

Diving Headfirst into Naval History

Navy Archaeologists Conserve & Protect Underwater Wrecks Around the World

ARCHAEOLOGISTS FROM THE Underwater Archaeology Branch (UAB) of the Naval History and Heritage Command (NHHC) work tirelessly to conserve and protect thousands of ship and aircraft wrecks around the world.

It was a simple pottery jar with cork in it. But when NHHC's UAB team eased the cork out of it, the gust of air that escaped was nearly 200 years old—perhaps created by the organic material it had stored on the sloop-rigged floating battery Scorpion before it was scuttled on August 22, 1814.

Robert Neyland, UAB director, doesn't always get to work in such rarified air, but that was just one of many remarkable moments of his career in managing one of the lesser known, but widest-reaching organizations in the Navy.

The branch headquarters and laboratory are tucked away in the many historic buildings at the Washington Navy Yard. And just like the shipwrecks the branch monitors and manages, it takes a map and a little inside knowledge to find them.

But within its offices are the people who conserve and protect the more than 17,000 ship and aircraft wrecks around the world, its collection of more than 3,000 artifacts

recovered from sunken military craft sites, and an artifact loan program of 6,000-plus items to national and international museums and other qualified facilities throughout the world.



For More Insights

FOR MORE INSIGHTS into UAB's efforts to unearth the Scorpion—a gunboat that was scuttled nearly 200 years ago in the Patuxent River—read our article "Raising the War of 1812: USS Scorpion May Be Part of Bicentennial Celebration" in the winter 2013 issue of *Currents*. You can browse the *Currents* archives at the Department of the Navy's Energy, Environment and Climate Change web site at <http://greenfleet.dodlive.mil/currents-magazine>.



The branch itself was created in 1993 through the Department of Defense (DoD) Legacy Resource Management Program. Robert Neyland followed soon after. Neyland, a native of Palestine, Texas, earned his doctorate and master's degrees in anthropology at Texas A&M. So what did it take to get this Texas boy out of Texas? Mixing his love for diving with archaeology.

Protecting Underwater Grave Sites

Diving into the murky waters of rivers can be as cloudy as navigating government regulation. That's why one of UAB's responsibilities includes arranging for permitting authority for the Department of the Navy under the 2004 Sunken Military Craft Act (SMCA).

serve as war graves, safeguard state secrets, carry environmental and safety hazards such as oil and ordnance, and hold significant historical value.

The SMCA provides that U.S. government-owned military ships, aircraft and spacecraft remain the property of the government, no matter their condition,

It's not a "finders-keepers" situation if divers recover artifacts from or around wreck sites.

He's traveled the world, diving some of the world's oldest shipwrecks. His scientific expertise and experience in management led him on assignment from Texas A&M to the Naval Historical Center in 1994 to help the Navy develop policies and a program in underwater archaeology. The work was so intriguing he left Texas A&M and became a federal government employee in 1996.

Neyland's Navy work has taken him to dives on Revolutionary War ships in Maine, surveys of World War II wrecks off the beaches of Normandy, France, and rare downed aircraft under the waves off the Marshall Islands. He's led the Navy archaeology team seeking the resting site of the World War II submarine USS Pompano, which sank somewhere off the coast of Japan.

Diving for archaeology, however, isn't always in pristine recreational areas such as the waters of the Caribbean or Mediterranean Seas.

"The visibility for diving isn't that great in harbors and rivers," Neyland said. "But we dive where the wrecks are."

The SMCA was enacted on October 28, 2004. Its primary purpose is to preserve and protect from unauthorized disturbance all sunken military craft that are owned by the United States government as well as foreign sunken military craft that lie within U.S. waters. These wrecks represent a collection of more than 17,000 fragile, non-renewable artifacts that often

age or location. Still, Neyland said the law was written in the public interest to protect grave sites, and preserve the nation's and Navy's history, while at the same time providing non-intrusive access to wrecks for the diving public. The permitting process UAB manages even allows for excavation at the sites for archaeological, historical, or educational purposes.

For More Information

FOR MORE INFORMATION about the SMCA, visit www.history.navy.mil/research/underwater-archaeology/sunken-military-craft-act.html.



“When there is an intentional violation of the SMCA, the Navy can impose penalties—a unique responsibility within the Navy,” Neyland said. “Many of these wrecks are burial sites of U.S. military personnel and war graves. The Act applies equally to U.S. military ships lost today as it does to the earliest examples lost by the Continental Army and Navy during the American Revolution.”

It’s not a “finders-keepers” situation if divers recover artifacts from or around wreck sites. Just recently, a trumpet taken from the site of USS Houston was returned to the Navy, but had suffered degradation after its removal from the marine environment and exposure to the atmospheric oxygen. The UAB archaeology and conservation laboratory is working to mitigate that damage now. USS Houston sank in the Java Sea after intense fire from the Japanese fleet during the Battle of Sunda Strait February 28, 1942.

“The public expects that the Navy will look after these wrecks as archeological sites and as war graves,” said Neyland.

“Laws and ethics do not keep up with the advances in technology that allow for deeper dives and locating wrecks. The Navy’s wrecks are no longer protected by immersion in the marine environment,” Neyland said. “In many ways, these are like undiscovered islands, but which are already titled as U.S. property and are distributed worldwide.”

But with those remains may also lay environmental issues still buried with the wreck, such as oil, ordnance and weapon systems better left to experts rather than civilian divers. UAB personnel work with numerous other Navy commands to recover or protect Navy artifacts, like the Explosive Ordnance Disposal (EOD) units, Seabees, Judge Advocate General Corps and Naval Criminal Investigative Service.

But the branch is also often the starting point for outside organizations, such as the National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, cities and states, plus a slew of foreign navies and their governmental agencies. They also work with veterans associations and universities.

When fragments from a human jawbone were found embedded in the concreted outer layer covering a 32-pound cannon recovered from CSS Alabama, UAB worked with forensic scientists from the DoD Central Identification



Kate Morrand, archaeological conservator for NHHHC’s Archaeology and Conservation Laboratory, cleans artifacts recovered from the wreck of USS Huron, which sank in a storm off the coast of Nags Head, North Carolina in 1877. The artifacts were removed from the wreck site without permission in the 1960s, and require considerable conservation treatment to stabilize them.

MC2 Gina K. Morrissette

Laboratory to recover information such as the age range of the deceased and determined that the individual was probably a European sailor serving on the ship. This complements the historical records which reveal that while the officers were Southern Confederates, most of the crew were European.



An NHHC archaeological team prepares to store a section of a late 19th century Howell torpedo in a desalination bin. The torpedo was discovered by a team of Navy dolphins off the coast of San Diego and is scheduled to undergo months of restoration at the Washington Navy Yard.
MC2 David Cothran

Training Future Archeologists

The mission of UAB is unique, and so are the professional opportunities it offers. The department has a robust intern program, now offering 13 internships a year through colleges, universities, and fellowships, including the Naval Research Laboratory, Naval Research Enterprise Internship Program (NREIP), National Research Center and the Science, Technology, Engineering and Math (STEM) program.

“This is quite the place for internships,” Neyland said. “Out of 300 applications for summer internships, 39 specifically asked to work here.”

Having such a strong intern program—they have had 57 interns so far—is one way to keep the department thriving as it trains the next generation of archaeologists, conservators, scientists, engineers, and policy makers. Neyland encourages the students to push for longer internships, at least through an entire semester. “It provides valuable work experience to the interns, exposure to career choices, and provides useful service to the Navy,” Neyland said.

One of those who turned that internship into a career is Kate Morrard, head of UAB’s Archaeology and Conservation Laboratory. In 2008, she had just moved to the Washington, D.C., area after earning a post-baccalaureate degree in Conservation of Fine Art and Archaeological Material from Studio Art Centers International, Florence, Italy.



The letters “USN” appear near the edge of a section of a late 19th-century Howell torpedo. The torpedo was discovered by a team of Navy dolphins off the coast of San Diego and is scheduled to undergo months of restoration by a NHHC archaeological team.

MC2 David Cothran

“This opportunity as an intern was different than others I’ve had,” Morrand said. “You’re very much treated like a new employee—using your particular skill set that was hand-picked from the applications received.”

“Your work matters, whether it is researching documents, answering questions, or writing policy to see if it is relevant to the site we are working,” Morrand said. “In some places, the opportunity to do conservation as an intern is not made immediately available. But since most of the interns already have advanced degrees or have worked with the materials, UAB had the confidence to let us work on the collection right away.”

Preserving the Past Helps the Navy Today

While the time and effort to preserve a pair of 18th century iron scissors from the effects of concretion might seem a luxury during a time of tight budgets, the lessons learned from conservation may be used to mitigate corrosion and deterioration on future ships and aircraft.

“Research on how to better preserve the hulls of USS Monitor and H.L. Hunley may also be used for modern materials, including those used by the DoD,” Neyland said.

Already, UAB research has helped determine the impacts of explosions

on ships and submarines. Improved technologies in diving may also be used in the military, salvage and engineering disciplines, such as allowing Navy divers to see in zero visibility and uses for underwater remotely operated vehicles and sensor packages. The technology used for logging and mapping out wrecks may be used to provide predictive modeling for oceanography.

“Underwater archaeology is dependent on advances in technology but it also pushes the science and technology forward with the research questions it asks, and its multi-disciplinary solutions can have benefits to the military and private sectors,” Neyland said.



This piece of art was painted by the 20th Century artist Xanthus Smith. The 1922 artwork depicts the sinking of the Confederate ship CSS Alabama after her fight with the USS Kearsarge (seen right). Alabama was the scourge of the American merchant fleet during a two-year commerce destroying campaign before being sunk during a battle with the Kearsarge in June 1864. American archaeologists and French Navy divers recently recovered a bell from the famous Confederate commerce raider from its resting place 180 feet below the surface of the English Channel off the coast of Cherbourg, France.

Courtesy of the Franklin D. Roosevelt Library



A 32-pound cannon recovered from the wreck of the Confederate sloop-of-war CSS Alabama is seen at the NHHC laboratory warehouse. Alabama was built for the Confederate States Navy and served as a commerce raider, attacking Union merchant and naval ships during the Civil War. Alabama was sunk on June 19, 1864 during a battle with USS Kearsarge off the coast of France.

MC2 Kenneth G. Takada

Overflowing Bucket List

The UAB has no shortage of projects. They continue artifact recovery from well-known shipwreck sites, such as CSS Alabama, CSS Georgia in the Savannah River, and searching for the wreck site of the submarine USS Pompano that sank with all of her crew off the coast of Japan in September 1943.

Conservation work continues on the Howell torpedo found in July of 2013 after being alerted by two Navy-trained dolphins of something buried on the ocean bottom in San Diego.

This summer, Alexis Catsambis, UAB archeologist, will hunt for the wreck of the Bonhomme Richard off Flamborough Head near Yorkshire,

England. The Continental Navy warship, commanded by the legendary John Paul Jones, was shattered during the ship's 4-hour battle with HMS Serapis on September 23, 1779. Despite his sinking ship, Jones refused to surrender to Serapis' commanding officer with his infamous: "Sir, I have not yet begun to fight!" After Jones took command of the captured British ship, the Bonhomme Richard sank September 27, 1779.

And as for that 1814 air from that pottery jar from USS Scorpion, remnants were captured and stored for future examination into what that jar might have held as part of the Chesapeake Bay Flotilla sunk in the Patuxent River during the War of 1812.

"These military wrecks are also a means of interpreting the history of the services. Other benefits to DoD also include public education, particularly as awareness pertains to the history and mission of the services and the role the military plays in the past, present and future in protecting the country," Neyland said. "Discovery of a military wreck—in the case of the missing-in-actions, the resolution for family members—captures the public's imagination and raises that awareness. This occurs in the normal process of complying with our management mandate." 

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