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## Maritime Research Division: A Year of Fieldwork in Review

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# Maritime Research

## Maritime Research Division: A Year of Fieldwork in Review

By James Spirek

Released from COVID-19 quarantines and travel restrictions, the Maritime Research Division (MRD) embarked on multiple projects, both new and resumed, throughout the busy year of 2021. As noted in the previous newsletter (*Legacy*, Vol. 25, No. 1, July 2021, p. 27), the MRD welcomed aboard new staff members, William Nassif and Athena Van Overschelde. Barely getting comfortable in their offices the demands of fieldwork soon took them on and under the waters of Winyah Bay, Charleston Harbor, the ACE Basin, and Port Royal Sound. The following article focuses on the fieldwork aspects of the Division and does not include the myriad of other management responsibilities and research endeavors during 2021.

### Columbian Mammoth Fossil Recovery

The Division, in concert with the South Carolina State Museum, recovered the fossil remains of a Colombian mammoth in the ACE Basin. Reported to the Division



Figure 2: Will Nassif and Athena Van Overschelde carrying a load of packaged mammoth bones to the storage area at McKenzie Field Station. (SCIAA photo)

and the Museum by a Hobby Licensed diver several years earlier, the recovery occurred over a week in late March and early April 2021, with another few days in May to complete the removal along with site clean-up. The Museum hired

Dr. L. Barry Albright, a paleontologist and professor at the University of North Florida, to oversee the activities and storage of the fossil remains. We also relied on two colleagues, Nicholas DeLong and Kimberly Roche, from the Warren Lasch Conservation Center at Clemson University (WLCC), and volunteer, Ted Churchill, to assist us in this endeavor. The McKenzie Field Station at the ACE Basin Natural Estuarine Research Reserve at Bennett's Point provided us with a place to keep our boat, equipment, and to secure the fossils until their return to Columbia. Prior to launching the recovery efforts and assisted by the discoverer, we marked several concentrations of bones with stakes and connected them with polypropylene line to create the "Fossil Highway," that guided our recovery efforts. The fossil remains were in approximately 30 feet of water at the base of the riverbank. Water visibility was extremely poor throughout the recovery operations. Portions of the skeleton were loose and exposed on the river bottom, while others were buried slightly deeper



Figure 1: Dr. Barry Albright inspecting and identifying recovered mammoth bones. (SCIAA photo)





Figure 3: Cruising in the old rice canals of South Island with Will Nassif, the author, Dr. Jodi Barnes, and Samantha Clyburn. (SCIAA photo)

in the sediments. The substrate consisted of fine sands, muds, logs, and other tree debris and organics, although some of the bones were embedded in thick, firm mud. Initial efforts were directed at recovering all exposed bones along the “highway,” and next probing with fiberglass stakes to locate and uncover buried bones. Recovered elements included the entire left leg, other limb bones, parts of a skull, half of a lower jaw, four molars, toe bones, tusk fragments, and other parts and pieces. Several sediment samples were taken around the bones for analysis including for dating purposes. Dr. Albright suggested when the mammoth died, the original locale was a small creek and since covered with sediments during sea level rise. Ongoing analysis of the bones may perhaps indicate that there is an archaeological component in that the mammoth was perhaps killed and butchered by humans. Whatever the cause of the mammoth’s demise, the skeleton will prove a valuable educational asset to learn more about the past natural history of the state.

### **Yawkey Wildlife Center Heritage Preserve Intertidal Shoreline Pedestrian Survey**

Under contract with the S.C. Department of Natural Resource’s Heritage Trust Program, the Division participated in an archaeological survey of the shoreline of the Yawkey Wildlife

Center Heritage Preserve at Winyah Bay for a week in late April 2021. The objective of the survey was to locate eroding archaeological sites along the shoreline of North and South Islands caused by Hurricane Irma and other recent storm events. The Division was accompanied by Dr. Jodi Barnes, who directed the daily activities that consisted of amphibious operations by landing our johnboat to walk along the shoreline looking for eroding sites. Visual inspection occurred while cruising along inaccessible sections of the survey area, primarily adjacent to the marsh and old rice canals. Using these methods, we documented several sites with photographs and DGPS

coordinates. Most of the sites were historic and consisted of scatters of ceramics interspersed with metal objects, mostly spikes or bolts. Interestingly, one of the most prolific finds along the island beaches were modern debris that consisted of mylar party balloons in various states of inflation and lightbulbs. We gathered the balloons for later disposal in the trash. Walking for miles on the island beaches, dunes, and forests, and trying to avoid stepping on spikey cactus, reminded us why we were underwater archaeologists and not terrestrial ones.

### **Search for U.S. Revenue Cutters *Gallatin* and *Hamilton***

For several days in late May 2021, we partnered again with the U.S. Coast Guard to resume the search for the U.S. Revenue Cutters *Gallatin* and *Hamilton*. The cutter *Gallatin* exploded and sank in Charleston Harbor during the War of 1812 and the cutter *Hamilton* sank during a storm at Stono Inlet in 1853. Previous survey operations conducted with the Coast Guard had detected several promising magnetic and acoustic targets in need of ground-truthing to determine any relationship to either shipwreck. For this recent foray, we were joined by two Coast Guard divers from the Atlantic Region dive team who brought along a side-scan sonar and ROV to assist in identifying the targets. With calm seas,



Figure 4: Surveying along the back dune line of North Island with Dr. Jodi Barnes, Athena Van Overschelde, and Will Nassif. (SCIAA photo)



Figure 5: USCG divers preparing the ROV for deployment off Stono Inlet. (SCIAA photo)

we directed our initial search efforts for the *Hamilton* at Stono Inlet. We spent one day surveying with the side-scan sonar over several previously detected anomalies and returned the next day with the ROV, equipped with sonar and a video camera, to determine the identity of a couple of targets. The ROV navigated about the targets, but poor visibility hampered obtaining video imagery to aid in identifying them. Afterwards, we moved into the harbor to look at two rock mounds detected previously in the *Gallatin* search area. Again, poor visibility prevented underwater imagery to assist in determining whether the anomalies were ballast mounds associated with a shipwreck or simply rubble and debris. In the future, we hope to once again partner with the USCG dive team to visually inspect these targets and if not related to the cutters, to resume the search for these two shipwrecks.

### Prospecting for Shipwrecks off Port Royal Sound

For six weeks spanning from late June through early September 2021, the Division resumed marine remote sensing operations to locate shipwrecks, especially the wrecked 16<sup>th</sup> century French corsair, *Le Prince*, at the entrance

shoals to Port Royal Sound. The project was funded by a National Oceanic and Atmospheric Administration Office of Exploration and Research award in 2019. Fieldwork consisted of five weeks of remote-sensing survey and one week of ground-truthing targets interspersed with general remote-sensing operations. We covered an estimated 7.8 square miles and 655 linear survey miles within the project area. Instruments deployed included a cesium magnetometer and side-scan

sonar. Five acoustic targets were ground-truthed, and although topsides analysis determined they were most likely modern debris and wrecks, we inspected them anyway to positively identify the targets and to discount them as historically or archaeologically significant. These targets were identified as: a large section of dredge pipe; some type of mooring system; a water or fuel tank; a discarded navigation range tower; and a modern boat wreck. To assist us in our endeavors, we contracted with three students from East Carolina University's Program in Maritime Studies and Coastal Resources Management to assist us during the fieldwork. Besides the fieldwork, we also participated in Coastal Discovery Museum's Family Fun Day on Hilton Head by showcasing our work through display materials as well as setting up the survey boat for kids and their parents to see the equipment in "action" through simulated data collecting.

### USS *Housatonic* Shipwreck Investigations

Acting under a request by the South Carolina *Hunley* Commission (HC), the Division, the College of Charleston (CofC), and the WLCC continued investigations of the events surrounding the Confederate submarine *H.L. Hunley*'s attack on the USS *Housatonic* during the Civil War.



Figure 6: ECU graduate student Amber Cabading inspecting the mooring system off Port Royal Sound. (SCIAA photo)





Figure 7: Athena Van Overschelde bringing down the dredge head to begin excavations at the shipwreck of the USS *Housatonic*. (SCIAA photo)

The HC desired additional information related to the attack and life aboard a Union blockader during the siege of Charleston. The project also continued the investigations undertaken in 1999 by the HC, Friends of the *Hunley*, Naval History & Heritage Command, National Park Service, and the Division. To gather the required data, we launched a two-phased project that consisted of remote-sensing operations and excavations. The Division undertook a high-density cesium magnetometer survey over the site that defined the location of the remaining iron elements comprised of the boilers, machinery, water tanks, and other components. Dr. Scott Harris of CofC conducted a high-density sub-bottom profiler survey over the completely buried shipwreck that determined the depth and extent of the wreckage. The combined datasets assisted in the placement of our excavation units aimed specifically at the starboard stern quarter to determine evidence of damage caused by *Hunley's* torpedo, and at work, storage, and living spaces aboard the warship.

From late September through the end of October 2021, we began excavations at the targeted areas. After establishing a baseline that ran through the presumed longitudinal center of the buried shipwreck, we searched for two water tanks marked with a datum back in 1999. Unfortunately, the datum assembly was not re-located, presumed carried away by a shrimp net, and had to instead rely on DGPS coordinates to determine their

approximate location. We measured from the water tanks in the forward hold along the baseline back to the presumed location of the blast damage. Using a hydro-probe, a metal pipe shooting out pressurized water, we found and marked the extent of the wreckage where we believed evidence of the blast damage was preserved, as well as artifacts. Next, we started digging and ultimately completed a 12-foot diameter by 6-foot-deep hole that uncovered several pieces of broken up boiler iron. Screening the effluent end of the dredge hose only yielded a single iron concretion that after cleaning was revealed as a bolt fragment. Disappointing results to say the least. Apparently, in searching for the starboard edge of the hull, we followed the wreckage to the furthest extent that appeared to have drawn us beyond the wooden hull and into a scatter of boiler iron, most likely resulting from the 1909 U.S. Army Corps of Engineers navigation improvement project to reduce the wreck to level with the seafloor. If resuming excavations in the future, we will focus on locating the edge of the wooden structure rather than pursuing the extent of the overall wreckage when seeking evidence of the blast damage, as well as life aboard a blockader.

### **Search for the Flagship of the 1526 Lucas Vázquez de Ayllón Expedition**

The Division received a 2021 Legislative Earmark for \$250,000 to resume investigations to locate one of the earliest shipwrecks in the continental United

States—the flagship of the 1526 Lucas Vázquez de Ayllón expedition. In 1526, the Ayllón expedition departed the island of Hispaniola in the Caribbean to colonize the Atlantic coastline of the modern United States. His flagship, the largest of a fleet composed of six vessels carrying over 600 colonists, was lost at the mouth of a great river called the Río Jordán, which scholars now presume was the Santee River. Ayllón's flagship is viewed as an important archaeological assemblage that would provide a rare example of a site with a definitive date and identity from this era. Our hope in conducting this underwater archaeological survey is that the delta complex at the entrances to the Santee River provides a high level of preservation for archaeological material. Any remains located during the survey that are associated with Ayllón's flagship will be an important source for understanding early European colonization of North America and development of Iberian shipbuilding at the beginning of European exploration. Ayllón's flagship also has broader significance as one of the few clues that can point archaeologists towards locating one of the earliest European settlements in the continental United States—San Miguel de Guadalupe. Discovering this significant early colonial shipwreck would prove of great scholarly and general interest of this fascinating period in the development of the United States and the New World. Besides searching for the *Capitana* and other shipwrecks, sites, structures, and objects lost at the entrance to the North and South Santee River Inlets, this project will also serve to improve knowledge of the area for management purposes. The Division plans to launch this project in early 2022.

Much of the fieldwork undertaken in 2021 will continue throughout the new year of 2022, and the Division looks forward to sharing the finds and results in upcoming editions of *Legacy*.