



NATIONAL MARINE
SANCTUARIES

SANCTUARY WATCH

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ATLANTIC 6

Volunteering
in the SANCTUARIES **2**

Galveston
Recovers from **Ike 8**



ON THE COVER



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Photo: Steve Sellers/East Carolina University

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DIRECTOR'S LETTER

As the National Marine Sanctuary System moves into 2009 with a renewed sense of direction and commitment to protect our nation's sanctuaries, I want to emphasize the importance of partnerships and volunteers in helping us achieve our goals.

Given the small size of our staff and the broad mission we are mandated to perform, I would put our accomplishments up against any other organization of similar size. I say this not to inflate ourselves, but rather to turn the spotlight on our partners, volunteers and advisory council members. Once you read through this issue of Sanctuary Watch, which highlights the work of those groups that make us successful, I think you will agree.

It takes a community of dedicated citizens to make sanctuaries what they are. In this issue, you will learn more about our sanctuary advisory councils and our dedicated volunteers, our "volunteers of the year" and our many partner research institutions and conservation groups that do invaluable work for the sanctuary system and our nation.

Also in this issue, ride along as we recount the discovery of whaling shipwrecks in the Papahānaumokuākea Marine National Monument, as well as an expedition to survey World War II German U-Boats off the coast of North Carolina, where our team battled stormy weather and rough seas to document these important and historic wrecks.

Speaking of stormy times, read on for an account of the destruction caused by Hurricane Ike in Galveston, Texas — home of the offices of Flower Garden Banks National Marine Sanctuary — including a first-hand report from aboard the research vessel Manta, which rode out the storm in the Port of Houston. Thankfully, all staff are safe and continue to rebuild their lives after such a devastating hurricane.

As we often do during this time of the year, we look back at 2008 and take stock in the accomplishments of the past while we consider the many partners that we have worked along side to reach those achievements. To all of our partners, volunteers and advisory council members, thank you for your efforts with us.

Sincerely,

A handwritten signature in black ink that reads "Daniel J. Basta". The signature is fluid and cursive, written over a light blue background.

Daniel J. Basta, Director
Office of National Marine Sanctuaries

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R/V MANTA DEDICATION AT FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY

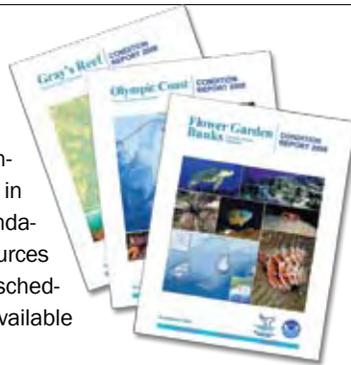


Photo: Joyce & Frank Burek

On June 27, a dedication ceremony was held for Flower Garden Banks National Marine Sanctuary's newest research vessel, the R/V *Manta*. The ceremony took place in Galveston, Texas, and was attended by dignitaries from NOAA, the White House Council on Environmental Quality and other organizations. Dr. Sylvia Earle, trustee emerita of the National Marine Sanctuary Foundation, christened the ship. The *Manta's* state-of-the-art design will enhance the sanctuary's ability to conduct research, monitoring, educational and emergency response missions.

SANCTUARY CONDITION REPORTS RELEASED

The Office of National Marine Sanctuaries has released the 2008 condition reports for Gray's Reef, Olympic Coast and Flower Garden Banks national marine sanctuaries. Condition reports provide a summary of marine resources found in the sanctuaries, potential threats they face, and recommendations for preserving and protecting natural and cultural resources based on their status and trends. Several more reports are scheduled to be released in the near future. The reports are available online at <http://sanctuaries.noaa.gov/science/condition>.



HAWAIIAN ISLANDS HUMPBACK WHALE NATIONAL MARINE SANCTUARY LAUNCHES REDESIGNED WEB SITE

The staff of Hawaiian Islands Humpback Whale National Marine Sanctuary recently announced the release of their new and improved Web site. The site now features a sleek layout for easier navigation and updated pictures and Web content. New features include a calendar of events where visitors can view the

whale season schedule, as well as downloadable wallpapers and publications on research, recreation and volunteering in the sanctuary. Explore the diversity of marine life in the sanctuary and find out how to get involved. Visitors are invited to check out the update at <http://hawaiihumpbackwhale.noaa.gov>.



Photo: NOAA

NEW EXHIBITS DEBUT AT GREAT LAKES MARITIME HERITAGE CENTER

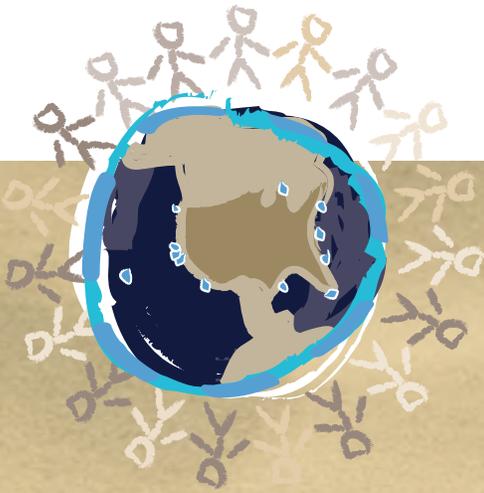
Thunder Bay National Marine Sanctuary unveiled a new exhibit collection to the public June 14 at the Great Lakes Maritime Heritage Center in Alpena, Mich. "Exploring the Shipwreck Century" takes visitors on an interactive tour covering the history of shipping in the Great Lakes. The exhibit collection offers ship models that visitors can explore, including a walk-through replica of a schooner and a simulated shipwreck. Other planned exhibits will educate the public on maritime archaeology and feature live video feeds of shipwrecks in the Great Lakes. Thunder Bay sanctuary staff estimate that the center will bring in as many as 60,000 visitors a year.



Photo: Phil Uhl

ROZ SAVAGE ROWS SOLO ACROSS THE PACIFIC OCEAN WITH SANCTUARY MESSAGE

Record-setting long-distance rower Roz Savage set off from under the Golden Gate Bridge in San Francisco on May 25 and rowed her 24-foot boat across 2,300 miles of treacherous Pacific Ocean until she arrived in Hawaii on Sept. 1. Carrying a message of ocean conservation in a NOAA drift bottle across the Pacific between Gulf of the Farallones and Hawaiian Islands Humpback Whale national marine sanctuaries, Roz and her partners sought to raise awareness about the devastating effect plastic pollution is having on the planet's oceans and marine wildlife. Daniel J. Basta, director of the Office of National Marine Sanctuaries, said, "Roz's steadfast determination reminds us that we must connect our everyday actions to protecting the ocean."



Volunteer in the SANCTUARIES

While it is a relatively small agency in comparison with the National Park Service or other NOAA offices, the Office of National Marine Sanctuaries accomplishes a great deal as a leader in ocean conservation. With a limited staff and a tight budget, it faces the challenge of preserving and protecting a system of 14 special marine places encompassing more than 150,000 square miles of ocean and Great Lakes waters.

The key to the sanctuary system's ability to get things done relies not just on the dedication of its staff, but on the tireless efforts of countless volunteers and organizations. These partners contribute thousands of hours for marine sanctuaries across the nation in a variety of important ways, including research, monitoring, enforcement, education, outreach and management advice.

"Although the sanctuary program staff conducts important research and education work that helps preserve and protect our natural and cultural ocean resources, it is the invaluable work done by our volunteers that has enhanced our overall efforts," said Daniel J. Basta, director of the Office of National Marine Sanctuaries.

Each sanctuary offers specific volunteer programs directly related to their needs and goals. Volunteers assist throughout the entire range of diverse sanctuary environments, from diving to count fish in the crystal waters of the Florida Keys to conducting a beach survey along the shores of Monterey Bay.

This year, Gulf of the Farallones National Marine Sanctuary celebrated a major milestone with the 15-year anniversary of its Beach Watch volunteer program. Beach Watch volunteers conduct regular shoreline surveys, collect information on visitor use, report violations of sanctuary regulations, and monitor wildlife following oil spills, among other things. Their work was particularly vital during the Cosco Busan oil spill in San Francisco in November 2007.

In June 2008, at the annual Capitol Hill Ocean Week festivities in Washington, D.C., sanctuary leadership were joined by renowned ocean conservation leaders Jean-Michel Cousteau and Dr. Sylvia Earle in recognizing the National Marine Sanctuary System's Volunteer of the Year, Mary Cantini, for her outstanding work in support of the Beach Watch program during the Cosco Busan spill. Volunteers of the year from each of the sanctuary sites were also acknowledged at a special luncheon hosted by the National Marine Sanctuary Foundation.

Elsewhere in the sanctuary system, Florida Keys National Marine Sanctuary is home to a wide range of volunteer programs, including Team O.C.E.A.N., which employs volunteers to provide on-the-water education to the boaters about the sanctuary's coral reef habitat and good ocean stewardship practices.

Every winter at Hawaiian Islands Humpback Whale National Marine Sanctuary, volunteers count whales returning to the sanctuary from their annual migrations for the Sanctuary Ocean Count project. The project, which started in February 1996, now covers 60 sites on four islands and enlists the help of over 2,000 volunteers!

Those with an interest in maritime history can find volunteer opportunities at Thunder Bay or *Monitor* national marine sanctuaries, which strive to preserve and protect some of the nation's most precious maritime heritage resources for future generations. Countless more ways to help out can be found throughout the sanctuary system's many visitor centers, outreach events and education programs, all of which provide a rewarding opportunity to make a difference in ocean conservation.



Volunteer of the Year Mary Cantini (center) poses with National Marine Sanctuary Foundation President Lori Arguelles and Daniel J. Basta, director of the Office of National Marine Sanctuaries, during Capitol Hill Ocean Week.



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“
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work done by
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Anyone can volunteer, and the passion and commitment of ordinary citizens is one of the things that has made the National Marine Sanctuary System everything it is today. Visit our Web site at <http://sanctuaries.noaa.gov> to find out more about how you can get involved and join the thousands of volunteers currently donating their time to protecting and preserving America's ocean and Great Lakes treasures. 🐟





SPOTLIGHT

**Sanctuary
Advisory
Council
Chair**

Dr. Terrie Klinger
Chair, Sanctuary Advisory Council
Olympic Coast National Marine Sanctuary

What is your regular day job?

I am a research scientist, marine ecologist and professor at the University of Washington's School of Marine Affairs, where I teach graduate students about marine science and policy issues.

How long have you served on the sanctuary advisory council?

I have served on the council since 2001 and have been the chairperson since 2003.

Why did you want to become involved with the sanctuary advisory council?

After doing a significant amount of scientific research along the Olympic Coast, even before it was designated a sanctuary, I thought it would be great opportunity to use this knowledge base and experience to help provide guidance on science related issues affecting the sanctuary. In becoming a member of the advisory council, my goal was to help create better links between the sanctuary and the scientific community. Also, my hope was to use my understanding of the scientific community in combination with my working knowledge of the ecology of the sanctuary to help engage others in the mission to preserve and protect this valued marine resource.

What has been your biggest accomplishment while serving as the council chair?

I'm not sure about my biggest accomplishment, but my greatest contribution may have been to keep everyone on the council talking constructively about sanctuary issues of mutual interest and concern. I see that as my most important role as chairperson.

What advice would you give to someone considering serving on a sanctuary advisory council?

I would encourage people to get involved because it is rare to have such an opportunity to be a voice for constituents, and to be able to have a positive impact on a place you care about.

ADVISORY COUNCILS Strengthen the Sanctuary System

Public participation is a cornerstone of what makes the Office of National Marine Sanctuaries work better on behalf of the American people.

Sanctuary advisory councils are a key part of this commitment to public involvement, bringing together community members, local businesses and other stakeholders to provide input on sanctuary management at each of the 14 sites in the National Marine Sanctuary System. First created in 1990, the councils advise their sanctuary superintendents on a wide range of important priorities and issues such as education and outreach, science and research, enforcement of regulations, and management planning.

More than 400 council members and alternates currently serve throughout the sanctuary system, representing a variety of interests including divers, recreational and commercial fishers, educators, environment and conservation groups, research and cultural institutions, tourism groups, and government agencies.

“Our national marine sanctuaries belong to every American,” said Daniel J. Basta, director of the Office of National Marine Sanctuaries. “The input and advice offered by our sanctuary advisory council members are invaluable to the sanctuary managers in our efforts to preserve and protect these special underwater places.”

In 2007, advisory council members volunteered more than 25,000 hours of their time to the National Marine Sanctuary System. Advisory councils often create working groups and subcommittees to help them get their work done. The most common working groups and subcommittees are those focusing on conservation, education and research issues. Often working groups are created to help address a specific issue or project like management plans, condition reports, and are disbanded after their missions have been accomplished.

“Council members are dedicated and passionate about what they do,” said Karen Brubeck, national coordinator for the sanctuary advisory councils. “They provide expertise on both the local community and sanctuary resources, strengthen connections with the community, and help build increased stewardship for sanctuary resources.”

The advisory council chairs also represent their sanctuaries at an annual meeting held each May. The meetings provide opportunities for face-to-face interaction with national sanctuary leadership and bring together a wealth of ideas to help tackle issues on a national scale, such as oil spill prevention, system-wide funding concerns and global climate change. 🐟



Photo: Robert Schwemmer/NOAA

Monterey Bay National Marine Sanctuary Advisory Council members aboard the R/V Fulmar. Advisory councils play an important role in ensuring public participation in sanctuary management.



SACHA LOZANO | Program Coordinator, MERITO
Practicing Multicultural Ocean Literacy in California

Understanding and supporting cultural diversity is central to environmental stewardship. The Multicultural Education for Resource Issues Threatening Oceans (MERITO) program, based at the Monterey Bay and Channel Islands national marine

sanctuary offices, is a collaborative effort to foster multicultural ocean literacy in communities along the central and southern coast of California.

The MERITO team understands the importance of fostering multicultural ocean literacy as a way to positively influence our relationship to the ocean. Active community support of ocean protection and stewardship largely depends on our collective ability to understand and communicate with each other across culturally diverse, socioeconomic realities.

For over six years, MERITO has partnered with a variety of organizations to deliver ocean and watershed education programs and exchange perspectives with culturally diverse students, teachers, adults and migrant families in southern and central California. The response has been extremely positive, particularly among Hispanic communities. We have con-

tacted over 53,000 people through classroom activities, field experiences, professional development and community events, and reached an estimated 8 million people through mass media and bilingual outreach products.

MERITO has a unique potential to connect different programs throughout the sanctuaries and facilitate a mutual understanding between the Office of National Marine Sanctuaries and the diverse communities with which it interacts. While there is still much to be accomplished, the past six years of program implementation have served to build trust and establish important relationships with local communities and partner organizations.

Our vision and ongoing commitment is to continue building on these relationships and engaging sanctuary programs throughout the United States in genuine cross-cultural conversations to better support community-based ocean protection, and to better understand and appreciate diverse perspectives around ocean stewardship ethics.

For more information about the MERITO Program, visit <http://sanctuaries.noaa.gov/education/merito/welcome.html>.

The opinions expressed in Sanctuary Voices do not imply endorsement by NOAA of any product, service, organization, company or policy.

VOLUNTEER DIVERS SUPPORT OLYMPIC COAST MISSION

This September, members of the Washington Scuba Alliance and the Submerged Cultural Resources Exploration Team completed NOAA Science Diver Certification and Nautical Archaeological Society Level I training to become the first Team Ocean volunteer dive team authorized to support the Office of National Marine Sanctuaries Maritime Heritage Program.

“Team Ocean offers a great opportunity for trained divers to volunteer their time to make a difference in support of sanctuary programs,” said Mitchell Tartt, national dive coordinator for the sanctuary system.

For their inaugural mission, five volunteer and two sanctuary divers participated in a mission to support maritime heritage research at Olympic Coast National Marine Sanctuary, as well as the first sea trial and evaluation of the new sanctuary research vessel *SRVx*. Over the course of four days, 165 hours of volunteer time and 25 dives, the dive team worked to locate and map the wreckage of the steamship *Andalusia* — formerly the World War I-era USS *Volunteer* — located near the sanctuary.

With the raw field data in hand, the volunteers drafted a site map illustrating the boundaries of the wreck site and the location of significant features, including the stern and bow sections, three boilers, the propeller shaft, and sections of the hull framing. This information will be added to the Olympic Coast sanctuary’s maritime heritage resource library and provided to the State Historical Preservation Office, as well as the Makah Tribal Historic Preservation Office. 



Team Ocean volunteer divers support maritime heritage research at Olympic Coast National Marine Sanctuary on their inaugural mission.

Photo: Olympic Coast NMS



BATTLE of the ATLANTIC

WWII German U-Boats Explored off the Coast of North Carolina

“The expedition was a great success and attracted media attention... The images our team captured were fantastic.”



Joe Hoyt (right) and Dr. Nathan Richards work on drawings of recently surveyed U-boats.



Photo (above): Steve Sellers/East Carolina University, Photo (right): Tane Casserley/NOAA

Three German U-Boats sunk by U.S. forces off the coast of North Carolina during World War II were the focus of a recent expedition to explore, survey and document the remains of vessels lost in the “Battle of the Atlantic.”

Led by David Alberg, superintendent of USS *Monitor* National Marine Sanctuary, the expedition was conducted from July 7-26 in partnership with the Minerals Management Service, National Park Service, State of North Carolina, East Carolina University and the University of North Carolina Coastal Studies Institute.

The maritime heritage expedition’s team of divers and archaeologists battled stormy weather and swift currents to survey the wrecks of U-352, U-85 and U-701, three submarines that sank just off the shores of the U.S. during the lesser-known conflict now dubbed the Battle of the Atlantic.

The wrecks are located in an area known as the “Graveyard of the Atlantic,” which is a popular spot for divers because of the number of shipwrecks within recreational dive depths. This makes documentation of the wrecks highly time sensitive, as many of them have already been subject to looting and salvage attempts and natural decay. U-352 and U-85 were discovered in the 1970s and have been severely impacted, while U-701 was discovered in 1989 and is the least affected of the three boats.

Researchers used archaeological mapping techniques, photography and video to document the wrecks with the long-term goal of preserving and protecting these sites of historical significance. The survey methods used were purely non-invasive and complied with U.S. and international policies on the treatment of war graves.

Shannon Ricles, *Monitor* sanctuary outreach and education coordinator, said, “The expedition was a great success and attracted media attention from a variety of local and major national media outlets, including the Associated Press, NBC and National Public Radio. The images our team captured were fantastic.”

U.S. and British wrecks from World War II will be surveyed during the second phase of the expedition, scheduled for summer 2009. 

Divers from NOAA and partner organizations surveyed the World War II submarines U-701 (above) and U-352 (right) off the coast of North Carolina during the 2008 Battle of the Atlantic Expedition.



Weathering the storm

Sanctuary Staff in Galveston Rebuild in Aftermath of Hurricane Ike

In the early morning hours of September 13, Hurricane Ike slammed into Galveston, Texas, home to the offices of Flower Garden Banks National Marine Sanctuary.

The massive Category 2 hurricane — nearly the size of Texas itself — battered Galveston Island with 110-mph winds and a storm surge equivalent to a Category 4 storm. Over the course of the day, the hurricane caused widespread destruction on the island, as massive waves battered beachfront homes and fierce winds and flooding reduced entire neighborhoods to splinters. The 14-foot storm surge inundated most of the island and left debris strewn across the city, ripping boats from their moorings and in some cases depositing them hundreds of yards inland.

The sanctuary's headquarters on Galveston Island sit just a block and a half from the Gulf of Mexico on NOAA's historic Fort Crockett campus, not far from some of

the areas hardest hit by the storm. Sanctuary personnel had evacuated from the city several days earlier and were safely out of harm's way by the time Ike made landfall. The office survived the storm mostly unscathed, as its location on one of the highest points of the island spared it from flooding.

Unfortunately, many of the staff who live on the island suffered serious damage to their homes and personal property, with water rising up to three feet inside some residences. Sanctuary superintendent G.P. Schmahl said the floodwaters were contaminated with sewage and other pollutants, so furniture, drywall and anything else that had been submerged needed to be removed and discarded before mold set in.

"It has been a major cleanup effort on everyone's part," Schmahl said. "There is still a lot of work to be done, but people have really come together as a team."

During the storm, the sanctuary's newly commissioned research vessel *Manta*, which was christened in Galveston in June, was forced to ride out Ike's fury in the Port of Houston's container ship terminal. The *Manta* had been experiencing engine trouble and was unable to run from the storm, so Captain Chuck Curry and Mate Deb Brock followed the sanctuary's hurricane evacuation plan and took shelter in the port. The two remained aboard the ship, lashed their vessel to a cluster of nearby barges and braced for the worst (see inset for an excerpt from Deb's account of the ordeal).

After a sleepless night of howling winds, pounding seas and torrential rains, the *Manta* was battered but still operational. The vessel remained in Galveston for more than a week to support critical relief efforts for the devastated city before it was transferred to a shipyard in Louisiana for repairs.

Schmahl said the aid his staff received



A shrimp boat sits in the parking lot of Willie G's. The R/V *Manta* dedication ceremony took place at the pier behind the restaurant just a few months prior.



A demolition crew from NOAA's Office for Law Enforcement takes a break outside Research Coordinator Emma Hickerson's house.



Photos: Flower Garden Banks NMS

A diver from Texas A&M University hovers over a large overturned boulder coral at East Flower Garden during a post-hurricane survey of the sanctuary.

from their colleagues in the sanctuary system and throughout NOAA during Ike's passage was invaluable. Immediately following the storm, personnel from several NOAA offices, including the NOAA Office of Law Enforcement, NOAA Fisheries and Florida Keys National Marine Sanctuary, arrived in Galveston to assist with cleanup, demolition and rebuilding efforts.

"The support we've received has been tremendous," Schmahl said. "I've felt very fortunate to work for NOAA, both for the tangible relief that was provided and the agency's flexibility in giving people time to deal with their losses so they could get back to work and not have to worry."

Shelley Du Puy, education and outreach coordinator for the Flower Garden Banks sanctuary, said tracking data show that the eye of Ike passed directly over East Flower Garden Bank, located in the sanctuary about 100 miles southeast of Galveston. Even at 80 feet deep, the bank felt the effects of the

powerful storm surge, which shifted large amounts of sand and snapped off coral formations the size of cars, rolling them around the reef "like marbles."

Du Puy said the reef is naturally resilient to such impacts, and had already been recovering very well from damage inflicted by Hurricane Rita in 2005. As long as human impacts to the site can be minimized, sanctuary staff expect that the sanctuary's ecosystem will be able to recover fully.

Like the sanctuary, the city of Galveston is resilient in the face of adversity. Countless homes and businesses were lost in the storm — the total damage caused by Hurricane Ike is estimated at \$11.4 billion — and debris still covers much of the island. However, Du Puy said, people are eager to move forward with the cleanup and rebuilding process.

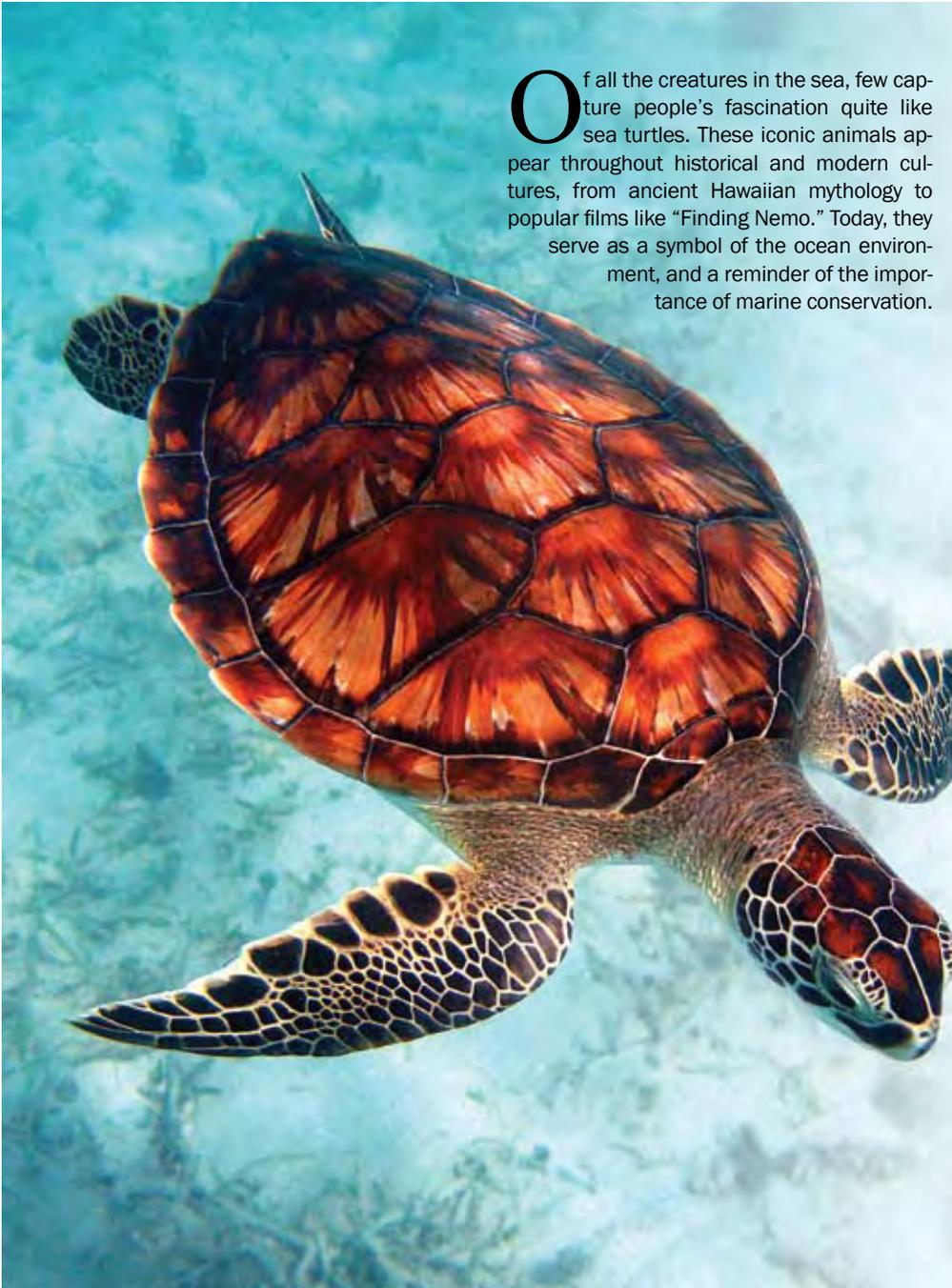
"I think the mood is pretty positive, even for the people who were hardest hit," Du Puy said. "Everyone is determined to pick up the pieces and move on." 🐚

IN THE EYE OF IKE

"I sat up because of the quiet. I looked at the clock and it was around 0330 Saturday. I walked outside and ... looked up at something that made my skin crawl. I could actually see the hole in the clouds that was the eye and toward the south there was a reddish glow on top of the black circular eye wall."

— Deb Brock, aboard the R/V *Manta* during Hurricane Ike





Of all the creatures in the sea, few capture people's fascination quite like sea turtles. These iconic animals appear throughout historical and modern cultures, from ancient Hawaiian mythology to popular films like "Finding Nemo." Today, they serve as a symbol of the ocean environment, and a reminder of the importance of marine conservation.

Green turtles, one of the largest species of sea turtle, inhabit tropical and subtropical ocean waters around the world. Adult green turtles can weigh up to 450 pounds and live for well over 50 years, although their exact life span is still unknown.

A green turtle's upper shell can be varying shades of black, green, brown or yellow. However, the species gets its name from the greenish color of its fat, which is thought to be caused by its unique vegetarian diet — adult green turtles are the only sea turtles that eat plants, feeding mostly on seagrasses and algae.

Mature female green turtles often travel thousands of miles to the sandy beaches where they were born to nest, laying hundreds of eggs before returning to the sea. More than 40 days later, the tiny hatchlings emerge and instinctively head for the water.

Green turtles nest on the shores of more than 80 countries worldwide. They can be found throughout the National Marine Sanctuary System at sites like Hawaiian Islands Humpback Whale and Florida Keys national marine sanctuaries, and the Papahānaumokuākea Marine National Monument.

Today, green turtles face threats from predators and humans at nesting sites, habitat loss, incidental capture in fishing gear, and disease. The species was listed under the Endangered Species Act in 1978 and is now protected by several international treaties and agreements, but its extensive range presents a challenge for marine resource managers.

The connection sea turtles represent between the land and sea, along with their cultural and ecological value, make them an important focus for marine conservation efforts, and agencies like NOAA are working at the local, national and international level to aid their recovery.

Photo: © Caroline S. Rogers

COMMON NAME: Green Turtle
 SCIENTIFIC NAME: *Chelonia mydas*
 MAX. LENGTH: 4 feet
 MAX. WEIGHT: 450 lbs
 DISTRIBUTION: Tropical and subtropical ocean waters worldwide
 DIET: Primarily seagrasses and algae; some jellyfish and crustaceans
 STATUS: Threatened; Breeding populations endangered in Florida and Mexico



Green turtles can be found primarily in shallow waters along coasts and islands; nesting occurs on sandy beaches in more than 80 countries.

WRECKAGE of 19th-Century Whaling Ships DISCOVERED in Monument



Photos: Tane Casserley/NOAA

Divers used “towboarding” surveys (background) to locate artifacts like this trypot (above) and anchor (top) from two 19th-century shipwrecks during a maritime heritage expedition in the Papahānaumokuākea Marine National Monument.

This August, a team of maritime heritage archaeologists from NOAA’s National Marine Sanctuaries discovered the sunken remains of the 1837 British whaling ship *Gledstanes* and another mystery whaler. The wrecks were found off Kure Atoll and French Frigate Shoals within the Papahānaumokuākea Marine National Monument during a month-long maritime heritage expedition to discover and document shipwrecks in monument waters.

The expedition featured 20 scientists from various fields, including shark researchers and coral genetics researchers from the Hawaiian Institute of Marine Biology, as well as Native Hawaiian cultural practitioners and a documentary filmmaker.

At the end of the first exploratory dive one day, the NOAA dive team discovered a pile of iron ballast and some chain. The ballast led to a trail into the dramatic topography of the reef where more artifacts were found scattered, including four massive anchors, iron ballast, cannons and cannon balls, and a trypot which was used for boiling down whale blubber. The *Gledstanes*, after resting undiscovered beneath the waves for more than 170 years, had finally been located.

“For years, I have been coming up to Kure Atoll in hopes of searching for this particular shipwreck, but in the past we had been deterred by the weather,” said Kelly Gleason, NOAA archaeologist for the monument and mission leader. “We are thrilled to finally have the opportunity to share this discovery with the public.”

In 1837, after the loss of their ship in heavy seas, the crew of the *Gledstanes* headed for the closest dry land — the small sandy island at Kure Atoll named Ocean Island. The crew salvaged what they could from the destroyed vessel and set about building a 38-foot vessel called the *Deliverance*, leading to their eventual rescue.

“The story of the *Gledstanes* and her survivors is limited, but adds to the important legacy of shipwreck survival stories at Kure Atoll,” said Hans Van Tilburg, Pacific Islands regional maritime heritage coordinator for the sanctuary system.

The *Gledstanes* and the second whaling ship are some of the oldest vessels discovered thus far in the monument, shedding further light on the significance of 19th-century whaling in this region. Once the team pours over the survey data taken from the mystery ship found in French Frigate Shoals, its identity may someday be revealed. ♪



Steve Kroll, chair of the Thunder Bay National Marine Sanctuary Advisory Council, dives on one of the sanctuary's many shipwrecks.

Photo: Thunder Bay NMS



Steve Kroll | Chair, Thunder Bay National Marine Sanctuary Advisory Council

Growing up in northern Michigan, Steve Kroll was drawn to the rich maritime past of the Great Lakes. “The history was in my blood,” he said. “My great-grandfather was the keeper of the Hammond Bay Lifesaving Station on Lake Huron. It was exciting to know that he helped save the lives of many of the

men and women whose ships wrecked along our shoreline.”

From a young age, Steve read as much as he could about those wrecks. His passion for the water and the wrecks beneath its surface led him to want to experience them firsthand. The only way to do that was to learn to scuba dive: “I wasn’t even old enough to drive, and I found myself hitchhiking to scuba lessons with a scuba tank on my back,” he said. That enthusiasm never left him and he has been doing what he loves — diving and researching shipwrecks — for the past 42 years.

Steve, a retired high school math teacher, now follows his passion by operating a dive shop and charter business, participating as a member of the Forty-Mile Point Lighthouse Association and acting as the chair of the Thunder Bay National Marine Sanctuary Advisory Council. As the council chair, Steve has led the effort to expand the boundary of the sanctuary to more than eight times its current size. His most recent and significant effort in support of the sanctuaries came when he testified in Washington, D.C., at a congressional

hearing for the reauthorization of the National Marine Sanctuaries Act.

Steve became involved in the sanctuary designation process in the early '90s to make sure that, if a sanctuary was to be designated, it would remain open to divers. “I wanted to ensure our freedom as divers to enjoy the wrecks,” he said, and since 1997, Steve has served as the dive representative on the sanctuary’s advisory council. His experience as a diver and a teacher has contributed valuable ideas that have helped to mold the sanctuary into what it is today. As part of the council, he participated closely in the designation process, as well as on multiple working groups, to help create the first sanctuary management plan.

He finds himself full circle over 10 years later “humbly representing a group of passionate, intelligent people who care about the sanctuary and its value in a larger system of special places.” He feels that he is “part of history, and you need to always try to make a difference because what you try to do is just as important as what you accomplish.”

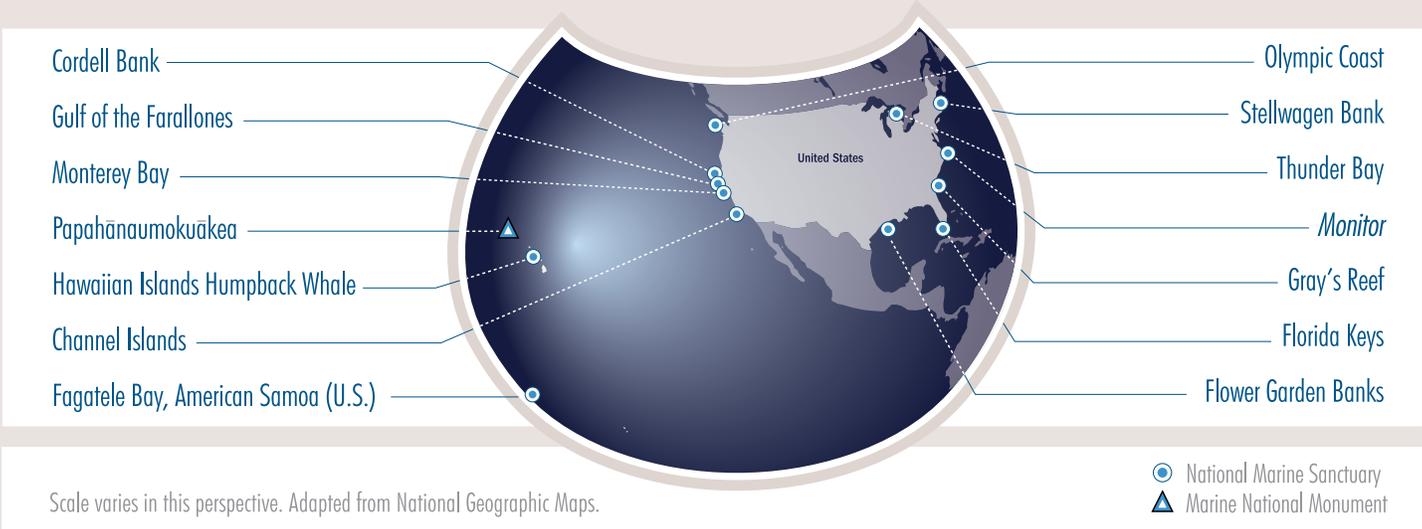
The sanctuary has proven to do more than ensure a balance of protection and use. Steve explained, “It is not just about the wrecks anymore. It is about educating future generations and providing opportunities to learn and understand the resource and its connections to the rest of our nation.” Through the sanctuary’s education and outreach programs and the new Great Lakes Maritime Heritage Center, the Office of National Marine Sanctuaries brings the world to Alpena, Michigan, and Alpena to the world.



SANCTUARY SNAPSHOT This striking close-up of an American tube anemone (*Ceriantheopsis americanus*) was taken by Greg McFall in Gray's Reef National Marine Sanctuary off the Georgia coast. These anemones can range in color from green to maroon and are commonly found attached to sand or shell fragments on reefs from North Carolina to the Gulf of Mexico.

SANCTUARY SYSTEM

The Office of National Marine Sanctuaries serves as the trustee for a system of 14 marine protected areas, encompassing more than 150,000 square miles of ocean and Great Lakes waters. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. The sanctuary system 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. Sanctuary staff work to enhance public awareness of our nation's marine resources and maritime heritage through scientific research, monitoring, exploration, educational programs and outreach.



The Office of National Marine Sanctuaries is part of NOAA's National Ocean Service.

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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