kayak tour with Santa Cruz City Mayor Cynthia Mathews, Assemblymember Mark Stone and Wharf Project Manager Norm Daly. They were accompanied by 2 Team Ocean Kayakers who shared wildlife etiquette with the group. Throughout the day, kayak, surf, SUP and Segway businesses provided demonstrations on the Farr plaza about a variety of activities. Inside the SEC, there was live plankton viewing, listening to marine mammal sounds collected from Monterey's deep submarine canyon and a MBNMS deep sea research presentation and live feed from Ocean Exploration Trust's R/V Nautilus. The day was a bustle of activity for the public to learn about Monterey Bay National Marine Sanctuary. Events like this where sanctuary sites across the system host concurrent public events help heighten sanctuary awareness and the special nature of these places as well as engages the local communities and the public in recreational and educational activities IN our sanctuaries.

"Get Into Your Sanctuary" Day at San Simeon Cove

MBNMS' Coastal Discovery Center at San Simeon Cove shared GIYS day this weekend with over 300 visitors nationwide, offering activities for children and a kayak trip in San Simeon Bay for adults.

Family activities included viewing wildlife and freshly caught plankton from the pier, sharing special beachcomber treasures with marine biologists, learning about marine mammals that frequent the central coast, becoming an official “Litter Getter” and weaving an ocean pledge as part of special sanctuary scavenger hunt. Unique beach finds were moon snail egg cases (sand collars) and dried up tunicates called “sea porks.”

For the adults, MBNMS offered fellow partners in marine conservation an ocean kayak led by Cubby Cashen of Sea For Yourself Kayaks. Participants saw sea otters, marine birds and lush kelp forests while experiencing “gently rolling” swells. Hosted by MBNMS’ Carolyn Skinder, participants were from BLM’s Piedras Blancas Light Station, the Marine Mammal Center, San Simeon Tourism Alliance, Mental Marketing, the Marine Mammal Center, California State Parks, the Cambria School system and MBNMS Sanctuary Advisory Council. This weekend marked the second annual GIYS day, the 10th anniversary of the Coastal Discovery Center, and over 15 years of partnering with other agencies and non-profits in marine conservation and education. Get Into Your Sanctuary helped to celebrate all three events with visitors and partners.

Team OCEAN accomplishments featured on local NBC affiliate

The Team OCEAN (Ocean Conservation Education Action Network) Kayaker Outreach Program was highlighted during a KION television segment on local wildlife featuring Team OCEAN volunteers in Moss Landing. The segment covered tips for wildlife viewing including staying far enough away to not change the animal’s behavior. Education and outreach was highlighted as the best and most effective way to educate visitors to Monterey Bay. Team OCEAN volunteers collect data on the number of contacts they make, any disturbances observed, the severity of any disturbances and the number of animals involved in observed disturbances. By providing on the water at the point of disturbance interpretation, Team OCEAN serves to protect sensitive wildlife species such as sea otters and harbor seals. Team OCEAN has been on the water since 2001 and has used volunteers to help educate over 87,000 visitors. This unique program has been a model for other programs in Morro Bay and at HIHWNMS. The Team OCEAN program is an on the water outreach program assisting visitors in understanding and complying with appropriate wildlife viewing techniques and guidelines. During MBNMS’ public scoping for Management Plan Review (MPR), wildlife disturbance was identified by the public as the number one issue MBNMS should address in its Management Plan Review process.

MBNMS Exploration Center Hosts Guild of Natural Science Illustrators

On Thursday, July 7, 2016 the Monterey Bay National Marine Sanctuary Exploration Center hosted the Chalk Mural Opening Reception for the Guild of Natural Science Illustrators’ Annual Conference. Members of the Guild created multiple collaborative murals exhibiting kelp forests and California’s coastal species. Approximately 180 illustrators, visiting Santa Cruz from all over the US and Canada worked on the art pieces. The finished murals were revealed during an evening reception for over 100 Guild’s annual conference attendees and will continue to display for one month at the Center. The murals raise awareness of the rich biodiversity of the Monterey Bay National Marine Sanctuary to Exploration Center visitors. The ability to bring art and science together is an innovative education tool to promote and inspire visitors to protect and conserve the health of the Sanctuary.

NEWS COVERAGE

[Ceremonies scheduled for Monday](http://www.register-pajaronian.com/v2_news_articles.php?heading=0&page=72&story_id=21194)

http://www.register-pajaronian.com/v2_news_articles.php?heading=0&page=72&story_id=21194
Register Pajaronian-May 23, 2016

[Marine sanctuaries preserve ecosystems, bring economic benefits](http://www.sanluisobispo.com/opinion/letters-to-the-editor/article79715177.html)

<http://www.sanluisobispo.com/opinion/letters-to-the-editor/article79715177.html>
The Tribune-May 24, 2016

[Del Monte Beach floor appears red with bright red tuna crabs](http://perfsience.com/content/2144035-del-monte-beach-floor-appears-red-bright-red-tuna-crabs)

<http://perfsience.com/content/2144035-del-monte-beach-floor-appears-red-bright-red-tuna-crabs>
Perfsience-May 25, 2016

[Santa Cruz County Memorial Day visitors advised to play safely](http://www.santacruzsentinel.com/article/NE/20160527/NEWS/160529738)

<http://www.santacruzsentinel.com/article/NE/20160527/NEWS/160529738>
Santa Cruz Sentinel-May 27, 2016

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http://poststar.com/ocean-dandruff-a-new-tool-for-marine-biologists/article_f1bf05c1-35eb-5298-8e3a-3ba20b0a9d7e.html
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[Beaches recover from Memorial Day weekend](http://www.tpgonlinedaily.com/beaches-recover-memorial-day-weekend/)

<http://www.tpgonlinedaily.com/beaches-recover-memorial-day-weekend/>
Aptos Times-June 14, 2016

[González, Savage: President Obama's Yosemite visit reminds of public land opportunities](http://www.mercurynews.com/opinion/ci_30024208/gonzalez-savage-president-obamas-yosemite-visit-reminds-public)

http://www.mercurynews.com/opinion/ci_30024208/gonzalez-savage-president-obamas-yosemite-visit-reminds-public
The Mercury News-June 17, 2016

[Dan Haifley, Our Ocean Backyard: Learn how to get into your marine sanctuary](http://www.santacruzsentinel.com/article/NE/20160618/NEWS/160619731)

<http://www.santacruzsentinel.com/article/NE/20160618/NEWS/160619731>
Santa Cruz Sentinel-June 18, 2016

[Cemex Marina sand mine dispute continues](https://www.aggregateresearch.com/news/cemex-marina-sand-mine-dispute-continues/)

<https://www.aggregateresearch.com/news/cemex-marina-sand-mine-dispute-continues/>
Aggregate Research-June 24, 2016

[Kayaks, cove offer chance to 'Get Into Your Sanctuary'](http://www.sanluisobispo.com/news/local/community/cambrian/cambrian-sports/article86622827.html)

<http://www.sanluisobispo.com/news/local/community/cambrian/cambrian-sports/article86622827.html>
The Tribune-June 29, 2016

['Shark Week' caps off with Monterey Bay episode, shot by sharks and drone](http://www.santacruzsentinel.com/science/20160629/shark-week-caps-off-with-monterey-bay-episode-shot-by-sharks-and-drone)

<http://www.santacruzsentinel.com/science/20160629/shark-week-caps-off-with-monterey-bay-episode-shot-by-sharks-and-drone>
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<http://www.kionrightnow.com/news/local-news/enjoying-central-coast-marine-life-safely/40356108>
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Aptos Times-July 18, 2016

[How to steal a beach](http://www.atlasobscura.com/articles/how-to-steal-a-beach)

<http://www.atlasobscura.com/articles/how-to-steal-a-beach>
Atlas Obscura-July 18, 2016

Web Site (<http://montereybay.noaa.gov/>)

Follow MBNMS on Facebook (<https://www.facebook.com/MBNMS>) and **Twitter** (<https://twitter.com/mbnms>)

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

Caitlin Seaview Survey

<http://www.catlinseaviewsurvey.com>

SIMON

<http://www.sanctuarysimon.org>

Seasons in the Sea

<http://www.seasonsintthesea.com>

Waterlust

<http://www.waterlust.org/about/>

Thank You Ocean

<http://www.thankyouocean.org/>

NOAA Online Media Library

<http://sanctuaries.noaa.gov/photos>

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/>

Your Sanctuary TV

<http://yoursanctuarytv.org/>

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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://montereybay.noaa.gov/sac/advisory.html>

The Office of National Marine Sanctuaries

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>

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