

# 50 Years of Ocean and Coastal Conservation

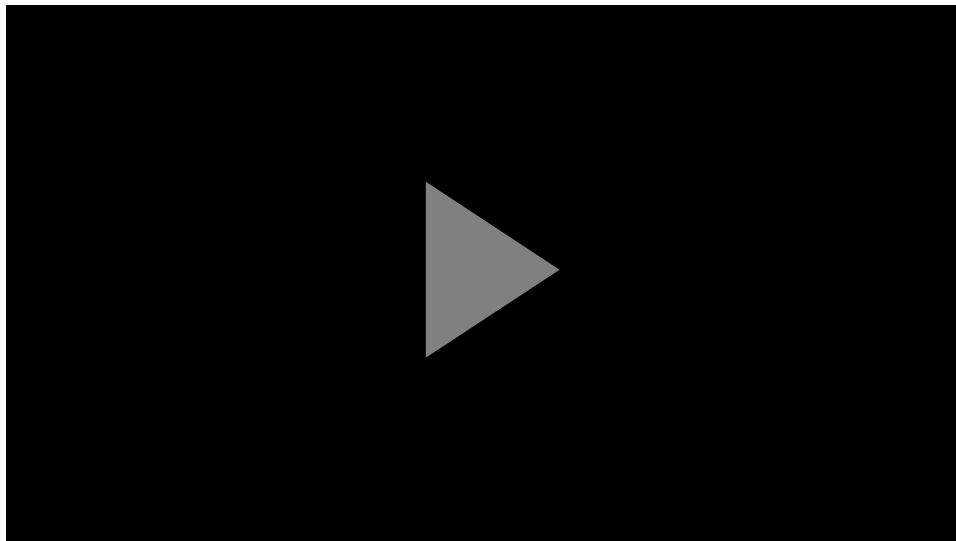
The Past, Present, and Future of Marine Conservation in America

NOAA, US Fish and Wildlife Service, and the Marine Mammal Commission  
December 15, 2021



Then (top row) and Now: Cleaning up marine debris, dropping by a visitor center, enjoying a field trip, and having family time at the beach.

Our ocean and coasts are great places to live, work, and recreate, and drive our nation's economy. They support a wealth of biodiversity, which is part of our national heritage and character. Fifty years ago, Congress took action to protect the nation's ocean and coasts, when it passed a set of powerful laws that help form the foundation for the nation's marine stewardship today: the Clean Water Act, the Coastal Zone Management Act, the Marine Mammal Protection Act, and the National Marine Sanctuaries Act.



#### 50 Ways to love your Ocean and Coasts

These laws made a tremendous difference. The clean water we enjoy today, the species that have recovered from historically low population levels, the preserved public access to beaches and coastal waters, the two networks of protected areas that provide conservation, recreation, and economic opportunities to their communities: these are only some of the benefits we can trace back to these historic laws.

But even greater challenges lie ahead. Our special aquatic places and species, and communities need you now more than ever to ensure that our legislative authorities and priorities remain relevant and adaptive to an increasingly dynamic natural and human environment. Visit [www.noaa.gov/50-years-ocean-coastal-conservation](http://www.noaa.gov/50-years-ocean-coastal-conservation) to learn more. And scroll down to find out just how far we've come...and how far we still have to go.



## Marine Mammals Then

“ Recent history indicates that man's impact upon marine mammals has ranged from what might be termed malign neglect to virtual genocide. These animals, including whales, porpoises, seals, sea otters, polar bears, manatees and others, have only rarely benefited from our interest; they have been shot, blown up, clubbed to death, run down by boats, poisoned, and exposed to a multitude of other indignities, all in the interests of profit or recreation, with little or no consideration of the potential impact of these activities on the animal populations involved.

(From the legislative history of the Marine Mammal Protection Act)

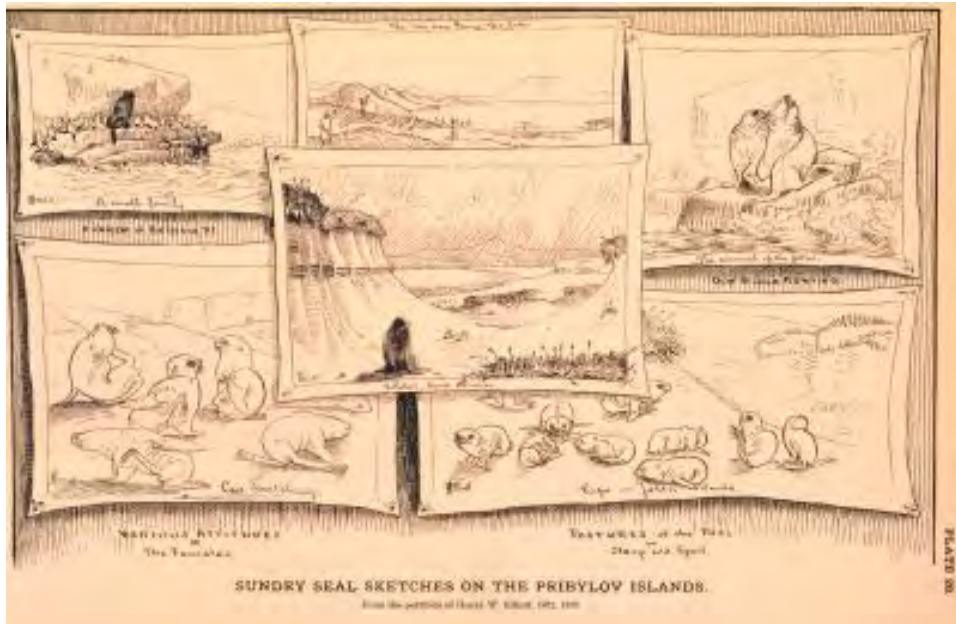


Illustration from *The Natural History of Useful Aquatic Animals*, 1884, courtesy of NOAA Library.

The term “marine mammals” broadly defines numerous and diverse species of mammals that live entirely or partially in marine or aquatic environments. Cetaceans (whales, dolphins, and porpoises) and sirenians (manatees and dugongs) spend their entire lives in water and come to the surface mostly to breathe, whereas pinnipeds (seals, sea lions, and walrus), sea otters, and polar bears spend time hauled out on land to rest, care for young, or avoid predators.



Sketch of a Steller's sea cow from *Extinct Monsters* by H.N. Hutchinson, Chapman and Hall, Ltd., 1896. Courtesy of the Biodiversity Heritage Library.

Throughout the ages, humans hunted marine mammals for their meat, blubber, bones, or fur, and several species were driven to extinction such as Atlantic gray whales, Caribbean monk seals, and Steller's sea cow.



A hunter poses with sea otter skins in Alaska in 1892. Courtesy of Wikimedia Commons.

Other species such as North Atlantic right whales, Pacific gray whales, Hawaiian monk seals, sea otters, and West Indian manatees were driven to the brink of extinction but thankfully survived after the enactment of international treaties and wildlife conservation laws, such as the Marine Mammal Protection Act of 1972 (MMPA) and Endangered Species Act of 1973 (ESA).



## Marine Mammals Now



A gray whale surfaces off the coast of California. Image: Merrill Gosho/NOAA.

Almost fifty years have passed since the MMPA and ESA were enacted, and the status of several marine mammal species has improved. Some populations of large whales are finally recovering after centuries of Yankee and Industrial whaling, such as Eastern Pacific gray whales and several populations of humpback whales that have rebounded and are no longer considered endangered or threatened under the ESA.



Walrus rest on sea ice in Alaska. Image: Joel Garlich-Miller/USFWS

While many pinniped species also have successfully rebounded from overexploitation, several marine mammals are still struggling. North Atlantic right whales, for example, remain critically endangered, and sea ice loss in the Arctic is creating challenges for species like the polar bear and Pacific walrus. NOAA, the Fish and Wildlife Service, the Marine Mammal Commission, and an extensive network of government and nongovernmental partners, have developed conservation and research programs under the MMPA, ESA, and other environmental laws to protect marine mammals and help their populations thrive.





A group of sea lions are gathered on one of the islands surrounded by Channel Islands National Marine Sanctuary in California. Image: Jeff Harris/NOAA

Marine protected areas, such as our National Marine Sanctuary System and National Estuarine Research Reserve System, also help protect marine mammals in our coastal communities of the Atlantic, Gulf of Mexico, and Pacific. Marine mammals have historically been very difficult to study at sea since they spend most (if not all) of their time out of sight, but today we know more than ever before about them thanks to great technological advancements that allow us to monitor them at the surface as well as at depth. Marine mammals can teach us a lot about ocean health and climate change, so the more we know about them, the better we can recover and protect them and the habitats we share.



## Marine Mammals Next



A Hawaiian monk seal rests in Papahānaumokuākea Marine National Monument. The monk seal is an endangered species; experts are hopeful that protection efforts will help increase the population of the seals in coming years. Image: Koa Matsuoka.

The future of marine mammal conservation – and the conservation of their marine habitats – depend on the choices humans make. Many species of marine mammals face threats caused by people, such as: entanglement in fishing gear or marine debris, vessel strikes, human-produced noise in the ocean, pollution, and habitat degradation.



A manatee swims near the seabed in Florida Keys National Marine Sanctuary. Although the abundance of manatees had been increasing, recent unusual mortality events in Florida are being addressed with additional conservation measures. Image: Keith Ramos/USFWS.

Additional long-term population monitoring efforts aided by new technologies such as autonomous underwater and aerial vehicles and sail drones will allow us to assess human impacts and ecosystem changes and reduce or respond to them more effectively and efficiently. Great challenges lie ahead in the warming and rising seas of climate change and the demands of a growing world population, and we still have much work ahead of us to ensure that marine mammals have a bright future.



A polar bear mother and her growing cubs keep a watchful eye in Alaska. Polar bears face increasing impacts from climate change including the loss of sea ice, which are being addressed with a new conservation plan recently put in place. Image: Susanne Miller/USFWS



## Coast Then



*Man's attraction to the nation's ocean and coasts has a long history. Coastal community growth was alarming during the 1950's and 1960's, but there was no legal or administrative mechanism to direct or regulate this development. Coastal Zone Management was an idea born from the need to provide regulation of development of these land-sea interface areas.*

(From the legislative history of the Coastal Zone Management Act)



Oil derricks lined the southern California coast in the mid-1940s. Image: U.S. Office of War, courtesy of the Library of Congress.

With the end of World War II in 1945, Americans turned their attention to raising families and enjoying the expanding leisure time available to the burgeoning middle class. Many chose to spend their vacations along the nation's 95,000 miles of coast.



A 1950s graphic showing the rush to the shoreline. Image from *Our Vanishing Shoreline* by the National Park Service, 1955.

A report, *Our Vanishing Shoreline*, for the National Park Service completed in 1955 issued a warning to the country: “Almost every attractive seashore area on our Atlantic and Gulf coasts has been preempted for commercial or private development. Only a fraction of our long seacoast is left for public use, and much of this small portion is rapidly disappearing before our eyes.”



Litter and parked cars mar Zmudowski State Beach in California in 1972. Image: Dick Rowan, EPA's Documerica Project, courtesy of the National Archives.

In 1972, there was intense pressure to develop the nation's shores for a plethora of potentially conflicting uses, including industrial, residential, recreational, and tourism, amid fears that without some kind of legal framework, the nation's wild beaches and the public's ability to access the seashore would be lost. But Congress

took action and passed the Coastal Zone Management Act to preserve, protect, develop, enhance, and restore the country's coastal resources.



## Coast Now





An aerial view shows the wide swath of Venice Beach, California. Image: Carol Highsmith, Courtesy of the Library of Congress.

Fifty years after the passage of the Coastal Zone Management Act, nearly all the coastal states and most of the nation's coastlines are managed under a federal and state partnership that balances the development, preservation, and use of beaches and coastal habitats. That's important, as coastal communities are home to nearly half the American population, support 58.3 million jobs, and contribute \$9.5 trillion to the U.S. economy.



Beachgoers enjoy some time along the water on North Beach, Maryland. Image: Carol Highsmith, courtesy of the Library of Congress.

With this legislation, the nation has preserved public access to beaches and coastal waters, allowing Americans to pursue popular outdoor pastimes including fishing (50 million participants), bird and wildlife watching (33 million), canoeing and kayaking (26 million), surfing and other board sports (7 million), and other recreational pursuits.



Enjoying some fishing time in Hawaiian Islands Humpback Whale National Marine Sanctuary!  
Image: Matt McIntosh/NOAA.

In addition to providing recreational options, natural infrastructure provides other benefits as well. Coral reefs, seagrass beds, kelp forests, shellfish beds, wetlands, and rocky intertidal zones promote good water quality, reduce damage from strong waves and flooding, and mitigate flooding risks. That's why NOAA continues to deliver the tools and training our state and local partners need to build coastal resilience.



Mangrove roots like these holding a group of cormorants help prevent shoreline erosion and mitigate storms and large waves. Image: NOAA

The challenges in the coming years are great, thanks to expanding populations and intensified threats as a result of global warming. But NOAA continues to be confident we can meet these challenges as a result of the partnerships, protections, and expertise developed over the last fifty years.



## Coast Next



Junior high students in an Estuary Week summer camp learn about kayaking safety before taking to the waters of Guana Tolomato Matanzas National Estuarine Research Reserve. Developing the next generation of our ocean and coastal stewards is crucial for a thriving future. Image: Guana Tolomato Matanzas NERR

While it is impossible to predict the future, the goal of the Coastal Zone Management Act is to protect our coast so that our coastal communities continue to be diverse, thriving, and exciting places to live, work, and play! We must continue to mitigate the worst impacts of climate change, and prepare for rapid and sometimes severe change.



Revegetating shorelines like this one in Apalachicola National Estuarine Research Reserve help restore habitats damaged by climate change and other human-driven impacts, efforts that will become even more important as more extreme storms and other events are predicted for our future. Image: Apalachicola NERR.

We continue to invest in natural infrastructure, such as rolling dunes and sea grasses, coral reefs, wetlands, and other approaches in communities that mimic natural infrastructure, such as grassy swales that collect stormwater. We investigate progressive alternatives, such as wind and wave energy-generation, and desalination plants. We keep our beaches healthy and open to the public.



Who knows what new water-based sports will come along, like the new and popular pastime of paddle boarding? Image: Matt McIntosh/NOAA.

While we still partake of traditional recreational pursuits—we always love paddling—new sports have caught our attention: hello jet-surfing, drone-fishing, and aqua-caching! A strong conservation ethic runs through all of American society, which will serve us well as we continue to address our environmental challenges.



## Underwater Parks Then



*The establishment of marine wilderness preserves has generated considerable attention and controversy. Similar recommendations, such as contained in proposed legislation of the 90th Congress, are variously termed marine 'preserves' and marine 'sanctuaries.' Apparent interests in these measures range from scientific research through preservation of the environment to exclude certain users for the benefit of others... We recommend that the broad National studies and inventory now being conducted by the Department of the Interior includes the identification of such sanctuaries.*



(From the Stratton Commission's Panel on Management and Development of the Coastal Zone)



In the Mission 66 publicity photo, a woman looks out over Cape Cod National Seashore. Image: National Park Service

In 1966, the National Park Service celebrated its 50th anniversary (called Mission 66) and enjoyed a surge of popularity. Since then, many visitors have and are enjoying the new national seashores and lakeshores that are having a moment, many of them designated after the Stratton Commission in 1969 urged that special attention be paid to supporting public access to and developing infrastructure for water-based recreation.



In 1972, beach goers enjoy a sunny day at Natural Bridges State Beach which now overlooks Monterey Bay National Marine Sanctuary which was designated 20 years later. Image: Dick Rowan of EPA's Documerica project, courtesy of the National Archives.

Though many national parks and national wildlife refuges encompass some coastal areas, and a few states have already created underwater parks independent of a land component, the federal government lacks a comprehensive authority and mandate for underwater parks.



President Nixon visited a Santa Barbara beach oiled after a major spill offshore in 1969, which would be a major impetus for the passage of the Marine Protection, Research, and Sanctuaries Act in 1972. Image courtesy of the National Archives.

But the recognition of the conservation value of the ocean and Great Lakes, at the end of a recent spate of environmental disasters including unregulated ocean dumping, a major oil spill, and a river catching fire, is now forefront in the minds of American scientists and leaders and they know they must take action. By October, two laws are passed that lay the foundation for two new systems of parks: the National Estuarine Research Reserve System, created by the Coastal Zone Management Act, and the National Marine Sanctuary System, created by Title III of the Marine Protection, Research, and Sanctuaries Act (now known as the National Marine Sanctuaries Act).

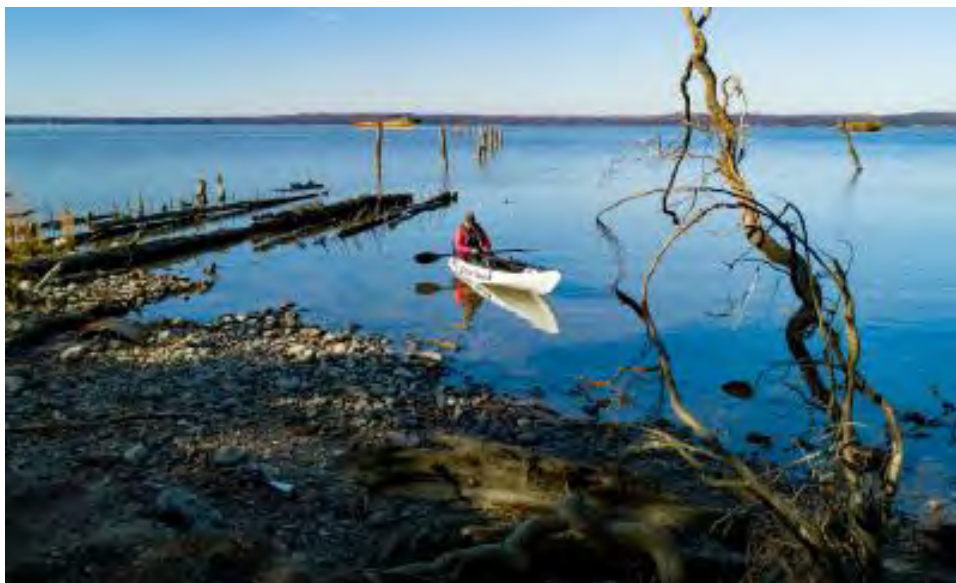


## Underwater Parks Now



He'eia National Estuarine Research Reserve in Hawai'i is the nation's 29th and newest estuarine research reserve, designated in 2017. Image: NOAA

The nation has made significant strides in its creation and management of coastal and underwater parks. Estuarine systems in 22 states and Puerto Rico are protected by 29 National Estuarine Research Reserves managed through federal/state partnerships: that's 1.3 million acres of important freshwater-meets-saltwater habitat protected for stewardship, research, education, and enjoyment.



A kayaker enjoys a day in Mallows Bay-Potomac River National Marine Sanctuary, one of the newest sanctuaries in the nation. Image: Matt McIntosh/NOAA.

The 15 sites of the National Marine Sanctuary System protect more than 620,000 square miles of valuable marine and Great Lake ecosystems and resources; by area, it's the largest park system in the country. More than a thousand other underwater parks—from tiny to gargantuan, from tropical to arctic, from single resource-focused to ecosystem-based—round out the nation's expansive network of underwater parks managed by local, tribal, state, and federal agencies.



A masked booby and chick rest on one of the islands of Papahānaumokuākea Marine National Monument, which is one of the largest conservation areas in both the US and the world. Image: Kaleomanuiwa Wong.

The National Marine Protected Area Center, established in 2000, serves as a coordinator, advisor, trainer, and technical expert for that network. But still not enough is protected if we want a healthy, sustainable, and sustaining ocean in our future.



Conservation of our ocean doesn't happen in just creating new protected areas but in expanding existing ones. This deep sea coral is in Flower Garden Banks National Marine Sanctuary, which in 2021 tripled in size to protect more sensitive bank features in the Gulf of Mexico. Image: Greg McFall/NOAA.

As we seek solutions to the great environmental challenges ahead of us, the President's initiative *Conserving and Restoring America the Beautiful* offers us a path forward: a goal of conserving at least 30 percent of our waters--and lands--by 2030.



## Underwater Parks Next



Point Conception, shown here, is part of the proposed Chumash Heritage National Marine Sanctuary which started a designation process in November 2021. It is only one of several new sanctuaries that are in designation processes that will help shape the future of the sanctuary system. Image: Robert Schwemmer/NOAA

As a nation that includes one of the world’s largest offshore exclusive economic zones, our underwater parks now exceed our land parks by both number and area, an array of vibrant protected areas that together support the full prosperity of our nation.



These Team Ocean volunteers from Monterey Bay National Marine Sanctuary kayak the waters of Elkhorn Slough National Estuarine Research Reserve which is one of the few places in the US where a sanctuary overlaps a reserve. Volunteers are key to the future of all our coastal and marine protected areas, and the communities that depend on them. Image: Lisa Emanuelson/NOAA



Wildlife and habitats thrive inside and outside of protected areas, and our local, regional, and national economies are robust because of them. Partners work across jurisdictional lines in ecosystem-based cooperative management to ensure the thriving of both our blue economy and our blue ecology and to address the challenges of a rapidly changing climate.



Many things are uncertain about our future but one thing we can always count on is finding the best ways to enjoy the waves, like this boogie boarder in Hawaiian Islands Humpback Whale National Marine Sanctuary. Image: Matt McIntosh/NOAA.

More Americans than ever visit their parks, both in person and virtually, and support them as a critical part of our national identity.

There are no limits to what we can accomplish when we come together for the sake of our ocean future! Visit [www.noaa.gov/50-years-ocean-coastal-conservation](http://www.noaa.gov/50-years-ocean-coastal-conservation) to find out how you can become involved.

5 0 Y E A R S O F



# OCEAN & COASTAL CONSERVATION

## Credits

(if not otherwise noted in text)

### Opening picture montage

Column 1: Cleaning up litter then and now (top image: EPA, bottom image: NOAA); column 2: visitor centers then and now (top image: NOAA, bottom image: Dayna McLaughlin/NOAA); column 3: field trips then and now (top image: EPA; bottom image: Chee Tung/NPS); column 4: beach time then and now (top image: Flip Schulke/EPA, bottom image: David J. Ruck/NOAA)