MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY

MAHSNEWS

VOLUME 32, NO. 2 FALL 2021

Arnold's Bay Project 2021-2022: Mapping an American Revolutionary Site Across Transitional Terrain

By Cherilyn A. Gilligan and Christopher R. Sabick

In the spring of 2020, the Lake Champlain Maritime Museum (LCMM) was awarded an American Battlefield Protection Program (ABPP) "Battlefield Preservation Planning Grant" through the National Park Service (NPS) to conduct archaeological research at Arnold's Bay, in Panton, Vermont, under a permit from Vermont Division for Historic Preservation.

The battlefield site in Arnold's Bay (formerly Ferris Bay), located on the Vermont side of Lake Champlain, is where American troops under General Benedict Arnold burned the remaining vessels of their fleet to prevent their capture by the British during the American Revolution. This engagement marked the end of a running battle down Lake Champlain following the Battle of Valcour Bay, one of the first naval battles of the American Revolutionary War and the battle that resulted in the loss of the American vessels *Royal Savage*, *Philadelphia*, *New Jersey*, and *Spitfire*.

The row galley Congress *attempting escape in Ferris' Bay (now Arnold's Bay). Painting by Ernie Haas. Used with permission.*

Royal Savage had advanced to engage the British fleet, took heavy fire, and ran aground on the southern tip of the island and burned. After an exchange of volleys and the burning of the other American vessels at Ferris Bay, Arnold and his remaining men, along with the Ferris family from the homestead on the bay, fled on foot toward Crown Point and Fort Ticonderoga. Four gunboats (*Providence, New Haven, Boston,* and *Connecticut)* and Arnold's flagship, the row galley *Congress*, burned with their flags flying. This action on October 13, 1776 was the last engagement in the

continued on page 3

INSIDE THIS ISSUE:

Notes from the Prez – Steven Anthony

The Delta variant has kept us all in turmoil this Fall and the Board of Directors is still exercising a "safety first" policy when it comes to preventing the spread of COVID 19 among our members. So, there has still been no MAHS diving this year. We remain hopeful that this awful pandemic will have passed by June 2022 so we can schedule our next Field School then.

In the meantime, the Board has stayed busy editing and refining the new online version of our Introductory Course in Underwater Archaeology for presentation in 2022. We are also working on marketing the 2022 course through Facebook and other social media outlets. As in 2021, our online version of the course will hopefully attract a wider audience and open up our training to both local and international students.

The Board will also be adding two new courses for 2022. MAHS will conduct 3D-photogrammetry training during our bi-monthly membership meetings whenever they resume. We will also be offering an Introductory Course in Remotely Operated Vehicles which will include a design and build component for students to construct and operate their own rudimentary ROV's. These courses will help our members obtain the skills they need to function as viable members of the underwater archaeology team and help them stay current with the rapid changes in the field.

This coming January, 2022, MAHS will be participating in the annual conference of the Society for Historical Archaeology. Jim Smailes and I will be attending the virtual Board of Directors meeting for the Advisory Council for Underwater Archaeology on Tuesday, January 4, 2022. Then on Saturday morning, January 8, 2022, we will provide a presentation at the Citizen Science in Maritime Archaeology Symposium organized by Della Scott-Ireton, Jason Raupp and Jennifer Jones.

Though vaccinations are on the rise, there seem to be enough holdouts that this persistent virus is still running rampant in communities around the country and the world. The pandemic has certainly left its mark and continues as an ever-present intrusion in our lives. As I have been told, "this too will pass." It won't be soon enough for all of us at MAHS.

Stay safe everyone – sunnier skies and calmer waters are just around the corner in 2022.

See you on the water,
Steven Anthony

MAHSNEWS is the official publication of the Maritime Archaeological and Historical Society (MAHS), a non-profit educational organization dedicated to preserving our global maritime heritage.

MAHSNEWS will consider articles and notices for publication which enhance public awareness and appreciation of maritime history, archaeology, and heritage preservation.

Arnold's Bay, Lake Champlain.
Courtesy of Lake Champlain Maritime Museum, 2021.

northern theater of the American Revolution before the end of the campaign season of 1776, and the site today bears the name 'Arnold's Bay.'

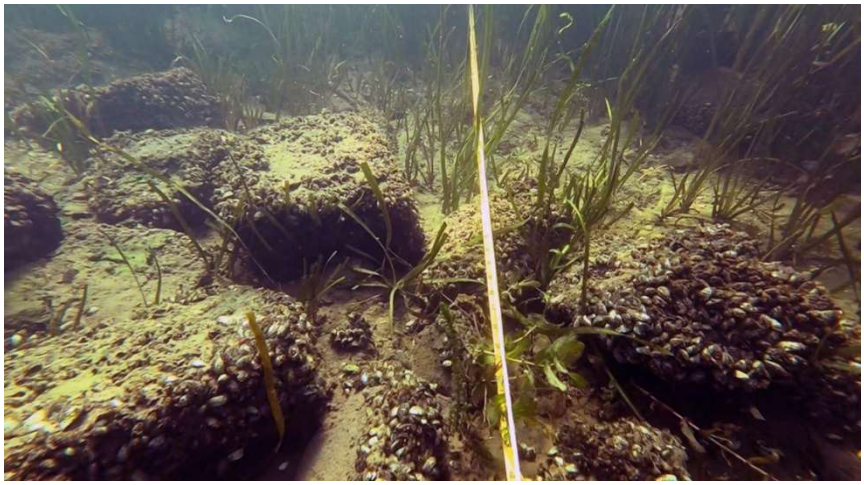
There are primary accounts describing British-allied Native Americans firing at the American troops from Valcour Island. Arnold's troops camped all around the island as they lay in wait for a month or more.

No formal archaeological investigations or surveys have been conducted on Valcour Island itself, although the remains of *Royal Savage* were removed from the water by amateur archaeologists in 1934, and the southern point of Valcour Island has been picked over for iron shot and other artifacts since the battle took place. LCMM conducted an underwater survey of portions of Valcour Bay over several seasons, from 1999 through 2004 that recovered a variety of artifacts from the battle. The work was reported by Arthur Cohn and others (see the reference at the end of this article).

Our project objectives propose an unusual approach to identifying and defining battlefield boundaries and features by combining terrestrial and underwater survey techniques and using remote sensing across a transitional terrain. Traditionally, underwater and terrestrial remote sensing surveys are conducted separately, or one is left out entirely, as seen in the underwater survey of the Valcour Bay. By conducting remote surveys underwater, through the shoreline, and on land, we hope to gain a fuller understanding of the battlefield and its features located in and around Arnold's Bay. Ultimately, the survey will aid in the advancement of methodology for mapping battlefields that extend from water to land.

The scientific investigation of this nationally significant battlefield will identify the site boundary and feature data that has yet to be gathered. It will update our understanding of the last crucial naval engagements in the 1776 campaign season, which set the stage for success in the Battle of Saratoga the following year.

Delineating site boundaries will also enable the site's local stewards to plan for the protection and preservation of the site in the future. Looting of this site has been noted recently by local landowners. By inviting the avocational community to be a part of our accredited metal detecting class, we are re-educating our interested locals and turning them into site stewards. Investigating and mapping other battlefield features will help stewards of this site better understand the threats of erosion and zebra mussel colonization to the site, again helping us to



Ballast stone from the row galley, Congress*, lying along a survey transect line. Due to disturbance of the site historically, and the removal of half of the row galley in the 1890s, ballast piles have been moved around as sections of timbers were removed, and as relic hunters searched for artifacts. Iron and other materials recovered from this site had been buried in fairly thick clay (with softer sediments on top). Lake Champlain Maritime Museum, 2021.*

better plan for protection and preservation of this significant site.

The comprehensive report that will be produced from this study will be used to update the Vermont Online Resource Center (ORC) and may also be used as the basis for a nomination to the National Register of Historic Places, offering further credence to the value of the site in the eyes of local and national communities and underlining the necessity to protect this battlefield.

For the duration of this project, we are collaborating with the Stockbridge-Munsee Community and local Abenaki leaders, in order to better understand and incorporate the native history of this place as well as native involvement in American Revolution conflicts like the one at Arnold's Bay. Additionally, we are partnering with the Advanced Metal Detecting for the Archaeologist (AMDA) group who will teach an RPA certified metal detecting course on the terrestrial portion of the site in Fall of 2021.

Cannon ball from the underwater transect survey, Arnold's Bay. Lake Champlain Maritime Museum, 2021.

In January of 2022, Lake Champlain Maritime Museum, along with our partners at AMDA and our Stockbridge-Munsee collaborators, is hosting a symposium for the Arnold's Bay Project at the Society for Historical Archaeology (SHA) conference to showcase the project. Additionally, stay tuned to our museum website [www.lcmm.org], our Instagram account [@lakechamplainmaritime], and Facebook page [@Lake Champlain Maritime Museum] to keep informed about the project. Much more to come in 2022!

Cherilyn Gilligan is the Assistant Director of Archaeology at the Lake Champlain Maritime Museum. She is Register of Professional Archaeologists (RPA)-certified, and holds an MA in Applied Archaeology from Indiana University of Pennsylvania.

Christopher Sabick is the Director of Research and Archaeology at the Lake Champlain Maritime Museum, has been an archaeologist and conservator with the museum for over 20 years. He holds an MA from the Nautical Archaeology Program at Texas A&M University.

Reference:

Arthur B. Cohn, Adam I. Kane, Christopher R. Sabick, Edwin R. Scollon, Justin B. Clement. Valcour Bay Research Project: 1999-2004 Results from the Archaeological Investigation of a Revolutionary War Battlefield in Lake Champlain, Clinton County, New York *(Lake Champlain Maritime Museum, Vergennes, 2007).*

Saving *Princess Carolina*: Renewed Efforts to Preserve an 18th-Century Maritime Collection

by Christina Altland and Hannah Fleming

In 1981-1982, preceding construction of 175 Water Street, a large commercial building in the Financial District of downtown New York City, archaeological excavation uncovered the remnants of an 18th-century ship. Initially referred to as the "Ronson ship," research into the vessel showed that in the late 1740s or 1750s, the ship, then likely derelict, had been privately purchased to crib the Water Street block, a plot of water purchased for investors to create more land along the East River. Land owners brought fill material to the lot in phases and allowed the block's proprietors to dump their garbage at the back of the property. To study this fascinating site, a team of nautical archaeologists, led by Warren C. Riess and Sheli O. Smith, were engaged to systematically excavate and record the ship in February 1982. Their reporting (Riess and Smith 2015) serves as the source for the archaeological descriptions in this article. During this short excavation season, the group was able to uncover the entirety of the 65-foot-long ship except for the stern, which remained buried under the street. Aspects of the ship's construction showed the importance of the find, and the team was granted a little

more time to recover the most significant portion of the ship – the bow structure. Timber by timber, the bow was labeled, deconstructed, and moved off site to temporarily storage for recording and basic preventive conservation, while a permanent home was identified for the ship timbers, associated artifacts, and all archaeological records from the project.

In 1985, The Mariners' Museum and Park in Newport News, Virginia, was identified as the ship's permanent repository and the collection was moved to that location. Conservation of the ship's materials continued until 1987, when cost, time, and faculty turnover inhibited the process. Since then, the partially conserved collection has remained in storage at the Museum.

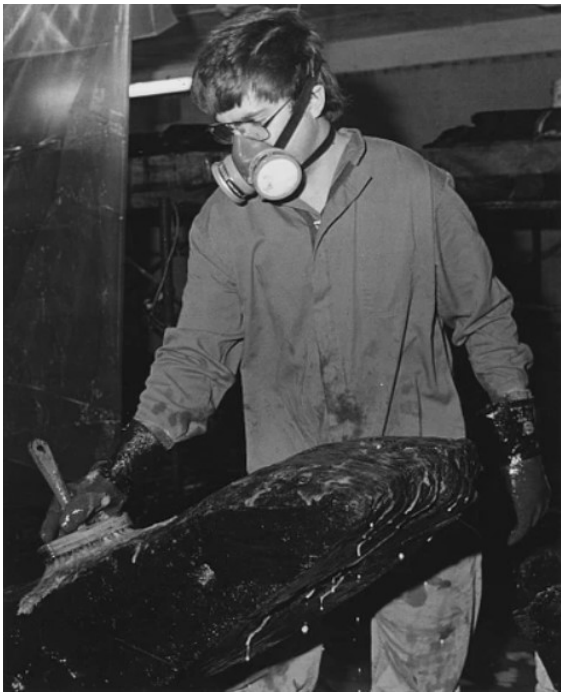
"Ronson ship" excavation site. All images courtesy of The Mariners' Museum and Park.

Nevertheless, research continued. Riess tentatively identified the ship as *Princess Carolina*, a South Carolina-owned and operated transatlantic trading vessel built in 1716. While the vessel was reported lost in a storm in 1729, it appears that it was merely damaged and that it limped into New York Harbor where it was left. The potential construction date increased the ship's significance, as it is now believed to be the oldest surviving European-American built merchant ship.

In the mid 2010s, the Museum's Collections Management Department noticed that the original artifact containers were disintegrating, and so they began a long-term rehousing and comprehensive survey of the collection. Similarly, in 2018, the conservation department began to re-engage with the collection. They conducted a survey of the ship's timbers that revealed that although most of the timbers still have good physical integrity, there is a concerning process occurring. Many of the timbers showed yellow rings and voluminous precipitates blooming around former fastener holes, both of which appeared to be indicative of a degradation process well known in conservation: oxidation of reduced sulfur to sulfuric acid in marine wood (Sandström *et al*. 2001, 2003).

Sulfur can be deposited in wood immersed in hydrogen sulfide-rich water (e.g., low oxygen burial environments). Although stable in burial, when excavated and exposed to certain conditions, the sulfur has the potential to oxidize to damaging compounds such as sulfuric acid and sulfate salts. This can lead to acid hydrolysis causing cellulose and hemicellulose chain length reduction and eventually significant loss in mechanical strength. Typically, this process occurs when relative humidity spikes over 60 percent and in the presence of iron ions which can act as a catalyst (Sandström *et al*. 2001; Rémazeilles *et al*. 2013).

The potential for this damage in the timbers led to a more in-depth survey from 2019-2020 to fully assess the deterioration occurring. A comprehensive pH survey revealed that concerning acidity levels were already present in the timbers. Additionally, microscopic analysis indicated there was a potential for continued formation if steps were not taken to prevent it. The



Museum staff applying polyethylene glycol (PEG) as part of initial conservation treatment of a timber.

A small Princess Carolina *timber. Light colored areas show evidence of acidification.*

Museum is presently working to rehouse the collection to mitigate continued acidification.

Efforts have begun to determine an appropriate treatment to neutralize the already acidified wood. Treatment testing was conducted during the first six months of 2021 with promising results. Currently, staff are in the process of refining a methodology for the large-scale treatment of the timbers. The chosen approach involves the use of nanoparticles, meaning that the products are less than 100 nanometers in size and thus have more active surfaces which should allow for greater penetration and more effective treatment. However, the size of the particles also means they have the potential for damaging health effects for the conservators, and thus their use requires more extensive health and safety measures (Baglioni *et al*. 2015; Schofield *et al*. 2015).

Nevertheless, there is far more to the *Princess Carolina* collection than just the timbers. Almost 14,000 artifacts recovered from the ship's fill material are housed at the Museum. A range of material types including leather, glass, ceramics, metals, among others is represented, each of which presents its own specific needs for conservation and stabilization. One concern at the forefront of caring for the artifacts is salts that may have been deposited in burial. These can affect materials in a variety of ways, such as inducing corrosion in metals and surface delamination in leather. The Museum is in the process of addressing these types of issues through multiple ongoing projects.

One such project, already underway, involves rehousing the leather fragments recovered, many of which appear to be shoe components. Through a process of documentation, condition surveying, and stabilization, exciting progress is being made for the long-term preservation of these objects. This work as well as the

Leather shoe fragments from the Princess Carolina *fill material.*

Kress Conservation Fellow, Christina Altland, applying treatment to a timber.

timber treatment testing and treatment of several additional fill artifacts is being supported through funds received from the Samuel H. Kress Foundation administered by the Foundation for Advancement in Conservation.

The future of the *Princess Carolina* collection at The Mariners' Museum and Park expands well beyond conservation and storage. Both the fill material and the timbers present the opportunity to share many engaging archaeological stories with the public. From 18th-century shoe construction to early colonial life in North America, the potential to interpret the collection is considerable and varied. Eventual reconstruction of the bow structure will hopefully heighten the visitor experience and the Museum's mission to connect people through the water and a shared maritime heritage. Through these artifacts, the Museum hopes to create an immersive experience that will allow visitors to truly engage with the *Princess Carolina* collection as intended.

The authors work at The Mariners' Museum and Park in Newport News, Virginia, at the time of writing. Christina Altland is the Museum's Kress Conservation Fellow. Hannah Fleming is its Maritime Archaeologist.

Sources:

Warren Riess and S. Smith. Ship that Held up Wall Street: The Ronson Ship Wreck. *Texas A&M University Press, College Station. 2015.*

Piero Baglioni, D. Chelazzi, and R. Giorgi. Nanotechnologies in the Conservation of Cultural Heritage: A compendium of materials and techniques. *Springer, Dordrecht. 2015.*

Celine Rémazeilles, K. Tran, E. Guilminot, E. Conforto and P. Refait. Study of Fe(II) sulphides in waterlogged archaeological wood. *Studies in Conservation, 58(4): 297-307. 2013.*

Tom Sandström, I. Hall-Roth & A. Karlsson. Salt Precipitation on Vasa Timbers: An Introduction to a Problem. *In Proceedings of the 8th ICOM Group on Wet Organic Archaeological Materials Conference, edited by P. Hoffmann, J. Spriggs, T. Grant, C. Cook, and A. Recht, pp. 55-65. International Council of Museums, Stockholm. 2001.*

Magnus Sandström, Y. Fors, and I. Persson. The Vasa's New Battle : Sulfur, Acid and Iron. *National Maritime Museums, Stockholm. 2003.*

Eleanor Schofield, C. Delaveris, and R. Sarangi. Alkaline earth carbonates for the treatment of problematic sulfur associated with marine archaeological wood. *Journal of Archaeological Science* 4: 427-433.

The Pirate of Cotinga Island (1718): The History and Archaeology of a Mysterious Shipwreck in the South of Brazil

by Geraldo J.S. Hostin

This article summarizes more than 20 years of ongoing research on the history and archaeology of a mysterious pirate shipwreck. The whole matter is still a jigsaw puzzle that has slowly been assembled, but some of the results are going to be shared here with the public.

When my colleague, historian Jorge Alberto Canale, presented to me the story of a French pirate who had lost his vessel in 1718 at Cotinga Island, near the village of Paranaguá in the south of Brazil, I was instantly interested. Soon I found a curious version of the story in the historian Antonio Vieira Dos Santos' 1850 manuscript (later a book), "Memorias Históricas de Paranaguá." His narrative starts with a French merchantman arriving at Paranaguá Bay being pursued by an unknown French raider. The terrorized locals, expecting to be robbed by the pirate, prayed for Divine intercession from the Virgin of Rosary, patron saint of that village. Then, in the author's own words:

> *Suddenly a wind grew with such an intensity becoming a hurricane, so strong that it did*

Cotinga Island, in southern Brazil.

not give the pirates time to avoid imminent danger to their vessel, that it hit a submerged rock that hides in that place and breaking apart, the corsair soon descended into the depths.

After a long search in the Portuguese, Brazilian, and French Colonial Archives, and with the help of other scholars, particularly the late Professor Jacques Gasser, the story started to make more sense.

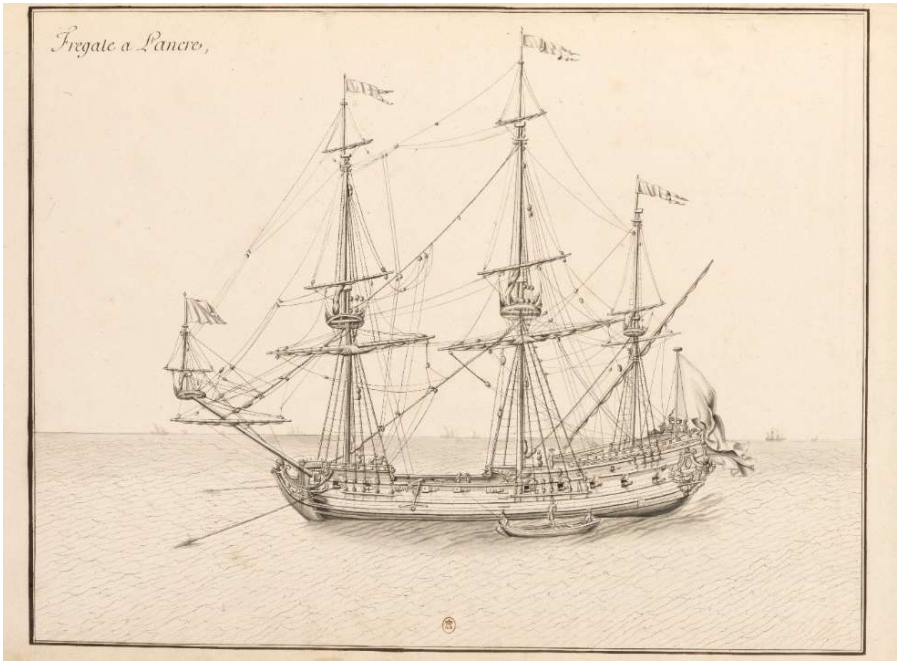
I found an essential clue in a letter from a provincial judge, Raphael Pires Pardinho, to the king of Portugal (João V) describing how a 22-gun pirate ship crewed by two hundred men appeared in the Bay of Paranaguá coming from the nearby city of Cananéia and chasing a French merchantman, which tried to escape by sailing around Cotinga. In his words, the pirate vessel was:

Arrogantly decorated with flags of skulls and bones of white cloth on black wool. On the mainmast, another flag was hoisted. They made it of black silk. In its centre, there was the figure of a naked man with a cutlass in his right hand, and the left one holding a decapitated head by the hair. As the raider sailed after the merchantman, a thunderstorm fell on him, and after two anchors were thrown to hold the pirate ship dragged, its stern hit a hidden rock at the said isle, sinking quickly.

About one hundred pirates saved themselves and fled on a brigantine that was escorting their ship. A few others were imprisoned and sent to Rio de Janeiro, while a good number of them died inside the hull trying to remove a chest which (allegedly) contained over 200,000 cruzados in silver coins, bars and objects, and gold coins, dust, and nuggets all stolen along the Spanish Main.

Captain Poldecoeur du Bocage, commanding *Le François* (aka *Sainte-Rose*), the French merchant the pirate had chased, provided his own account, which completes Judge Pardinho's, saying that the sinking happened around three o'clock in the afternoon. As the pirate ship sank, the brigantine escort became entangled with the masts of the sinking ship. In despair, the crew cut away masts and rigging, eventually freeing the consort and allowing it to flee. *Le Francois* pursued it, but the brigantine escaped.

A colonial officer of Saint-Malo, Monsieur Marin, later described the raider's ship as a three-masted vessel, full of money and displaying on the third mast a "no quarter flag" which was made of black cloth and was painted in the middle a skeleton flanked by scattered bones and crossed cutlasses.

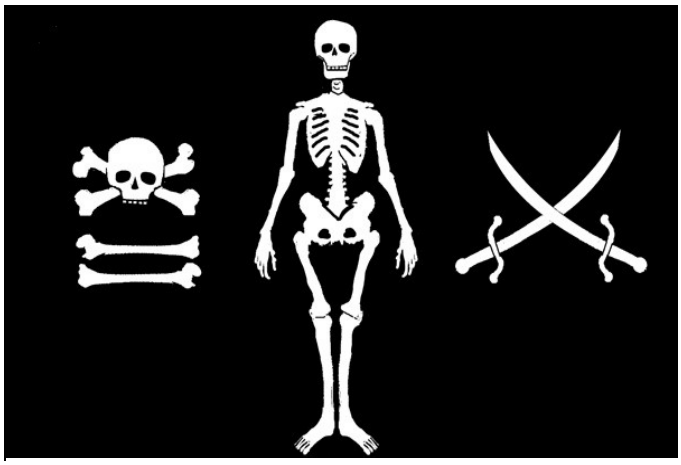


Late-17th-century frigate. Image courtesy of the Archives Nationales de France.

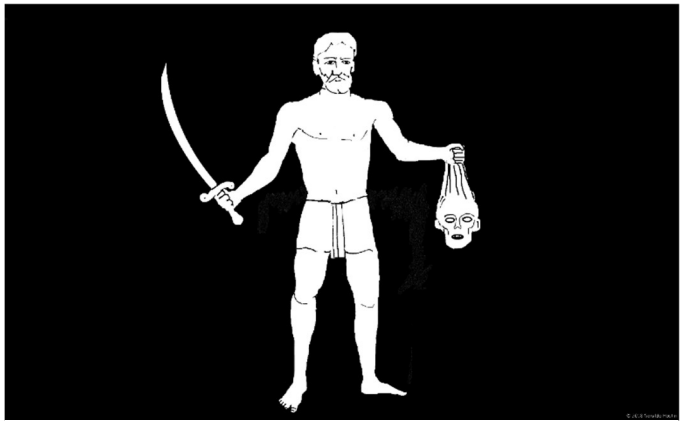
But the pirate remained anonymous in the sources. However, Pardinho's details of the ship indicated that it might be a powerful raider from the Caribbean area, which was infested at the time by a new generation of sea thieves, "men of different nations." This chaotic period of piracy, between the years 1716-1726, is known as the "Golden Age of Piracy," when the most severe outbreak of pirate-related activities in history occurred in many parts of the Atlantic and the Indian Ocean. Its foremost center was the island of New Providence, where a group of Anglo-American privateers who had been active in the War of the Spanish Succession suddenly found themselves unemployed. Together with rebellious seamen and other less stable elements of the colonial societies, they created a loose association of sea robbers.

A French raider, Olivier Levasseur (aka La Buse), curiously stood out among the English in the years 1716-1717. Under the alias Louis de Boure, he commanded a small ship, *Le Postillon*, in 1716, taken during a mutiny. He worked in consort with Samuel (Black Sam) Bellamy for a while. The next year he arrived at Nassau with a new ship of twenty guns and 250 tons which resembled the vessel Pardinho had depicted.

During that year Levasseur attacked many ships of opportunity. Around July he was reported on the coast of North American. Then he disappeared from the registers for about one year. All these clues considered; he could be a theoretical fit to the unknown pirate of Cotinga.



"No quarter" flag. Image by the author.



Pirate flag on the main mast. Image by the author.

I also found interesting the story of a French-Canadian pirate known as Louis Dubourg, captain of a 150-ton 22-gun frigate *La Louise*, who, from August to September of 1716, raided his way across the Newfoundland coast. Because his name was almost spelled like Levasseur's alias, Louis De Boure, when in command of *Le Postillon,* it is possible that they were the same person. Moreover, he often told his victims of plans to join a thirty-cannon British pirate and go to Brazil. One of his victims, Captain Briard, in command of *L'Adroite*, informed the maritime authorities that he had sailors stolen by Dubourg. According to a purchase document of the admiralty and colonial archives in France, *La Louise* was a frigate registered *La Rochelle* and taken in Dominica in February 1717 by a unidentified raider. A frigate was a premium for a sea-raider because it was a low-tonnage, well-armed and fully rigged ship built for speed and maneuverability, able to sail efficiently on key wind points.

Later, in December 1717, taking advantage of the trade winds, an unknown pirate appeared in the north of Brazil. Avoiding Salvador, the well-fortified capital of that Portuguese colony, he started a series of depredations and murders along the coast. Going further south, he anchored at Ilha Grande close to Rio de Janeiro in January. However, his stay in the area was a disaster because sailors were captured by the Portuguese and desertions occurred. Captain Pierre des Vaux, commanding the French ship, *Princesse de Parme*, which had arrived there to re-supply, encountered two desperate sailors, Pierre Duprey and Adrien Lamoinne (le Moine), who had escaped from the pirate ship on a canoe and begged for shelter. They stated they had been taken from their ship *L'Adroite* by force off Newfoundland and Labrador**.** As noted, Dubourg had robbed *L'Adroite* in Canada. So, it appears that the pirate in Brazil was Louis Dubourg and his ship was *La Louise*.

Sailing further south to Sharks Bay, in Ubatuba, to fix a broken mast and spar of *La Louise*, Louis Dubourg and his brigands were fought off by a local militia and between fifteen to twenty pirates were killed. At the end of February, his ship and an escort brigantine had fled south again to the paradisical island of Cananéia, close to Paranaguá, where curiously, locals helped them, even selling them a dugout canoe.

After the loss of *La Louise*, the survivors in the crowded brigantine sailed back north capturing a small merchantman near Salvador. In May, a ship and an escort, believed to be those pirates, were last seen off the coast of that city sailing north in the rain never to be heard of again. The mystery of Dubourg's whereabouts and his real name was finally solved when the captain of HMS Scarborough, Francis Hume sailing near la Blanquilla Island (Venezuela) spotted a pirate ship, *Blanco*, at anchor. Seeing the oncoming warship, the rogues jumped on another smaller boat and fled under

Cotinga Island as it appears today. Photo by Gabriela Berger.

cannon fire. Hume identified the captain of *Blanco* as L. Bour "ye pirate." And the High Court of Admiralty also informed that "Lewis Le Bour [fled] with a considerable quantity of gold and silver." The July 28, 1718 issue of the *Boston News-Letter* confirmed the story and reported that "la Bouss" (La Buse, Levasseur's alias) was not only on his way back from Brazil but that *Blanco* was also a Portuguese prize.

As previously seen, Louis de Boure was Olivier Levasseur's nickname when in command of *Le Postillon*. Therefore, several lines of evidence suggest that the wreck described by Pardinho and Vieira Dos Santos was *La Louise* and that the captain of the ship was Oliver Levasseur under the alias of Louis de Boure.

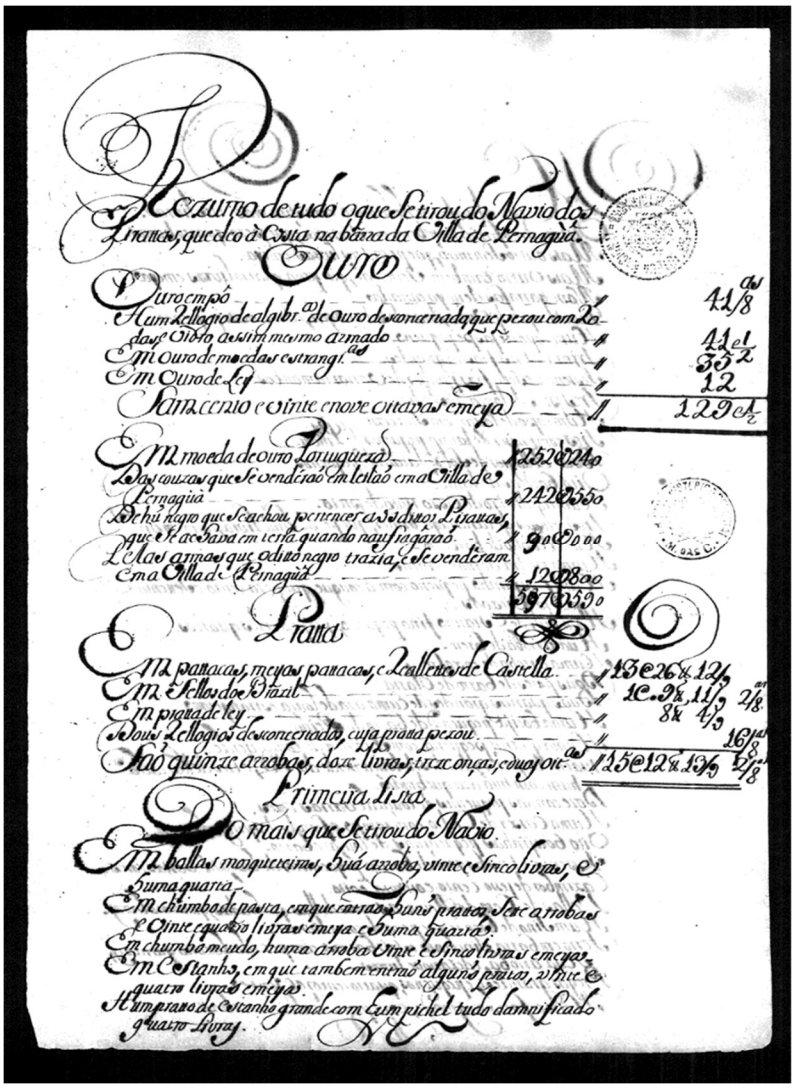
On Cotinga Island, a several days after the sinking, *La Louise* was resting upright on the bottom, the tips of its masts sticking out of the water. As days went by, tidal currents rolled it to one side, and eventually, the hulk ended up at a depth of fifteen meters and close to a hazardous submerged rock.

In 1720 Judge Pardinho, helped by a mulatto free diver, began to salvage the wreck, bringing up a loaded bronze swivel gun and pieces of rotted wood. He reported the operation to the King, who, in 1722, offered anyone industrious enough to conduct an undersea job half of the sum of money contained in a "treasure chest" which, according to the captured pirates, remained inside the wardroom held in place by chains.

In 1730, a salvor, João de Araújo, accepted the offer. Although his free divers recovered a substantial number of items in 1731, the rumored fortune was not found. One diver, unfortunately, died during the dangerous enterprise in murky waters. The wreck was described as structurally unstable, and its starboard list had moved a great part of the ballast, making that side of the ship difficult to access.

But the Portuguese left a list of the objects salvaged, whose first page recorded many gold and silver objects. In total, the divers collected 0.464 kilograms of gold (coins, watches, gold dust) and 229.65 kilograms of silver (coins and objects), along with eight cannons, ammunition, weapons, the ship's bell, and many everyday objects.

In 1963, Spanish commercial diver, Juan Miralles, located a wreck around Cotinga and soon identified it as the pirate vessel. Miralles was part of an expedition headed by history enthusiasts Roberto D'aquino Lordy and Fernando Guerra Bittencourt. Scuba divers Acir Bezerra and the Person brothers joined the enterprise. This legal eight-year venture, which was interrupted


Ouro
Prata
Artilharia Lisa

The first page of the list of objects recovered in 1730. Courtesy of Arquivo Historico Ultramarino.

often, was more a salvage effort than archaeology. Talk of treasure was then frequent in newspapers, and it could not be otherwise, for in those days views of the sunken past were different than they are today, and underwater archaeology was a very new concept in Brazil. The expedition was terminated in 1971 due to material and financial losses. Divers depicted the hulk as half-destroyed – broken in two, resting on its starboard side and covered by sediments that had to be removed with a suction dredge. They also reported holes in the planks patched with lead, an indication of combat, and burn marks in planks suggesting a fire had started on board during the sinking. Cannons and other objects were soon uncovered. An inspection of a contemporary photo shows three 6-pound Finbanker types, identifiable by shape, the position of the trunnions, and the number of reinforcement rings. It is possible to estimate their date and place of manufacture as between 1675 and 1700 in Finspong, in Sweden, although they may have been reproduced in Holland, which exported such armaments.

Cannons recovered in 1963.
Courtesy of Instituto Historico e Geografico do Parana (IHGPR).

One unique large piece encountered is a 12-pounder made in Nävekvern, Sweden and dated around 1708.

No report or registers from this expedition has been found which could provide the context of the finds, however. The treasure eluded the adventurers, who donated some objects to museums, although others remained in private hands. Among these objects is another bell, but no inscription is mentioned either by the salvors or in contemporary newspapers.

A temporary list based on newspapers and one short journal article by D'aquino Lordy included two anchors. One measured about three meters in length (a bower and a clear sign of a large craft) and another about 0.90 meters in length. Also listed were 29 iron muzzle-loading cannons, large and small (some used as ballast); one bronze swivel gun; a 15-kilogram bronze bell; a bar shot and two expanding bars shots; a statuette of the Virgin Mary; a signet ring; a pewter tankard with lid; an image of Christ from a crucifix; a Jamaican totem; three dividers; a gold medal of Saint Ignatius of Loyola; a bronze candlestick; a grindstone; and a large clay container. Lordy also mentions an assemblage of other objects but few numbers are provided: lead paste; hundreds of cannonballs; lead shot; cutlery with ivory and bone handles; spoons; fragments of swords; carabiners; blunderbusses and pistols; silver and gold coins; scissors; Dutch pipes in a box, along with one of non-European origin; faience and tin dishes; perfume and rum bottles; pulleys; pieces of the hull and the ship's oven; and unidentified animal bones used for food. Although one hundred people died on board according to the Governor of the province of Sao Paulo at that time, the only human bone found was a mandible.

Little artifact analysis has been conducted because pieces have either disappeared or been scattered among collectors and institutions. Such difficulties are the obvious fruits of the 1963 venture, which was not archaeological in nature. Of the items recovered, a sizable number have been located but still not confirmed as to provenance. Others were proven as originating from the site after careful examination of museum records, contemporary photos and reports from newspapers and interviews. Among these verified objects are three cannons (late 17th and early 18th century); a gold moidore (a Portuguese coin) dated 1714 and minted in Rio de Janeiro; two Dutch pipes dated early 18th century, one with the symbol of the city of Dordtse in Holland, dated 1710-1718; a brass divider, one expanding bar shot; and a small terracotta image of the Virgin Mary. In my research report, I have made a detailed artifact analysis of these objects grouped by functional categories.

Museum display in Santos. The small photo shows Roberto D' Aquino Lordy. Image by Jules Soto.

One of the most notable pieces is the image of the Virgin Mary, which measures twelve centimeters in length. Its discovery was a significant event for the explorers in the 1963 expedition and the people in Paranaguá because they knew of the Vieira dos Santos's story which mentioned the Virgin Mary. This image is now associated with the shipwreck by the locals, but little can be said of it other than that it might be French (judging from the form of the crown). The plain design suggests that it was an object of private Catholic devotion. Although it seems contradictory that a pirate might have owned such an object, it is necessary to remember that most pirates were originally common seamen or land folk who became sea bandits, many of whom would not necessarily have changed religious beliefs. On the other hand, the image might have belonged to one of those sailors kidnapped and forced to join the pirates.

Virgin and Child. Courtesy of IHGPR.

This study offers a clearer picture of this interesting event, bringing the history of Levasseur and the frigate *La Louise* to light in a more consistent way. The story also confirms the typical characteristics of the pirates as self-interested outlaws, who took part in what were not romantic or revolutionary pursuits, but vicious and parasitical acts, well-characterized by the flags they arrogantly showed in their ships.

The wreck found and salvaged in 1963 is highly likely that of *La Louise*: the location is correct, the objects are within the expected date range, and the wreck showed signs of previous salvage, making it a significant archaeological site. However, the damage to the ship's remains and the dispersing of items and loss of archaeological context have caused significant and irreversible losses for the study of piracy. Pirates took part in unique historical events and created a deviant subculture that also had mysterious and inarticulate elements as far as their own private lives were concerned. Furthermore, unlike other famous pirate ships that have been found, such as *Whydah*, Levasseur's vessel was in action for more than 2 years and is the gravesite for more than one hundred people. Therefore, the shipwreck should be especially protected under international law.

Even though this report supports the identification of the wreckage made in 1963, scholars might ask for definitive proof of identity. For this, data on the location of the wreck and further study of artifacts recovered would seem to be the best course of action now, due to the dangers and costs involved in additional archaeological excavations. However, a survey and mapping by side-scan or sector scan sonar could be done to assess the wreck's present condition. The history of the wreck must be made public to dispel myths and ideas about the treasure that have caused so much harm.

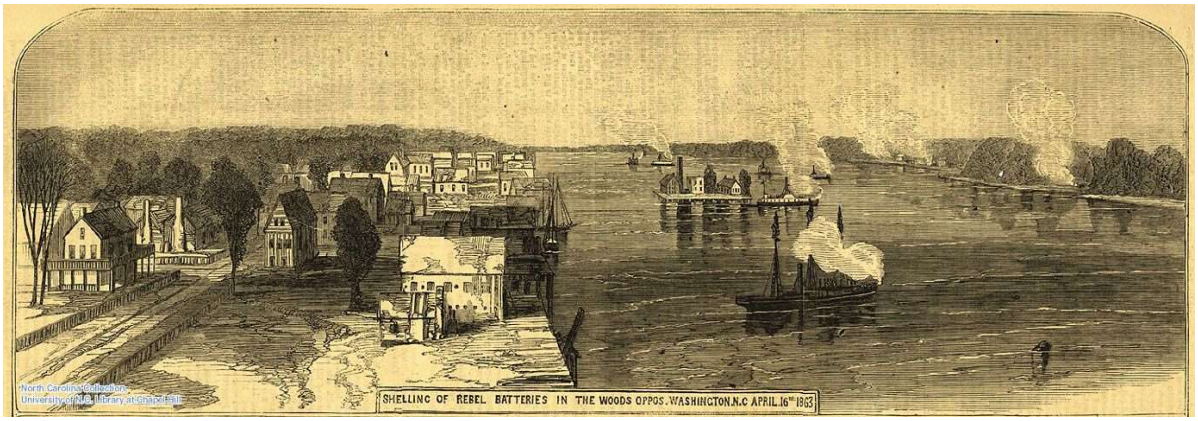
Geraldo Hostin holds a Master of Professional Archaeology degree from University of Western Australia. He currently lives in Perth.

This article is based on a more extensive analysis contained in The Pirate of Cotinga Island (1718): The History and Archaeology of a Mysterious Shipwreck in the South of Brazil. *https://www.researchgate.net/publication/338902725*.

An Archaeological Examination of the Historic Port of Washington, North Carolina

by Will Nassif

During North Carolina's development as a colony and a young state, it heavily depended upon the many rivers which crisscrossed it for trade and transportation. Towns along these rivers grew and became links between North Carolina's hinterland and the Atlantic Ocean. The town of Washington, located on the Pamlico River, quickly blossomed after its settlement and incorporation in the eighteenth century to become an important river port connecting the eastern part of the state to other Atlantic ports. Withstanding war and modernizing economies in the nineteenth century, the port became both a commercial and industrial center for the region. By the twentieth century, however, better means of transportation arrived and made river ports like Washington no longer necessary in the modern economy. Technological progress and more economical transportation options brought about the decline of the port of Washington. While the town still possesses a rich maritime cultural heritage, very little is visible of the historic working port. Historical maps, photographs, and



Castle Island in the center of the Pamlico River, Washington, North Carolina.
Frank Leslie's Illustrated Newspaper*, May 1893, p.125*

other artistic depictions document the port's former industrial footprint, yet few archaeological surveys have been undertaken within the port. There are, however, three submerged dock structures located at the periphery of the functional port. Two of these structures correspond two historic lumber companies, the S.R. Fowle & Son Company Sawmill and the Eureka Lumber Company, while the third was an unidentified landing. These features were studied to analyze the construction methods employed at each structure and link their functions to economic trends during the port's historic growth and decline.

While colonists had long utilized the gently sloping riverbank where the Tar River meets the Pamlico for settlement and trade, the town of Washington would not be incorporated until 1776. In the succeeding years, the new town took over from Bath as the county seat of Beaufort County and as port of entry for the region. Commerce increased along the Tar/Pamlico River during the Antebellum period, revolving around Washington with the primary commodities being naval stores (turpentine, rosin, tar, and pitch), pork, lumber, shingles, cotton, and other agricultural products. Shipbuilding and, therefore, shipping increased as more settlers inhabited the region and became interwoven into its commercial network. This economic energy and optimism brought fortunes to long-established families like John Gray Blount and his heirs, while encouraging newcomers like Samuel Richardson Fowle to relocate to Washington during this time.

After occupation by both the Union and Confederate armies, as well as being almost entirely burned during the Federal withdrawal in 1864, Washington slowly rebounded. The port community regained its importance as a trade center as more people moved to the town; the working waterfront expanded, and increased dredging maintained a navigable channel both upriver and downriver from Washington. Industrialization arrived during this period, too. Naval stores and other agricultural goods like cotton no longer formed the majority of exports out of Washington. Rather, lumber supplanted Washington's traditional exports, and those with capital invested in more industrial ventures including lumber mills, steamship construction, and railroads.

By the twentieth century, Washington had become more than a simple terminus for exchanging commodities. The port accommodated industries that embodied the industrial revolution in the South, while maintaining a healthy shipping industry that sent Washington's products to larger markets elsewhere.

The sites in relation to modern Washington. The waterfront would have been located along Water St. Note that Site A is the South Shore Landing Site. Map by the author.

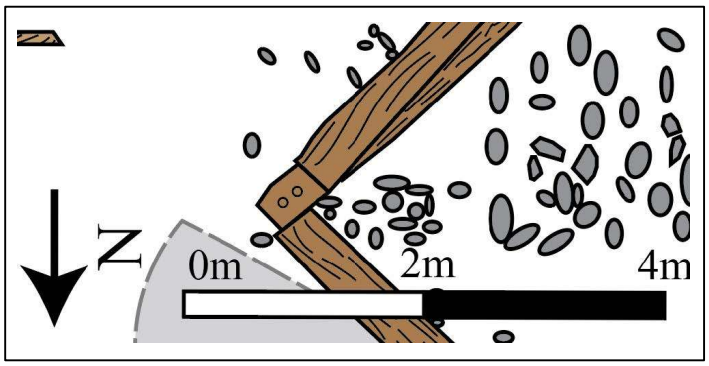
Progress and modernity came with a price, however, as railroads, improved steam propulsion, and eventually automobiles signaled the end of small ports like Washington. Better commercial transportation overland and by sea, an increasingly modern economy sustained by deep-water ports capable of berthing large vessels, and Washington's distance from the ocean took business away from the town's waterfront, leading the port to dramatically decline in the early twentieth century.

With little surviving of downtown on Washington's traditional working waterfront, archaeological evidence of the town's maritime infrastructure remains largely around the periphery of the port. Three sites were surveyed for this study: the South Shore Landing Site; two piling platform piers from the S.R. Fowle & Son Company Lumber Mill; and the Eureka Lumber Company log pool. Each was examined to assess construction characteristics and to document the cultural material within and adjacent to the sites in order to determine their role in Washington's economic history.

M. Lowe and P. Boyle measuring pilings at the Fowle Mill Site. Photo by the author.

In the Fall of 2019, snorkel and shoreline transect surveys took place at the South Shore Landing Site. Surveys were conducted using two baselines. Amidst the overgrown and reclaimed point, surveyors found evidence of a cribbed wharf structure, ballast stones and bricks that served as the fill for the structure, and other artifacts related to Washington's industrial past. These observations were documented *in situ*, their locations recorded digitally and combined into two comprehensive site plans.

Almost parallel to the first baseline ran straight, milled timber which continued into the eastern portion of the site, formed a right angle, and returned towards the shoreline. Two holes for a notched joint were visible where the two lines of timber intersected. Brick and stones of various sizes, used as fill to sink the structure and provide support while ships were moored alongside, littered the site and were further evidence of a relict wharf or landing. Brick from the site served to date the structure when compared to brick found at other sites.



Wharf cribbing at the South Shore Landing Site. Drawing by the author.

Barrel staves, barrel head fragments, glass bottle fragments, and a ferrous fastener were identified at the site. While these materials did little to aid our understanding of the wharf's construction and purpose, since there was nothing directly linking them to it, they did provide more evidence of commercial activity taking place at this location.

The Fowle Sawmill Site possessed two pier platforms that extended approximately 30 meters into the Pamlico River and were approximately 130 meters apart along the southern shoreline. One set of piers, adjacent to the modern NC Highway 17 Business bridge, was only visible during low tide, while the second was almost encapsulated within more modern dock pilings. The same shoreline survey method used at the South Shore Landing Site was repeated at the western most of these structures, but the turbulent shoreline environment forced a more technical approach to studying these structures.

Diameter and height measurements were taken from the pilings closest to shore of the western pier and examined for any other construction characteristics. Nine pilings closer to shore had diameters ranging from 16 to 22 centimeters at the riverbed. At the water's surface, these same pilings measured from 6 to 23 centimeters with varying degrees of degradation. No additional diagnostic features (such as fasteners or cross beams) were discovered on this set of pilings.

Similar measurements were obtained from the eastern pilings. Twenty-nine pilings measured closest to shore had diameters ranging from 17 to 20 centimeters at the base. Additionally, these pilings had deteriorated significantly making diameter measurements at their tops impossible, and they were embedded deep into the fine silt sediment. From the shore to the river, the distance between pilings ranged from 3.6 to 4.8 meters. Those paired parallel had distances ranging from 1.5 to 1.9 meters from piling to piling.

Seven of these pilings still had horizontal beams securely fastened to them. The beams retained their original form reasonably well and ranged in length from 2.3 to 2.5 meters. Fasteners were found on several pilings as well, possessing heads flush with the shaft. All had a diameter of 2 centimeters and were tapered like a modern screw near the head. These would have permitted planking to be fastened to connect the pilings and create a working platform.

Lastly, the site contained large quantities of whole and fragmented brick alongside miscellaneous stones. As at the South Shore Landing site, these materials had been used as fill to hold sediment in place for the pile-platform structures. The bricks had perforations on both heads of the brick, indicative of machine-cut brick that was more modern than the brick at the South Shore Landing site.

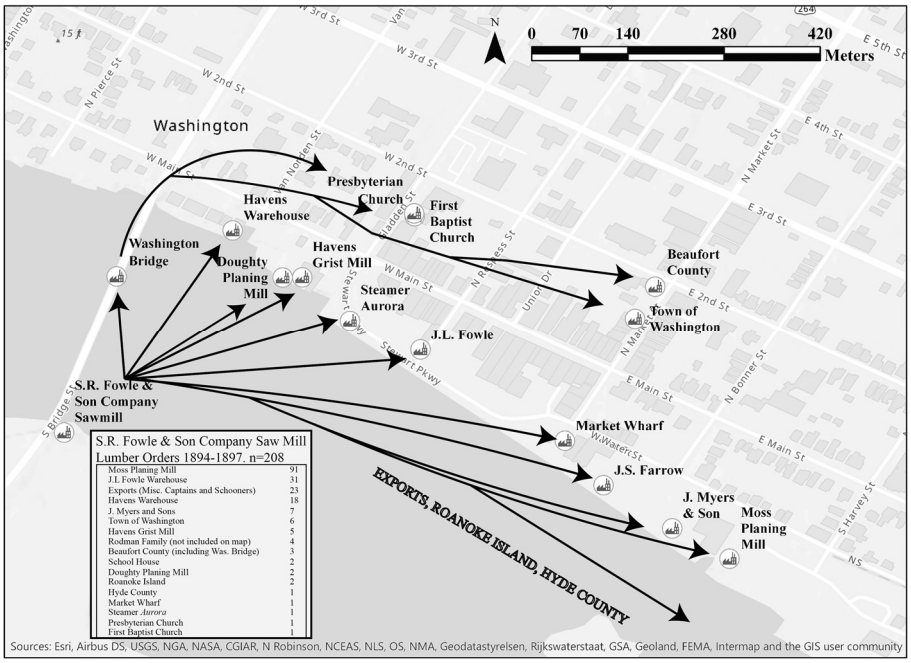
When constructed in 1894, the Eureka Lumber Company had significant waterfront infrastructure capable of supplying their own mill with large quantities of lumber. Adjacent to the modern marina many pilings and other components of the large structure can be seen during low tide. Unfortunately, very little of these remains is visible at normal river levels and conducting a shoreline survey was nearly impossible due to low visibility and potential hazards to divers. To offset these limitations, alternative data sources and methods, including side scan sonar imagery and aerial photography, aided in examining the massive structure.

Of the 20 sampled northern pilings, diameters ranged from 18 to 29 centimeters at the base and 4 to 21 centimeters at the top. The large variation of piling measurements at the top was due to some pilings suffering from significant deterioration. In contrast, the pilings on the river side of the structure had diameters ranging from 21 to 28 centimeters on the riverbed and from 17 to 20 centimeters at the top. Additionally, these pilings, in places, were buttressed by interior planking.

Four of the twenty-five pilings had iron fasteners in various condition. Sixteen of the fasteners on the northern pilings had a diameter of 2 centimeters, while the remainder ranged from 2 to 3 centimeters. Of the southern pilings, four had fasteners that were substantially larger and heavier than those found elsewhere in the site. Each had a diameter of 3 centimeters and one recovered fastener had a length of 50.5 centimeters. Many of the pilings, on both sides of the structure, had two fasteners embedded in them to reinforce the horizontal beams that formed the perimeter of the site.

Most interestingly, a piece of iron rail, possibly corresponding to the tramway that was once present, was discovered on the southern end of the structure submerged in approximately 1 meter of water. The rail fragment measured 2.2 meters in length.

The South Shore Landing Site potentially formed a crucial component of Washington's early economy revolving around the production and exportation of naval stores. Newspapers and cartographic sources of the time indicate that turpentine distilleries were present along the southern shoreline opposite Washington. The Fowles, nineteenth-century immigrants to Washington, established a shipbuilding business on Castle Island from which vessels shipped naval stores abroad. When examined within the context of the early S.R. Fowle business records, the relationship between the South



Trade network within Washington emanating from the S.R. Fowle & Son Company Sawmill. Data from S.R. Fowle & Son Company 1894 Lumber Orders. Map by the author.

Shore Landing and the Fowle's Castle Island infrastructure is evident. The landing possibly served as a storage point for naval stores, or some other commodity, which permitted the Fowles to use the nearby island primarily for their shipbuilding and shipping interests.

From the 1870s onwards, naval stores production and shipping from the port decreased. Opportunistic families like the Fowles converted their production capabilities to lumber and newly constructed lumber mills, like the S.R. Fowle & Son Company Sawmill and the Moss Planing Mill, crowded the waterfront. Shortly thereafter, the Eureka Lumber Company erected their own lumber mill at the western edge of town.

In strictly economic terms, the expansion of the port occurred most dramatically during the period during which lumber became the primary export. It seemed reasonable and economical for those interests to house their operations at the location where the two rivers converged. Further, logic determined that these industries construct facilities at the water's edge away from the town's docks to prevent crowding the of main waterway.

The Fowle piers and the Eureka log pool were thus emblematic of a more modern, industrial economy. First, they enabled the construction of facilities such as the tramways and industrial machinery referenced in Sanborn Fire Insurance charts. The rail iron discovered at the Eureka Island structure corresponded to the historic tramway that ran horizontally across it. Secondly, pile-platform construction, had tremendous advantages for lumber production. Sanborn charts indicate that the purpose of the S.R. Fowle & Son pier structures and the Eureka Lumber Company's island structure's location was to form a log boom, so that logs shipped by water or rail could be safely held to await processing.

Physically, the Eureka and Fowle structures shared many similarities in the sense that they were both pile-platform structures. The Eureka structure, however, possessed larger pilings on the river side of the structure. Pilings at the Fowle site and the land portion of Eureka Island shared a similar diameter of 20 centimeters, while the Eureka pilings fronting the Pamlico River had an average diameter close to 30 centimeters. This could be because large lumber barges docked alongside the Eureka Lumber Mill as it supplanted all other Washington lumber producers by the 1920s.

The three sites surveyed for this study had direct links to Washington's commercial past. The S.R. Fowle & Son Lumber Mill became one of the most important sawmills in Beaufort County during its short operational history from 1892 to the 1920s. The Eureka Lumber Company outpaced the Fowle mill's productivity levels and continued operations until World War II. Their waterfront structures, while similar in purpose, differed greatly in terms of construction style and functionality, reflective of the port's shift towards an industrial economy. In contrast, little historical information regarding ownership and function of the South Shore Landing Site during its operational lifetime could be found. Yet, the archaeological record, combined with cartographic information, indicates a waterfront structure much different than the two lumber mills.

Each site formed a crucial component of waterborne commerce and industry, but to different degrees. The South Shore Landing indicates a more traditional waterfront structure, employed as a place to load and unload freight to vessels and lighters berthed there, vessels that were possibly related to the historic naval stores industry. The S.R. Fowle & Son Sawmill and Eureka Lumber Company piling structures included areas for such an activity yet were more rudimentary in their construction techniques. Additionally, the pile-based structures served as catches for lumber brought to them via the Tar-Pamlico River, an impossible activity at the South Shore Landing due to its location on the water and to its construction.

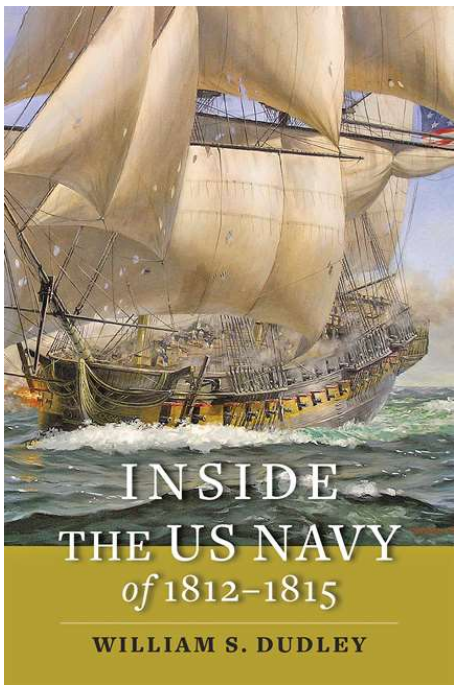
Ultimately, the methods employed in this research proved fruitful in determining many of the reasons behind the growth of the port. While not a comprehensive evaluation of the total exports and imports clearing the port, the historical data consulted reflects the ways which the individuals employing the port utilized the waterfront, adjusted to it, and expanded it. The port grew according to its exports and those who had the ability to ship them. At first, exports were tar, rosin, turpentine, shingles, staves, and, to an extent, lumber. In the latter half of the nineteenth century, the port began to transition largely towards the processing and export of lumber. This changeover was enhanced by the nineteenth century technological innovations of the steamship and the railroad. Unfortunately, the latter, along with Washington's distance from the ocean and its inability to regularly accommodate larger drafted vessels, made the port redundant. Commerce became dependent on the railroad, a more efficient and inexpensive option when compared to waterborne shipping. Those still exporting products to the Atlantic ports sent them via rail to Wilmington or Norfolk, leaving Washington's waterfront facilities to deteriorate and become a memory.

Will Nassif is an underwater archaeologist with the Maritime Research Division of the South Carolina Institute of Archaeology and Anthropology. He holds a Master's degree in Maritime Studies from East Carolina University.

Inside the US Navy of 1812-1815

by William S. Dudley (Johns Hopkins University Press 2021)

reviewed by Dennis Knepper



The War of 1812 is familiar territory for most students of American history, and to say that the war has been well documented and analyzed would be an understatement. Literally thousands of books have been written about the war, from scholarly to popular, with subject matter ranging from the causes and the failed diplomacy leading up to open conflict, to studies of the various military and naval operations during the war, to the aftermath and consequences on both sides of the Atlantic. Studies have focused on geographic regions (Canada, the Canadian-U.S. border, the Gulf of Mexico), social and cultural aspects, and individuals, from leaders and diplomats to soldiers, sailors, and civilians.

Naval historian William Dudley has published a new work on the war, *Inside the US Navy of 1812-1815*, that stands out not only for its detail and scholarly reach, but for its perspective – the development of the U.S. Navy as wrought by the conflict.

Dudley notes that his aim is to describe "how the US Navy provided for its material and logistical needs in a war that pitted one of the world's smallest professional navies against the largest and most successful…what it took to build, maintain, man, fit out, provision, and send fighting ships out to sea for extended periods of time…all the elements of naval war except for the fighting."

Following service in the US Naval Reserves and several positions in academia, Dudley became a historian at the Naval Historical Center (now the Naval History and Heritage Command), in Washington, D.C., where he eventually served as director of from 1995 to 2004. He has several widely praised books to his credit, including *Maritime Maryland: A History*, and is co-editor of a volume with Michael J. Crawford, *The Naval War of 1812: A Documentary History,* which contains contemporary records of the war amassed from letters, journals, ships' logs, and newspapers in American and foreign archives. In the preface to his new book, Dudley states that he uses his experience as "a historian and documentary editor specializing in selection, annotation, and publication of early documents of the Navy Department…to present a history of the inner workings of the US Navy during the War of 1812-1815."

Taking full advantage of his familiarity with naval archives, he probes deeply into the internal operations of the Navy Department during the administrations of three Navy Secretaries: Paul Hamilton, who served at the run-up to the conflict; William Jones, who directed the department for most of the war and was tasked with reforming existing navy contracting and readiness while fighting raged on two fronts, the Atlantic and the US-Canadian borderlands; and Benjamin Crowninshield, who oversaw the end of the war.

The British blockade of 1813-1814 was an immediate catalyst for innovative approaches to a variety of organizational, management, and engineering challenges, including industrial supply, ship construction, and crew issues from recruitment to discipline and medical care. Dudley argues that many of the resulting advances in these areas were fundamental to the rapid growth and lasting impact of a stronger and more effective naval force.

The new nation's leaders had learned the value of naval power during the Revolutionary War. The tangible foundations of the post-Continental Navy began with construction of six frigates in the 1790s. Acknowledgement of the requirements of an effective navy for the country led to a gradual increase in the number and sizes of naval ships.

New types of war ship were an eventual outcome of the war. Sail was still the mainstay, but experimental versions of steam-powered vessels were constructed and tested, particularly those being developed by the American engineer, Robert Fulton. Referred to at the time as steam batteries, only one such vessel, *Demologos*, was actually constructed, and bureaucratic delays kept it from deployment during the war. The groundwork for steam power had been laid, however, and both re-purposed and purpose-built sidewheel steamers were in use by the 1820s and 1830s.

Fulton was also instrumental in development of another critical from of naval weaponry – underwater mines (called floating torpedoes), although they too did

not see actual use until later in the century. A test in battle was planned in the Delaware River in 1813 but was canceled when it was determined that the targeted vessel, the 74-gun third rate HMS *Poitciers*, carried American prisoners.

Rapid-fire deck weapons also appeared during the war. Joseph Chambers, a Revolutionary War veteran, developed several types of repeating arms, including a seven-barrel swivel gun that delivered up to 250 rounds in a single pull of the trigger. The swivel gun was based on an earlier design for the Royal Navy from the late-18th century known as the Nock gun, after the manufacturer Henry Nock. These guns also had seven barrels, but were a form of musket in which all seven barrels discharged at once resulting in a fierce recoil. They were also prone to intense muzzle flash that set off fires, an often deadly consequence in the tops of a wooden sailing ship. Chambers' design was a mounted firearm that fired its barrels in sequence, sending a continuing hail of bullets toward an enemy vessel "sweeping the deck from stem to stern." Ten of the weapons were ordered in 1812 for the Delaware gunboat flotilla, but the order was eventually cancelled due to issues with production scheduling. Those issues resolved, Commadore Isaac Chauncey, commander of the US Navy squadron on Lake Ontario, ordered 20 for the squadron in 1814.

Adding ships to the original core force of frigates required staffing and training officers and seamen who could sail the vessels, securing adequate and consistent supplies of munitions, development of viable communications, and guaranteeing sustained financial support. Prior to the war, there were no naval hospitals in the new republic. In partial anticipation of the conflict, a Naval Hospital Fund was established along with a Board of Commissioners tasked with acquiring appropriate hospital sites and overseeing expenditures from the fund. Particular medical instruments were also developed, such as a new type of needle specifically designed for suturing deep wounds.

The need for ship crews led to the enlistment of experienced free Black sailors. Estimates of the numbers of Blacks on US Naval ships at the time range from 7 to 20 percent. White and Black seamen did the same work and typically received the same pay. Affairs between the races were not entirely equitable, however. Blacks were not allowed to enlist as marines, Black seamen usually messed separately, and officers did bring Black slaves onboard who were expected to fulfill the role of servant as well as doing normal ship's work.

Purchasing practices by navy agents came under review during the period. Agents had traditionally earned their living by charging commission on purchases of items for the navy's ships. Thus, they tended to buy from vendors with the highest prices, which was an inefficient process and obviously fertile ground for corruption. Among the proposals advanced during the war, agents were to be paid a fixed salary and required to find the best value available, bids were to be sealed, and the equipping of vessels was to be standardized on the basis of vessel class to avoid commanders, at the expense of the government, equipping their vessels beyond prevailing needs. Some of these practices have never been completely removed from government contracting, as we have seen in recent years. By the end of the war a Board of Navy Commissioners had been established to ensure that regulations were carried out, "and, further into the future, Navy Department bureaus [charged with] supply, navigation, ordnance and construction."

Dudley's book is a comprehensive study of the war, analyzing not only the background of the conflict and key naval engagements, but also their effects on the development of the US Navy. The text of runs to 294 pages, and is accompanied by endnotes and a useful index. Typography and layout are clean and clear, up to the press's usual high standards. Scattered illustrations consist of contemporary portraits of prominent individuals, paintings of vessels, and maps of cruises and battles. Reproductions are disappointingly muddy, however, and the maps in particular are sometimes difficult to read.

That qualification aside, *Inside the US Navy of 1812-1815* is a fact-filled and informative work that is interesting, well organized, and highly readable. It will be a welcome addition to the library of any student of this formative period in US history.

Be sure to keep your MAHS Membership current. If you aren't a member, become one and join us in supporting maritime historic preservation.

MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY

Statement of Ethics

The Maritime Archaeological and Historical Society is organized for the purpose of enhancing public awareness and appreciation of the significance of submerged cultural resources and the science of maritime archaeology. In pursuit of this mandate, members may come into contact with unique information and cultural material associated with terrestrial and underwater sites containing evidence of the history of humankind. To protect these sites from destruction by commercial salvors and amateur souvenir hunters, the Society seeks to encourage its members to abide by the highest ethical standards. Therefore, as a condition of membership and pursuant to Article 2, Section 1 (A) of the bylaws, the undersigned executes this statement of ethics acknowledging adherence to the standards and policies of the Society, and further agrees as follows:

1. To regard all archaeological sites, artifacts and related information as potentially significant resources in accordance with federal, state, and international law and the principles and standards of contemporary archaeological science.
2. To maintain the confidentiality of the location of archaeological sites.

   To excavate or otherwise disturb an archaeological site solely for the purpose of scientific research conducted under the supervision of a qualified archaeologist operating in accordance with the rules and regulations of federal or foreign governments. Artifacts shall not be removed until their context and provenience have been recorded and only when the artifact and related data have been designated for research, public display or otherwise for the common good.
4. To conduct oneself in a manner that protects the ethical integrity of the member, the archaeological site and the Society and prevents involvement in criminal violations of applicable vandalism statutes.
5. To observe these standards and aid in securing observance of these standards by fellow members and non-members.
6. To recognize that any member who violates the standards and policies of the Society shall be subject to sanctions and possible expulsion in accordance with Article 2, Section 4 of the bylaws.

Signature _____ Date _____

MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY
PO Box 44382, L'Enfant Plaza, Washington, D.C. 20026

Application for Membership

Membership in the Maritime Archaeological and Historical Society is open to all persons interested in maritime history or archaeology whether or not they are divers. Members of MAHS have first preference for enrollment in all courses and other activities and projects of the Society. To join MAHS, please sign the Standards of Ethics above and send it to MAHS along with your check and this application form.

Name (print) _____

Address _____

City _____ **State** _____ **Zip** _____

Phone
(H) _____ **(O)** _____ **(FAX)** _____

E-mail _____

DUES ENCLOSED

___ **$30 Individual**
___ **$35 Family**
___ **$50 Sponsor**
___ **$100 Patron**

Skills (circle): research/dive/video/communications/writing/first aid/other:

_____

Please mail this form along with your check to: MAHS at PO Box 44382, L'Enfant Plaza, Washington, D.C., 20026

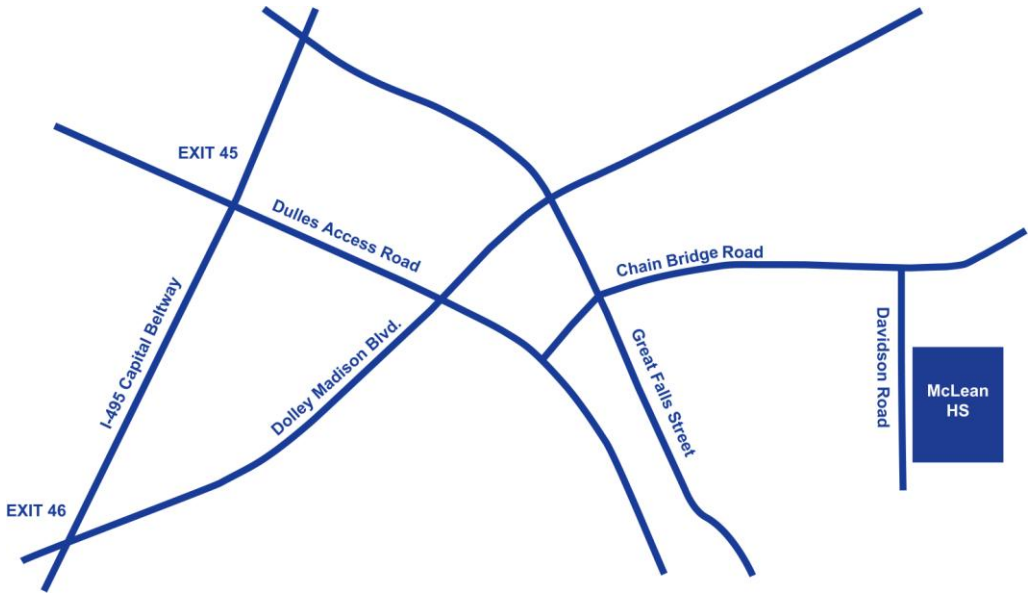
General membership meetings of the Maritime Archaeological and Historical Society are held on a bi-monthly basis, the second Tuesday of each month. Meetings are held at 7:30 p.m. at McLean High School, in McLean, Virginia, except in August and December. Meetings in August and December are held at other locations for special events and holiday parties

Please join us and bring a friend. The school is located on Davidson Road, just inside the Capital Beltway (I-495) – use Exit 45, coming from Maryland, or Exit 46, coming from Virginia.

Check the website www.MAHSNet.org for advisories about any schedule changes.

Renew Now!

It's time to renew your membership in MAHS. It's easy. Just complete the application form on the inside back cover and sign the Ethics Statement, enclose a check for your dues, and mail! Thank you!



MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY
PO BOX 44382, L'Enfant Plaza
Washington, DC 20026
www.mahsnet.org

ADDRESS SERVICE REQUESTED