

Confederate Submarine H.L. Hunley Resurfaces – Reaching Out Across Time and Space

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In December 2017 *Dive News Network* had the privilege of touring the conservation of the *H.L. Hunley* and *H.L. Hunley* exhibit at the Warren Lasch Conservation Center in the former Charleston Navy Yard. Heartfelt thanks to Friends of the Hunley Executive Director Kellen Correia and lead conservator Johanna Rivera for their time and devotion to the conservation and study of *H. L. Hunley*.

What is the *Hunley* ? Where Is It Today?



The *Hunley* has an important place in history because it was the first submarine to sink an enemy vessel. In the 1600's-1700's, European countries tried to develop a submersible vessel capable of sinking enemy shipping. The United States conducted a subsurface attack during the Revolutionary War using a rudimentary one-man submarine against a British ship in Boston harbor. The attack failed because the explosive charge could not be successfully attached to the British ship. Fast forward to The American Civil War: several submarines were constructed by the Confederacy and tested successfully against

target vessels in training attacks. On February 17, 1864, the *Hunley* became the first submarine to conduct a successful attack against an enemy ship. She sank the Union ship *USS Housatonic* which was blockading the strategic harbor of Charleston, South Carolina. (In fact, the Civil War officially started on April 12, 1861 in that same port, when Confederate artillery opened fire on Fort Sumter in Charleston Harbor). However, following her attack *Hunley* and crew never made it back to Charleston's shore that night. This prompted an over-130 year mystery as to what happened...

Clive Cussler's dive team found the ship in 1995 (Cussler was not at the site at the time of the discovery); *Hunley* was raised in a complex, flawlessly-executed salvage on August 8, 2000. She is currently undergoing conservation at the Warren Lasch Conservation Center. The project is a joint venture between Friends of the Hunley, the South Carolina Hunley Commission, [Clemson University](#), Naval History and Heritage Command, and the [Charleston Naval Complex Redevelopment Authority](#).





On the bottom for over 130 years, *Hunley* and crew were buried by silt and mud. Chemical processes and rusting created a kind of concrete (known as concretions). Crew remains inside the sealed submarine were protected from sea life; skeletal remains were preserved due to the anaerobic environment inside the submarine. Today's conservation efforts involve removing concretion on and inside the vessel, employing the latest, painstaking archaeological processes to glean every bit of data from the vessel and contents. The ship is immersed in a 75,000 gallon tank of chemicals with an electric current running through the solution to preserve the iron and assist in removal of

concretion, and is periodically drained, allowing conservators to work inside the hull. Crew members were identified with some certainty (in one case through DNA). A few revealing and sometimes poignant vignettes about the crew's lives have been revealed through remains and artifact analysis, and are provided in the *Hunley* exhibit. In this way these sailors were personalized. The crew were buried with full military honors on April 17, 2004 in Magnolia Cemetery in Charleston; descendants of three of the crew were present.

The *Hunley* and Scuba Divers



Humans have an impulse to visit places of great moment: geographic locations, sites of tragedies, disasters, triumphs and battles. Thus, the enduring interest in The Great Wall, Taj Mahal, Pompeii, Niagara Falls, Mount Everest and so many others, including also Normandy (D-Day landing beaches and cemeteries) and the Civil War battlefields. Many still hear the guns.



Divers are not exempt from this impulse, with scuba/submersible diving to the *Vandenburg*, *Truk*, *Andrea Doria*, *Scapa Flow* in the Orkneys, cruiser *USS San Diego*, various East Coast merchant ships (and the German U-boats which sank them and which were, in turn, sunk), *RMS Titanic*, German battleship *Bismarck* and Japanese battleship *Mushashi*, carrier *USS Yorktown*, cruiser *USS Indianapolis*, *U869* off New Jersey, and *Salem Express* in the Red Sea. **No less than thirteen members** of the Women Divers Hall of Fame have participated in dives to the historic Union *USS Monitor*, a Civil War ironclad, most famous for the stalemated battle against *CSS Virginia* (formerly, *USS Merrimack*) off Hampton Roads, Virginia. Recovery of components of this vessel were funded by the US Navy, and divers undertook several dangerous missions salvaging parts of *USS Monitor* for display in the

Mariners' Museum at Newport News. NUMA (National Underwater and Marine Agency, a non-governmental, not-for-profit organization dedicated to preserving the nation's maritime heritage founded by Clive Cussler) would have prohibited recreational divers getting anywhere near *Hunley*. Nevertheless, divers are bonded to *Hunley's* crew across time and space, as fellow maritime sojourners "In Harm's Way", and in solidarity with "those in peril on the Sea..."

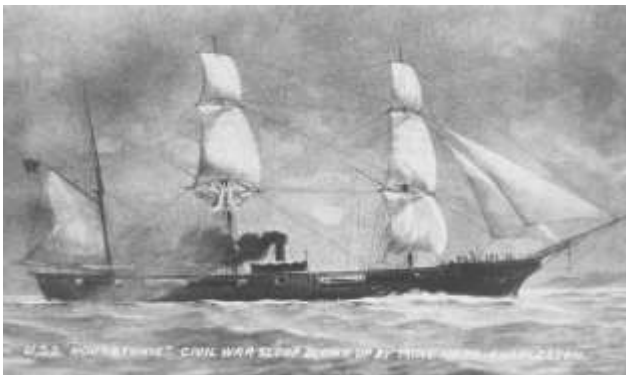
The Civil War Context of *Hunley*

By early 1864 the Confederacy was losing the Civil War. If Washington DC had been encircled and cut off from the rest of the Union early in the war, then the Confederacy would have been able to negotiate for peace and thereby achieve a Confederate victory. But the industrialized North would ultimately win the war of attrition, despite continued brilliant generalship by the Confederacy and the valor of the soldiers. Colonel Joshua Chamberlain's 20th of Maine regiment held off the boys in gray at Little Round Top at Gettysburg in July 1863; that action arguably was the beginning of the prolonged defeat of the Confederacy --- taking two more years of brutal and most lethal battles before the Lee's surrender at Appomattox. In 1864 Charleston (along with other Southern ports) was blockaded by the Union, interdicting delivery of military hardware essential for the Confederate forces to continue fighting. The Confederate leadership was getting desperate. In wartime, desperation spawns radical measures: a submersible vessel-- to stealthfully approach and destroy the blockading Union ships.

Hunley was the last iteration of submersibles -- each generation correcting the weaknesses in predecessors. Initial results in training with *Hunley* were positive. However, the ship was cursed. *Hunley* sank twice during advanced testing, losing five crewmen on the first and the entire crew in the second sinking. The reasons are unknown. It was either procedural error by the crew, or mechanical failure -- or some combination. Twice the submarine was raised and restored to operating condition. But after the second sinking, the commanding general for Confederate forces in Charleston, General Pierre Beauregard, prohibited future submerged attacks by *Hunley*. It could still serve as a warship, but NOT conduct attacks while submerged.

The Fateful Night...

At 7pm on February 17, 1864, *Hunley* and crew set out on their mission to sink a Union blockade ship. They had trained hard and successfully with trial attacks- they knew the drill. The crew strained at their crankshaft to approach *USS Housatonic* stationed about six miles offshore; she was a 200' heavily armed sloop with a crew of



about 160 sailors and officers. *Hunley* was spotted by a lookout upon approach, but it was too late for *Housatonic*. *Hunley* charged with a burst of speed, placing the explosive torpedo against *Housatonic's* hull, then detonated the charge. The explosion blew a hole into *USS Housatonic's* starboard hull just aft of the mizzenmast. There were no watertight compartments. The ship sank quickly, although with minimal loss of life due to rescue operations, and the crew having plenty of floating debris to help them stay afloat until rescued.

What Happened to Hunley after the attack on USS Housatonic?



There are theories about what happened that night after the attack... we will probably never know for certain... Did the crew open the hatch(es) while on the surface to let in more air, perhaps because of the exertion required to escape the sinking *USS Housatonic* (resulting in the boat being swamped by an unexpectedly large wave)? Did the crew and/or submarine get incapacitated or damaged by the blast because they were too close? Did the boat submerge following the attack to avoid detection and capture by Union ships on the surface, resulting in suffocation because they were unable to surface? Did a Union

ship get off a lucky shot, sinking *Hunley*, or did a Union ship ram or collide with *Hunley*? Was the return journey too difficult against the outgoing tide, with the crew asphyxiated by being forced to stay submerged too long to avoid detection by the Union ships swarming in to rescue *USS Housatonic's* survivors? Did the dive plane get stuck in the 'dive' position? Was it something entirely different? Some combination of these? All crewmembers were at their stations, and not bunched up at the exit hatch; they did their duty to the end. If more of the crew's soft tissue had survived, there might have been a way to determine what role (decisive or... *none*) that the explosion's concussion blast and shock wave might have played. Conflicting conclusions about the role of concussion have been drawn. It is important to not speculate, but rather to follow the data and conduct due diligence in its analysis. The study of accurate and institutional data is key. The Warren Lasch Conservation Center team has analyzed this data assiduously and has concluded that proximity to the explosion (and alleged resulting disabling crew concussion) is specious. The true or combination of factors may never be known.

Forensic archaeologists (borrowing techniques from forensic crime analysts) can discern astounding levels of details about the humans and the machinery. But what can be deduced is qualitatively and quantitatively overwhelmed in many cases by what cannot now (or perhaps ever) be known.

What Lessons Does *Hunley* Hold for us Today?

The fundamental take away here – in the shared opinion of the conservators and all thoughtful visitors to *Hunley*-- is that the specifics of the sinking of *Hunley* and what killed the crew are less important than our duty to honor their memory and sacrifice, and that of their loved ones back home. They were sailors. They, and the designers/builders of *Hunley*, changed human history. It was the first successful submarine attack in history. It was a stunning technological achievement, presaged by none less than Leonardo Da Vinci in the 1400's. Da Vinci never shared his invention publicly, fearing that (like the atomic bomb in the mid-1940's) it would fundamentally change the course of human history and radically increase the lethality of warfare (and like the atomic bomb, it did ...). It is interesting to consider that the war to liberate black Americans from slavery, fulfilling the promise of the new country of the United States - founded in human dignity - would also open the Pandora's box of submarine warfare -- which very nearly enabled the darkest forces in human history (Nazi Germany) to strangle the United Kingdom by sea. Nazi U-boats (submarines) are what kept Winston Churchill awake during catnaps in his bunker underneath Whitehall.



Think about this... *Hunley's* crew crawled into this four-foot high cylinder (resembling a coffin which it had been, and would in fact once again become -- only this time, theirs...); and this boat would then submerge (using the mysterious concept of buoyancy); and approach and attack its target. Then (as now) crew procedural error or equipment malfunction can quickly doom the vessel. She could get swamped and sink quickly, with the crew in terrifying, total blackness into the watery grave to which they were headed without

hope, the hull ultimately crushing under the pressure of the water on the hull. How terrifying to be a crewman aboard such a scarcely-proven vessel! When we look upon the eerily-reconstructed faces of *Hunley's* crew, let us not think about how they died, but rather of how they lived -- the human endeavor, valor, intrepidity, scientific achievement, human spirit, and devotion to duty which beat in their hearts.

And those attributes extend also to today's dedicated conservators, and to so many friends and supporters of the *Hunley*, working hard to fund and conserve the *Hunley*, and advance understanding of her circumstances. Team Hunley invites all of us divers here at *Dive News Network* to join them in this important and unfinished mission (details on the *Hunley* website www.hunley.org ...) and to be part of the effort to preserve and tell the story of *Hunley* and her crew. What better way to honor these sailors --and all American submarine sailors who are on eternal patrol. THESE are *Hunley's* lessons for us today!



