

SANCTUARY WATCH

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Spotted Drum Photo: Joyce and Frank Burek



Letter from the Director

In this issue of *Sanctuary Watch*, you will read some compelling stories about the perseverance of just a few of our many colleagues and partners who are working in the depths of the Gulf of Mexico, in the waters off Hawaii, on the shores of California, in the halls of Congress and beyond to understand, protect and highlight America's ocean resources.

The effort to focus our nation's attention on the marine environment can, at times, seem on par with Sisyphus's mythical struggle to roll a boulder to the top of a mountain, only to have it roll back down.

Indeed, it's easy to get discouraged when faced with daily stories of the ocean's demise. But I feel that our nation is making significant strides towards protecting and managing our oceans for a sustainable future.

It's important to judge our progress over the last several decades and the decades to come, rather than focus solely on the short term. For example, passage of the Wilderness Act of 1964, aimed at protecting wilderness areas on land, resulted from a vision put forth in the 19th century and several decades of concerted effort before it became reality.

It took centuries to get into the situation the oceans are in today, and the solutions of tomorrow will not manifest themselves overnight. But I am confident we are on the right path, for a few simple reasons. Through a host of efforts like the one underway at our own Flower Garden Banks National Marine Sanctuary (see page 3), our understanding of the oceans is increasing. And more and more Americans, including kids like Kobe, our guest artist (see page 10), are learning about the important role oceans play in our everyday lives. But most significantly, there are thousands of people who have dedicated their lives to being stewards for the sea—even shark bite victims (see page 7)—and their number is growing each day.

The most important attributes that will dictate how quickly and how far we will move the proverbial boulder up the hill can be distilled to two simple things: vision and perseverance. We all must persist in our own efforts to ensure a vibrant ocean of tomorrow and measure our success not by how far we have to go but by how far we have come. We must have vision to break down the usual constraints that prevent visionary solutions from taking hold and strive to find solutions where none appear to exist.

Only then will we be able to finally reach and stay at the top of the hill. Please enjoy this issue of *Sanctuary Watch* and take a little time to think about what you can do.

Sincerely,

Daniel J. Basta, Director
NOAA's National Marine Sanctuary Program

Sanctuary Watch is a publication of the Communications Branch of the National Oceanic and Atmospheric Administration's (NOAA) National Marine Sanctuary Program. NOAA is an agency of the U.S. Department of Commerce.

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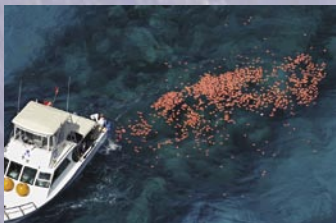
Stellwagen Bank Sanctuary Shipwreck Added to Historic Places List

On February 17, NOAA announced that the wreck of the steamship *Portland* had been listed on the National Register of Historic Places. The registry is the nation's official list of cultural resources worthy of preservation.

The *Portland* set the bar for luxury steamships during the late 19th century. The ill-fated ship became known as the "Titanic of New England" after sinking during a fierce November 1898 storm with the loss of all 192 passengers and crew. The *Portland* rests on the sea bottom in Stellwagen Bank National Marine Sanctuary (stellwagen.noaa.gov) off the Massachusetts coast.



The wreck of the steamer *Portland* is protected by Stellwagen Bank National Marine Sanctuary. Photos: Klein Sonar Associates (top); Maine Historical Society

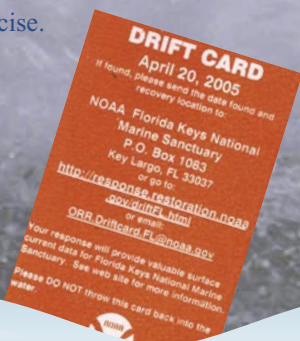


Florida Keys National Marine Sanctuary officials released thousands of biodegradable drift cards to simulate an oil spill during the Safe Sanctuaries 2005 drill. Photo: Andy Newman

NOAA and Partners Conduct Emergency Response Drill in Florida Keys Sanctuary

NOAA, the U.S. Coast Guard and Florida Department of Environmental Protection responded on April 20 to a mock ship grounding and oil spill in Florida Keys National Marine Sanctuary (floridakeys.noaa.gov). The first-ever "Safe Sanctuaries" emergency

response drill was designed to enhance the agencies' ability to protect the environment and the public in the event of an incident. The drill involved the hypothetical grounding of the *M/V Portsmouth Trader*, an 800-foot cargo vessel carrying 1.2 million gallons of fuel, at Elbow Reef off Key Largo. More than 140 personnel took part in the exercise on the sea, in the air and on land. The response team released 2,700 yellow and orange biodegradable drift cards to simulate the oil spill during the successful exercise.



Gray's Reef Sanctuary Dedicates New Research Vessel

During a special ceremony in Savannah, Ga., on April 15, Gray's Reef National Marine Sanctuary (graysreef.noaa.gov) dedicated its new



Gray's Reef National Marine Sanctuary's new research vessel, the R/V *Sam Gray*. Photo: GRNMS

research vessel. The R/V *Sam Gray* will enable sanctuary scientists to better assess and predict changes in the natural systems within the sanctuary. The new, 36-foot aluminum craft is the first research vessel built exclusively for Gray's Reef National Marine Sanctuary, and will serve as a prototype for future sanctuary vessels in that class. The vessel was named for the sanctuary's namesake, Milton Berford "Sam" Gray, an early invertebrate collector for the Sapelo Island Research Foundation and the University of Georgia Marine Institute. The sanctuary took delivery of the vessel in December 2004.

Major Aquarium Brings Sanctuary to America's Heartland

The Tennessee Aquarium (www.tennesseeaquarium.com) made a big splash on April 25 with the grand opening of its Ocean Journey Hall, where Flower Garden Banks National Marine Sanctuary (flowergarden.noaa.gov) has been recreated in a 600,000 gallon exhibit. Visitors can now experience the coral reefs of the Flower Garden Banks while keeping their feet dry. The replica presents a realistic view of the sanctuary's coral reef cap and its inhabitants, such as sand tiger sharks and a myriad of colorful reef fish. Interpretive signs, video and interactive multimedia stations are available for visitors to learn about a variety of topics, including NOAA's National Marine Sanctuary Program, coral structure and reproduction, natural and human impacts on coral reefs, fish identification and life cycles, and what individuals can do to help preserve coral reefs. The aquarium receives more than a million visitors each year.



The Tennessee Aquarium's new Ocean Journey Hall highlights Flower Garden Banks National Marine Sanctuary. Photo: Tennessee Aquarium

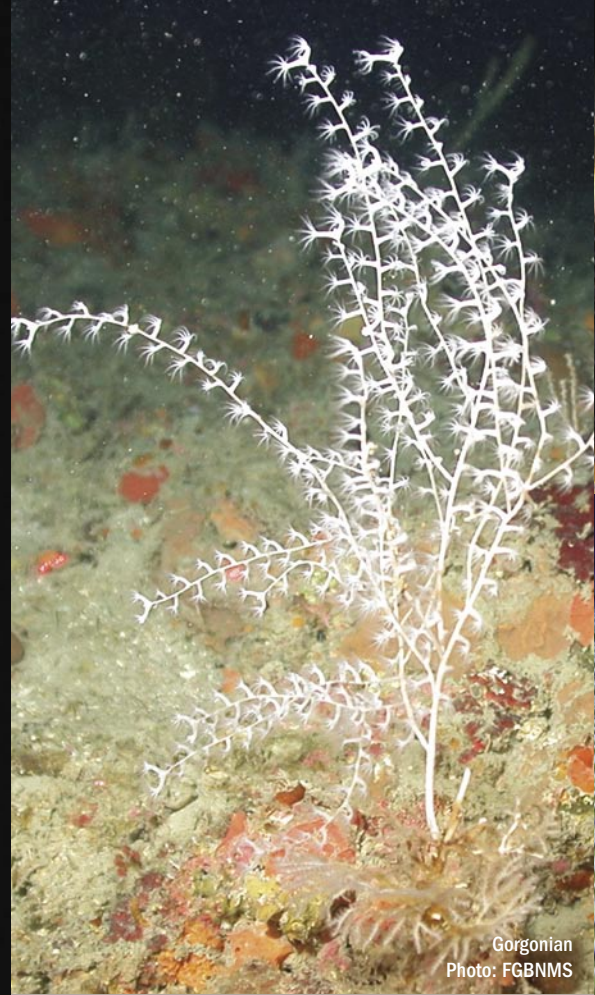
(Cont'd. on pg. 6)

Exploring the Gulf of Mexico's Magnificent



Flower Garden Banks

Tessellated Blenny
Photo: James Wiseman



Gorgonian
Photo: FGBNMS

Humans are, by nature, curious creatures. From the Norse Vikings of the 11th century to modern day pilots and astronauts, we seem compelled to explore our universe, constantly refining our concept of “the big picture” and where we fit into it.

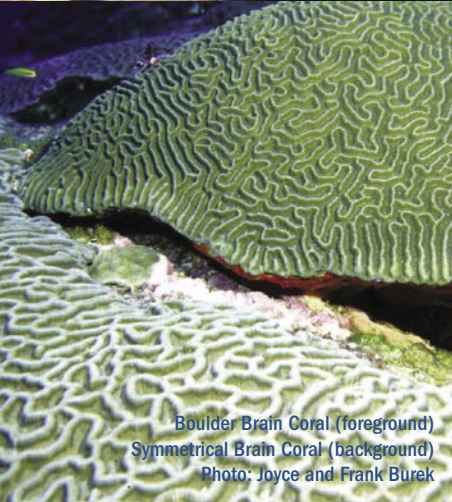
Often, we explore for the sheer joy of discovery. Other times, we explore with a more specific purpose. Frequently, the two motivations go hand-in-hand. Such is the case with exploration and discovery at Flower Garden Banks National Marine Sanctuary, through the years.

Located about 105 miles south of the Texas/Louisiana border, the Flower Garden Banks are the northernmost coral reefs in the continental United States. While their discovery by early 20th century fishers may have been incidental to putting food on the table, subsequent exploration and discovery of the Flower Garden Banks has been deliberate.

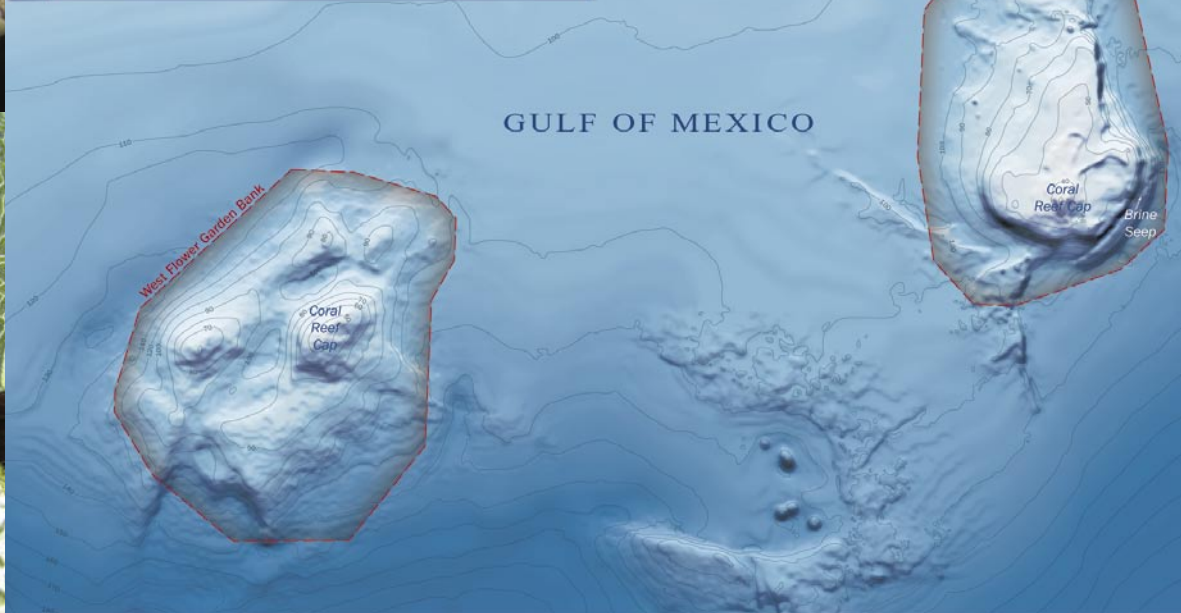
Until recently, scientific exploration has been limited to the upper 140 feet of the banks, yielding only rudimentary



Loggerhead Sea Turtle
Photo: Joyce and Frank Burek



Boulder Brain Coral (foreground)
Symmetrical Brain Coral (background)
Photo: Joyce and Frank Burek



information for the deeper areas. But over the past few years, advanced technology has allowed researchers to conduct more extensive surveys, and their efforts are paying off in discoveries that will provide valuable information on which to base resource management decisions for this national treasure.

“We have found that the depths of the sanctuary support a much greater variety of species than suspected,” said Sanctuary Manager G.P. Schmahl. “The banks clearly provide hiding and feeding areas for animals. Future explorations may reveal that they also provide spawning areas for some species.”

Although scientists are still analyzing and identifying samples, up to a dozen additional species of soft corals and gorgonians have been photographed—many for the first time in their natural habitat—during “site characterization” surveys of the Flower Garden Banks.

Researchers have discovered that the seafloor between the sanctuary and surrounding banks is much “bumpier” than previously believed. Rather than intermittent underwater hills, separated by large expanses of open water and sandy seafloor, the banks in the northwestern Gulf of Mexico are physically connected by a series of rocky outcrops and ridges.

“These areas provide cover and forage areas that form a sort of habitat highway, allowing animals to move between the banks without automatically becoming dinner for something larger,” Schmahl said. “Areas outside the sanctuary may have much

greater influence on the sanctuary’s health and well-being than we thought.”

These discoveries were made possible through many partnerships that provide access to state of the art technology. Multi-beam sonar has allowed collection of high resolution bathymetry data of the sanctuary and surrounding areas. Remotely operated vehicles (ROVs) have allowed much longer and deeper explorations around the banks compared to those previously conducted by scuba divers. Sampling devices and high resolution digital cameras mounted on the ROVs provided visual and physical documentation of the areas explored.

When processed using Geographic Information System software, the bathymetry data forms the foundation for detailed maps of the sanctuary’s seafloor. The visual and physical documentation can then be added to the database, allowing resource managers to locate specific habitat types on the maps.

“As we continue to build on the legacy of discovery at the Flower Garden Banks National Marine Sanctuary, we are also building our understanding of how to be good stewards for your national marine sanctuary,” Schmahl said.



To learn more about Flower Garden Banks National Marine Sanctuary, visit flowergarden.noaa.gov.

A Whale of a Rescue

On February 28, a sharp-eyed whale watch boat captain spotted and reported a 35-foot humpback whale trailing ropes and entangled in what appeared to be derelict fishing gear approximately two miles off Lahaina, Maui.

David Mattila and Ed Lyman of Hawaiian Islands Humpback Whale National Marine Sanctuary, who are authorized to handle disentanglement of cetaceans, quickly responded to the call, with assistance from the U.S. Coast Guard Station in Maui.

Researchers from Whale Trust and the Center for Whale Studies assisted by staying with the 1-year-old whale until the sanctuary's rescue team, which included Mattila and Lyman, Allan Ligon and Amanda Cummins, arrived at the scene.

While the rescue team focused on the necessary preparations for the rescue, researchers continued to monitor the whale and the coast guard set up a safety perimeter.

Initial assessments indicated that the whale was trailing gear from up forward on its right side, possibly involving the mouth or right pectoral fin—or both. The whale appeared to have been



The whale was towing over 50 lbs. of marine debris along its right side.
Photo: HIHNMS (NOAA Fisheries Permit #932-1489)

entangled for some time, and resembled the description of an entangled whale documented off Makapu'u on O'ahu in January.

"The whale appeared to be growing into it — a definitely lethal entanglement," Matilla told the *Honolulu Advertiser*.

It took several hours for the rescue team to attach control lines



to the whale. Control lines enable rescuers to work safely while attempting to cut the animal free by slowing the animal down and preventing it from submerging.

The rescue team was finally able to free the whale by pulling themselves up close behind it and carefully cutting the lines and netting using hooks, knives and poles specially designed for this purpose.

The rescue effort took just over seven hours from the time it was reported to the time the animal was freed. During that time, the animal and the rescue team traveled more than eight miles.

“For a while there I thought it was going to take us to O`ahu,” said Mattila.

The recovered gear, all 50 lbs. of it, appeared to be a tangle of more than 20 different kinds of discarded lines and netting, though most likely not from any one fishery. NOAA is working with other agencies to reduce the threat marine debris poses to wildlife in Hawaii and beyond.

“The rescue was an excellent show of cooperation between the ocean community of Lahaina, U.S. Coast Guard, Hawaiian Islands Humpback Whale Sanctuary and NOAA Fisheries to preserve our living marine resources,” said Sanctuary Manager Naomi McIntosh.



HIHWNMS rescue staff David Mattila and Ed Lyman prepare to attach their line to the whale using a grapple. Photo: HIHWNMS (NOAA Fisheries Permit #932-1489)



Marine Conservation Series Adds New Reports

Three new reports have been added to the Marine Sanctuaries Conservation Series in 2005: *Noise Levels and Sources in the Stellwagen Bank National Marine Sanctuary and the St. Lawrence River Estuary*, *An annotated bibliography of diet studies on fish of the southeast United States and Gray's Reef National Marine Sanctuary*, and *The Impacts of Coastal Protection Structures in California's Monterey Bay National Marine Sanctuary*. The reports contribute to the collection of publications made available through the Marine Conservation Series, which was launched in 1999 to provide a discussion and publication forum to facilitate integration of natural sciences, socioeconomic and cultural sciences, education and policy development. The reports can be downloaded from sanctuaries.noaa.gov.

Students Explore Hawaiian Islands on New NOAA Ship

High school students from 12 Hawaii high schools took part May 2-6 in the first-ever education cruise on a NOAA research vessel, coordinated by Hawaiian Islands Humpback Whale National Marine Sanctuary (hawaiihumpbackwhale.noaa.gov). The 224-foot



Students learn about marine science aboard the NOAA Ship *Hi'ialakai*. Photo: HIHWNMS

NOAA Ship *Hi'ialakai*, a former military vessel, is one of the newest ships in NOAA's research fleet. It is one of three NOAA research ships in Hawaii and the first to host a mission dedicated to education. Senator Daniel Inouye was instrumental in securing the *Hi'ialakai* for use in the Hawaiian Islands, and it is his vision that it be used for education as well as science.

Teachers Dive into Education at Special Workshop

On May 13-14, more than 150 educators throughout the southeast participated in the Dive into Education workshop held on Tybee Island, Georgia. Staff from all 14 sites in the National Marine Sanctuary System hosted the workshop, which provided participants with resources and training to promote ocean literacy. Tailored for grades K-12 as well as informal groups, the workshop offered engaging, innovative sessions focused on beach monitoring, marine archaeology, oceanography and other marine science topics. Piloted in Hawaii last year, Dive into Education is a new initiative sponsored by the National Marine Sanctuary Program. To learn more about the sanctuary program's education resources, visit sanctuaries.noaa.gov/education.



Photo: MaryJane Schramm/GFNMS



Star of the Sea



Peter de Jung

Peter de Jung's first hint that something was wrong was when a large, agitated-looking sea lion bull breached near his surfboard, an uncommon occurrence despite the proximity of several seal and sea lion haul-outs. No question, its behavior was odd.

Peter had just ridden an especially choice wave at Limantour Beach in Gulf of the Farallones National Marine Sanctuary (farallones.noaa.gov). Sitting astride his board, he debated whether to paddle back out, or to join his buddies who had gone ashore earlier.

Suddenly, he felt an impact that shoved his board several feet, and looked down to see the cause: a white shark had him by the leg. With a well placed punch and a well chosen expletive, Peter startled the shark into releasing him, which struck him with its tail as it swung around and retreated. Peter paddled in, fashioned a tourniquet from his surfboard leash, grabbed his cell phone and dialed 911.

Welcome to the Gulf of the Farallones. Welcome to the marine food web.

A helicopter ride and a hundred stitches later, and with media in hot pursuit of his firsthand account, Peter considered how to turn the attack into a positive experience. He resolved to avoid

adding to the demonization of white sharks so common in the popular press. He knew their importance in keeping the marine ecosystem healthy by preying on the gulf's abundant seals and sea lions—a system of biological checks and balances, with teeth.

Peter was already contributing to the science of the sanctuary. For 10 years, once each month, Peter, a painting contractor, has monitored Limantour Beach for the Farallones Beach Watch Program, a volunteer environmental data-gathering effort run by the Farallones Marine Sanctuary Association. But he was determined to do even more.

As soon as he regained the use of his injured leg and foot, Peter agreed to carry forward the message about the shark's importance in the ocean ecosystem through the sanctuary's outreach programs. Just recently, he took part in a special "Shark! Creature Features" program at the sanctuary's visitor center.

Peter offers sound advice to surfers and other beachgoers: don't surf solo, and pay attention when nature sends you signals. Be aware of other marine life, especially if it's demonstrating unusual behaviors such as the sea lion's breach; very likely it was fleeing the shark. Though not the shark's intended meal, Peter was in the wrong place, at the wrong time.



White Shark Facts

White sharks play a key role in the marine ecosystem by helping to keep seal and sea lion populations in check. They do not deliberately target humans as prey.

White sharks are a protected species in California, Australia, Malta and South Africa.

Source: California Department of Fish and Game



Photo: MaryJane Schramm/GFNMS

Background: White Shark Photo: Scott Anderson

Critter Files: Manta Ray

Imagine scuba diving and hearing the metallic clank of your dive master tapping her air tank excitedly to something that appears to be flying overhead. As the large object moves closer, it eclipses the sun's glaring rays, leaving a perfect silhouette of something resembling an airplane with no fuselage.

Meet the manta ray.

Once prized for their rich liver oil and sandpaper-like skin, the ever-graceful manta ray has become a favorite among divers, snorkelers and boaters lucky enough to catch a glimpse of this majestic creature in the wild.

To see a manta is to witness an underwater ballet. Despite its size—mantas can weigh up to 3,000 lbs.—the gentle creature executes steep banking turns and revolving backward somersaults with graceful ease. As the manta glides effortlessly through the water with its wing-like pectoral fins, it uses two arm-like appendages, called cephalic fins, to help funnel plankton—up to 60 lbs. a day—into its mouth. Manta rays are observed mostly in tropical and sub tropical regions of the world's oceans, and are among the many wonders found within your National Marine Sanctuary System.



Researcher's Notebook

- Common name:** Manta Ray
- Scientific name:** *Manta birostris*
- Max length:** Wingspan up to 29 feet
- Max weight:** 3,000 lbs.
- Max lifespan:** 20 years
- Distribution:** Tropical and subtropical regions
- Diet:** Plankton, encrustations and small fishes
- Status:** Insufficient data to assess worldwide populations

Photo: Sarah Bernhardt/FCBNMS

Oceans

a Hot Topic on Capitol Hill

Policymakers, scientists, conservationists and industry leaders met June 7-9 in Washington, D.C. to discuss key issues affecting our oceans and coasts.

The National Marine Sanctuary Foundation coordinated this program for the fifth year, which has become one of the most respected forums for exchanging ideas on ocean issues. This year's event included a three-day symposium, as well as an Ocean Exhibit Fair and an Ocean Film Screening in our nation's capital.

The symposium featured a such essential topics as Predicting and Preparing for Natural

enjoy," said National Marine Sanctuary Foundation Executive Director Lori Arguelles. "Our objective is to facilitate dialogue to find common ground, with the goal of protecting and promoting our ocean and coastal resources."

Sponsors, exhibitors and participants alike were given a unique opportunity to meet with experts and have the opportunity to demonstrate their leadership and commitment to the sustainable use of our oceans.

In conjunction with Capitol Hill Oceans Week, the foundation hosted its third annual Leadership Awards Dinner, which honors congressional leaders who have demonstrated a strong vision and voice for ocean and coastal stewardship. Each received the foundation's Leadership Award for recognition of their longstanding commitment to protecting our ocean and coastal resources. This year, the foundation was proud to honor Senator Daniel K. Inouye of Hawaii, Congressman Vernon Ehlers of Michigan, Congressman Wayne Gilchrest of Maryland and former U.S. Senator and Governor of Connecticut Lowell Weicker. In addition, the foundation announced the Volunteer of the Year award recipient at the dinner.

A synopsis of CHOW 2005, and of previous events, will be available on the foundation's Web site at www.nmsfocean.org.



CAPITOL HILL OCEANS WEEK

2005

Disasters; Restoring Our Nation's Wetlands; Feeding the Nation: The Aquaculture Alternative; Oceans and

Human Health: A Prescription for the Future; and Moving America: Ensuring Safe Marine Transportation.

Each of these day-long sessions featured a Member of Congress, who provided an overview, as well as a panel of experts from the federal government, academia, industry and non-profit organizations to discuss their varying perspectives on the importance of marine conservation. In addition to the five panel discussions, the event featured a keynote address by James Connaughton, chair of the White House Council on Environmental Quality, a discussion about the Census of Marine Life, and a Filmmakers Forum focused on raising the public's awareness of ocean and marine issues.

"The purpose of Capitol Hill Oceans Week is to build bridges among the various ocean constituents, provide a venue for continuous dialogue between these stakeholders, and to identify significant ocean issues before our nation's leaders to help us leave our ocean and coasts in better condition for future generations to

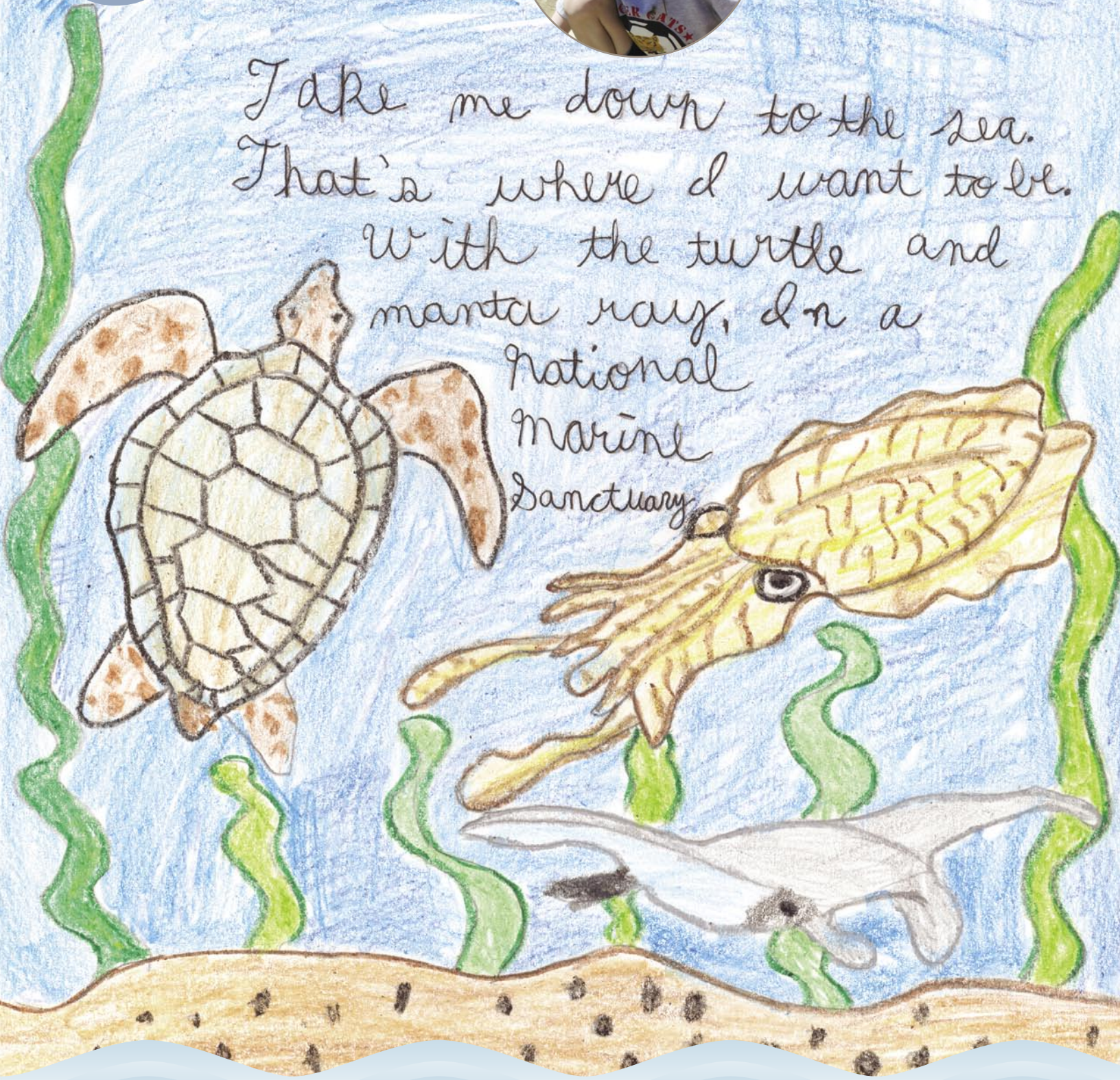
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Sanctuary Voices

Kobe, 3rd Grade,
Oak Hill Elementary School, MD



Take me down to the sea.
That's where I want to be.
With the turtle and
manta ray, in a
National
Marine
Sanctuary.





NATIONAL MARINE
SANCTUARIES

The National Marine Sanctuary
Program is part of NOAA's
National Ocean Service

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<http://sanctuaries.noaa.gov>



SANCTUARY
WATOH

vision

People value marine sanctuaries as treasured places protected for future generations.

mission

To serve as the trustee for the nation's system of marine protected areas to conserve, protect and enhance their biodiversity, ecological integrity, and cultural legacy.

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National Marine Sanctuary System



The National Marine Sanctuary Program serves as the trustee for a system of 14 marine protected areas, encompassing more than 150,000 square miles of marine and Great Lakes waters. The system includes 13 national marine sanctuaries and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, which is being considered for sanctuary status. The sanctuary program is part of the National Oceanic and Atmospheric Administration (NOAA), which manages sanctuaries by working cooperatively with the public to protect sanctuaries while maintaining compatible recreational and commercial activities. The program works to enhance public awareness of our marine resources and maritime heritage through scientific research, monitoring, exploration, educational programs and outreach.