



Monitor National Marine Sanctuary

National Oceanic and Atmospheric Administration



Managing the Monitor

In August of 1973, nearly 111 years after the ship sank, scientists aboard Duke University's research vessel *Eastward* located the *Monitor* using sidescan sonar. The wreck

lies in 230 feet of water, 16.1 miles south-southeast of the Cape Hatteras Lighthouse. The *Monitor* was listed on the National Register of Historic Places in October 1974 as a resource of national significance. On January 30, 1975, the *Monitor* became the first National Marine Sanctuary under Title III of the Marine Protection, Research and Protection Act of 1972. The *Monitor* National Marine Sanctuary, a vertical column of water one mile in diameter, is managed by the National Oceanic and Atmospheric Administration (NOAA).

History The *Monitor* was designed by Swedish-American engineer John Ericsson. Based on an earlier concept Ericsson had presented to Napoleon III of France in 1854, the *Monitor* was a radical departure from traditional warship design. The vessel was fully steam powered, with engineering spaces, crew and officer spaces and the galley all below the water line. The vessel, constructed almost entirely of iron, was completely armored. A notable feature was the *Monitor's* 21 ½-foot diameter, 9-foot-high revolving turret, which was located at midships and housed two 11-inch Dahlgren smoothbore cannons. Built at the Continental Iron Works in New York, the *Monitor* was launched on January 30, 1862. Due to the threat that the CSS *Virginia*, a Confederate ironclad built from the burned hull of the USS *Merrimack*, posed to the federal fleet at Hampton Roads, Virginia, the *Monitor* was ordered to Hampton Roads in early

March 1862. The Union ironclad arrived on the evening of March 8 in time to see the results of the havoc and destruction caused by the *Virginia* on the Union wooden frigates *Cumberland* and *Congress*. The steam frigate USS *Minnesota* had run aground in Hampton Roads and the *Monitor* was ordered to protect her since the *Virginia* was sure to return at first light on March 9th.



When the *Virginia* steamed out to finish off the *Minnesota* the next morning, she was met by the *Monitor*. Despite the *Virginia's* much larger size, the *Monitor* demonstrated the advantages of a rotating turret over traditional broadside guns. The two vessels frequently bombarded each other at point-blank range over the course of four hours with no substantial damage to either vessel. However, a shell exploded in the viewport of the *Monitor's* pilot house, temporarily blinding Captain John Worden. The *Monitor* steamed off into shallow water, where the *Virginia* could not follow, to assess the captain's wounds and damage to the ship. The *Virginia's* captain, assuming that the *Monitor* was leaving the battle, withdrew in supposed victory. When the *Monitor* returned to resume the engagement and found the *Virginia* gone, her crew also assumed victory. Although there was no clear victor in the battle, the *Monitor* succeeded in preventing further destruction to the Union blockade.

Shortly after midnight on December 31, 1862, while under tow by the Rhode Island to Beaufort, North Carolina, the *Monitor* sank in a gale off Cape Hatteras, North Carolina.

Recovery Efforts



Numerous research and recovery expeditions coordinated between NOAA and the U.S. Navy have occurred since 1977.

Approaching the *Monitor* on the first submersible dive in 1977, an archaeologist spotted a brass navigation lantern near the turret. This lantern has remained of particular interest because of its red fresnel lens, evidence that it was a signal lantern, perhaps the same lantern Paymaster William Keeler mentions in his vivid account of watching the *Monitor*'s red lantern as it vanished and reappeared on the dark, stormy ocean the night the ship sank.



Major dives in 1979 recovered numerous small artifacts. The *Monitor*'s unique four-fluked anchor was recovered in 1983.



In the 1990s, NOAA began noticing an alarming pattern of accelerated deterioration in several areas of the wreck. In 1996, NOAA was given a mandate by Congress to come up with a plan to preserve the

Monitor. In 1998, NOAA released a long range plan that outlined a six-step proposal for stabilizing portions of the *Monitor*'s hull and recovering the vessel's steam engine and rotating gun turret.

The *Monitor*'s 9-foot cast iron propeller and 11-feet of propeller shaft were recovered in 1998 with the help of the United States Navy.

NOAA and the Navy began planning larger recovery expeditions in 1999, and implemented the stabilization portion of the plan in 2000 and 2001. The *Monitor*'s vibrating lever steam engine was successfully recovered in 2001.

In 2002, a 41 day recovery effort culminated in the successful raising of the gun turret and two 11-inch Dahlgren smoothbore cannons from the ocean floor. The

engine, cannons and gun turret are currently undergoing conservation at The Mariners' Museum in Newport News, Virginia. When conditions permit, the entire conservation process is available for public viewing. Scores of other artifacts, including the anchor, propeller, signal lantern, and small personal items are currently on display.

USS Monitor Center Scheduled to open in 2007, the 63,000 square-foot USS *Monitor* Center will showcase the design and building of the *Monitor*, her battle at Hampton Roads and her loss in the Graveyard of the Atlantic. There will be a full-size replica of the vessel, interactive exhibits, a theater and much more. The Center will be located on the grounds of The Mariners' Museum in Newport News, Virginia.

Monitor Specifications

- 174 feet long
- Sat low in water with 2 feet of freeboard
- Only the pilot house and turret rose above the deck
- Turret
 - 22 feet in diameter
 - 9 feet high
 - Special engine to rotate turret
 - 8-inch thick armor
 - 2 11-inch Dahlgren cannons

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