



# Monterey Bay National Marine Sanctuary

## Sanctuary Office Report



Volume 13, Number 3

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

REPORTING PERIOD: MARCH 29, 2016 – MAY 20, 2016

### 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

#### Ocean temperatures may hold key to predicting tornado outbreaks

Today, we predict tornado outbreaks up to seven days in advance. But, new research holds the promise that sea surface temperatures thousands of miles away may help us predict tornado outbreaks as soon as one to three months ahead. "This is very exciting research because it can have a direct impact on saving people's lives and minimizing damages," said Sang-Ki Lee of NOAA's Atlantic Oceanographic and Meteorological Lab, the lead author of the new study offsite link appearing online in *Environmental Research Letters*. "Extending our severe weather outlooks beyond seven days will give communities much needed time to prepare." <http://www.noaa.gov/ocean-temperatures-may-hold-key-predicting-tornado-outbreaks>

#### Dive virtually with the Okeanos Explorer in the Marianas

Follow along with NOAA, from April 20 to July 10, 2016, as our scientists and partners conduct the Deepwater Exploration of the Marianas expedition on the NOAA Ship *Okeanos Explorer*. The deepsea

trek is being conducted to collect critical baseline information of unknown and poorly known areas in and around the Marianas Trench Marine National Monument and the Commonwealth of the Northern Mariana Islands. The live video feed is available to anyone online, giving the public with a front row seat to exploration activities and discoveries as they are made in real time. This unique expedition provides extensive opportunities for the public to connect to the mission. <http://www.noaa.gov/dive-virtually-okeanos-explorer-marianas>

#### Will droughts turn the Amazon into a giant source of carbon emissions?

As climate change increases temperatures and alters rainfall patterns across South America, scientists are concerned that the Amazon rainforest will shift from a carbon sponge to a carbon source. New research published today in the journal *Global Change Biology* highlights this disturbing question. NOAA scientist John Miller, working with an international team, investigated by analyzing air samples taken by aircraft over four sites in the Amazon Basin in 2010–2012. The study found strong evidence that the 2010 drought caused much of the Amazon to significantly reduce carbon uptake for up to two years. Roughly 10 billion metric tons of carbon are emitted each year by industrial activity, with about half taken up by the oceans and forest ecosystems like the Amazon, according to data collected by NOAA's Global Monitoring Division. What scientists don't know is how a changing climate will affect the Amazon.

<http://research.noaa.gov/News/NewsArchive/LatestNews/TabId/684/ArtMID/1768/ArticleID/11708/Will-droughts-turn-the-Amazon-into-a-giant-source-of-carbon-pollution.aspx>

#### Family members of those lost to USS Conestoga wreck write of gratitude, sadness

They were just sailors: 56 young men from all corners of the country, from all backgrounds and faiths. And when their ship, the USS *Conestoga*, sank on its way from California to Pearl Harbor in 1921, they left behind families they would never see again. Earlier this year, when NOAA and the U.S. Navy announced they had found the wreck of *Conestoga*, buried in the silt and sediment at the bottom of NOAA's Greater Farallones National Marine Sanctuary off San Francisco, news spread around the world. Since then, relatives of some of the *Conestoga*'s crew have contacted NOAA, and their letters often reveal a sense of relief at finding out what happened to their long lost relative, tears for their losses — and how those losses affected others. <http://www.noaa.gov/family-members-those-lost-uss-conestoga-wreck-write-gratitude-sadness>

## NATIONAL MARINE SANCTUARY NEWS

### **Sanctuary Research Partnership Provides a Decade of Information**

For over 10 years the Hawaiian Islands Humpback Whale National Marine Sanctuary has been working closely with the University of Hawai‘i’s Hawaii Institute of Marine Biology and University of Hawaii at Hilo to gather acoustic information on the animals and their environment. The research has provided a better understanding of humpback whale communication, ambient noise (the soundscape), and ship-strike threat. The focus of the research has been on the use of a variety of non-evasive suction-cup tags that carry hydrophone, depth, and in some cases, pitch and roll sensors. The collaboration’s 43 days of effort over 8 seasons and span of 11 years has resulted in 46 humpback whales being tagged and more than 130 hours of recordings. Early efforts focused on animals in competitive groups, while the last several years have prioritized the tagging of mothers and non-neonate calves. The advantages of this long-term collaborative research are the better understanding of how humpback whales communicate and their acoustic environment. The latter includes concerns of ambient noise (e.g. vessel traffic) and ship-strike threat (i.e. detection and response to vessels) potentially impacting the animals in the sanctuary and waters around Hawai‘i.

### **Hypoxia Monitoring Moorings Deployed at Cordell Bank**

Two moorings outfitted with oceanographic instruments are again positioned at Cordell Bank National Marine Sanctuary (CBNMS) for the third year in a row after CBNMS staff worked with Bodega Marine Lab scientists to re-deploy the moorings on April 1, 2016 for the spring upwelling through fall seasons. Cordell Marine Sanctuary Foundation again provided funding to CBNMS for the project this year and Danielle Lipski, CBNMS Research Coordinator, worked with Dr. John Largier and David Dann at Bodega Marine Lab (BML) to build and instrument the moorings. Low oxygen water naturally occurs in the deep ocean but shallow intrusions of hypoxic (meaning “low oxygen”) water has been found in more shallow waters along the US west coast in recent years. Low dissolved oxygen levels had been recorded along the north central California coast for the first time in 2013 by BML and in 2014 and 2015 CBNMS and BML worked together to place sensors at Cordell Bank to learn if low oxygen water was present at the bank. Results from 2014 did show hypoxic and near hypoxic conditions while preliminary results from 2015 showed less severe hypoxic conditions on the bank. Further analysis is underway with a summary and publication planned. The bank is inhabited by a vibrant invertebrate and rockfish community which could be vulnerable to hypoxic conditions. Hypoxic conditions have had significant impacts in other regions, particularly in Oregon. Scientists and managers need to assess the presence of hypoxic conditions in CBNMS and understand how this may impact the ecosystem.

### **NOAA Ship *Rainier* finds dramatic seascapes and methane plumes while exploring Quinault Canyon in Olympic Coast National Marine Sanctuary**

A team of experts from the College of Charleston, University of Washington, and Oregon State University contributed to the NOAA-led, multi-disciplinary survey of Quinault Canyon in Olympic Coast National Marine Sanctuary. The survey gathered data for a host of research projects and ocean management activities. The survey collected swath bathymetry, acoustic backscatter and water column data, revealing rocky outcrops along the canyon rim and a remarkable number of methane plumes throughout the water column. The Rainier survey sets the stage for future ground-truthing surveys by Remote Operation Vehicles (ROV) that will further investigate the release of methane at different depths and the presence of biogenic habitats on the previously unmapped ridges of the deep canyon. The Quinault Canyon is one of the most significant geological features of the Olympic Coast National Marine Sanctuary and Washington outer coast. NOAA Ship Rainier has provided the foundation data for further exploration of the canyon seafloor and water column. The survey brought to light unknown information about the unexplored canyon for further research and monitoring.



## MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



### MANAGEMENT

#### **Monterey Bay National Marine Sanctuary Holds Advisory Council Meeting**

On April 21st, the MBNMS Advisory Council met and received a series of presentations and updates on the CEMEX sand mine and Management Plan Review input methods. Actions taken included: approving a request letter to look into the legal and jurisdictional issues regarding the CEMEX sand mine, selecting methods for Advisory Council input on Management Plan topics. The next Advisory Council meeting will be on June 17<sup>th</sup>, 2016 in Monterey. 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.

### RESEARCH AND MONITORING

#### **Training for MPA Managers in the Philippines - Coral Reef Conservation Program (CRCP)**

MBNMS and NOAA staff led a training for marine protected area (MPA) managers in the Philippines to help them strengthen their management effectiveness. Topics included marine invertebrates and fish, habitat connections to upland watershed processes, and identifying conservation targets and threats. An additional “train the trainers” workshop assisted mentors in the role of guiding and leading when NOAA’s role concludes in 3-5 years. The training was made possible by a Memorandum of Agreement between the U.S. Agency for International Development and NOAA through CRCP and ONMS’s International Marine Protected Areas Capacity Building Team.

#### **Marine Biodiversity Observing Network (MBON) New Website Launched**

The U.S. Marine Biodiversity Observing Network (MBON) recently launched a new website <http://www.marinebon.org>. Monterey Bay National Marine Sanctuary, one of the four sanctuaries partnering with MBON, has been an integral player in early development of the network. One goal of this effort is to improve our understanding of connections between, and changes in, marine biodiversity and ecosystem health. The website explores the vision of the MBON program, the goals of the network’s three demonstration projects, and updates on specific components such as data integration, animated seascape mapping, and genomic technology development. Recently, a National Ocean Service News article highlighted the new MBON website <http://oceanservice.noaa.gov/news/apr16/mbon.html>. 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 research and monitoring efforts and nearby coastal communities that depend on the ocean for business and recreation. The new MBON website will allow scientist, resource managers, and citizens to follow the progress of this exciting new program to track and understand life in our coastal oceans.

#### **MBNMS Sanctuary Ecologically Significant Areas (SESAs) Quick Look Reports Available Online**

As part of an ecosystem based management approach, thirteen Sanctuary Ecologically Significant Areas (SESAs) have been identified within Monterey Bay National Marine Sanctuary. These special areas encompass remarkable, representative and/or sensitive marine habitats, communities and ecological processes. They will be focal areas for facilitating research to better understand natural and human-caused variation, as well as for resource protection. Available data for each SESA have been summarized into Quick Look Reports, which include site descriptions, resource management issues, living marine resources, historic and ongoing research and monitoring, science needs, maps, imagery, and selected publications. The purpose of these Quick Look Reports is to provide summary information to our potential partners and organizations, particularly in the research community, with which MBNMS can collaborate to address information needs. Quick Look Reports are now available online: <http://montereybay.noaa.gov/research/techreports/trmbnms2016.html>. The sanctuary is affected by many human activities that are actively managed by local, state, and federal agencies to reduce risks posed by pollution, resource extraction and habitat degradation. While specific agencies often concentrate on single issues or resources, protecting the ecosystem as a whole requires an integrated approach.

### **MBNMS Research Activity Panel Meets at MBARI**

On May 11th, the MBNMS Research Activity Panel (RAP) met at the Monterey Bay Aquarium Research Institute (MBARI) in Moss Landing, CA. Agenda items included: recent MBARI Research; updates on the upcoming OCEANS '16 meeting, and Ed Ricketts Award and Lecture; RAP leadership changes; Summary of April 21<sup>st</sup> SAC Meeting; and RAP Action Plan on Long-term Monitoring. The MBNMS Research Activity Panel (RAP) is a working group of the MBNMS Advisory Council. The RAP meets six times per year, and advises SAC and sanctuary staff on basic and conservation science issues. <http://montereybay.noaa.gov/sac/rap/rapma.html>

## **RESOURCE PROTECTION**

### **Future of Pyrethroids**

Pyrethroids are widely used for pest control in agricultural lands contributing to the streams entering MBNMS. High levels of toxicity to aquatic insects has been related to the presence of pyrethroid pesticides in water and stream sediments. This meeting in Salinas on March 29<sup>th</sup> was attended by growers, researchers and agricultural professionals to discuss current monitoring results and possible mitigation measures, as well as how pesticide labels sometimes do not address relevant management practices on the Central Coast. Agriculture is important economically to the Central Coast and nationwide to providing fresh fruits and vegetables to our tables. Finding ways to control and manage pesticides so that they do not harm consumers, farmworkers or the environment is important to our future.

### **Salinas Ag Technology Summit**

The Ag Water Quality Coordinator from the Monterey Bay National Marine Sanctuary attended the Ag Technology Summit that was hosted at Hartnell college to provide insight into the technological, legal, regulatory and social changes on the horizon for agriculture. Diverse panels of experts addressed each topic, and the audience was involved in question and answer sessions that will help us all prepare for the future and the changes that are coming. Agriculture is changing rapidly with the advance of technology, software and issues that are forcing us to find new ways of doing business, such as the lack of farm labor and increasingly firm regulatory measures. The agricultural organization of the future will be very different from what we see today in the fields; and automation will take over many of the repetitive tasks currently performed by human labor. Preparing for this future is important for educators, agriculturalists, professionals and innovators.

### **WQPP MOA Signed and Executed**

Since 1992, ONMS and eight resource agencies have been part of an MOA to provide an ecosystem-based water quality management process that integrates the mandates and expertise of existing coastal and ocean resource and land-use managers and protects the nationally significant resources, qualities, and compatible uses of MBNMS as well as the water quality in the watersheds that drain into the sanctuary. Every five years this MOA gets updated and MBNMS staff meets with the heads of each agency to sign the document and re-commit to working together to achieve our shared goals of improved water quality. The current MOA will expire September 1, 2020. There are many regulations and jurisdictions of agencies over water flowing into MBNMS. Since the formation of the WQPP, it has been critical to recognize the many mandates and authorities of each partner agency and identify roles and responsibilities for each.

### **Salinas Irrigation and Nutrient Management Project Tour**

The California Marine Sanctuary Foundation is included in a Proposition 84 grant to implement management practices on farms in order to remove nutrients from runoff and improve water quality. Grant partners have been working with growers to reduce nutrient applications and have also designed structural treatment systems to remove nutrients from farm runoff. On Thursday April 14<sup>th</sup>, the TAC toured the project locations where we are implementing two bioreactors, a vegetated ditch, a treatment wetland and a weather station for more accurate prediction of crop water needs. Agriculture is important economically to the Central Coast, and nationwide to providing fresh fruits and vegetables to our tables. Finding ways to control and manage nutrients so that they do not contaminate drinking water or harm the environment is important to our future as well as to the ecology of rivers, streams and the ocean.

### **Sailing Vessel KENTUCKY WOMAN Adrift in MBNMS**

On April 25, the Coast Guard airlifted the sole crew member from the 41-ft sailing vessel KENTUCKY WOMAN after gale-force winds damaged the vessel's mast, sheets, and rigging. The vessel was left adrift about 30 nm west of Point Ano Nuevo. Coast Guard drift modeling indicated the vessel would likely enter MBNMS. MBNMS enlisted the support of USCG Air Station San Francisco, USCG Air Station Sacramento, the USCG Air Auxiliary Squadron, and a volunteer airman to relocate the vessel to facilitate salvage before it sank or ran aground within MBNMS. NOAA OR&R provided an updated drift projection model on April 28 to aid the search. To date, the vessel has not been found. NOAA OLE is taking action to inform the owner of his liabilities under the NMSA. This incident highlights the multi-agency and volunteer coordination necessary to address marine casualty events in MBNMS. But it also highlights a pressing need for emergency placement of a robust, low-cost, portable beacon aboard stricken vessels to enable quick salvage after search and rescue operations terminate. Rapid securing of vessels adrift is critical to prevent their unnecessary destruction and release of entanglement, chemical, and structural hazards within the sanctuary. A low-cost beacon would save thousands of dollars of flight time and administrative effort to search for and locate a drifting vessel.

### **MBNMS & Coast Guard Inspect M/V CELEBRITY INFINITY**

On Friday, May 13, MBNMS and Coast Guard personnel conducted an inspection boarding of the cruise ship CELEBRITY INFINITY during its port call to Monterey Harbor. The boarding was conducted to inspect ship waste stream logs and engine spaces for verification of compliance with MBNMS prohibitions against cruise ship discharges within the sanctuary. No discrepancies were found. MBNMS has for several years conducted annual random inspections of cruise ships visiting Monterey with the assistance of trained Coast Guard inspection teams and has discovered no evidence of discharge violations within the sanctuary. Thus regulatory compliance by visiting cruise ships appears to be very high.

## **EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS**

### **Sanctuary Exploration Center docents learn about USS *Macon* and Davidson Seamount**

On the evening of April 27, MBNMS staff provided two seminars to 20 new docents of the Sanctuary Exploration Center in Santa Cruz. The first seminar "Davidson Seamount: A Remarkable Feature In Your Sanctuary," included an introduction to seamounts, deep-sea technologies, exploration and characterization of Davidson Seamount, and the recent *Shimada* research cruise. The second seminar, "USS *Macon* Expedition," included the history of the U.S. Navy's lighter-than-air program, history and crash of the USS *Macon*, her discovery, and recent expeditions to characterize the wreck site off Point Sur, California. Volunteer docents are the interface between public visitors and the sanctuary. Training these volunteers to provide the public with factual information is an important aspect of sanctuary outreach and education.

### **First Flush Volunteers Gather for Celebration**

On the evening of April 7th, First Flush volunteers gathered to celebrate the end of the rainy season, look over data from this year's event and to be celebrated for their participation in this year's First Flush event. The First Flush program in Monterey County is funded by the Monterey Regional Storm Water Management Program (MRSWMP) and focuses on storm drain outfalls in Seaside, Monterey, Pacific Grove, Carmel and Monterey County that flow into MBNMS. A total of 12 sites were monitored in the early morning hours of November 2, 2015 by 32 intrepid volunteers. The presentation at the celebration compared 2015 data to data collected since 2006 when the MRSWMP program started First Flush monitoring. Highlights from the presentation include an overall decrease in concentration of some measured analytes and continuing efforts from the cities to determine sources of some of the measured analytes and reduce their discharge. MBNMS volunteer water quality monitoring programs provide an opportunity for public participation and outreach while collecting valuable information as to the condition of water quality flowing into MBNMS and the effectiveness of management efforts in local cities to reduce contaminants in the runoff. Celebrating the efforts of volunteers is important to programs like First Flush continuing that rely on the support of volunteers to collect water samples from storm drain outfalls at all times of the day and/or night.

### **Another Successful Snapshot Day Water Quality Monitoring Event**

The 17<sup>th</sup> Annual Snapshot Day water quality monitoring event took place on Saturday, May 7th. Approximately 150 volunteers collected water samples in creeks draining to MBNMS from Half Moon Bay to Morro Bay. This event requires weeks of planning, 5 training events, and considerable coordination among many partners, most notably the Coastal

Watershed Council and RCD of San Mateo County. Even staff from Greater Farallones NMS and the West Coast Regional office participated in the event. Overall, an event of this magnitude is not possible without the volunteers. With each year, the results become more valuable in showing long-term status and trends of many waterbodies flowing into the sanctuary, some of which are only monitored on this one day each year. Each year this event provides valuable water quality results for the majority of creeks flowing to MBNMS. It is also an opportunity to promote the sanctuary program and raise awareness of the importance of our local creeks, clean water, and the connection of land and sea.

### **MBNMS Staff Presented to University of California SCRIPPS Institute of Oceanography**

MBNMS staff gave a presentation to SCRIPPS faculty and graduate students. The presentation was entitled: “Do you have a responsibility as scientists to communicate your research to the public?” and covered Monterey Bay National Marine Sanctuary and the ways we develop, design and communicate important sanctuary science, research and policy messages through exhibits, signage, film production and citizen science programs. A subsequent 2 hour discussion session following the presentation and led to a conversation of the importance for scientists to translate research and science messages and make them relevant and accessible to the public.

Scientists do need to communicate their science to the public but it requires a process by which sanctuary educators have to take complex and technical information, synthesize it, deliver it and make it accessible in a well thought out way so that is understandable and relevant to the public.

### **MBNMS Staff Presented to the Big Sur Lighthouse Volunteer Group**

MBNMS staff presented Sanctuary 101 to Pt Sur volunteers with an emphasis on Marine Protected Areas (MPA), specifically MBNMS federal regulations and State MPAs that are located near the Point Sur Lighthouse. Particular regulations were discussed in detail so that volunteers can keep an eye out for fishing in the Pt Sur adjacent Marine Reserve and Marine Conservation areas as well as any other illegal activities. Because the sanctuary has one enforcement officer for its 276 miles of coast, sanctuary MPA and regulation presentations like this are important because we can educate volunteers and citizens to “keep an eye out” on illegal activities that otherwise might go unnoticed and not be reported. Pt Sur Lighthouse has a great view 400 feet up along the Big Sur Coast and over the MBNMS and two state MPAs.

### **MBNMS Organized a Monterey Bay Wide Research Table at the annual Blue Economic Summit in Monterey, CA.**

MBNMS staff organized and brought together the Monterey Bay Aquarium Research Institute (MBARI), US Geological Survey (USGS), NOAA’s National Marine Fisheries Service Santa Cruz and the MBNMS to attend and have a joint table at the 2016 Blue Economic Summit. Seizing on the area’s agriculture, recreation, conservation and technology, the Monterey Bay Economic Partnership’s second annual Regional Economic Summit highlighted the innovations and collaborations that are transforming the region. The goal of the summit was to share ideas and showcase best practices and inspire the audience. MBNMS partnered with local marine and coastal public and private institutions at a business economic summit to promote a unified message about MBNMS significant biological and geological ecosystem.

### **Sanctuary Exploration Center hosted “Threatened and Thriving” Art/Science Event**

On May 6<sup>th</sup> 2016, the MBNMS Exploration Center hosted an art and science family night, which was attended by over 250 people. The event’s theme was Threatened and Thriving and featured local art, art activities, and a film screening all focusing on endangered species! Featured local artist, Jodi Frediani held a pop-up gallery and gave information on locally endangered species. The event also included a free film screening of the renowned film *Racing Extinction*, which was attended by 115 people! MBNMS research coordinator Andrew DeVogelaere introduced the film and also led a small panel Q&A with artists and climate change activists. Community events not only attract new visitors to the Exploration Center, but also attract people to come back and learn more about Monterey Bay National Marine Sanctuary. Additionally, merging art and science allows people to learn and be inspired in new and creative ways, ultimately reaching a broader audience of future ocean stewards.

### **Sanctuary Exploration Center Hosted First-Ever ROV Field-Trip**

On May 12<sup>th</sup> 48 students from Diamond Tech High School in Watsonville, CA visited the Sanctuary Exploration Center for a guided tour and ROV building workshop. The students not only received a “technology in research” themed tour of the center, but also piloted a new ROV building activity led by Exploration Center education staff. The students first received a “ROV 101” presentation where they learned why ROV’s are important in deep-sea research, how they are used and some of

the basic physics involved in building an ROV. In teams, they then had the opportunity to construct ROVs and test them in our deep-sea canyon exhibit. The students and teachers were overall very pleased with their experience and hope to start their own ROV club at school. The Sanctuary Exploration Center was able to pilot this program for the first time with high school students. We learned valuable lessons for running this program hope to offer this enriching field trip regularly in the future. Exposing young people to marine technology and science is an integral aspect of STEM education.

### **Sanctuary Exploration Center 2016 Docent Training Holds Graduation!**

On Saturday May 7<sup>th</sup> 22 newly trained Sanctuary Exploration Center docents graduated the 2016 docent training program. This six-week class, totaling 40 hours of instruction has focused on watersheds, MBNMS regulations, current sanctuary research, biodiversity, MPAs, fisheries, 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 to interpret exhibits to the public, conduct guided tours, assist in daily operations, and participate in events and programs. Volunteer docents are integral in the essential functions of the Exploration Center. These 22 additional docents will work towards fulfilling the mission of the Exploration Center by greeting and educating thousands of individuals about MBNMS.

## NEWS COVERAGE

### [2 men take US gov't ocean science buoy, now want to "sell" it back for \\$13,000](http://arstechnica.com/tech-policy/2016/03/2-men-take-us-govt-ocean-science-buoy-now-want-to-sell-it-back-for-13000/)

<http://arstechnica.com/tech-policy/2016/03/2-men-take-us-govt-ocean-science-buoy-now-want-to-sell-it-back-for-13000/>  
Ars Technica-March 29, 2016

### [Your quadcopter whale pics prove you violated the Marine Mammal Protection Act](https://www.inverse.com/article/13666-your-quadcopter-whale-pics-prove-you-violated-the-marine-mammal-protection-act)

<https://www.inverse.com/article/13666-your-quadcopter-whale-pics-prove-you-violated-the-marine-mammal-protection-act>  
Inverse-April 1, 2016

### [Living Green: Consider where your garbage goes](http://www.montereyherald.com/lifestyle/20160401/living-green-consider-where-your-garbage-goes?source=most_viewed)

[http://www.montereyherald.com/lifestyle/20160401/living-green-consider-where-your-garbage-goes?source=most\\_viewed](http://www.montereyherald.com/lifestyle/20160401/living-green-consider-where-your-garbage-goes?source=most_viewed)  
Monterey Herald-April 1, 2016

### [Miner problem](http://goodtimes.sc/uncategorized/miner-problem-2/)

<http://goodtimes.sc/uncategorized/miner-problem-2/>  
Good Times-April 5, 2016

### [Moss Landing desal proposals expect environmental certification this year](http://www.montereyherald.com/environment-and-nature/20160406/moss-landing-desal-proposals-expect-environmental-certification-this-year)

<http://www.montereyherald.com/environment-and-nature/20160406/moss-landing-desal-proposals-expect-environmental-certification-this-year>  
Monterey Herald-April 6, 2016

### [Watsonville, Aptos students present science studies at Monterey Bay Aquarium](http://www.santacruzsentinel.com/article/NE/20160413/NEWS/160419888)

<http://www.santacruzsentinel.com/article/NE/20160413/NEWS/160419888>  
Santa Cruz Sentinel-April 13, 2016

### [Pacific Grove sewage spill: \\$300K fine for May incident](http://www.montereyherald.com/article/NF/20160419/NEWS/160419798)

<http://www.montereyherald.com/article/NF/20160419/NEWS/160419798>  
Monterey Herald-April 19, 2016

### [From SeaLife Stewards to Camp Ocean Pines, volunteer opportunities abound](http://www.sanluisobispo.com/news/local/community/cambrian/cambrian-opinion/article74193962.html)

<http://www.sanluisobispo.com/news/local/community/cambrian/cambrian-opinion/article74193962.html>  
The Tribune-April 27, 2016

### [National Marine Sanctuary considers action against Cemex.](http://www.montereycountyweekly.com/news/local_news/national-marine-sanctuary-considers-action-against-cemex/article_b022bbd2-0cdc-11e6-b579-7ff504ac3b19.html)

[http://www.montereycountyweekly.com/news/local\\_news/national-marine-sanctuary-considers-action-against-cemex/article\\_b022bbd2-0cdc-11e6-b579-7ff504ac3b19.html](http://www.montereycountyweekly.com/news/local_news/national-marine-sanctuary-considers-action-against-cemex/article_b022bbd2-0cdc-11e6-b579-7ff504ac3b19.html)  
Monterey County Weekly-April 28, 2016

### [Newly declassified pictures show USS Independence as it was blown up alongside 77 other ships as part of atomic tests as Bikini Atoll in 1946](http://www.dailymail.co.uk/sciencetech/article-3566249/Newly-declassified-pictures-USS-Independence-blown-alongside-77-ships-atomic-tests-Bikini-Atoll-1946.html)

<http://www.dailymail.co.uk/sciencetech/article-3566249/Newly-declassified-pictures-USS-Independence-blown-alongside-77-ships-atomic-tests-Bikini-Atoll-1946.html>  
Daily Mail-April 29, 2016

### [Plans for a whale sanctuary ride a wave of support, but face a storm of controversy](http://www.geekwire.com/2016/whale-sanctuary-ride-wave-support-controversy/)

<http://www.geekwire.com/2016/whale-sanctuary-ride-wave-support-controversy/>  
GeekWire-May 5, 2016

### [Volunteers work as scientists testing river and ocean water quality](http://www.ksbw.com/news/volunteers-work-as-citizen-scientists-test-water-health/39435256)

<http://www.ksbw.com/news/volunteers-work-as-citizen-scientists-test-water-health/39435256>  
KSBW-May 8, 2016

### [Monterey Bay National Marine Sanctuary lectures set in Cambria](http://www.sanluisobispo.com/news/local/community/cambrian/article76976597.html)

<http://www.sanluisobispo.com/news/local/community/cambrian/article76976597.html>  
The Tribune-May 11, 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](mailto:andrew.white@noaa.gov).*

## **FUN, OCEAN RELATED WEB SITES**

### **Caitlin Seaview Survey**

<http://www.catlinseaviewsurvey.com>

### **SIMON**

<http://www.sanctuariesimon.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/>

## MBNMS STAFF

**Paul Michel** – Superintendent  
**Dawn Hayes** – Deputy Superintendent

### Research

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

### Education

**Liz Love** – Education & Outreach Specialist  
**Lisa Uttal** – Education & Outreach Specialist  
**Carolyn Skinder** – Southern Region Program Coordinator  
**Chelsea Prindle** – SEC Manager  
**Nick Ingram** – Volunteer Coordinator (SEC)  
**Vacant** – SEC Gift and Bookstore Manager  
**Catherine Drake** – Program Assistant (SEC)  
**Tess Bohey** – Program Assistant (CDC)

### Resource Protection

**Karen Grimmer** – Resource Protection Coordinator  
**Scott Kathey** – Regulatory/Emergency Response Coordinator  
**Sophie De Beukelaer** – GIS Analyst & Research Permit Coordinator  
**Pamela Krone-Davis** – Agriculture Water Quality Coordinator  
**Bridget Hoover** – Water Quality Protection Program Director  
**Lisa Emanuelson** – Citizen Watershed Monitoring Network Coordinator

### Program Operations

**Raymond Chisolm** – Budget Analyst/Program Specialist  
**Nichole Rodriguez** – Advisory Council Coordinator  
**Andrew White** – Network Manager and Webmaster  
**Richard Stanley** – SEC Maintenance Specialist

## 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>

## - Contact Information -

### Monterey Bay National Marine Sanctuary

99 Pacific Street, 455A  
Monterey, CA 93940  
Phone (831) 647-4201  
Fax (831) 647-4250

