



# Monterey Bay National Marine Sanctuary

## Sanctuary Office Report



Volume 16, Number 5

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

#### White House report showcases NOAA citizen science efforts

At NOAA and beyond, federal scientists are engaging members of the public in citizen science projects to collaboratively address real-world problems. This summer, the White House Office of Science and Technology Policy published a report to Congress that showcased federal citizen science and crowdsourcing activities from the past two years. Out of the 86 projects highlighted from 14 government agencies, 11 came from NOAA. Dr. Kelvin Droegemeier, Director of the White House Office of Science and Technology Policy, announced the Implementation of Federal Prize and Citizen Science Authority: Fiscal Years 2017-18 report at the June 14 U.S. Government Open Innovation Summit to an audience of over 150 public and private sector workers. For more information: <https://www.noaa.gov/education/news/white-house-report-showcases-noaa-citizen-science-efforts>

#### Saildrone is first to circumnavigate Antarctica, in search for carbon dioxide

It was an audacious idea: To send an unmanned saildrone on a 13,670-mile journey around Antarctica alone, at the mercy of the most hostile seas on the planet. In winter. "The assumption was the Southern Ocean would eat the saildrone ... and that would be that," said NOAA oceanographer Adrienne Sutton. "But we were willing to try, given the large role the ocean plays in the trajectory of climate change. Getting the Southern Ocean's carbon balance right is urgently important." Despite a run-in with an iceberg that wrecked some of its sensors, Saildrone 1020 completed its mission on August 3 having successfully collected oceanic and atmospheric carbon dioxide measurements with an instrument developed by NOAA's Pacific Marine Environmental Laboratory. The 196-day voyage was the world's first autonomous circumnavigation of Antarctica — a technological feat that was unfathomable just a decade ago. For more information: <https://www.noaa.gov/news/saildrone-is-first-to-circumnavigate-antarctica-in-search-for-carbon-dioxide>

#### Detecting fish from ocean-going robots to complement ship-based surveys

The ocean is vast, and fish swim. These are challenges for scientists who need to find out when, where, and how many, fish are found in Alaska's marine waters. They also want to know which species and what ages are found there—all information essential to managing Alaska's valuable commercial fisheries sustainably. Recent advances in autonomous vehicle and fish finders or echosounder (sonar) technology may help overcome those challenges. A new NOAA Fisheries study demonstrates that unmanned surface vehicles can expand the range and duration of ship-based acoustic fish surveys. "This opens a window in time and space that we didn't have using ships alone," said Alex De Robertis, the NOAA Alaska Fisheries Science Center scientist who led the study. "Ship-based surveys are limited because they are short, and mostly done in summer—we don't know what happens the rest of the time. Our results show that oceangoing robots such as saildrones now make autonomous long-term acoustic measurements possible." For more information: <https://www.fisheries.noaa.gov/feature-story/detecting-fish-ocean-going-robots-complement-ship-based-surveys>

## **NATIONAL MARINE SANCTUARY NEWS**

### **Scientists Document Invasive Alga Outbreak and Extensive Hurricane Damage to Reefs**

On August 13, scientists aboard NOAA ship Rainier returned to Honolulu after a 22-day expedition to Papahānaumokuākea Marine National Monument (PMNM). As the first coral reef scientists to visit French Frigate Shoals since Hurricane Walaka hit the atoll in Oct. 2018, the benthic team discovered complete devastation of coral reefs along the south-facing side of the atoll. Once beautiful reefs were completely gone, with only a small amount of rubble remaining on the bottom. Diverse, high-biomass fish assemblages associated with these reefs are also gone. Further northwest at Pearl and Hermes Atoll, scientists found large areas of reef covered by thick mats of an unidentified non-native invasive red alga. All native corals and algae under the mats were dead. Scientists self-imposed strict quarantine procedures to prevent the spread of the alga to other atolls or the main Hawaiian Islands. Controlled, replicated bioassays were conducted aboard the ship to identify bleach concentrations and exposure times that would ensure a 100% kill rate. All dive gear, scientific gear, and small boats were disinfected upon leaving the atoll. Even remote, relatively pristine coral reef ecosystems are under threat from natural and anthropogenic impacts. Without ship time, PMNM will be unable to monitor recovery from these events.

### **NOAA proposes changes to Florida Keys National Marine Sanctuary to address ongoing, emerging challenges**

On August 20, 2019, NOAA's Office of National Marine Sanctuaries released a draft proposal recommending a range of potential changes to existing boundaries, regulations, and marine zones in the Florida Keys National Marine Sanctuary, to better address long-term declines to the region's marine resources as well as ongoing and emerging threats due to changing ocean conditions. The proposal, known as the Restoration Blueprint, provides NOAA's perspective on how the sanctuary can assist in protecting and restoring important marine resources in the Florida Keys. The draft environmental impact statement takes into account more than 20 years of science, management achievements, technical experience and local community involvement. It also recognizes that new or expanded protection strategies may be necessary to restore habitats degraded from events such as Hurricane Irma, coral bleaching and coral disease. This is the first comprehensive review and update since 1997. Public comment will be accepted through January 31, 2020. Florida Keys National Marine Sanctuary protects the only coral barrier reef in the continental United States, a marine ecosystem that annually attracts nearly five million visitors who collectively contribute to the \$4.7 billion economy through marine-related activities.

### **Hawaiian Islands Humpback Whale National Marine Sanctuary Being Featured in a Documentary Film about the Role of Artists in Conservation**

The Hawaiian Islands Humpback Whale National Marine Sanctuary is participating in a film about the role of artists in conservation. *There Is a Place on Earth* is a documentary film about the role of artists in conservation. Science can help us understand why it is important to protect the environment we live in, but art can add emotion and dimension that science may not provide. The sanctuary recently added some inspiring art to its Kihei, Maui campus. The first, a 13-foot copper humpback whale, mounted outside the site's Visitor Center. The sculpture is the size of a large humpback whale calf. The second, an expansive mural by scientific illustrator, Jessica Soriano, painted on the side of one of the campus buildings depicting a diverse and healthy Hawaii ocean ecosystem. The film will feature both the sanctuary's large whale entanglement response efforts and the site's art. Both Jessica and Ed Lyman, the sanctuary's Natural Resource Specialist, provided interviews. Art is another means to help us understand, connect, and appreciate our environment; and we tend to protect and conserve what we understand and appreciate. Jessica Soriano being filmed painting a mural at the Hawaiian Islands Humpback Whale National Marine Sanctuary Kihei site.



## MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



### MANAGEMENT

#### **Monterey Bay National Marine Sanctuary and Greater Farallones National Marine Sanctuary Hold Joint Advisory Council Meeting**

On August 15, the MBNMS and GFNMS Advisory Councils met in Half Moon Bay and received a series of presentations and updates on activities occurring in and actions pertaining to the MBNMS Northern Management Area including: a MBNMS Management Plan update, shoreline fishing/gear and threats to pelicans, GFNMS Coastal Resilience Sediment Plan for Sonoma through San Mateo County, ONMS West Coast Regional priorities, threats to whales and sanctuary whale protection efforts. GFNMS Advisory Council received and voted on recommendations from GFNMS' Tomales Bay Native Oyster Restoration Working Group. The next Advisory Council meeting will be on October 18 in Marina. 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

#### **Sanctuary science to be presented at 7<sup>th</sup> International Symposium on Deep-Sea Corals**

During July 29 – August 2, deep-sea coral predation studies at Sur Ridge, central California (MBNMS) will be presented at the 7th International Symposium on Deep-Sea Corals in Cartagena, Columbia. The study, entitled “[Does Predation Play an Important Role in the Population Dynamics of Deep-sea Corals?](#)” was co-authored by scientists from Monterey Bay National Marine Sanctuary (Andrew DeVogelaere, Erica Burton, and Chad King), Monterey Bay Aquarium Research Institute, Lawrence Livermore National Laboratory, and University of California Santa Cruz. For more information, see <https://www.deepseacoral2019.org/program.html>. 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.

#### **Beach COMBERS 20-year report now available**

The Beach COMBERS report summarizes twenty years of survey data collected by a dedicated group of citizen scientists. The short report describes trends in oiling, seabirds, and marine mammal deposition between 1997 – 2017. The report is a “working document” where chapters and links can be added as partners, co-authors, collaborators, and supporters use Beach COMBERS data to publish reports and other products. Periodical updates to the report and supplemental material will be made as they become available. The report is available on the Beach COMBERS website (<https://www.mlml.calstate.edu/beachcombers/beachcombers-twenty-year-summary-report-1997-2017/>). 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 <https://www.mlml.calstate.edu/beachcombers/>.

#### **Ed Ricketts Memorial Award and Lecture to be held at Sanctuary Exploration Center**

The 2019 Ed Ricketts Memorial Award was presented to Dr. James Harvey, Director of Moss Landing Marine Laboratories on September 17 at Monterey Bay National Marine Sanctuary Exploration Center. Dr. Harvey gave a free lecture entitled “Research, Teaching, and Mentoring: Musings of a Generalist Optimist” that highlighting

the foraging ecology of harbor seals, humpback whales, and leatherback turtles. He also discussed the changing academic landscape. The Ed Ricketts Memorial Award was created to honor scientists who have exhibited exemplary work throughout their career and advanced the status of knowledge in the field of marine science. The Ed Ricketts Memorial Lecture was created to honor scientists who have exhibited exemplary work throughout their career and advanced the status of knowledge in the field of marine science. The first award was presented in 1986. Recipients are selected by the Monterey Bay National Marine Sanctuary Research Activity Panel. Award history can be viewed at: <http://montereybay.noaa.gov/research/ricketts.html>. Dr. Harvey's lecture can be viewed at: <https://www.facebook.com/MBNMS/videos/823056938091454/>

### **MBNMS Research Activity Panel Meets at NOAA Fisheries**

On September 13, the Monterey Bay National Marine Sanctuary (MBNMS) Research Activity Panel (RAP) met at NOAA Fisheries in Santa Cruz, CA. Agenda items included: Marine Heatwave Causes Habitat Compression Impacting Forage Species, Crab Fishery Timing and Record Whale Entanglements; Summary of June and August Advisory Council Meetings; Coastal Impacts in Monterey Bay Due to Storms and Sea Level Rise: An Update on USGS Coastal Storm Modeling System (CoSMoS); Pros and Cons of Drone Usage in MBNMS; and upcoming 2019 Ed Ricketts Memorial Award and Lecture. 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**

### **Bonanza BE-36 Aircraft Crash Into MBNMS**

On Tuesday, August 20, a Bonanza BE-36 light airplane lost power, and the [pilot made a successful emergency landing on the ocean](#) several miles offshore within Monterey Bay National Marine Sanctuary (MBNMS). The two occupants survived the incident without injury and were rescued by a Coast Guard helicopter. The airplane sank to a depth of approximately 150 feet about ten miles south of Pillar Point Harbor, CA. MBNMS staff are following up with the responsible party regarding pollution mitigation and removal of the aircraft wreckage from MBNMS. Rapid response by ONMS staff to unexpected incidents such as this is essential for capturing critical ephemeral information about the incident and associated environmental impacts and minimizing injury to protected natural resources.

### **MBNMS, CDFW and NMSF team up for Gear Innovation Demonstration Day**

To inform the efforts of the California Dungeness Crab Fishing Gear Working Group to reduce whale entanglements, the California Department of Fish and Wildlife (CDFW) and National Marine Sanctuaries hosted a gear innovation/modification demonstration day on September 6, 2019, funded and supported by the National Marine Sanctuary Foundation as part of their whale conservation program. The purpose of the event was to provide a venue for gear innovators, fishermen, and fishery and resource managers to collaboratively address whale and sea turtle entanglements through technology and gear innovations by demonstrating and/or learning about different gear types that may help reduce the risk of marine life entanglements in Dungeness crab fishing gear. The RV Fulmar served as an observation deck while the CDFW Patrol Vessel Steelhead demonstrated six different types of gear in Monterey Bay. Some known as “ropeless” gear, remove the need for constant lines in the water thereby reducing the risk of entanglement. Other types of gear include long soaker systems, and using lines with a weak link and are designed to release when an animal puts pressure on the line. A diversity of technologies were reviewed in the field by agencies, fishermen and nonprofits, and valuable information was collected and will be used to evaluate and rate the performance for each gear type. The information will be brought back to the Working Group for discussion and will likely be followed up by additional selective testing in 2020. Whale entanglements are identified by the West Coast Regional Resource Protection Coordinators as a

priority over the next 5 years as the issue represents one of the major threats to large whales. Gear innovation is one of the areas to explore that could ultimately allow “whale safe” fishing in high-risk areas.

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

### **Coastal Discovery Center weekly report July 26-28**

The Center hosted over 300 visitors this weekend, including 90 children from Shafter Youth Center and Friendship House Community Center from Kern County. The Centers belong to one of a dozen programs under the Community Action Partnership of Kern aimed at meeting children, families and individuals at their point of need, for those who have had difficulty engaging the “*American Dream*.” Staff from CA State Parks joined MBNMS staff and docents to guide the children in a beach cleanup, to meet a Park Ranger and to learn about the natural history of animals that live within Monterey Bay National Marine Sanctuary. The students ended the day with a visit to the local elephant seal rookery where they were greeted by docents from Friends of the Elephant Seals. “Most of these kids have never seen the ocean before, and this is a day they will never forget,” said the group organizer. The day was funded by California Coastal Commission’s Whale Tail grant. MBNMS’s Coastal Discovery Center located at Hearst Memorial State Beach and pier is the perfect setting to teach children from organizations that cater to underserved youth about their ocean and how to protect it. The experience was greatly enhanced by working cooperatively with partners from CA State Parks and Friends of the Elephant Seals, organizations sharing in the mission and goals of MBNMS.

### **Sanctuary Exploration Center Report for July 27 - August 2nd**

During the week of July 27-August 2 the Sanctuary Exploration Center had 1,548 visitors. The Center hosted three self guided visits from local summer day camp programs, reaching a total of 120 kids as well as one guided tour with 14 college students from Stanford University. The Center ran one Toddler Storytime program with five children and one pop-up interpretive station on the beach. Additionally, the National Marine Sanctuary Foundation facilitated six facility rentals, bringing in revenue to help support the Center.

The Sanctuary Exploration Center’s goals are: to educate visitors about the sanctuary’s unique and fascinating coastal and marine environment, to foster a more personal connection with the sanctuary and the ocean’s relevance in people’s daily lives and to encourage stewardship of the sanctuary and a better understanding of how to responsibly enjoy and protect the ocean.

### **Presentation to the Del Monte Forest Property Owners**

On Sunday July 28, Lisa Emanuelson Water Quality Protection Program, California Marine Sanctuary Foundation contractor, gave a presentation to 56 members of the Del Monte Forest Property Owners. This presentation was through a special request by members of the group. The presentation covered MBNMS beginnings, outstanding inhabitants, sanctuary boundaries, regulations, volunteer programs, and current events impacting the sanctuary. Public participation and engaging community members to inform and educate about the sanctuary and current issues supports the sanctuary’s mission of protecting the coastal ecosystem and cultural resources of MBNMS.

### **Sanctuary Exploration Center Report for July 24 - July 28**

During the week of July 24-July 28 the Sanctuary Exploration Center had 1,700 visitors. The Center ran one Toddler Storytime program with six kids and one pop-up interpretive station at Cowell’s Beach. Additionally, the Center hosted one first Friday art/science evening on August 2, which reached over 150 people and a “Get Into Your Sanctuary Day” event, which reached over 350 people. The Sanctuary Exploration Center’s goals are: to educate visitors about the sanctuary’s unique and fascinating coastal and marine environment, to foster a more personal connection with the sanctuary and the ocean’s relevance in people’s daily lives and to encourage stewardship of the sanctuary and a better understanding of how to responsibly enjoy and protect the ocean.

### **Sanctuary Exploration Center host “Fishy First Friday”**

On Friday August 2, the Sanctuary Exploration Center in Santa Cruz hosted a First Friday art and science evening focusing on local fisheries! The evening featured artwork from local artists/fishermen Todd Hallenbeck and Nick Ingram of Subsurface Style. Over 150 participants attended and were able to make their own creative fish print, learn about local fisheries, and enjoy sustainable fish tacos from local organization Real Good Fish. Community events not only attract new visitors to the Exploration Center, but also attract people to come back and learn more about Monterey Bay National Marine Sanctuary. Additionally, merging art and science allows people to learn and be inspired in new and creative ways, ultimately reaching a broader audience of future ocean stewards.

### **Get Into Your Sanctuary Weekend 2019 at the Sanctuary Exploration Center**

On August 3 and 4 over 750 visitors to the Sanctuary Exploration Center in Santa Cruz CA were able encouraged to “Get Into Your Sanctuary” through ocean recreation and responsible wildlife viewing. Participants were able to : learn how to responsibly view wildlife on Cowell's Beach and the Santa Cruz Wharf, learn have types of wildlife are easy to view in this area and where to see them, go on a diving virtual reality experience led by the [CSUMB Research Diving Program](#), and explore the micro world of plankton in Monterey Bay! Santa Cruz Main Beach and the Santa Cruz Wharf are popular tourist attractions and feature excellent opportunities for responsible wildlife viewing within MBNMS. Often visitors are not aware of recreation and responsible wildlife viewing opportunities in this area. Get Into Your Sanctuary Weekend aims to bring awareness to these opportunities and highlight the rich wildlife found within MBNMS. Visitors were able to learn about the wildlife they could experience above the ocean, in the kelp forests through SCUBA diving, or in microscopic world found in a drop of water.

### **Sanctuary Exploration Center Report for August 3-August 9**

During the week of August 3-August 9 the Sanctuary Exploration Center had 1,756 visitors. The Center ran one Toddler Storytime program with ten kids and one pop-up interpretive station at Cowell’s Beach that reached 48 people. Additionally, the National Marine Sanctuary Foundation facilitated six facility rentals, bringing in revenue to help support the Center. The Sanctuary Exploration Center’s goals are: to educate visitors about the sanctuary's unique and fascinating coastal and marine environment, to foster a more personal connection with the sanctuary and the ocean's relevance in people's daily lives and to encourage stewardship of the sanctuary and a better understanding of how to responsibly enjoy and protect the ocean.

### **2019 Monterey Bay National Marine Sanctuary “Get Into Your Sanctuary” celebrations**

This year's Get Into Your Sanctuary (GIYS) was held at three locations in Monterey Bay National Marine Sanctuary. To the south, the Coastal Discovery Center engaged over 200 visitors in a variety of hands-on activities from the San Simeon Pier including recreational fishing, bird and mammal observations and plankton viewing. Meanwhile in the north over the three-day GIYS weekend, the Sanctuary Exploration Center in Santa Cruz interacted with 750 visitors by holding a "Fishy Friday" event with artists and had interactive responsible wildlife viewing activities. In Monterey, MBNMS hosted a Responsible Wildlife Viewing Festival at Monterey Bay Kayaks (MBK). The days events were kicked off with a guided Veterans kayak tour with 14 public members, joined by Jeff Marsolais, US Forest Service Supervisor from the Lake Tahoe Basin Management Unit, and Superintendent Paul Michel. Over 493 kayakers got out into the sanctuary and 250 came by the seven interactive and interpretive booths set up by MBNMS and six partner organizations. Partners included Marine Life Studies, Sea Otter Savvy, Save Our Shores, Save The Whales, MPA Collaborative Network and Pacific Grove Natural History Museum. Before GIYS weekend, five recreational and tourism businesses were provided

with brochures, MBNMS maps and videos to share with customers at their businesses over the GIYS weekend. They handed out over 300 MBNMS brochures to photographers, SCUBA divers, fishermen and kayakers at their place of business. Overall, the three sites engaged over 1000 visitors and recreational users in meaningful GIYS activities and conducted 94 surveys. MBNMS partnered with 19 businesses and organizations over the weekend of GIYS 2019 in order to raise awareness about sanctuary recreation, responsible wildlife viewing and MBNMS. Meaningful activities getting the public into the sanctuary were conducted at three sites along the coast.

### **Get Into Your Sanctuary Day at the Coastal Discovery Center, San Simeon.**

The Coastal Discovery Center celebrated Get into Your Sanctuary (GIYS) Day with over 160 people on Saturday, Aug 3. It was a sunny, windless day on San Simeon Pier and Bay where visitors from world-over witnessed dolphin, harbor seals, sea otters and pelicans diving for baitfish. GIYS activities offered on the pier were; ‘fishing responsibly’ by the Cambria Fishing Club and CA Department of Fish and Wildlife; seabird and marine mammal viewing by CA State Parks and Pacific Wildlife Care; and plankton collection and viewing by MBNMS docents. A marine mammal and shore whaling station was manned by MBNMS and interns from BLM, and Inside the center, GIYS scavenger hunts were completed by over 60 children. Prizes of GIYS tattoos, stickers and “wishing rocks” were a bit hit! Visitors came from Illinois, Nevada, Conn, PA, MA, Chicago and CA. International guests were from Brazil, the Netherlands, Portugal, England and Switzerland. Staff and visitors alike had a wonderful time, and fish caught at the pier were either released or given to the pelican rescue in Morro Bay. Offering hands-on activities at the San Simeon pier was a wonderful way to teach the public about their national marine sanctuaries while inspiring them to want to learn more. Participating partners from CA State Parks, Pacific Wildlife Care, the Cambria fishing Club, Bureau of Land Management and CA Department of Fish and Wildlife exchanged ideas with one another, helping to strengthen inter-agency relationships with each other and with MBNMS.

### **Sanctuary Exploration Center Report for August 10-August 16**

During the week of August 10-August 16 the Sanctuary Exploration Center had 1,670 visitors. The Center ran one Toddler Storytime program with six kids and one pop-up interpretive station at Cowell’s Beach that reached 56 people. Schools are starting back up this week and we expect our visitation to begin to wane next week.

### **Coastal Discovery Center Report for August 13-18**

Volunteers hosted over 250 visitors this weekend, including a reunion of 50 adults who took part in CA Naturalist classes at Camp Ocean Pines, Cambria over the last five years. In addition, 17 guests attended a presentation on the Davidson Seamount where the upcoming research cruise in October 2020 was advertised. Earlier in the week, MBNMS staff held a training for ten instructors from One Cool Earth, a non-profit organization who brings about 600 students to the Coastal Discovery Center each year, and whose instructors assist in teaching. Summer is an ideal time to maximize education efforts through Saturday public education programs and trainings for non-profit groups who visit the center during the school year.

### **Sanctuary Sound Exhibit installed at the Sanctuary Exploration Center**

A joint project between Monterey Bay National Marine Sanctuary and Monterey Bay Aquarium Research Institute to design, develop and fabricate a Soundscape exhibit was completed at the Sanctuary Exploration Center in Santa Cruz. The exhibit highlights ten sounds that were taken with MBARI’s hydrophone at 900 meters in the sanctuary. When a visitor pushes one of ten buttons, they hear a sound in the Open Ocean Mini Theater and see a corresponding, After a few seconds, a video for the sounds source and message is revealed on the large screen. The exhibit consist of sounds that are human in origin (container ships), natural in origin (earthquake and rain) and animal in origin (Blue, Fin, Sperm, Orca, Sea Lion, humpback and dolphins). New and changing exhibits are important to the viability of a visitor center and sound in our sanctuary waters is an important topic and issue to interpret for NOAA Office of the National Marine Sanctuaries and MBNMS. To introduce sound

and the sanctuary's soundscape and using listening as a different learning modality in an exhibit is very engaging for the visitor.

### **Sanctuary Exploration Center Report for August 24-August 30**

During the week of August 24-August 30 the Sanctuary Exploration Center had 1,089 visitors. The Center ran one Toddler Storytime program with five kids, one pop-up interpretive station at Cowell's Beach that reached 62 people, and one guided tour for 30 local community members. In addition, the National Marine Sanctuary Foundation conducted one facility rental, which generated revenue for the Sanctuary Exploration Center.

### **Sanctuary Exploration Center Wraps Up Summer "Sanctuary Science Pop-Up" Program.**

From June 20-September 2 the Sanctuary Exploration Center hosted a "Sanctuary Science Pop-Up interpretive station" at a local beach front hotel and on the beach. Exploration Center staff and volunteers ran a weekly pop-up at a local beachfront hotel: the Dream Inn, providing local ecological and wildlife viewing information to visiting tourists. Families learned about MBNMS, local nearshore wildlife, and how and where to easily spot wildlife along West Cliff Drive or on the Santa Cruz Wharf. Additionally, this pop-up station was set up and staffed at several beach and wharf festivals over the summer. In total over 2,000 local visitors engaged with this station. Bringing the interpretive tools of the Exploration Center out onto the Sanctuary and into the community expands the visitor reach and ultimately informs more members of the public of MBNMS. Additionally, educating local recreators and tourists on responsible wildlife viewing while they are out enjoying the sanctuary provides a more tangible and relevant experience.

### **Sanctuary Exploration Center Report for August 31-September 6**

During the week of August 31-September 6 the Sanctuary Exploration Center had 1,089 visitors. The Center ran one Toddler Storytime program with five kids, and one First Friday Art/Science evening with 155 participants.

### **Coastal Discovery Center Report for Sept 1-8**

This last weekend, 179 visitors visited the Coastal Discovery Center. Last week's highlight: A concerned visitor reported an entangled sea lion at the end of San Simeon pier to MBNMS volunteer on duty, Leslie McGarry. Ms McGarry reported the incident immediately to the marine mammal center (TMMC) and kept them apprised of developments. In need of water access, TMMC contacted Cambria's fire department, who disentangled the young sea lion of fishing gear via paddleboard access. In addition to offering education programs, the Coastal Discovery Center plays an important role in resource protection by working closely with local animal rescue centers. MBNMS office in San Simeon is currently working with agency and NGO partners to address the prevention of entanglement of seabirds and marine mammals, especially near fishing piers.

See video and report of incident:

<https://www.sanluisobispo.com/news/local/community/cambrian/article234704337.html#storylink=cpy>

### **Report Out for Coastal Discovery Center, September 10 -15**

This last weekend, 252 visitors visited the Coastal Discovery Center and learned about whale migrations and other marine mammals that inhabit MBNMS as part of the Center's public education programs. In addition, the fall 2019 school season was kicked off by Leffingwell High School (LHS), a local alternative school that has worked with MBNMS for the last ten years to implement a field immersion class focused on marine science. One of the instructors for this class is Marj Sewell. Eighty-eight years young, Marj was the recipient of the 2019 Volunteer of the Year award for MBNMS. In addition to teaching, Marj works on a committee to provide LHS seniors with scholarships. The photo below is of Marj and LHS students on a field trip to San Simeon Point where they visited the site of the old shore whaling village and talked about how natural resources were used in San Simeon Bay over the last 10,000 years. Lessons taught at the Coastal Discovery Center and nearby Old San



Simeon bring together the cultural and natural history of the area, demonstrating how the ocean and humans are inextricably connected.

## NEWS COVERAGE

### [Between the Sheets: Hospitality and community partners prioritize sustainability](https://www.montereyherald.com/2019/08/02/between-the-sheets-hospitality-and-community-partners-prioritize-sustainability/)

<https://www.montereyherald.com/2019/08/02/between-the-sheets-hospitality-and-community-partners-prioritize-sustainability/>

Monterey Herald – August 2, 2019

### [No light, no problem: The improbably wonders of deep-sea coral](https://www.csmonitor.com/Environment/2019/0802/No-light-no-problem-The-improbable-wonders-of-deep-sea-coral)

<https://www.csmonitor.com/Environment/2019/0802/No-light-no-problem-The-improbable-wonders-of-deep-sea-coral>

The Christian Science Monitor – August 2, 2019

### [Sea Stars Award presented Sept. 22](https://www.santacruzsentinel.com/2019/08/18/sea-stars-awards-presented-sept-22-coast-line/)

<https://www.santacruzsentinel.com/2019/08/18/sea-stars-awards-presented-sept-22-coast-line/>

Santa Cruz Sentinel – August 18, 2019

### [Deadline extended for marine sanctuary advisory council](https://www.santacruzsentinel.com/2019/08/19/coast-lines-deadline-extended-for-marine-sanctuary-advisory-council/)

<https://www.santacruzsentinel.com/2019/08/19/coast-lines-deadline-extended-for-marine-sanctuary-advisory-council/>

Santa Cruz Sentinel – August 19, 2019

### [Ricketts Award to be presented Sept. 17 in Santa Cruz](https://www.santacruzsentinel.com/2019/08/26/ricketts-award-to-be-presented-sept-17-in-santa-cruz-coast-line/)

<https://www.santacruzsentinel.com/2019/08/26/ricketts-award-to-be-presented-sept-17-in-santa-cruz-coast-line/>

Santa Cruz Sentinel – August 26, 2019

### [Santa Cruz says toodle-oo to the trolley](https://www.santacruzsentinel.com/2019/09/02/photo-gallery-santa-cruz-says-toodle-oo-to-the-trolley/)

<https://www.santacruzsentinel.com/2019/09/02/photo-gallery-santa-cruz-says-toodle-oo-to-the-trolley/>

Santa Cruz Sentinel – September 2, 2019

### [‘First Flush’ offers its annual fall science test](https://www.hmbreview.com/news/first-flush-offers-its-annual-fall-science-test/article_65debd3a-cf54-11e9-8e53-2f74307d0c6d.html)

[https://www.hmbreview.com/news/first-flush-offers-its-annual-fall-science-test/article\\_65debd3a-cf54-11e9-8e53-2f74307d0c6d.html](https://www.hmbreview.com/news/first-flush-offers-its-annual-fall-science-test/article_65debd3a-cf54-11e9-8e53-2f74307d0c6d.html)

Half Moon Bay Review – September 4, 2019

### [A gigantic ocean research vessel woke up the North Coast with surprising foghorn blasts](https://www.sanluisobispo.com/news/local/community/cambrian/article234721787.html)

<https://www.sanluisobispo.com/news/local/community/cambrian/article234721787.html>

The Cambrian – September 4, 2019

### [Bioreactors to the rescue in polluted California wetlands](https://www.hakaimagazine.com/news/bioreactors-to-the-rescue-in-polluted-california-wetlands/)

<https://www.hakaimagazine.com/news/bioreactors-to-the-rescue-in-polluted-california-wetlands/>

Hakaimagazine.com – September 13, 2019

### [Cambria resident, environmental advocate to be honored by Monterey Bay sanctuary](https://www.sanluisobispo.com/news/local/community/cambrian/article235181117.html)

<https://www.sanluisobispo.com/news/local/community/cambrian/article235181117.html>

The Cambrian – September 17, 2019

**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](mailto: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**

**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  
**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  
**Acy Wood** – 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

**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 -

### Monterey Bay National Marine Sanctuary

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