

## Monterey Bay National Marine Sanctuary Accomplishments

Fiscal Year 2021

Designated in 1992, Monterey Bay National Marine Sanctuary protects pristine beaches, jewel-like tide pools, lush kelp forests, steep canyons and an offshore seamount teeming with life. Known as the "Serengeti of the Sea," the sanctuary is home to at least 36 species of marine mammals, more than 180 species of seabirds and shorebirds, 525 species of fish, an abundance of invertebrates and algae, and 26 threatened or endangered species. Off the coast of California, the sanctuary stretches 276 miles of shoreline and encompasses a total of 6,094 square miles. At its deepest point, the sanctuary reaches 12,743 feet (over 2 miles).



Visit [montereybay.noaa.gov](https://montereybay.noaa.gov) for more information.

### Black Abalone Recovery Project

Endangered black abalone (*Haliotis cracherodii*) were rescued in the winter of 2020 after a lethal combination of the Dolan Fire and an atmospheric river event that generated multiple debris flows, burying several hundred meters of rocky intertidal habitat under terrestrial sediment. In July 2021, nearly 150 rescued abalone were returned to locations that were beyond the influence of the debris flows. Efforts will resume in November 2021 to track the fate of the black abalone returned to Big Sur.

### Scientific Instruments Retrieved from the Deep

During a deep-sea research mission aboard the E/V *Nautilus* in October 2020, researchers revisited the "octopus garden" and a whale fall near Davidson Seamount. Previous bad weather had prevented the recovery of long-term temperature, oxygen, and water chemistry equipment; however, all instruments were successfully retrieved with the help from Monterey Bay Aquarium Research Institute in December 2020. The data collected has been key to our understanding of the tidal, daily, and seasonal fluctuations in water temperature and dissolved oxygen from warm water seeps at these deep-sea octopus nursery sites.



Endangered black abalone are given multiple color-coded tags for tracking movements. Photo: NOAA



A scientist aboard the E/V *Nautilus* observes the octopus garden. Photo: NOAA

## Vessel Incidents Threaten Natural Resources

In order to protect sensitive habitats and wildlife, sanctuary staff responded to 18 incidents of vessel groundings, sinkings, and discharges, representing threats that could have lasting impacts such as release of pollution and debris. Staff worked to assess damage caused by these incidents and thoughtfully planned the appropriate response and cleanup effort, including the salvage coordination of vessel casualties.

Partners such as the U.S. Coast Guard, NOAA Office of Law Enforcement, and state and local agencies work with staff to significantly reduce the potential for serious environmental damage.



A sailboat grounded on a sensitive sand beach habitat in the sanctuary. Photo: NOAA

## Looking Ahead

- Marine debris datasets, populated by cleanups conducted by volunteers, will be compiled and analyzed to determine hotspots and possible sources of the litter so that MBNMS management can better understand the magnitude of the problem and devise potential solutions.
- To better understand predator-prey dynamics above Davidson Seamount, staff will conduct operations aboard *Bell M. Shimada* to count and identify marine mammals and seabirds; sample for meso-pelagic fishes, krill, and other plankton; and collect conductivity, temperature, depth, and echosounder data.
- Sanctuary staff will engage with recreational fishing groups and businesses through a series of enrichment events to encourage sanctuary stewardship and promote the blue economy, sustainability, and biodiversity of the sanctuary for diverse ocean users.



The National Marine Sanctuary System is a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters. The network includes a system of 15 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments.