



Monterey Bay National Marine Sanctuary

Sanctuary Office Report



Volume 16, Number 1

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

REPORTING PERIOD: NOVEMBER 20, 2018 – JANUARY 29, 2019

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

Today's students, tomorrow's experts: Announcing the 2018 Federal STEM Education Strategic Plan

The National Science and Technology Council's Committee on STEM Education (CoSTEM) and the White House Office of Science and Technology Policy released the report, "Charting a Course for Success: America's Strategy for STEM Education." Developed with input from education experts around the country, the document outlines a strategy for federal science agencies to ensure that people from all backgrounds are STEM-literate and workforce-ready. NOAA has an important role to play in making this vision a reality. "Our education efforts connect to the plan's priorities, and we are delighted to apply our significant resources to educate and inspire students," said Louisa Koch, Director of NOAA Education. "After all, today's learners will be the ones launching satellites into space, exploring the ocean with unmanned submersibles, and predicting the paths of landfalling hurricanes."

For more information: [https://www.noaa.gov/news/todays-](https://www.noaa.gov/news/todays-students-tomorrows-experts-announcing-2018-federal-stem-education-strategic-plan)

[students-tomorrows-experts-announcing-2018-federal-stem-education-strategic-plan](https://www.noaa.gov/news/todays-students-tomorrows-experts-announcing-2018-federal-stem-education-strategic-plan)

New reports highlight landings, value and economic impact of U.S. fishing

NOAA Fisheries has released Fisheries of the United States, 2017 and Fisheries Economics of the United States, 2016. Fisheries of the United States provides data on commercial landings and value and recreational catch. It also includes data on the fish processing industry, aquaculture production, imports and exports, and per capita seafood consumption. Our Fisheries Economics of the United States reports analyzes the economic impact of fisheries and related sectors, including employment, sales, and value-added impacts to the broader economy. The continued, steady high landings and values of U.S. fisheries we've seen over the last five years points to the collective progress that our agency, the eight regional fishery management councils, and our stakeholders are making as we work to ensure the sustainability and economic stability of our nation's fisheries. Ending overfishing was a difficult process that took many years, but we are now enjoying the payoff from the steps we took as a nation to make our fisheries sustainable. For more information: <https://www.fisheries.noaa.gov/feature-story/new-reports-highlight-landings-value-and-economic-impact-us-fishing>

Tree rings and deep-sea corals: Coral skeletons teach Foster Scholar Carina Fish about the past ocean

Deep-sea corals have some things in common with trees. As their branches grow, corals document the minute details of ocean chemistry in ring patterns like those in tree trunks. And like certain trees, some coral species can live for hundreds or even thousands of years, preserving their recording of past conditions. Dr. Nancy Foster Scholar Carina Fish uncovers the records kept by deep-sea corals in Cordell Bank National Marine Sanctuary for her Ph.D. at University of California, Davis. For more information: <https://sanctuaries.noaa.gov/news/dec18/tree-rings-deep-sea-corals-foster-scholar-carina-fish.html>

NATIONAL MARINE SANCTUARY NEWS

High school students learn about sediment traps in Santa Barbara Channel

On November 16th Buena High School Environmental Field Studies students joined Dr. Eric Tappa of the University of South Carolina aboard Channel Islands National Marine Sanctuary (CINMS) research vessel Shearwater for the recovery and redeployment of deep-water sediment traps in the Santa Barbara Channel. These sediment trap moorings have been collecting a time series of data since 1993 and are recovered and redeployed twice each year. After locating the approximate GPS coordinates, a hydrophone signals an acoustic relay to release the mooring so it can float to the surface. There it is recovered and 13 sample bottles from each of the two traps are collected, each representing 2 weeks of sediment that has slowly been raining down from above. The analysis of these sediments, combined with data about weather, climate, and ocean conditions, can give scientists a sense of earlier oceanic and climatic conditions when compared with ancient rock strata. After collecting the samples, the sediment trap is washed and loaded with fresh sample bottles before being redeployed to serve another 26 weeks below the ocean surface collecting sediment.

Choctaw Listed to the National Register of Historic Places

On December 10, 2018, the *Choctaw* was listed on the National Register of Historical Places and joins six other shipwrecks within Thunder Bay National Marine Sanctuary already listed on the Register. Launched in 1862 by the Cleveland Ship Building Company, the *Choctaw* was a 267' steel semi-whaleback/monitor vessel that transported coal and iron ore between Lake Superior and lower lake ports. In 1915, after a collision with the Canadian steamer Wahcondah while upbound for Marquette, MI with a coal cargo, the *Choctaw* sank eleven miles north northwest of Presque Isle, Michigan in 300' of water. Only three monitor style ships were ever built, and *Choctaw's* remains constitute the only known example of the monitor bulk freighter, a vessel type unique to the Great Lakes region and the iron ore industry. *Choctaw's* experimental vessel design was constructed to accelerate iron ore shipping by providing a hull that combined elements of steel bulk freighters and whalebacks. The *Choctaw* was discovered and positively identified in 2017 during a sanctuary-led expedition using phase measuring echosounder with combined bathymetry and side scan sonar imagery that helped map 94 mi² of Lake Huron. The expedition was funded by a grant from NOAA's Office of Ocean Exploration and Research, and made possible through research partnerships with NOAA's Great Lakes Environmental Research Laboratory, University of Delaware, Michigan Technological University, Northwestern Michigan College, and the Michigan Department of Natural Resources.

Florida Keys host groundbreaking coral restoration symposium

Reef Futures, the first global conference addressing coral restoration and intervention science took place Dec. 10-14, 2018 in Key Largo, Florida, bringing together more than 500 leading scientists and experts from nearly 40 countries. Florida Keys National Marine Sanctuary staff attended and presented with Superintendent Sarah Fangman delivering the address and a plenary session presentation. The groundbreaking symposium tackled the challenges facing coral reefs globally by sharing available solutions, promising new research, and experimental techniques. There was also an exciting announcement that the X-PRIZE will feature a multi-million dollar competition to facilitate faster, bigger, and better coral reef restoration. The gathering provided an excellent opportunity to share information and call for assistance to combat the historic outbreak of stony coral tissues loss disease affecting 22 species along the Florida Reef Tract.

 **MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES** 

MANAGEMENT

Monterey Bay National Marine Sanctuary Holds Advisory Council Meeting

On December 14th, MBNMS' Advisory Council met and received a series of presentations and updates on the State MPA Monitoring Action Plan, status of sea star wasting disease and recovery effort status of black abalone at Mud Creek. Actions included approving the Advisory Council 2019 calendar and recommendations on the proposed MPWC zone change in MBNMS' northern management area. The next meeting will be held on February 15th in Santa Cruz. 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

No news to report.

RESOURCE PROTECTION

Intensive Rotational Grazing Workshop

The California Marine Sanctuary Foundation conducted the third Healthy Soils Program demonstration workshop of 2018 on Dec 12 at Fiesta Farm. A total of 46 people attended the workshop to learn about rotational grazing and other farming practices that promote soil health and conservation. The healthy soils practices enable long term storage of carbon dioxide in the soil through improved microbial diversity that enhances plant growth and rooting depth, thereby removing greenhouse gases from the atmosphere and the ocean. Storing carbon on agricultural lands is an inexpensive way to remove carbon dioxide from the atmosphere and these practices also produce other on-farm benefits such as drought resistance and increased plant yields. The workshop sharing of how to implement these practices encouraged participants to extend these practices to the lands they manage

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

Sanctuary Exploration Staff Pilot "Virtual Fishing Trip"

On Friday December 14th as part of the *Fishermen in the Classroom* program and in partnership with Real Good Fish, Sanctuary Exploration staff piloted a Virtual Fishing Trip with students from Gault Elementary. While on a field trip to the Sanctuary Exploration Center, students learned about local fisheries, what is typically caught in the Sanctuary and how it is caught. They then live video chatted with fishermen, David Toriumi aboard his vessel in Half Moon Bay who had just returned for a full day and night of crab fishing. Dave gave a tour of his vessel and equipment while explaining how he catches crab. Dave had also recorded a short video the previous day while he was out fishing, that was shown to the students to see what fishing looks like out on the water. Students were then able to ask questions. Fisherman in the Classroom provides a face to our commercial fisheries and teaches students that our sanctuary can be the source of their seafood. Virtual fishing trips make it easier for fishermen to interact live with students and also provide a better view of fishing in action for the students.

Cabrillo College Students Bring Together the Community for an Evening about Plankton

Cabrillo College students organized and held an evening of presentations and discussion about their work on behalf of MBNMS Plankton Monitoring Program. Students presented a plankton overview, their scientific results from their monitoring efforts and important resource protection topics such as microplastics, harmful algal blooms and ocean acidification. A discussion after the student presentations with panelist Nicole Crane, Cabrillo faculty and marine scientist, Lisa Uttal, MBNMS Plankton Monitoring Program, Melissa Miller, UC Santa Cruz



Otter Veterinarian along with 120 attendees had an engaging and valuable discussion connecting microscopic plankton as a harmful algal bloom (HABs) to much larger and endangered species like the Southern sea otter, *Enhydris lutris*. Since February 2018, over 40 Cabrillo students have been part of a pilot volunteer Plankton Monitoring Network volunteer network to sample plankton weekly from 3 piers - Santa Cruz, Capitola and Sea Cliff, as well as collecting other ancillary data like water temperature and color, salinity and weather. This group is part of a larger MBNMS Plankton Monitoring Network where volunteers are collecting plankton from 7 piers and wharves along the coast and entering the data into a NOAA's National Centers for Coastal Ocean Sciences (NCCOS) database. Collecting plankton data over time and at many regional sites will help to understand the long-term trends of both phytoplankton and zooplankton and provide a long-term data set that can be used by managers, scientists and educators. Plankton as a citizen science educational activity is engaging and informative and is a catalyst to discussing the amazing biodiversity in MBNMS as well as important issues such as microplastics and ocean acidification.

NEWS COVERAGE

[Veteran engineer appointed to Monterey Peninsula Water Management District board](https://www.montereyherald.com/2018/11/20/veteran-engineer-appointed-to-monterey-peninsula-water-management-district-board/)

<https://www.montereyherald.com/2018/11/20/veteran-engineer-appointed-to-monterey-peninsula-water-management-district-board/>

Monterey Herald – November 20, 2018

<https://www.santacruzsentinel.com/2018/12/01/dan-haifley-our-ocean-backyard-next-step-on-offshore-oil-is-coming/>

Dan Haifley, Our Ocean Backyard: Next step on offshore oil coming

<https://www.santacruzsentinel.com/2018/12/01/dan-haifley-our-ocean-backyard-next-step-on-offshore-oil-is-coming/>

Santa Cruz Sentinel – December 1, 2018

[Scientists study how an offshore wind farm may impact California wildlife](https://www.santacruzsentinel.com/2018/12/06/scientists-study-how-an-offshore-wind-farm-may-impact-california-wildlife/)

<https://www.santacruzsentinel.com/2018/12/06/scientists-study-how-an-offshore-wind-farm-may-impact-california-wildlife/>

Santa Cruz Sentinel – December 6, 2018

[Earth Matters: Climate goals for the coming year](https://www.santacruzsentinel.com/2018/12/06/earth-matters-climate-goals-for-the-coming-year/)

<https://www.santacruzsentinel.com/2018/12/06/earth-matters-climate-goals-for-the-coming-year/>

Santa Cruz Sentinel – December 6, 2018

[Scientists listen to the sounds of ‘silence’ in Monterey Bay](https://www.mercurynews.com/2018/12/17/scientists-listen-to-the-sounds-of-silence-in-monterey-bay/)

<https://www.mercurynews.com/2018/12/17/scientists-listen-to-the-sounds-of-silence-in-monterey-bay/>

The Mercury News – December 17, 2018

[What scientists hear when they mike up Monterey Bay](https://www.mercurynews.com/2018/12/18/what-scientists-hear-when-they-pipe-into-monterey-bay/)

<https://www.mercurynews.com/2018/12/18/what-scientists-hear-when-they-pipe-into-monterey-bay/>

The Mercury News – December 18, 2018

[2018: The year in review](http://goodtimes.sc/cover-stories/2018-year-review/)

<http://goodtimes.sc/cover-stories/2018-year-review/>

Good Times Weekly – December 19, 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.caitlinseaviewsurvey.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
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Research

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Jennifer Brown – SIMoN Ecosystem Scientist
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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

Raymond Chisolm – Program Specialist
Nichole Rodriguez – Advisory Council Coordinator
Andrew White – Network Manager and Webmaster



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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