

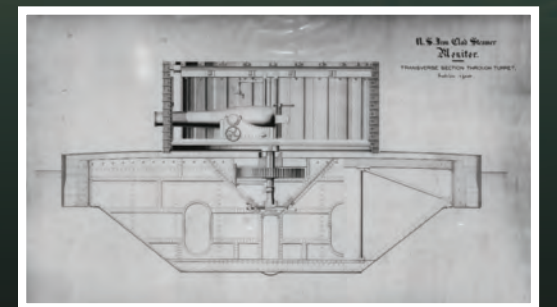
In March 1862, the Monitor was ordered to the Hampton Roads area of Virginia to protect the federal fleet and the Union blockade. On March 9, iron met iron for the first time in naval history (portrayed below). After a four-hour battle against the Confederate ironclad, CSS Virginia, the battle ended in a draw with neither vessel inflicting serious damage to the other. Although the two vessels would never meet in battle again, their encounter had immediate effects on navies around the world. Construction of wooden-hulled ships was halted and rotating gun turrets became the standard.



The Blueprints that Changed Naval Warfare

The Monitor has been called the most famous ship in American history. Building iron ships was not in itself revolutionary in the 1800s, but Swedish-American engineer John Ericsson suggested the use of iron as a protective plate rather than simply as a building material. He presented a conceptual design of a steam-powered, ironclad ship with a rotating gun turret to the U.S. Navy and promised to build it in 100 days. On January 30, 1862, just 98 days after the keel was laid, the USS Monitor launched from Greenpoint, Brooklyn, N.Y.

The USS Monitor presented a new concept in ship design with a variety of new inventions and innovations. Two important features that revolutionized naval warfare were the iron plating (above left) and the rotating gun turret (right). Iron plating made ships less penetrable by the more powerful guns developed. The rotating gun turret freed vessels from using only broadside tactics, and allowed the guns to be turned instead of the entire ship. Both became standard features on all future naval ships.



Monitor's Mastermind

Born in Sweden on July 31, 1803, John Ericsson joined the Swedish Army at age 17 and moved to England in 1826, where he gained a reputation as a talented young engineer. He relocated to New York City in 1839 and helped design the U.S. Navy's first screw-powered warship, but was unfairly blamed for an explosion aboard the ship in 1844. Nearly two decades later, he again went to work for the Navy, this time on an ironclad warship to battle the Confederacy. Ericsson oversaw the design and construction of the Monitor in less than 100 days — one of the most remarkable engineering achievements in history.

Famous Firsts

- U.S. Navy ironclad warship
- Entirely new class of warship
- Revolving gun turret on a warship
- Nation's first National Marine Sanctuary
- Battle between ironclad warships
- Below-the-waterline flushing toilet

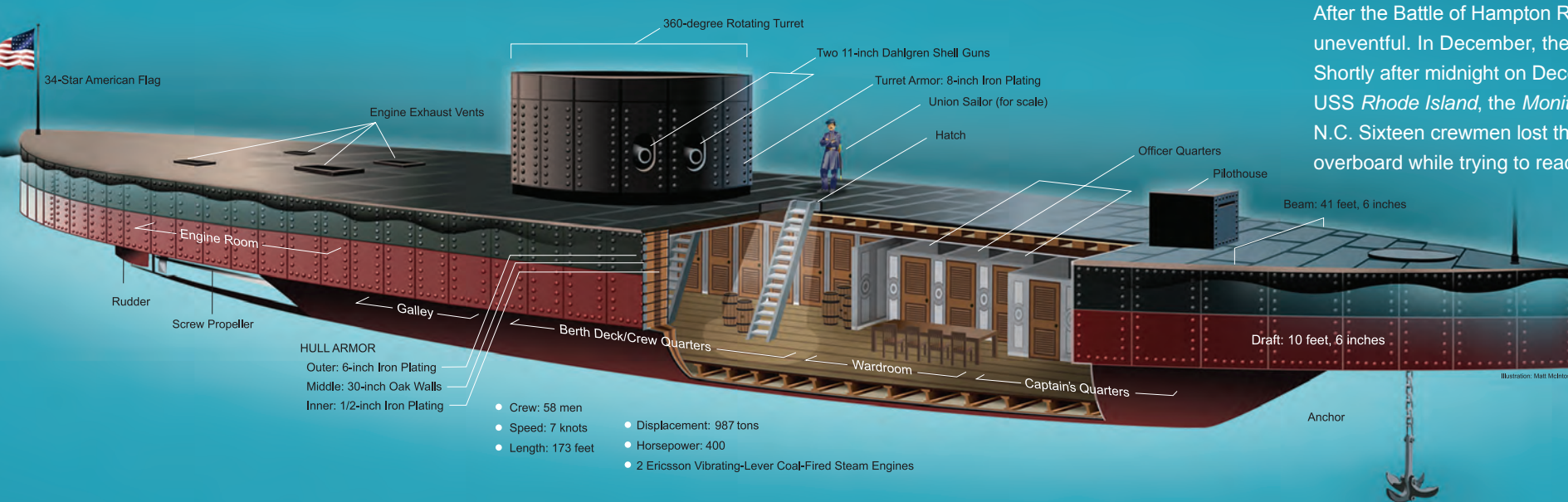


Life Aboard

During the Monitor's short time in service, an average of 55 sailors, ranging in age from 19 to 44, squeezed into the cramped space below its decks. Through letters written by Crewman George S. Geer, we know that their life was difficult. In summer, temperatures inside the ship rose to 150° F. Many nights, the men slept on the deck for relief from the heat. Inside the ship, it was crowded and lighting was poor. Food was limited — bean soup with precious few beans was a staple. Sundays were bath days, when the crew stripped to the waist and washed with a pail of water. Yet despite these hardships, the Monitor crew persevered.

"The Monitor is no more."

After the Battle of Hampton Roads, the Monitor's brief career was uneventful. In December, the ship was ordered to Beaufort, N.C. Shortly after midnight on December 31, 1862, and under tow by the USS Rhode Island, the Monitor sank in a storm off Cape Hatteras, N.C. Sixteen crewmen lost their lives, most from being swept overboard while trying to reach lifeboats.



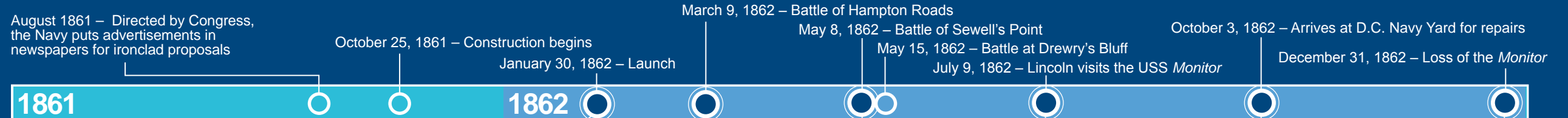
Red Signal Lantern

The night the Monitor sank, eyewitnesses reported that at approximately 12:30 a.m. on Dec. 31, 1862, the red distress signal lantern atop the turret and the ship itself was no longer visible. More than a century later, this lantern was discovered lying on the seafloor near the Monitor's turret in 1977, making it the last sign of the ship before it sank, and the first artifact recovered from its wreckage.

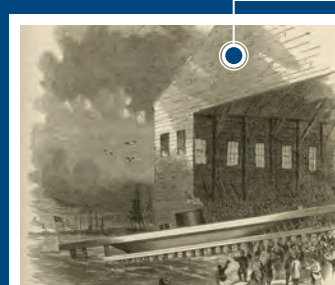


TIMELINE

FROM CONCEPTION TO SINKING



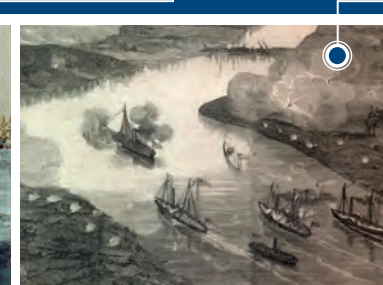
In 1861, as news of CSS Virginia's construction made its way north, the Union knew they must have an ironclad of their own. Congress appropriated \$1.5 million for the building of ironclads, and a call for proposals was published in major northern newspapers. John Ericsson's design was presented to the Ironclad Board and impressed President Lincoln. Thus began the story of the USS Monitor, a ship built in just 100 days to save the Union. Although it had a short life, the Monitor, became one of our nation's treasures and forever changed the design of naval warships.



January 30, 1862 – Launch of the USS Monitor from the Continental Iron Works in New York, just 98 days after construction began.



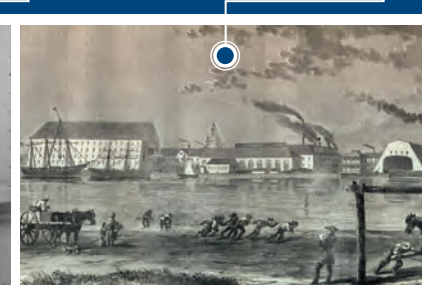
On March 8, 1862, the USS Monitor steamed into Hampton Roads, Va., to find a scene of carnage. Earlier that day, the CSS Virginia had destroyed three wooden Union ships with ease. The next morning, March 9, 1862, the two ironclads met for the first time, fighting for hours at close range. The Battle of Hampton Roads ended in a draw, but the age of iron warships had just begun.



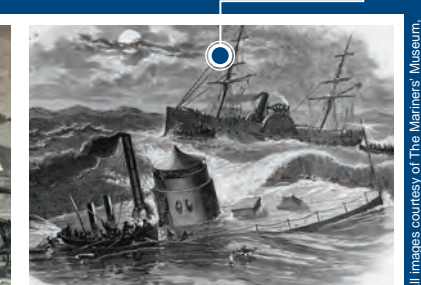
Directed by President Lincoln, five ships including Monitor, Decatur, Naugatuck, Seminole and Susquehanna shelled Confederate batteries at Sewell's Point, Va., on May 8, 1862.



July 9, 1862 – President Lincoln visits the ironclad. Unfortunately, the timing did not coincide with James F. Gibson's photo shoot that same day. The Gibson photos are the only known images of the vessel and crew.



The Monitor was ordered to the Washington D.C. Navy Yard for repairs (background of image, above). The ship that "saved the nation" was greeted by thousands of cheering admirers. Officials allowed the public to board and within one day she was picked clean of artifacts that the touring civilians took as souvenirs.



December 31, 1862 – On New Year's Eve, less than a year after launch, the USS Monitor was under tow by the USS Rhode Island and on its way to Beaufort, N.C., when it sank in a storm. Sixteen sailors died that night.

MONITOR NATIONAL MARINE SANCTUARY

With the discovery of the *Monitor* in 1973, Congressman Walter Jones, Sr. proposed to use the recently passed National Marine Sanctuaries Act to protect the famous shipwreck. On January 30, 1975, the nation's first national marine sanctuary was designated.

Today, Monitor National Marine Sanctuary remains committed to engaging visitors and local communities through education and outreach to learn more about our nation's maritime heritage. Whether it is participating in events supporting local economies, placing underwater signs to create a *Monitor* Trail, providing educational programs and materials that teach about our maritime heritage and the USS *Monitor*, or creating a series of downloadable videos depicting the iconic places in North Carolina, the sanctuary strives to inspire new audiences to protect our rich maritime heritage resources and act as wise ocean stewards.



Divers visit the *Monitor* to document and survey the shipwreck. New images of the site aid maritime archaeologists to better understand the effects of the ocean and time on the shipwreck.

Community Involvement

Community involvement is vital to the successful protection and management of sanctuary resources. Each national marine sanctuary has an advisory council of stakeholders to help facilitate communication between the sanctuary and community members. Sanctuaries work to protect vital natural and cultural resources of America's coastal and marine waters while connecting people and communities through education, science and management.

For more information on *Monitor* National Marine Sanctuary, regulations and permits, visit: www.monitor.noaa.gov

NATIONAL MARINE SANCTUARY SYSTEM

- Olympic Coast
- Cordell Bank
- Gulf of the Farallones
- Papahānaumokuākea
- Hawaiian Islands Humpback Whale
- Monterey Bay
- Channel Islands
- American Samoa (U.S.)



- Thunder Bay
- Stellwagen Bank
- Monitor
- Gray's Reef
- Florida Keys
- Flower Garden Banks

○ National Marine Sanctuary
▲ Marine National Monument

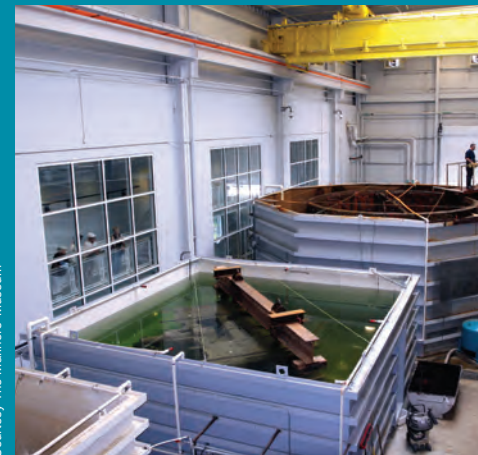
Scale varies in this perspective. Adapted from National Geographic Maps

The Office of National Marine Sanctuaries serves as the trustee for a system of 14 marine protected areas encompassing almost 180,000 square miles of ocean and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. For more information on the National Marine Sanctuary System, visit: <http://sanctuaries.noaa.gov>



VISIT THE MONITOR

Visiting the USS *Monitor* is not easy; it lies on the bottom of the ocean, 16 miles off Cape Hatteras, N.C. Fortunately, for those who don't want to get their feet wet, there are many places that offer visitors the opportunity to discover the wonders of this great ship. From our primary visitor's center in Newport News, Va., to the Outer Banks of North Carolina, people can walk through exhibits, interact with kiosks, download videos and more. Each venue offers visitors a better understanding of the significant contributions *Monitor* made to our nation's history.



The Mariners' Museum The USS *Monitor* Center at The Mariners' Museum (left) serves as the primary visitor center for Monitor National Marine Sanctuary, and tells the ironclad's story through a rich array of artifacts, archival materials, and multimedia. **The Batten Conservation Laboratory Complex** (second from left) within the museum has conserved more than 80 percent of the collection that includes more than 1500 objects. Museum visitors can stand just feet from the turret, steam engine and Dahlgren guns as they watch conservators at work.

Graveyard of the Atlantic Museum Located in Cape Hatteras, N.C., the museum is one of North Carolina's premier maritime museums. It draws visitors from around the world and offers glimpses into the history of *Monitor* and other North Carolina shipwrecks.

North Carolina Aquarium North Carolina Aquariums were established to promote the state's diverse cultural and natural resources. Visitors to the aquarium at Roanoke Island can view a one-third scale model replica of the *Monitor* and learn about shipwrecks as reefs.

Jennette's Pier Destroyed in 2003 by Hurricane Isabel, the pier was rebuilt and opened in May 2011. The pier offers fishing, fun and an opportunity to learn about the *Monitor* and other iconic places in the Outer Banks through an interactive kiosk.

NORTH CAROLINA'S RICH MARITIME HISTORY

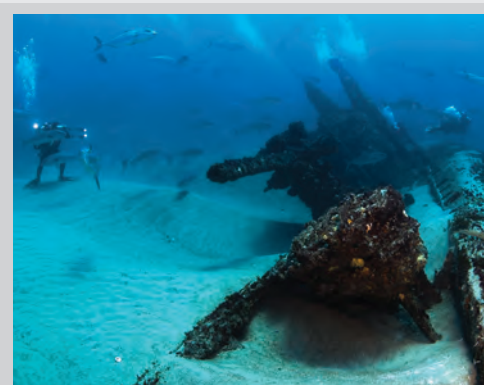
The treacherous waters off North Carolina's coast have claimed more than 2,000 ships, including the USS *Monitor*, in the area known as the Graveyard of the Atlantic. Shipwrecks from the Colonial era through WWII are found in this 'graveyard', and represent a unique cross-section of our nation's maritime history. NOAA, which has more than 40 years of experience studying



Dixie Arrow WWII tanker sunk by German U-boat off Cape Hatteras, N.C.



SS Metropolis Steamer ran aground in 1878, compelling expansion of the U.S. Life-Saving Service.



U-701 This German U-boat mined the Chesapeake Bay in 1942 before it was sunk off Avon, N.C.



Lightship The Diamond Shoal lightship was the only one of its kind sunk by enemy action during WWII.



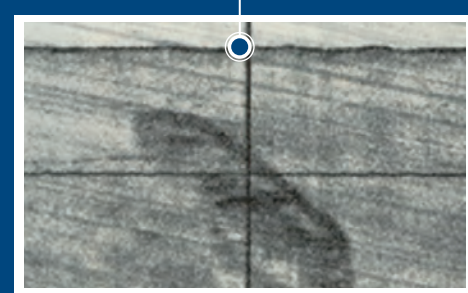
Iconic Places Some of North Carolina's many iconic places.

the *Monitor*, partners with academic institutions and other federal agencies to study, interpret, and conserve historically significant shipwrecks located in this region in an effort to connect people with their maritime heritage.

Through lectures, brochures, dive slates, kiosks, exhibits, videos, and more, the sanctuary strives to promote North Carolina's diverse and rich maritime history. A series of online videos, the Outer Banks Maritime Heritage Trail, features iconic places of coastal North Carolina and can be accessed at <http://monitor.noaa.gov/obxtrail/welcome.html>.

TIMELINE

FROM DISCOVERY TO PRESENT



Aug. 27, 1973 - A team of scientists led by John G. Newton of the Duke University Marine Laboratory located what appeared to be the *Monitor* lying upside down in 220 feet of water, 16 miles off Cape Hatteras, N.C. The wreck's identity was confirmed by divers in April 1974.



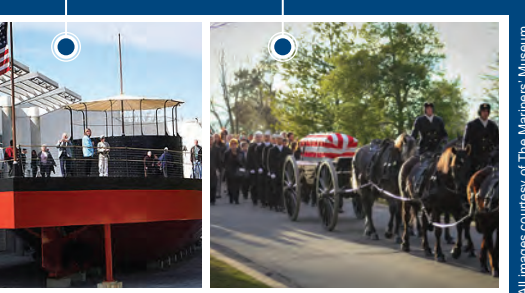
Jan. 30, 1975 - Congress designates the wreck site of the USS *Monitor* as the nation's first national marine sanctuary. Today, Monitor National Marine Sanctuary protects the wreck for future generations and works to share this iconic vessel's historical and cultural legacy with the public.



Between 1977 and 2002, several expeditions worked to document the wreck of the *Monitor* and recover artifacts, like the ship's red signal lantern, anchor, propeller and steam engine. On March 9, 1987, The Mariners' Museum in Newport News, Va., was designated the principal museum for artifacts from the wreck.



Aug. 5, 2002 - A 41-day, multi-agency recovery expedition raised the *Monitor's* turret and two 11-inch Dahlgren guns from the ocean floor. The mission took careful planning, ingenuity and the courage of divers who braved hazardous conditions to free the 150-ton structure.



March 9, 2007 - The Mariners' Museum unveiled the 63,500-square-foot USS *Monitor* Center. For more information, visit www.marinersmuseum.org/.



March 8, 2013 - Two sailors that were recovered from the *Monitor's* turret were laid to rest with full military honors at Arlington National Cemetery.