



Monterey Bay National Marine Sanctuary

Sanctuary Office Report



Volume 15, Number 6

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

REPORTING PERIOD: SEPTEMBER 28, 2018 – NOVEMBER 20, 2018

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

NOAA preserves history of Washington, DC, with reproduced L'Enfant maps

Research conducted by the NOAA Central Library uncovered a little known fact that NOAA Coast Survey's skill in reproducing maps helped ensure that early maps of Washington, DC, and an interesting piece of history, weren't lost. Coast Survey reproduced three historically significant maps from a copper plate engraving of Washington, DC, as surveyed by Pierre L'Enfant and Andrew Ellicott. The three maps were produced as a result of the Potomac Flats case, where a private citizen laid claim to mudflats and shoals that were building outward from the present vicinity of the Tidal Basin. Today, these iconic areas are the site of the Lincoln and Jefferson memorials, as well as the Annual Cherry Blossom Festival. For more information:

<https://www.nauticalcharts.noaa.gov/updates/?p=171357>

Ozone hole could've been a big one this year – but it wasn't

The ozone hole that forms over the Antarctic each September is primarily driven by two factors: the amount of ozone-destroying chlorine in the polar stratosphere and the availability of ice crystals in stratospheric clouds for the chlorine to bind to. This year, the super-cold stratospheric temperatures measured by NOAA and NASA meant conditions were ripe for the development of ice clouds - and a big ozone hole. For more information:

<https://www.noaa.gov/news/ozone-hole-couldve-been-big-one-year-but-it-wasn-t>

Veterans help restore valuable fish habitat: Success by the numbers

The NOAA Veterans Corps provides opportunities for post-9/11 military veterans to build their skills and work experience while contributing to the conservation of endangered salmon and steelhead in California. Established in 2012 in collaboration with the State of California, and later expanded to the states of Washington and Oregon, the year-long paid training program includes marine and freshwater restoration for native fish, as well as research and monitoring to track the progress of salmon restoration projects and salmon populations. For more information:

<https://www.fisheries.noaa.gov/feature-story/veterans-help-restore-valuable-fish-habitat-success-numbers>

Educators: Set sail with NOAA! Become a Teacher at Sea

We are pleased to announce that NOAA's Teacher at Sea Program will accept applications for 2019 starting on November 1, 2018. NOAA's Teacher at Sea Program provides pre-kindergarten through college-level teachers a hands-on, real-world research experience working at sea with world-renowned NOAA scientists. This opportunity gives educators a unique insight into oceanic and atmospheric research. Applications and references are accepted only through the Teacher at Sea online application system from November 1–30, 2018. The application closes at 5:00 pm Eastern on November 30. For more information:

<https://www.noaa.gov/news/educators-set-sail-with-noaa-become-teacher-at-sea>

NATIONAL MARINE SANCTUARY NEWS

Polynesian Voyaging Canoe *Hikianalia* Arrives in Ventura, California

After crossing the Pacific from Hawai'i and starting a California tour, Polynesian voyaging canoe *Hikianalia* arrived at the Ventura Harbor entrance at dawn on Sunday, October 7th, being greeted by several outrigger canoes and the Ventura Harbor Patrol which escorted them to the dock. Arriving at the dock, the 8-person crew were greeted by indigenous Chumash community members and received many with celebratory chants and songs from Hawaiian dignitaries and hula groups, including Kumu Rona Koe (Camarillo), Halau Hula O Pualanina'auali'ioha, Hula Halau O Puananiha'aoheo, and Kumu Sylvia Puanaiha'aoheo Edgar (Ventura). The crew announced their arrival and requested permission to disembark while chanting *Aue ua Hiti e*. After disembarking, ceremonies on the dock continued with further song and chants and traditional leis placed around the necks of the crew. Relocating to the Ventura Harbor Village, traditional ceremonies that included Chumash and Hawaiian performances of song and dance were held, hosted in part by Channel Islands National Park. CINMS staff members Shauna Bingham and Robert Schwemmer attended the events. Additionally, a dockside outreach booth was staffed by Channel Islands Naturalist Corps volunteers near the *Hikianalia*, reaching 450 members of the public. After the official ceremonies were completed the crew returned to *Hikianalia* to host dockside tours of the canoe, sharing with the public and honored guests about their traditional Polynesian voyage and the mission of the Polynesian Voyaging Society's "*Alahula Kai o Maleka* Hikianalia California Voyage." Later that evening the crew gave a public presentation at the harbor in the Visitor Center of Channel Islands National Park. As stated by crewmember Hana Yoshihata, "this welcoming ceremony was truly special, as we not only made new bonds with indigenous peoples of this region, but also got to see firsthand how Hawai'i culture and people thrive not only in our archipelago, but throughout the world. The crew looks forward to connecting and reconnecting with these amazing communities in Ventura." As a gesture to our Polynesian friends, Robert Schwemmer documented the sequences of events from the dawn arrival, *Hikianalia* escort, arrival at the dock and traditional ceremonies. During the *Hikianalia*'s 2,800-mile journey from Hawai'i to California, known as the "California Voyage," the crew used only traditional non-modern instruments, navigating by the sun and stars. The catamaran canoe is strictly wind and solar powered. *Hikianalia* made its first landfall at Half Moon Bay in MBNMS (first ever California arrival) and held its first public event in San Francisco, followed by Monterey Bay. The mission of the *Hikianalia* and second canoe *Hokulea*, is to journey the world in order to discover and strengthen a global community working to save our oceans and Planet.

North Carolina -- Newest Schools for Ocean Guardian

Two North Carolina schools have been selected to receive Ocean Guardian grant funds for the 2018-2019 school year. In September, science teacher, Clayton Tideman and students from Cape Hatteras Secondary School in Buxton began a recycling program that includes the entire school of over 500 students. Mr. Tideman's students started the year producing a Public Service Announcement informing the students of the program and what can be recycled. Most of the homes on the barrier island, do not recycle due to the high cost, so Mr. Tideman hopes to inspire the students and their families to increase recycling within the community. Despite Hurricane Florence's impact on southern North Carolina, the students from Bogue Sound Elementary are off to a good start with their marine debris program. During the year, Science, Technology, Engineering, Art, and Math (STEAM) teacher, Jason Vanzant and his students will not only clean the marine debris from their school's shores, but also throughout the local community beaches. As they collect marine debris, they will also sort, weigh and measure the debris to create a database to help increase awareness of marine debris and to inspire the community to also collect and reduce marine debris off North Carolina's coast. Shannon Ricles met with both teachers this past week and looks forward to working with them throughout the year! Partnering with North Carolina schools through Ocean Guardian strengthens MNMS's relationship with the community, increases awareness of the MNMS's mission, and helps students and the community to understand the importance and value of sanctuaries to ocean conservation and ocean resources.



MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



MANAGEMENT

Monterey Bay National Marine Sanctuary Holds Advisory Council Meeting

On October 19, MBNMS' Advisory Council met and received a series of presentations and updates on West Coast Regional priorities, joint MBNMS and US Coast Guard cruise ship inspections, agriculture water quality, motorized personal watercraft proposed zone change in MBNMS' northern management area and Elkhorn Slough National Estuarine Research Reserve activities. The next meeting is scheduled for December 14 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

MBNMS staff presents research at Deep-Sea Biology Symposium

From September 9-14, sanctuary staff attended the triennial Deep-Sea Biology Symposium in Monterey, California. Andrew DeVogelaere, Erica Burton, and Chad King co-authored a research poster with scientists from the Monterey Bay Aquarium Research Institute. Entitled "Going deeper: Fragments of hope in the deep sea," the poster described lessons learned from ~3 years of deep-sea coral transplant studies at Sur Ridge. The symposium was also an opportunity to meet with other scientists working on deep-sea research, including across sanctuary site discussions. As outlined in the MBNMS Management Plan, staff shall conduct deep-water coral age determination and restoration studies in concert with Sur Ridge research activities; and present sanctuary science at scientific meetings. For more information see <http://dsbs2018.org/>

Beach COMBERS citizen science program continues to contribute research and monitoring to region

As the Beach COMBERS are in their 21st year of sampling beach cast organisms within Monterey Bay National Marine Sanctuary, there is another collection request for beachcast gulls. Stanford University PhD student Richard Grewelle is examining gull carcasses (i.e., Western Gull, California Gull, and Herman's Gull) for parasitic Acanthocephalan worm infestations. Part of his project entails genetic comparisons of worms collected from California sea otters and seabirds. Beach COMBERS is a citizen science program collaboration among Monterey Bay National Marine Sanctuary, Moss Landing Marine Laboratories, US Geological Survey, US Fish and Wildlife Service, California Department of Fish and Wildlife, and Save The Earth Foundation. Since 1997, trained volunteers have surveyed beached marine birds and mammals monthly at selected sections of beaches throughout the Monterey Bay area, with the specific goal of using deposition of beach cast carcasses as an index of the health of the sanctuary. On average, Beach COMBERS detect 2.5 events per year, where baseline numbers of dead organisms are significantly surpassed. These could be natural events (e.g., a low productivity year for food) or human caused (e.g., an oil spill). Beach COMBERS accomplishments and information can be found on the web site <http://www.sanctuarysimon.org/monterey/sections/beachCombers/index.php?l=n>.

***Nautilus* completes Monterey Bay National Marine Sanctuary Expedition Leg; discovers over 1,000 brooding octopuses in fluid seeps**

From October 20 to November 1, the E/V *Nautilus* completed an expedition in Monterey Bay National Marine Sanctuary, the 13th leg of the 2018 expedition schedule run by Ocean Exploration Trust (OET). Although the expedition was wrought with technical challenges and bad weather that only allowed two ROV dives to be completed, the first dive revealed spectacular finds. First, a rarely-seen "Dumbo" octopus (*Grimpoteuthis sp*) was filmed up close by the ROV *Hercules*, and in the last hour of a 35 hour dive, a collection of over 1,000 brooding octopuses were discovered, although the full extent of this aggregation could not be determined. *Muusoctopus*

robustus females have a distinct brooding behavior, in which they invert their arms in an upward position while their mantle protects eggs they have cemented to the rock. Most striking was their association with fluid seeps, as they were almost exclusively observed aligned with fractures, fissures and patches with distinct dark rock and bathed in shimmering seawater. It is unknown what is causing the shimmer, but it is assumed to be either temperature, hydrocarbons (methane) or a salinity difference. Temperatures and water samples could not be ascertained. This is only the second known place where a collection of brooding octopuses have been found, and is the largest aggregation of brooding octopuses ever observed. This discovery generated significant press, as Chad King (Lead Scientist) from MBNMS conducted a dozen interviews from the ship. Press outlets included National Geographic, Associated Press, SF Gate and more. The story also re-ran in dozens of outlets (CNN, Huffington Post, Popular Science and many more). This aggregation could not be fully characterized and could be much larger, warranting the need to return to fully understand not only the size of this aggregation, but also water chemistry and why the octopuses and other organisms are associated with these fluid seeps.

West Coast Deep-Sea Coral Initiative research survey conducted within Monterey Bay National Marine Sanctuary

Beginning in 2018, the Deep-Sea Coral Research and Technology Program (DSCRTP) initiated a new four-year research initiative in the U.S. West Coast region. The first research cruise of the initiative is aboard NOAA Ship *Bell M. Shimada* during October 9 - November 8, and includes survey and collection of coral specimens from priority areas within west coast sanctuaries (Monterey Bay, Cordell Bank, Greater Farallones, Channel Islands). The objective of this work is to assess habitats off the West Coast using an Autonomous Underwater Vehicle (AUV), Remotely Operated Vehicle (ROV) and CTD; focusing on Essential Fish Habitat areas proposed for modification under the Pacific Fishery Management Council's draft Amendment 28, some of which overlap with West Coast sanctuaries. During two days in late October, two AUV dives and three ROV dives characterized portions of La Cruz Canyon and a slot canyon near Sur Canyon within Monterey Bay National Marine Sanctuary (MBNMS). Two survey days were lost in MBNMS due to weather. Observations in MBNMS included mostly muddy and some rocky habitats, few sea pens, three *Swiftia* coral species, *Stylaster* hydrocorals and some small sponges; thereby characterized as very low animal biomass and diversity. Researchers suspect the May 2017 massive Mud Creek slide may have smothered many of the sea pens expected at La Cruz Canyon. The Deep-Sea Coral Research and Technology Program (DSCRTP) funds multi-year regionally lead research initiatives to collect scientific information to better protect and conserve deep-sea coral and sponge (DSCS) ecosystems. By conducting deep-sea coral research within sanctuary boundaries, within federal and state marine reserves, and within Essential Fish Habitat, scientists will be able to demonstrate how additional protections may benefit DSCS habitats.

RESOURCE PROTECTION

Healthy Soils Program Workshop and Farm Tour

The first demonstration event for the Healthy Soils Project took place on Monkeyflower Ranch in Royal Oaks, CA last Thursday, September 27, organized and lead by the Agricultural Water Quality Coordinator for the Monterey Bay National Marine Sanctuary. It was attended by forty ranchers, farmers and technical support people. The project includes the application of farm management practices to sequester carbon into soil, build soil organic matter and promote microbial health, which will in turn increase forage production and water holding capacity. Presentations were provided by a UC Cooperative extension rangeland scientist, USDA NRCS soil scientist, 3 ranchers, a veterinarian and by the California Marine Sanctuary Foundation. Monkeyflower Ranch will sequester an estimated 60 tons/year of carbon dioxide into the soil from compost addition and hedgerow planting. If California were to increase carbon storage by 1% on its 46 million acres of grasslands, pasture and arable lands, the CO₂e sequestered would be 1.5 billion metric tons (Carbon Cycle Institute 2016). Demonstrating practices that improve soil health and sequester carbon on working lands can encourage wider

adoption of these practices on agricultural land. These practices will benefit the marine ecosystem through slowing temperature and chemistry changes such as ocean acidification.

Building Healthy Soils through Multiple On-Farm Practices

The Agricultural Water Quality Coordinator for the Monterey Bay National Marine Sanctuary in coordination with Wilbur Ellis organized a field tour of JV Organics Farm for growers, researchers, technical support consultants and NRCS. The farmer practices the four NRCS soil health principles and has transformed his soil from a hard compacted soil with no microbial life to a fluffy organic soil, rich with a diversity of micro-organisms that support plant health and prevent soil borne diseases. His practices include conservation tillage, cover cropping and compost addition, all proven to sequester carbon dioxide into the soil. Demonstrating practices that improve soil health and sequester carbon on working lands can encourage wider adoption of these practices on agricultural land. These practices will benefit the marine ecosystem through slowing temperature and chemistry changes such as ocean acidification.

2018 California Trash Data Dive

A member of the Resource Protection team for the Monterey Bay National Marine Sanctuary participated in the 2018 California Trash Data Dive at the San Francisco Estuary Institute. The goal of the data dive was to produce a series of data visualizations, which tell a statewide story about trash that can be used to direct monitoring design, implementation and reporting. Challenges for trash management include developing common trash categories and metrics, determining uses and extending markets for recycled materials, finding ways to diminish plastic entering waterways from agriculture and homeless encampments and developing methods to measure how much trash is not properly disposed. Sharing knowledge and objectives across multiple non-profit, research and government organizations helped align efforts and endeavors to understand trash issues, respond to new policy, discover technological developments that can aid monitoring efforts and investigate ways to better manage trash before it enters the ocean.

Organic Amendments Workshop

The Agricultural Water Quality Coordinator attended a workshop training farmers in the use of organic amendments to meet plant nutritional needs. By understanding the value of compost and green waste as a nutrient source, the need to apply fertilizer can be reduced and the health of the soil can be increased. These amendments also promote the storage of carbon in the soil and increase the water holding capacity of the soil, thus reducing the amount of greenhouse gas in the atmosphere and the ocean. Using organic amendments in agriculture is an inexpensive way to remove carbon dioxide from the atmosphere and store it into the soils of working lands. Better understanding of application rates, methods and farmer benefits encourages adoption of this practice.

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

Plankton Monitoring in Monterey Bay National Marine Sanctuary

MBNMS has trained multiple partners, their staff, volunteers, faculty and students and individual citizens to do long term monitoring of both phyto and zooplankton at six locations along the sanctuary's coast. Participating organizations include MBNMS' Exploration Center, Cabrillo College, Santa Catalina School and Pacific Grove Museum of Natural History. Lisa Uttal just completed a training for 27 Cabrillo College students who are participating in a California State College Certification research course. This certification recognizes the students endeavours to do plankton research and monitoring that results in data input to a nationwide NOAA Coastal observing database. MBNMS has also partnered with the California State Biotxin Monitoring Program to have volunteers send their phytoplankton samples from multiple sites into the State for Harmful Algal Bloom analysis. Citizen science endeavours like plankton monitoring is both a robust science research and impactful education

program. Plankton is the basis to the incredible biodiversity we see in MBNMS and phytoplankton creates one of every two breaths we breathe. Long term monitoring over multiple locations of plankton in the sanctuary with partners is critical for identifying plankton population changes both spatially and temporally. The more monitoring the better, especially in this time of climate change, ocean temperature and pH changes (Ocean Acidification).

Monterey Bay National Marine Sanctuary participates in US Forest Service’s Fall Fish Fest in South Lake Tahoe

For the second year, MBNMS participated in the USFS/Lake Tahoe Basin Fall Fish Fest on October 5-6, 2018. The event took place at Taylor Creek Visitor Center in South Lake Tahoe, located approximately 300 miles inland from MBNMS. As part of an emerging partnership between NOAA sanctuaries and US Forest Service, MBNMS was invited to host an outreach table and engage with over 5,000 event attendees to bring awareness of sanctuaries to inland communities and strengthen our messages about the vital connections of land and sea through watersheds, climate and wildlife. National Marine Sanctuaries and National Forests have many common management approaches, such as supporting natural resource conservation while promoting compatible human activities and both are travel destinations for nature lovers, wildlife viewers and recreation seekers. As part of our mission to educate about the significance and importance of national marine sanctuaries, MBNMS participates in community events to share messages of ocean awareness, inspiration and conservation of important sanctuary resources to the public.

Monterey Bay National Marine Sanctuary’s Exploration Center celebrates Leatherback Sea Turtle Day

On Friday, October 12, the SEC hosted Leatherback Sea Turtle Day from 5-8pm. Local artist Anastasiya Bachmanova from Follow the Sun Art brought prints and supplies for kids to make linocut prints using her designs. Visitors were able to purchase beverages, local lingcod ceviche from Ocean2Table and vegan ceviche by AAVE Café, profits from which will support education programs. Local organizations like Save the Whales, Moss Landing Marine Laboratories and Oceana had tables with educational materials and specimens to educate visitors on leatherback anatomy, how we track them and how we can protect them. Leatherback scientists gave talks throughout the night, which occurred between award winning leatherback short films in the main theater. Almost 200 visitors attended and all left full and more aware of our beloved turtle. This outreach event brought attention to a little known, but important endangered species that visits our region and taught that by reducing plastic use and cleaning up our beaches, we can help protect the species.

Promoting upcoming E/V *Nautilus* expedition to Davidson Seamount on local Santa Cruz talk radio KSCO

On October 15, MBNMS Education Coordinator Amity Wood was invited to join local radio station KSCO (1080) for the “Ag Report” segment with an estimated reach of 10,000 listeners. The focus of the 15 minute segment was to promote public engagement opportunities for telepresence with scientists exploring Davidson Seamount, a deep sea underwater mountain within Monterey Bay National Marine Sanctuary, home to vast sponge fields, crabs, deep-sea fishes, shrimp, basket stars, high numbers of rare and unidentified benthic species. It is also populated by a dense population of large, ancient corals. The discussion covered NOAA’s collaboration with Ocean Exploration Trust and E/V *Nautilus* to explore the seamount using ROV, and bring live streaming to the public through www.nautiluslive.org website. Public was encouraged to view the expedition on-line from Oct 21-31, submit questions to researchers on board the vessel and experience live ship to shore interactions scheduled at the Sanctuary Exploration Center on Oct 27th & 28th with ROV building activities for the family. Public outreach through media and the promotion of sanctuary research and public events help heighten sanctuary awareness and the special nature of these places. Public outreach about ocean exploration can inspire young people to seek careers in science, technology, engineering and mathematics and to become the next generation of explorers.

Monterey Bay National Marine Sanctuary Exploration Center Hosts E/V *Nautilus* Interaction and ROV Building Workshops for the Public

On October 27 and 28, the SEC hosted remotely operated vehicle (ROV) building workshops as well as a presentation and question and answer session with scientists aboard the *Nautilus* which were open to the public. More than 400 people visited the center during these days and had a chance to see the live feed from the *Nautilus*, speak to docents about deep-sea ecosystems and take part in the special events for the weekend to highlight the accomplishments of the *Nautilus* crew. The E/V *Nautilus* is exploring a Southeastern portion of Davidson Seamount in Monterey Bay National Marine Sanctuary previously never been studied before. To learn more about how the *Nautilus* team explore the deep ocean, staff and volunteers explained how ROVs can be used in place of humans because there is high pressure, cold temperatures and no light at these depths. Guests were asked to build an ROV to explore the replica of the Monterey Bay Submarine Canyon in the SEC that could go up, down, forward and backward in the water column. People of all ages built ROVs and had a chance to ask questions to the team aboard the *Nautilus*. Building ROVs, learning about the deep ocean and seeing live footage from aboard a research vessel gave the public a better understanding of the challenges of exploring the deep ocean and the amazing things we can discover when we do explore.

Elementary Students Further Dive Into Ocean Exploration with E/V *Nautilus*

In support of Ocean Exploration Trust E/V *Nautilus* expedition to Davidson Seamount in Monterey Bay National Marine Sanctuary from October 21-31, members of the sanctuary's education team visited participating schools to host presentations and activities with students before the expedition began. Over 90 4th grade students from Bayview Elementary in Santa Cruz and 100 5th grade students from Carmel River Elementary in Carmel, were treated to an overview presentation about deep sea ocean exploration aboard the E/V *Nautilus* and participated in demonstrations to illustrate the effects of water pressure at depth on objects using full size and shrunken Styrofoam cups. Students were able to decorate their own cups, which were taken aboard the ship, attached to the ROV to shrink at depth and returned to students in the classroom. Carmel River students also participated in a live ship-to-shore interaction with scientists from their classroom during the expedition on October 23. From October 24-30, students from Bayview Elementary took a school field trip program to the Sanctuary Exploration Center and engaged in the ONMS Deep Sea Coral Curriculum, ROV building activities and experienced live ship-to-shore interactions in the Center's Fly Through Theater. Engaging with students inside the classroom and through sanctuary visitor centers excites them to learn about the deep sea, engage with scientists and experience ocean exploration inspiring students to seek careers in science, technology, engineering and mathematics and to become the next generation of explorers.

NEWS COVERAGE

[CDFW's Elkhorn Slough designated "wetland of international importance"](https://cdfgnews.wordpress.com/2018/10/05/cdfws-elkhorn-slough-designated-wetland-of-international-importance/)

<https://cdfgnews.wordpress.com/2018/10/05/cdfws-elkhorn-slough-designated-wetland-of-international-importance/>
CDFW News – October 5, 2018

[Give whales more space, NOAA says](https://www.ksbw.com/article/noaa-warns-boaters-to-stay-away-from-whales-in-monterey/23714055)

<https://www.ksbw.com/article/noaa-warns-boaters-to-stay-away-from-whales-in-monterey/23714055>
KSBW – October 11, 2018

[Aboard the *Nautilus*: Go to great depths with telepresence](https://www.vcstar.com/story/life/2018/10/17/aboard-nautilus-go-great-depths-telepresence-deep-sea-exploration/1664626002/)

<https://www.vcstar.com/story/life/2018/10/17/aboard-nautilus-go-great-depths-telepresence-deep-sea-exploration/1664626002/>
VC Star – October 17, 2018

[Trump administration opens California coast to wind power projects](https://www.pressdemocrat.com/news/8857913-181/trump-administration-opens-california-coast)

<https://www.pressdemocrat.com/news/8857913-181/trump-administration-opens-california-coast>
The Press Democrat – October 19, 2018

[Dan Haifley: Conservation-based ocean policy idea revived](https://www.santacruzsentinel.com/2018/10/20/dan-haifley-conservation-based-ocean-policy-idea-revived/)

<https://www.santacruzsentinel.com/2018/10/20/dan-haifley-conservation-based-ocean-policy-idea-revived/>
Santa Cruz Sentinel – October 20, 2018

[Santa Cruz chamber to honor Carrie Birkhofer, Duf Fischer, Dan Haifley, Gary Griggs](https://www.santacruzsentinel.com/2018/10/23/santa-cruz-chamber-to-honor-carrie-birkhofer-duf-fischer-dan-haifley-gary-griggs/)

<https://www.santacruzsentinel.com/2018/10/23/santa-cruz-chamber-to-honor-carrie-birkhofer-duf-fischer-dan-haifley-gary-griggs/>
Santa Cruz Sentinel – October 23, 2018

[Mesmerizing, rare dumbo octopus filmed in the deep sea](https://www.nationalgeographic.com/animals/2018/10/dumbo-octopus-monterey-seamount-news/)

<https://www.nationalgeographic.com/animals/2018/10/dumbo-octopus-monterey-seamount-news/>
National Geographic – October 25, 2018

[Natick students take a virtual deep dive in to marine science with National Geographic](http://natick.wickedlocal.com/news/20181024/natick-students-take-virtual-deep-dive-into-marine-science-with-national-geographic)

<http://natick.wickedlocal.com/news/20181024/natick-students-take-virtual-deep-dive-into-marine-science-with-national-geographic>
Wicked Local – October 26, 2018

[Huge cluster of octopuses observed southwest of Monterey](https://www.kqed.org/news/11701363/huge-cluster-of-octopuses-observed-southwest-of-monterey)

<https://www.kqed.org/news/11701363/huge-cluster-of-octopuses-observed-southwest-of-monterey>
KQED – October 26, 2018

[Central Falls students "join" Robert Ballard on ocean exploration](https://today.uri.edu/news/central-falls-students-join-robert-ballard-on-ocean-exploration/)

<https://today.uri.edu/news/central-falls-students-join-robert-ballard-on-ocean-exploration/>
The University of Rhode Island – October 30, 2018

[Our Ocean Backyard: What the Santa Cruz Port Commission governs](https://www.santacruzsentinel.com/2018/11/03/what-the-santa-cruz-port-commission-governs/)

<https://www.santacruzsentinel.com/2018/11/03/what-the-santa-cruz-port-commission-governs/>
November 3, 2018

[Drone ban hits almost all of SLO's coastal state parks – except a tiny area in Cambria](https://www.sanluisobispo.com/news/local/community/cambrian/article221775240.html)

<https://www.sanluisobispo.com/news/local/community/cambrian/article221775240.html>
The Cambrian – November 16, 2018

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

★★ **Check out these updated MBNMS Advisory Council webpage links!** ★★

Advisory Council Meeting Agendas & Minutes

<https://montereybay.noaa.gov/sac/sacma.html>

Advisory Council Actions and Results

<https://montereybay.noaa.gov/sac/sacact.html>

Advisory Council User Group Newsletters (seats and working groups/sub-committees)

<https://montereybay.noaa.gov/sac/advisory-nwsltr.html>

Sanctuary Tourism and Recreation Working Group

<https://montereybay.noaa.gov/sac/rec-tour.html>

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.

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

FUN, OCEAN RELATED WEB SITES

★★ **NEW link! NOS Ocean Facts: Ocean Life** ★★

<https://oceanservice.noaa.gov/factspage.php?siteName=oceanfacts&cat=Ocean%20Life>

Caitlin Seaview Survey

<http://www.catlinseaviewsurvey.com>

SIMON

<https://www.sanctuarysimon.org>

Seasons in the Sea

<http://www.seasonsintthesea.com>

Thank You Ocean

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

Oceans Live

<http://oceanslive.gso.uri.edu/>

NOAA Ocean Explorer

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

Encyclopedia of the Sanctuaries

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

MBNMS STAFF

Paul Michel – Superintendent
Dawn Hayes – Deputy Superintendent

Research

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

Education

Amity Wood – Education and Outreach Coordinator
Ashlyn Adams – SEC Gift and Bookstore Manager
Celine DeJong – Program Assistant (SEC)
Nick Ingram – Exhibits/Facility Specialist (SEC)
Bri Madrigal – Volunteer Coordinator (SEC)
Emily Pierce – Program Assistant (SEC)
Chelsea Prindle – SEC Manager
Carolyn Skinder – Southern Region Program Coordinator
Lisa Uttal – Education Specialist

Resource Protection

Karen Grimmer – Resource Protection Coordinator
Sophie De Beukelaer – GIS Analyst & Research Permit Coordinator
Lisa Emanuelson – Citizen Watershed Monitoring Network Coordinator
Bridget Hoover – Water Quality Protection Program Director
Scott Kathey – Regulatory/Emergency Response Coordinator (on detail to GRNMS)
Pamela Krone – Agriculture Water Quality Coordinator

Program Operations

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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: <https://www.montereybay.noaa.gov>.

To learn more about the Sanctuary Advisory Council please visit:
<https://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:
<https://www.sanctuaries.nos.noaa.gov/>

Get involved and stay informed!

To learn how to get involved in the Sanctuary visit:
<https://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:
<https://montereybay.noaa.gov/intro/elists.html>

- Contact Information -

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