



# Quarterly Reporter

“Helping to preserve and protect South Carolina’s maritime archaeological heritage through research, management, and public education and outreach.”

## October 2014

Volume 5, Issue 3

### Things You Need to Know:

- Oyster Roast November 8<sup>th</sup>
- Quarter 3 2014 Reports Due October 10<sup>th</sup>
- MRD Offices Closed November 25<sup>th</sup>-28<sup>th</sup>, December 22<sup>nd</sup>- January 1<sup>st</sup>

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## 2014 Oyster Roast

By Ashley Deming, MRD

The Maritime Research Division will be hosting its 4<sup>th</sup> Annual Maritime Heritage Awareness Oyster Roast this November. This event is to help raise awareness of the needs of maritime heritage in the state of South Carolina. There are multitudes of underwater archaeological sites all over the state that range from 4,000-year-old canoes to 20<sup>th</sup> century tugboats. The many waterways served as the roads of their time and experienced early settlements, wars, agricultural growth, and technological advancements. The waters of South Carolina and the sites they hold can answer many questions about our past as Americans and as people.

The mission of the Maritime Research Division is to protect these incredible cultural and natural resources, learn from them, and share that information with all those interested in the past. The MRD Maritime Heritage Awareness Oyster Roast serves as a platform in the pursuit of this mission. Previous roasts have helped us raise funds for much needed equipment as well as education and outreach programs. This year we hope to focus on

completing our remote sensing equipment package for future study of sites reported by sport divers. Get involved and talk with archaeologists and other members of the public about what this state can do to further the protection, preservation, and education regarding our very own maritime heritage resources.

Join us November 8, 2014 from 4-7pm in Charleston for an evening of oyster, live music, a silent auction, and learning about the maritime archaeology our great state of South Carolina has to offer. Tickets are on sale

now for \$25 per person (\$30pp after October 17<sup>th</sup>).

Oysters, chili (with vegetarian option), dessert, and iced tea will be provided, but feel free to bring a cooler with beverages of your choice.

For more information on the roast and where to order your tickets, please visit our website at: [www.artsandsciences.sc.edu/u/sciaa/mrd/2014oysterroast](http://www.artsandsciences.sc.edu/u/sciaa/mrd/2014oysterroast).

Ticket order forms and payment must be received by October 31, 2014. Tickets will not be available at the event.

We hope to see you there! ■

South Carolina Institute of Archaeology and Anthropology  
Maritime Research Division  
University of South Carolina

### 4<sup>th</sup> Annual Maritime Heritage Awareness Oyster Roast

The Maritime Research Division will be hosting its 4<sup>th</sup> Annual Oyster Roast November 8, 2014 to raise awareness of the needs of maritime heritage in the state of South Carolina. There are multitudes of underwater archaeological sites all over the state that range from 4,000-year-old canoes to 20<sup>th</sup> century tugboats. The many waterways served as the roads of their time and experienced early settlements, agricultural growth, and technological advancements. The waters of South Carolina and the sites they hold can answer many questions about our past as Americans and as people. The mission of MRD is to protect these incredible cultural and natural resources, learn from them, and share that information with all those interested in the past. The Maritime Heritage Awareness Oyster Roast serves as a platform in the pursuit of this mission.

Join us for an evening of fun, food, and the maritime archaeology our great state of South Carolina has to offer. This year's event will feature a silent auction with some incredible items available for bid. Tickets will get you all the food, oysters, chili (with a vegetarian option), dessert, and iced tea you can handle. You are welcome to bring a cooler with your choice of beverage.

**SATURDAY**  
November **8**  
4p.m. - 7 p.m.  
Fort Johnson Marine Resource Center, Charleston, SC

**\$25 per person\*** (Cash or check only. Checks payable to USG. \*Excludes tax and donation)

\*Ticket price increases to \$30 after October 17<sup>th</sup>.

Email us at [mrd@sc.edu](mailto:mrd@sc.edu) or call 843-762-6105 for tickets and information.

UNIVERSITY OF SOUTH CAROLINA  
College of Arts and Sciences

### 4<sup>th</sup> Annual Maritime Heritage Awareness Oyster Roast

# October Quarterly Reports

This is a reminder that your Quarter 3 2014 reports are due by October 10, 2014. These reports should cover all of the collecting you have done between July 1<sup>st</sup> and September 30<sup>th</sup> of 2014.

will no longer be accepting outdated versions.

### Artifact Reports

Your *artifact* reports should be filed online or may be sent to:

**Artifact Report Forms**  
**PO Box 12448**  
**Charleston, SC 29422**

You may also fax forms to: (843) 762-5831

Email forms to us at: [mrd@sc.edu](mailto:mrd@sc.edu)

### Fossil Reports

Your *fossil* report forms should be emailed to Dave Cicimurri at: [dave.cicimurri@scmuseum.org](mailto:dave.cicimurri@scmuseum.org)

Or mailed to:

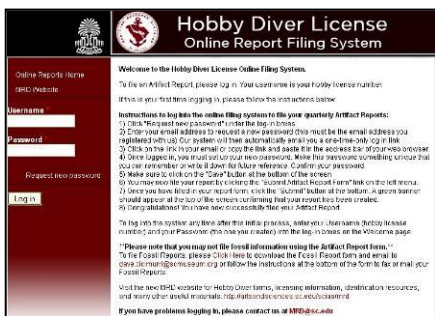
**Curator of Natural History**  
**301 Gervais St.**  
**Columbia, SC 29201**

Make sure that you file reports with both agencies even if you have not done any collecting. If you have not done any collecting, just tick the box that reads "No Recoveries Made This Quarter" and send it to the appropriate agency.

If you have any questions regarding reports, please visit our website at: [www.artsandsciences.sc.edu/sciaa/mrd/onlinefiling](http://www.artsandsciences.sc.edu/sciaa/mrd/onlinefiling)  
 Or give us a call at: (843) 762-6105. ■

Please file your artifact reports using our online system. You can submit forms online at: [src6.cas.sc.edu/sdamp](http://src6.cas.sc.edu/sdamp) (Note: If this is the first time you are filing on this system, you will need to activate your account by following the directions on the home page).

All report forms can be found on our website at: [www.artsandsciences.sc.edu/sciaa/mrd/forms](http://www.artsandsciences.sc.edu/sciaa/mrd/forms)  
 Please use the newest versions of the forms. We



## Quarterly Reports due by October 10, 2014

# ASSC Fall Happenings

By Sarah Stephens, ASSC Newsletter Editor

Things are starting to pick up for the Archaeological Society of South Carolina (ASSC) as fall approaches. In early September, members accompanied The Council of South Carolina Professional Archaeologists (COSCAPA) on a tour of prehistoric lithic quarries in Edgefield. Jim Bates and Chris Moore led the tour and informed us about the different materials found at the site and their attributes. Our chapters will be hosting multiple events throughout October for archaeology month. Some of these events include artifact identification programs and multiple

presentations on Woodland archaeology, which will be held in Hilton Head and Beaufort. For more information on the October chapter events, please visit our calendar at [www.assc.net/events/calendar](http://www.assc.net/events/calendar) or review the September ASSC *Features and Profiles Newsletter* Issue 3.

We are excited to host the 27<sup>th</sup> annual ASSC Fall Field Day on Saturday, November 15<sup>th</sup>. Admission is free, so bring the whole family! This year the event will take place at Croft Park in Greenville, located north of downtown, in conjunction with the Southeastern

Archaeological Conference. Fall Field Day brings together archaeologists, prehistoric and historic skills demonstrators, and others who present on past South Carolina life ways as a means to encourage public interest in the state's vibrant cultural history. Demonstrations will include black-smithing, indigenous pottery making, Archaic period hunting technology, and flint-knapping. There will also be presentations on late 19<sup>th</sup> century tenant farming technology and attire along with piedmont folk storytellers. In addition, we

**(Continued on page 3)**



**ASSC & COSCAPA members examining lithic debris at an Edgefield quarry site. (Photo courtesy of ASSC)**

## ASSC (Continued from page 2)

will have an artifact identification table, a knap-in, and delicious Latin American food available from the ASADA food truck.

Find us on [Facebook](#) or

follow us on Twitter @SC\_Archaeology for more event announcements. We hope to see you there!

For more information on the ASSC and how to

become a member, please visit our website:

[www.assc.net](http://www.assc.net). Members receive a quarterly newsletter and an annual copy of the journal, *South Carolina Antiquities*.

The Maritime Research Division is a proud supporter of the Archaeology Society of South Carolina. We hope you will consider joining this great organization. ■

## Upcoming Events

### Oyster Roast

The MRD will be hosting our 4<sup>th</sup> Annual Maritime Heritage Awareness Oyster Roast on November 8<sup>th</sup>. Please see page 1 for details on the roast or visit our website at:

[www.artsandsciences.sc.edu/sciaa/mrd/2014oysterroast](http://www.artsandsciences.sc.edu/sciaa/mrd/2014oysterroast).

### SEAC

The MRD is hosting a southeastern maritime archaeology symposium at

the Southeastern Archaeological Conference this November 12<sup>th</sup>-25<sup>th</sup> in Greenville, SC. SCIAA is sponsoring the conference this year and it will feature archaeologists from all over the southeastern US. For more information on the conference, please visit: [www.southeasternarchaeology.org](http://www.southeasternarchaeology.org).

### Student Lectures

In November, the MRD will be meeting with fellow

SCIAA archaeologist's public archaeology students at USC to discuss the MRD's education and outreach as well as the Hobby Diver License program. We will also be meeting with the College of Charleston Archaeology Club to speak about upcoming internship opportunities.

### Offices Closed

The Charleston office will be closed November 25<sup>th</sup>-

28<sup>th</sup> for the Thanksgiving holiday. Both MRD offices will be closed December 22<sup>nd</sup>- January 1<sup>st</sup>.

Please continue to read the *Quarterly Reporter*, emails, our website, and follow us on [Facebook](#) for information about upcoming events and volunteering opportunities. ■

## MRD News

It is important to us that our divers and friends are aware of the education and outreach we do throughout the year. We hope to keep you updated on all that we are involved in so that you too will get involved.

Remember that MRD is on [Facebook](#)! Leave a message on our wall!

### July

■Nate Fulmer and Ashley Deming received a surrendered anchor unintentionally recovered offshore from Ft. Moultrie. For more information on this story, please see page 5.

■The MRD hosted a special event at the Charleston RiverDogs game on July

18<sup>th</sup>. We had a great group of around 10 people and the RiverDogs won!

### August

■Ashley Deming and Nate Fulmer conducted a site assessment in a creek off the Stono River on August 5<sup>th</sup>. See story on page 6.

■MRD Charleston along with volunteers Joe Harvey and Bruce Orr hosted an archaeology of piracy display at the 2<sup>nd</sup> Annual Charleston Pirate Festival on August 10<sup>th</sup>.

■The MRD teamed up with the SCIAA's Applied Research Division for a project off the shores of Hobcaw Barony in Georgetown, SC. See story on pages 7-8.

■The MRD worked with

the US Coast Guard to survey offshore for the wreck of the USRC *Alexander Hamilton*. See story on page 7.

■Columbia Pub Night was held August 27<sup>th</sup> at the British Bulldog and featured a special artifact and fossil identification night. Approximately 40 people attended the Pub Night event.

### September

■MRD Charleston conducted dive equipment training at the W.L. Stephens Aquatic Center in Charleston.

■Charleston Wing Night was held September 24<sup>th</sup> at the new Kickin' Chicken location in West Ashley with 13 people in

attendance.

*Upcoming...*

### October

■Quarter 3 2014 reports are due October 10<sup>th</sup>.

### November

■Oyster Roast November 8<sup>th</sup> from 4pm-7pm.

■Southeastern Archaeological Conference in Greenville, SC November 12<sup>th</sup>-15<sup>th</sup>.

■Archaeology Fall Field Day November 15<sup>th</sup>.

■MRD Charleston offices closed November 25<sup>th</sup>-28<sup>th</sup>.

### December

■MRD offices closed for the holiday season December 22<sup>nd</sup>- January 1<sup>st</sup>. ■

## Archaeology Month

By Nena Rice Powell, SCIAA

The SC Institute of Archaeology and Anthropology (SCIAA) at the University of South Carolina is finalizing the coordination of the 23rd Annual South Carolina Archaeology Month to be held in October 2014. The fall event focuses on cultural programs offered in every corner of the state. Each year the month-long event produces a topical poster focusing on current archaeological research in the Palmetto state.

This year's theme is entitled "The Woodland Period in South Carolina—1000 B.C.-A.D. 1200."

The poster front features a great example of a recently reconstructed pottery vessel from a South Carolina site. In fact, the glue is barely dry on this Cape Fear Fabric Impressed vessel from the Ashe Ferry site, 38YK533 (Riggs and Davis 2014)!

Beyond the pottery, there is much about the Ashe Ferry site that says Woodland Period, and we are happy to showcase it.

Thanks go to Chad Long,

SCDOT, and Brett Riggs, UNC-RLA, for contributing the image.

The back matter will feature photo and text vignettes on Woodland Period sites stretching from the coast to the mountains and from the Savannah to the Great Pee Dee Rivers.

We wish to thank Karen Y. Smith and Keith Stephenson for designing this exciting poster in 2014.

Archaeology Month activities will begin in October 2014 with a variety of statewide events focusing on prehistory, history, culture, and historic preservation. The 26th Annual South Carolina Archaeology Field Day sponsored by the Archaeological Society of South Carolina (ASSC) will be held at Croft Park in Greenville, SC on Saturday, November 15, 2014, in conjunction with the Southeastern

Archaeological Conference that will be from November 12<sup>th</sup>-15<sup>th</sup>. There will be demonstrations of Native American, African, and European technology,

maritime archaeology, as well as new programming, of which details are now being finalized.

For a list of scheduled events in connection with Archaeology Month visit the SCIAA website:

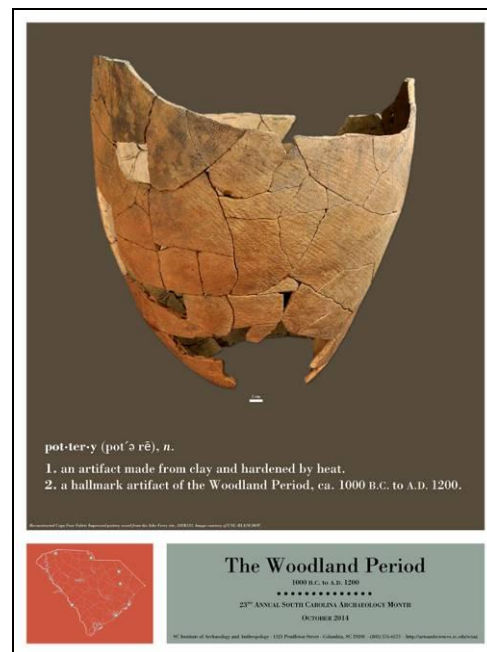
[artsandsciences.sc.edu/sciaa/archaeology-month-2014](http://artsandsciences.sc.edu/sciaa/archaeology-month-2014). For any questions concerning Archaeology Month, please contact Nena Rice ([nrice@sc.edu](mailto:nrice@sc.edu)) at SCIAA at 803-576-6573

For more information on Archaeology Field Day, contact Carl Steen

([carl.steen@gmail.com](mailto:carl.steen@gmail.com))

Archaeologist at Diachronic Research Foundation, at 803-782-8789 for more detailed information on

Archaeology Field Day. Please come by SCIAA at 1321 Pendleton Street in Columbia and pick up a free poster!■



2014 Archaeology Month Poster

## Hobby Diver of the Quarter

This section of the newsletter is devoted to the hobby diver(s) who go above and beyond the call of duty. He/she has submitted excellent reports, been an exceptional volunteer, has gone out of their way to preserve cultural and/or natural heritage in the state, or has

been a general inspiration to other licensees, the public, or us.

Each quarter we will pick a licensee that resembles one or more of these noteworthy traits. Hopefully, it will be you! If you know of someone who fits some or all of these categories and would like to

nominate them, please send us a brief email of who and why you think they should be Hobby Diver of the Quarter.

The honor of Hobby Diver of the Quarter for Quarter 3 2014 goes to licensee Catherine Sawyer (#4913).

This is the second time

this award has gone to Catherine for her outstanding work with us.

Catherine has been a licensed hobby diver since 2009. She began volunteering with us on the 2010 [Allendale](#) project and was back each year to learn more about Paleo

**(Continued on page 5)**

## Southeastern Archaeological Conference

By Ashley Deming, MRD

The Southeastern Archaeological Conference is being sponsored by SCIAA this year and will be held in Greenville, SC November 12<sup>th</sup>-15<sup>th</sup>. The conference will feature a variety of lectures ranging from archaeology of the late Pleistocene to the 1950s.

This year, we are thrilled to be chairing a symposium dedicated to southeastern maritime

archaeology. The MRD will present about our public outreach as well as a few of our projects. We have also organized speakers to discuss maritime archaeology projects in North Carolina, South Carolina, Georgia, and Florida. Presentations include topics regarding the *H.L. Hunley*, maritime archaeology in the Savannah River, fieldwork done by East Carolina

University in Florida, and a few presentations about Blackbeard's shipwreck the *Queen Anne's Revenge* and its conservation.

This is going to be a great conference and we hope you consider attending. For more information on this conference and how to register, please visit the SEAC website at:

[www.southeasternarchaeology.org](http://www.southeasternarchaeology.org). ■



### Hobby Diver (Continued from page 4)

Americans. Catherine has since been an avid volunteer with us on projects such as the 2013 [Black River Project](#) and the 2014 Hobcaw project (see article on pages 7-8).

Recently, Catherine and her dive buddy Jimmy Armstrong have been

mapping barges in the Congaree and Wateree Rivers for us.

Catherine has found some amazing artifacts while diving. Her reports continue to be exemplary and always include pictures with scale as well as detailed information about the sites

where she collected the artifacts. She goes the extra mile and brings her artifacts into SCIAA as well as our events so archaeologists and others can study and appreciate them further.

Thank you, Catherine! You are truly an inspiration to us all! ■



**Hobby Diver of the Quarter**  
Catherine Sawyer

## Field Notes

### Small Anchor Surrendered

By Nate Fulmer, MRD

Referred to us by Meg Gaillard, an archaeologist with SCDNR, a local boater contacted the MRD Charleston office this summer to report he had recently recovered an old anchor with his own while fishing near Fort Moultrie and had taken it home with him. Although it had been leaning against a tree for a month, the boater was kind enough to agree to submerge it in a small, plastic children's pool until we could come take a look

at it. The following week, we visited him at his home to assess the anchor and its condition.

Upon examination, it appears to be consistent with other anchors of a mid-19<sup>th</sup> century origin, perhaps a kedje. It is heavily corroded, but there seems to be enough good metal left to save through conservation. During the visit, we discussed state law regarding removal of ship hardware and detailed the conservation processes

required to preserve the anchor. We gave him the option to conserve it as a custodian for the State, but after he was informed of the potential time and cost required to preserve it, we returned to Fort Johnson with the anchor and an almost-new kiddie pool. It joins a similarly recovered anchor also awaiting conservation at our office. ■

**Recovered 19<sup>th</sup> century anchor from Charleston Harbor**



## Historic Causeways on Johns Island

By Nate Fulmer, MRD

In July, the MRD field office was contacted by a local resident regarding what he described as a large number of disarticulated bricks submerged in a small

creek in western Charleston County. Although not a diver, he was interested in obtaining a Hobby Diver license to recover some of the bricks from the creek.



**Timbers at the end of one of the historic causeways off of the Stono River.**

A background search of historic resources on the creek revealed that several sites within or adjacent to this location are listed on the National Register of Historic Places, and search of the state archaeological site files revealed the presence of two archaeological sites on the creek, both associated with historic causeways on Fenwick Hall plantation. Ashley Deming and I arranged to meet him at the Wappoo Cut landing prior to low tide to conduct the promised assessment in the Division's johnboat at slack tide. Once in the creek, we quickly determined that the locations of interest to him

were indeed the ends of the Fenwick Hall and Seven Oaks causeways. The bricks we observed embedded in the banks at both sites were likely used as fill to shore up the timber-planked deck near the creek. A section of intact timber planking was observed protruding from the banks above the brick fill at one of the sites. After visiting the sites with him and explaining their archaeological significance, we advised our new licensee against removing any bricks from those historic locations. ■

## MRD Fall Intern

By Logan Crouse, College of Charleston student

My name is Logan Crouse, and I am a junior at the College of Charleston. I am currently a double major in Archaeology and Anthropology with a focus on Maritime Archaeology. I am interested in a broad range of things, such as backpacking, reading, biking, surfing, scuba diving, and sailing, but travel is the thing I live for. Luckily for me, Archaeology and Anthropology work well with that part of my life. This summer, I spent forty days in Mongolia doing terrestrial archaeology on Bronze Age habitation sites. I am really excited to be interning with the Maritime Research

Division. I will be cataloging and conserving a collection of artifacts collected during the 2013 Black River Project. I am also very excited that I will be working to help with MRD's public outreach events, like this year's upcoming oyster roast. I can't wait to hear all the awesome stories that I'm sure the hobby divers will have to tell me. It is also nice to work alongside professional archaeologists, because I am learning a lot that they don't teach in class. I am definitely a people person, and I am glad that I get to experience some public archaeology here at the MRD. I feel that if we as archaeologists want

### MRD Fall Intern Logan Crouse



our field to be interesting to those around us, we must show them that we want to involve them as well.

I am hoping to attend the International Diving Institute after graduating from CofC so that I can get certified in underwater welding. After getting certified, I want begin work on as many maritime excavations as they will

allow me to work on. I am fascinated by maritime warfare and feel that shipwrecks can help to complete the stories told by survivors. I am really excited to get into the field of maritime archaeology and can't wait to dive deeper into the world below the surface. ■

## Feature Articles

Each quarter we would love to feature one or two articles by you. Your article can be about an artifact or fossil you found, your collection, your research, your experience with the program, a humorous diving anecdote, or just something interesting that relates to South Carolina's

past. Feel free to include images that can be used with your article.

You should submit your articles to MRD for review and editing. Once we have approved your article, we will do our best to get it into the next issue of the *Quarterly Reporter*. If your article is accepted, we will

contact you to let you know.

We want to hear from you, so get writing! Submit your articles to:

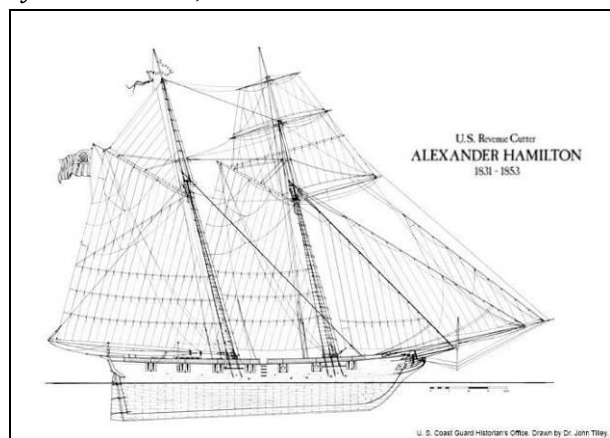
[mrd@sc.edu](mailto:mrd@sc.edu) ■

**MRD's Ashley Deming and volunteer Ted Churchill on the 2014 Hobcaw Project**



## Search for the 1853 Wreck of USRC *Alexander Hamilton*

By Nate Fulmer, MRD



**Drawing of the schooner *Hamilton***

This summer, MRD staff assisted the U.S. Coast Guard in a side-scan sonar field survey for the mid-19<sup>th</sup> century wreck of the United States Revenue Cutter *Alexander Hamilton* just outside of Charleston

Harbor. A new Legend-class USCG cutter named *Alexander Hamilton* was launched in August 2013, and we hoped a remote survey would help provide some clues as to the whereabouts of the remains

of the first of five USCG vessels to bear this name.

Launched in New York in 1830, USRC *Hamilton* was a Morris-Taney class topsail schooner that operated out of Boston. The fastest vessel of her class, she continuously patrolled the eastern seaboard for much of her 22-year career before sinking near Stono Inlet during a powerful gale in December of 1853.

In late August, MRD staff joined USCG divers Michael Garst and Bill Glenn and members of the Coast Guard Auxillary aboard the vessel *Honey Girl* as we traversed a survey block in view of Folly

Beach for four days.

Despite battling heavy seas during the first couple of days on the water, we completed a survey of the entire block and mapped a number of interesting anomalies during the week. Although nothing was immediately identified as the remains of the schooner *Hamilton*, the data is currently being analyzed for some potential dive targets in the future. Huge thanks to everyone involved for all their hard work in this attempt to locate USRC *Hamilton*. We may not have found it yet, but we collected a lot of data and made some new friends in the process!■

## Hobcaw Barony Project

By Karen Smith, Applied Research Division, SCIAA

SCIAA's Applied Research and Maritime Research divisions teamed up across two weeks this summer to survey the Winyah Bay-side of Hobcaw Barony, a 16,000 acre preserve in Georgetown County, South Carolina. This unique multi-institution effort was sponsored by the Archaeological Research

Trust (ART) and the Humanities Council of South Carolina and brought together land archaeologists, underwater archaeologists, hobby divers, videographers, the non-profit Belle W. Baruch Foundation, and our local sponsors in Georgetown. The goal of our underwater project is to begin to

systematically document what lies beneath the waters off the shores of Hobcaw, something that has never been done to this extent. Our underwater work in Winyah Bay articulates well with a longer-term collaborative effort to detail Native American settlement on the southernmost end of

Waccamaw Neck.

We are pleased to report that the underwater survey was a resounding success! One highlight of the survey was the discovery of a possible shipwreck just off the shore of Little Dock. Given the condition of the wooden remains, it is

**(Continued on page 8)**

## Hobcaw (Continued from page 7)

possible that it dates to the Baruch period (1905-1964), though no written accounts have been found, to date. Divers also explored the site of the old ferry landing at the Waccamaw Neck terminus of the Kings Highway, called Frazier's Point. Though erosion of the point is significant and active in places, our underwater team confirmed

the presence of brick fill commonly used at landing sites. They also recovered some early 19<sup>th</sup> century materials that fit which also suggests a landing site.

As with terrestrial archaeology, knowing what is NOT underwater is just as important – though not always as flashy – as knowing what IS underwater, and the survey



**Videographer Patrick Hayes films Keith Stephenson discussing Native American pottery with the MRD dive team offshore. (Photo courtesy of Karen Smith)**



**MRD volunteer Ted Churchill geared up for a dive. (Photo courtesy of Karen Smith)**

work completed by the Maritime Research Division this summer carries us closer to knowing both what is and what is not in the waters off of Hobcaw. But above all, the weeks we spent running the magnetometer, squinting at the side-scan sonar screen, and diving on anomalies were just plain fun – discovery, comradery, thunderstorms, enthusiastic volunteers, sailor speak, camera men – we had it all! Stay tuned for more

information as we couple our underwater work with terrestrial survey in the coming year.

Special thanks to hobby diver volunteers Ted Churchill, Catherine Sawyer, and Jimmy Armstrong, Georgetown ART Board sponsors Bob Mimms, Walter Wilkinson, and Jo Baker, videographer Patrick Hayes, and Hobcaw historian extraordinaire Lee Brockington. ■

## Diver Safety

### Breathing Gas Contamination

*By Brittany Trout, DAN Research Associate*

Impaired judgment and loss of consciousness, both of which may be deadly underwater, are among the most severe symptoms associated with breathing gas contamination. Hydrocarbons from compressor lubricants, carbon monoxide (CO)

from engine exhaust or overheated compressor oil and impurities from the surrounding environment are examples of contamination sources.

Incidents involving contaminated breathing gas are rare, yet they do occur. Ensuring breathing gas is

monitored and complies with quality standards is a responsibility of the dive operator. Gas analysis by an accredited laboratory is recommended on a quarterly basis. Divers also play a major role in breathing gas safety and preventing dive accidents.

There are several steps you can take to enhance your safety:

**Ask questions and be observant.**

*Ask about...*

- Compressor maintenance,

**(Continued on page 9)**



## Diver Safety (Continued from page 8)

procedures and testing

- Whether the compressor operator monitors for CO and how often they send samples to a lab for analysis

*Look for...*

- Posted breathing-gas-analysis reports
- Fill room cleanliness, organization and ventilation
- The proximity of the compressor intake to sources of exhaust
- Whether the compressor has an hour meter that can be monitored for regular

maintenance

### Conduct a pre-dive gas check.

- If your breathing gas has an unusual odor or taste, do not dive with it.
- Keep in mind that not all contaminants can be detected this way; CO, for example, is odorless and tasteless.
- CO detectors and color-indicating devices like the [CO-PRO™](#) are available to check breathing gas.

### If exposure is suspected, obtain confirmation.

- Identifying contamination incidents based on

symptoms alone is difficult, as the associated symptoms are often similar to other diving-related and non-diving illnesses.

- If you suspect exposure to bad breathing gas, you should seek a medical evaluation and have the gas tested.
- Observing the health of other divers who had their tanks filled at the same source may help determine whether your symptoms are related to contamination.

### DAN Can Help

DAN is offering gas analysis assistance. If you were involved in an incident possibly related to breathing contaminated gas and you have lawful control of the tank, preserve the tank and contact DAN Research—call +1-919-684-2948 or email [research@dan.org](mailto:research@dan.org).

### Learn More

- [Preventing Breathing-Gas Contamination](#)
- [Post Dive Symptoms Possibly Caused by Gas Contamination](#)

*Divers Alert Network (DAN) is a nonprofit organization dedicated to the safety and health of scuba divers. DAN operates a 24-hour emergency hotline (+1-919-684-9111) to help divers in need of medical emergency assistance for diving or non-diving incidents. ■*

## Conservation Corner

### New Storage for the *H.L. Hunley* Artifacts

By Johanna Rivera H.L. Hunley Project, Warren Lasch Conservator Center, Clemson University

The *Hunley* collection is comprised of approximately 1500 artifacts. Of this around 1000 have been conserved so far using different conservation techniques. The *Hunley* collection ranges from hull components such as quarter plates, ballast blocks, pumps and tools to personal belongings from the crew members like pocket knives, pipes, textiles, buttons, shoes etc.

In order for these artifacts to be stabilized, they had to go through a complex and long conservation process. Salts had to be removed from metals, a process that can take years while soaking in chemicals and water that has been trapped within the inner cells of the organic materials for over 100 years had to be slowly and carefully removed.

Once the artifacts have

passed through the conservation process, they need to be stored in specific conditions to ensure their long-term stability. Metal artifacts for instance, need to be stored under 30% of relative humidity in order to avoid further corrosion. Organic materials need to be stored at 50% of relative humidity to avoid any physical changes such as warping or cracking. Fluctuations in relative

humidity and temperature need to be avoided as they can be very damaging.

Over the years, our collection had been stored in specially conditioned rooms until the HVAC system quit working. This meant that our artifacts could potentially be exposed to higher relative humidity during summer as well as fluctuations due to the lack of a system to

**(Continued on page 10)**

**Conservation Corner** (Continued from page 9)

control it.

During this time each artifact was packed in special packages that were conditioned to meet the objects needs. Metals were stored in sealed packages with humidity absorbents such as silica gel as well as oxygen scavengers. The plastic used to seal the package had to be impermeable as to avoid humidity from going inside. This system prevented the formation of any corrosion product in the artifact. Organic materials were stored sealed under

conditioned silica gel at about 45% to 50% relative humidity. Although this system is proved to be very effective in preserving the artifact it wasn't very efficient in terms of time and money spent in the materials. For these reasons we decided that a more efficient way to store our collection was needed. After exploring several options we decided to go for marine containers. These containers could be retrofitted to meet our artifacts requirements at a fraction of what it would

have cost to fix our HVAC system and remodeling our old storage rooms. After choosing 2 gently used marine containers, a company specialized in retrofitting containers installed a new HVAC system capable of lowering and maintaining the relative humidity to 20% in the metals container and 50% in the organics container. The containers were completely insulated and lights, new doors and sensors were installed. Also an archival furniture company was contacted to

design our furniture to fit some our larger and heavier artifacts such as ballast blocks, plates and the submarine's wooden benches as well as the most delicate and small artifacts. Once the containers were retrofitted and the furniture installed and bolted to the walls, the collection was moved. These containers will provide a conditioned environment for the artifacts that has been conserved as well as a great safe haven in case of natural disasters.■



**Left: Old storage rooms with the metal collections stored in specially conditioned packaging. (Copyright FOTH)**



**Above: Collection stored in specially conditioned packaging. (Copyright FOTH)**





**Left: Metals and organics containers entrance. (Copyright FOTH)**



**Right: Metals storage before the collection was moved. (Copyright FOTH)**

**Below: Organics storage container. (Copyright FOTH)**



**Right: Textile storage drawers. (Copyright FOTH)**

## Paleontologists Panel

### New Exhibits at the SC State Museum

By Dave Cicimurri Curator of Natural History, South Carolina State Museum

Well, here we are near the beginning of the 4<sup>th</sup> quarter of 2014. This year has really flown by at the SC State Museum. Most of my time has been dedicated to planning and fabricating exhibits, and installing specimens into new displays. My biggest project was the installation of one of the largest collections of antique telescopes within a 6,000 square foot gallery that's directly adjacent to our new observatory, on the fourth floor. This new permanent display has everything from 18<sup>th</sup> century English telescopes to 20<sup>th</sup> century American telescopes, including our 1926 Alvan Clark telescope. Be sure to stop by the observatory on your next

museum visit and take the opportunity to see the sun through a solar viewer that's connected to the Clark. Shorter days coupled with extended open hours means that you'll be able to view the night sky through the Clark and see planets, stars, and even galaxies.

An exhibit that might be more appealing to all of you divers out there is a new exhibit called "South Carolina Unearthed". The exhibit is in a 3,000 square foot gallery on the third floor, and it showcases the Museum's collection of fossils and skulls of modern animals. The fossils, many of which were collected as dive specimens, represent animals that once lived in



**New Hobby Diver exhibit installed in the museum in February 2014  
(Photo courtesy of the South Carolina State Museum)**

our state, including tapirs, capybaras, horses, American lions, dugongs, and saber-toothed cats. The modern skulls are from living species that are relatives of the extinct fossil species.

Another, smaller exhibit on the second floor highlights the MRD's hobby diver program. Ashley, Nate and I installed a variety of artifacts (Native American points, earthenware sherds, bottles) and fossils (shark teeth, sloth bones) that were collected as dive specimens from some of South Carolina's rivers. This first exhibit introduces the program to the general public, and the number of fingerprints all over the display cases is proof that

our visitors are checking it out. Our goal is to keep things changing, on a rotating schedule, by having themed displays that will showcase fossils or specimens that have hobby divers participating in the program. This would be a great opportunity for you to support the hobby diver program and show off some of the things that you're proud of finding. Stay tuned for calls from us enquire about borrowing items for an upcoming themed display. We hope you can make the time to see all of the new exhibits here at the SC State Museum!■



**The new "South Carolina Unearthed" exhibit now on display at the South Carolina State Museum. (Photo courtesy of the South Carolina State Museum)**

## The Maritime Research Division

The *Quarterly Reporter* is a quarterly newsletter from the Maritime Research Division of the South Carolina Institute of Archaeology and Anthropology at the University of South Carolina.

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## Letters to the Editors

If you have something that you would like to say about the division or have questions that you think others like yourself would like to have answered, look no further. This section of the newsletter is just for you. Send in your

questions, comments, and concerns and we will post them here. You can also send in comments responding to letters from other. MRD staff will respond to your comments and answer your questions for all to read.

Just like your artifact report forms, you can email, fax, or send your letters to MRD. We look forward to hearing from all of you. ■

## Notes from the Editor

We often discuss responsible collection in this publication, but this quarter we'd like to offer some relevant clarification regarding artifact and fossil collection and what can happen with material collected under the Hobby Diver License *after* it is recovered. In recent months, we have received multiple calls regarding sales and movement of artifacts or fossils subsequent to collection in SC waters. There seems to be some misunderstandings regarding what the license and law allow. While the vast majority of licensees comply with reporting requirements of the Hobby Diver License, it has come to our attention that some transactions are occurring with unreported material prior to the transfer of title to the licensee.

As noted on the back of each license card, the Hobby Diver License is valid for recovery of paleontological and archaeological materials on

*a temporary, intermittent, small scale, noncommercial, recreational basis.* If the aim is to dive everyday with the purpose of collecting material to sell/distribute or a diver is collecting more than what would be considered a recreational amount of material from any location, the Hobby Diver License is not applicable. Exclusive Licenses are available for commercial endeavors and are issued by the State Underwater Archaeologist Jim Spirek.

While small-scale sales of artifacts or fossils collected from state waters are not encouraged or pursued by SCIAA, these transactions are permitted only after the licensee obtains title to the material.

To obtain title from the State, all the licensee must do is report his or her finds to SCIAA (artifacts) and the SC State Museum (fossils). The title is automatically transferred to the licensee 60 days after the report is submitted and accepted. SCIAA and the State Museum only want the information about finds, not the material.

We are happy to help licensees in any way we can. If you have questions or concerns about this issue, please do not hesitate to contact us. We would like to thank those licensees who are filing their reports and helping us keep a record of South Carolina's natural and cultural heritage. ■



**Ashley Deming, Nate Fulmer, & Charlie at the July River Dogs game.**

## Useful Website Information

For more information on

MRD: <http://www.artsandsciences.sc.edu/sciaa/mrd>

SCIAA: <http://artsandsciences.sc.edu/sciaa/>

SCIAA publication *Legacy*: <http://artsandsciences.sc.edu/sciaa/current-legacy-publications>



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