

# SANCTUARY WATCH

## Monitor Mission Recovers Ship Engine & Makes Naval History

The National Oceanic and Atmospheric Administration and divers from the U.S. Navy, using 21<sup>st</sup> century state-of-the-art technology, reclaimed a piece of 19th century naval architecture on July 16.

During a period of clear skies and slack currents, scientists, divers, and reporters covering the historical event cheered as the 30-ton Civil War *Monitor* steam-powered engine broke the surface of the Atlantic Ocean 16 miles off Cape Hatteras.

This summer's *Monitor* expedition made Navy history the moment divers exited the first "saturation" Global Marine commercial diving bell stationed on the football field-sized deck of the derrick barge *Woton* and began work with two other Navy divers using standard "surface-supplied" equipment. The diving bell allowed divers for the first time to work around-the-clock, 7 days a week in the 240 feet depths, which can be critical in an area famous for its capricious weather and strong currents.

Sanctuary Manager John Broadwater has been overseeing the *Monitor* Mission since June 15 when Navy divers began readying the engine for recovery. During the ensuing weeks, divers attached the engine and its iron frame bed to a steel box that would

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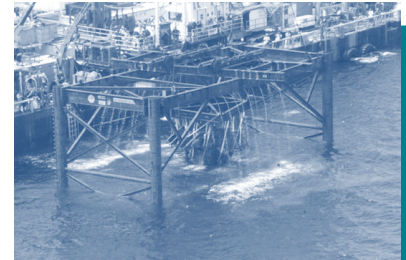


Photo: Ph1 Michael W. Pendergrass

After 140 years, the Civil War ironclad *Monitor's* engine rises above the surface of the Atlantic Ocean.

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## New International Protection Ahead for Marine Sanctuaries

Three U.S. proposals spearheaded by the U.S. Department of Commerce's National Oceanic and Atmospheric Administration received initial approval at a July meeting of the International Maritime Organization (IMO), a specialized agency of the United Nations responsible for issues relating to international shipping. These measures will further protect marine resources within sanctuaries on both coasts. In Florida, IMO approval furthers existing protection for the Florida Keys National Marine Sanctuary by reducing threats posed by international shipping activity to coral reefs, seagrass meadows, and mangrove forests. On the West Coast, IMO approval increases protection of the Olympic Coast National Marine Sanctuary from the threat of bunker fuel spills from transiting ships.

On behalf of NOAA and the State of Florida, the U.S. submitted a proposal to the IMO to designate the marine area around the Florida Keys as a Particularly Sensitive Sea Area (PSSA). The coral reef ecosystem of the Keys would be the third area in the world selected for this designation, joining Australia's Great Barrier Reef and Sabana-Camaguey Archipelago in Cuba. The PSSA would cover areas from Biscayne National Park to the Dry Tortugas, encompassing all of the Florida Keys National Marine Sanctuary. The IMO's Marine Environmental Protection Committee provided preliminary approval of

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## A Sanctuary “Down Under, Out Yonder”

When word arrived on shore that divers had just spied whale sharks and spotted eagle rays, an enthusiastic group of educators loaded their gear onto the vessel *M/V Fling* for a marine adventure in the Flower Garden Banks National Marine Sanctuary.

Equipped with Reef Environmental Education Foundation’s (REEF) Great American Fish Count slates, 15 educators from Florida, Hawaii, Virginia, Washington State, and Texas joined NOAA staff to participate in the 6<sup>th</sup> Annual “Down Under, Out Yonder” teacher workshop held July 8-11. The annual workshop is sponsored by the Gulf of Mexico Foundation, a non-profit organization dedicated to preserving the Gulf of Mexico.

Over the course of three days, the rookie fish counters completed 83 surveys, identifying 95 different species and headed back to carry the complexity, mysteries and wonder of the ocean back into their classrooms.

“I will be able to use the information I gained in my environmental science and biology classes. It will be good to make the students aware of the valuable and fragile resources in their own backyard,” said Texas high school teacher Thomas C. Brayshaw.

—**Claire Johnson**

## A Bigger Great American Fish Count

The Great American Fish Count (GAFC), an annual event that trains volunteer divers to aid in fish diversity and population studies, has grown in scope in 2001 to include over 85 fish identification seminars and 100 survey dives. Held each July, GAFC is coordinated by the Reef Environmental Education Foundation (REEF) with support from the National Marine Sanctuary System. This year, fish counts were held in Gray’s Reef, Florida Keys, Flower Gardens, Channel Islands, Monterey Bay, Olympic Coast, Stellwagen Bank and Hawaiian Islands Humpback Whale Sanctuaries.

Volunteer programs such as REEF are an important part of the sanctuary system’s outreach to constituents. The data collected from the GAFC and year-round REEF fish surveying provide valuable and needed information for the sanctuaries. Learn more on the web at <http://www.fishcount.org/>

—**Julie Dutcher**  
**Dr. Christy Semmens**  
**REEF**

## GIS for Teachers

The Channel Islands National Marine Sanctuary, working with the Center for Image Processing in Education (CIPE) and National Geographic Society’s Sustainable Seas Expeditions, is helping teachers bring new technologies such as Geographic Information Systems (GIS) into their classrooms.

GIS is a powerful visualization tool used by marine resource managers to map locations of animals, ocean bottom topography, ocean currents, sea surface temperatures, and more.

This summer GIS training workshops for teachers and marine educators are being held in Santa Barbara and Ventura. During the workshops, participants learn how to use GIS and other emerging technologies to access Channel Islands National Marine Sanctuary data for classroom learning.

—**Laura Francis**

## IMO *(Cont’d from pg. 1)*

PSSA designation in April, with final approval expected at a meeting in November 2002 pending final adoption of associated protective measures.

“While the PSSA designation for sanctuary waters does not impose any new regulations, it will serve to heighten the awareness of the international shipping community to this specific area,” said Billy Causey, Superintendent of the Florida sanctuary.

“Major ship groundings have had a devastating impact on our coral reefs in the past, and this designation will help reduce this risk to coral reefs off Florida in the future.”

The IMO’s Subcommittee on Safety of Navigation gave preliminary approval to two measures associated with the PSSA to help protect coral reefs at the international level. The measures include a prohibition against ships anchoring in the North and South areas of the newly designated Tortugas Ecological Reserve and a nearby area on Tortugas Bank.

The second measure amends one of the existing Areas To Be Avoided (ATBA) that creates a buffer area to keep ships greater than 50 meters in length offshore from the reef tract. (An ATBA is an area that all ships of certain classes of ships should avoid because navigation is particularly hazardous or where it is exceptionally important to avoid casualties within the area.) The amendment will reconfigure the ATBA to reduce an area where there is a potential for ships to converge and thus for collisions to occur. The proposed amendment permits ships to increase the

*(Cont’d pg. 4)*



*Diver Steve Gittings hovers in the waters of Belize before a mad rush of cubera snappers surrounded him.*

*Photo: Steven Miller*

## Reporting from Islands in the Stream

*Islands in the Stream* divers, myself included, gave rave reviews after recent studies of fish spawning in Belize. The fish studies are part of a NOAA and National Geographic Society project of deep ocean exploration. Hosted by Rachel Graham of the Darwin Institute in Great Britain, we were treated to one of nature's great spectacles. During a sunset dive off Gladden Spit, just after the May full moon, we saw literally thousands, maybe 10,000 cubera snapper, each 30 pounds or more, spawning in masses so thick it looked like boiling water. The masses were maybe 30 feet across and 30 feet tall, with fish no more than a couple inches apart, rising in a bell-shaped dome from nearly 150 feet up to the surface. The fish spawned at the peak, producing a volcanic eruption of eggs and sperm before going back to the bottom. At times it was unnerving. At one point, a mass of fish started congregating below me and boiling up rapidly. All I could see was a mass of meat with pointed teeth and nothing on their mind that suggested I was worth avoiding. Meanwhile, 30 foot whale sharks showed up to feed on the fish eggs, which were so thick the water was nearly white and visibility was nil. Ten whale sharks and probably 15 or 20 different spawning masses of fish came through in my 25-minute dive. It was nothing short of breathtaking!

To learn more about the adventure, visit <http://oceanexplorer.noaa.gov/explorations/islands01/islands01.html>.

—Steve Gittings



*The Gulf of the Farallones Sanctuary Sea Camp was the first ocean experience for some of the Sanctuary explorers kayaking in Tomales Bay.*

*Photo: Amity Woods*

# Newsplash

## Habitat Found in Florida Keys Sanctuary

NOAA recently charged two Key West fishermen with illegally placing or abandoning cement-filled PVC tubes and other material on the seabed of the Florida Keys National Marine Sanctuary. The two men, whose alleged goal was to create habitat that attracts lobsters, were assessed a combined civil penalty of \$75,000. They have 30 days to respond to the charges.

“Sanctuary and ocean dumping laws prohibit the dumping of trash into the sanctuary to create artificial habitat for lobsters, said Sanctuary Superintendent Billy Causey. “This type of activity can hurt the lobster population by disrupting their behavior and natural habitat in order to create profits for a few individuals.”

NOAA plans a salvage operation to remove the illegal materials from this and dozens of other sites in the Lower Keys. To learn more, visit <http://www.fknms.nos.noaa.gov>.

## New shipwrecks were recently discovered in the nation's first Great Lake Sanctuary & Underwater Preserve

during a June expedition conducted by Robert Ballard's Institute for Exploration. Dr. Ballard and associates, using a newly developed towable side scan sonar system, located several shipwrecks never before found in the waters off Alpena, Michigan. Learn more about the Lake Huron shipwrecks at <http://www.glerl.noaa.gov/glsr/thunderbay>.

## Happy Sea Campers

The Gulf of the Farallones National Marine Sanctuary Sea Camp, organized by Farallones Marine Sanctuary Association (FMSA), is bringing the wonders of the marine world to kids 8 to 12-years-old. The young sanctuary explorers learn about marine habitats and pollution threats through tidepooling, kayaking, birdwatching, a visit to a marine mammal rehabilitation center, and a beach clean-up.

Partners in this new sea adventure include the San Francisco Parks and Recreation Department. In addition, the Sanctuary Explorers Camp received a grant from the California Coastal Commission's Whale Tail grant program as well as funding from Gulf of the Farallones National Marine Sanctuary and FMSA.

—Paul B. Wong



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## NATIONAL MARINE SANCTUARIES™

**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.

### August/September Calendar

**Natural events** • Flower Garden Banks National Marine Sanctuary explodes in mass coral spawning that occurs every year within eight nights of the August full moon. The Florida Keys National Marine Sanctuary coral spawn also during August. Humpback whales court and calve in Fagatele Bay Sanctuary Aug. through Oct.

**August 1 - September 11** • *Monitor* 2001 Expedition, Phase III. NOAA and the Navy conduct dives at the *Monitor* Sanctuary to assess the condition of the remaining hull and begin preparing her 150-ton turret for recovery during Mission 2002.

**August 18 -19** • Tall Ships arrive in the Thunder Bay National Marine Sanctuary & Underwater Preserve. To learn more about this National Marine Sanctuary Foundation event, visit <http://www.glerl.noaa.gov/glsr/thunderbay/>

**September 8-12** • Coral Spawning II. Due to the full moon falling early in the month of August (water temperatures will not have reached their maximum at this time), the Flower Garden Banks Marine Sanctuary predicts that the corals will also spawn in September.

## Monitor Mission 2001 Succeeds in Recovery *(Cont'd from pg. 1)*

provide support on its journey to the surface.

The *Monitor's* ironclad construction protected it in a battle against the Confederate *Merrimack*, but it was no match for the storm that roared through the "Graveyard of the Atlantic." On December 31, 1862, it sank taking with it 12 crew members.

After a century of hurricanes, damaging currents and saltwater, the vessel was destined for disintegration before Duke University scientists located it in 1973. Because of its role in American naval history and modern naval warfare, the site was designated a national marine sanctuary in 1975, and the first underwater National Historical Landmark in 1987. Three years later a fishing vessel snagged its anchor on the wreck and accelerated the deterioration. NOAA and the Office of National Marine Sanctuaries approached Congress with a plan to raise portions of the wreckage in early 1998. The ship's engine topped the list of priorities, along with the screw propeller and the rotating turret.

All artifacts recovered have been moved to The Mariners' Museum in Newport News, Virginia, for conservation and exhibition. The engine will be placed in a 93,000 gallon steel tank where conservators can begin a 10-year process to preserve the historic engine. Marine archeologists hope to disassemble the engine and learn how it operated.

A later expedition this summer will shore up more sections of the *Monitor*, which rests upside down on the ocean floor. In *Monitor* Mission 2002, divers will work to recover the vessel's distinctive turret. To learn more about this exciting adventure, visit <http://monitor.nos.noaa.gov/>.

## IMO Approval *(Cont'd from pg.2)*

distance between opposing streams of traffic, thus increasing maritime safety and protecting of the marine environment from potentially devastating spills of oil, fuel and other contaminants.

The Olympic Coast Sanctuary has received international protection since 1995 when an ATBA was designated for commercial ships carrying cargoes of oil or hazardous material. The proposed changes will extend the ATBA's size to include a greater buffer around sensitive areas as well as including large commercial ships, regardless of their cargo, transiting the area. These ships carry large amounts of bunker fuel, which if spilled, would be extremely hazardous to the unique and sensitive resources of the Olympic Coast Sanctuary.

Sanctuary Superintendent Carol Bernthal said that while the ATBA is voluntary, compliance has been high. "The marine transportation industry has been very cooperative as they recognize that an oil spill would have a devastating impact on this ecological treasure," Bernthal added.

The approval of these protective measures by the Subcommittee on Safety of Navigation is the first step in this international process. The IMO will consider the final adoption of these measures when it meets in May 2002; implementation may then occur six months thereafter. The decision on PSSA designation for the marine area around the Florida Keys National Marine Sanctuary is expected to occur at a November 2002 meeting, after final adoption of the associated protective measures.

Further information on the Olympic Coast National Marine Sanctuary is available at <http://www.ocnms.nos.noaa.gov/use/atba.html> and on the Florida Keys National Marine Sanctuary at <http://www.fknms.nos.noaa.gov>.

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