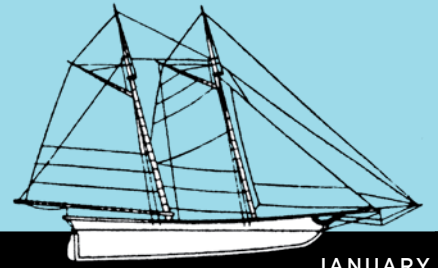


East Carolina University

Stem to Stern



JANUARY
2010
VOLUME 26

A Newsletter for our Maritime Studies Alumni and Friends

PROGRAM IN MARITIME STUDIES | EAST CAROLINA UNIVERSITY | GREENVILLE NC

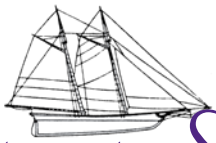
Maritime Archaeology on the HMS Bedfordshire

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PHOTO: JENNIFER JONES



Stem to Stern

... a newsletter of East Carolina University's
Program in Maritime Studies

Core Faculty:

Lawrence E. Babits, PhD, Director
Susanne Grieve, MA, Coordinator,
Conservation Lab
Lynn B. Harris, PhD
Nathan Richards, PhD
Bradley A. Rodgers, PhD, Director,
Conservation Lab
David J. Stewart, PhD

Contributing Faculty:

Wade Dudley, PhD
Michael A. Palmer, PhD
Carl E. Swanson, PhD

Staff Archaeologist:

Calvin Mires

Office Manager:

Karen Underwood

Editor:

Stephanie Gandulla

Co-Editor:

Amanda Switzer

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Stem to Stern
Program in Maritime Studies
Admiral Ernest M. Eller House
East Carolina University
Greenville, NC 27858-4353

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>

ON OUR COVER:

Dr. Nathan Richards measures wreckage on the HMT *Bedfordshire*. Photo: Brett Seymour, NPS Submerged Resources Center.
Inset: Dr. David Stewart and Stephanie Gandulla survey *Vasa's* lower gundeck.

1,500 copies of this public document were printed at a cost of \$3,655.48 or \$2.436 per copy. ASC-000924 (11/09)

Read about the exciting Fall Field School in the Cashie River on page 15.



"Shipwrecks and wharves and leeches, oh my!"

Benjamin Siegel and Kate Schnitzer take direction from Dr. Lynn Harris.

PHOTO: THERESA HICKS

From the Editorial Staff:

2009—what an exciting time to be an ECU Maritimer! This past year has proven to be as interesting as ever, with educational opportunities that have truly run the gamut. Building upon valuable classroom experiences that included building model ships and developing individual research designs, students were well prepared for challenging summer and fall field schools. From zero-visibility diving to recovering Confederate cannon shells to recording a mysterious, black-water shipwreck, these projects developed skills that will remain with participants wherever their careers take them.

It does indeed look like ECU graduates will continue to be the ones to watch in the field of maritime archaeology in coming years. Our Maritimers are engaged in exciting, on-the-ground thesis research in such diverse locales as Sweden, Jamaica, Georgia, and of course, North Carolina. Over the past year, students have represented the Program admirably with individual presentations at nine different conferences!

With another incoming class of enthusiastic and dedicated scholars, it is exciting to look forward and imagine what we can accomplish. The Program in Maritime Studies doesn't necessarily specialize in a specific time period or geographical area but rather, in its students' success. This is clear with the breadth of the staff and faculty's knowledge and the curriculum's variety. Collective experiences have contributed to solid professional development and memories to last a lifetime. Just check out the latest "Where Are They Now"... Maritimers past and present are engaged in exciting endeavors all over the world. 🌊

— Stephanie Gandulla

More than projects and ships and research and conferences, *Stem to Stern*, and this program, is about people. People coming together to talk and learn, people coming together to argue, and people coming together to support others. One of the best things so far about working on *Stem to Stern* and at the Maritime Program is the instant feeling of community. No matter what else happens in life, no matter where our careers take us, no matter who we end up being years down the line, that community, that support for our dreams and hopes remains. This newsletter is a product of that community, a way for everyone to remain connected. 🌊

— Amanda Switzer

From our Director:

The new year began with a busy week as the entire Maritime Staff and over 20 students went to Toronto for the Society for Historical Archaeology meetings. Between students, alumni, and faculty, we presented about two dozen papers and there were over three dozen ECU folk there. There were numerous archaeological high points, including seeing several students presenting their first papers and being well received.

A comment about our alumni should be made here. During the SHAs, I asked several people if we could download power point presentations. This was never refused, in part, because

our alumni have done very well, and often contributed to the project being reported. Their skilled work and reputation provided access to materials that will be used to instruct the next generation. The ECU alumni reputation was particularly noted in dealing with Parks Canada and the Hamilton/Scourge project.

Shortly after returning, the Coastal-Maritime Council voted to endorse and support the concept of an ECU Maritime Heritage Campus. At the same meeting, they also voted Lyz Wyllie a fellowship to study Pitt and Edgcombe courthouse records for mill, dam, bridge and road records. Even though the budget crisis cut those funds, her research will help us better understand the Old Sparta Vessel and its Tar River context.

Before the winter ended, it was clear the country was in the throes of a financial crisis. By mid-March, everything was being cut back and available money was being swept up. Fortunately, we had spent most of our budget and encumbered what remained. Still, the crisis had a major impact on all sorts of Maritimer activity, especially travel and equipment purchases. History had to let some faculty go temporarily as the cuts went deeper and deeper in the budget and then ran over into the 2009-2010 academic year. A side effect has been that we are seeking far more outside support than before and writing student support into grants and contracts.

The budget crisis has impacted *Stem to Stern*. You will notice that only the cover is in color. That concession is not a step back, but a budgetary holding action. We have included an envelope with this issue. We ask that if you want to continue receiving *Stem to Stern*, you send the envelope back and let us know. It is pre-addressed and pre-paid. All you have to do is insert a card with your name and address (and tell us about your current position). We have to cull the mailing list, another financial step. If you want to send a donation to support the program, a specific project, or *Stem to Stern*, please feel free to do so. We truly are strapped for operating monies.

In early February, Mildred Still, wife of our founder, Bill Still, passed away. It

was somewhat unexpected as she had been recovering from an earlier illness and doing well. As with all such rites of passage, the memorial was a sad and happy affair. A number of alumni attended the funeral and paid their respects and we all caught up on what we'd been doing. Easels full of pictures showed Bill and Mildred over their life histories, including one of a young Bill taken while he was on active duty with the Navy.

In late February, we hired Susanne Grieve as Conservator after a search of some months, involving interviews in Canada and by telephone. Susanne formally came on board, having survived the North Carolina budget crisis, in August but had been in constant touch since March. Since late July, she has settled into a new home and begun reorganizing the Conservation Lab. As the fall progressed, she began dealing with potential contracts and grants, suggesting ideas for the lab, and providing input about courses and field schools.

The summer 2009 field school on the Pee Dee River was interesting. The students survived high, fast floodwaters and got a different type of field school experience than usually occurs. Some information was learned about ship yards and what they contain. A study of Confederate naval artillery projectiles also came out of the project which was funded by the Drs. Bruce and Lee Foundation through the South Carolina Institute of Archaeology and Anthropology. Several papers have been accepted for presentation at SHA and at least two theses are coming out of this field school.

Dave Stewart took another group to the *Vasa* where they recorded the lower gun deck using techniques developed on the beakhead. Several students are now working on *Vasa*-related theses. We all owe Dave and Fred Hocker our thanks for allowing us to help record this world heritage site.

We were again successful in obtaining North Carolina Sea Grant funding for student projects. Lindsay Smith and Theresa Hicks were both heartened to receive funding for their thesis topics. They go into detail about their field work in this issue. They are continuing our successful relationship with Sea Grant support of student research in eastern North Carolina.

As the new school year began, we welcomed many new faces as the students in the class of 2009 began studies. We met many of them at the Welcome Aboard social the first Friday of school work. The gathering was highlighted by presenting Vice Chancellor Mageean and Dean White with framed Bermuda \$50.00 bills that feature the Western Ledge Wreck site.

The Fall 2009 field school was close to home and very successful. It turned out to be an early dock filled with ballast debris as well as a ship. A number of unused gunflints and some very curious green glazed slipware ceramics came from this site. As I write this, there are field drawings and a composite being assembled for inking in the seminar room. Theresa Hicks is writing it up as her thesis.

There were many conferences. Although our attendance was down, we did have a presence and renewed old friendships. Several students won awards for their presentations. The Department of Interior recognized the World War II project studying the U-Boat attacks on American shipping. Nathan Richards, John Wagner and Joe Hoyt (2008) were prime contributors to this research effort.

The year was also busy with meetings about the maritime Program's future. These covered three tracks, the Maritime Heritage Campus, the proposed doctoral program, and upgrading Conservation Lab facilities and operations. As this issue goes to press, the Maritime Heritage Campus has moved into the University levels for additional discussion and approval to continue its consideration. The request for planning the doctoral program was passing through the Department of History into higher reaches as well. Susanne Grieve has reorganized the lab and Brad will be teaching Advanced Conservation in the spring.

What else? It's been a busy year that has gone by faster than anyone realized. Underwater hockey is back in business. Our planning for the next year shows tremendous variety in place and topic, especially as our work relates to research. We also hope to resurrect our commitment to crewing the US Brig *Niagara* and continuing the *Vasa's* documentation. g

– Larry Babits

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

Maritimers on the Road:

Maritimers on the Road: 2009 Conferences

SHA CONFERENCE -

Strong ECU presence at Society for Historical Archaeology Conference

In early January, Maritime faculty and students traveled to Toronto, Ontario, for the Society for Historical Archaeology's 42nd Annual Conference on Historical and Underwater Archaeology. The theme for 2009 was *The Ties that Divide: Trade, Conflict & Borders*. Several ECU faculty and students presented on current research.

Dr. Larry Babits presented research on the Dan and Roanoke Rivers as a battlefield. Dr. David Stewart made a presentation on the Washington Park Vessel, a 19th-century vernacular craft, while Dr. Nathan Richards discussed the Myers Slip Vessel, a *Medina*-class gunboat in St. Georges, Bermuda. Nadine Kopp presented her work on the Navy Bay Wreck of Kingston, Ontario, and Amy Leuchtmann discussed ECU's three-dimensional documentation of the *Vasa*, a 17th-century Swedish warship. Eric Ray discussed his thesis research on the *Vasa*'s galley, and Jacqueline Marcotte presented her thesis research on the Wright's Creek Abandoned Vessel Complex. Peter Campbell discussed the archaeological applications of RhinoPhoto's® photogrammetry software, that affords the ability to create three-dimensional site plans on land and underwater.

A majority of the first-year students traveled to the conference to participate in workshops, roundtable luncheons, and hear

papers. Many Maritimers took part in the forum *Underwater Archaeological Research and Ephemeral Ties with the Local Community*, sponsored by the Advisory Council on Underwater Archaeology, where they learned techniques for communicating with the public and creating successful public programs. Several ECU students also volunteered their time at the conference, assisting with presentation technology or managing the registration desk. Meanwhile, students and faculty spent most evenings wandering through the snow to visit local restaurants and pubs. ☁

– Jessica Smeeks

MAAC CONFERENCE -

2009 Middle Atlantic Archaeological Conference

The 39th annual Middle Atlantic Archaeological Conference (MAAC) was held 19–22 March 2009 in Ocean City, Maryland. Maritime presentations expanded from the traditional Underwater Archaeology session into a symposium titled "Military-Site Archaeology East of the Mississippi." The symposium honored keynote speaker, Dr. Doug Scott, for his experience with over forty battlefields. Spanning thirty years with the Department of the Interior, Dr. Scott specializes in forensic archaeology and firearms identification. Requested by the United Nations and human rights organizations, Dr. Scott has applied his expertise and battlefield modeling to present day forensic investigations in El Salvador, Croatia, Rwanda, Cyprus, and Iraq.

In the Military-Site symposium, Dr. Lawrence Babits presented "The Last of the Civil War Double-Enders: The USS *Ostego* as an Archaeological Site," co-authored with Dr. Nathan Richards and Brian Dively (2008). Designed for the



PHOTO: LARRY BABITS

Joyce Steinmetz presents her research on the *Miss Betty J.*

shallow Confederate waters of Pamlico and Albemarle Sounds, the USS *Ostego* hit two mines in the Roanoke River in December 1864. The vessel was a total loss and the Union Navy destroyed the machinery. Later, the US Army Corps of Engineers damaged the vessel by moving it out of the channel. The presentation focused on the vessel's design, as gleaned from the archaeological record, and other *Sassacus*-class vessels and their plans.

In the Underwater Archaeology session, six presenters covered a wide range of Mid-Atlantic research. David Howe, Institute for Maritime History (IMH), summarized the 2008 findings of the Submerged Inventory Project (SHIP) Reconnaissance, including mapping four wreck sites in the Potomac and St. Mary's Rivers for the Maryland Historic Trust. Representing Julia Kleyman, William Utley, Dr. Gordon Watts (1975), Dr. Robert Neyland, and ThermoFisher, Raymond Hayes reported on the effectiveness of a portable x-ray fluorescence analyzer (XRF) for rapid qualitative and quantitative field assessment of unknown composition artifacts from the CSS *Alabama* and USS *Tulip*. Erin Secord, co-author with Susanne Grieve and Eric Nordgren, all of the Mariners' Museum, discussed the development and implementation of a hands-on conservation laboratory workshop. The Chemistry in Conversation Program teaches chemical and electrochemical processes to school children ages 10–16. Stephen Bilicki, BRS Cultural Resource Specialist and GeoMar, LLC, reviewed the history and trade routes of cultural material



PHOTO: JENNIFER JONES

Joyce Steinmetz and Kate Schnitzer participate in an archaeological illustration workshop at SHA.

from Europe, Africa, and the Caribbean into the Chesapeake Bay and Potomac River. William Utley, IMH, discussed the history of the gunboat *CSS George Page* and the Confederate schooner *Martha Washington*, last reported in Quantico Creek, Virginia in early 1862.

Second year student Joyce Steinmetz presented “An Archaeological and Historical Investigation of the North Carolina Fishing Vessel *Miss Betty J*.” A few miles from the builders’ homestead, *Miss Betty J* lies in Wright’s Creek, off the Pungo River. Major Wilson Foster was a prolific yet traditional North Carolina boat builder of small skiffs and up to 65’ long commercial fishing vessels. Foster described his boatbuilding as “Chesapeake style,” with dead rise, hard chine, and bottom cross planks. *Miss Betty J* had a 25-year life, trawling for crab and shrimp in Pamlico Sound. As the last large vessel built by Foster, *Miss Betty J* represents the culmination of a life-long career building boats with only hand tools. The archaeological and historical record documents a small glimpse into a remarkable era of North Carolina vernacular boat building. 🦞

– Joyce Steinmetz

NASOH CONFERENCE - ECU Maritimers at NASOH

The North American Society for Oceanic History (NASOH), the American affiliate of the International Commission for Maritime History, held its annual meeting in Vallejo, California, 13–17 May 2009. The California Maritime Academy, part of the California State University system, hosted the meeting and provided beautiful vistas of San Pablo Bay. The theme for this year’s conference was *Ports, Forts, and Sports: Maritime Economy, Defense, and Recreation through Time and across Space*. Fourteen sessions included fifty different papers on a wide variety of maritime topics from eighteenth-century piracy to sports in the nineteenth-century Royal Navy and the material culture of surfing.

As usual, East Carolina University students, faculty, and alumni played a leading role in presenting papers. In fact, ECU’s



ECU presence at NASOH Conference. (l to r): Tricia Dodds, Jim Allan, Bill Thiesen, Bob Browning, Paul Fontenoy, Carl Swanson, & Joyce Steinmetz.

contributions began before the conference even started, as Jim Allen (1996) preserved as one of the conference program co-chairs. Students in the Program in Maritime Studies delivered papers on topics spanning the eighteenth through the twentieth centuries. Tricia Dodds examined eighteenth-century merchant shipping in her paper, “The North Carolina Schooner: Economic Engine of Coastal Commerce.” Joyce Steinmetz focused on Civil War maritime developments in “Civil War Blockade Runner Effectiveness through St. Georges, Bermuda.” Nathaniel Howe, who had been accepted into the Maritime Program but had not yet seen the wonders of Greenville, discussed the difficulties of preserving historic vessels in “The Demise of the Museum Ship *Wawona*: The Process of Settling a Historic Ship’s Fate.”

East Carolina alumni delivered numerous papers as well. Bob Browning (1980) of the US Coast Guard Historian’s Office in Washington, DC, talked about unusual efforts to save lives in “The Weird, the Wild, and the Wacky: Odd Lifesaving Inventions Offered to the US Lifesaving Service.” Bill Thiesen (1993), also from the US Coast Guard Historian’s Office examined “Naval Operating Base Cactus and Coast Guard Operations at Guadalcanal.” Hans Van Tilburg (1994), with the NOAA Office of Marine Sanctuaries in Hawaii, focused on nautical archaeology in his paper “Stepping Stones in the Pacific: The Wreck of the

USS Saginaw.” World War II submarines were the subject of two other alumni presentations: Paul Fontenoy (1995), curator of maritime research at the North Carolina Maritime Museum, presented “Submarine Construction and the West Coast: The US Navy and Industrial Diversification.” Diane Cooper (1995), ship’s curator at the USS *Pampanito* Museum (part of the San Francisco Maritime National Park) examined how sailors spent their time in port: “Submariners Ashore: The USS *Pampanito* and Her Ports of Call.” Ray Ashley (1994), president and chief executive officer of the San Diego Maritime Museum, discussed California maritime history in “The *San Salvador* Project.”

Finally, Carl Swanson, director of graduate studies in history at ECU, presented a paper on a subject that is clearly near and dear to all ECU students, alumni, and faculty: pirates. His paper’s title was “The unspeakable Calamity this poor Province Suffers from Pyrats’: South Carolina and the Golden Age of Piracy.”

Although conference participants devoted the lion’s share of their attention to scholarship, there was time for receptions, dinners, and a tour of the historic ships at Hyde Street Pier, part of San Francisco Maritime National Historical Park. One of the annual meeting’s highlights occurred at the banquet when Bob Browning received the K. Jack Bauer Award, which was created to honor those who have given

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Maritimers on the Road: Maritimers on the Road: continued

NASOH CONFERENCE - continued

distinguished service to NASOH and have made lifetime contributions to the field of maritime history. Using his ECU master's thesis about the Union blockade of Wilmington, North Carolina, as his port of embarkation, Bob has written two distinguished books about Civil War blockading as well as a study of casualties in the World War II merchant marine. Bob has also served on numerous NASOH committees over the years.

NASOH will return to the East Coast for its 2010 annual meeting. The University of Connecticut-Avery Point, and Mystic Seaport will co-host the conference from 12-16 May. The broad theme for 2010 is "Maritime Environments," which includes the scholarly contexts of contemporary crises, such as concerns over depleted fish stocks, piracy, changing climate, global shipping policies, and the safety of merchant mariners and port communities. ☞

- Carl Swanson

NCMHC CONFERENCE -

Four Maritimers present at The Annual North Carolina Maritime History Conference

The Annual North Carolina Maritime History Conference (NCMHC) was a success, drawing a host of North Carolina historians, archaeologists, and curious history buffs. NCMHC, a non-profit organization

dedicated to the enrichment and preservation of maritime history and culture, sponsored the conference. The conference, held September 10 through 12, took place at two locations, the North Carolina Maritime Museum (NCMM) in Beaufort, and the Core Sound Waterfowl Museum on Harker's Island. Four graduate students from ECU's Program in Maritime Studies presented on various topics relating to North Carolina history and archaeology, taking this opportunity to disseminate knowledge and research on their individual theses.

Matt Thompson presented thesis research on the *Bohemian Girl*, an archaeological study of a late 19th-century steam launch previously operating on North Carolina's Lake Waccamaw. Lyz Wyllie discussed her archaeological study of the Old Sparta Vessel. Located in the Tar River, the so-called Old Sparta Vessel is possibly a 19th-century steamboat, although research into its identity is ongoing. Jacqueline Marcotte presented her research about the Wright's Creek Abandoned Vessel Complex. In particular, Jacqueline concentrated on the history of Wright's Creek, a commercial fishing community experiencing serious decline. Joyce Steinmetz gave a paper on the *Miss Betty J*, one of the vessels in the Wright's Creek Abandoned Vessel Complex.

Students rounded out their conference experience by attending a fundraiser by the local Marshallberg community to save their harbor. In return for a small sum, students were rewarded with fresh fried shrimp caught by local fishermen, and other home-cooked fare. Several conference attendees finished their day enjoying a warm meal while helping the local community save their maritime way of life. ☞

- Jacqueline Marcotte



PHOTO: LAUREN BARRIS

Presenters at NCMHC (l to r): Joyce Steinmetz, Matt Thompson, Jacqueline Marcotte, Lyz Wyllie.

CAA CONFERENCE -

Ship Construction Shines at CAA Conference

This year, students from the Maritime Studies program had a rare opportunity to participate in the Computer Applications and Quantitative Methods in Archaeology (CAA) conference. This conference, now in its 37th year, is the preeminent high-tech archaeological methods conference in the world. The conference's goal is to encourage the development of technologies to help us better understand the past, whether those technologies are useful in the field recording stages of a project, analysis, or in public outreach. Such large scope gives presenters and attendees an excellent chance to see methods and equipment with which they are not familiar.

Unfortunately for those of us in the United States, it is seldom on this side of the Atlantic. The 2009 conference in Williamsburg, Virginia, was only the second American-hosted CAA since 2000.

Two Maritime students presented at the conference. Eric Ray chaired the Computer Applications in Maritime Sites session, which included both his paper on digital ship reconstruction techniques and Peter Campbell's paper "High tech and low cost archaeological recording: Total station, Rhino, and Rhinophoto."

Eric's paper covered the use of archival sources and software to accelerate the arduous process of ship reconstruction. New digital methods both speed the old process of hull reconstruction and make types of analysis, such as sailing performance in different conditions and with different sail sets, possible for the first time.

Peter discussed new software for underwater photogrammetry, the science of making measured models out of photographs. In the past, photogrammetric software required a labor-intensive process of point matching between photographs. New software allows for coded sticky "targets" that make post-processing a matter of minutes rather than hours or days.

While neither student's research could be considered finished, the chance to discuss the methods and results with other researchers in the field was valuable, especially considering the proximity of Williamsburg to Greenville! ☞

- Eric Ray

PHI ALPHA THETA CONFERENCE -

Maritimers Travel to Boone to Represent at Regional Conference

On March 28, 2009, a cadre of ECU graduate students attended the Phi Alpha Theta Carolinas Regional Conference at Appalachian State University in Boone, North Carolina. The annual conference serves as a venue for paper presentation and includes professorial review of papers. In this competitive environment, the Maritime Studies program was well represented by Morgan MacKenzie, Lindsay Smith, Lyz Wyllie, and myself, while History and History Education sent additional students. Topics covered during the conference were highly varied. Lyz presented her findings on the Old Sparta Vessel. Morgan and Lindsay presented their research evaluating the survey potential of vessels off the North Carolina coast. I presented a far less archaeologically-focused paper—an analysis of Federal amphibious operations in North Carolina during the Civil War.

As a whole, ECU fared extremely well in winning the graduate category, placing four presentations in the top six. Our graduate students were universally acknowledged for having the best topic presentations among the schools represented. My presentation received a third-place award, and History Education graduate student Keith Parker's strategic evaluation of the Civil War battle of Monocacy tied for overall best presentation.

Next year, we hope to maintain this level of excellence at the Regional Conference in Myrtle Beach, SC. 🐚

— Marshall Lamm

HARRIOT CONFERENCE -

Maritimers Represent at ECU's Thomas Harriot Conference

Thomas Harriot is far from just a name adorning the university's College of Arts and Sciences. In 1585, he set foot on the soil of North Carolina as part of the first English colony in the New World. For thirteen months, Harriot studied the flora, fauna, and natives of coastal North Carolina, then published a report regarding his observations. Harriot was more than just an explorer, however. His many studies included astronomy, physics, optics, linguistics, military fortifications, and algebra.

To commemorate and promote study of his many accomplishments, the Thomas Harriot College of Arts and Sciences chose to host the Harriot Quadricentennial Conference on April 1-4, 2009. The conference covered a variety of topics as well as locations, involving lectures at the University of North Carolina at Chapel Hill, the North Carolina Museum of History, East Carolina University, the Fort Raleigh National Historic Site, and Roanoke Island Festival Park. This conference was the brainchild of History Professor Larry Tise and former Dean of Harriot College Keats Sparrow.

As Dr. Tise's Graduate Assistant, it was a richly rewarding experience to help organize and participate in this conference. I presented my research on collecting contemporary images to illuminate the written texts from the 1585-1586 voyage. Our work will lay the foundation for a future publication regarding this first voyage to North Carolina, using both the John White drawings and other contemporary sources to provide the first visual understanding of what explorers saw on our shores over four centuries ago. 🐚

— Marshall Lamm

RENCI CONFERENCE -

The HMS *Medway*/ *Medina* Sails Again.

One of the problems that we come across in the field of Maritime Archaeology is portraying information obtained from shipwrecks or abandonments in a vivid manner that excites the general public. Fortunately, through the use of computer graphics and software such as Rhinoceros®, we are able to utilize site plans generated through archaeological recording and ships' plans drafted before vessels were built to graphically and three-dimensionally rebuild a model. These models exhibit the characteristics and constructional elements used to initially build the vessel. While this creates a visually attractive representation of a vessel in all "its former glory" for public outreach, the model is also useful for archaeological study. By recreating the shipwreck using layers to depict different ship elements, we can add and remove structural components to better understand and visualize the salvage and site-formation that has occurred on a shipwreck over time.

This is what was done for last spring's Visualization Competition, hosted by ECU's Renaissance Computing Institute

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Medina-class vessel, view from stern to bow.



PHOTO: JOSEPH HOYT

Theses Defended IN 2009

Monica Ayhens, "Well Content With One Fireship: The Sociomedical Impact of Venereal Disease on the Channel Fleet, 1793–1815."

Tricia Dodds, "The Schooner as an Economic Tool in the Development of North Carolina's Commerce."

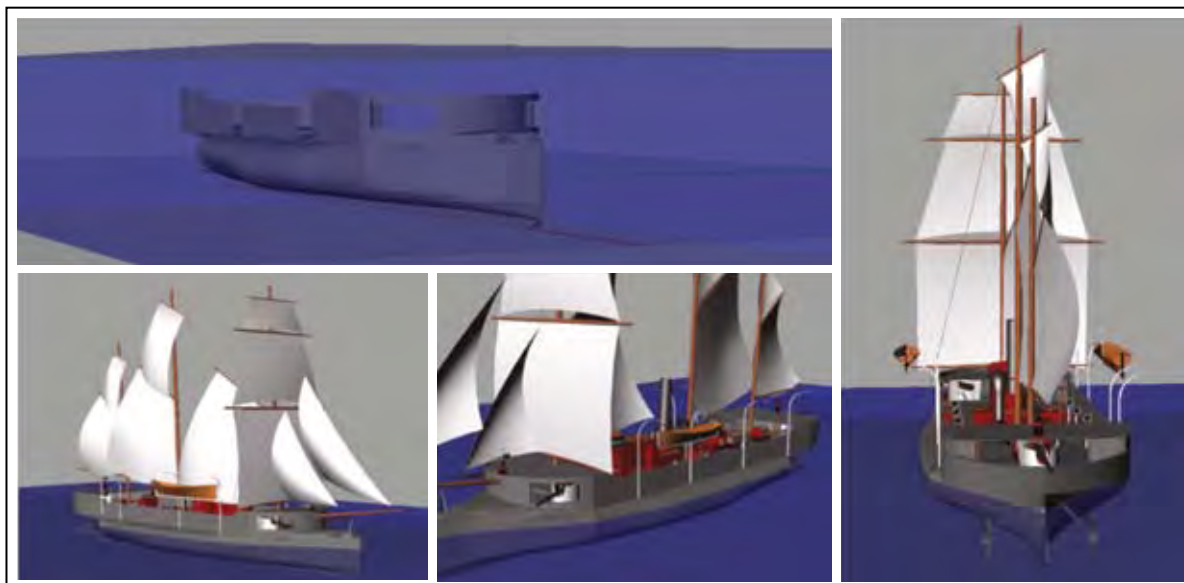
Peter Campbell, "The Development of Confederate Ship Construction: An Archaeological and Historical Investigation of Confederate Ironclads *Neuse* and *Jackson*."

(RENCI) Department. By taking scaled measurements (using Adobe Acrobat® measuring tool) of the original plans of the HMS *Medway* and the site plans generated by ECU Maritime students of the *Medina*-Class Gunboat identified as either the HMS *Medway* or HMS *Medina* located off Myers Slip in Bermuda, a rough three-dimensional depiction was created in Rhinoceros®.

While just a depiction of the *Medina*/*Medway* site-plan in three-dimensions can be an eye-catching way of garnering public interest in archaeological site preservation, the ability to use computer modeling to virtually reconstruct the entire vessel is what makes Rhinoceros® a valuable tool for archeological outreach and study. By taking base elements of the ship from the reconstructed 3D site-plan and adding more detail using components created from scaled-measurements of additional views of the original plans—including deck features, sails, armament, waterlines, and steam powered components—the vessel can in essence be “refloated” on a computer screen. This can then be presented to more viewers than will ever see the archaeological report.

Time constraints for the Visualization Competition prevented constructing every piece of machinery, lifeboat, and rigging element of the original ship. However, given enough time and experimentation with the computer program, nearly every detailed aspect of a ship-wreck, abandonment, or ship still afloat, could be accurately modeled for outreach and archaeological study alike. 🚢

– John Wagner



Computerized reconstruction of the HMS *Medway*/*Medina* depicting the ship's reconstruction from its current sunken disposition to its original sailing form.

ISBSA CONFERENCE - International Symposium on Boat and Ship Archaeology

The International Symposium on Boat and Ship Archaeology (ISBSA) is held every three years and comprised of archaeologists and students from around the world. It is one of very few conferences specifically dedicated to the study of water craft and focuses on recently completed or ongoing projects. With about 130 attendees from over thirty countries, the 12th ISBSA Symposium in Istanbul offered more than just informative posters, presentations, and discussions.

The Sunday before the conference began, a trip to the Yenikapi excavation proved to be a momentous occasion. In 2004, as part of the new Marmaray tunnel project to connect Europe and Asia via rail, construction workers discovered one of Istanbul's three Byzantine Harbors. The largest maritime excavation in

Europe, the Yenikapi project spans multiple city blocks, contains 32 wrecks, harbor foundations, remaining sections of the original city wall, and a prehistoric site.

On Wednesday, 14 October, presentations were confined to the morning hours, allowing participants to attend a trip to the Naval Museum that afternoon. Aside from

the exhibits open to the general public, ISBSA attendees were allowed access to the temporary storage facility housing a collection of Ottoman Galleys owned by the Turkish Navy, some of which date to the 15th century. Utilized by various sultans, their wives, and the sultan's harem, these vessels represent a small flotilla of Ottoman

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Yenikapi excavation, Istanbul, Turkey.



PHOTO: MORGAN MACKENZIE

galleys, demonstrating the progression of size and style through the last five centuries.

Two evening film festivals featuring experimental archaeological reconstruction projects entertained viewers during the first two nights. South Pacific sea-going outriggers, an ancient Egyptian ship, a replica of Uluburun, the reconstructed Viking *Sea Stallion fra Glendalough*, and a Black Sea medieval merchant ship, represented some of the subjects depicted in the movies.

An excellent opportunity for finding out about current projects, the use and practicality of the newest technology, as well as theory, interpretation, and methodology, was a worthwhile endeavor that promises to augment the knowledge base of even the most educated scholar. For more information on conference proceedings or to find out about the next symposium, set to be held in Amsterdam in 2012, visit www.isbsa.org.

– Morgan MacKenzie

Upcoming Conferences

Middle Atlantic Archaeological Conference

Ocean City, Maryland
March 18-21, 2010

21st Annual Symposium on Maritime Archaeology, History of Hawaii and the Pacific

Sunken Warbirds: The Legacy of Naval Aviation in the Pacific
Honolulu, Hawaii
February 13-15, 2010

Computer Applications and Quantitative Methods in Archaeology (CAA)

Fusion of Cultures
Grenada, Spain
April 6-9, 2010

Society for American Archaeology (SAA)

St. Louis, Missouri
April 14-18, 2010

North American Society for Oceanic History (NASOH)

Avery Point & Mystic Seaport, Connecticut
May 12-16, 2010

2010 Nautical Archaeology Society Annual Conference

University of Portsmouth
Portsmouth, England
November 6, 2010

from M.A. to Ph.D. . . . A Supposedly Fun Thing that I will Never Do Again: Undertaking a Master's and a PhD

I attended East Carolina University's Program in Maritime Studies during 2004-2005. After getting my master's, I went on to pursue a PhD under the direction of Associate Professor Mark Staniforth in the Department of Archaeology at Flinders University in Adelaide, South Australia. My dissertation entitled *The US – China Trade: Capitalism, Consumption and Consumer Identity* was recently submitted. When Larry Babits asked me to compare these degree programs for *Stem to Stern*, it originally seemed an easy task. After some thought, however, the conclusion is that the two are largely incomparable. Though I am sure experiences differ, and the two programs have marked dissimilarities, I could never have done the latter without the former.

My graduate education at ECU was very directed, with a set number of courses from which to choose, each involving a great deal of direction from faculty. The Program in Maritime Studies ratio of teachers to students was high, with no undergraduate students competing for faculty time. As for the content of the ECU coursework, having come from an archaeology background, the general archaeological concepts were not new to me; however, more technical aspects of maritime archaeology, such as side scan sonar and magnetometer methodology, were new. Additionally, the diving program at ECU prepared me to conduct research in nearly every type of marine environment found in the United States.

One of the most valuable lessons learned at ECU was how to conduct primary source research and how to better convey results of that research through writing. Soon after arriving at ECU, I was informed by my thesis supervisor, Bradley A. Rodgers, that my academic writing left a great deal to be desired. Not simply leaving it at that, Rodgers went over my papers line-by-line with me, discussing how to better form and justify an argument. For further help, he recommended the ECU Writing Center. The Writing Center helped me a great deal by going over the paper's

structure and pointing out places for improvement. Though this experience was humbling at first, and though the writing center staff did not turn me into a Charles Dickens, I quickly realized that improving my grades was worth the extra effort. These writing skills were a great help during my PhD studies.

My education at Flinders University was more self-directed than at ECU. My PhD was centered on research, and I was responsible for picking a feasible topic, finding funding opportunities, writing grants, organizing fieldwork and visiting archive facilities, all while writing the dissertation. Bi-weekly meetings, during which my supervisor and I discussed everything from archaeological literature and project budgets to grant writing and project timelines, helped guide me through the research and writing process. Because students are given great flexibility in their research, I was able to choose and read about a wide variety of topics, many of which I would not have encountered in a standard archaeology course. Aside from the personal gratification of being able to cater to simple intellectual curiosity, I was able to venture off the beaten path and pursue more novel ways of approaching the past in my dissertation.

Though my PhD was by research only, like many PhD students I was offered a contract as a part-time lecturer in the Department of Archaeology. This experience not only allowed me to review topics I had not reflected upon for nearly ten years, but it also required that I think about what I know and how to explain it in different ways that students could understand. In a way, these experiences serve the same purpose as coursework in that they necessitated and allowed me to come to a more full understanding of my field's most foundational concepts.

In truth, the programs and experiences at ECU and Flinders University are largely incomparable. While the work I did and the people I worked with at Flinders made for a rewarding experience, I relied on the

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Program in Maritime Studies Welcomes New Conservator

What do Burberry horse blankets, leather shoes, and cans of beef have in common? Each seemingly unremarkable item is an artifact that has been conserved by the Program's latest addition, Archaeological Conservator Susanne Grieve.

Grieve joined ECU in the fall and is excited to be a part of the open learning environment in Maritime Studies. She earned her Bachelor's degree in Anthropology with a specialization in Underwater Archaeology from the University of West Florida in 2003. While there, she attended an underwater archaeology field school at Australia's Flinders University. From early on, Grieve knew she wanted to be an archaeologist. It wasn't until she began her Master's at University College London that she realized her niche would be conservation.

Grieve has conserved an interesting selection of artifacts, including sailor's leather shoes from the Confederate Submarine *H.L. Hunley*, and a camp stove from an Antarctic explorer's hut. Presently, her research interests include the treatment of modern materials, such as plastic and rubber. "They are challenging," Grieve says, "we don't know how they react, and they have the inherent vice of being made to decompose!"

In 2008, Grieve embarked on what she

called a "personally and professionally challenging" experience. Throughout a polar winter, she spent a seven-month sabbatical as part of an all-female group of researchers conserving artifacts from early Antarctic explorer's huts. The four-woman team traveled to the historic huts managed by the New Zealand-based Antarctic Heritage Trust, and recovered the objects brought back across the polar ice to Scott Base for conservation. It was, to Grieve personally, "a great learning experience." One, it seems, that exposed her to new treatments and conservation challenges.

Before her arrival at ECU, Grieve climbed the ranks at The Mariner's Museum in Newport News, VA. She began as an intern, proved herself as an assistant conservator, and ultimately reached the title of senior conservator in 2008.

Grieve is a dynamic addition to the veteran personnel in the program. She holds a Technical Diving Certification (she is an avid scuba diver and has dived in waters around the globe) and has won a Women Divers' Hall of Fame scholarship. An active member of the *American Institute for Conservation*, she is co-chair for the Archaeological Discussion Group and the program chair for the Wooden Artifact Group.



PHOTO: ANTARCTIC HERITAGE TRUST

Susanne Grieve

In her new role at ECU, Grieve will teach conservation classes, assist in facilitating field schools, and undertake contract work with museums and other private entities. The Program in Maritime Studies "is always looking ahead," Grieve says. She looks forward to contributing to that progress and joined the team because she knew she "would learn from the students and faculty."

Undoubtedly, the Program will benefit from her knowledge as well.

Susanne Grieve lives in Greenville with her Beabull dog Daisy. 🐾

—Stephanie Gandulla



PHOTO: JOSEPH T. LENEZEA

The brig *Niagara* fires a carronade from her port battery.

Sailing *Niagara*

ECU's Above-Water Underwater Archaeology program recognizes that there are certain elements of shipboard life that cannot be adequately conveyed through textbooks or from studying shipwrecks.

Since 1996, ECU's Program in Maritime Studies has periodically offered a summer course in Above-Water Underwater Archaeology. This course will be offered again during summer 2010. Participants will sail aboard the US Brig *Niagara*, a reconstructed War of 1812 brig operated as a sailing school and museum ship by the Commonwealth of Pennsylvania.

Niagara, a 198-foot, two-masted, square-

rigger vessel, is the only wooden square-rigger in the United States operated as a sailing school. Completed in 1990, it is outfitted with modern safety and navigational equipment and modern engines, but is otherwise largely period authentic. *Niagara* operates on the Great Lakes and St. Lawrence Seaway from a homeport of Erie, Pennsylvania.

Every ship is a perpetual stranger, suspended between and beholden to two elements, air and water, native to neither. Thunder squalls on the Great Lakes can often achieve hurricane-force winds, a serious challenge to even the most well-found vessel. Waves can mount up quickly into a lumpy sea state, currents can rip as fast as five knots in narrow rivers, and a lee shore is never far enough away to be safely ignored. Of more

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Investigating the... Colonial Port of Sunbury, Georgia

At the beginning of May 2009, while the rest of my class was gearing up for the summer field school in the Pee Dee River, South Carolina, I was preparing for a seven-week internship in not too distant Savannah, Georgia. Under the direction of Deputy State Archaeologist Chris McCabe (2007), I set up shop at the Georgia Coastal Underwater Archaeology Field Station, headquartered at the Skidaway Institute of Oceanography. Together we conducted a Phase I remote-sensing survey of the waters around Sunbury, GA, twenty-five miles to the south on the Medway River and St Catherine's Sound.

Investigating the port of Sunbury produced multiple benefits. As part of Chris' duties as Georgia's state underwater archaeologist, he is responsible for managing the state's underwater cultural resources. Unfortunately for Chris, very few of these resources outside Savannah Harbor have been accurately assessed. In 2008, he initiated the Georgia Statewide Shipwreck Inventory as a platform for continued maritime investigation of state-owned waters. The growing GIS database has become a vital tool for resource managers, coastal planners, and permitting agencies who need to consider submerged resources in their decision making. It also allows the state to better manage and interpret their numerous

underwater resources. As Sunbury is the topic of my thesis, I am able to both contribute and benefit from this project.

Many readers probably do not recognize the name Sunbury. Located in Liberty County, Georgia, Sunbury is a quiet town comprised of a few homes and townhouses. From the mid to late 18th century, Sunbury was a thriving colonial seaport competing for trade with Savannah, the only other port of entry on the Georgia coast. The town came under hard times during the American Revolution and Federalist periods, eventually declining in importance to such a degree that by the 1820s it was nearly deserted, save for one or two homes. Today, the only discernible reminder of the community's historical importance is Fort Morris State Historic Site, where an earthworks battery was erected to defend the port.

The Georgia coast offers underwater researchers a wealth of potential opportunities, but not without a fight. For example, tidal ranges in the area average over six feet, but have been known to approach eleven. As we surveyed areas with strong currents, shifting sand bars, and tidal creeks that drained twice daily, our work was continually restricted by the tide window. Compounding the environmental issues was the fact that during the summer

months in much of the American Southeast, large thunderstorms are prone to develop. Since we operated our survey electronics on a boat without a cabin, this last factor was the most disconcerting. Lastly, as most battle-hardened archaeologists will tell you, technological gadgets, as wonderful as they are, can be prone to fits of "enigmatic behavior". This survey provided

ample opportunities for Chris and me to become versed in the myriad manifestations of the equipment's discontent. Despite these difficulties we side-scanned several predetermined areas including parts of the Medway River and many adjoining creeks. Our determination paid off as we encountered several encouraging targets. When we could not be on the water, we surveyed upland and inter-tidal zones. Here we located



Chris McCabe exhibits a libation bottle on one wharf site at Sunbury.



Stephen Dilk sidescans on the Medway River. Inset Photo: Exciting target located during the survey of Sunbury.

several former colonial wharf sites, and in the process discovered multiple diagnostic artifacts including ballast stone, hand-hewn piling remnants, libation bottles, and period ceramics.

Together with Chris' help, I was able to gather large amounts of data, and at the same time help expand Georgia's maritime database. Much work remains to be done however, and I will be returning to conduct a magnetometer survey and coordinate a team of divers to ground-truth the submerged sites we found. I would like to thank Chris McCabe and Arthur Edgar from the Fort Morris State Historic Site for their help with this project. 🙏

– Stephen Dilk

Appreciating the Rhythms of Currituck



Dr. Paul Fontenoy and Brown Mims set up a baseline to record a small vessel while Stephen Dilk looks on.

PHOTO: STEPHANIE GANDULLA

In the sleepy town of Currituck, small wooden boatbuilding is a proud heritage kept alive by local enthusiasts. The most devoted of these is Wilson Snowden. Hidden away in every shed and spilling out onto the lawn, small skiffs are kept for educational and preservation purposes. Through the generosity of Mr. and Mrs. Snowden, Maritime Studies students had an opportunity to apply practical boat recording skills to Mr. Snowden's vernacular watercraft. Under the tutelage of Dr. Paul Fontenoy (1995), students acquired the recording and drafting skills necessary for recording watercraft. What was not included in the syllabus, but experienced fully in the field, was the interaction with an entire culture of craftsmen carrying on a vernacular boatbuilding tradition.

From February through March, the class made weekend treks north to Currituck. Weekends were spent in the field recording, with the last weekend in Beaufort, learning the drafting process at the North Carolina Maritime Museum. While in the field, this year's class of thirteen students recorded sixteen boats, including skiffs and a dilapidated dory. The process is simple enough: establish a level baseline along the length of the boat and take measurements from that. Although straightforward, the students faced challenges in recording the unique

elements created by each boat builder.

Once measured, the raw data was converted into elegant line drawings as a lasting record of these vanishing craft. A one-day session at the North Carolina Maritime Museum in Beaufort was the final step in classroom work. Here, Dr. Fontenoy explained the basics of drafting and calculations necessary to convert the numbers into a working plan of the watercraft. The final product is up to the students. Many hours were spent agonizing over the curvature of the chine and whether or not the ink would dry in time.

The experiences beyond the instructional sessions make this class truly special. While in Currituck, Mr. Snowden and Dr. Fontenoy arranged visits to artisans still making the small craft representative of this area. At one stop, three generations of boat builders had begun a small skiff from scratch. The grandson's contribution was to act as a brace when bending the boards into their proper shape. Another kind neighbor invited us to dinner. After the feast, the class enjoyed a film about the history of the local duck hunting tradition that made Currituck famous. The community's awareness of its cultural heritage and its efforts to maintain such proud traditions, transforms these unprepossessing boats into artifacts. 🦆

—Nicole Wittig

The Bluefields Bay Archaeological Investigation

From 10 October through 7 November 2009, Maritime Studies student Benjamin Siegel directed an archaeological survey of the sea floor and coastline at Bluefields Bay, Jamaica. Using a predictive model derived from historic maps, charts, pilotage notes, and local fishermen's knowledge, the survey targeted parts of the bay that seemed likely to contain vessels and other cultural remains. The project included surveying and documenting previously known archaeological sites both in the bay itself and along shore. Additionally, the project incorporated ethnographic research, including vernacular craft recording, and observing traditional local industries such as pimento processing, farming, and fishing.

Siegel received help from many volunteers. Fellow students Stephanie Gandulla, John Ratcliffe, Robert Minford, and Peter Campbell traveled to Bluefields Bay and aided in towboarding, snorkeling, and coastline surveys. Some participated in the project's first two days of scuba diving, when they documented a cannon, a suspected carronade, and a historic anchor. Joey Roberts, Dawn Luker and Aimee Bouzigard, students in East Carolina's Graduate Anthropology program, helped Siegel survey several coastal sites including a historic wharf, a watering place, and an eighteenth century tavern. Several Jamaicans were involved, including president of the Bluefields' Friendly Fishermen Society, Mr. Wolde Kristos, the former director of the Jamaican National Heritage Trust,



John Ratcliffe, Aimee Bouzigard, Dawn Luker, and Benjamin Siegel record a wharf site in Bluefields Bay, Jamaica.

PHOTO: BLUEFIELDS BAY ARCHAEOLOGICAL SURVEY

Roderick Ebanks, and several local fishermen.

Situated just to the south east of Savannah La Mar on Jamaica's west coast, Bluefields Bay has a storied past, filled with maritime activity. First colonized by Spain in the seventeenth century, Bluefields was once home to the Spanish settlement Oristan, and featured at least two protective fortifications. In the 1650s, when the English seized Jamaica from the Spanish,

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Summer Field School in the Pee Dee River

The main theme of Maritime Studies' summer field school was the challenging environment. In addition to zero-visibility water, which was expected, students dealt with the almost continually rising Pee Dee River which increased currents to 3–5 knots, lightning, and thunderstorms on several afternoons. The river was full of logjams and the current made it difficult to navigate baselines and buoys. In spite of these conditions, ECU students were able to record and recover numerous artifacts from both the shore and the river.

The project took place at the reported location of the Mars Bluff Confederate Naval Yard on the Pee Dee River north of Florence, South Carolina. Funding was provided by the Drs. Bruce and Lee Foundation for recording archaeological features, both on land and in water, that were associated with cannon found in the river. Two different groups, the CSS *Pee Dee* Research and Recovery Team, a group of local diving enthusiasts, and SCIAA, the South Carolina Institute of Archaeology and Anthropology, located the cannon. The preliminary research conducted by these two teams was invaluable. The possible location of the remains of the CSS *Pee Dee* was determined through side scan sonar and magnetometer surveys by SCIAA.

East Carolina University's Program in Maritime Studies was approached because of extensive experience with zero visibility conditions as well as previous experience with Civil War gunboats. The Principle Investigator was Dr. Lawrence Babits and Co-Principle Investigator was Dr. Lynn Harris. Calvin Mires assisted as the Archaeological Technician. Mark Keusenkothen, the Dive Safety Officer, had his work cut out for him, keeping students (and professors) from being injured in the dangerous conditions. Work started 26 May 2009 and continued through 18 June 2009.

Historical documents revealed that fourteen buildings were constructed for the Mars Bluff Naval Shipyard. In an attempt to find remnants of these buildings, 150 shovel test pits were excavated throughout the property



Dredging operation in the Pee Dee River.

during the first two weeks of the project. These shovel test pits did not reveal any historic building remnants; however, a high number of prehistoric ceramic fragments were recovered. Various ceramic assemblages were represented but the majority of the fragments were from the Middle Woodland period (300–1100 AD). A few glass and historic ceramic fragments were also recovered.

Although conditions made it unsafe to examine the alleged CSS *Pee Dee* wreck, surveys were conducted along the bluff front near the property owners' modern dock. Four baselines were established running nearly parallel to the shore. The baselines were between twenty-five and thirty meters long and spaced between two and five meters apart. In addition, there was a rope "highway" established by SCIAA that served as a guide to the Dahlgren and Brooke cannon barrels.

The IX-inch Dahlgren was uncovered by dredging and several markings along the tube were exposed including, "JMB" and "FP No.573". These markings seem to indicate that the Dahlgren was produced at the Fort Pitt Foundry in 1862. No distinctive markings were observed on the 6.4-inch Brooke rifle and only a few tentative measurements were made due to site conditions. The Brooke rifle is an important historical piece as it was developed by the Confederate Navy specifically to pierce Union ironclads. Historical records indicated that there was also a 7-inch Brooke rifle aboard the CSS *Pee Dee*, which has yet to be found.

A total of seven Brooke shells and three

friction primers were recovered from the river bottom. Five were 6.4-inch shells and the remaining two were 7-inch shells. Of the five 6.4-inch shells, four had markings. The markings consisted of "Lt. RDM" above "RNOW" on the bourrelet and "Brooke" or "Brooke Q" on the sabot of the shell. "Lt. RDM" are the initials of the manufacturing supervisor, Lieutenant Robert Dabney Minor, at the Richmond Naval Ordnance Works, (RNOW). The meaning of the Q after the word Brooke is more difficult to identify, although it may have been used to indicate a subcontractor.

Friction primers were used to ignite the charge in a cannon. All three friction primers were of similar design but were different from known friction primers and may indicate a regional variation, or an imported type.

Numerous caulking and logging tools were also found along the baseline, including a large number of dog eyes, typically used to chain logs together for transport via rivers and waterways. The provenience of these artifacts and the absence of personal and food related artifacts suggests that the area studied during this field school was used solely as a working area and living quarters were located elsewhere.

Overall, it was an interesting and educational field school. The students had the opportunity to work with a wide variety of people, including amateur divers, amateur historians, local citizens, and published historical researchers. Students also worked with members of SCIAA including Dr. Christopher

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Pee Dee River continued from page 13



Kate Schnitzer and Brown Mims record a propeller from the Pee Dee River wreck.

Amer, Joe Beatty, Lora Holland, and Carl Naylor who were patient and understanding in the confusion that a flock of students can sometimes create. Dr. Jonathan Leader, South Carolina State Archaeologist, was an excellent teacher and cook.

The site was extremely significant to the community and Fridays were reserved for press interviews, public visits, video footage and pictures. On Friday, 12 June 2009, the site was opened to the public, and students explained the history of the shipyard as well as some of the techniques used in underwater archaeology. Dozens of people, young to old, visited the site and were witness to the importance of maritime archaeological work. 🐦

– Whitney Rose Minger

Bluefields Bay continued from page 12

the bay became a haven for English smugglers and privateers. By the late 1700s, the Royal Navy had realized the value of Bluefields' sheltered waters, and the bay was used as a victualing station for British ships on their way out of the Caribbean.

While the Bluefields Bay Archaeological Investigation will serve as the basis for Siegel's second master's thesis, it was also intended to help better connect the people of Bluefields with their cultural resources. To this effect, copies of Siegel's final report and thesis will be turned over to the Jamaican National Heritage Trust and several local institutions such as the Bluefields Peoples Community Association and the Bluefields Friendly Fishermen Society. Additionally, Siegel gave a public presentation about his archaeological findings, their historic significance, and their economic value for Bluefields tourism industry. 🐦

– Benjamin Siegel



Stephanie Gandulla records an anchor in Bluefields Bay, Jamaica.

Sailing Niagara continued from page 10



Chief Mate Billy Sabatini of the *Niagara* snaps sail hanks onto the inner main stay, while a work gang bends on the ship's mainsail.

Erie, remain. *Niagara* carries a complement of carronades, a type of large, smooth-bore cannon designed to deliver a heavy load of shot at close range. Although long since eclipsed by more modern engines of war, these great guns still present an awesome and terrible spectacle when fired, shouting and kicking, shuddering the very bones of the ship. 🐦

– Joseph T. Lengieza

Joseph T. Lengieza is a second-year student in the Program in Maritime Studies, and the Second Mate of Niagara.

Fall Field School at the Bowling Farm Site

In November 2008, Bob and Becky Bowling of Bertie County discovered that the wind had blown a substantial amount of water out of the Cashie River. The blustery weather exposed the remains of an old vessel on their riverbank. To their great credit, the Bowlings recognized the significance of their discovery and notified the Program in Maritime Studies. Dr. Bradley Rodgers, intrigued by the find, visited the site to see the vessel firsthand. The exposed frames showed no room and space, simply a series of substantial half frames. Later reconnaissance revealed the existence of a submerged wharf adjacent to the vessel. Dr. Rodgers, along with Dr. Lynn Harris, quickly decided to utilize this site, The Bowling Farm Site (0001 CSR), as the 2009 Fall Field School.

The Bowling's Farm is located on the Cashie River roughly eight miles downriver from Windsor, North Carolina. The site lies in a protected section of the river with swamp entirely surrounding adjacent higher land, making an easily defended landing with a tactical view both up and down the river.

The field school included several objectives: record a plan and cross section of both the vessel and wharf, perform a random terrestrial survey adjacent to the vessel and wharf, undertake a bathymetric survey of the nearby river in the site's vicinity, and identify diagnostic artifacts. Eleven students were broken into three teams and rotated weekly between different portions of the site. Dr. Rodgers headed the vessel recording, Dr. Harris took charge of the wharf, and Calvin Mires handled the terrestrial and bathymetric surveys.

During the first week, students snorkeled the underwater site and explored the terrestrial component on foot, discovering that the site might extend farther than the obvious features. During this exploration, students found what Dr. Harris dubbed the "junkyard," a collection of long, thick planks and debris. To facilitate documentation,

teams ran a baseline along the vessel's keelson and then at an angle to run parallel to the deep end of the wharf. Dr. Harris set her team mud mapping the wharf while Mr. Mires' team recorded the property line and the opposite riverbank. By the end of the

"The most intriguing discovery came after two students dredged sand away from the underside of the hull and keel. . ."

week, Dr. Rodgers' team had completed preliminary drawings of the ship.

The second week included complete recording of the wharf's plan view, the plan and profile views of the ship, and the bathymetric survey. The wharf recording showed that it was a cob-type wharf with logs known as stretchers running perpendicular to the shore. The stretchers are notched to receive headers running parallel to the shore. This configuration created a rectangular crib filled with ballast to form a jetty where vessels could tie up and unload and lade cargo.

The wreck plan showed that only twenty feet of the keel remained extending from port to starboard to the turn of the bilge. The students recorded room and space on the timbers further into the channel, while confirming that frames nearer the shore had none. This suggested that only a small portion of the bow was present. The most intriguing discovery came after two students dredged sand away from the underside of the hull and keel to take measurements for the cross section. The keel was not broken but sawn cleanly through the garboard strakes and most other planking. Questions immediately rose about how a fairly large ocean-going vessel could be cut cleanly through from side to side. Hypotheses range from creating another wharf using the ship as cribbing to the ship being removed from the river in small portions during river dredging. The cross section also revealed that the vessel's frames had relatively little curvature until the turn of the bilge signifying that it was likely a merchantmen or transport vessel. Its

lines and building techniques also closely resembled another vessel dated to the 1750's previously recorded by a PMS field school in Edenton, North Carolina.

The bathymetric survey included placing sixteen buoys in a line across the river, measuring the depth at each buoy, and recording the buoy's location on the site map. Students recorded five transects and discovered the maximum river depth was twenty-seven feet but averaged twenty-one feet in the river's middle. The width of the river combined with such a depth would allow large vessels of significant tonnage to sail up river from Albemarle Sound to various plantations and landings.

During the last week of field school, students made significant discoveries regarding the vessel and dredged a large trench in the wharf to recover artifacts and record the cross section. They also performed a terrestrial survey. A reexamination of the vessel showed that the timbers closest to the shore were not chocks but Y-frames, floors, and futtocks, while a nearby, disarticulated timber in the cypress knees proved to be a rudder. This new information suggests that the vessel's stern, not the bow, is present. Questions still remain as to how and why the vessel is in its current location and why



John Ratcliffe maps in the field.

it was placed stern first on the shore. To gather more information, students dredged the bilge and found fragments of a pre-1870 gin bottle, one intact bottle base, various

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PHOTO: THERESA HICKS

Dr. Bradley Rodgers instructs students in the Cashie River.

nuts, and fruit pits. On the last day, Dr. Rodgers discovered probable cypress sheathing that had eluded everyone. Wood sheathing reinforced other diagnostic elements promoting the hypothesis that the vessel dated before 1750s.

Dredging the wharf extended down three stretchers, revealing that the wharf was almost entirely filled with ballast rock. Diagnostic artifacts included a number of unused gunflints, pipe stems, prehistoric and historic ceramic sherds, glass, and wrought nails. It is hoped analysis of these artifacts will provide information about the periods in which the wharf was in use and whether the artifact mixture may indicate contact between Native

Americans and colonists.

The terrestrial survey included digging twenty-eight shovel test pits randomly placed throughout the Bowling family's front yard along the riverfront. The artifacts recovered were largely of Native American pottery sherds, with a few lithics and historic artifacts. The historic ceramics, glass, and fasteners found in the yard resemble artifacts recovered from

the wharf. A consultation with ECU prehistoric archaeologist Dr. Randy Daniels revealed the prehistoric ceramics spanned from the early to late Woodland and consisted of both Tuscarora and non-Tuscarora pottery types. The final analysis of the Bowling Farm Site may actually provide a link between the Native American inhabitants and the European settlers on the Cashie River. 🍀

– Theresa Hicks



PHOTO: THERESA HICKS

Stephen Dilk, Brown Mims, and Jessica Smeeks sift through a test pit's contents.

Maritimers Carry on *Vasa* Connection with New Theses

Building on ECU's positive rapport with the renowned *Vasa* Museum in Stockholm, four Program in Maritime Studies students are undertaking thesis projects that revolve around *Vasa* research. The *Vasa*, sunk in 1628 and excavated in 1961, yielded thousands of artifacts and offers researchers a veritable window into seventeenth-century shipboard life.

John Ratcliffe's thesis will focus on the closed staved containers on board *Vasa*, and create a barrel typology. He hopes to answer questions about provisioning and life on board, and, since the ship lacked a dedicated magazine, his research may lead to hypotheses about the stowage of gunpowder.

Jessica Smeeks will be determining which artifacts, whether clothing, coins, or other personal items, are associated with each set of human remains on *Vasa*. Based on these conclusions, she hopes to reconstruct the appearances of fifteen *Vasa* sailors at the time of death. Smeeks can then

compare the sailors' appearances to images of other individuals living in Sweden in the early seventeenth century.

Stephanie Gandulla will be studying *Vasa's* treenware, or wooden tableware. Over two hundred such artifacts were excavated and present an opportunity to understand victualling, sailors' personal possessions, and the woodcarver's craft. Gandulla's research will also explore seventeenth century food ways at sea.

Eric Ray's thesis, begun last year, examines the galley structure aboard *Vasa*, the only large warship galley extant from the seventeenth century. It examines its construction, use, and place within the larger context of naval and terrestrial kitchens.

With these investigations, ECU's Program in Maritime Studies is building its international repertoire and becoming an important part of the research on one of the most famous shipwrecks in history. 🍀

– Stephanie Gandulla

FROM MA TO PHD, continued from page 9

education I gained during my time at ECU. All things considered, and after nearly a quarter of a century spent in school, my time spent getting a master's and a PhD was neither as fun nor as horrible as I expected, although I am glad that my final degree is almost in hand. Anyone considering a similar path should first discern the desire to continue within the field from the more sublime force of academic inertia, as it is a long and demanding process without some sense of direction and articulated goals. If a higher degree is what is desired, though, then take it from me – your education at ECU will prove essential. 🍀

– Claire P. Dappert

Vasa Partnership Continues

In July 2009, eight students returned to Stockholm, Sweden and renewed their partnership with the *Vasa* Museum studying and recording the Swedish warship, *Vasa*. This project's particular objective was to record the *Vasa's* lower gundeck, an objective fifty years in the making. Seven current students and one incoming student traveled and worked under the supervision of Dr. David Stewart and Dr. Fred Hocker, Head of Research at the *Vasa* Museum. Students were given the opportunity to develop the research design of the project,

as well as the skills necessary to implement the design to achieve the project's ultimate goal. This goal was to study not only how the *Vasa* was built but also how it may have moved and maneuvered on that fateful day in 1628.

Students spent their first weeks drawing components of *Vasa's* construction by hand, learning the appropriate terms and methods for recording each to the fullest possible detail. Working in teams or as a solo effort, students undertook the task of hand measuring ceiling structure, gunport sections, fore and aft views of rider and knee construction, and other structural components including the main mast, foremast, bulkhead, and pumps.

Instructors and students contemplate total station placement on board the *Vasa*.

The project was broken into three major sections, which divided the vessel into the starboard, port, and centerline. This allowed students to record the vessel more accurately and search for any discrepancies that may appear between sections; these discrepancies may possibly account for certain construction techniques, repairs, or peculiarities that would need further research.

The last weeks in Stockholm were spent recording the *Vasa* using total station, inputting data into specifically-designed software, and recreating the vessel digitally to more fully

study the ship and its associated components. Students rotated as recorder, position holder, or manipulator of the total station equipment, giving everyone an opportunity to learn the duties and importance of each task. With two teams working on the starboard and port sides of the vessel simultaneously, a beautiful digital depiction—consisting of thousands of points of data—recreated the *Vasa*. Although there were bumps on the road to achieving the ultimate goal (for example, learning total station equipment and Photoshop in Swedish) the project was a success. Using digital data and the detailed measured sketches together

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W. Keats Sparrow (Memoriam)

"A Sad Day" headed several emails I received on Veteran's Day. They all announced the death of Dean Emeritus W. Keats Sparrow, a friend and benefactor of the Maritime Program, who died 11 November 2009.

Keats was dean from June 1990 until August 2005. During that time, he was a champion of Arts and Sciences as the academic cornerstone of a university. He renamed Arts and Sciences the *Thomas Harriot College of Arts and Sciences* in March 2003, to honor the scientist and man of letters who accompanied the Roanoke Voyages and provided the first visual evidence of the New World for Englishmen. Harriot also mapped the eastern Albemarle-Pamlico Estuarine System.

While Keats was nominally an English Professor, his love and support for History, especially Maritime History, made our program possible. He supported the program financially and politically. Even in hard times, he caused good things to happen. More importantly, he encouraged, AND supported faculty members.

Keats was intensely proud of his own historical patrimony and worked to bring others around to a similar belief. That led to his championing Josh Howard (2004) and me as we worked through the North Carolina Continental Army officers to produce *Fortitude and Forbearance*. He was curious about the Continental officers. In fact, his curiosity was virtually insatiable and he enjoyed learning up to the end. He was one of the people Bob Dylan mentioned when he said, "He who isn't being born is busy dying." Keats was always being born. He isn't really gone; his monument is the *Thomas Harriot College of Arts and Sciences*. All those students who have gone out from here with his well-rounded thirst for knowledge are his legacy to the future. 🍀

– Larry Babits

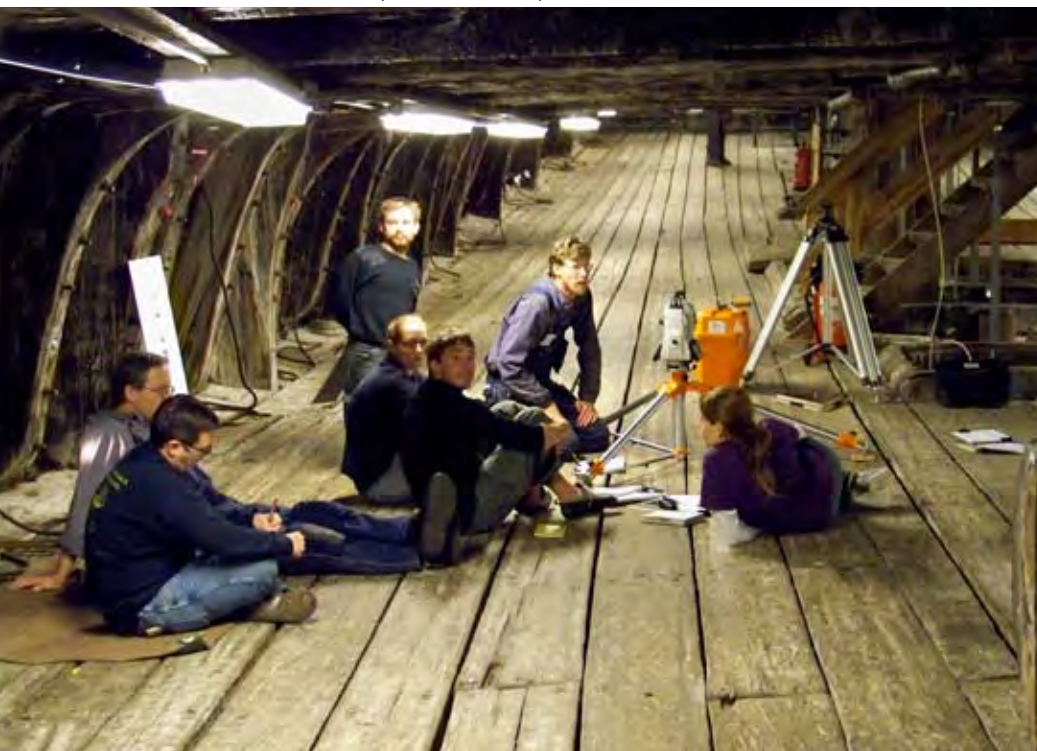


PHOTO: JENNIFER JONES

Way Down Yonder: Spring Break on the Chattahoochee

For many students, Spring Break 2009 was a week of sun, sand, and long days on the beach, but for a small group of ECU Maritimers it was an opportunity to conduct research at the National Civil War Naval Museum at Port Columbus, Georgia. A team of eight students under Peter Campbell's direction set out in March to record the remains of the Confederate ironclad *CSS Jackson*. Data gathered during the project will serve to supplement Campbell's thesis research about Confederate ironclad construction.

Over 220 feet long and more than 50 feet in beam, the *CSS Jackson* was one of the larger southern ironclads. It was constructed in Port Columbus on the banks of the Chattahoochee River, not far from its current museum location. In 1865, Union forces burned the *CSS Jackson* and sank the remains. The wreckage of the once great ironclad lay submerged in the waters of the Chattahoochee for nearly a century before it was raised in 1961 and eventually exhibited at the Civil War Naval Museum.

The ECU research team recorded the vessel's outer hull by shooting points along the exterior with a total station and TDS data collection unit. These points are being used to create a 3D image of the ironclad. Construction details, such as the locations of fasteners and scarphs, were recorded by



Students in front of *CSS Jackson*'s bow. (l to r): John Ratcliffe, Lindsay Smith, Nicole Wittig, Kate Schnitzer, Stephanie Gandulla, Valerie Rissell, Jennifer Jones, Peter Campbell, Stephen Dilk.

hand as labeled sketches. Since the vessel remains are slightly elevated, the team was able to pay special attention to the bottom of the hull. The work went smoothly

The CSS Jackson project yielded information on not only one vessel, as planned, but three.

and left students time to record several other museum exhibits including the stern section of the Confederate gunboat *CSS Chattahoochee*, the possible blockade-runner schooner *Virginia*, and the disarticulated fantail stern of the *CSS Jackson*.

In spring break fashion, however, the trip wasn't all work and no play. The

students' diligence was rewarded by the hospitality of ECU graduate and former museum curator, Bob Holcombe (1993). Bob and his wife Jane hosted a cookout at their home one evening and a good time was had by all. Despite the lack of sun and sand, spring break '09 was a great success for the Maritimers. The *CSS Jackson* project yielded information on not only one vessel, as planned, but three. The Program in Maritime Studies wishes to extend thanks to the staff of the National Civil War Naval Museum, whose help made this project possible, and to the hospitable Holcombes. ☪

– Kate Schnitzer

We will miss you . . .

Mike Overfield passed away May 17 after a long struggle against cancer. He left behind his wife Tressa, his eight-year-old son, Conner, and his three-month-old, Caitlyn.

The sickness was an on-going struggle that interfered with his work for NOAA's RUST Program. Despite being sick, Mike still came into work three days a week. He was one of those lucky individuals who ended up in a job he really liked. It took him almost a year to land that job after he finished his degree. Once he got there, he

never looked back, except to try and bring in student researchers and former teachers to participate in projects.

For those of us lucky enough to know him, Mike was (to paraphrase him), "a win-win situation." He could see the connections between sunken vessels, haz-mat, regional modeling, and students better than anyone. I can hardly think of anyone with his happy outlook on what could be done that would work out well for everyone, and with mutual benefit to all.

Mike was one of "my" students at ECU. What that meant, is that he taught me a lot

while I guided him through the intricacies of a thesis and doing fieldwork. There were times when his enthusiasm for one project kept him from working on his own thesis as when he spent a week with Keith Meverden on Currituck Sound instead of trolling for a wreck down in Beaufort. In the midst of that, he was creating his own PVC ROV out of scrap materials. As we were looking into the earth, we saw the fiery trail of a shuttle launching that July. It was so far away, it looked like a July 4th rocket but it never stopped climbing, something a lot like Mike who was blessed with an incredible curiosity.

Preserving the Memory of the Battle of the Atlantic through Maritime Archaeology

If asked how long it would take National Oceanic and Atmospheric Administration (NOAA) research vessels *Joe Ferguson*, *Sam Gray* and a fleet of ECU's small coastal boats to reach British property from Beaufort Inlet, NC, many would simply scoff and say it was impossible. Due to the warfare and destruction brought to American waters during World War II by German U-boats, the answer is simply under an hour and a half or approximately 22 miles. The "British property" at the end of this short journey is the HMT *Bedfordshire*, one of a group of converted fishing trawlers sent during World War II to help combat the U-boat threat in US coastal waters. Thanks to the torpedoes of the U-558, fired on May 12, 1942, the remains of the *Bedfordshire* and the bodies of its 37 crewmembers would forever be interred far from home in the waters off North Carolina. Several sailors whose bodies washed ashore rest in graveyards on the Outer Banks. It is in memory of these British Allies and their ill-fated story that this year's NOAA Battle of the Atlantic Expedition took place. This was the second year of a multi-year expedition hosted by NOAA's *Monitor* National Marine Sanctuary, in conjunction with NOAA's National Centers for Coastal Ocean Science, the National Park Service, Minerals Management Service, the State of North Carolina, East Carolina University, University of North Carolina

Coastal Studies Institute, University of North Carolina at Wilmington, Gray's Reef National Marine Sanctuary, the Georgia Aquarium, and The Mariners' Museum.

The expedition, intended to survey and document the condition of vessels sunk during the Battle of the Atlantic as well as the marine life present on these artificial reefs, ran from August 10 to August 24 off Beaufort, NC. This project shifted focus from last year's survey of sunken German U-boats to documenting Allied war casualties. By request of the British Government, the vessel slated for this year's project was the HMT *Bedfordshire*. Researchers hoped to obtain information about the current condition of the site that could contribute to the well-known story of the *Bedfordshire's* sinking. Despite boat problems, a hurricane, schools of fish that prevented light from reaching the wreck, and hoards of jellyfish, enough dives were made to complete an archaeological site plan of the ship's remains. On top of the archaeological recording, scaled photographs were taken of wreck elements, comprehensive video was shot, and biological transects were recorded to examine fish species present.

While the project revolved around documenting the *Bedfordshire*, several



PHOTO: BRETT SYMOUR, NPS SUBMERGED RESOURCES CENTER

Dr. Nathan Richards measuring wreckage on the HMT *Bedfordshire*.

participants dove on the U-352 and U-85 and obtained corrosion measurements and water chemistry readings to establish a benchmark with which to monitor the ocean's effects over time. While twenty-minute dives to 97 feet passed all too quickly, the information obtained from this project will help preserve the memory of the Battle of the Atlantic; the sailors of the HMT *Bedfordshire*, U-352, and U-85 live on, long after the wrecks are overtaken by the sea. 🐟

– John Wagner

Vasa Partnership Continues, continued from page 17

will hopefully provide researchers at the *Vasa* Museum the opportunity to further understand *Vasa's* construction and possible reasons behind its sinking.

This opportunity to study the *Vasa* came not only with educational benefits but opportunities providing once-in-a-lifetime experiences. Although students worked hard to complete the course objectives and goals, they were given time for leisure and exploration. Students not only got to walk the lower gun deck, but also were given the rare opportunity to traverse the entire vessel from poop deck to hold. A visit to artifact storage provided an exceptional glimpse into the vessel's preservation and its contents, such as human brain tissue, shoes, and original sails—items that intimate the lives of those on board. Students were also treated to a luncheon with the Museum Director, who was greatly appreciative of our efforts and interests, as well as a picnic with the museum staff. Students explored local museums and other historic towns, learning about the rich culture, heritage, and history of Sweden.

We hope that Maritimers will return to Sweden in the summer of 2010 to continue recording the *Vasa*—a unique educational venture that has enriched the training of each student involved. 🐟

– Jennifer Jones

For those readers who didn't know Mike, he was one of a kind. He was a non-traditional student in just about every way possible. He was older, wry, and smoked like a chimney. He also tended to finish papers on time. Like most Maritimers, he was always willing to help, but he wasn't pushy about it. He just saw a need and filled it.

We'll miss Mike and we really hope that NOAA will keep that position which is so helpful to students and researchers. They have some really big shoes to fill. 🐟

– Larry Babits

The Wright's Creek Abandoned Vessel Complex

Wright's Creek is located north of the junction of the Pamlico and Pungo Rivers, near Belhaven, North Carolina. The local community demonstrates long-standing ties to the land, some families holding deeds from the early nineteenth-century. Primarily a maritime community, residents have historically derived a large portion of their income from commercial fishing. In addition to commercial fishing, residents have a history of vernacular, backyard boatbuilding. Some vessels are still afloat, while others lie awash and deteriorating, evidence of hard times for commercial fishermen and the entire community.

The spring 2008 survey of Wright's Creek concentrated on collecting data related to 13 abandoned vessels' physical remains. Aside from a large iron barge, *Fred W. Olcott*, the majority of the boats surveyed were wooden workboats ranging from 18 ft. to 60 ft. in length. Students involved in the project concentrated on recording vessel dimensions, construction features, and evidence of processes concerning purposeful vessel discard. Recorders revealed in two days worth of cold water, chest-deep mud, and soggy sandwiches.

In August 2008, I conducted a side scan sonar survey, thanks in part to generous funding from North Carolina Sea Grant. We used a Klein towfish to remotely survey the 1.21 mi² project area, discovering more than 20 submerged anomalies. The project was not without its difficulties, as



Wright's Creek Abandoned Vessel 14. (l to r): Morgan MacKenzie, Jeannette Hayman, and Lyz Wyllie.

the shallow embayments and deep mud proved a hazard for the towfish. Dr. Nathan Richards experienced this first-hand, swimming through the tannin stained water to

“Recorders revealed in two days worth of cold water, chest-deep mud, and soggy sandwiches.”

free the remote sensing device. After evaluating the anomalies based on a presence of geometric patterns, nine proved worthy of further research. Ground truthing took place in October 2008. Several students joined in exploring the dark, frigid creek waters, discovering Vessel 14, a 28-ft. wooden fishing trawler built by local resident Major Wilson Foster. Remaining anomalies included vessels unsafe to dive due to advanced degradation. These include Vessel 15, a 40-ft. wooden trawler purchased by a

local resident, who found the bow in such bad repair that it sunk, still attached to the dock, shortly after the transfer of ownership.

Interviews with local residents added to the archaeological research undertaken for this project. Since anonymity is frequently a key component in disposal processes concerning abandoned vessels, it is often impossible to find marks to help researchers identify boat owners or builders. By interviewing local residents, a more complete vessel history can be discovered. In addition, local informants inform on the behavioral processes concerning abandonment procedures. Fortunately, many area residents volunteered family histories, as well as photographs, contributing greatly to our knowledge of the Wright's Creek Abandoned Vessel Complex. 🐬

– Jacqueline Marcotte

The MSA apparel order form is no longer available through Stem to Stern. We do know, however, that everyone needs Program in Maritime Studies apparel! Please visit the Program's website <http://www.ecu.edu/maritime/> or call 252-328-6097 for ordering information.

Wawona Sails into History: Historic Schooner Recorded by ECU Goes to the Breaker's Yard

Early on the morning of March 4th, Seattle's 112 year-old schooner *Wawona* was towed to a local shipyard for deconstruction. Its departure marked the end of an era as the region's last wooden commercial sailing ship became history. Although *Wawona* is now gone, the ship is not lost. In the end, *Wawona* was actually 'saved' — every detail of the schooner being exquisitely preserved on paper and in digital media. Much of this vital work was performed by ECU as a summer field project in 2008 and has since become a model for other maritime museums struggling with seriously deteriorated vessels.

Wawona came very close to being a total loss. When Northwest Seaport hired me to work on the project in late 2007, the outlook was bleak. A pair of marine surveyors' reports in 2005 showed that *Wawona* had deteriorated beyond repair. Rotten planks and framing had seriously weakened the hull and the stern was sagging precipitously. Historic vessel preservation experts from across North America, gathering in Seattle for the *Wawona* Summit in 2005, advised that the only options left for the schooner were complete restoration, placement under cover on shore, or demolition.

To rebuild *Wawona* or place it ashore was estimated to cost between \$10 million and \$20 million. By early 2008, feasibility studies were showing that it was too late to mount such a multi-million

dollar fundraising campaign. Those funds simply could not be raised before the ship would have fallen apart and sunk at its moorings.

During some very somber discussions at Northwest Seaport, we decided that if we could not preserve *Wawona* in its physical form, our greatest obligation was to at least preserve it on paper. Although I had done some vessel recording work during my two years at the *Vasa* Museum in Stockholm, I had no formal training to do the work myself. However, I had observed an ECU field team recording *Vasa's* beakhead in December 2007 and knew they were perfect for the job.

Five months later, Dr. David Stewart

"Ultimately, archaeological documentation is the only way our nation's historic ships can truly be preserved."

and six students flew in from Greenville with tripods, tape measures, and total station units to record *Wawona's* interior structures and framing. Previous documentation efforts had only recorded the ship's lines and deck plan. The most valuable information pertaining to the actual hull design and construction had never been put down on paper. Within minutes of coming aboard, the ECU team was wriggling into every corner and hidden recess to measure timbers and joinery that held her together. By the end of their stay two weeks later, we had gathered enough information to fully reconstruct *Wawona* down to tool marks left by Hans Bendixsen's shipwrights more than a century ago.

Over the next few months, I recorded a few



PHOTO: NORTHWEST SEAPORT

Wawona under full sail circa 1898 shortly after she was launched. Note the deck load of lumber.

final construction details and led volunteer crews in salvaging furniture and deck fittings. Local shipwrights came aboard to dismantle the interior paneling from the officers' quarters. Massive planks of California redwood layered with ornate moldings were carefully removed, crated and stacked on *Wawona's* deck along with the bilge pumps, pocket windows, cleats, and steering wheel.

On the grey morning of March 4th, two tugs eased *Wawona* out of its slip to a solemn farewell chantey and the tolling of eight-bells from Lightship No. 83 (1904). Surrounded by long-time supporters, local news media, and a flotilla of classic yachts, *Wawona* glided out onto the lake with unforgettable grace and dignity.

Once in dry-dock, the documentation work continued with LIDAR laser scans of the ship's exterior and a series of large format photographs sponsored by the City of Seattle and performed by the National Park Service and ESM engineering. Then as the deconstruction work began, I took thousands of photographs of the process and measurements of construction details located in previously inaccessible areas. Three weeks later, at 7:08pm on March 21st, the last portion of *Wawona's* bow gave up the ghost and an important chapter of maritime

continued on page 22...



PHOTO: MICHAEL HOWE

Wawona's deconstruction in drydock, March 2009.

PAST Foundation Publishes Academic Work for Students and Educators Alike

After toiling over thesis research and writing for months, every graduate student wonders the same thing: who will ever read the fruits of my labor? Will it end up hidden away on some dusty bookshelf?

The PAST Foundation, based in Columbus, Ohio, exists to ensure that doesn't have to happen. A non-profit organization, PAST "was borne from the desire to offer accessibility for students and researchers to publish their work without the hassle and cost of publishing warehouses," says Dr. Annalies Corbin, Founder and Executive Director. From these beginnings, Corbin continues, "We have grown to publishing educational modules, reprints of out-of-print journals, and non-anthropological interest work for partners and the community."

Dr. Corbin, a nautical archaeologist and a Maritime Studies alumna (1995), oversees the organization's daily operations. Dr. Dennis Aig, professor of Media and Theatre Arts at Montana State University-Bozeman and award-winning film producer and director, is the Head of the Documentation Unit, and Dr. Sheli O. Smith brings a strong background in both archaeological and museum work as the Director of Operations. A number of other staff members and research associates are part of the PAST Foundation and help make up a diverse and professional resource for both anthropologists and educators.

Using PAST as a resource, researchers can publish theses, dissertations, field studies, and educational programs. Cost is low, formatting is flexible, and students can begin a career with a publishing credit in their portfolio. Professors can also publish their own research, and create material for the classroom. Anthropology is the main field where PAST works to make original research available to both the public and educators.

Educational programs, available through their website, include interesting and relevant subjects such as "Forensics in the Classroom" and "Garbology," which explores global issues of waste management. In efforts to promote partnerships between anthropologists and educators, "PAST has successfully brought history to living rooms and classrooms across the country." These partnerships have resulted in exciting fieldwork as well. PAST has worked with the California Park Service on a Gold Rush Era shipwreck and in the Gulf of Mexico with the U.S. Minerals Management Service (MMS) on deep-sea shipwrecks.

As Dr. Nathan Richards of the ECU Program in Maritime Studies says, "Too many theses and dissertations suffer from vitamin-D deficiency; written and secreted away to the dim halls of academe, never to see the light of day again." Richards recommends, "PAST is an opportunity that students shouldn't miss in publicizing and disseminating their hard work to researchers, peers, and employers with minimal effort and cost." 🐼

– Amanda Switzer and Stephanie Gandulla

For more information, visit the PAST Foundation website at <http://www.pastfoundation.org>

Wawona Sails, continued from page 21

heritage was closed.

The loss of such a significant historic ship is certainly unfortunate. However, its wooden hull was not destined to last forever. The fact that *Wawona* lasted 112 years (5 times her intended lifespan) is an impressive feat. In the end, the ship was preserved not by shipwrights, but by ECU's enthusiastic efforts at rescue archaeology. Ultimately, archaeological documentation is the only way our nation's historic ships can truly be preserved.

In Denmark where *Wawona's* builder was born and trained, there is a blessing given when a boat is launched, "Ønsker jeg for båden, at den må blive hugget op og brændt." –"My last wish for this boat is that it must be cut up and burned." Seattle's cherished tall ship *Wawona* has fulfilled that tradition, serving a long and proud career until her aged timbers had nothing more to offer. 🐼

– Nathaniel Howe

ECU Maritimers Receive Awards

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

The Program in Maritime Studies was part of a collaborative effort awarded by the Department of the Interior's 2009 Partners in Conservation Award (*State of North Carolina*) for the 2008 Battle of the Atlantic Expedition. The project was led by the NOAA Monitor National Marine Sanctuary (*ECU Alums Joseph C. Hoyt, 2008 and Tane Casserly, 2005*), with East Carolina University partners in the Program in Maritime Studies (*Dr. Nathan Richards and John Wagner*) and the Institute for Coastal Science and Policy (*Steve Sellers*) as well as the Minerals Management Service, the National Park Service (*Submerged Resources Center*), the North Carolina Department of Cultural Resources, the North Carolina Aquarium on Roanoke Island, and the University of North Carolina Coastal Studies Institute."

STUDENT AWARDS:

| | |
|---|-------------------------|
| Moon Handbooks Fellowship | Benjamin Siegel |
| R. N. Lokken Scholarship for Independent Research in Early American History | Benjamin Siegel |
| Coastal Maritime Council Grant | Elizabeth Wyllie |
| Paul F. Murray Graduate Scholarship in History | John Ratcliffe |
| Renci Visualization Challenge | John Wagner |
| Admiral Eller Scholarship | John Wagner |
| ECU's research week | Joyce Steinmetz |
| NASOH (<i>North American Society for Oceanic History</i>) | Joyce Steinmetz |
| R.N. Lokken Scholarship for master's thesis prospectus | Joyce Steinmetz |
| North Carolina Sea Grant (<i>fellowship</i>) | Lindsay Smith |
| Regional Phi Alpha Theta | Marshall Lamm |
| NASOH (<i>North American Society for Oceanic History</i>) | Nathaniel Howe |
| Council of American Maritime Museums | |
| Leonard Rennie Grant | Nathaniel Howe |
| International Congress of Maritime Museums | |
| Richard Foster Bursary Grant | Nathaniel Howe |
| North Carolina Sea Grant (<i>research</i>) | Theresa Hicks |

Maritime Studies Association Continues Student Support

Once again, the Maritime Studies Association (MSA) has worked hard providing Maritimers with funding for conferences, fashionable apparel, and of course, fun social gatherings. Since its inception, MSA is charged with the official purpose of assisting students working toward degree completion in the Maritime Studies Program at East Carolina University. This includes raising funds and acting as a common voice for members.

With this task in mind, MSA began the 2008-2009 school year with a successful "Welcome Aboard" party as a meet-and-greet for the incoming Maritimers. To break up a stressful fall semester, students enjoyed a spirited Halloween party. Next, they demonstrated a record turn out at the SHA's in Toronto, sporting the latest Program in Maritime Studies apparel. The annual "blackout party," held to celebrate completion of zero-visibility dive training, was a fun and appropriate outlet. The final social activity of the year was the traditional Tar River Float, led by the fearless Dr. Brad Rodgers.

As MSA gets underway this year with a new cabinet, members look forward to increased



Rob Minford and Stephen Dilk enjoy the Tar River float. Marshall Lamm lurks in the background.

As MSA gets underway this year with a new cabinet, members look forward to increased

funding for members, enhanced educational outreach, and maritime-themed social activities. The Graduate and Professional Student Senate approved MSA's budget for the 2009-2010 school year. Funds from this budget will help to cover registration costs for students presenting at such conferences as Society of Historical Archaeology, North American Society of Oceanic History, and the Middle Atlantic Archaeological Conference.

Public outreach continues with interest from both graduate students and teachers from Greenville middle schools. Already, MSA members have presented to an eager group of 8-12 year olds at ECU's Summer Science Camp and to a keen group of kids from the local 4-H organization.

— Nicole Wittig and
Stephanie Gandulla



MSA members Nicole Wittig and Jennifer Jones enjoy the Blackout Party.



Halloween revelry with Valerie Rissel, Ben Siegel, and Rob Minford.

Underwater Hockey . . . How Long Can You Hold Your Breath?



Underwater hockey players in action.

Underwater Hockey is an activity you may have never heard of, but let me assure everyone, you would love to play it. This team water sport, reintroduced to ECU by Maritime Studies Professor Dr. Lynn Harris, requires strength, speed, stamina, agility, and a threshold for intense fun. Underwater Hockey is slowly catching on in the United States, but a visit to *YouTube* proves that it has gained a solid foothold in South Africa.

In this three-dimensional sport, the fast-paced play occurs under the water's surface in a swimming pool. The object of the game is to propel a lead puck along the bottom of the pool with a stick and into the opposing team's goal. The East Carolina Underwater Hockey Club plays a modified version of the professional game with five players on each side, as opposed to the standard six. The reason for this is that the game is so intense that there needs to be a substitute so the players may rest between points. The positions played at ECU are two attackers, who flank the center, and two defenders taking up the rear.

Dr. Larry Babits may be quick to claim that rugby is the most intense club sport at ECU. Clearly, he has never been kneed in the head while simultaneously being kicked in the face with a fin. Underwater hockey requires more stamina than soccer, more finesse than lacrosse, and a lot of spirit.

Join Maritime and other ECU students at the next practice—every Friday from 6:00-8:00 pm at the SRC pool in the Student Recreation Center. For more information, visit www.usauwh.com or <http://www.the-waa.org/>.

— Rob Minford

www.ecu.edu/msa

Ahoy Mates! Welcome to ECU: Ahoy Mates!

New MA Students in the Maritime Studies Program

Daniel Bera hails from Madison, Wisconsin. He received a BS in Anthropology/Archaeology in 2007 and a Graduate Certificate in Geographic Information Systems in 2009, both from the University of Wisconsin-Madison. He has participated in field schools both on land and in the sea in Wisconsin, Spain, Italy, and most recently in Hungary. His interests include recreational reading, watching films, traveling, golf, and grilling. Danny is also a devoted booster of the Packers, Brewers and Badgers.

Saxon Bisbee has lived in Pennsylvania State Parks his entire life, which began in 1986. In May 2009, he received his undergraduate degree, a BS in Marine Biology with a minor in History, from St. Francis University in Loretto, PA. He traveled to Belize and the Galapagos in 2008 and 2009. He has a wide range of interests in maritime history, ranging from 20th century ocean liners, World War II, to the entire age of steam, and most lately, Southern Civil War Ironclads. He hopes to continue his studies of maritime history at ECU as well as travel to new areas of interest.

John Bright was born and raised in Raleigh, North Carolina. He came to East Carolina in the fall of 2004 to begin work on a BA in Biology. Bright graduated in December 2008 and took a position at the North Carolina Aquarium on Roanoke Island. His interests in Maritime Studies and Nautical Archaeology come from a desire to learn about naval history and vessel modification, in particular during the First and Second World Wars, coinciding with the emergence of submarines as a significant naval force.

Dan Brown was born in Reading, PA, and his earliest memory is capsizing at the age of three. He moved to the urban suburbs of DC when he was nine, where his family sailed the waters of the Chesapeake as often as possible. Dan's early interest in the sea was further piqued reading stories of explorers and famous seafarers. Dan earned his BA in English at University of Maryland - College Park in 2003 and also completed a TESL certificate at Interlingue in Rome, Italy. While he wasn't teaching high school English and coaching wrestling, Dan's love of travel filled his free time. Having eaten iguana in Nicaragua and sipped Tokaj in gothic Hungarian wine cellars, his travels caught the interest of an admirer and he was married a year later in 2007. Wanting a break from five years in public education in Charlotte, Bowie, and Baltimore, Dan taught for Home & Hospital Tutoring, worked full time at Trader Joe's, and began work on a historical fiction. Dan's other interests (besides sailing, writing and reading all-things-history) include rock-climbing, martial arts, cooking, home brewing, and spending time with his wife.

Kathryn Cousineau is from Sacramento, CA. She went to University of California Berkeley and graduated with a BA in History in 2008, with an emphasis



New MA Students (Back, l to r): Dan Brown, John Bright, Matt McCarthy, Nathaniel Howe, Saxon Bisbee, Josh Marano, Will Schilling, Daniel Bera. (Front, l to r): Kathryn Cousineau, Mandy Switzer. Not Shown: Jeff O'Neill

PHOTO: STEPHANIE GANDULLA

on social history and the British Empire at sea. She took six months off from her undergraduate studies in 2004 to live and work in Sheffield, England. She became interested in archaeology after graduating, and attended an archaeological field school of University of Nevada-Reno at Virginia City, NV. Cousineau is interested in studying social history with regards to maritime studies and nautical archaeology, focusing in and around the 18th century Atlantic World. Outside academics, her interests include diving, brewing quality beer, and her soon-to-be husband, Matt Cooper.

Nathaniel Howe grew up sailing in Seattle, Washington. Taking an interest in preserving the 1897 Pacific schooner *Wawona*, he went to Beloit College to earn his BA in History and Museum Studies. While in college he also studied with Williams College at Mystic Seaport. After graduation, Nathaniel spent two years at the *Vasa* Museum in Sweden supported by Fulbright and Malmberg scholarships. In 2008, he returned to Seattle to organize recording the schooner *Wawona*, direct extraction of artifacts, and oversee its deconstruction in March 2009.

Joshua Marano was born in Fayetteville, North Carolina, and earned his BA in History from East Carolina University. Josh has been a member of the United States Coast Guard since 2006 and currently serves as a Second Class Petty Officer in the reserves. While at East Carolina, Josh has worked as a veterinary technician, maintenance worker, resident advisor, volunteer firefighter, safety inspector, office worker, and administrative manager. Josh is interested in collecting and shooting various firearms, the outdoors, paintball, and of course supporting his Pirates! ARRGHHH!!!

Matt McCarthy was born and raised a Florida Gator fan in Gainesville, Florida. He received his BA in Anthropology from the University of Florida, as well as minors in Classics and Geography. In 2008, he attended a study abroad program in Greece, and participated in a field school on Lake George in Florida excavating pre-Columbian Native American sites. His primary interest is studying vessels used for

the Atlantic slave trade during the 17th and 18th centuries. In his free time, Matt enjoys playing basketball, surfing, and watching Florida football.

Jeff O'Neill is from Durham, North Carolina, but spent his early years in Wilmington where he fell in love with the ocean. He attended the University of Kansas where he studied Classics and Anthropology; focusing on the Bronze Age Aegean. Jeff has always been interested in coastal North Carolina and the west coast of Ireland. He entered the Maritime Studies Program to study vernacular ship construction and evolution in both of these areas. He is also interested in the maritime culture and archaeology of these communities. Jeff's other interests include sailing his 1974 South Coast 22' sailboat, restoring a 1948 Chevrolet Aerosedan, and learning the Irish language.

William Schilling IV was born in Pittsburgh, PA, and graduated from Bucknell University in 2006 with a BA in Biology. He grew up in Pittsburgh and worked in the admissions department at South University for the past year. William is interested in near eastern maritime archaeology and ancient trading. In his spare time, William enjoys swimming, golf, skiing, and watching the Steelers and Penguins.

Mandy Switzer is from Ohio, and a graduate of The American University in Washington, DC, with a BA in History and a minor in Anthropology. She is, by nature of living so close to Columbus, an Ohio State fan, and by nature of having a father from Cleveland, an Indians fan; she accepts that her teams will never actually win the big games, but that doesn't stop her from watching. The granddaughter of a crewmember of the World War II US submarine Barb (SS-220) she has always been fascinated by submarine warfare, especially during WWII in the Pacific. She has developed the belief that while other ships in other eras are nice, none are as cool as submarines. She has written many short stories in the fantasy genre and has completed the first of what she hopes to be many books. When she isn't reading, writing, or doing school-like work she pretends to have a life. 🐙

Where are our Maritimers now?

Where are our Maritimers now?

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)** – Commonwealth of Virginia Prosecutor, Hampton, VA
- Monica Ayhens (2009)** – PhD student, University of Alabama, Tuscaloosa, AL

B

- David Baumer (1991)** – Newport News, VA
- Dina Bazzill (2007)** – Principal Investigator, Environmental Corporation of America, Alpharetta, GA
- David Beard (1989)** – Assistant Director/Curator, Wisconsin Maritime Museum, Manitowoc, WI
- 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 student, Department of History, University of Chicago, IL
- Samuel Blake (2006)** – Archaeologist, Southeastern Archaeological Research, Inc., Jackson, NC
- Matthew Brenckle (2004)** – Research Coordinator, USS *Constitution* Museum, Charlestown, MA
- Robert Browning, (1980) PhD** – Historian, United States Coast Guard, Washington, DC
- Darryl Byrd (1998)** – Linthicum Heights, MD

C

- Frank Cantelas (1995)** – Maritime Archaeology Program Officer, NOAA Office of Ocean Exploration, Silver Spring, MD
- Jodi Carpenter (2007)** – Archaeologist, Parsons Brinckerhoff, Baltimore, MD
- Chris Cartellone (2003)** – PhD student, Texas A&M, College Station, TX
- Tane Casserley (2005)** – Maritime Archaeologist, NOAA's Maritime Heritage Program, 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)** –
- Wendy Coble (1998)** – Owner, Historic Research and Cultural Resource Services, Washington, DC
- Patrick Cole (1993)** – Writer, Barcelona, Spain
- Edwin Combs, (1996) PhD** – Visiting Assistant Professor, Mississippi State University, Starkville, MS
- Michael Coogan (1996)** – Manager, Strategic Planning, Northrop Grumman IT, Herndon, VA

- David Cooper (1998)** – Resource Manager, Grand Portage National Monument, Grand Portage, MN
- Diane Cooper (1995)** – Consultant, San Francisco Maritime National Historic Park, San Francisco, CA
- Annalies Corbin, (1995) PhD** – Executive Director, PAST Foundation, Columbus, OH
- Lee Cox (1985)** – Director, Dolan Research, Inc., Newtown Square, PA

D

- Claire Dappert (2005) PhD** –
- James P. Delgado (1986)** – Director, Institute of Nautical Archaeology, Texas A&M, College Station, TX
- Alena Derby (2002)** – Lake Worth, FL
- Robert Dickens (1998)** – DVM, Cary, NC
- Jeff DiPrizito (2001)** – High School teacher, Hudson, NH
- Brian Diveley (2008)** – Seattle, WA
- Tricia Dobbs (2009)** –
- Wade Dudley, (1998) PhD** – Teaching Associate Professor, Department of History, East Carolina University, Greenville, NC
- Stan Duncan (1994)** – Regional Sales Consultant, NUS Consulting Group, Inc., Oak Ridge, TN

E

- Scott Emory (2000)** – Cockeysville, MD
- Jeff Enright (1999)** – Program Manager, Archaeology Division, BIO-WEST, Inc., Austin, TX
- Jenna (Watts) Enright (2000)** – Nautical Archaeologist, PBS&J, Austin, TX
- Kim Eslinger (2005)** – Marine Archaeologist, Geoscience Earth and Marine Services, Houston, TX

F

- Sabrina S. Faber (1996)** – Regional Programs Consultant, AMIDEAST, Sana, Yemen
- Rita Folse Elliott (1988)** – Curator of Exhibits and Archaeologist, Coastal Heritage Society, Savannah, GA
- 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. (1989) PhD** – Assistant Professor, UNC-Wilmington, Wilmington, NC
- Kevin Foster (1991)** – Chief, National Maritime Heritage Program, Washington, DC
- Joe Friday (1988)** – Sergeant, Greenville Police Department, Greenville, NC
- Adam Friedman (2008)** – ORISE Fellow, FDA, Bethesda, MD
- Don Froning (2007)** – Marine Corps Forces Pacific, Camp H. M. Smith, HI

G

- Kate Goodall (2003)** – Assistant Director for Development, American Association of Museums, 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 for the *Maryland Dove*, St Mary's City, MD
- Cathy (Fach) Green (2003)** – Education and Outreach Coordinator, Thunder Bay National Marine Sanctuary, Alpena, MI
- Russ Green (2002)** – Assistant Superintendent, NOAA Thunder Bay National Marine Sanctuary, Alpena, MI
- Jeffrey Groszkowski (2007)** – Fallston, MD

H

- Richard Haiduven (2003)** – Contract Archaeologist, Miami, FL
- Wesley K. Hall (1993)** – Director, Mid-Atlantic Technology, Wilmington, NC
- Stephen Hammack (2007)** – Archaeologist, Robins AFB, Warner Robins, GA
- Lynn B. Harris, (1988) PhD** – Assistant Professor, East Carolina University, Greenville, NC
- Margaret Harris (2004)** – Education Program Director, San Francisco Maritime National Historical Park, San Francisco, CA
- Ryan Harris (2006)** – Nautical Archaeologist, Parks Canada, Ottawa, Ontario, Canada
- Heather Hatch (2006)** – PhD student, Texas A&M University, College Station, TX
- Robert Holcombe (1993)** – Retired, Senior Naval Historian and Curator, Port Columbus Civil War Naval Center, Columbus, GA
- Joshua Howard (2004)** – Research Historian, Office of Archives and History, Raleigh, NC
- 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 (Peccarero) James (2007)** – Senior Archaeologist and Principal Investigator, ENTRIX, Inc., Salt Lake City, UT
- Brian Jaeschke (2003)** – Registrar, Mackinac Island State Historic Parks, Mackinac Island, MI
- John O. Jensen, (1992) PhD** – Lecturer in Maritime History, Sea Education Association, Woods Hole, MA
- Doug Jones (2007)** – Nautical Archaeologist, PBS&J, Austin, TX
- Rick Jones (1996)** – Building Contractor, Palmyra, VA

K

- John Kennington (1995)** – Assistant Director of Operations, BuzzCard Center, Georgia Institute of Technology, Atlanta, GA

continued on page 26...

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

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

David Krop (2008) – Conservation Project Manager, USS *Monitor*, Mariners' Museum, Newport News, VA

L

Danielle LaFleur (2003) – Collections and Technology Manager, Lakeshore Museum Center, Muskegon, MI

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

Adam Lehman (2006) – Whittsett, NC

Jason Lowris (2000) –

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

M

Coral Magnusson (1993) – Archaeological Research Institute, Honolulu, HI

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

Amy Jo (Knowles) Marshall (1996) – Curator, Wrangell-St. Elias National Park & Preserve, Copper Center, AK

Timothy Marshall (1999) – Cultural Resources Specialist/Post Historian, Ft. Wainwright, Fairbanks, 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 – Instructor, Central Carolina Community College Adjunct Professor, U.S. Merchant Marine Academy, Visiting Lecturer, University of North Carolina, Chapel Hill, NC

Ann Merriman (1996) – Chair and Administrative Director, 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

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

Amy Mitchell, (1994) PhD – Assistant 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 student, University of Rhode Island, Kingston, RI

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

Shawn Holland Moore (1998) – Volunteer and Community Partner Coordinator, ECU Volunteer and Service-Learning Center, 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, Columbia, MD

John W. (Billy Ray) Morris (1991) – Owner and Director, Louth South Eastern Archaeological Services, Inc., St. Augustine, FL

N

Adrienne (Askins) Neidinger (2000) –

Sam Newell (1987) – Public school teacher, Greenville, NC

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

O

Chris Olson (1997) – Curator, Minnesota Transportation Museum, Railroad and Minnetonka Divisions, Excelsior, MN

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

P

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) – Archaeological Illustrator, St. Petersburg, FL

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

Andrew Pietruszka (2005) – PhD student, Syracuse University, Syracuse, NY

Mike Plakos (2003) – U.S. Navy Civilian, Lusby, MD

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 Estates, Asheville, NC

Edward Prados (1993) – Country Director AMIDEAST, Sana, Yemen

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

R

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

Phillip Reid (1998) – Consultant, Wilmington, 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 – Professor, Program in Maritime Studies, East Carolina University, Greenville, NC

Jason Rogers (2004) PhD – Archaeologist, Alaska Maritima, Dutch Harbor, AK

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

Matthew Russell (1995) – Submerged Resources Center, National Park Service, Denver, CO; PhD student, UC Berkeley, CA

S

John Schaefer (1994) – School teacher, 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

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

Sami Seeb (2007) – Submerged Resources Center, National Park Service, Denver, CO

Joshua Smith, (1997) PhD – U.S. Merchant Marine Academy, Kings Point, NY

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

Chris Southerly (2003) – Archaeologist/Field Director/Diving Safety Officer, NC Underwater Archaeology Branch - *Queen Anne's Revenge* Shipwreck Project, Kure Beach, NC

Kathy A.W. Southerly (2006) – Assistant Dive Safety Officer, Fort Fisher Aquarium, Kure Beach, NC

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

T

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

William H. Thiesen, (1993) PhD – Atlantic Area Historian, United States Coast Guard, Portsmouth, VA

Bradley D. Thorson (1982) –

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

Ray Tubby (2000) – Nautical Archaeologist

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

Kenneth Tyndall (1988) – New Bern, NC

U

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

W

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

Sarah Waters (1999) – Visitor Experience 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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Student Archaeologists Investigate North Carolina's Largest Ship Graveyard

From its incorporation in 1793 through the dawn of the 20th century, Elizabeth City was a growing metropolis in northeastern North Carolina. Access to two main transportation waterways, Albemarle Sound and the Dismal Swamp Canal via the Pasquotank River, ensured that Elizabeth City developed a rich maritime heritage that has persisted over two hundred years.

Elizabeth City's reputation as a maritime town is history, not to be forgotten by those who remember and take pride in the city's lost maritime prominence. While history has documented this maritime heritage, the cultural landscape surrounding the city remains an untapped resource to supplement this record. Empty warehouses with broken windows, decrepit wharves and docks, rusting marine railways that disappear into the murky depths of the Pasquotank, and abandoned ships litter the river banks. These relics evoke memories of the once thriving maritime culture that built and sustained Elizabeth City.

The main vestige of the city's economic development is a complex of at least thirty abandoned ships known as the Elizabeth City Ships' Graveyard. Analyzing the circumstances surrounding the creation of this abandonment assemblage provides insight into the city's decline and illuminates historic trends in technology, the economic environment, prevailing social behavior,



PHOTO: PETER CAMPBELL

Two barges abandoned above Elizabeth City, 0007PQR and 0008PQR were recorded in March by ECU students.

and maritime interaction integral to its early development.

Site reconnaissance completed on January 25, 2009 located over twenty partially submerged vessels during a visual survey, with evidence of additional completely submerged vessels. Maritime students carried out a Phase II, non-disturbance survey on fifteen of these vessels on March 21 and 22, 2009 for Dr. Nathan Richards' Research Methods in Nautical Archaeology class.

Working in pairs, students conducted individual site inspections to produce an accurate scaled drawing of their assigned sites. These inspections included recording diagnostic elements, observing construction methods and abandonment signatures, photographing vessels, and collecting GPS coordinates at each location.

Teams approached recording with similar methodologies. Most established a baseline along the length of the vessel, either inside or outside the hull, to take

baseline-offset measurements. Students also recorded, in detail, interior structures and associated material remains such as steering quadrants and machinery located in and around the vessels. Site maps produced from this data provide modern visual representations of vessel remains and demonstrate abandonment signatures and behaviors at work on each vessel.

Students were also responsible for researching and writing a site report for their designated vessel. They conducted historical research to compile information and create a timeline of Elizabeth City's maritime past. Participants wrote fourteen detailed site reports using the city's developmental chronology to identify how trends in maritime related activity are reflected in the abandonment complex. The Underwater Archaeology Branch has added these reports to their database of North Carolina maritime sites.

The Elizabeth City Ships' Graveyard in the Pasquotank River represents the largest assemblage of abandonments found to date in North Carolina. Over the past ten years, East Carolina University maritime students and faculty have investigated abandoned boat graveyards on the Pamlico, Pungo, and Cape Fear Rivers. This investigation will extend the previous work to the Pasquotank River. The forthcoming thesis on the Elizabeth City Ships' Graveyard aims to supplement Elizabeth City's established maritime history, expand archaeologists' knowledge of abandonment patterns seen throughout North Carolina, and contribute to existing worldwide archaeological research on abandoned vessels. 🌊

– Lindsay Smith

Remains of a possible WWI ferrous ship, designated 0001PQR by the Underwater Archaeology Branch.



PHOTO: JACQUELINE MARGOTTE

Andrew Weir (2007) – Cultural Resources Group,
Jackson, MI

Wilson West, (1985) PhD – Policy Advisor, Office of
the Fairness Commissioner, Toronto, Canada

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

David Whipple (1993) – Alexandria, VA

Heather White (2004) – Director of Education &
Outreach, Emerge Gallery & Art Center, 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) – PhD student, Antioch
New England Graduate School, Keene, NH

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



Wilson York (2007) – PhD student, Emory
University, Atlanta, GA

PHOTO: JESSE T. LEVINEZA



The Niagara anchored by her best bower on a placid summer evening.

MARITIME STUDIES GRADUATES!

Please let us know if your name is not on the list or
if we need to update your current status.

We would love to hear from you!