

1-2014

Quarterly Reporter - January 2014

South Carolina Institute of Archaeology and Anthropology--University of South Carolina

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Sport Diver Archaeology Management Program

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

Quarterly Reporter

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

January 2014

Volume 4, Issue 4

Things You Need to Know:

- 2013 Quarter 4 Reports Due by January 1, 2014
- Wing Night January 29th
- Artifact Workshop March 22nd

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Nate Fulmer Joins the Division

By SDAMP

The Maritime Research Division is very pleased to welcome Nate Fulmer as a secondary archaeologist for the Charleston office. Nate is a South Carolina native and a 2012 graduate of the anthropology program at the College of Charleston. He has worked on both terrestrial and underwater sites. Nate has been diving since 2003 and has extensive black water experience, making right at home with the division. Recently, Nate excavated a Cold War fallout shelter in his sister’s backyard in Aiken and produced a short documentary film about the investigation. This film was featured at the 2013 Arkhaios Film Festival and will also feature in an upcoming International Film Festival sponsored by The Archaeology Channel in 2014. To watch the video, follow the link: [Helter Shelter](#).

In addition to his work with local archaeologists, Nate has also been involved with SDAMP for the past few years. He has taken the Field Training Course Part II, written newsletter articles, given a lecture for our October

Lecture Series, organized and participated in a College of Charleston SDAMP artifact workshop, even been named Hobby Dive of the Quarter. He worked with us as a volunteer for the 2013 Field Training Course Part I, the Hampton Plantation Project, and the Black River Project. Nate has also teamed up with other volunteers to go explore various underwater sites in South Carolina.

Nate will be working alongside Ashley Deming for SDAMP. His main responsibilities will be managing the hobby diver licenses and databases, conducting research, managing the archaeological equipment,

and aiding in the education and outreach initiatives for the division.

Nate will be working hard to streamline the reporting process even more to make licensing and reporting even easier. He will also be available to conduct site assessments and identify artifact collections. Nate will be reviewing your artifact recovery reports and will be happy to answer any questions you may have about the artifacts you find.

We are thrilled to have Nate joining our crew and we hope that you will welcome him to the program. You can reach Nate at 843-762-6105 or email him at fulmern@mailbox.sc.edu. ■



New Division Recruit
Nate Fulmer



UNIVERSITY OF
SOUTH CAROLINA
College of Arts and Sciences

January Quarterly Reports

This is a reminder that your 4th quarter 2013 reports are due by January 10, 2014. These reports should cover all of the collecting you have done between October 1st and December 31st of 2013.

Please file your artifact reports using our online system. You can submit forms online at: 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: artsandsciences.sc.edu/scia/mrd/sdamp_hdl_forms.html

Please use the newest

versions of the forms. We 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: sdamp@sc.edu

Fossil Reports

Your *fossil* report forms should be emailed to Dave Cicimurri at: 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: artsandsciences.sc.edu/scia/mrd/sdamp_hdl_forms.html

Or give us a call at: (843) 762-6105. ■



Quarterly Reports due by January 10, 2014

Arkhaios Film Festival

By Jean F Guilleux, Hilton Head Island Chapter, ASSC

Magic was in the air at the festival. Some 14 movies on cultural heritage and archaeology were presented, most of them already award-winners at festivals around the world. The films were introduced by Dr Kim Cavanaugh on Thursday, and by Dr Charlie Cobb on Friday and Saturday. The audience feedback was very complimentary on the film selection and the organization. The South Carolina Heritage track, which showed three hours of films related to South Carolina history, had a very strong start. The audience

nominated some of the films made by South Carolinian moviemakers as award-winner or runner-up.

Artist Amiri Farris, who designed the poster, joined the Arkhaios Film Festival founder Jean Guilleux for the Award Ceremony and autographed the Awards for the winners.

The audience nominated their favorite movie each day of the Arkhaios Cultural Heritage and Archaeology Film Festival held at the Coligny Theater on Hilton Head, SC. The winners of the "Audience Favorite Film Award" are:

Thursday October 24, 2013

"The 2000 Year Old Computer," producer Tony Freeth (UK).

Runner-up: "Helter Shelter: a Backyard Time Capsule in the Shadow of the Bomb Plant," producer Nate Fulmer (USA).

Friday October 25, 2013 -

"Mi Chacra", producer Jason Burlage (Peru).
 Runner-up: "In Search of Ambrosio Gonzales: Soldier under Two Flags", producers Tim Fennell, Virginia Friedman (USA).

(Continued on page 3)



Film Festival (Continued from page 2)

Saturday October 26, 2013

"Discovering Dave: Spirit Captured in Clay," directors George Wingard, Mark Albertin (USA).

Runner-up: "6 Generations," director Paul Goldsmith (USA).

The closing film "The

Last Farmer-cum-Prehistorian" by Sophie Cattoire was awarded the Arkhaios Founder Award.

The 2014 Arkhaios Film Festival will take the format of a competition. Moviemakers will register their films for the

competition and a screening committee will choose the films that will feature during the Festival. A jury will award the various Arkhaios prizes. Of course the audience will vote for their favorite films. The first call for film

submission to the 2014 Arkhaios Film Festival will be issued at the end of January 2014. Congratulations to all!!!■

Upcoming Events

Wing Nights

SDAMP will kick off 2014 Wing Night on January 29th in Charleston from 6:30-9:00pm at Kickin' Chicken on Folly Road. There will be a Columbia Wing Night on February 26th. Wing Night is a free and open invitation event, so please bring friends, family, and artifacts and fossils to show or have identified. We hope you will join us!

Stone Fleet Research

The Maritime Research Division will conduct one week of archival research

on the Charleston Harbor Stone Fleets in Washington DC this February. The Division will also conduct two weeks of remote sensing and diving operations in April. This is an ongoing project and volunteers may be needed.

Archaeology Conferences

SDAMP will be presenting and have a display at the 2013 South Carolina State Parks Archaeology Conference on February 22nd at the College of Charleston. We will be presenting our work on the

2014 Black River Project. The overall theme for the conference this year is: "Digging Through Boundaries: Archaeology and History of African America."

The Maritime Research Division will be at the Fields of Conflict battlefield archaeology conference March 12-15 in Columbia. The Charleston office will be closed during this time.

Artifact Workshop

SDAMP will host our Charleston Artifact

Identification

Workshop on Saturday, March 22nd. This all day workshop is \$35 with seats for 15 people. See page 4 for details on how to sign up.

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

SDAMP News

It is important to us that our Hobby Divers 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 SDAMP is on [Facebook](#)! Leave a message on our wall!

October

■ SDAMP co-hosted our October Lecture Series with the Charleston County Public Library. The theme was "Our Own Backyard- Public Archaeology: An

Underwater Perspective." The four lectures featured the 2013 Black River Project, Mars Bluff Navy Yard research, a Cold War fallout shelter, and Lowcountry oral history legends.

November

■ SDAMP held our 3rd Annual Oyster Roast. The roast was attended by 50 people and we raised ~\$600. For the full article, see page 5.

■ The new Georgetown County Museum dedicated a display case to SDAMP and the Black River Project. Ashley Deming and intern Olivia Adams

installed an artifact exhibit and gave a presentation to the Georgetown Historical Society regarding the project. See story on page 7.

December

■ MRD conducted diving operations at Mars Bluff Navy Yard December 2nd-5th.
 ■ MRD attended the annual Dive Safety & Control Board meeting on December 11th.

Upcoming...

January

■ Quarter 4 2013 reports are due January 10th.
 ■ SDAMP will be part of

James Island Middle School Science Day discussing underwater archaeology with 6th graders.

■ Wing Night January 29th.

February

■ SC State Parks Archaeology Conference February 22nd.
 ■ Columbia Wing Night February 26th.

December

■ The SDAMP Office will be closed March 11th-15th for the Fields of Conflict Conference.
 ■ Artifact Workshop March 22nd.
 ■ Wing Night March 26th.■

March Artifact Identification Workshop

Each year SDAMP offers two Artifact Identification Workshops to the public as part of their education and outreach initiatives. These one-day workshops are aimed at the sport diver community, but are appropriate for anyone interested in learning more about South Carolina artifacts. The workshop focuses on how to identify and date artifacts using a diagnostic approach to field identification. This is something that everyone can do. With some simple descriptions, artifacts can be identified in a manner useful to both hobby collectors and archaeologists. This workshop is designed to help collectors better understand and identify artifacts so that they can appreciate their collections even more from an archaeological and historical context, but also to report finds more accurately to archaeologists and researchers.

The workshop features a mixture of lectures and

activities designed to help identify some of the types of artifacts found in South Carolina. SDAMP staff gives lectures and lead hands-on sessions about bottles, historic ceramics, Native American pottery and projectile points, and other historic cultural material. Workshop students have the opportunity to get real, practical experience in identifying and understanding a variety of cultural materials.

Workshops are open to a maximum of 15 students to ensure that each student has the opportunity to work one-on-one with instructors and get the most out of the day. The workshops are highly interactive and students work in groups to identify the archaeological material during the hands-on sessions.

SDAMP will be offering a workshop Saturday, March 22, 2014 in Columbia, SC. The cost for the workshop is \$35 per person and includes an

identification guide handbook.

SDAMP Artifact Identification Workshop

Date: March 22, 2014

Time: 9am-5pm

Location: Charleston, SC

Cost: \$35 (make checks payable to USC)

Send fee to:

Artifact Workshop

PO Box 12448

Charleston, SC 29422

Workshop fees may be paid using the following

methods: cash, check, or money order. Before you can be on the official list, payment must be received. The deadline for fees is March 7, 2014.

This is always a fun day and you will learn a lot. We look forward to having you join us!

To sign up and for more information, please email SDAMP at sdamp@sc.edu or call 843-762-6105. ■



Artifact Workshop students (L to R) Catherine Sawyer, Cody Freeman, and Gus Dunlap

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 4 2013 goes to diver Robert Benfield (#4953).

Rob has only been a

licensee since 2009, but he has been a model one! Robert's reports are always on time and include many pictures from different angles with scale for reference and wonderful descriptions of each artifact he recovered. Extra points go to him for using scale!

(Continued on page 5)

3rd Annual Oyster Roast

By Nate Fulmer, SDAMP

The 3rd Annual Maritime Heritage Awareness Oyster Roast was another rousing success! The roast was held on the evening of November 16th within shouting distance of the SDAMP headquarters at Fort Johnson Marine Resources Center here in Charleston. It was a beautiful night down here, and a campfire fanned by light winds off the Charleston Harbor provided an ambient atmosphere for camaraderie and conversation. About fifty attendees enjoyed an incredible buffet of fresh local oysters, delicious chili, a variety of trimmings and delectable dessert while listening to live bluegrass

music from the hills of Georgia graciously provided by College of Charleston students Matt Lohan and Corey Campbell. Huge thanks to Matt and Corey for lending their talent to our cause and Dixieland Delights for the tasty food. This year's silent auction featured fantastic items such as passes for a special VIP Behind-the-Scenes tour of the *H.L. Hunley*, local dive charters and classes, gear and apparel from Charleston Scuba and the Wateree Dive Center, museum vouchers, a 1-year Passport to SC State Parks, harbor tours, and many other items that had more than a few folks involved in bidding wars. Thanks to

all of our kind sponsors for their generous additions to the auction! The roast raised over \$600 for the education and outreach programs we provide at SDAMP. Thank you to every one of our sponsors, event volunteers and attendees, as this outstanding event would

not have been possible without the well-rounded support. Amazing job everyone! We are already looking forward to the 4th annual roast in 2014, it will be even bigger and better than the 3rd. Ashley and I hope we will see you there!■



2013 SDAMP Maritime Heritage Awareness Oyster Roast

Hobby Diver (Continued from page 4)

Rob has taken our Artifact Identification Workshop to learn as much as he can about the artifacts he is finding. His reports reflect the great deal he has learned and his ability to identify and date artifacts is getting better with each report. He is a frequent

attendee of our Columbia Wing Nights enthusiastically chatting to Dave Cicimurri and us about artifacts and fossils and asking great questions. We look forward to working with Robert more in the future to preserve our amazing South Carolina

natural and cultural heritage. Thank you, Robert! You are truly an inspiration to us all!■

**Hobby Diver of the Quarter
Robert Benfield**



Raising Underwater Archaeology Above Water

By James D. Spirek, State Underwater Archaeologist, MRD, SCIAA

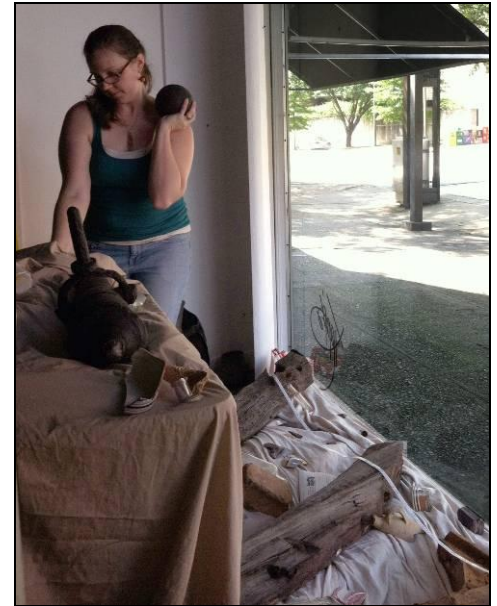
Besides the notorious dark waters obscuring visibility from nil to inches even with lights, another factor limiting the public's knowledge of the maritime archaeological legacy in the rivers and coastal waters of South Carolina is that they are *underwater*. "Out of Sight, Out of Mind" aptly describes the general awareness of the state's submerged archaeological record by the public and visitors. There are important exceptions, for example, the Brown's Ferry Vessel on display at the Rice Museum in Georgetown, and *H.L. Hunley* at the Hunley Conservation Center in North Charleston, along with several Hobby Diver Licensed-sport diver artifact collections on display in various museums. The vast majority of the archaeological sites in our waters, however, remain obscured to most folks. The Maritime Research Division has undertaken an initiative to raise awareness of this important and rich archaeological record in the state by forging partnerships with local museums and HDL-sport divers to develop exhibits showcasing the state's underwater archaeological heritage. The ultimate goal is for these displays to leave the visitor impressed with the range and types of shipwrecks and artifacts in South Carolina.

In launching this initiative, we installed our first exhibit in the old Tapp's Department Store located at Main and Blanding Streets in downtown Columbia. No longer a department store, the building is now occupied by the Tapp's Art Center that caters to the visual and performing arts. Local artists rent studio space, display their work in the gallery, and hold special events. A unique feature of the art gallery is the opportunity for artists to present their work in the old department store's window display cases that once featured mannequins dressed in the latest styles, new appliances, and seasonal themes that greeted and beckoned the shopper into the store. Instead of empty cases, pedestrians are once again treated to window display

exhibits showing the work of local artists. Recently, a patron of the Tapp's Art Gallery and an Archaeological Research Trust board member, William "Bill" Schmidt, thinking well outside the box and perhaps as well as artistic bounds, approached the Maritime Research Division about our interest in creating a window display case exhibit to reflect the maritime archaeological legacy in South Carolina. Ashley Deming and I hopped aboard on this opportunity to create and install a display at the art gallery.

Working within the hot confines of the window display case, listening to snippets of arguments and conversations of people on cell phones, and smart-aleck remarks such as "Do you think he is art?" we persevered in installing a multi-level exhibit focusing on underwater archeology in South Carolina. Hanging from the ceiling, several enlarged photographs of the Turtle Island Canoe, *H.L. Hunley*, and the Hilton Head Island Wreck, and a line drawing of the Malcolm Boat highlighted several significant shipwrecks documented in state waterways. Another group of artifacts arranged on a pedestal included several bottles, a cannonball, and a swivel gun from a Revolutionary War shipwreck in the Cooper River. Along the floor, skillfully arranged to resemble a shipwreck site, were several ship timbers, ceramics, bottles, and other finds from local waters, including prehistoric artifacts and fossils. In a corner, dive equipment and recording gear, and a banner about the MRD round out the exhibit. Installed in early September, the temporary exhibit was removed in late November.

In furthering this initiative, Ashley and Olivia Adams, a College of Charleston intern, installed an exhibit in November centered on our recent work on the Black River at the new Georgetown County Museum. The exhibit features artifacts recovered from Black Mingo Creek, along with signage describing the project's goals and finds. The project intended to revisit known



Ashley Deming arranging artifacts inside the Tapp's window display case. (SCIAA photo)

and document unknown historical sites in Black Mingo Creek and to record two known vessels at the historic Brown's Ferry Landing. In addition to the exhibit, Ashley presented the scope and findings of the project to the Georgetown Historical Society that operates the museum.

The MRD is also collaborating with two other museums, the Upstate Museum in Greenville, and Coastal Discovery Museum on Hilton Head Island, to create exhibits focusing on the state's underwater archaeological legacy. The Upstate Museum intends to feature an exhibit centered on upstate finds, and then perhaps broaden its view to other submerged sites throughout the state. The exhibit will open by November 2014 to coincide with the annual Southeastern Archaeological Conference. The Coastal Discovery Museum exhibit will highlight underwater archaeological remains from the Civil War, specifically focused on the wrecks of two ships used by the Union navy as a Floating Machine Shop. The exhibit will consist of sign boards, artifacts, and imagery documenting the

(Continued on page 7)

Feature Hobby Diver Article

Each quarter we would love to feature one or two articles by you, the hobby diver. 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 SDAMP 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: sdamp@sc.edu ■

Nate Fulmer and Ashley Deming on the Hampton Plantation Project



Above Water (Continued from page 6)

history and archaeology of this novel solution to repairing the naval ships of the South Atlantic Blockading Squadron, including the monitors. This exhibit is planned to open in spring 2015.

Another element of this initiative is to showcase the finds of Hobby Diver Licensed-sport divers. Each quarter, we get information on a plethora of artifacts, as well as fossils, that are worthy of exhibition. We hope to identify a number of HDL-sport divers with an interest

in sharing their finds with museum visitors.

Following a several month run at the Georgetown County Museum, we intend to switch out the Black River exhibit with one featuring finds from local HDL-sport divers. And then periodically switch out those finds with another set of artifacts from a HDL-sport diver collection. Dave Cicimurri of the South Carolina State Museum has also agreed to participate in this endeavor and has provided space for a HDL-sport diver

collection of artifacts and fossils.

We look forward to combining museology and archaeology to educate visitors to these institutions about the vast and rich archaeological (and paleontological) record in state waters. We intend to keep this initiative going for years to come in partnership with local cultural institutions and Hobby Diver Licensed-sport divers. By increasing the opportunity for folks who don't don SCUBA-gear to brave the dark,

alligator and snake-infested waters of the state to visit underwater archaeological sites in museums, we hope to raise the awareness and appreciation of these kinds of sites as educational, recreational, and scientific assets worthy of protection and study. If you are interested in assisting by loaning artifacts or installing exhibits or to learn more about this initiative please contact Ashley Deming at deming@sc.edu or 843-762-6105. ■

Georgetown Exhibit

By Ashley Deming, SDAMP

On November 21, 2013, SDAMP intern Olivia Adams and I installed an exhibit centered on our recent project on the Black River at the new Georgetown County Museum. We were also privileged with the opportunity to present regarding our project to nearly 100 members of the Georgetown Historical Society.

When I first spoke to Museum Director Jill Santopietro earlier in 2013

about a potential display case for hobby diver artifacts, I had no idea it would happen so fast or be one of the first dedicated exhibits at the new museum which will open January 7, 2014. The Georgetown Historical Society was kind enough to allocate us a case where we will be able to display a variety of thematic exhibits from project exhibits to hobby diver finds.

We are very excited to be partnering up with such

a wonderful organization and facility to promote responsible collecting and cultural heritage. We look forward to future displays and public programming at the Georgetown County Museum. A huge thanks to the museum for letting us be a part of their success!

If you are interested in becoming involved with our exhibit program, please contact me at deming@sc.edu. ■



Jill Santopietro (left) and Ashley Deming (right) with the new display case (photo courtesy of Olivia Adams)

Diver Safety

Ears and Sinuses: Injuries and Management

By Maureen Robbs, Divers Alert Network

There are a variety of ear injuries associated with improper equalization. It is important to know how to recognize and manage them.

Middle Ear

Barotrauma: The most common ear-related diving injury, middle ear barotrauma may occur during descent generally as a result of incomplete equalization of the middle ear or blockage of the Eustachian tubes by mucus. A reverse block on ascent may also result in barotrauma. During ascent, equalization is typically a passive process; the air in the middle ear is at a higher pressure and vents on its own via the Eustachian tubes. Air tends to flow from higher pressure to lower pressure, but if the passageway is blocked the middle ear cannot equalize. Congested divers may find

it possible to equalize during descent by forcing air through mucus, but the mucus may act as a “one-way valve” during ascent preventing proper venting and resulting in a reverse block.

Signs of middle ear barotrauma include a feeling of fullness in the ear and crackling sounds. This injury may be painful and susceptible to infection. If you experience symptoms, discontinue diving and seek a medical evaluation.

Inner Ear Barotrauma:

Improper equalization or forceful attempts can lead to inner ear injury. Symptoms of inner ear barotrauma include vertigo, tinnitus, hearing loss, nausea and vomiting. If a diver surfaces exhibiting these symptoms, have a trained oxygen provider administer oxygen and seek emergency medical care.

These symptoms also represent possible inner ear decompression sickness, which may require hyperbaric treatment.

Outer Ear Barotrauma:

A tight hood, ear wax buildup or ear plugs may create a dead air space in the outer ear that cannot be equalized during descent causing the eardrum to bulge outwards and the ear canal to fill with blood and fluid from surrounding tissues. A diver experiencing outer ear barotrauma may experience similar fullness symptoms characteristic of middle ear barotrauma. Prevention: keep your ear canal clear to avoid creating a closed air space.

Sinus Barotrauma: This injury may result from ineffective equalization of the sinuses and can occur on descent or as a reverse block. Sinuses usually

equalize passively, but congestion can impair this process. Symptoms include facial pain, tooth pain and possible blood from the nose or mouth. If symptoms are observed, seek a medical evaluation.

The bottom line is if you are unable to equalize, discontinue the dive. If you experience an injury, discontinue diving and seek a medical evaluation; do not continue to try to equalize as this may exacerbate the injury. For more information about ears and ear injuries, visit DAN.org. [Divers Alert Network \(DAN\)](http://DAN.org) 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 nondiving incidents. ■

Conservation Corner

The Next Step in the *H.L. Hunley* Submarine Conservation Treatment

By Johanna Rivera and Raegan Quinn-Smith, HL Hunley Project, Warren Lasch Conservator Center, Clemson

After sitting in cold water for over a decade, the *H.L. Hunley* submarine soon will be ready for the next step on its conservation treatment.

While the *Hunley* was lost at sea, it was going

through a series of physical and chemical changes. Salts from the sea water slowly penetrated the iron hull creating a series of changes that if left untreated the submarine would rust and crumble within a matter of

months. It took nearly 150 years for the salts to become integrated in the structure so it will take a little while before we can extract them.

Before the actual conservation treatment can

even be applied, major structural changes have to be made to the area surrounding the *Hunley*'s 90,000 gallon holding tank. The submarine has sat in this tank of fresh water

(Continued on page 9)

Conservation Corner (Continued from page 8)

under an impressed current system, since it was recovered in 2000 in an effort to stop further corrosion of the iron. The tank is drained periodically to allow us time to conduct excavation work and analysis. The *Hunley's* facility is not currently equipped to handle the chemicals needed for its conservation. The drainage system, access stairs and walls will have to be replaced with materials capable of withstanding the solution of sodium hydroxide that the tank will hold. Many measures, such as a special cover for the tank and safety procedures must be put in place to ensure that no harm comes to the people working on the submarine in close proximity to the chemicals.

These changes just started this past November and once the retrofitting of the tank is finished, the

submarine will be soaked in the caustic solution for a long period of time. This bath is designed to slowly remove the salts from the hull. Once the solution reaches a certain level of salts (or chlorides) the tank will be drained and then re-filled with a fresh solution. This process will be repeated several times until no more chlorides are detected in the caustic solution. It's difficult to predict how long it will take to remove the salts, but projections are anywhere between 5 and 7 years.

During this period we will begin the painstaking job of removing the hard crust of concretion (a mixture of shells, sand and silt) covering the submarine. For this the submarine's tank will have to be drained, the chemical solution stored in holding tanks, and the hull thoroughly rinsed. After a

day of work, the submarine's tank will be re-filled with the caustic solution.

All these years, we have been hesitant to remove the concretion because, until now, it has served as a protective layer for the vessel. But this concretion that in the past has stopped harmful air from getting into the hull and reacting with the salts will also stop the salts from getting out into the caustic solution. Since the caustic solution will be the one now providing protection to the hull, it will be safe for us to begin the removal of the concretion. However, we

will have to work quickly to lessen the exposure of the metal to air, wearing protective equipment that will protect us from any chemical residue.

Removing the concretion that has been obscuring the view of the submarine's hull will be a daunting and incredible task. It will allow us to see the hull for the first time, analyze its surface and maybe even identify gunshot damage from the battle with the *USS Housatonic* or other clues that might help us understand the events that led to the *Hunley's* loss and the death of its crew. ■



© Friends of the Hunley

The Hunley tank is drained from time to time to conduct archaeological work. The water –and in the coming months the caustic solution– that protects the submarine's hull is recycled and stored in 6 outdoor holding tanks. Notice on the right side of the picture the white pvc pipes. These pipes contain the anodes that protect the hull. They are part of the Impressed Current System that keeps the submarine from corroding. (Copyright FOTH)



© Friends of the Hunley

HL Hunley submarine sitting on a 90,000 gallon holding tank. The submarine is being held by special supports that measure the weight of the hull and calculates the load on each support. (Copyright FOTH)

Paleontologists Panel

Here's to 2013!

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

Well, it's good to be back in the newsletter! Last time I was off roaming around western and southern Ireland for a few weeks with family. For some reason I couldn't convince the folks here that it was a work related trip, even though we visited a lot of museums and archaeological sites. With artifacts from pre-Roman times all the way up to the early 20th century, the museums and historic houses were packed with things to see. Each time we walked along the Liffey River in Dublin, or along the Shannon River near Lough Derg, I couldn't help thinking about all of the history waiting to be discovered – Ireland doesn't have a program like

SDAMP here in South Carolina.

We're in the middle of the holiday season, which means that fourth quarter reporting for 2013 is just around the corner. There was a lot of dive activity this year, and through fossil reports and emails I've seen a lot of the neat fossils that have been found. More and more divers are reporting each quarter, which is great, and with the streamlined reporting process that we're hoping to have in place early next year, it'll be harder NOT to file.

It was a busy year for SDAMP, what with the various field projects and workshops that were run. Here at the State Museum, we've seen a lot of progress

on the construction of the new planetarium, observatory, and 4D theater. I'm happy to say that the State Museum's fossil collection has grown thanks to a number hobby divers, and some of these specimens are featured in the Museum's newest exhibit, "This Just In". Another big natural history exhibit, slated to open in the middle of next year, will include a few of the other specimens that hobby divers have recently donated.

Ashley, Nate and I recently met to talk about the SDAMP exhibit that will be hosted by the State Museum. The first installment, which should be in place by the first quarter of 2014, will focus

on the program itself, but the goal is to rotate new themed displays twice a year and highlight material found by hobby divers. It's a great way for SDAMP, the State Museum, and hobby divers to work together to promote the program and help educate the public. We also mulled over some ideas for fossil workshops or seminars geared towards helping divers learn more about the things that they're finding. Stay tuned.

As always, feel free to contact me with questions/comments about your fossils or paleontology in general. Happy New Year!■

Recent donation of a fossilized toothed whale jaw (photo courtesy of the SC State Museum)



The Sport Diver Archaeology Management Program

The *Quarterly Reporter* is a quarterly newsletter from the Sport Diver Archaeology Management Program (SDAMP), part of 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 program 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 hobby divers. Ashley and Carl 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 SDAMP. We look forward to hearing from all of you.■

Notes from the Editor

Happy 2014 everyone! This year is going to be extremely busy with projects, conferences and educational/volunteer opportunities. We're not going to make it easy for new staffer Nate. He is already working on streamlining the technology in our office and online. We will be working with Dave Cicimurri at the SC State Museum to have an online fossil reporting system up and running this year as well as fossil identification workshops and hobby diver find exhibits.

If you would like to loan artifacts or fossils to the museum or any of our other exhibit installs this year, we must already have a submitted report regarding those finds. Only those finds that have been collected and reported legally will be featured in the exhibits. We are thrilled to showcase the program and divers who have followed the law and worked with us to

preserve our cultural and natural heritage.

There will also be many opportunities to get involved with us. If you are interested in volunteering with us this year, you need to make sure that you are up to date with your CPR/First Aid and O2 training. If you need some information on how to access these classes, we will be happy to help you. We also require that you have supplemental diving insurance (like DAN). These are NOT negotiable. These

requirements are for your safety and our liability. We are going to be cracking down on volunteer training this year too. If you are going to volunteer for a project, you will need to be available prior to the project for minor training and project meetings.

Sounds serious, I know, but it's much more fun and productive when we are all safe and on the same page.

It's going to be an amazing year!■



**The New SDAMP Crew
Ashley Deming
&
Nate Fulmer**

Useful Website Information

For more information on

SDAMP: <http://artsandsciences.sc.edu/sciaa/mrd/sdamp.html>

MRD: http://artsandsciences.sc.edu/sciaa/mrd/mrd_index.html

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

SCIAA publication *Legacy*: <http://artsandsciences.sc.edu/sciaa/legacy.html>



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