



Monterey Bay National Marine Sanctuary

Sanctuary Office Report



Volume 19, Number 3

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.

A REPORT FOR THE SANCTUARY ADVISORY COUNCIL MEMBERS
REPORTING PERIOD: APRIL 2 – JUNE 3, 2022

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

Carbon dioxide now more than 50% higher than pre-industrial levels

Carbon dioxide measured at NOAA's Mauna Loa Atmospheric Baseline Observatory peaked for 2022 at 421 parts per million in May, pushing the atmosphere further into territory not seen for millions of years, scientists from NOAA and Scripps Institution of Oceanography at the University of California San Diego announced today.

NOAA's measurements of carbon dioxide at the mountaintop observatory on Hawaii's Big Island averaged 420.99 parts per million (ppm), an increase of 1.8 ppm over 2021. Scientists at Scripps, which maintains an independent record, calculated a monthly average of 420.78 ppm. [Full article here.](#)

NOAA forecasts summer 'dead zone' of nearly 5.4K square miles in Gulf of Mexico: Low oxygen in water often leads to conditions where life cannot be sustained



NOAA is forecasting a summer "dead zone" in the Gulf of Mexico that will be approximately 5,364 square miles, making it about average for the 35-year history of the summertime dead zone measurements in the region. The forecast is lower than last year's measured size and slightly lower than the five-year average measured size of 5,380 square miles.

The dead zone, or hypoxic area, is an area of low oxygen that can kill fish and other marine life. It occurs every summer and is primarily a result of [excess nutrient pollution from human](#)

[activities](#) in cities and farm areas throughout the Mississippi River watershed. Above is an aerial drone photo of the Mississippi River near Vicksburg, MS, looking Northeast at the I-20 bridge, the confluence of the Yazoo River is in the foreground. This picture was taken by a drone flown by Jim Alvis and Mike Manning of the USGS in the fall of 2016. (Jim Alvis and Mike Manning/USGS) [Full article here.](#)

NATIONAL MARINE SANCTUARY NEWS

Sanctuary hosts Ocean Acidification Sentinel Site Symposium

Olympic Coast National Marine Sanctuary recently hosted a hybrid Ocean Acidification Sentinel Site (OASeS) symposium in Ocean Shores, WA. This meeting brought together the OASeS Steering Committee, federal and state agencies, tribal governments, resource managers, scientists, and interested public focused on changing ocean conditions on the Olympic Coast. Nearly 100 people attended, either in person or online from Washington, Oregon, Connecticut, Washington DC, and Slovenia. The purpose of the meeting was to share information, generate solutions, and address work plan actions related to policy, management, science, education, and outreach needs of the region regarding changing ocean conditions. Sanctuary staff heard directly from tribal members regarding their concerns and observations related to ocean acidification and changing ocean conditions, policy priorities from the national and state perspectives, emergent research results, and education and outreach efforts related to ocean acidification.

Weblink: <https://sanctuaries.noaa.gov/science/sentinel-site-program/olympic-coast/>

MPA Center Participates in Arctic Circle Dialogue

On May 24, the MPA Center Director Lauren Wenzel spoke at an Arctic Circle Webcast Session, *Connecting the Dots - an Arctic Ocean network for the conservation of marine life*. This Arctic Circle Webcast Session included four speakers from around the Arctic and over 90 participants, providing the opportunity to showcase, exchange views on, and discuss cooperation opportunities linked to Arctic marine conservation efforts and to ArcNet— an Arctic Ocean network of Priority Areas for Conservation. Other speakers included Martin Sommerkorn, Head of Conservation, WWF Arctic Programme; Lauren Divine, Director, Ecosystem Conservation Office, Aleut Community of St. Paul Island; and Bernie Aggark, Executive Director, Foxe Basin Kivalliq North Sapujiyit Society. Arctic Circle is a nonprofit organization based in Iceland that hosts the largest network of international dialogue and cooperation on the future of the Arctic. This dialogue brought together voices from around the Arctic to share ideas about the future of marine conservation. A recording of the webinar is [here](#).

MPA Center Contributes to NOAA Blue Carbon White Paper

On May 26, the NOAA Blue Carbon Team published the [NOAA Blue Carbon White Paper](#) through the NOAA library. As members of the NOAA Blue carbon Team, the MPA Center contributed to the development and writing of the white paper. Developed in response to a request for information from the White House Office of Science and Technology Policy, the white paper summarizes the state of blue carbon science, including an inclusive definition, and explores NOAA's role in the blue carbon science, conservation, restoration, and capacity building. It further highlights the important role that national marine sanctuaries play in the protection and restoration of blue carbon ecosystems and processes. This white paper will serve as an important internal and external communication tool to demonstrate the important role NOAA plays in blue carbon science and conservation. Blue carbon is a growing topic of interest domestically and internationally as well as within NOAA and the administration. This white paper establishes NOAA as a US government leader in blue carbon and positions sanctuaries to play an important role within the organization.



MONTEREY BAY NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES



SANCTUARY MANAGEMENT

Monterey Bay National Marine Sanctuary Advisory Council Meets

MBNMS's Advisory Council met virtually on April 15. Information items included 2 presentations on Diversity and Inclusion and how this is applicable to not only the accessibility of MBNMS but to the composition of the SAC and staff. CBNMS Vice Chair Irma Cuevas and MBNMS Conservation Seat Rachel Kippen presented. Discussion followed re: the development of a diversity and inclusion working group. Two additional information items focused on the gains in reducing agricultural plastic not only on land but in the ocean. Jazmine Meija-Muños shared the significant gains made in the recycling of agricultural drip tape and piloting of biodegradable plastic mulch. A second marine debris presentation focused on microplastics in Monterey Bay and how a baseline is being developed for microplastics in Monterey Bay and marine mammals, specifically large baleen whales. A resolution requesting the cancellation of the sale of the old Pacific Fisheries Laboratory in Pacific Grove was passed. Public and stakeholder engagement is key to sanctuary success. Advisory Council meetings provide a forum for topical discussion, public input and provide a level of transparency for the governance of the sanctuary.

RESEARCH AND MONITORING

Invasive aquatic plant remove efforts

On April 26, 2002 Dr. Steve Lonhart dove with NMFS scientists to remove an invasive aquatic plant, *Egeria densa*, from the Middle River of the delta near Stockton, CA. NMFS scientists plan to “test the effects of invasive submerged aquatic vegetation on fish communities and predation risk in the California Delta. We intend to electrofish and use our predation event recorders to sample a study site before and after a vegetation removal to see if the removal results in changes in predation risk or fish community.” Three divers assisted with manual plant removal along the bank of a levee, creating three 50-m stretches without the invasives. NMFS required diving support from ONMS, and as part of our ongoing diving collaborations, we were happy to assist. This experiment may determine if more management of the invasive aquatic weed is needed in areas to support survival of specific fish species.



Tom Laidig assists diver LTJG Jaime Hendrix at the edge of the levee. The water was 65 F but the ultra fine silt created clouds of zero visibility as plants were removed by hand.



Several hundred pounds of the invasive plant were removed by divers and snorkelers.

MBNMS Research Activity Panel Holds Virtual Meeting

On May 13th, the Monterey Bay National Marine Sanctuary (MBNMS) Research Activity Panel (RAP) met virtually.

Agenda items and presentations included: research update from Pacific Coastal and Marine Science Center, US Geological Survey; summary of April Sanctuary Advisory Council meeting; Advisory Council recruitment for research seats; SanctSound Web & Data Portals demonstration; and summary of RAP feedback on need for sanctuary research symposium. 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.

RESOURCE PROTECTION

MBNMS responds to vessel grounding in Santa Cruz

On the evening of 3/27/22, the owner of a 26' sailing vessel alerted authorities that his boat was grounding on the beach in front of the Santa Cruz Beach Boardwalk. After breaking loose from its mooring, it floundered under the wharf and finally landed on the beach. The next day the owner removed all hazardous materials and gear to prepare for a recovery and removal operation. Fortunately, there was no engine and no fuel on board. Sand was noticed filling the boat due to suspected hull damage, ruling out a possible tow off the beach by boat. After additional inspection, it was determined that

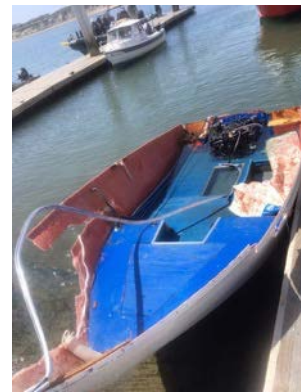


hiring a tractor/excavator and recovery crew was the best alternative for removal. On 3/29/22, a crew with a tractor/excavator arrived on scene and by day's end, the boat and all debris were removed from the beach without further incident. MBNMS Resource Protection Division's Emergency Response Team provides support to MBNMS and our constituents to promote strong, effective and sustainable preparedness, response, and assessment of natural and other emergencies that impact Sanctuaries infrastructure and natural resources.

MBNMS responds to vessel grounding

in Moss Landing

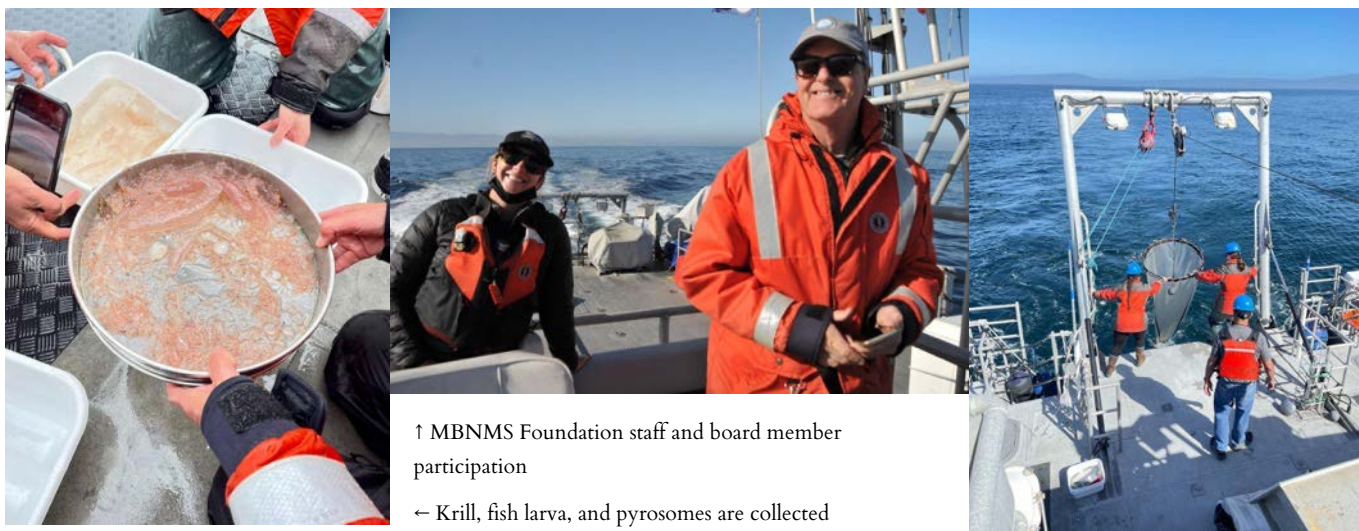
On the morning of 4/4/22, the owner of a 19' motor vessel, lost power to his engine while leaving Moss Landing Harbor. His boat drifted over to the surf where it capsized in the surf. He and his son were able to escape the boat and swim to shore. The boat grounded in the surf in front of the Dunes Colony in Moss Landing. Preparations were made to have the boat towed out the next day but overnight the boat was swept back out to sea. It was spotted ~1 mile offshore where the salvage operation intercepted the badly damaged boat and brought it back to the harbor where it was reunited with its owner, trailered, and taken home without further incident.



ACCESS MBNMS begins on May 2, 2022

From May 2th to 12th, ACCESS (Applied California Current Ecosystem Studies) a 10-day research cruise is being conducted aboard the RV Fulmar from northern Monterey Bay to Half Moon Bay. The science team includes Point Blue Conservation Science and Monterey Bay National Marine Sanctuary, and the work is supported by the National Marine Sanctuary Foundation. ACCESS data includes sightings of large whales, seabirds, vessels, marine debris and crab pots, as well as collection of water samples with a CTD, and phyto and zooplankton, krill, larval fish and other invertebrates using a hoop net and tucker trawl. The data will be used to identify baleen whale relative abundance in an effort to decrease the risk of entanglement of large whales in central California. Leg one is completed and Leg two is currently being conducted. May is notorious for strong wind, large swells and fog, so the team has been challenged with inclement weather, yet are hoping to complete planned transects. Many blue whales and fin whales were sighted both on and off effort. ACCESS cruises can provide real time

sanctuary resource information during vessel surveys, as well as other data on ecosystem health and climate change. The data is used for sanctuary management decisions including whale ship strikes and by other agencies regarding whale entanglement actions.



↑ MBNMS Foundation staff and board member participation

← Krill, fish larva, and pyrosomes are collected in the hoop net;

Recovering the hoop net on *Fulmar's* back deck →

The 22nd Annual Snapshot Day Event Successfully Completed

On Saturday, May 7th, approximately 80 volunteers collected water samples from creeks flowing to MBNMS from as far north as Pacifica and south to Morro Bay (~225 mi of coast). Samples were collected for lab analysis of nutrients and indicator bacteria and field tests for dissolved oxygen, temperature, pH and water clarity; all to determine if conditions in creeks are suitable for cold water fish. This is one of the largest volunteer water quality monitoring events in the state and probably the longest consecutive event of its kind. The results provide resource managers with water quality status and trends of coastal creeks. Volunteers are critical to supporting sanctuary missions. An event of this scale would not be possible without the support of our partners and volunteers. Many of these rivers and creeks would never be monitored except during this event.

EDUCATION, VOLUNTEER AND OUTREACH PROGRAMS

Netflix's series features an episode on Monterey Bay National Marine Sanctuary

On April 13, 2022, Netflix premiered the new limited series "Our Great National Parks" which featured a 52 minute episode on NOAA's Monterey Bay National Marine Sanctuary. MBNMS staff worked with the UK based [Wild Space Productions](#) and Freeborne Media to issue permits for filming the nature-based documentary within the NOAA Regulated Overflight Zones, and coordinated permitting activities with USFWS and NOAA Fisheries OPR for protected species. Staff consulted on certain filming locations, species, and contributed and reviewed sanctuary messaging for the episode's script, narrated by President Barack Obama. For more information, see the [trailer](#) and [press release](#) by Netflix. Some of the marine species featured included orcas, southern sea otters, northern elephant seals, gray whales, and many more.



MBNMS staff participate in SEACOAST's shakedown cruise aboard the R/V *Fulmar*

MBNMS staff accompanied the Western Flyer Foundation and educators aboard the WCRO's R/V *Fulmar* to field test

oceanographic equipment that will be ultimately utilized for SEACOAST research and education cruises aboard the newly restored *Western Flyer*, a 77-foot purse seiner famously chartered by author John Steinbeck and marine biologist Ed Ricketts in 1940. Programs are being developed with support from the Office of Naval Research in collaboration with Stanford University and Naval Postgraduate School. The purpose of the cruise was to test the following equipment including CTD casts, use of scientific echo-sounder, use of a small remotely operated vehicle, and net-tows for plankton. MBNMS staff shared plankton monitoring protocols and engaged teachers and researchers by sampling both phyto and zooplankton. Participants were provided a presentation on sanctuary research, resource protection issues, and education opportunities. These field tests will provide essential feedback to SEACOAST in developing STEM programs with support of a grant from the Office of Naval Research in collaboration with Stanford University and the Naval Postgraduate School. The newly restored *Western Flyer* will ultimately cruise in the fall of 2022, conducting both research and STEM education and monitoring of MBNMS throughout the year.



Coastal Discovery Center Opens

On Friday, May 27, the Coastal Discovery Center at San Simeon Bay re-opened its doors to the public for the first time in over two years. Veteran docents eagerly signed up for shifts to staff the facility, greeting visitors from all over the world. Highlights for visitors included the live plankton sample on video display, rich with diatoms and larval plankton. Children enjoyed the talking tidepool exhibit, and returning visitors described how they had missed the place when it was closed. ONMS visitor centers help fulfill the sanctuary mandate for public outreach and education.



Program specialist Sophia Barwegen (NOAA Affiliate) smiles at visitors from behind an acrylic shield at the reception desk.



Veteran docent Duffy Burns interprets a live plankton sample for visitors from southern California.

NEWS COVERAGE

[Rachel Kippen, Our Ocean Backyard | Monterey Bay braces for California brown pelican ...](#)

Santa Cruz Sentinel Bart Selby, a member of the NOAA Monterey Bay National Marine Sanctuary Conservation Working Group, picked up a distressed California brown ...

[CDFW News | Wildlife Scientists Continue to Seek Cause of California Brown Pelican Illness](#)

California Department of Fish and Wildlife - CA.gov This collaborative project between Moss Landing Marine Laboratories, Monterey Bay National Marine Sanctuary, USFWS, CDFW and other partners ...

[Scientists are using autonomous underwater robots to sample eDNA - Tech Explorist](#)

Tech Explorist... scientists completed three expeditions in the Monterey Bay National Marine Sanctuary. The team coordinated sample collection between MBARI's ...

<https://www.benzinga.com/pressreleases/22/05/n27378097/summer-events-festivals-abound-in-monterey-county-california>

Summer Events- California State Parks Week-The park's four miles of coastline offers beautiful views of the [Monterey Bay National Marine Sanctuary](#).

<https://www.santacruzsentinel.com/2022/05/21/gary-griggs-our-ocean-backyard-disaster-averted-at-moss-landing/>

Our Ocean Backyard-Disaster averted at Moss Landing

<https://www.popsoci.com/technology/mbari-edna-robot/>

These seawater-sipping robots use drifting genes to make ocean guest logs

<https://www.nbclosangeles.com/california-live/things-get-heated-during-the-california-live-cook-off/2898604/>

Things get heated at the California Live Cookoff (Dan Haifley)

[Road work along Ocean View Boulevard in Pacific Grove is ...](#)

<https://www.montereycountyweekly.com> > mcnow_intro

15 hours ago — Grimmer commended the city for its annual efforts to protect the harbor seals during pupping season, installing fences to keep people out of the ...

[5 lessons from Obama's national parks show on Netflix - The Washington Post](#)

The Washington Post

Here's what we learned from the series. Former industrial spaces are now wildlife hangouts. Monterey Bay National Marine Sanctuary features beaches, ...

[Obama Channels David Attenborough in Netflix's 'Our Great National Parks' - Green Matters](#)

Green Matters

Some of the national parks and wonders featured include Kenya's Tsavo National Park, California's Monterey Bay National Marine Sanctuary, ...

[Our Great National Parks: episodes and what you need to know | What to Watch - WhatToWatch](#)

WhatToWatch

Our Great National Parks episode 4, "Monterey Bay National Marine Sanctuary, USA" "California's vibrant coastline gets its close-up, ...

[Our Great National Parks Review: A Breathtaking Virtual Safari Courtesy of Barack Obama](#)

Leisurebyte

The fourth and fifth episodes feature Monterey Bay National Marine Sanctuary in Santa Cruz, USA, and the Gunung Leuser National Park in Indonesia

[Stranded Dolphin Dies After People Harassed and Rode Her at Beach - Newsweek](#)

Newsweek

... \$12,500 and handed three years of probation after pleading guilty to feeding killer whales in the Monterey Bay National Marine Sanctuary.

[3 prefab CLT condos are being built in Canada - Inhabitat](#)

Inhabitat

It is also the 30th anniversary of the local Monterey Bay National Marine Sanctuary. Furthermore, keynote speakers former Congress Member Sam Farr and ...

[O'Neill Sea Odyssey Marine Education Program relaunches after pandemic hiatus - KSBW](#)

KSBW

"Now, the National Marine Sanctuary is like a park," Weiss said. Lessons consist of the impact humans have on the ocean, how to navigate the high ...

<https://www.narcity.com/us-marine-sanctuary-obamas-our-great-national-parks-series-trending-netflix>

This US Marine Sanctuary made it to Obama's "Our Great National Parks"

<https://www.treehugger.com/hosted-by-obama-netflix-series-explores-national-parks-5235687>

Hosted by Barack Obama, Netflix Series Explores...(interview with producers- MBNMS)

<https://fishermensnews.com/article/pacific-pars-moves-forward-and-takes-on-new-work/>

Pacific PARS moves forward

<https://www.seemonterey.com/blog/post/eco-friendly-monterey-county/>

Eco-conscious Travel in Monterey

[Step Aside, David Attenborough—Obama's Bringing the Soothing Zoological Success Stories Now](#)

Sierra Club

The five-episode series' locations—which also count California's Monterey Bay National Marine Sanctuary, Hawaii's Hanauma Bay, Japan's Yakushima ...

[In 'Our Great National Parks,' Netflix takes optimism out for a spin](#)

The San Diego Union-Tribune

... Park to the coves and beaches of the Monterey Bay National Marine Sanctuary, with stops in Kenya's Tsavo National Park and Chilean Patagonia.

[Monterey County is a Top Destination for Responsible Travel - PR Newswire](#)

PR Newswire

... the ocean's surface – the Monterey Bay National Marine Sanctuary is larger than Yellowstone National Park and deeper than the Grand Canyon.

WCR

[Ships asked to reduce speed off San Francisco coast to protect whales](#)

San Francisco Chronicle

... or less in the Greater Farallones and Cordell Bank National Marine Sanctuaries, an area from San Francisco to Point Arena (Mendocino County).

<https://www.linns.com/news/us-stamps-postal-history/usps-announces-issue-dates-locations-for-upcoming-2022-stamps>

USPS announces issue dates, locations for 2022 stamps

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 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

SIMON

<https://sanctuariesimon.org/>

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/>

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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>

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