



Monterey Bay National Marine Sanctuary

Sanctuary Office Report

Volume 18, Number 3



A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS

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ABOUT THE SANCTUARY

Designated in 1992, Monterey Bay National Marine Sanctuary (MBNMS or Sanctuary) is a federally protected marine area offshore of California's central coast. Stretching from Marin to Cambria, MBNMS encompasses a shoreline of 276 miles and 6,094 square statute miles of ocean.

Supporting one of the world's most diverse marine ecosystems, it is home to numerous mammals, seabirds, fishes, invertebrates and plants in a remarkably productive coastal environment. MBNMS was established for the purpose of resource protection, research, education and public use of this national treasure.

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

Phytoplankton Monitoring Network: 20 Years of Citizen Science and Still Growing

The National Phytoplankton Monitoring Network (PMN) is celebrating 20 years of improving harmful algal bloom (HAB) research through its citizen science monitoring efforts. The program has supported a national community-based network of volunteers monitoring marine and freshwater phytoplankton and HABs since 2001. PMN recognizes the connection between humans and coastal ecosystems, and provides volunteer citizen scientists with meaningful opportunities for hands-on science engagement. Over the years, the program has enhanced the nation's ability to respond to and manage the growing threat posed by HABs by collecting important data for species composition and distribution and creating working relationships between volunteers and professional researchers. For more information:

<https://coastalscience.noaa.gov/news/phytoplankton-monitoring-network-20-years-of-citizen-science-and-still-growing/>

Despite pandemic shutdowns, carbon dioxide and methane surged in 2020

Levels of the two most important anthropogenic greenhouse gases, carbon dioxide and methane, continued their unrelenting rise in 2020 despite the economic slowdown caused by the coronavirus pandemic response, NOAA announced today. These graphs depict the mean global atmospheric burden of carbon dioxide as analyzed from measurements collected by NOAA's Global Greenhouse Gas Reference Network. Credit: NOAA Global Monitoring Laboratory. The global surface average for carbon dioxide (CO₂), calculated from measurements collected at NOAA's remote sampling locations, was 412.5 parts per million (ppm) in 2020, rising by 2.6 ppm during the year. The global rate of increase was the fifth-highest in NOAA's 63-year record, following 1987, 1998, 2015 and 2016. The annual mean at NOAA's Mauna Loa Observatory in Hawaii was 414.4 ppm during 2020. For more information: <https://research.noaa.gov/article/ArtMID/587/ArticleID/2742/Despite-pandemic-shutdowns-carbon-dioxide-and-methane-surged-in-2020>

Celebrating Asian American and Pacific Islander Heritage Month

May is Asian American Pacific Islander Heritage Month, which pays tribute to generations of Asian and Pacific Islanders who have enriched our nation's history and are instrumental to its future. Join us in celebrating this month by meeting some of our colleagues from coast to coast who help NOAA Fisheries ensure sustainable fisheries, conserve and recover protected species, conduct scientific research, and conserve important habitats. For more information: <https://www.fisheries.noaa.gov/feature-story/celebrating-asian-american-and-pacific-islander-heritage-month>

NATIONAL MARINE SANCTUARY NEWS

Sanctuary Initiates Program to Protect Historic Shipwrecks and Fishing Vessels

Deputy Superintendent Ben Haskell and colleagues from the NMFS Greater Atlantic Regional Fisheries Office published a fishery bulletin requesting that commercial fishing vessels, particularly scallopers and bottom trawlers, avoid 11 historic and modern wrecks located on the northwest corner and southeast corner of Stellwagen Bank. The vessels are requested to stay 400 feet away from these wreck sites for their own safety and to protect the integrity of the shipwrecks. This notice is part of the sanctuary's innovative pilot Shipwreck Avoidance Program dedicated to encouraging commercial and recreational fishing vessels to voluntarily avoid the disclosed locations of select shipwreck sites at high risk of damage from fishing. Most of the documented historic shipwrecks in the sanctuary are impacted to varying degrees by various types of fishing gear. For example, the sanctuary's most iconic historic shipwreck, the steamship Portland which sank in 1898, has two large trawl nets draped on its starboard and port bow (see image). The bulletin was subsequently reported on by two news outlets, the Gloucester Times and Saving Seafood, that are read widely by commercial fishing interests. This collaboration with NMFS helps achieve NOAA's mandate to protect historic shipwrecks and other maritime heritage resources as required by the National Marine Sanctuaries Act and the National Historic Preservation Act.

Hawaiian Islands Humpback Whale National Marine Sanctuary Works with the On-water Community to Monitor Humpback Whales in Distress

The Hawaiian Islands Humpback Whale National Marine Sanctuary works with and relies heavily on the on-water community on reports and subsequent monitoring of humpback whales entangled, ship-struck, or otherwise in distress. Over the years the sanctuary program has received more than 1100 documented reports of whales in distress. This season alone more than 75 reports were received, the majority coming directly to the sanctuary's Natural Resource Specialist, Ed Lyman. As an example, on March 24 the sanctuary received a report of an adult, female humpback whale with wounds suggesting it had suffered blunt-force trauma. The animal was in extremely poor health, being emaciated and covered in whale lice (cyamid amphipods). Since then, the sanctuary has received more than 15 reports, from 9 different tour and fishing operations on the animal working with the sanctuary over a 10-day period, providing valuable first responder risk assessment. Subsequently, the sanctuary has mounted three response efforts itself to obtain additional information. The last response occurred on April 2 when a group of kayakers came across the animal. Luckily the sanctuary crew, which was conducting health and risk assessment monitoring nearby, was able to be on scene within 5 minutes of the call and gather additional documentation towards further assessment. HIHWNMS conducts numerous response efforts on compromised humpback whales and compiles information from these and other efforts to protect the animals and their habitat. Over the years, the sanctuary has freed more than 34 whales from life-threatening entanglements. While the sanctuary staff may not be able to directly assist this animal and every other animal they receive a report on, HIHWNMS along with their partners have helped many animals and garnered a wealth of information that may better understand and reduce threats that pose risks and impact humpback whales and their habitat.

Dive Clean-up Highlights Impact of Goal: Clean Seas Florida Keys

Fabien Cousteau, grandson of environmental icon Jacques-Yves Cousteau, was part of a team that removed almost 700 pounds of derelict traps, rope and other debris from the sea floor off Key Largo as part of Florida Keys National Marine Sanctuary's Goal: Clean Seas Florida Keys. The dive took place in an area known as Turtle Reef and was organized by Blue Star Operator, "The Dive Shop at The Reef." Goal: Clean Seas Florida Keys program was established in 2018 in the wake of Hurricane Irma to remove debris scattered across the sea floor. The National Marine Sanctuary Foundation provides grants to Blue Star Dive operators who have been properly trained and permitted in sea floor clean up. More than 50,000 pounds of debris have been removed to date. The dive was also helmed by members of Ocean Rebels, a group of powerful women championing environmental change through films, advocacy, and expeditions.



MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



MANAGEMENT

Monterey Bay National Marine Sanctuary Holds Virtual Advisory Council Meeting

On April 16, MBNMS held its second Advisory Council (AC) meeting (virtually) of the year. The AC received presentations regarding restorative aquaculture within MBNMS, Education and Outreach team activities and a summary of MBNMS AC Virtual Coffee Talks. The AC also received a presentation regarding the potential future move of MBNMS's office space and voted to approve a letter of support for this potential move. The next meeting will be held virtually on June 18. 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.

Central California Coast Indigenous Communities History Training

Monterey Bay National Marine Sanctuary (MBNMS) conducted an internal training on the history of Central California Indigenous Communities, followed by a discussion of opportunities for improved engagement with area Indigenous Communities. Training included key concepts related to working with Native American Tribes, historic and contemporary policies at both the federal and state levels. The California Native American Heritage Commission maintains a list of both federally recognized and non-federally recognized California Tribes. This list is used by state agencies to identify Indigenous Communities that need to be consulted per California law. There are 12 such groups adjacent to MBNMS. Engagement with Indigenous Communities has been identified as an Office of National Marine Sanctuaries priority. Research on the history and status of contemporary Indigenous Communities is a necessary first step in support of this goal.

RESEARCH AND MONITORING

Maritime Heritage web page expanded with historic shipwreck profiles

In an effort to educate and inform the public about submerged cultural resources within Monterey Bay National Marine Sanctuary (MBNMS), four historic wrecks have been added to the shipwreck profile web pages. The four new profiles include: schooner Active (1872-1876), steam schooner Celia (1884-1906), steam freighter La Feliz (1904-1924), and passenger cargo steamer/barkentine St. Paul (1875-1896). Each shipwreck profile includes the following: vessel images; vessel origin and specifications; nature of vessel casualty; map of approximate wreck location; original newspaper articles describing the vessel and wreck event; and references. Additional shipwreck profiles will be created and added to the site. More than 460 known losses occur within, or adjacent to, MBNMS. NOAA's Office of National Marine Sanctuary is committed to preserving historical, cultural and archaeological resources and seeks to increase public awareness of America's maritime heritage by conducting scientific research, monitoring, and exploration and educational programs. Shipwreck profiles are available at: <https://montereybay.noaa.gov/maritime/losses.html>.

Characterization of Human Uses in MBNMS

In an effort to characterize long-term trends in commercial fisheries landings (pounds and values) from ports within Monterey Bay National Marine Sanctuary (MBNMS), staff from Monterey Bay and Channel Islands national marine sanctuaries met to discuss the project and a data sharing agreement with California Department of Fish and Wildlife. Data will be used to create fisheries landings summary tables and figures for the MBNMS Superintendent and west coast regional office. This work will help characterize human uses in MBNMS and the region. Characterization of human uses in MBNMS deepens our understanding of sanctuaries including the balance of multiple uses, resource protection, and public stewardship.

Deep-sea research cruise to Sur Ridge and Davidson Seamount

In collaboration with the Monterey Bay Aquarium Research Institute (MBARI), Monterey Bay National Marine Sanctuary (MBNMS) staff will participate in a deep-sea research cruise to Sur Ridge and Davidson Seamount aboard MBARI's R/V *Western Flyer* (June 27-July 2). Primary objectives include the recovery and deployment of instruments to maintain the deep-sea coral observatory in the Sanctuary Ecologically Significant Area (SESA), Sur Ridge. Marked corals will be observed and measured to maintain long-term growth and natural history studies. And, environmental DNA will be collected for a biodiversity assessment of the SESA. Video footage will be collected at the Davidson Seamount octopus brooding garden for an upcoming British Broadcasting Corporation (BBC) production. The public tuned into a livestream event with scientists studying Sur Ridge corals on June 30th at 11:00 am PT. 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. Providing detailed information on coral growth, age, predation at the regularly visited Sur Ridge coral observatory provides additional context for the broader West Coast Deep-sea Coral Initiative.

New Research Reveals Ocean Noise from Shipping Traffic Reduced During the COVID-19 Pandemic

A new publication describes how noise in NOAA's Monterey Bay National Marine Sanctuary decreased during the COVID-19 pandemic. The decrease in low frequency sound, similar to frequencies at which large whales communicate, was correlated with a decrease in shipping traffic. Assessing anthropogenic sound impacts on ocean health is a critical component of the SanctSound collaboration between NOAA and the Navy. Building on the NOAA Ocean Noise Strategy Road Map and the NOAA/Navy SanctSound program, NOS is developing innovative methods to detect and analyze ocean sound as it is related to commerce and ocean health. Web links:

NOAA Ocean Noise Strategy

Roadmap: https://cetsound.noaa.gov/Assets/cetsound/documents/Roadmap/ONS_Roadmap_Final_Complete.pdf

SanctSound NOAA/Navy Collaboration:

<https://sanctuaries.noaa.gov/science/monitoring/sound/>

Shipping Sound and COVID web site:

<https://www.mbari.org/pandemic-reduced-ocean-noise/>

Scientific Journal Publication in *Frontiers in Marine Science*

<https://www.frontiersin.org/articles/10.3389/fmars.2021.656566/full>

“Discover Wonder: The Octopus Garden” Wins Best Short Film at the International Ocean Film Festival

The National Marine Sanctuary Foundation's film, “Discover Wonder: The Octopus Garden,” was honored with the Shorts Award as the best short film at the 18th Annual International Ocean Film Festival. [The 9-minute film](#) follows a team of scientists to the depths of NOAA's Monterey Bay National Marine Sanctuary to view one of the rarest and deepest octopus brooding colonies on the planet, which was discovered by MBNMS researchers on the Ocean Exploration Trust's E/V *Nautilus* in 2018. The film, along with the rest of the winners and entrants, can be viewed as part of the International Ocean Film Festival from April 15 to May 2. The film was written, directed and edited by John Dutton; produced by the National Marine Sanctuary Foundation; narrated by MBNMS Research Ecologist Chad King, and funded by the Tides Foundation. The film was also supported by NOAA's Office of National Marine Sanctuaries. This international award is a significant recognition of the quality and importance of this short film and will increase awareness of the film and the “Octopus Garden” discovery.

New Day-Boat *Tegula* Arrives in Monterey

The long-awaited 22' Radon day boat *Tegula* was delivered to Monterey on 4/28, with her first sea trials in Monterey early 4/29. Outfitted with twin Honda outboard BF150s, she has great power but is amazingly quiet. With a cruising speed of 25 knots and a flat-water cruising speed of 30 knots and a range of 70 nm., she will be a

tremendous asset to MBNMS and other west coast sanctuaries in CA. The *Tegula* will serve primarily as a dive platform, but will be used for emergency response, regulatory inspections, resource protection missions and educational cruises. In addition, she will be utilized for select collaborations with California State University, Monterey Bay student research. She is outfitted with a small swim platform, extended dive ladder, side entry/exit, and a pot hauler. MBNMS and WCRO staff are training on operations this week and next, with additional opportunities for additional staff to certify. Total capacity = 6 people (non COVID). Small boats like the *Tegula* provide easy, on-the-water operations and will expand the ability of MBNMS staff to respond to emerging and emergency issues, enhance research dive operations and help establish a more regular on-the-water presence with our OLE partners.

Take A Deep Dive in Monterey Bay National Marine Sanctuary

On May 5, Monterey Bay and Greater Farallones national marine sanctuaries education and research staff joined *Exploring by the Seat of Your Pants* for a live virtual presentation on the 2020 E/V *Nautilus* expedition to students and classrooms around North America. Participants from around the globe joined via the YouTube streaming platform and six camera classrooms joined us on StreamYard as we explored Pioneer Canyon's deep-sea corals, sponges, and fish life before taking a trip to revisit the octopus garden and the whale fall discovered near Davidson Seamount. Students were actively engaged with polls, chat questions, and through underwater videos and images. Presenters also provided viewers with possible career opportunities for those interested in ocean conservation, science, technology, and art. This presentation was the final of three presentations with EBTSOYP that focused on 2020 E/V *Nautilus* expeditions in national marine sanctuaries of the West Coast, with Olympic Coast highlighted on April 21 and Channel Islands/Santa Lucia Bank on April 28th. View the YouTube recording here: <https://www.youtube.com/watch?v=pwaAhLcRZag>. With the ocean being largely unexplored, opportunities to explore and share the rarely seen deep-sea habitats help to enhance Ocean Literacy, promote awareness of the sanctuary, and foster a sense of ocean conservation through outreach, education, and interpretation efforts.

MBNMS Research Activity Panel Holds Virtual Meeting Focused on NOAA SanctSound Project

On May 14, Monterey Bay National Marine Sanctuary (MBNMS) Research Activity Panel (RAP) met virtually. A majority of the meeting was dedicated to the NOAA SanctSound project and related research. Agenda items and presentations included: Update on NOAA SanctSound Project; MBARI Listening Sensors on MARS to Study COVID-Related Changes in Noise, Whale Seasonality, and Distribution of Calling Whales; COVID-Related Changes in Noise from SanctSound and Parallel Studies of Stress Responses in Whales; Daily and Hourly Patterns of Humpback Whale Vocalizations in MBNMS; NOAA West Coast Region Soundscape Monitoring - Next Steps; Summary of April 2021 MBNMS Advisory Council Meeting; Updating the Document "Major Marine Sciences Facilities in the Monterey Bay Crescent"; and Monterey Marine Innovation Project. The MBNMS Research Activity Panel (RAP) is a working group of the MBNMS Advisory Council (AC). The RAP meets five times per year, and advises AC and sanctuary staff on basic and conservation science issues. <http://montereybay.noaa.gov/sac/rap/rapma.html>

RESOURCE PROTECTION

MBNMS coordinates with US Coast Guard on large vessels waiting offshore for anchorage

During the past few weeks, there has been a lack of immediate anchorage in the Port of San Francisco (SF) for large container vessels and some laden oil tankers to offload in Oakland and other SF harbors causing vessels to wait for days along the coastline for an anchorage to open up, and they are stationing very close to shore and areas of sensitive habitat. This is due to longshoremen labor shortages, COVID, and other complicating factors, and is also occurring in other west coast ports. On a given day, there are 8-12 vessels waiting offshore along the MBNMS shoreline. We have recently coordinated with USCG on three occasions, including an oil tanker

waiting just offshore of Año Nuevo Island which is home to an elephant seal rookery, and two cargo vessels moving close in along the Santa Cruz and Monterey Peninsula coastlines. Each time, USCG has worked with us to communicate with the vessel skippers to request they move further offshore, west of the IMO Recommended Tracks and safely away from sensitive habitats, and each vessel has swiftly complied. We are now working with the US Coast Guard on a Marine Safety Information Bulletin to be sent to all mariners on approach to the Port of SF for their information and awareness about safely transiting and stationing in a national marine sanctuary and the IMO recommended tracks. The [IMO recommended tracks in MBNMS](#) were put in place to reduce the risk of a spill or collision in a national marine sanctuary, and there was an agreement for tankers to stay 50 miles offshore and use the western TSS when entering or leaving SF. There are exceptions including weather and mechanical issues, yet without extenuating circumstances USCG and MBNMS expect tankers to comply with the IMO recommended tracks.

Biodegradable Mulch Trials in Strawberry Production

Nearly 4000 tons of plastic mulch is used in strawberry production each year in Monterey County for fumigation, crop protection and weed control. Most of this plastic is removed from the field and disposed of to a landfill, however fragments break off into the soil and are carried by wind and water to local streams and rivers, and eventually transported to the Pacific Ocean. A team of growers, researchers and the Monterey Bay National Marine Sanctuary are involved in a trial of biodegradable mulch at a small scale on five different strawberry fields. The team visited all five fields on 3/30/21 to view performance and get feedback from growers. So far the biodegradable mulch is performing on par with polyethylene mulch. Plastic in the Pacific Ocean and Monterey Bay is harmful to marine life. The best solutions are to prevent entry to the ocean. Biodegradable mulch may be a viable alternative for strawberry production, however this product needs to be trialed in a production setting to test its performance.

Conservation Working Group members meet Virtually

On April 8, the CWG held a virtual meeting to discuss a variety of issues, share member updates and brainstorm on topics for the next meeting. Dan Haifley provided a comprehensive presentation on MBNMS changes for Motorized Personal Watercraft zones and regulations, as well as the history on stakeholder involvement and future management plan activities to assess use of the zones. The Conservation Working Group (CWG) is a working group of the MBNMS Advisory Council and includes groups such as Save Our Shores, O'Neill Sea Odyssey, Sierra Club, and others. The CWG meets monthly, and advises the SAC and sanctuary staff on conservation issues.

Earth Day Celebration of Soil Health Efforts

Food systems are responsible for a third of the global anthropogenic GHG emissions from food production, processing, transport, packaging and consumption. Of this third, over 60% is related to food production, which includes farming and ranching. Studies of farming and ranching methodologies have revealed that specific management practices can sequester carbon dioxide back into the soil. On Saturday April 24, MBNMS participated in a seminar hosted by MEarth to provide education and information to families about how this CO₂ sequestration works to improve soil health and benefit the ocean. We discussed how family food purchasing decisions can support farms engaging in these regenerative practices. The soil can be a sink for CO₂, pulling it out of the air and storing it as soil carbon that benefits the soil ecosystem and helps foster delivery of nutrients to plants. Using farming methods to accomplish this is challenging and farmers are trying to adapt their production methods and schedules. If they are successful, these efforts could have a large impact on the pace of climate change.

21st annual Snapshot Day- complete!

On Saturday May 1, fifty-two volunteers monitored seventy-five creek and river sites in four counties (San Mateo, Santa Cruz Monterey and San Luis Obispo) as part of Snapshot Day 2021. This year's event was the 21st annual Snapshot Day and was conducted to accommodate COVID precautions that protected volunteers and staff. For most of the seventy-five sites that Snapshot Day volunteers monitored this year, Snapshot Day is the only day all year they are monitored. Snapshot Day data is available through the California Environmental Data Exchange Network (CEDEN) and is used by the California State Water Quality Control Board to determine if stretches of waterways are impaired under any of the field measurements (water temperature, pH, dissolved oxygen or water clarity) or lab analyses (*E. coli*, nitrate as N, and phosphate as P). Snapshot Day could not be conducted without the support of local cities, counties, resource conservation districts, local watershed advocacy organizations and MS4 permit groups as well as the incredible volunteers. 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 programs and raise awareness of the importance of good water quality in our local creeks.

Oil slick reported along 5-mile stretch of Monterey Peninsula shoreline

On Thursday, May 6, an oil sheen was reported in multiple locations along the Monterey Peninsula shoreline in the vicinity of many marine mammals and sensitive habitats. An all-out response occurred including USCG, City of Monterey, CDFW/OSPR, OLE, and MBNMS emergency responder as well as the new R/V Tegula. At the time there were over 30 fishing vessels in the area fishing for squid. Reports came in from many sources identifying the source of the sheen as oily bilge water coming from one of the squid boats. The USCG boarded and inspected the vessel. The fog cleared to sunshine and the winds picked up dramatically so no cleanup efforts were initiated. All parties were in close communications and the event was a good drill. It was also fortuitous that the new MBNMS vessel had planned for some underway time and the crew was able to make a sanctuary presence as well as be our eyes on the water. Oil spills are a constant threat whether from land activities or vessels. Having established good relationships with other response organizations and effective communications are key to a successful outcome. We were lucky this was a minor event but the response was impressive and connecting with other responders was valuable.

NYK DELPHINUS: Deadship towed from Davidson Seamount through MBNMS to SF Bay

On May 14, US Coast Guard received a distress call from the container ship NYK DELPHINUS for a fire in the engine room, while 40nm west off Point Sur. The 965 ft. ship activated its onboard firefighting (CO₂) system and requested shoreside assistance. There were 24 POB O/B, no injuries reported and no reports of pollution. Vessel was adrift with no propulsion and limited power. USCG treated this as a Major Marine Casualty and stood up an Incident Command Post (ICP) in Emeryville and invited trustee resource agencies and other stakeholders to join the virtual ICP three times daily.

The vessel's fire disabled the engine room and inspections three days later showed a bowling size hole in the crankcase. The vessel had no working switchboard or generator, and no power, steerage, rudder, and winches, which together is considered a deadship. The RP's insurance contracted with Resolve Marine Group and they developed a Deadship Tow Plan, which MBNMS reviewed and approved. Four tugs were deployed from multiple ports and carried master salvors and fire crew with provisions to the vessel. It took well over 8 hours for the first tug to arrive and over 24 hours for all four tugs to get on scene, de-water and start cooling the bulkheads, and get in position to tow. During this time, NOAA ERD was able to provide a wind trajectory for the drifting vessel, as it moved over Davidson Seamount.

It was fortunate that the vessel was quite far offshore, as it began drifting southeast and closer to shore. The vessel was carrying 7000m³ of fuel as well as up to 4,888 containers. The salvors worked closely with USCG Sector SF, Cal OES, and NOAA (MBNMS) to inspect, secure, and safely tow the vessel with permissions through the sanctuary, which was the most direct route back to port.

The Incident Command continued over the following four days until the ship was maneuvered from Davidson Seamount northeast through the IMO recommended tracks in MBNMS and safely secured into port of Oakland. NOAA's national marine sanctuaries work closely with US Coast Guard and other emergency responders through the incident command system in order to resolve a major marine casualty, such as a large deadship that has the potential to sink and cause a catastrophic incident.

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

MBNMS Exploration Center Update:

During the week of July 19th-July 23rd, Sanctuary Exploration Center staff initiated refreshing and retraining volunteers at the Exploration Center. Eleven people arrived for reorientation, in small groups of two, wore masks and kept appropriately spaced to maintain proper COVID protocols. While the Exploration Center is closed to the general public, it is important to still engage our regular audiences including school groups, volunteers, and the public. Since schools are closed for summer, live virtual environmental education is in demand. Distance learning programs such as these are the only sort of "field trip" students will have this year. Additionally, MBNMS is able to reach a wider audience and from broader demographics than with traditional in-person programs

MBNMS Staff Meet with Congressman Panetta to share a Salmonid Exhibit

Monterey Bay National Marine Sanctuary Lisa Uttal and acting superintendent Lisa Wooninck met with Congressman Panetta at the Sanctuary Exploration Center in Santa Cruz, CA to share their Salmonscape exhibit. Staff member Lisa Uttal, exhibit project lead, presented the background and partnerships of the exhibit and the stories about salmon and fishermen (life history, people and salmon and what you can do in your personal life to protect salmon, sanctuary and US Forest Service watershed conservation work). Several themes, stories and messages about California salmon came together in an interactive exhibit that uses colorful, fun and accurate art by Ray Troll, a collaborator. This exhibit was developed and designed in partnership with NOAA's National Marine Fisheries Service (NMFS), U.S. Forest Service and the National Marine Sanctuary Foundation. In addition to the exhibit, some education and outreach pieces developed so far include a Salmonscape poster, salmon recipe cards and a deck of cards. The exhibit will be on display for a few months at the Exploration Center once the facility opens to the public. The exhibit is slated to go to other partner locations in CA as a traveling exhibit. In FY22, there are plans to launch the exhibit with a salmon event in partnership with NMFS, as well as develop some compatible curriculum to complement the exhibit. Salmon are anadromous and travel up and down the creeks and rivers from sanctuary waters to the Sierra Nevada. NMFS does much of the research informing the management of these fishes. Sanctuaries and USFS do critical conservation work with water quality and river restoration to help salmon populations in the state. The salmon story impacts all of us and we have a part as stewards to protect these incredible endangered organisms.

MBNMS Hosts ONMS Webinar Series

On June 23, MBNMS in partnership with Monterey Bay Aquarium Research Institute, hosted an ONMS webinar series titled "Revealing the Mysterious Coral and Sponge Gardens of Sur Ridge in Monterey Bay National Marine Sanctuary." The webinar featured MBARI staff and highlighted MBARI's upcoming, live streamed expedition to Sur Ridge in the sanctuary for June 30. This ONMS webinar was well-attended with 609 registrations, 344 attendees (including logins with multiple attendees), representing 35 states of the U.S. and 14 other countries. Of those who completed the post-seminar survey; 96% agreed or strongly agreed that the content of the webinar helped them understand that national marine sanctuaries help protect the ocean and Great Lakes, 99% were likely to attend another ONMS seminar in the future, and 98% said they were likely or very likely to recommend this seminar series to others. Distance learning programs such as these are able to reach a wider audience and from broader demographics to highlight sanctuary research, resource protection, and bring awareness of emerging issues to the public.

Wildlife Viewing Calendar is finished and installed at the Sanctuary Exploration Center

The newest hard sign addition to the Sanctuary Exploration Center is a dynamic wildlife viewing calendar for the Greater Monterey Bay Area. The Sign highlights when visitors are most likely to spot iconic species within the sanctuary. The sign has also to indicate which species have been directly observed by whale watching operations and other professional institutions within the given week. This information is quickly and easily updated by moving a magnetic marker on the sign. The sign graphics were designed in house and the magnet receptive sign was printed by Santa Cruz Signs. Exhibits like this wildlife viewing calendar allow visitors to the exploration center to learn what types of animals can be seen in the sanctuary at any given time. This sign highlights the richness of iconic and charismatic species that can be spotted within Monterey Bay National Marine Sanctuary. This calendar will serve as an outstanding education tool for our visitors and Exploration Center volunteers as well as encourage them to get out into the sanctuary in hopes of spotting their favorite Sanctuary inhabitant.

Web Story: Understanding Underwater Noise in Monterey Bay National Marine Sanctuary

MBNMS in collaboration with Monterey Bay Aquarium Research Institute (MBARI) and the SanctSound group (<https://sanctuaries.noaa.gov/news/feb21/sanctsound-overview.html>) completed a webstory on the sound analysis of a single cruise ship arriving and departing Monterey Bay. Cruise ships, while infrequent to Monterey Bay introduce a new kind of sound to the soundscape and are some of the first large vessels coming close to shore. In this webstory, videos and images were used to interpret and bring the subject of sound alive visually.

<https://sanctuaries.noaa.gov/news/apr21/understanding-underwater-noise.html>

Studying and analyzing the sounds made by cruise ships and other human and natural sources in MBNMS highlight how important it is to monitor soundscapes throughout the year and for long periods of time. By recording over months and years and analyzing individual sources of sound, we can assess the influence of human activities and how they interact with the natural environment. With this knowledge, SanctSound scientists help sanctuary managers better understand Monterey Bay National Marine Sanctuary's ecosystem, and in turn help us make well-informed decisions about how to protect it.

Deep-sea Coral Restoration web story published

On Thursday, April 15, MBNMS published a web story on ONMS website entitled "[Shedding Light: Saving Deep-sea Coral Communities](#)" that highlights our work with Monterey Bay Aquarium Research Institute (MBARI) on coral restoration at Sur Ridge within the sanctuary. This groundbreaking study includes detailed biological and ecological examination of deep-sea corals and how damaged corals can be restored at deep depths through the transplantation of live coral fragments. The story also highlights the recent National Marine Sanctuaries Conversation Science Series "[Guide to Translocating Coral Fragments for Deep-sea Restoration](#)" published in June 2020. Increasing public awareness, knowledge, and understanding of threats of climate change and human activities to deep ocean environments helps to build environmental stewards. Highlighting the research, resource protection, and conservation work of national marine sanctuaries can bring increased support for ocean protection, and restoration strategies like this are critical to ensuring the special places and living communities that national marine sanctuaries protect are able to thrive.

Media Release: Utah man sentenced to prison for killing and mutilating San Simeon elephant seal

In September, 2019, volunteers for the nonprofit organization, Friends of the Elephant Seal, observed an elephant seal carcass on the beach at the main viewing area for the Piedras Blancas elephant seal colony. They identified unusual markings on the carcass and reported the incident to the MBNMS office at San Simeon, as well as NOAA's Office for Law Enforcement. NOAA OLE investigated and apprehended the offender, Jordan Peter

Gerbich, who pleaded guilty. On April 12, 2021, Gerbich was sentenced to three months in federal prison, followed by three months of home detention and one year of supervised release. He will also be required to perform 120 hours of community service and pay a \$1,000 fine. See the link to the news release here: <https://www.justice.gov/usao-cdca/pr/former-santa-maria-resident-sentenced-three-months-federal-prison-shooting-elephant> MBNMS partnerships with local environmental organizations help them understand resource protection mandates. MBNMS's ongoing partnership with Friends of the Elephant Seal volunteers had a direct influence on their vigilance and actions. Their involvement was critical to the discovery and rapid reporting of the crime.

MBNMS' maritime heritage history and underwater resources presentation to MBNMS Volunteer Seminar Series webinar, April 15

Robert Schwemmer, West Coast Regional Maritime Heritage Coordinator, gave a virtual webinar presentation on MBNMS' maritime cultural landscape. His presentation included 19th century U.S. Coast Survey charts, maps, and published accounts, and included details about the collision of the SS San Juan with the tanker S.C.T. Dodd off Davenport in 1929. The WWII airship USS Macon, lost off Point Sur and the oil tanker SS Montebello, torpedoed off Cambria in 1941 were described; both sites are now listed on the National Register of Historic Places. The presentation was hosted by Michele Roest and facilitated by Acy Wood from the MBNMS Education Team. The webinar was recorded and the link is available to volunteers and public. Maritime heritage resources add an important dimension to our understanding and appreciation of our nation's rich maritime legacy. Dissemination of maritime heritage information to volunteers and staff provides continued education and understanding of the cultural resources protected within MBNMS boundaries.

Event: MBNMS Staff participate in Save Our Shores Panel: Plankton Makes the World (and the sanctuary) Go Round

Lisa Uttal, along with several other panelists from the Plankton Monitoring Network (Cabrillo College, UCSC Kudela Laboratory) gave a virtual, interactive, and fact-filled plankton presentation to 81 public members for Save Our Shores, a local non-profit. The presentation included artful photography of plankton, an intro to why phytoplankton are arguably the most important organisms on earth and a reason MBNMS is one of the most biodiverse ecosystems, and such an incredible place to recreate and view wildlife. In addition, the audience was given a peak into a drop of water with a live viewing of plankton under the microscope. Samples were collected in Monterey and Santa Cruz on the same day and shown to the public virtually. To see the full presentation, go to: <https://www.youtube.com/watch?v=vvio2ZSVjfl>. Plankton does make the MBNMS 'go around' and contributes to so many ecosystem services that makes our sanctuary a significant and important marine protected area to protect.

(April 27) Monterey Bay National Marine Sanctuary (MBNMS) staff in partnership with California State Parks and California Department of Fish and Wildlife (CDFW) team up to do a joint presentation on federal and state marine protected areas (MPAs).

Lisa Uttal (MBNMS) and Sara Worden (CDFW) teamed up with California State Parks to do a virtual MPA presentation to 96 state park docents. This presentation was a part of a 3-part series for State Parks. Monterey Bay National Marine Sanctuary has within its boundaries several state MPAs and the mission of both agencies is ocean and coastal protection through conservation, research and education/outreach. Docents were given overview of both state and federal protected areas, where they are located and some regulations. The connection between MBNMS incredible biodiversity to all the ecosystem services, as well as the plethora of recreational and wildlife viewing opportunities were discussed. In addition, the docents were treated to a tour of live plankton that was collected that morning by Cabrillo College citizen scientist Morgan Rector. Monterey Bay National Marine Sanctuary, State Parks and California Department of Fish and Wildlife work together to do science-based

stewardship in our marine protected areas. There are 40 State Parks and 23 State Marine Protected Areas within MBNMS. This collaboration is further strengthened because Lisa Uttal is a co-chair for the Santa Cruz State MPA Collaborative of which Sara Worden is a member and a CDFW MPA Coordinator. This partnership promotes productive collaboration between these agencies.

Coastal Discovery Center and Michele Roest highlighted in The Cambrian article 5/13/21.

Cambrian journalist Kathe Tanner, highlighting a presentation to be given for the North Coast Advisory Council on Wednesday, May 19. Media outreach is part of the Education mandate; the article promotes a partnership with regional advisory board (North Coast Advisory Council).

<https://www.sanluisobispo.com/news/local/community/cambrian/>

Sanctuary Exploration Center Launches Pilot Virtual Docent Training Program

On May 20, the Sanctuary Exploration Center volunteer coordinator Acy Wood met with veteran Exploration Center docents to initiate a pilot Virtual Training program. The program is designed to provide a refreshment of MBNMS interpretation topics and eventually train newly recruited Volunteers. The course is composed of 10 individual modules, each containing a written manual section, supplemental reading/web materials, a lecture video, a review quiz, and any relevant exhibit interpretive guide sheets. Volunteers piloting the program will be reviewing content and evaluating how to improve the program to meet expectations. While the Exploration Center is closed to the general public, it is important to still engage our regular audiences including school groups, volunteers, and the public. Since schools are mostly closed, live virtual environmental education is in demand. Distance learning programs such as these are the only sort of “field trip” students will have this year. Additionally, MBNMS is able to reach a wider audience and from broader demographics than with traditional in-person programs.

MBNMS Staff present to International Group of Educators and Students

On May 27, Chelsea Prindle presented to the “We Are In This Together” Global Educators group virtually as part of their “World Ocean Week” activities. Over 100 participants from 22 different countries (mostly from the Middle East) logged into a live stream on either Facebook or YouTube. The presentation focused on the diverse habitats and wildlife of MBNMS, several current research projects, and examples of virtual tools educators can use with their students. Virtual engagement opportunities have been a great way to reach wide and diverse audiences that we would not normally be able to reach physically. Sharing the wonders of MBNMS to an international audience can recruit new users of our virtual materials.

Sanctuary Exploration Center Monthly Report

March 27-April 2: Sanctuary Exploration Center staff completed seven Live Distance Learning Programs with 145 students. This week’s programs included seven OCE Watershed classes.

April 5-12: Sanctuary Exploration Center staff hosted a Google Hangout with the volunteer community as a way to promote unity and camaraderie between new volunteers and veterans of the program. Five volunteers tuned in to catch up and ask about details of the center.

April 12-16: Sanctuary Exploration Center staff completed eight Live Distance Learning Programs with 165 students. This week’s programs included seven OCE Watershed classes and one Watershed class.

April 19-23: Sanctuary Exploration Center staff completed 10 Live Distance Learning Programs with 224 students. This week’s programs included seven OCE Watershed classes, one Deep Sea class and two Plankton classes.

April 26-30: Sanctuary Exploration Center staff completed six Live Distance Learning Programs with 137 students. This week’s programs included six OCE Watershed classes.



May 3-7: Sanctuary Exploration Center staff completed four Live Distance Learning Programs with 85 students. This week's programs included one Deep Sea class and three OCE Watershed classes.

May 10-14: Sanctuary Exploration Center staff completed two Live Distance Learning Programs with 58 students. This week's programs included one Sounds in the Sanctuary class and one OCE Watershed class.

May 17-21: Sanctuary Exploration Center staff finished a series of Watershed classes in partnership with One Cool Earth in San Luis Obispo County. In all, 35 presentations were conducted with over 825 3rd and 4th grade students. The presentations included information on local watersheds, how debris and contaminants can enter the sanctuary through watersheds, impacts of plastics in the marine environment, and how individuals, including youth can do their part to protect the sanctuary. The presentations consistently received positive feedback from stellar reviews from students and all teachers.

May 24-28: Sanctuary Exploration Center staff continued to fine tune and respond to various volunteers successfully navigating the Virtual Training Program. Training is under way and modules are being improved day-by-day.

NEWS COVERAGE

[Gary Griggs, Our Ocean Backyard – Stack attack incidents continue to climb](https://www.santacruzsentinel.com/2021/03/27/gary-griggs-our-ocean-backyard-stack-attack-incidents-continue-to-climb/)

<https://www.santacruzsentinel.com/2021/03/27/gary-griggs-our-ocean-backyard-stack-attack-incidents-continue-to-climb/>

Santa Cruz Sentinel – March 27, 2021

[Monterey Bay Aquarium is reopening after COVID closure: ‘We are super excited’](https://www.sanluisobispo.com/news/local/article250314319.html)

<https://www.sanluisobispo.com/news/local/article250314319.html>

The Tribune – March 30, 2021

[In Hotter Climate, ‘Zombie’ Urchins Are Winning And Kelp Forests Are Losing](https://www.npr.org/2021/03/31/975800880/in-hotter-climate-zombie-urchins-are-winning-and-kelp-forests-are-losing)

<https://www.npr.org/2021/03/31/975800880/in-hotter-climate-zombie-urchins-are-winning-and-kelp-forests-are-losing>

NPR – March 31, 2021

[Rush to rescue thousands of endangered abalone buried in Big Sur landslides](https://www.sfchronicle.com/local/environment/article/Rush-to-rescue-thousands-of-endangered-abalone-16073634.php)

<https://www.sfchronicle.com/local/environment/article/Rush-to-rescue-thousands-of-endangered-abalone-16073634.php>

San Francisco Chronicle – April 3, 2021

[Man who shot elephant seal in head with pistol as it rested on beach sent to federal prison for 3 months](https://abcnews.go.com/US/man-shot-elephant-seal-head-pistol-rested-beach/story?id=77062966)

<https://abcnews.go.com/US/man-shot-elephant-seal-head-pistol-rested-beach/story?id=77062966>

ABC News – April 14, 2021

[New \\$50 million ocean research ship to be named after Silicon Valley pioneer](https://www.mercurynews.com/2021/04/20/new-50-million-ocean-research-ship-to-be-named-after-silicon-valley-pioneer/)

<https://www.mercurynews.com/2021/04/20/new-50-million-ocean-research-ship-to-be-named-after-silicon-valley-pioneer/>

Mercury News – April 20, 2021

[Experts ask for help finding California baby whale entangled in fishing gear](https://www.mercurynews.com/2021/04/28/search-for-entangled-baby-whale-off-northern-california/)

<https://www.mercurynews.com/2021/04/28/search-for-entangled-baby-whale-off-northern-california/>

Mercury News – April 28, 2021

[Monterey Bay area affected by shortened crab season](https://www.montereyherald.com/2021/05/20/monterey-bay-area-affected-by-shortened-crab-season/)

<https://www.montereyherald.com/2021/05/20/monterey-bay-area-affected-by-shortened-crab-season/>

Monterey Herald – May 20, 2021

[Women in STEM: stories of Resilience, Spirit and Success](https://yoursay.plos.org/2021/05/20/women-in-stem-stories-of-resilience-spirit-and-success-3/)

<https://yoursay.plos.org/2021/05/20/women-in-stem-stories-of-resilience-spirit-and-success-3/>

PLOS – May 20, 2021

[Biden administration opens California coast to offshore wind turbines](https://www.montereyherald.com/2021/05/25/biden-administration-opens-california-coast-to-offshore-wind-turbines/)

<https://www.montereyherald.com/2021/05/25/biden-administration-opens-california-coast-to-offshore-wind-turbines/>

Monterey Herald – May 25, 2021

[Tidal influence](http://www.coastalview.com/opinion/tidal-influence/article_12533fd4-be6c-11eb-8b5e-e305abb4427f.html)

http://www.coastalview.com/opinion/tidal-influence/article_12533fd4-be6c-11eb-8b5e-e305abb4427f.html

CoastalView.com – May 26, 2021

[Scientists Race to Rescue Endangered Black Abalone](#)

Bragg joined a group of scientists from UCSC, the Monterey Bay National Marine Sanctuary, the National Marine Fisheries Service and other ...

Good Times Weekly – May 25, 2021

[COVID-19 pandemic takes toll on Santa Cruz, coastal shores](#)

... healthy habitats and living waters to foster a thriving Monterey Bay and Monterey Bay National Marine Sanctuary. Sign up for email newsletters.

Santa Cruz Sentinel – July 22, 2021

[Monterey Bay and parts of Big Sur added to expanded killer whale protection](#)

The new critical habitat designation also added a large portion of the Monterey Bay National Marine Sanctuary down to Point Sur, about 25 miles ...

Monterey Herald – August 2, 2021

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

★★ **Check out these 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>

*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>), **Instagram** (@mbnms) and **Twitter** (<https://twitter.com/mbnms>)

FUN, OCEAN RELATED WEB SITES

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.sanctuariesimon.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

Lisa Wooninck – Acting Superintendent
Dawn Hayes – Deputy Superintendent

Research

Andrew DeVogelaere – Research Coordinator
Jennifer Brown – SIMoN Ecosystem Scientist
Erica Burton – Research Ecologist
Chad King – Research Ecologist
Steve Lonhart – Research Ecologist

Education

Amity Wood – Education and Outreach Coordinator
Acy Wood – Volunteer Coordinator (SEC)
Nick Ingram – Exhibits/Facility Specialist (SEC)
Chelsea Prindle – SEC Manager
Michele Roest – Program Coordinator & Community Liaison
Lisa Uttal – Education Specialist

Resource Protection

Karen Grimmer – Resource Protection Coordinator
Sophie De Beukelaer – GIS Analyst & Permit Coordinator
Lisa Emanuelson – Volunteer Monitoring Coordinator
Bridget Hoover – Water Quality Protection Program Director
Pamela Krone – Agriculture Water Quality Coordinator

Program Operations

Raymond Chisolm – Program Specialist
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://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://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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