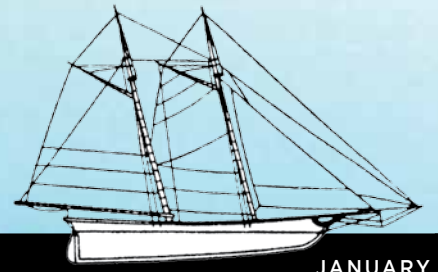


East Carolina University

Stem to Stern



JANUARY
2013
VOLUME 29

A Newsletter for our Maritime Studies Alumni and Friends

PROGRAM IN MARITIME STUDIES | EAST CAROLINA UNIVERSITY | GREENVILLE NC

Conservation of artifacts from Modern Greece... story on page 16



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Stem to Stern

... a newsletter of East Carolina University's
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Please visit the ECU Maritime Studies Web site at www.ecu.edu/maritime for additional news and information about the program. A digital copy of this newsletter can be viewed on line at <http://www.ecu.edu/maritime/publications>

FRONT COVER: Greg Stratton, Luke Simonds and B.J. Howard working on the Joni wreck in Albania. Photo: Greg Stratton
BACK COVER: Water surface view in Albania. Photo: Greg Stratton

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See story on page 5

A view of the residential street in Amsterdam during the International Symposium on Boat and Ship Archaeology.

PHOTO: DAN BROWN

From the Editorial Staff:

Once again, we here at *Stem to Stern* are proud to share the activities and accomplishments of ECU's Program in Maritime Studies. We've had another stellar year chock full of exciting events, conferences, and research projects. Our year began with the retirement of Dr. Larry Babits, our program director. While Dr. Babits has moved on to napping in his hammock and eating all the hardtack his heart desires, Dr. Brad Rodgers has taken his place. Dr. Rodgers plans to continue to push the program to new heights, just as his predecessors did before him. In this issue of *Stem to Stern*, Dr. Rodgers takes stock of the program's impressive statistics thus far. It is exciting to see how this program has grown since its inception in 1981, and all we have accomplished since then is certainly a harbinger of the wonderful things to come! One of the ways the Program in Maritime Studies is able to share its accomplishments and connect past, current, and future students, faculty, and staff is through *Stem to Stern*. As a reader, you are witness to the kinds of research projects and other activities PMS students and staff participate in every year. Whether we are mapping the bolts in a Swedish warship, diving on a wreck in Albania, presenting at the SHAs in Maryland, discovering the history of maritime commerce in Maine, creating museum exhibits in Bermuda, or mapping wrecks in eastern North Carolina, our widespread and exciting escapades are here for you to enjoy. So, please, read on to see what we have been up to lately, and to get a sense of the great things we will accomplish in the future. 🍪

– Stephanie Croatt

When I came to visit ECU last spring, I picked up a copy of *Stem to Stern*. I never thought that six months later I would be editing the same type of articles that fascinated me earlier. One of the highlights of this program is that its students and their interests are so diverse. This publication is a clear example of the amount of ground covered by the PMS students here at East Carolina. I am excited to be working this semester with *Stem to Stern*, and I hope that you all as readers will marvel as I did at the vast array of projects, internships, and stories included in this year's edition. 🍪

– Chelsea Freeland

If you would like to continue receiving *Stem to Stern*, please send in the enclosed pre-addressed, pre-paid envelope and let us know. All you have to do is insert a card with your name, address, and current professional position. If you want to send a donation to support the program, a specific project, or *Stem to Stern*, please feel free to do so.

-Thank you

From the Quarterdeck: **From the Quarterdeck:**

Hello, my name is Dr. Brad Rodgers. Early in 2012, I was named the fifth director of the Program in Maritime Studies at East Carolina University, after the retirement of Dr. Larry Babits. I am proud to say that I am the first director of the program who trained here for my MA, and went on to get my PhD while working as the Program Archaeologist. Since 1985 I have directed an amazing variety of field schools while teaching or designing virtually every class in our curriculum. All of you alumni know me, and I am indeed honored to have known and worked with all of you.

From my perspective, all of our directors and staff over time have been special in their own right. They each brought a variety of talents, as well as academic prowess and field skills, to the table. The program was initiated in 1981 under co-directors Drs. Bill Still and Gordon Watts. True to its beginnings, this program still emphasizes advanced hands-on underwater and technical training in understudied, but important areas such as remote sensing. Their foresight in molding the program to their personalities has stood the test of time, and I'd like to think that I added that small touch of blue-collar perseverance that complimented Bill and Gordon's vision. In the end, however, it was their friendly personalization of the classroom and our down-home simplicity in conducting field projects that kept the program alive and growing. Our philosophy was direct: enroll motivated students, have fun in what you do, train people in what they need to know, and help them get a job. This created a self-perpetuating critical mass of skilled, hard-working archaeologists, museum curators and directors, teachers at all levels, contract archaeologists, State and Federal park staff, conservators, and cultural resource managers. These professionals, in turn, knew where to find more hard working, fun, practical, and hard-nosed job candidates. Thus, the ECU Maritime Family was born and flourishes still.

I suspect, however, that the actual energy and dedication to our practical excellence resided not so much in our staff philosophy, but in how it reflected in each and every student that came through the

program. Student excellence was catalyzed by the hard work and soul stretching demanded by the program. Our students through the years still tend to be a mixture of non-traditional types, with some taking on a new career as only the energy that a bad career can generate, as well as newbies fresh from undergraduate school. This is a good combination of mature life veterans and greenhorns, and allows our students to better reach their potential. I've found in my career that with good students, the classroom and research hours are never too long, the water never too dark or cold, the diving never too difficult, never too many poisonous snakes or loathsome critters to spoil the fun, and the logistics for living and working on a shoestring simply become as natural as breathing. Time has demonstrated that employers appreciate our "Can Do, Simplistic" philosophy. They like us, we graduate confident people who are friendly and relaxed, and best of all—employers hire us! I am determined to continue this formula!

In this light, the program has met and will soon meet several milestones. At risk of jinxing us in the future I must take this opportunity to brag some about these. Last year was our 30th anniversary as an MA granting program. As such, it is high time that we took stock of our accomplishments. For you alumni, the following information should be a source of tremendous pride, and for anybody reading this who may be interested in joining the ECU Program in Maritime Studies legacy, you will see that this is an extraordinary graduate program.

This semester, our 200th MA graduate will join the ranks and quickly be supplanted by even more graduations this same semester. We have averaged twelve students per class since the program's inception, meaning the new classes are often now many percentage points larger than this. In the beginning, the program began with classes of as few as four students serviced by two faculty members and one staff. We now have about fifty graduate students on campus who are serviced by five full time faculty archaeologists, three full time faculty historians, one conservator, one staff

archaeologist, an administrative assistant, all backed by approximately sixteen graduate assistants. It is astonishing for me to see the program grow to this size. Our gatherings are now truly a considerable assembly.

We have high expectations for our incoming students. The average student accepted to the program now carries qualifications that would be suitable for a Graduate Scholar Award, meaning applicants average over a 305 GRE and a 3.6 GPA. This is not to say that we rely entirely on GRE and GPA scores for acceptance to the program! There is still plenty of room for motivated non-traditional students who are not afraid to work hard to prove themselves. From the first year it has been our experience that motivated individuals can become some of the best professionals in the business with training; we have not forgotten this.

Here are some statistics that may surprise even our alumni. Our MA graduation rate from the inception of the program is a phenomenal 71%. Of our current graduates we have an even more extraordinary 72% that either have jobs in the field, or are working on their PhDs. In numbers, that means that the ECU Maritime Family occupies 128 jobs in the real world, mostly within the United States and Canada, with an additional fourteen who are working on their PhDs.

The reason we are aware of these statistics is the coming of another milestone for the program. We have been given permission to continue planning here at ECU for a PhD in Nautical Archaeology. In this light and from our records, I know that a total of 33 of our alumni have already gone on from this program to earn their PhDs, either here in our Coastal Resource Management Program or elsewhere. Of this group, 91% are working as professors, cultural resource managers, historians, curators, museum directors, and archaeological directors. Now, according to Benjamin Disraeli, "there are three types of lies: Lies, Damn Lies, and Statistics." But it is hard to see how ANY of these statistics don't reflect exactly what most of us already knew about the program—it is doing very well

continued on page 4...

From the Quarterdeck: continued from page 3

and demonstrates the tremendous *chutzpah* of both our founders and our alumni!

Finally, as far as announcements and milestones go, I should say that we will soon become a full partner with the UNC - Coastal Studies Institute (CSI) headquartered in Wanchese. Our own Dr. Nathan Richards will become Head of the Maritime Heritage Section of the CSI, and will split his time between there and ECU. Far from losing Dr. Richards, we are actually gaining a tremendous resource to continue our work on the coast. CSI will give us research and

logistical resources in terms of boats, labs, and accommodation to stay on the coast, bringing the resources of the Graveyard of the Atlantic within easy reach of our program.

That ends the easily reportable milestones and progress of the program for the last 30 years. Other very positive machinations continue to boil on burners that cannot yet be revealed. The founders are rightfully proud of the vision of Maritime Archaeology that they released to the world three decades ago, and I am equally proud

to attempt to continue with the fundamental goals of their dream and perhaps even tweak it for the better where I can. So, please continue to read and enjoy the reports in this issue of *Stem to Stern*. At one point this summer, while bogged down in the paperwork of administration, I realized that 5 of our field projects were taking place simultaneously! Yes, the program has come a long way, and *Stem to Stern* has become our best resource to keep track of it. 🐚

– Brad Rodgers

Maritimers on the Road: 2012 Conferences

SHA CONFERENCE -

Pirates Pillage Charm City

Just before the start of the 2012 spring semester, a large number of Maritime faculty, students, and alumni participated in the 45th annual Society for Historical Archaeology Conference in Baltimore, Maryland. This year's theme was "By the Dawn's Early Light: Forging Identity, Securing Freedom and Overcoming Conflict." The conference took place at the lavish Inner Harbor Marriot, just blocks away from historic Fell's Point. In total, there were sixty ECU Maritimers in attendance. Of that group, 45 faculty, students, and alumni presented papers.

As expected, a number of symposiums and papers focused on the War of 1812. Other symposiums, both terrestrial and underwater, varied in topic. This provided the usual depth expected at SHA. Dr. Nathan Richards chaired one sponsored symposium comprised solely of ECU presenters. The symposium was entitled "UNC-Coastal Studies Institute: Maritime Heritage Projects 2010-2012." The presenters in this symposium included Jennifer Jones, Annie Tock-Morrison, Calvin Mires (2005), Brad Rodgers, Daniel Bera, John Bright (2012), Daniel Brown, Saxon Bisbee, and Kathryn Cooper. Paper topics primarily dealt with North Carolina, ranging from maritime cultural

landscapes, to the Battle of the Atlantic, to individual wreck site investigations. ECU also had a strong presence in the session, "Advances in Underwater Cultural Heritage Research," in which Eric Ray (2009), Peter Campbell (2009), Greg Stratton, and Chelsea Hauck presented papers. Cultural resource management (CRM) alum Mark Wilde-Ramsing and ECU anthropology professor Charles Beeker chaired the symposium, "Arrr! Pirate Ships: Archaeological Analysis, Management Milestones and Media Madness," with discussants Lynn Harris (1988), Calvin Mires (2005), Kate Schnitzer, Laurel Seabourn, Jana Otte, and Chris Southerly (2003). Management and outreach remained popular themes in many sessions, with Maritimers Valerie Rissel, Charles Bowdoin, and CRM student Sorna Khakzad presenting on USS *Arizona*, the Seal Cove Shipwreck Project, and submerged cultural coastlines, respectively.

ECU alumni were everywhere! Recent Graduate History alum Ryan T. Goodman (2012) presented on Anglo-Saxon grave goods and buried hoards in a session fittingly entitled, "Pushing Daisies." NOAA's Hans Van Tilburg (1995) chaired the sponsored symposium, "Building Maritime Heritage Capacity at the National Level." Paul Avery (1998) of the Auckland War Memorial Museum presented a paper in a session on small object material culture entitled, "Buttons for Beans: The Exchange of Goods Between Guards and Prisoners at the Florence Stockade." Florida state

archaeologist Franklin Price (2006) co-chaired the session "Maritime Heritage Research." He presented a paper on utilizing Maine fishermen to find archaeological sites. ECU alumni were among the final presenters in the last session on ships and ship construction with Nathaniel Howe (2011) and Morgan MacKenzie (2011) presenting on vessels at Northwest Seaport. Recently retired program director, Dr. Lawrence Babits attended many of the ECU presentations, and presented a paper, "The Myth of an Assault Landing at Fort McHenry," revealing inconsistencies in the famous repulse of British forces. Dr. Babits also co-authored a paper with Stephanie Gandulla on the Elk River Raids.

Outside of the presentations, many of the Maritimers met and reconnected with former classmates and alumni. Maritimers occupied their evenings with dinner and drinks in the various local establishments in Baltimore's Inner Harbor and Fell's Point. Among the more welcoming establishments was *The Wharf Rat*, a nautically themed pub supposedly haunted by the ghost of a 19th century sailor. Maritimers also attended the number of social events offered at the SHA Conference, including the awards banquet and conference dance on Saturday evening. After the conference, a number of Maritimers went with Dr. David Stewart to view the city's museum ships, including the USS *Constellation*. Despite subfreezing temperatures, "Charm City" was true to its name, offering a warm

welcome to all in attendance. In spite of the financial challenge posed for presenters hoping to attend next year's SHA in Leicester, Great Britain, you can be sure ECU will maintain its strong presence at the conference. 🌊

– Dan Brown and Chelsea Hauck

ISBSA CONFERENCE -

The 13th Symposium on Boat and Ship Archaeology, Amsterdam

Since 1976, when nautical archaeology was still fighting to establish its legitimacy as a scientific discipline, the International Symposium on Boat and Ship Archaeology (ISBSA) has convened every three years. From all over the globe, maritime archaeologists, historians, conservators, and enthusiasts all gather to share research in the form of papers, and exchange ideas, often over food and drink in the host city. One of the pointed traditions of ISBSA has been the vote of attendees and committee members on whether or not to convene in three years' time. The questions are asked, "should we continue? Is it worth the effort, time, and cost?" This unconventional poll began as an effort to avoid the potential trappings and traditions of annual society conferences. Meeting for the sake of meeting is antithetical to the founding of the conference. Enthusiastic dialogue between historic ship construction experts is the primary focus.

The thirteenth symposium was held in the historic maritime entrepôt of Amsterdam. Hosted by board members Benno van Tilburg, Jerzy Gawronski, Thijs Terhorst, and Dutch Maritime Museum

head, Joost Shokkenbroek, 180 people attended the five-day conference held at the Dutch naval base in Amsterdam. For the first time, the symposium ran in two parallel sessions, with 90 papers presented. The primary focus was on ship and boat archaeology, with a secondary theme of maritime cultural landscapes. The keynote address was given by none other than the father of maritime cultural landscapes, Christer Westerdahl. Westerdahl sought to remind the maritime archaeological community that individual wreck sites are representative of the broader tapestry of trade and culture that archaeologists and historians seek to understand. Presenters, attendees, and topics were as diverse as the port of call of a ship's crew. Papers ranged from classical Mediterranean, Byzantine, medieval and post-medieval, to Asian, regional watercraft, geographic and economic landscapes, to propulsion, and digital reconstructions.

Members of the class of 2009, Dan Brown and Nat Howe (2011), represented East Carolina University. The experience seemed akin to a concentration of the Society for Historical Archaeology's underwater sessions, expanded over five days' time. The modest price of registration, at 150 Euros (75 for students) was much appreciated by the predominantly academic attendees. Included in the registration fee was a generous Sunday reception, dinner Monday night, a film night featuring Dutch and French maritime topics on Tuesday, and a Wednesday excursion to Lelystad in Flevoland, Netherlands, to visit the Netherlands Culture Heritage Agency,

Department of Ship Archaeology. Boat enthusiasts from near and far were tickled to see the *Shipbreuk Exhibit* of the wreck *Batavia* (1628), as well as pose for a group photo with the historical reconstruction vessel as



One of Amsterdam's sailing ships.

PHOTO: DAN BROWN

a backdrop.

In his closing remarks, Jon Adams of Southampton University (UK), acknowledged the growth and spread of maritime archaeology across the globe. Exemplifying the recognition of ISBSA papers as a publication in a peer reviewed journal, Adams highlighted the growing appreciation for nautical archeology's contributions to the field and the humanities at large. Adams's remarks followed with the customary inquiry of the value of such a symposium. After an accord to continue meeting, the sole bid to host ISBSA 14, slated for 2015, came from the Polish Maritime Museum in Gdansk, Poland.

American and British archaeologists comprised the minority of papers and attendees. While many present in Amsterdam will attend SHA 2013 in Leicester, UK, maritime archaeologists on this side of the Atlantic remain underrepresented at such a prestigious meeting of the minds. Hopefully, the allotment of three years' time to prepare papers, fund travel and registration, as well as the positive experience of ECU attendees will encourage a broader participation in a truly international venue dedicated to the excellence of research and publication that encompasses the message of ISBSA: what we do is important, and the world should know. 🌊

– Dan Brown



The Scheepvaart Museum of the Netherlands.

PHOTO: DAN BROWN

Maritime Studies Association: 2012 and Onward

The Maritime Studies Association (MSA) has had another wonderful year full of social events and public outreach. Fall 2011 started with a bang, or rather, an earthquake and hurricane. Later, the 2011 Halloween Party, held at Dr. Rodgers's house, was a great and rowdy success, complete with some creative costumes.

Spring 2012 began with the annual Seabiscuits and Bitters party, a nautical-themed party, held at the Scullery in downtown Greenville. Seabiscuits and Bitters is MSA's most popular event, and serves as an excellent fundraising opportunity for the organization. Later in the semester, the Maritime program's scientific divers celebrated completing the zero-visibility obstacle course at the annual "Blackout Party." Robin and BJ Howard were kind enough to host the event, which was well attended. The 2011-2012 school year ended with the relaxing river float on the Tar River. The weather and water were perfect for those who chose to attend the float, which lasted about four hours. During the summer, a group of four students took a research trip to Washington, DC, using MSA funds. The

group visited the archives in College Park, Maryland, the Library of Congress, and the Naval History and Heritage Command in the Washington Navy Yard. They also had time to visit some of the museums and see some of the sights DC has to offer.

The MSA membership elected new officers at the end of the spring 2012 semester. The new officers are President Patrick Herman, Vice-President Lucas Simonds, Treasurer Zack Mason, and Secretary Stephanie Croatt. Thanks in large part to the dedication of the 2011-2012 officers, the transition between administrations was a smooth one.

The easy transition allowed the new MSA officers to throw a successful Welcome Aboard party at Eller House and hold a Fall Tar River Float. The party was well attended by Maritime Studies students, faculty, and history M.A. students. It was a great opportunity for the incoming first-years to get to know some of the older students, and to speak with their professors in a more casual setting.

The Tar River Float, held on Labor Day weekend, was also well attended. Good

times and good beer were had by all, until a thunderstorm rolled in! All in all, it was definitely a memorable float. MSA would like to thank Dr. Brad Rodgers for his continued support of the float; his boat was a real lifesaver.

MSA's first meeting of the semester was in early September, and we were excited to welcome the huge incoming class of Maritimers who showed a great interest in participating in MSA. In this first meeting, officers and members plotted the organization's course for the year. The attendees, packed into the Eller House conference room, were eager to join in on the planning.

The officers and members of MSA have big plans and great ideas for the rest of the year. Photoshop and Illustrator workshops, guest lecturers, research trips, and maritime-themed outings are all on the agenda. We also will be sending numerous students to conferences throughout the country and possibly the world. We will have presenters at AIA in Seattle next year, and possibly attendees at SHA in Leicester, England. 🍷

– Zachary Mason



PHOTO: STEPHANIE CROATT

Founding director Dr. Bill Still (in back) presides over students and staff crammed into the Admiral Eller House during for the 2012 Welcome Aboard Party.

In the Field - Summer Field School 2012

During the summer months of 2012, the local inlets and bays of eastern North Carolina were once again invaded by ECU Maritime students learning the basics of underwater field work. To begin the three-week-long summer field school, students from the incoming class of 2011 went to a small wreck in Little Washington. Working out of a friendly civilian's backyard, the crew of students practiced constructing baselines, excavating, mapping, artifact collecting and labeling, and drawing. This small wreck in less than five feet of water provided a good opportunity for students to learn skills and become comfortable with the processes conducted in a relatively benign diving environment. The wreck was buried deep under sediment and had to be dredged out to expose the remaining frames, planking, keelson, and the spectacularly intact centerboard.

After completing work in Little Washington, the students moved on to work on an early twentieth century wreck site in New Bern. This wreck was a larger, more complex, and deeper site. Students worked off of a dive barge in order



Lauren Rotsted working on the dredge barge during summer field.

PHOTOS: LAUREL SEABORN

to survey, excavate, and map the site. Students practiced skills such as dredging, underwater recording and drawing, artifact collection and labeling, along with increasing their dive proficiency and

comfort with working in an underwater environment.

The wreck at New Bern presented more of a challenge to students because it was deeper than the Little Washington wreck. Additionally, thick sediment covered the majority of the New Bern wreck. The students dredged the wreck's aft side, and recorded and mapped all parts of the wreck, stern to bow. A good amount of the New Bern wreck was still intact, including many frames, lots of hull planking, some ceiling planking, the keelson, and the sternpost. Dozens of iron, ceramic, and organic artifacts were uncovered and recorded, then returned to a deposit site nearby. The wreck at New Bern presented the students with some challenges such as low visibility, a hurricane, and an influx of hundreds of stinging jellyfish. But it ultimately provided valuable information on ship construction in the area of North Carolina in the early twentieth century. The site maps of both sites were mapped to scale and finalized by the students, and will be used in future research. 🐙

– Lauren Rotsted



Greg Stratton, the site recorder, checking measurements.

In the Field - Fall Field School 2012

Fall field school 2012 took ECU's maritime students to the outer banks of North Carolina, which, although lacking the exotic flare of past projects in foreign climes, presented a wide and interesting array of maritime heritage on which the students were able to hone their skills. Although Maritimers spent the majority of the time producing site plans of USS *Huron* and *Paraguay/Kyzickes*, a number of soundside projects served as replacements when the sea conditions were unfavorable. In addition, Dr. Nathan Richards also chose eight minor projects, which were assigned to individual students.

On USS *Huron*, an iron US Navy Steamer that sank in 1877, the students battled against surge and sea urchins as they worked to map the site. While a plan of the wreck already exists as a part of Joe Friday's (1988) thesis,

Dr. Richards hopes that this new plan will give insight into site formation processes as it shows what has changed on the site in the intervening years. The team set up a baseline running from the ship's stempost. The students made scaled drawings, working in ten foot sections with a buddy taking the corresponding port and starboard sections. They were also given the opportunity to practice more detailed drawings and profiles while working on the four remaining boilers and the newly discovered anchor.

After finishing their work on USS *Huron*, the group moved north to *Paraguay/Kyzickes*, a steam tanker that sank in 1942. As with USS *Huron*, a site plan already exists from the work of Wendy Coble (1998), but much had changed since she made the original site plans because of the dynamic nature of the North Carolina coast. Here, the stu-


dents found their work complicated by the nearly fifteen foot high triple-expansion engine, which not only obstructed the deployment of the baseline, but also cast a large shadow, often reducing visibility to zero in some areas. Despite these challenges, they were able to update the site plan and produce a plan and profiles of the engine and other notable features.

On the other side of the islands, the students found themselves working on two projects in Croatan Sound. The first was a survey of Ashby's harbor, a once prominent harbor on Roanoke Island that now lies submerged off Skyco at the southern end of the island. Here the students practiced search techniques, looking for remains of the harbor around the foundations of an icehouse. They ran three hundred foot transects from a baseline in sixty foot increments, recording any debris they encountered along the way. The students were also given the chance to work with sidescan sonar while searching for the remains of a Confederate blockade from the Battle of Roanoke Island. While running a search pattern

near the Ulmstead Bridge at the northern end of the island, Dr. Richards explained the sonar to the students as they watched its results on the screen.

In addition to the aforementioned work, at least one day was devoted to each of the eight projects that were randomly assigned to individual students. David Buttarro worked on the Nags Head timbers. He attempted to gather diagnostic data that would help him identify the ship. This gave some students the opportunity to practice photomosaic techniques, while others worked on detailed drawings of timbers and features. Similarly, Zack Mason, sought to identify the *Pamlico Jack's* timbers, a process that involved making detailed drawings of every face of the timbers. At the Chicamacomico lifesaving station, Lauren Rotsted investigated a rudder and other maritime debris, including a number of deadeyes. Here, once again, students practiced both photography and drawing techniques in order to record diagnostic features.

Patrick Herman led the investigation of the Meisel's wreck where, in addition to surveying the remains, the students were given the opportunity to work with a terrestrial gradiometer in an attempt to determine how far the wreck extended under the sand. Several miles up the shore, Lucas Simonds worked on the Eckner St. wreck where students made a preliminary plan of the major features of the site. Unfortunately for Greg Stratton, the wreck of *Explorer*, a tug that sank in 1919, was almost completely covered by sand. Unfortunately, however, mechanical problems aboard RV *Cutting Edge* cut work short on BJ Howard and Aja Rose's projects on LST-292 and LST-471. Those projects had to remain untouched for the duration of the field school.

In spite of some of the hardships encountered during the field school, students returned with a wealth of practical knowledge. The wide variety of work students undertook during this fall field school certainly kept things interesting during the four weeks on the Outer Banks. The field school also provided a lot of experience that will undoubtedly prove invaluable as students move forward in their careers. 

- Luke Simonds

STUDENT PUBLICATIONS

Brown, Dan

2011 "Misfortunes and Shipwrecks in the Seas of the Indies, Islands, and Mainland of the Ocean Sea, 1513-1548: Book fifty of the General and Natural History of the Indies by Gonzalo Fernández de Oviedo, translated and edited by Glen Dille." *Nautical Research Journal* 56(4): 256.

2012 "Life of a Sailor by Frederick Chamier, edited by Vincent McInerney." *Nautical Research Journal* 57(1): 54.

2012 "Utmost Gallantry: The US and Royal Navies at Sea in the War of 1812 by Kevin D. McCranie." *Nautical Research Journal* 57(2): pages TBD.

Grieve, Susanne, Nicole Wittig, and Emily Powell

Forthcoming "Conservation of a Rubber Terrain Model Map from World War II" *Journal of the American Institute for Conservation*.

Harris, Lynn, Jennifer Jones, and Kate Schnitzer

2012 "Monuments in the Desert: A Maritime Landscape in Namibia." *Journal of Maritime Archaeology* 10.1007/s11457-012-9087-8.

Marano, Joshua

2012 "The United States Coast Guard and National Defense: A History from World War I to the Present, by Thomas P. Ostrom." *Nautical Research Journal* 57(2): pages TBD.

In the Lab - Conservation Update

Students participating in the program's conservation concentration engaged in a range of projects and professional opportunities both near and abroad. In November 2011, Susanne Grieve and three students took an overnight trip to Bentonville Battlefield in Four Oaks, North Carolina to assist in a textile preservation project for local Boy Scout Troop 57 of Clayton, North Carolina. The students helped preserve and remount troop flags used at Jamborees in the 1950s and 60s while also helping the boys earn a textile badge. The Advanced Conservation class, held in the fall semester, gave the students an opportunity to do individual projects on artifacts such as Enfield rifles and table knives recovered and cataloged from our first *Modern Greece* field school held last March, 2011. In the spring semester, Shanna Daniel, conservator on the *Queen Anne's Revenge* Project, assumed a temporary role as instructor for the Introduction to Conservation class while Susanne joined The Antarctic Heritage Trust team at Scott's Base in Antarctica for an eight-month field season. In March, ECU continued a cooperative project with the Underwater Archaeology Branch (UAB) to re-catalog *Modern Greece* artifacts (see Robin Croskery's article in this issue). This was our second year running the Spring Break conservation field school, and our cumulative efforts on this project have been featured in an article by Marion Blackburn in the September/October 2012 issue of *Archaeology*.

Contract artifacts continue to present students with diverse and challenging conservation projects. A two-year project conserving a dugout canoe from Georgia reached completion this fall. The canoe, hollowed from a single pine tree, underwent a two-stage polyethylene glycol (PEG) treatment which bulked wood cells and stabilized the boat. From



Emily Powell documenting the dental chair base before beginning treatment.

Photo: Nicole Wittig

prehistoric to modern artifacts, Robin Croskery and Zack Mason treated a large number of objects from Eglin Air Force Base - Okaloosa County, Florida. The ECU lab handled artifacts excavated in early 2011, including lead bullets, iron stove pieces, an aluminum and glass composite compass, copper uniform buttons, and tin cans. Students conserved and re-packaged the collection for permanent storage on the base.

"The chair has been successfully installed in an exhibit in Laupus Library..."

In August 2012, Emily Powell completed the eight month treatment of an 1890s New Columbia Dental Chair for the William E. Laupus Health Sciences Library at ECU Medical School. The chair was in the Country Doctor Museum of Bailey, North Carolina's collections, and was donated to ECU. The New Columbia Chair prototype was debuted at the Columbia Exposition in Chicago in

1893, and was marketed as the first hydraulic dental chair allowing for smooth and easy raising and lowering. Made of enamel coated steel and featuring mohair velvet cushions and Wilton carpet, the chair was in poor shape when it was donated to the school, having been used continuously by two doctors from around 1900 until 2007 as both an actual dental chair and then as a display in a doctor's dental suite. After years of wear and tear, the chair was put into a series of non-environmentally controlled storage units on the Outer Banks of North Carolina and in Greenville until it was brought into Laupus Library for documentation and treatment. The goal of this object's treatment was cleaning and stabilization, as there was significant corrosion on the surface of the chair and below its original enamel coating. Treatment was successful, and revealed original hand-painted gold scrollwork on a number of the chair's parts that was not at all visible or known to be intact

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Conservation Update continued from page 9

after initial examination and documentation. The chair has been successfully installed in an exhibit in Laupus Library entitled “Elevating Practices: The Life Work of Two Rural Dentists,” featuring period dental artifacts that were conserved in 2011 by Whitney Petrey, and curated by the staff of the Country Doctor Museum.

Three students pursued professional opportunities this past year with ECU’s Anthropology Department, North Carolina’s Underwater Archaeology Branch (UAB), and the National Museum of Bermuda.



View of the National Museum of Bermuda from boat.

Jeff O’Neill worked for UAB during the spring 2012 semester assisting Nathan Henry, UAB’s head conservator. From late May through June, Kate Schnitzer (2012) joined the Anthropology Department’s Petra North Ridge Project, led by Dr. Megan Perry, as an on-site conservator.

In Spring 2012, Nicole Wittig joined the National Museum of Bermuda’s staff to work on a new museum exhibit. The National Museum, formerly the Bermuda Maritime Museum, sits atop a hill on the west end of the island known as the Dockyard. The nickname “Dockyard” refers to the former British naval base which officially closed in 1955. Much of the area became property of the Bermuda Government. Bastions and decommissioned artillery, once formidable military defense, now guard against waves of tourists exiting docked cruise ships. In the lab, Nicole worked with Dr. Piotr Bojakowski to retreat artifacts from various shipwrecks around Bermuda. A range of artifacts, from sailors’ personal effects to ship fasteners, were treated during the three-week internship. In this time, Nicole

had the opportunity to utilize textbook methods in a lab setting for both organic and inorganic items. Wooden beads were topically treated with resin, cannonballs immersed in tannic acid and coated with wax, and coins chemically cleaned in dilute solutions. Finished pieces were installed in the museum’s new display “Shipwreck Island.” The exhibit is intended to illuminate the island’s history from discovery to settlement through material culture recovered from shipwrecks. This new exhibit opened in May in the Queen’s Exhibition Hall.

Finally, we are happy to report that the Maritime Conservation Lab has found a new home in an updated lab space in Flannagan Hall near the Anthropology department (the wet lab will remain in its original location behind Belk Hall). Susanne returned from Antarctica in September 2012 and has begun teaching the fall semester’s Advanced Conservation class in the new space. Students are preparing for the American Institute of Conservation’s Annual Meeting scheduled for June 2013 in Indianapolis, Indiana by submitting paper topics for conference sessions. You can continue to follow the lab’s Facebook page for ongoing updates at <http://www.facebook.com/pages/ECU-Maritime-Conservation-Lab/252305361117>. 🐼

– Emily Powell and Nicole Wittig



Dugout canoe drying after treatment.

PHOTOS: NICOLE WITTIG

On the Job - In the Mud of the “Quiet Side” at Seal Cove, Maine

During the second week in July 2012, four maritime professionals and students visited the peaceful “quiet” side of Mount Desert Island (MDI), Maine to study a small schooner whose ribs and keel rested in the mud. Research on this vessel in Seal Cove was imperative because of freezing conditions in the cove each winter that could possibly further damage the remains. Because of the weather conditions, good data depended on working quickly.

Franklin H. Price, a graduate of East Carolina University’s Program in Maritime Studies (2006) and former resident of Tremont, Maine, headed the team. Price is currently employed as a senior archaeologist with the Florida Bureau of Archaeological Research. He

began the Seal Cove Shipwreck Project last year in coordination with Arcadia National Park and the Institute of Maritime History (project site: <http://maritimehistory.org/content/seal-cove-shipwreck-project>). Members of Price’s crew included ECU alum Steve Dilk (2012), Crista Shere, a student at College of the Atlantic in Bar Harbor, Maine, and me. I acted as the Seal Cove project’s historian.

Technically, the shipwreck in question is not a wreck, but rather an abandoned vessel. It was placed on stilts, probably with the intention of later cleaning or repairing the hull. At some point thereafter, the schooner simply fell and rested in its current position, and remained undisturbed for close to a century. The schooner’s melancholy end indicated a possible decline in

Seal Cove’s maritime industry. That’s where I came in. What was that industry? What were the people of Seal Cove shipping?

As the site historian, I had the duty of examining Seal Cove’s history to explain the past use of this schooner. Thanks to photos available at the William O. Sawtelle Center in Arcadia National Park, we knew that the stream that fed Seal Cove once served as the power for a saw mill. The

available at the Bath and Penobscot Maritime Museums. These are the most important sources of Seal Cove’s nearly invisible maritime history. The books include details on 40-45 people in the Seal Cove community-- builders, wood-workers, caulkers, riggers, and dozens of other occupations pertaining to shipbuilding. Many of them were paid with credit at the Heath general store, located on the northern point of the cove and directly across from the Heath homestead.

Industrial census records in 1870 for William W. A. Heath showed that the mill was valued at \$4000. It ran on water power from Seal Cove stream, which provided 60 hp of cutting power to his saw. Heath produced 100 million board-feet of long and short lumber, and 10 million board-feet worth of boxes. By far, the long lumber was the most valuable (more than five times the value of short lumber), and was the focus of Seal Cove’s

marketable produce.

An interview with a retired Capt. Hodgdon of Seal Cove in 1934, recorded by Guy S. Lowman, Jr. and E. Marguerite Chappalaz, tells of Seal Cove’s maritime lumber trade. Capt. Hodgdon stated that most shipping out of Seal Cove “carried lumber west and brought coal back.” He indicated a range along the eastern seaboard that stretched between Richmond, Virginia and Nova Scotia.

Seal Cove’s industrial history came easily, but discovering the shipwreck’s identity may have been the hardest part. Mystic Seaport records were very helpful in identifying candidates, however. From these, I discerned that she was the *Clara Sawyer*, built in 1866, part-owned, and operated

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Seal Cove Shipwreck at low tide.

lumber industry proved to be the primary activity at Seal Cove, but shipbuilding, also highly dependent upon lumber, once held a prominent place.

The mill opened in 1785, and a few years later, William Heath, Sr., a Revolutionary War soldier from Massachusetts, bought the mill. Heath’s son, Capt. William Heath Jr. ran the mill, and his grandson, William W. A. Heath, ran the mill after his father retired. Capt. William Heath Jr. was perhaps the most active in the maritime economy, as he commissioned the construction of at least three vessels. These ships included the schooner *Orator*, 143 tons, built 1824; schooner *Atlas*, 183 tons, built 1833; brig *Etrurian*, 246 tons, built 1842. Unbelievably, the account books for all three vessels are

Seal Cove continued from page 11

by local sea captain, Caleb Sawyer. Sawyer died at Seal Cove, and while no records indicate his ship's abandonment, there are none indicating that it was destroyed either. Mystic Seaport's online Lloyd's Register accounts also show that the 93-foot, 126-ton schooner had both copper and iron fasteners, of which Franklin, Steve, and Crista found evidence in the vessel's remains. Still, there are a half dozen other vessels that fit that general description.

Ralph W. Stanley, a local fisherman and amateur maritime historian, was also enormously helpful. He compiled a list of vessels built on MDI, and affirms that many vessels attributed to Somesville and other known shipbuilding locales on the island were actually built at Seal Cove. Stanley is a great resource for MDI's maritime history, and his expertise led me to the William Heath account books at the Maine Maritime Museums.

Seal Cove's melancholic end came with the development of the William Underwood Fish Canning Facility in Tremont, which pulled nearly all of the available labor from Seal Cove and other surrounding areas by the turn of the century. This, plus the failing of the old lumber mill, contributed to the demise. The Underwood canning industry is most famous for Underwood's Deviled Ham. There is little left at Seal Cove to indicate its past history, so this summer's project offered up a great deal of mystery.

The island's many historical societies and libraries were highly valuable in my search. They included MDI

Historical Society and archives, Tremont Historical Society, Northeast Harbor library, Southwest Harbor library, Jesup Memorial Library in Bar Harbor, and the Bar Harbor Historical Society. These wonderful librarians and archivists should be celebrated for their work. Arcadia National Park and the Institute of Maritime History all deserve acknowledgement for making this possible as well. 🍷

– Baylus C. Brooks



A photo (c. 1900) of the southern side of Seal Cove, showing its use as a minor place of maritime activity, including shipbuilding.

PHOTO: WILLIAM O. SAWTELLE CENTER, ARCADIA NATIONAL PARK

Thank you for your support!

If you've read "From the Quarterdeck," you'll notice that I brag a good deal about our graduation and job statistics. And truly, I think this should be done. We have a great program, we know it, and it shows in the figures. Our graduation rates and job placement are off the charts! Job satisfaction, on the other hand, does not show so easily in the statistics, but I think it does show when Maritimers get together with our greater family and talk excitedly about careers, research, and projects. Another way to show job satisfaction is remembering the program that helped us achieve our career goals. For those who agree with our research and think it is important, please join the team! Please use the enclosed envelope to send in your contributions, which will go toward establishing a scholarship designed to defray costs of education and research for current students. You can become honorary Maritimers who will show up in our publication with us. Let's kick back a bit for the general program good; the following people have already done so, and we give them our hearty THANKS!

– Brad Rodgers

Dr. and Mrs. Lawrence E. Babits
Mr. Matthew Brenckle
Mr. and Mrs. James T. Cheatham
Mr. and Mrs. Robert Holcombe, Jr.

Mr. and Mrs. John Hoyt
Mr. John B. Parks
Mr. and Mrs. John N. Smith
Dr. and Mrs. Stephen M. Workman

On the Job - Re-conservation of Artifacts from the CSS *Neuse*

Each spring, Dr. John Tilley's Field Lab in Museum and Historic Site Development class takes on a collaborative project with local museums and historic sites. In spring 2012, the class worked with the CSS *Neuse* State Historic Site in Kinston, North Carolina. One of the projects the class pursued was the re-conservation of some of CSS *Neuse's* artifacts. Chelsea Hauck, Jessica Caudill, Hoyt Alexander, William Reinhardt, and I volunteered to re-serve a handful of artifacts that were to be put on display in the museum's new building in downtown Kinston. This project was a wonderful hands-on experience that not only benefited the museum, it also taught us about the practical aspects of artifact conservation we did not learn in class.

CSS *Neuse* is a Civil War-era Confederate ironclad gunboat that was built in White Hall, North Carolina in 1862. The Confederates floated her down the Neuse River to Kinston, where confederate troops scuttled her after Union troops took the town in 1865. Some local men recovered the gunboat in the 1960s, and Leslie Bright of UAB conserved the boat so it could be placed on display outdoors. A flood in 1996 from Hurricane Fran caused the ship to be moved away from the Neuse River, closer to Highway 70. Three years later, Hurricane Floyd flooded the visitor's center. After fifty years, North Carolina Historic Sites finally moved *Neuse* this summer into an indoor facility, and away from the possibility of river flooding. Re-conserved artifacts are planned as part of a new exhibit to accompany the gunboat in her new home.

The Civil War-era artifacts we worked on were several cast iron Brooke shells and one Mullane shell, a wrought iron trunnion cover (cannon carriage piece), a flag pole socket, and three wrought-iron eyehooks (Figure 1.). Many of the re-conserved artifacts were iron and copper alloy composites, and were conserved twice before, once in the 1980s, and again after Hurricane Floyd in 1999, which submerged previously-conserved artifacts in water. Some of the composite artifacts, like the Brooke cannon shells, had water trapped inside of them that provided an electrical connection for galvanic corrosive

reactions to occur. In order to conserve these objects, we removed the fuses and made the interior inert to further corrosion. We bead-blasted the exterior to remove old coatings of Conquest (a tannic acid mixture with acrylic), epoxy applied by the original conservator, and oxidation extruding from both above and below the various layers of protective coatings. The remaining artifacts required less attention.

The effort was not only a great lesson in conservation, but also an educational experience in ingenuity, thanks to a wealth of mistakes and hurdles. Fortunately, those mistakes led to a better understanding of the correct methods and practices needed to conserve the objects. Class does not make you a proper expert, as we found out; experience in the field is an absolutely necessary ingredient. There's a big difference between the ideal and the practical, and it takes experience to strike a fine balance between the two. Many of our practical concerns included problems with resources, time, location, future storage capabilities, selection of an appropriate method for applying treatment, methods of removing the fuses, broken equipment, and a great many differing opinions of experts in the field. These hurdles were the most difficult, but we overcame them and produced the necessary results. It turns out that metals are "predictable," once you find the right technique. Almost every method had to be modified slightly to work correctly under these circumstances. For example, the wrought iron pieces did not turn the historically-accurate black color after treatment. Luckily, graphite, or powdered carbon, added the aesthetic qualities that the museum desired.

No class could have been more instructive not only in the field of conservation, but also of the practicalities and nuances of museum work. We even learned about Civil War history. We discovered that Confederate cannon fired shells were made with copper alloys high in copper content, as opposed to the Union's use of brass. One reference by Jack Bell in *Civil War Heavy Explosive Ordnance: A Guide to Large Artillery Projectiles, Torpedoes, and Mines* mentions that contemporary Confederate manuals hinted at this. The protective coatings on the sabot at the base of the shells made them appear to be brass, but after we removed the coating, we revealed the true copper-colored metal (Figure 2.).



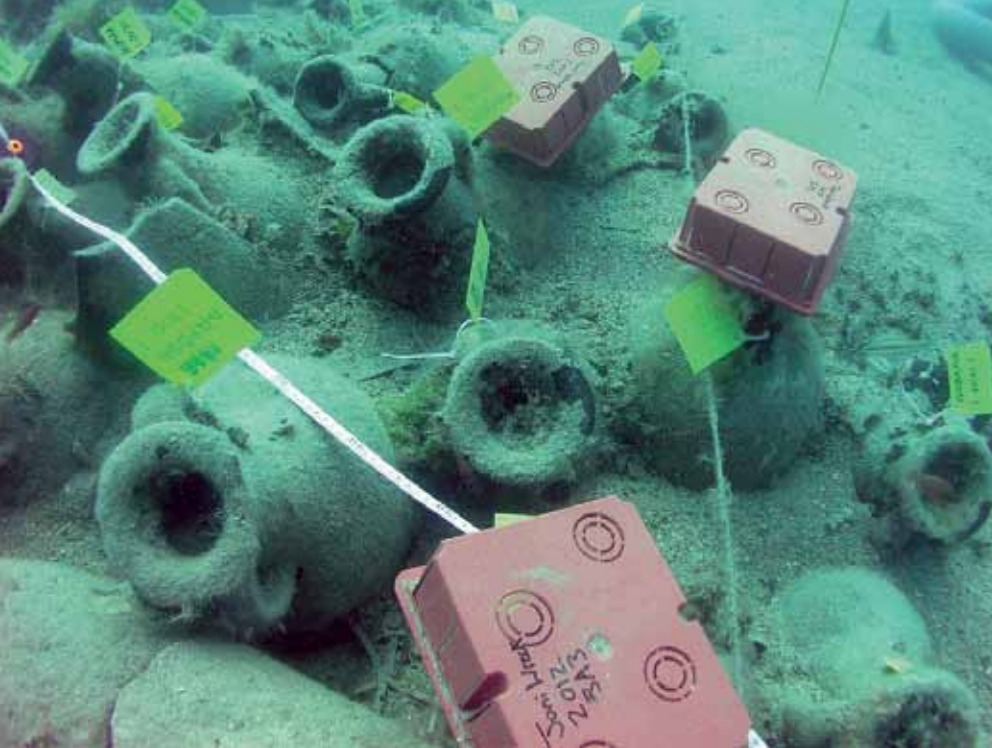
Figure 2. Conserved Brooke Cannon Shell (SLB-001) from the CSS *Neuse*.



Figure 1. Examples of corroded artifacts to be conserved. From left to right: Brooke shell, wrought-iron eyehook, and trunnion cover.

PHOTO: BAYLUS C. BROOKS

- Baylus C. Brooks



Upclose photo of recorded amphorea in wreck site in Albania.



Greg Stratton working with an amphora.

PHOTOS: GREG STRATTON

The Joni Wreck Survey

The journey of setting up this project over the past year has been quite vigorous, but after four weeks in Albania, it was worth every second. After spending five days diving for surveys and research in the Adriatic during the summer of 2011, I realized I had found the project that I wanted to explore for my thesis. It was a mostly intact pile of various types of amphorae that had been tentatively dated to the 4th century AD. It looked to be the perfect place to gather information about trade patterns, cargo types, and possibly ship construction patterns, if we could reach the hull remains we suspected were underneath the amphorae. I approached Dr. Jeffrey Royal of the RPM Nautical Foundation, under whose auspices I was working that summer, and Dr. David Stewart of East Carolina University about using the wreck as my thesis topic. After both agreed, I settled in to plan the project. I could not have known at the time that inviting the ECU staff archaeologist and two fellow students to join me would be the best decision I made all year. Calvin mires, BJ Howard, and Luke Simonds all gave up a month of their summer to help me out. The project certainly would not have been successful without them, and I give them my sincerest gratitude.

After a few harrowing weeks awaiting the funding of the Waits-National Geographic Grant, we headed to Saranda, Albania in the second week of July. We all packed bags full of Mylar, pencils, duct tape, sharpies, zip ties, and everything else we could shove into a suitcase. RPM Nautical supplied our dive gear, so at least we did not have carry that weight through three flights and a ferry. On a side note, if ever in Albania do not expect a queue at any time. There is a mad dash to the door of any opening, such as customs or passport control. This was a point of culture shock for us as we tried to navigate our way through public spaces. When we finally arrived at our quaint little hostel, which sat only 300 meters from the harbor, we began preparations for the project.

Before we could set up a schedule for diving operations, we met with Dr. Adrian Anastasi, the director of underwater archaeology for the country of Albania, and discussed our plans and his expectations. We then met with George Robb Jr., the original founder of RPM Nautical Foundation, and found out he would be diving with us during the first week. We planned on two dives a day for the first week, and then three dives a day after that. We ended the project with seventeen working days, and a total of 42 working dives-- a job well done by the team.

The project was set up with three main goals in mind: record all of the amphorae, gather samples from certain amphorae, and dredge certain areas of the site in search of remains of the ship's hull. The amphora samples taken will be processed through DNA testing, Thermoluminescence, Mass Spectrology, and Petrology.



Calvin Mires, Luke Simonds, and Greg Stratton posing for a picture before gathering information at the wreck site.

We hope these tests will tell us where the amphorae were made, what was in them, and how old they are. We had mixed results in meeting all of our goals, though we knew from the beginning that we were unlikely to get everything done. The site recording was a success, although on the first dive it did not seem like it. We descended with rebar, tape measures, hammers, and zip ties, thinking that it would be a fairly simple process to set up ten data points around the wreck and pull tape measures to each of them. We had one small malfunction; after live boating the entry point, we could not see the wreck after we reached the bottom. Fortunately, this was the biggest problem we ran into for the next 42 dives.

We set up the site and proceeded to take over 600 measurements to record 183 of the amphorae. Unfortunately, the sampling did not go so well. The amphorae were concreted together into one big mass and the only way to bring intact amphorae to the surface to take samples would have been to chisel them apart. In doing so, we risked breaking any that were fused together. This was not something we were prepared to do. As this project was a joint operation, we consulted with Peter Campbell, PhD candidate at Southampton University, and the Albanian government. We decided to raise only three amphorae for DNA testing and use broken amphorae for the other tests. Dredging again met with mixed results. We used a ten horsepower pump, a Y-joint, two 30-meter fire hoses, one eight-inch brass dredge head, and one four-inch stainless steel dredge head. With this setup, we had plenty of power to do the job. We ran into problems when we discovered that the bottom was loose sand for the first six to eight inches then turned into a woven grass mat of thick fibers and thin blades. It was so thick we had to use knives to cut through it. This slowed us down to the point that we only uncovered an area approximately forty square feet by 2.5 feet deep. We found the pattern of amphorae continued under the sand, and this led us to speculate that the wreck is much larger than we originally thought. Unfortunately, we only scheduled three days of dredging, so we were not able to dredge far enough down to reach hull remains. "Adapt and overcome" was certainly a well-used motto over the four weeks.

The project was a great success and a wonderful learning tool that will hopefully prepare us for the rest of our careers. I would like to thank RPM



B.J. Howard and Luke Simonds resting on the dive boat between dives.

Nautical Foundation, Dr. Jeffrey Royal, George Robb Jr., Howard Phoenix, the Albanian government, Dr. Adrian Anastasi, Peter Campbell, Derek Smith, and, of course, the great guys from East Carolina University. Now, on to the long post processing grind! 🐛

– Greg Stratton

ECU Maritimers Receive Awards and Internships

Stem to Stern is proud to share the news of the following awards and internships:

Dan Brown

North Carolina Sea Grant/ Maritime Heritage Fellowship recipient

Archaeologist, Vasa Museet, Stockholm, Sweden: 2011 Bolt Recording Project (Fall)

Stephanie Croatt

Museum internship at the CSS *Neuse* State Historic Site, Kinston, North Carolina

Phil Hartmeyer

Americorps Member: Education and Outreach Specialist at Thunder Bay National Marine Sanctuary

Excellence in Archaeology award from Saint Mary's College of California

Thomas Horn

North Carolina Sea Grant/ Maritime Heritage Fellowship recipient

Joshua Marano

American Conservation Experience internship at Biscayne National Park, Homestead, Florida

Nicole Silverblatt

Henry C. Ferrell, Jr. Graduate Scholarship

Admiral Ernest M. Eller Graduate Fellowship in Modern Naval History

Nicole Wittig

Conservation internship at the National Museum of Bermuda

Conservation in the Field: The *Modern Greece* Project

In 1962, the Good Friday storm that ravaged North Carolina's coastal areas also brought to light the Civil War era ship, *Modern Greece* – a British blockade-runner bound for the Wilmington port to resupply the Confederates – that sank 100 years prior. Navy divers worked from 1962 through 1963 to salvage as much of the wreck – especially the cargo – as possible. To accommodate the need for immediate conservation, the North Carolina Assembly created a permanent laboratory, the Underwater Archaeology Branch (UAB) at Fort Fisher, to conserve and house the assemblage of *Modern Greece*.

Leslie Bright, Head Conservator at the time, worked his way through some 3,500 of the estimated 10,000 artifacts during his tenure at the UAB. Limited space at the laboratory necessitated creative thinking on the part of the conservators. The remaining artifacts in the assemblage were placed in purpose built in-ground wet tanks. Exposed to the elements, the tanks filled with natural rainwater and leaves from the numerous trees surrounding the area. Miraculously, the tannic acid from the leaves helped preserve the assemblage until it could be worked on at a later date. The Underwater Archaeology Branch found little time to work on the large assemblage as artifacts from other wrecks quickly filled their little lab.

Nearing the 150th anniversary of the Civil War, and the 50th anniversary of its recovery, the UAB decided to begin work on the *Modern Greece* assemblage once more. Limited manpower at the laboratory, however, hindered this process. Head Underwater Archaeologist, Dr. Mark Wilde-Ramsing, called upon the Program in Maritime Studies Conservation Lab at East Carolina University (ECU) to help with this massive project in 2011.

Susanne Grieve, conservation instructor, used this opportunity to create a conservation field session for both the Introduction and Advanced Conservation students. Over spring break, volunteers from these classes (along with interns from the University of North Carolina at Wilmington) headed down to Fort Fisher to remove, photograph, and catalogue the assemblage stored in the in-ground tanks. Students were able to move through two and a half tanks of the three before returning to Greenville. Artifacts recovered included rifles, bowie knives, shackles, bayonets, and cutlery. These were placed in the new tanks situated in the repurposed garage, awaiting treatment.

Nathan Henry, Lead Conservator at the UAB, sent some of these newly recovered artifacts to the conservation lab at ECU as teaching items for the Advanced Conservation students during the 2011 Fall Semester. Students experimented on hoe heads, cutlery, and rifles to determine the best-fit treatment for these objects. After treatment, the objects were returned to the UAB and used as examples for the numerous other similar typed objects.

The UAB still had several tanks filled with artifacts from *Modern Greece* and once again asked ECU students to help them finish recovering these objects. During the 2012 spring break, Shanna Daniels – conservator for the *Queen Anne's Revenge* and adjunct conservation instructor – asked for volunteers from both the Introduction and Advanced Conservation classes to travel once more to Fort Fisher to complete the job. Nine students helped remove, photograph, and catalogue the remaining artifacts from *Modern Greece*. Mr. Henry intends to send more objects to ECU for conservation by the advanced students during the 2012 Fall Semester. These short forays into the world of field conservation afforded a new experience to the students who generally spend time conserving in a laboratory environment. For the archaeologists in the program, this new knowledge may be useful in real-world application while out in the field. 🐚

– Robin Croskery

Theses Defended IN 2012

Melissa Ashmore, "Crucial Factors for the Recovery and Conservation of an Archaeological Ship."

Jeff Bowdoin, "Captain Godfrey Carden and the Coast Guard's Captain of the Port of New York in World War I."

John C. Bright, "The Last Ambush: An Adapted Battlefield Analysis of the U-576 Attack Upon Allied Convoy KS-520 Off Cape Hatteras During The Second World War."

Stephen D. Dilk, "From Quiet Woods to Tide Kissed Shore: Searching for The Colonial Port of Sunbury, Georgia."

Theresa Hicks, "Wharves, The Keystone of Plantation Wealth? Case Studies."

Nathaniel Howe, "Rigging and Gun Tackle Blocks of the Swedish Royal Warship *Vasa*."

Jennifer E. Jones, "Scattered to the Wind: An Evaluation of the Disaster Landscape of Coastal North Carolina."

Nadine Kopp, "The Influence of the War of 1812 on Great Lakes Shipbuilding."

Marshall Lamm, "Floating Fortress, Floating City, Floating Monument: A Comparatives Study of Three American Warship Museums."

Robert Minford, "For the Love of Profit: Examining Traditional Capitalism On Eagles Island, North Carolina."

Tyler Morra, "The Evolutionary Development of Floating Dry Docks."

Valerie Rissel, "The Weeping Monument: A Pre and Post Depositional Site Formation Study of the USS *Arizona*."

Laura Kate Schnitzer, "Aprons of Lead: Examination of an Artifact Assemblage From the *Queen Anne's Revenge* Shipwreck Site."

Benjamin Siegel, "The Effects of British Imperial Culture on the Colonial Maritime Landscape of Bluefields Bay, Jamaica."

Elizabeth Wyllie, "Defining Eastern North Carolina Upriver Steamboats Through Tar River Archaeology and History."

Holocaust Museum Boat Recording: *Hanne Frank*

In July of 2012, three Maritimers accompanied Dr. David Stewart to Houston, Texas in order to record the Danish fishing boat *Hanne Frank*. *Hanne Frank* sits outside the Holocaust Museum in Houston, Texas, and is a permanent exhibit meant to remind visitors of the stories of heroism and hope during the Holocaust, especially when juxtaposed next to a German railcar from the same period. The boat was once a vessel that helped rescue Danish Jews by smuggling them to Sweden during the Holocaust. Although there is some question as to whether this vessel was actually used for such a purpose, it is certainly of the same type. The boat was in use as a fishing vessel until about the time it was donated to the museum in 2007, and had been modernized in many ways. Before it was donated, the boat was restored to what was thought to be the 1942 condition.

Upon arriving at the museum, Dr. Stewart and students Josh Marano, David Buttarro, and Patrick Herman found that the vessel had been sadly neglected. It sits on a custom-built transportation cradle that was never designed for long use and is entirely exposed to the elements. The hot Houston sun and frequent thunderstorms have degraded the vessel considerably and taken a severe toll on the soundness of the wood. The deck was caving in at several places, and the below deck spaces have a tremendous amount of water damage and rot. An initial crawl through proved that this project would be difficult in confined spaces, and would immediately leave any participant covered in dirt and grime. The museum personnel told us that the repairs made before the donation were done by various groups unassociated with maritime affairs; the replacement deckhouse was essentially an outdoor shed, the deck was patched where the deckhouse should have stood, and the wood was finished with non-maritime sealant that was largely destroyed by the weather.

The Museum brought our team in to document the vessel, create a digital reconstruction, and aid them in their efforts to restore and preserve the vessel. We planned to use total stations in conjunction with measured drawings and photos to document the boat timber by timber. The total



A shot of *Hanne Frank* with members of the recording team on board.

stations use a laser to digitally capture points (such as corners of timbers) in exact three-dimensional relation to other points, and can thus be used to reconstruct a 3-D object as it actually exists rather than trying to recreate it with 2-D methods. This project would allow us to give the museum a recommendation as to how they should approach their restoration and preservation efforts, and allow David Buttarro to create a digital reconstruction of the vessel with our data and the computer-aided-design program Rhinoceros. This, combined with a study of the boat's history and use, will be the focus of his thesis.

Hanne Frank is a little over ten meters long, with a beam of just over four meters. The boat has a live-well in the center to keep the catch fresh, and though the current deckhouse is aft of the live-well the deck repairs make it clear that at least one original deckhouse was forward. The boat demonstrates a large degree of sheer, common for Baltic vessels, and is well suited for rough conditions. The interior features an engine room still housing a more modern Volvo engine, two short companionways flanking the live-well, and a bow section that seems to have housed bunks or some sort of crew space. The construction is based around a strong keel with a combination of floor timbers and futtocks alternating with paired half frames, a pattern seen on other European small craft. This framing pattern ends around the live-well where a number of futtocks are present, but none extend all

the way down to the keel. The structural soundness in the center of the boat appears to come from the firmly-built watertight live-well and a number of bulkheads that semi-divide the live-well and vessel.

The vessel's construction appears straightforward at first, but closer analysis showed a number of irregularities in construction that must be present on any wooden boat – among the top timbers that support the bulwark on the deck many are just short posts ending at the deck, some extend below the deck, while two or three are actually futtocks that extend up through the deck.

The actual recording started smoothly with students drawing to record where we took total station points, but we quickly ran into trouble when one of our two total stations malfunctioned. We planned on having one team start inside recording structure, while the second team would start outside taking lines and recording exterior timbers and features. Although we found a replacement total station generously donated to the project by a local construction company, we were also hit by regular afternoon thunderstorms that quickly put us behind. We found that the size of the vessel prevented easy deployment of total stations in various spaces, and we were forced to become creative. Several spaces were shot with the total station deployed on timbers in front of awkwardly contorted students, and Josh Marano receives special commendation for

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A computer generation of all the bolts in *Vasa*. Inset photo: An exterior shot of the Swedish warship *Vasa*.



PHOTOS: DAN BROWN

2011 Bolt Recording Project: The Final Recording Phase of the Swedish Warship, *Vasa*

When engineers and archaeologists raised *Vasa* from the depths of Stockholm harbor in 1961, the original iron bolts were gone, long rusted away. The vessel remained held together with the unknown thousands of treenails extant from its original construction. Engineers eventually replaced most of the lost bolts with steel upgrades. Over the next four decades, *Vasa* underwent conservation. Conservators sprayed its artifacts and structure with polyethylene glycol (PEG). What archaeologists, engineers, and conservators did not know in the 1960s is that PEG, when interacting with salt impregnated timbers and steel, results in sulfuric acid—not the best chemical to introduce to a 400 year old artifact. There were also questions regarding the long-term viability of *Vasa*'s cradle, a massive steel structure set atop the original concrete dry-dock used to float the ship to its present location.

Thus, fifty years after *Vasa*'s resurrection from Stockholm harbor, plans are underway for museum engineers to redesign the cradle and replace the bolts with high-grade stainless steel bolts incorporating springs to accommodate the natural working of the ships timbers. To do this, the engineers needed the precise location of every existing bolt on the ship. That's where Jeanette Hayman (2011) and I came in. As archaeologists, it was our job to record this information for the archaeological record in the final phase of documenting the vessel's construction. This information would also aid engineers in assessing the vessel's structural integrity and provide a working map of extant bolts and empty bolt-holes for the engineers' use.

When I arrived in early October, my colleague and recent PMS graduate, Jean, informed me we had just less than six weeks to

record 6,000 bolts.

"Okay, 1000 points a week. Two people can do that, no problem."

"We need to number, tag, record, describe, and [with the total station] shoot both ends of every bolt, plus take the offset of the bolt end from its respective timber by hand."

"So, 2,000 points a week with a two person team, that's 500 points a day."

"Right, plus this additional paperwork."
"Oh."

To say the least, I was a bit skeptical that it would be possible. On past projects, 500 points was an all-time daily high. Fortunately, Jean and I were hardened veterans of the *Vasa* Recording Project. Our first experience was during the summer of 2010 where we were crew members for teams recording the upper gundeck. Last summer, we both returned as crew chiefs (along with Josh Marano) to record the hold and a third of the oorlop, a different beast from the gundeck altogether. That project had been a challenge, but a challenge met. So, Jean and I put our heads together and formulated a strategy. Keep it simple: first we numbered and tagged a section of each deck, working our way forward to aft, port then starboard, utilizing the existing compartmentalization of the ship's construction to divide it into separate chunks for recording. Then, one person shot in the bolts with the Leica total station with the other pointing and recording the number and location of the bolt end.

For the most part, this proved effective enough. Some bolts were well hidden behind scantlings, some bolts required creative and agile adaptations—like those located in the bow of the oorlop in a tiny room with an opening barely large enough to admit a single person. With the aid of offset-sticks first utilized in the summer of 2011, we got it done.

Not every day was as productive as others were. One day the Leica, a Swiss made machine with its menu programed in Swedish, suddenly decided to speak English. This bizarre shift was somehow the result of the machine defaulting to reset and wiping an entire day's worth of data. Nonetheless, we recouped by working two Saturdays and continuing to streamline our techniques.

At one point, the engineers approached us with a case of two-inch zip-ties with tiny tags. They asked us to zip-tie the end of every bolt and hand write the number on the tiny tag (initially we were using hand written stickers, later replaced by printed sheets). I reminded the engineers they had three years to replace the bolts, whereas we had six weeks to record them. We tried the zip-ties for half a day and after bloody fingers and strained eyes, compromised with the engineers. On bolts where stickers might fall or slip, we agreed to zip-tie the sticker to the bolt.

Each week ended with observations and suggestions for improvement. Two days to the deadline, we shattered the all-time two-person total station record: 1,254 points in a single day. We finished the project on time on Thanksgiving Day, securing ECU's Program in Maritime Studies' reputation as providing students who are efficient, disciplined, organized, and creative problem solvers. ECU after all, has been the only university ever invited back to work on board *Vasa*. With the construction of *Vasa* fully documented ahead of schedule, there still exist dozens of thesis topics for Maritime students to explore. When I tell peers about some of the challenges of the Bolt Recording Project, they tell me it sounds pretty crazy.

In return, I tell them, "Yeah, it was nuts." 🐿

— Dan Brown

An Interdisciplinary Approach to Determining Changes in Historic Sea Levels

Throughout its history, the exploration, settlement, and development of North Carolina often followed the state's many navigable waterways penetrating deep into the area's coastal plain. The dynamic nature of the shifting shoals and narrow strips of sand that make up the Outer Banks and many of the coastal zones of the North Carolina shoreline is well known and has often been the opposing force against development in the area. As the North Carolina coast became more densely populated throughout the late 19th and 20th centuries, concerns over environmental impacts and changing coastal conditions have become increasingly important in planning for the preservation and future use of coastal lands. This, combined with recent concerns regarding the effects of global warming and possible sea-level change associated with shifting climate patterns, requires serious examination of possible indicators of any such changes.

In 2012, Dr. Stan Riggs of East Carolina University's Department of Geology contacted the Program in Maritime Studies (PMS) to provide information on historic structures and archaeological sites located along the North Carolina coastline that may act as potential indicators of sea-level change and other associated environmental changes over time. The resulting project, planned and executed by graduate student Joshua Marano, consisted of an inventory of known archaeological sites in eastern North Carolina as well as a survey of archival holdings pertaining to those sites in order to identify and rate individual anthropogenic maritime sites as potential indicators of historic sea-level change. This project also prompted several state agencies to meet in order to better facilitate mutual assistance and establish connections for the development of future projects regarding the effects of sea-level change on maritime archaeological sites across the state.

One of the primary objectives of this project was to categorize the quality of each site's archaeological record, prioritize the sites on the basis of potential for obtaining a reliable record of sea-level data, and provide

a brief statement as to what field work would be necessary to obtain a reliable measure of sea-level change over time. In order to better facilitate the prioritization of sites, a four-tier system was developed to rank each site according to the type and amount of information located through this survey. While there were no sites identified in this survey that contained reliable data regarding sea level change with no additional research or fieldwork, there were many sites identified that could, with some amount of additional archaeological or historical research, act as accurate indicators of climate change along the North Carolina coast.

The final report produced for this project served as a basic overview of several archaeological sites located in eastern North Carolina that may potentially provide reliable data concerning the effects of historic sea level change along the state's coast. This included a brief description of each site identified during the course of the study along with a discussion of its potential to provide accurate historic climate information. The report also described in detail the various archives and institutions visited while seeking archival evidence of identified sites. These descriptions included the name, location, and holdings of each archive visited and will serve as a useful reference for future research on any of the sites discussed in the report.

It is important to note that these findings were not exhaustive and were only meant to provide the most basic information regarding potential sites and the known historical and archaeological sources discovered on each. It should also be noted that each site identified within the survey is a project within itself and will require independent research designs if pursued for further study. The results of this project, while acting as an excellent finding aid for future research on the effects of sea-level change along the North Carolina coast, provides a preliminary dataset for potential thesis topics and serves as an excellent example of the product of inter-departmental and inter-agency cooperation in the state of North Carolina. 🐚

– Joshua Marano

Hanne Frank
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his ability and willingness to sit very still while squished in the live-well for hours on end with the total station on a plank across his lap. The engine room was almost impossible to shoot, given the tight spaces and machinery left within, but plentiful drawings, measurements, and pictures will aid in the few points we were able to take. Hard work and incredible support from museum volunteers eventually put us back on track, and by the end of two weeks we managed to take some 3,600 total station points on the vessel, as well as making hundreds of measured drawings. We are confident that a detailed digital reconstruction will be possible, and our report should help the museum in their restoration efforts. The vessel requires immediate attention, especially a roof and new cradle, if it is to last more than a few years in its present location. Hopefully our efforts will go some way in helping the museum preserve this historically and culturally important vessel.

We would like to thank the staff of Holocaust Museum Houston, all of whom were very considerate in their provision of facilities and support. Carol Manley, Director of Collections and Exhibitions/Registrar, went out of her way to make travel arrangements and coordinate the transfer of funds between the museum and ECU. Walter Hansen, head of the volunteer effort, ensured that we always had everything we needed from shade to kolaches. ECU alum Dan Warren talked his employer, C&C Technologies, into donating their incredible guest-apartment for us to stay in. We would especially like to thank the museum volunteers who were absolutely indispensable to the project. A number of volunteers came out for the entire two week period, and did everything we did, from crawling around the filth-covered engine, to contorting themselves in tight spaces to help locate total station points. Some even handcrafted custom tools to aid us in shooting specific locations. This project would have been impossible without their help. 🐚

– Patrick Herman

Ahoy Mates! Welcome to ECU: Ahoy Mates!

New MA Students in the Maritime Studies Program

Jeremy Borrelli is from Binghamton, New York and has spent the last four years living in New Paltz, New York, where he attended his undergraduate institution, earning a B.A. in Anthropology. He spent the majority of his time during the last eight years in the water as a competitive swimmer. As a swimmer, he ate a lot and now that he's not swimming he continues to enjoy eating large amounts of food or experimenting with different meals he's never had. He will try any food once. Even though he's never lived near the coast, he always had a passion for history as well as a love for the water and maritime culture. His research interests include the archaeology of early colonial America, Africa, and the Caribbean.

Ryan Bradley is from a small town in upstate New York. He studied Creative Writing at the State University of New York at Potsdam. After college he devoted most of his time to travel, finally moving to South Korea for a period of four years. While on an island in the South Sea, he developed a fondness for exploration, both over land and underwater. He continued to travel and saw much of Asia. Upon returning, he decided that nautical archaeology and maritime studies was the field that would be the most rewarding. His historical interests include Nantucket Island's dominance of the whale fishery in the early 19th century, and ancient South Korean naval warfare. You can find him on bike trails, mountaintops, or underwater, depending upon the weather.

Kate Clothier is from Riverside, California. She did her undergraduate studies at the University of California, Riverside, majoring in Anthropology and History. Her primary area of interest is the Atlantic world from 1500-1700. She likes the idea of worldwide trade and the effects that the combining of the Old and New worlds had on the peoples of the time. Kate has experience diving on sites in California and Bermuda. Out of the two, she liked diving in Bermuda a bit more. Warm, clear water with amazing historical sites- is there anything better?

Kara Fox is from Phoenix, Arizona. She earned her B.S. in History with a minor in Anthropology from Northern Arizona University in the beautiful mountain town of Flagstaff, Arizona. Her history-enthused, fighter pilot father influenced her passion for military and war history. Once introduced to the world of scuba diving, her passion developed into an interest for underwater naval seascapes and a curiosity of how she could impact the cultural management of these precious resources. Most of her previous research has revolved around American war history. To expand on that research,



First year students pose outside Eller House.

First Row: Kate Clothier, Chelsea Freeland, Michele Panico, Emily Steedman, Kara Fox, Jeneva Plumb Wright, Kelci Martinsen. Second Row: Sara Kerfoot, Julie Powell, Caitlin Zant, Alyssa Reisner, Betsy Stables, Allison Miller. Third Row: Ryan Bradley, Adam Parker, Will Sessorossi, Phil Hartmeyer, Jeremy Borrelli.

she is looking forward to diving North Carolina's "Torpedo Alley," and to learning more about the Battle of the Atlantic. Outside of school, she enjoys spending time with her husband while hiking, swimming, diving, traveling, and becoming a connoisseur of good food and drink.

Chelsea Freeland spent the better part of her undergraduate experience in the Austin College Chemistry Department. But after spending her junior year abroad in the laboratory-free environment of Athens, Greece, she decided to trade her goggles for a historiography class. She graduated Magna Cum Laude in December of 2011 with a concentration in European History. She has done research in chemistry, is published in a book on philanthropy, and is thus new to the discipline of Maritime Archaeology. She hopes, however, that her interest in British and French imperialism makes up for her mediocre swimming abilities. An avid reader, Chelsea also finds time to sing in the shower, dance in the rain, and occasionally speak French.

Phil Hartmeyer was born and raised outside of San Francisco, where he also completed his B.A. in Archaeology from Saint Mary's College. Through the program at SMC, he participated in field schools in Bermuda, Maui, and at Fort Ross. Before coming to East Carolina, Phil spent fourteen months in the education and outreach department at the Thunder Bay National Marine Sanctuary as an AmeriCorps Member. When he is not studying 19th Century Great Lakes Maritime History, he can be found mountain biking and enjoying the outdoors.

Sara Kerfoot is from Naperville, Illinois. She went to the University of Illinois and received a degree in Anthropology and History. Diving is new to her, but she does have Midwest and Southwest excavations under her belt from when she was an undergrad. Her current interests are Bronze Age trade ships and Atlantic pirates and privateers. Technically, Indiana Jones started her career, but since childhood she learned to crave discovering the untold stories of the past. She spent half a year as a park guide, during which she became interested in public outreach and conservation. Free time activities range from rock climbing to dinosaurs.

Kelci Martinsen is from Simcoe, Ontario, Canada. She received her B.A. in Classical and Near Eastern Archaeology with a minor in Business from Wilfrid Laurier University in Waterloo. She completed her terrestrial field school in Porolissum, Romania excavating a Roman forum. Kelci has always loved the water and has had an interest in Ancient Greece since she was a young child. So it was natural that these passions would lead her to studying archaeology. Her research interests include trade and commerce in the ancient Aegean, as well as the marketing of archaeology to the public. In her spare time, Kelci enjoys diving in the Great Lakes. She also enjoys ballet, reading, and watching horror movies.

Allison Miller is originally from the suburbs of New Orleans, and fell in love with the city during her time studying at the University of New Orleans. Hurricane Katrina had other plans in mind, however, and sent her studying abroad in Innsbruck, Austria. She later returned to Europe, doing a

summer abroad in France before graduating with a B.A. in History in 2008. Allison spent the next four years moving around before finding ECU's Maritime Studies program, where her previous experience has focused her on European history.

Michele Panico grew up on the Florida coast with a father who is a retired navy diver. Inevitably, Michele developed a deep connection with the ocean. She could swim before she could walk and dive by the time she was six. From then on, she was always more comfortable in the water than out of it. The time she spent in the Lesser Antilles solidified her interest in the Caribbean. She continued her education at the University of Central Florida, receiving her B.A. in History. The Maritime Studies program at ECU is the ideal blending of her two great passions: history and the open ocean.

Adam Parker is from Flint, Michigan. He completed his undergraduate work at both C.S. Mott Community College and the University of Michigan- Flint campus. He received his undergraduate degree in the spring of 2012 in Anthropology and History. He did field school in Bermuda, which is probably his favorite place to dive thus far (the warm relief from the inland Michigan lakes is nice). Some of the things that got him into the field were the stories that his grandfather would tell him about pirates when he was younger, and Indiana Jones and Pirates of the Caribbean, of course! He likes studying the colonial period and relationships between maritime activities and colonialism. In his spare time, Adam likes to write fiction and play music with his band, Ghosts of Atlantis.

Julie Powell is originally from Tifton, Georgia. Julie completed her Bachelor's Degrees in Accounting at Berry College and in Anthropology at the University of Georgia with a minor in Geology. She participated in a terrestrial field school in the Savannah River Valley with UGA, and interned with the Lighthouse Archaeological Maritime Program in St. Augustine, Florida. She decided to focus on Maritime Studies at ECU after being exposed to the field in an undergraduate class and interning at LAMP. In her free time, Julie enjoys kayaking, hiking, and diving.

Alyssa Reisner comes from a small town in middle-of-nowhere Ohio. She recently graduated Magna Cum Laude from Miami University with a B.A. in Anthropology. During her undergrad, she traveled to India twice to compile ethnographies, and conduct research on the preservation and conservation of ancient Tibetan texts and culture. She ventured on her second India trip independently, where her ten years of martial arts training came in handy. Alyssa also participated in an archaeological dig in North Carolina's Historic Brunswick Town, where she realized her love of archaeology could be combined with her love of the sea. Though still narrowing her wide range of interests, she is particularly interested in ancient shipwrecks in the Mediterranean and Asia. She enjoys SCUBA diving, practicing martial arts, and avoiding subaqueous skirmishes with sharks.

Will Sassorossi is returning to school after 7 years in the sports world after finishing his undergraduate work at Syracuse University. In the past few years he worked for the National Football League, and most recently the National Football League Players Association. While with the NFLPA he was fortunate enough to attend a few Super Bowls, and sadly watch his beloved Patriots loose to the Giants last year. Always a lover of the ocean and diving, it was his honeymoon in Corsica, with his amazing wife Meg, that truly sparked his desire to get more involved with underwater archaeology. Diving a B-17 wreck from World War Two pushed his desire to apply to the ECU Maritime Studies program, and he is very excited about what lies ahead for him.

Betsy Stables is a native North Carolinian by way of Lynchburg, Virginia. She blames her love of history on films like *Gone with the Wind*, and *Titanic*, as well as her sixth grade trip to Virginia's Explore Park. In 2007, she participated in the NCDOA Youth Advocacy and Involvement internship program at Tryon Palace State Historic Site and Gardens. After graduating in 2009 with her B.A. in History from North Carolina State University, Betsy found work on the tall ships *Kalmar Nyckel* as a volunteer, and *Sultana* as a deckhand educator. She continues to "live" in all time periods from the Elizabethan Era through the American Civil War as a living history enthusiast

and re-enactor. Betsy has a gypsy heart when it comes to travel, and a 19 lb cat named Hope.

Emily Steedman hails from the state of Maryland. She graduated Summa Cum Laude in 2011 with her B.A. in History from Salisbury University. Emily had the opportunity to study in Puerto Rico as an undergraduate, where she indulged in her curiosity in Caribbean maritime history and culture. She also presented independent research on gender issues in the Civil War-Era American South at the Northeast Regional Honors Council Conference in Portland, Maine in March of 2011. Her academic interests include Caribbean colonization and the slave trade, the American South, and issues of gender at sea. Emily enjoys reading, hiking, swimming, and snorkeling in her spare time.

Jeneva Plumb Wright is from Yellowstone National Park, and grew up loving the wilderness. She originally pursued a music degree in vocal performance, but after spending time in Europe singing Mozart and studying history, she decided she couldn't shake trying to understand the past. She graduated from the University of Montana with her B.A. in History, and has spent the intervening years working in corporate management and wearing out her passport. Jeneva is most interested in pursuing public outreach and education about underwater cultural heritage- as long as she gets to keep diving!

Caitlin Zant is originally from Peoria, Illinois and received her B.A. in History and Geography from Carthage College in Kenosha, Wisconsin. Though from the Midwest, Caitlin has always been interested in ships and the sea. Her interest in Maritime Studies came from growing up around the Great Lakes, and she is excited to be able to combine her love of maritime history with nautical archaeology at ECU. After studying the British Empire and Ireland as an undergraduate, Caitlin is looking forward to extending her studies to the Empire at sea. She is interested in 17th-19th century British colonialism and trade, as well as British exploration of Canada and the Northwest Passage. In addition to her interest in British maritime history, her primary love is still the maritime history of the Great Lakes region.

Where are our Maritimers now? - 2013

A

James Allan, (1987) PhD – Lecturer, St Mary's College of California, Moraga, CA and Vice President, William Self Associates, Orinda, CA

Evguenia Anichtchenko (2004) – Curator of History Education, Anchorage Museum of History and Art, Anchorage, AK

Ray Ashley, (1996) PhD – Executive Director, San Diego Maritime Museum and Professor of Public History, University of California at San Diego, CA

Paul Avery (1998) – Auckland War Memorial Museum, Auckland, New Zealand

Monica Ayhens (2009) – PhD student, University of Alabama, Tuscaloosa, AL

B

David Baumer (1991) – Virginia Beach, VA

Dina Bazzilli (2007) – Principal Investigator, Environmental Corporation of America, Alpharetta, GA

David Beard (1989) – Executive Director,

Boyertown Museum of Historic Vehicles, Boyertown, PA

Sam Belcher (2002) – Medical Technologist (ASCP), Laboratory Supervisor, Central Baptist Hospital, PhD student, University of Kentucky, Lexington, KY

Kathryn Bequette (1992) – Director, Maritime Archaeology and Research, OELS, Westminster, CO; consultant with Denver Ocean Journey Aquarium

Jemison Beshears (2001) – Antique firearms specialist, Greg Martin Auctions, San Francisco, CA

Jacob Betz (2004) – PhD candidate, Department of History, University of Chicago, IL

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Where are our Maritimers now? continued from page 21

Samuel Blake (2006) – Archaeologist, Southeastern Archaeological Research, Inc., Jacksonville, NC
Jeffrey Bowdoin (2012) – Collections Manager, United States Coast Guard, Washington, DC
Matthew Brenckle (2004) – Research Historian, USS Constitution Museum, Charlestown, MA
John Bright (2012) – Archaeologist, National Park Service's Submerged Resources Center, Denver, CO
Robert Browning (1980) PhD – Historian, United States Coast Guard, Washington, DC
Darryl Byrd (1998) – Linthicum Heights, MD

C

Peter Campbell (2009) – PhD candidate, University of Southampton, United Kingdom
Frank Cantelas (1995) – Maritime Archaeology Program Officer, NOAA Office of Ocean Exploration and Research, Silver Spring, MD
Jodi Carpenter (2007) – Environmental/Historical Preservation Specialist, FEMA, Region VI
Chris Cartellone (2003) – PhD student, Texas A&M University, College Station, TX
Tane Casserley (2005) – Maritime Archaeologist, NOAA's Thunder Bay National Marine Sanctuary, Alpena, MI
Joe Cato (2003) – Raleigh, NC
Robert Church (2001) – Senior Marine Archaeologist, C & C Technologies Survey Services, Inc., Lafayette, LA
Brian T. Clayton (2005) – MA student, Department of Geography, East Carolina University, Greenville, NC
Wendy Coble (1998) – Historian, J2 Intelligence Directorate, Joint Personnel Accounting Command, Hickam AFB, HI
Patrick Cole (1993) – Writer, Barcelona, Spain
Edwin Combs (1996) PhD – Assistant Professor, Miles College, Birmingham, AL
Michael Coogan (1996) – Manager, Strategic Planning, Northrop Grumman IT, Herndon, VA
David Cooper (1998) – Branch Chief, Cultural Resources, Apostle Island National Lakeshore, Bayfield, WI
Diane Cooper (1995) – Museum Technician, San Francisco Maritime National Historic Park and Curator, USS Pampanito, San Francisco, CA
Annalies Corbin (1995) PhD – President & CEO, PAST Foundation, Columbus, OH
Lee Cox (1985) – Director, Dolan Research, Inc., Newtown Square, PA

D

Michelle Damian (2010) – PhD student, University of Southern California, Los Angeles, CA
Claire Dappert (2005) PhD – Archaeologist, Illinois State Archaeological Survey, University of Illinois, Champaign, IL
James P. Delgado (1986) PhD – Director, Maritime Heritage Program, Office of National Marine Sanctuaries, NOAA, Silver Spring, MD
Alena Derby (2002) – Pilates Instructor and Personal Trainer, Nantucket, MA
Robert Dickens (1998) – DVM, Cary, NC
Stephen Dilk (2012) – Contract Archaeologist, Colorado and Wyoming
Jeff DiPrizito (2001) – High School teacher,

Hudson, NH
Brian Diveley (2008) – Senior Archaeologist, CH2M HILL, Seattle, WA
Tricia Dodds (2009) – Archaeological Project Leader, California State Parks, San Diego, CA
Wade Dudley (1998) PhD – Teaching Professor, Department of History, East Carolina University, Greenville, NC
Stan Duncan (1994) – Regional Sales Consultant, NUS Consulting Group, Inc., Oak Ridge, TN

E

Rita Folse Elliott (1988) – Education Coordinator and Research Associate, The LAMAR Institute, Savannah, GA
Scott Emory (2000) – Cockeysville, MD
Jeff Enright (1999) – Maritime Principal Investigator/GIS Specialist, Southeastern Archaeological Research, Inc., Pensacola, FL
Jenna (Watts) Enright (2000) – Austin, TX

F

Kim (Eslinger) Faulk (2005) – Marine Archaeologist, Geoscience Earth and Marine Services, Houston, TX
Sabrina S. Faber (1996) – Chief of Party, Promoting Youth Civic Engagement
Patrick Fleming (1998) – Raleigh, NC
Richard Fontanez, MD (2001) – Contract Archaeologist, Director of Instituto de Investigaciones Costaneras, and Hyperbaric Medicine Facilities, Medical Center, Puerto Rico
Paul Fontenoy (1995) PhD – Curator of Maritime Research and Technology, NC Maritime Museum, Beaufort, NC
Chris E. Fonvielle, Jr. (1987) PhD – Associate Professor, UNC-Wilmington, Wilmington, NC
Kevin Foster (1991) – Washington, DC
Joe Friday (1988) – Sergeant, Greenville Police Department, Greenville, NC
Adam Friedman (2008) – PhD student, University of North Carolina, Chapel Hill, NC
Don Froning (2007) – Marine Corps Forces Pacific, Camp H. M. Smith, HI

G

Veronica Garrett (2008) – Streetlight Records, Santa Cruz, CA
Kate Goodall (2003) – Director for Institutional Advancement, Association of Science-Technology Centers, Washington, DC
Amy (Rubenstein) Gottschamer (1995) – Real estate broker, Santa Fe, NM, and Lawrence, KS
Jeff Gray (1998) – Superintendent, NOAA Thunder Bay National Marine Sanctuary, Alpena, MI
Joe Greeley (2000) – Site supervisor, Maryland Dove, St Mary's City, MD
Cathy (Fach) Green (2003) – Special Projects Coordinator, Thunder Bay National Marine Sanctuary, Alpena, MI
Russ Green (2002) – Assistant Superintendent, NOAA Thunder Bay National Marine Sanctuary, Alpena, MI
Jeffrey Groszkowski (2007) – Firefighter/Apparatus Operator, New Hanover County Fire Services, Wilmington, NC

H

Richard Haiduven (2003) – Contract Archaeologist, Miami, FL
Stephen Hammack (2007) – DPhil candidate, Institute of Archaeology/ St. Cross College, University of Oxford, UK
Lynn B. Harris (1988) PhD – Assistant Professor, East Carolina University, Greenville, NC
Margaret Harris (2004) – Southern California
Ryan Harris (2006) – Nautical Archaeologist, Parks Canada, Ottawa, Ontario, Canada
Heather Hatch (2006) – PhD student, Texas A&M University, College Station, TX
Jeanette Hayman (2011) – Contract Maritime Archaeologist, SWCA Environmental Consultants, Pacific Coast
Theresa Hicks (2012) – Philadelphia, PA
Robert Holcombe (1993) – Retired, Naval Historian and Curator, Port Columbus Civil War Naval Center, Columbus, GA
Joshua Howard (2004) – Research Historian, Office of Archives and History, Raleigh, NC
Nathaniel Howe (2012) – Nautical Archaeologist & Vessel Manager, Arthur Foss and Lightship No. 83, Northwest Seaport, Seattle, WA
Joseph Hoyt (2008) – Maritime Archaeologist, NOAA National Marine Sanctuaries, Newport News, VA
Michael D. Hughes (2003) – Project Manager, SAIC, Washington, DC

J

Claude V. Jackson (1991) – Museum Curator, St. Louis, MO
Tiffany (Pecoraro) James (2007) – Vice President of Project Development and Government Relations, Magnum Energy, Salt Lake City, UT
Brian Jaeschke (2003) – Registrar, Mackinac Island State Park Commission, Mackinac Island, MI
John O. Jensen (1992) PhD – Lecturer in Maritime History, Sea Education Association, Woods Hole, MA

In Memoriam: Wesley Keith Hall

Our own soft-spoken and adventure-loving Wes Hall passed away on Monday, August 27, 2012. He was a marine archaeologist and ECU Program in Maritime Studies alum. Wes was widely recognized for his maritime heritage work. He discovered the CSS *Hunley* and the 1677 French fleet in Tobago. He founded Mid-Atlantic Technology and Environmental Research, Inc., and worked extensively with Clive Cussler's non-profit National Underwater and Marine Agency. Those who were close to Wes and worked with him knew him as an excellent diving buddy, a great jokester, and a solid good man who was rarely in a bad mood. The *Stem to Stern* staff would like to take this opportunity extend our condolences to his family, and express our appreciation for the contributions Wes made to the field.

Doug Jones (2007) – Marine Archaeologist, Bureau of Ocean Energy Management (BOEM), New Orleans, LA

Jennifer Jones (2012) - PhD student, Coastal Resources Management, East Carolina University, Greenville, NC

Rick Jones (1996) – Building Contractor, Morehead City, NC



John Kennington (1995) – Communications Officer, Campus Services, Georgia Institute of Technology, Atlanta, GA

Kurt Knoerl (1994) – Managing Director, The Museum of Underwater Archaeology; PhD student, George Mason University, Fairfax, VA

Nadine Kopp (2012) – Project Archaeologist, Paterson Group, Ottawa, ON

Mike Krivor (1998) – Maritime Project Manager/ Principal Investigator, Southeastern Archaeological Research, Inc., Pensacola, FL

David Krop (2008) – Director, USS Monitor, Mariners' Museum, Newport News, VA



Danielle LaFleur (2003) – Historic Sites Curator, Lakeshore Museum Center, Muskegon, MI

Marshall Lamm (2012) – Curator, North Carolina Baseball Museum, Wilson, NC

Matthew Lawrence (2003) – Maritime Archaeologist, Stellwagen Bank National Marine Sanctuary, Scituate, MA

Adam Lehman (2006) – Whitsett, NC

Amy Leuchtmann (2011) – Maritime Archaeologist, HDR, Inc., New Orleans, LA

Wayne Lusardi (1998) – Michigan's State Maritime Archaeologist, Thunder Bay National Marine Sanctuary, Alpena, MI



Morgan MacKenzie (2011) – Field Archaeologist, Dovetail Cultural Resource Group, Fredericksburg, VA. Independent Contractor

Richard Mannesto (1993) – Great Lakes Shipwreck Historical Society, Sault Ste. Marie, MI

Eleftheria Mantzouka (2004) – Underwater Archaeologist, Athens, Greece

Tom Marcinko (2000) – South Carolina Department of Natural Resources, Charleston, SC

Jacqueline Marcotte (2011) – Maritime Archaeologist, Environmental Science Associates, Seattle, WA

Amy Jo (Knowles) Marshall (1996) – Library Director, The Craig Public Library, Craig, AK

Timothy Marshall (1999) – Zone Archaeologist, Tongass National Forest, Craig, AK

Deborah Marx (2002) – Maritime Archaeologist, Stellwagen Bank National Marine Sanctuary, Scituate, MA

Roderick Mather (1990) PhD – Associate Professor, Department of Archaeological Oceanography, University of Rhode Island, Kingston, RI

Christopher McCabe (2007) – Deputy State Archaeologist, Georgia DNR, Coastal Underwater Archaeology Field Station, Savannah, GA

Peter McCracken (1999) – Co-Founder and Director, ShipIndex.org, Trumansburg, NY

Phillip H. McGuinn (2000) – Deputy Public Affairs Officer, U.S. Submarine Forces, Norfolk, VA; Naval Reserve Captain, U.S. Northern Command, Colorado Springs, CO

Salvatore Mercogliano (1998) PhD – Assistant Professor of History, Campbell University, Buies Creek, NC and Adjunct Professor of History, U.S. Merchant Marine Academy, King's Point, NY

Ann Merriman (1996) PhD – Nautical Archaeologist, Maritime Historian, Administrative Director, and Co-Founder, Maritime Heritage Minnesota, St. Paul, MN

Keith Meverden (2005) – Underwater Archaeologist, State Historical Society of Wisconsin, Madison, WI

David Miller (2005) – Instructor, Craven Community College, Havelock, NC

Robert Minford (2012) – MA student, Geographic Information Sciences, University of Maryland, College Park, MD

Calvin Mires (2005) – Staff Archaeologist and PhD student, East Carolina University, Greenville, NC

Amy Mitchell (1994) PhD – Associate Professor, University of West Florida, Pensacola, FL

Kimberly E. Monk (2003) – PhD student, Bristol University, England

David Moore (1989) – Curator of Nautical Archaeology, North Carolina Maritime Museum, Beaufort, NC

James Moore (2003) PhD – Marine Archaeologist, Bureau of Ocean Energy Management (BOEM), Herndon, VA

R. Scott Moore (1992) PhD – Professor and Chair, Department of History, Indiana University of Pennsylvania, Indiana, PA

Shawn Holland Moore (1998) – Assistant Director of Alumni Programs, East Carolina Alumni Association, East Carolina University, Greenville, NC

Stuart Morgan (1985) – Public Information Director, South Carolina Association of Counties, Columbia, SC

Jeff Morris (2000) – Owner/Senior Scientist, Azulmar Research, LLC and Geomar Research, LLC, Port Republic, MD

John W. (Billy Ray) Morris (1991) – Director, Underwater Archaeology Branch, Kure Beach, NC



Sam Newell (1987) – Middle School History Teacher, C.M. Eppes Middle School, Greenville, NC

Kevin Nichols (2002) – Intelligence Research Specialist, Department of the Army; PhD student, Wayne State University, Detroit, MI



Christopher Olson (1997) – Nautical Archaeologist, Maritime Historian, Operations Director, and Co-Founder, Maritime Heritage Minnesota, St. Paul, MN

Deirdre O'Regan (2001) – Editor, SEA HISTORY; Vice President National Maritime Historical Society, Pocasset, MA



Jason Paling (2003) – PhD student, Department of Anthropology, State University at Albany, Albany, NY

Harry Pecorelli III (2003) – Sub-Oceanic Technologies, Inc., Charleston, SC

Martin Peebles (1996) – ER Nurse, St. Petersburg, FL

Jacqueline Piero (2004) – “enjoying life,” Newark, DE

Andrew Pietruszka (2005) PhD – Forensic Archaeologist, Joint POW/MIA Accounting Command, Joint Base Pearl Harbor – Hickman, HI

Mike Plakos (2003) – Senior Technical Analyst, U.S. Navy, Washington, DC

Larkin Post (2007) – Gartley & Dorsky Engineering & Surveying, Camden, ME

Sarah Milstead Post (2007) – Program Manager, Maine Coast Heritage Trust, Rockport, ME

Darren Poupore (2004) – Chief Curator, Biltmore Estate, Asheville, NC

Edward Prados (1993) – Country Director, AMIDEAST, Aden/Sana'a, Yemen

Franklin Price (2006) – Senior Archaeologist, Florida Bureau of Archaeological Research, Tallahassee, FL



Coral Rasmussen (1993) – Cultural Resources Manager, Environmental Compliance and Protection Dept. Marine Corps Base Hawaii, Honolulu, HI

Eric Ray (2009) – Curator, Museum of the Coastal Bend, Victoria, TX

James R. Reedy, Jr. (1987) – Contract Archaeologist, Beaufort, NC

Phillip Reid (1998) – PhD student, Memorial University of Newfoundland, St. John's, NL/ Wilmington, NC

Valerie Rissel (2012) – Craven Arts Council and Gallery, New Bern, NC

William A. Robie, Jr. (1993) – Atlantic Beach, NC

Todd Robinson (1998) – History Department Instructor and Head Soccer Coach, James Island Charter High School, Charleston, SC

Bradley Rodgers (1985) PhD – Director and Professor, Program in Maritime Studies, East Carolina University, Greenville, NC

Jason Rogers (2004) PhD – Archaeologist, Northern Land Use Research, Inc., and Alaska Maritima, Anchorage, AK

Flippo Ronca (2006) – Nautical Archaeologist, Parks Canada, Ottawa, Ontario, Canada

Matthew Russell (1995) PhD – Archaeologist, William Self Associates, Inc., Orinda, CA



John Schaefer (1994) – Schoolteacher, Washington, NC; PhD student, UNC Chapel Hill

James Schmidt (1991) – Nautical Archaeologist, Naval Historical Center, Washington, DC

Robert Schneller (1986) PhD – Historian, Naval Historical Center, Washington DC

Laura Kate Schnitzer (2012) – Field Archaeologist, The Louis Berger Group, Inc., Cleveland, TN

Ralph Lee Scott (1979) – Professor, Curator of Printed Books and Maps, Joyner Library, East Carolina University, Greenville, NC

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Joshua Smith (1997) PhD – Department Head, Department of Humanities, U.S. Merchant Marine Academy, & Interim Director, American Merchant Marine Museum, Kings Point, NY

Lindsay Smith (2010) – Underwater Archaeologist, Division of Historical Resources, Tallahassee, FL

Jon Travis Snyder (2006) – MFA student in ECU Program in Wood Design and Lutier, Greenville, NC

Chris Southerly (2003) – Chief Archaeologist & Diving Supervisor, NC Underwater Archaeology Branch, Kure Beach, NC

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James Spirek (1993) – State Underwater Archaeologist, SC Institute of Archaeology & Anthropology, Columbia, SC

Joyce Steinmetz (2010) – PhD student, Coastal Resources Management, East Carolina University, Greenville, NC

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Bruce Terrell (1988) – Chief Historian and Maritime Archaeologist, NOAA National Marine Sanctuaries Maritime Heritage Program, Silver Spring, MD

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Matthew Thompson (2010) – Nautical

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Hans Van Tilburg (1995) PhD – Maritime Heritage Coordinator, NOAA National Marine Sanctuary Program Pacific Islands Region, HI

Ray Tubby (2000) – Nautical Archaeologist, PBS&J, Austin, TX

Lex Turner (1999) – Psychiatric Nurse Practitioner - PCMH, Greenville, NC

Kenneth Tyndall (1988) – New Bern, NC

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Christopher Valvano (2007) – PhD student, Michigan State University, Lansing, MI

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John Wagner (2010) – Maritime Archaeologist, NOAA Office of National Marine Sanctuaries, Newport News, VA

Daniel Warren (1998) – Senior Marine Archaeologist and Houston Asst. Geosciences Manager, C & C Technologies Survey Services, Inc. Houston Office, Houston, TX

Sarah Waters (1999) – Education Coordinator, Thunder Bay National Marine Sanctuary, Alpena, MI

Gordon P. Watts (1975) PhD – Retired from ECU 2001, Director, Tidewater Atlantic Research and International Institute of Maritime Archaeology, Washington, NC

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Wilson West (1985) PhD – Director, West Hall Heritage Research and Consulting, Toronto, Ontario, Canada

Robert Westrick (2001) – Senior Marine Archaeologist, C & C Technologies Survey Services, Inc., Lafayette, LA

David Whipple (1993) – Alexandria, VA

Heather White (2004) – Director of Marketing & Outreach, Pitt County Arts Council at Emerge, Greenville, NC

Scott Whitesides (2003) – Archaeologist/ Curator, Golden Spike National Historic Site, Brigham City, UT

Elizabeth Whitfield (2005) – “living life to the fullest and loving it,” Lakewood, CO

Kimberly Williams (2000) – History Professor, Hillsborough Community College, Tampa, FL

Stephen Williams (2004) – Program Manager, Acentia, Middletown, MD

Sarah Wolfe (2001) – Exhibit Registrar, George Washington’s Mount Vernon, Mount Vernon, VA

Steve Workman (2002) PhD – Director of Admissions and Assistant Professor, Virginia Tech Carilion School of Medicine, Roanoke, VA

Elizabeth Wyllie (2012) – Consultant, Friends of the Greenville Greenway, Babylon, NY

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Wilson York (2007) – Middle School History Teacher, Mt. Pisgah Christian School, Atlanta, GA