



NATIONAL MARINE SANCTUARIES

CELEBRATING 50 YEARS

Communion: Ocean and Creativity

50th Anniversary Sanctuary Signature Articles

By Elizabeth Moore | May 2022

Photo: "The Great Wave", a woodblock print by Katsushika Hokusai in about 1831, might be the most famous depiction of a wave.



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Communing

When we look at the world around us, we aren't just looking; we are communing with it, experiencing it with all our senses and appraising it through the lenses of our different life experiences. When we stand on a beach, for example, we can simultaneously enjoy the visceral experience—the sight, smell, and sound—of waves washing upon the shore as well as understanding their hydrodynamics. The wave might evoke memories of a childhood surfing lesson or remind us of the famous woodblock print "The Great Wave" by Katsushika Hokusai. All of this happens simultaneously in the complex lattice of electricity, tissue, and chemicals we call our brain. Let's look at this experience through four intersections of creativity with conservation: aesthetics, decoration, biomimicry, and placemaking.

Begin With the Pretty

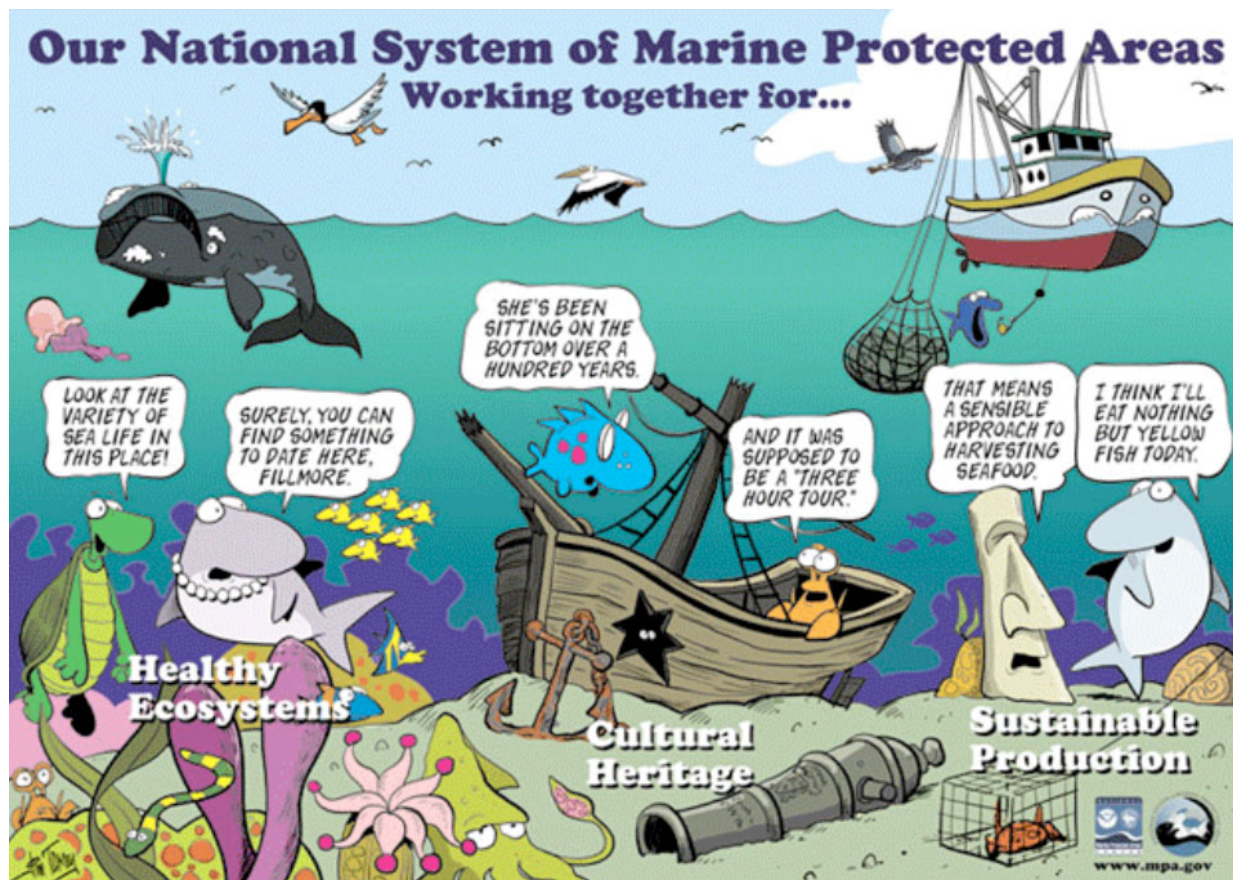
Neuroscientific research in the last decade has shown that the same brain circuits that assess the beauty of nature are the same as those we use to assess the beauty of art. Scientists theorize that we first used those circuits to assess the fitness of a potential mate or the appeal of a palatable food item, which then evolved into judging whether we want to listen to the Big Band songs of the 1940s or the today's hip-hop hits, whether we prefer to view Kehinde Wiley's plant-lavish portraits to Salvador Dali's surreal subjects. Or, as a pair of experts more prosaically explain it: "[R]esearch suggests that our brain's responses to a piece of cake and a piece of music are in fact quite similar."¹ Aldo Leopold, the venerated ecologist and writer, expresses it another way when he writes in his classic 1949 work "A Sand County Almanac": "Our ability to perceive quality in nature begins, as in art, with the pretty. It expands through successive stages of the beautiful to values as yet uncultured by language."²



Artist Robert Bierstadt painted a number of works showing seals in the Farallon Islands, including this one in 1887. Courtesy of the Carnegie Museum of Art.

Beauty is one reason why we protect some places as parks. Think of the soaring redwoods of Muir Woods National Monument and towering kelp forests of Greater Farallones National Marine Sanctuary; the dunes of wild beach in Cape Hatteras National Seashore and meadows of seagrass beds in Florida Keys National Marine Sanctuary; the depths of the canyons that are the centerpieces of both Grand Canyon National Park and Monterey Bay National Marine Sanctuary; the mountains that grace both Olympic National Park and Cordell Bank National Marine Sanctuary. It was sights like these, painted by such artists as Chiura Obata and Albert Bierstadt, and photographed by Ansel Adams and others, that helped inspire the creation of national parks starting in 1872, and the National Park Service in 1916.

Contemporary artists sometimes join forces with conservation experts and activists today to help get the word out and inspire care for our lands and waters. Artists have created art in the national parks of the nation since the 1870s and today the National Park Service has more than fifty formal Artist-in-Residence programs across the country. Artists have produced a body of visual, written, and musical works that explore, celebrate, and invite the viewer or listener into the relationship among human, nature, and place. The federal duck stamp issued and sold each year by the U.S. Fish and Wildlife Service since 1934, with the winning art work of an annual contest, is used to buy and conserve habitat for water birds.



Artist Jim Toomey produced this poster featuring characters from his Sherman's Lagoon comic strip in support of the National Marine Protected Area Center.

Some examples of this type of collaboration related to the sanctuary system include a number of photograph-centered coffee table books such as "Wild Ocean: America's Parks Under the Sea" by Sylvia Earle and Henry Wolcott in 1999; "Archipelago: Portraits of Life in the World's Most Remote Island Sanctuary" by David Littchwager and Susan Middleton in 2005; and "America's Marine Sanctuaries: A Photographic Exploration" by the National Marine Sanctuary Foundation in 2020. Jim Toomey, creator of the comic strip *Sherman's Lagoon*, is a long-time friend to the sanctuary system and has featured our sites in his strip often over the years. Each summer features a national photography contest as part of the annual *Get Into Your Sanctuary* events and each year Stellwagen Bank National Marine Sanctuary hosts a children's art contest. In the days before the Internet, the sanctuary system regularly produced lovely, full-color posters to carry their messages, like Monterey Bay National Marine Sanctuary's Threatened and Thriving series (<https://montereybay.noaa.gov/educate/tt/>).

The Threatened and Thriving poster series (<https://montereybay.noaa.gov/educate/tt/>) by artist Kirsten Carlson was produced by the sanctuary in 2002 in celebration of its 10th anniversary. Each poster featured one species in Monterey Bay National Marine Sanctuary that was healthy and one that was struggling.

But not all of the art employed to reveal a problem or spur action is pretty; sometimes it's downright hard to witness. The photos of Chris Jordan's series "Midway: Message from the Gyre", taken in Papahānaumokuākea Marine National Monument, disturb with their juxtaposition of dead birds and the collection of plastic litter in their bellies that caused them to die of starvation. The National Zoo's 2016 "Washed Ashore: Art to Save the Sea" exhibit featuring larger-than-life marine wildlife sculptures made totally of plastic objects recovered from the ocean illustrated the disheartening amount of marine debris that infests the ocean. But that's the point. Sometimes, outrage is as powerful a motivator as beauty.

A Most Cruel and Brutal Nature

Humans have decorated themselves with clothing, jewelry, and ornaments made from the feathers, furs, skins, teeth, bones, and other parts of wildlife for thousands of years, often as a byproduct of subsistence hunting and fishing. Among the oldest pieces of jewelry ever found, for example, are eagle-talon bracelets and beads carved from sea snail shells. Sometimes, however, ornamentation was the sole reason for killing wildlife.

A 1911 cartoon criticizes the millinery fashion of using bird feathers on ladies' hats causing the overhunting of birds. Image: Gordon Ross, courtesy of the Library of Congress.

In turn of the century America and Europe, fashionable ladies wore hats decorated with the feathers and plumes of birds, and even sometimes whole birds, including egrets, terns, owls, parrots, and songbirds; millions of birds were slaughtered for nothing more than to make ornamental hats. In 1913, William T. Hornaday, the director of the New York Zoological Park (today the Bronx Zoo) and a preeminent naturalist of the day, quoted in his "Our Vanishing Wild Life" the words of a former hunter of bird plumes: "[T]heir practices are of a most cruel and brutal nature. I have seen them frequently pull the plumes from wounded birds, leaving the crippled birds to die of starvation, unable to respond to the cries of their young in the nests above, which were calling for food. I have known these people to tie and prop up wounded egrets on the marsh where they would attract the attention of other birds flying by. These decoys they keep in this position until they die of their wounds, or from the attacks by insects."³

This endangered Hawaiian monk seal is a distant cousin to the now-extinct Caribbean monk seal. Hawaiian and Mediterranean monk seals are both among the most critically endangered animals in the world. Image: Ed Lyman/NOAA

In 1896, Harriet Hemenway, a Boston abolitionist and socialite, read a similar article that predated Hornaday's, that was even more explicit in its description of the horrors of the feather trade. Hemenway enlisted her cousin Minna Hall and together they recruited the women of Boston to stop wearing hats with bird plumage to help bring a halt to the practice. They were so successful that they paved the way for the creation of the National Audubon Society and legislation protecting migratory birds, waterfowl, and seabirds. The same kind of outrage drove protests about the killing of animals for fur coats and other products that started in the 1960s and continue to this day. Today, many birds and most marine mammals once killed for utilitarian or ornamental purposes are protected under various laws but some, like the great auk, like the Caribbean monk seal, like the Steller's sea cow, didn't survive long enough to enjoy legal protection.

Woven Deep Into the Wild

Our wild companions and habitats on the planet inspire us in many different ways. Our ancestors may have learned certain behaviors or skills by watching their animal companions, learning to swim or hunt perhaps. Various ancient cultures invented the kite after watching birds soaring on winds overhead. While mythology records the tales of Daedalus and Icarus flying on wax wings inspired by the birds in the skies overhead, polymath Leonardo da Vinci sketched flying machines inspired by bat wings. General Yi Sun-sin built a warship modeled on a turtle in the 15th century to defend Korea from Japanese raiders. Pyramids inspired by mountains and cliff-carved temples inspired by caves may be early examples of nature-influenced architecture.

A modern version of this kind of inspiration is called biomimicry, the act of looking to nature for solutions to human design problems. Rather than extract material things from nature, we take ideas and inspiration instead. Janine M. Benyus, author of a number of key books about biomimicry, tells us: "Beauty is a large part of why biomimicry resonates. Our search for mentors brings us back into contact with the living world, a place we were tuned to appreciate. Having spent 99.9% of our planetary tenure woven deep into the wild, we humans naturally admire the weaverbird's nest, the conch's shell, the scales of a shimmering trout. In fact, there are few things more beautiful to the human soul than good design."⁴

The streamlined shape of these common dolphins in Channel Islands National Marine Sanctuary provides inspiration for designing more efficient types of airplanes and watercraft. Image: Robert Schwemmer/NOAA

Ocean life provides ample inspiration to help meet our modern challenges. The way basking sharks and other filter feeders obtain their food has inspired devices designed to remove plastic pollution from the ocean. The stream-lined forms of sleek ocean predators like sharks and dolphins influence the design of water- and aircraft to make them more efficient. The way dolphins call each other over long distances with multi-frequency communication informed the design of tsunami warning systems in the Pacific. The trailing tentacles of jellyfish and shape of kelp blades are influencing efforts to derive more efficient and cheaper energy generation from ocean currents. Seal whiskers, incredibly sensitive to the movements in the surrounding ocean, are leading to new designs in underwater sensors. The iridescent material inside some seashells, called nacre, has inspired the recent development of a nearly unbreakable glass composite.

When defending the need to preserve a species, advocates sometimes use the actual or potential value of an animal to help address our health needs. A number of chemicals derived from marine organisms provide treatments for significant diseases and conditions, for example ecteinascidin from tunicates is being tested for treating breast and ovarian cancers and pseudopterosins from sea whips reduce wound inflammation and promote healing. Biomimicry asks us to expand our vision when we consider the value of our companion species. We don't know what problems may face us in the future. Do we really want to lose all our options for solutions to those problems?

A Place of Repose

Placemaking might be a modern community planning term (meaning to collectively reimagine or re-create common spaces, usually with some kind of art, in communities) but the concept is ancient. Our forebears created meaning and explained the world around them—their place—with stories. The first Americans were also the first placemakers of the nation, telling stories to explain, sanctify, and celebrate their surroundings. Samoan tales tell of how Tagaloa created the islands of the Pacific like Tonga and Fiji, afterward coming to Samoa: "He measured the distance between the lands and thought that the distance between Upolu and Manu'a was too great. So he placed there a small rock. This rock was to be a place of repose for the chiefs. He called the rock Tutuila. It was the last of the Samoan islands to be created."⁵ David Malo's *Moolelo Hawaii (Hawaiian Antiquities)* explained the many names for the ocean that was so important to Native Hawaiians. A distant part of the ocean beyond where people could stand is called kai uli (blue sea), kai lu hee (squid fishing sea), or kai malolo (sea of the flying fish).⁶

Residents of American Samoa rehearse traditional singing, a part of each year's Flag Day celebration events.

Coyote, in the tradition of the Ohlone Tribe of California, teaches the people how to collect abalones, mussels, and seaweed during low tides.⁷ He'-koo-lās the Sun-woman of the Miwok people of California, shines so brightly because she is covered in the beautiful iridescent shells of the abalone.⁸ A human man from Washington's Quinault Tribe marries a woman from a mysterious village and their children, the salmon, forever after inhabit the Quinault River.⁹ A star-girl comes to rest on the lake one night near a Chippewa village and the next morning thousands of water lilies are found on its surface.¹⁰

As ancient stories create other worlds besides the reality we inhabit, so too does more modern literature. The places now protected as underwater parks have inspired many such stories. "We turned out of our own will, at daybreak, to get a sight of land," writes Richard Henry Dana in "Two Years Before the Mast", passing through the waters of what is now Stellwagen Bank National Marine Sanctuary. "In the grey of the morning, one or two small fishing-smacks peered out of the mist, and when the broad day broke upon us, there lay the low sand-hills of Cape Cod, over our larboard quarter, and before us the wide waters of Massachusetts Bay, with here and there a sail gliding over its smooth surface. As we drew in toward the mouth of the harbour, as toward a focus, the vessels began to multiply, until the bay seemed actually alive with sails gliding about in every direction, some on the wind, others before it, as they were bound to or from the emporium of trade and centre of the bay."¹¹

Sooty terns fill the sky above Nihoa in Papahānaumokuākea Marine National Monument. Image: Brad Ka'aleleo Wong/Office of Hawaiian Affairs

"The Wrecker" by Robert Louis Stevenson invites us to witness the soaring of seabirds over the islands of Papahānaumokuākea Marine National Monument: "I climbed into the rigging, stood on the board, and eagerly scanned that ring of coral reef and bursting breaker, and the blue lagoon they enclosed...over these there hovered, shattered, screamed, and clanged, millions of twinkling sea-birds; white and black; the black by far the largest. With singular scintillation, this vortex of winged life swayed to and fro in the strong sunshine, whirled continually through itself, and would now and again burst asunder and scatter as wide as the lagoon."¹²

Cannery Row, now lined with upscale shops and hotels, and home to the Monterey Bay Aquarium and the offices of Monterey Bay National Marine Sanctuary, was once the site of loud, busy, smelly fishing camps and fish processing plants. John Steinbeck recalls in his novel of the same name: "Cannery Row in Monterey in California is a poem, a stink, a grating noise, a quality of light, a tone, a habit, a nostalgia, a dream. Cannery Row is the gathered and scattered, tin and iron and rust and splintered wood, chipped pavement and weedy lots and junk heaps, sardine canneries of corrugated iron...."¹³

You can find this pristine stretch of beach in Cape Cod National Seashore. Image: National Park Service.

But literature in service to conservation can also warn us we are losing the natural world we cherish or help us envision a way to restore our degraded habitats. "The Everglades: River of Grass" by Marjory Stoneman Douglas in 1947 was instrumental in helping move Everglades National Park from a largely "paper park" to the modern icon it is today with the book's moving final passage: "Perhaps even in this last hour, in a new relation of usefulness and beauty, the vast, magnificent, subtle and unique region of the Everglades may not be utterly lost."¹⁴ The last words of Henry Beston's 1928 work "The Outermost House", about a year spent on Cape Cod, foreshadowed the protection that Cape Cod National

Seashore would provide 33 years later: "Do not dishonour the earth lest you dishonour the spirit of man. Hold your hands out over the earth as over a flame. To all who love her, who open to her the doors of their veins, she gives of her strength, sustaining them with her own measureless tremor of dark life. Tough the earth, love the earth, honour the earth, her plains, her valleys, her hills, and her seas; rest your spirit in her solitary places. For all the gifts of life are the earth's and they are given to all, and they are the songs of birds at daybreak, Orion and the Bear, and dawn seen over ocean from the beach."¹⁵

Even today, scientists and other experts understand the power of storytelling to help explain and solve our biggest conservation challenges. Eminent scientists Dr. Jane Lubchenco and Dr. Steven Gaines condemn the old belief that the ocean is too big to fail, and offer us instead a new imperative: "It is time for a new ocean narrative that says, 'The ocean is so central to our future. It's too important to neglect.' In creating a new solution space for the ocean, we can also address broader global problems. In healing the ocean, we can heal ourselves. The ocean sustains and feeds us. It connects us. It is our past and our future. The ocean is not too big to fail, nor is it too big to fix. It is too big to ignore."¹⁶

The Carysfort Lighthouse stands out against the blue sea and blue sky in Florida Keys National Marine Sanctuary. Image: Nancy Diersing/NOAA

The World's Beauty Becomes Enough

In his 1885 poem "Song of Joy", Walt Whitman exults: "What beauty is this that descends upon me and rises out of me?"¹⁷ Almost a century later, in her 1981 novel "Tar Baby", Nobel laureate Toni Morrison exhorts: "At some point in life the world's beauty becomes enough. You don't need to photograph, paint or even remember it. It is enough."¹⁸ They both speak to our ancient and intrinsic ties to nature, to what we find to be beautiful and valuable and worth saving, to what inspires us both to art and to action. As we continue to advance ocean conservation in the face of the daunting challenges of climate change, ecosystem collapse, and biodiversity losses, our creativity may be the only thing that saves us.

50th Anniversary Sanctuary Signature Articles

About this series: The National Marine Sanctuary System celebrates its 50th anniversary (/50/) in 2022. As one of a number of engagement efforts, we're taking the opportunity to do a series of in-depth feature articles about different aspects of who we are, what we do, and why we do it, many of them touching on subjects we don't often talk about in our outreach efforts. But when you reach the age of fifty, you're allowed to be a bit introspective! Each month we'll release a new sanctuary signature article. Read the earlier entries in this series.

Wild Sanctuaries: Wildlife, Wild Places, and Wild Being (wild-sanctuaries.html)

(playing-for-keeps.html)Playing for Keeps: The Vitality of an Ocean Nation At Play

The Making of a Maritime Nation (the-making-of-a-maritime-nation.html)

Presidents and Parks: The Untold Story of the Ocean Legacy of the Nation's Leaders (presidents-and-parks.html)

Storied Seas: The Names and Tales of Sanctuary Places (storied-seas.html)

Depths of Courage: Heroism at Sea and in Sanctuaries (depths-of-courage.html)

The Hidden Figures in the History of the Sanctuary System (hidden-figures.html)

You Have to See/Sea This! A Sanctuary History of Visual Engagement (you-have-to-sea-this.html)

The Power of Wow: A Half-Century of Discovery in Ocean Parks (the-power-of-wow.html)

Communion: Ocean and Creativity (communion-ocean-and-creativity.html)

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