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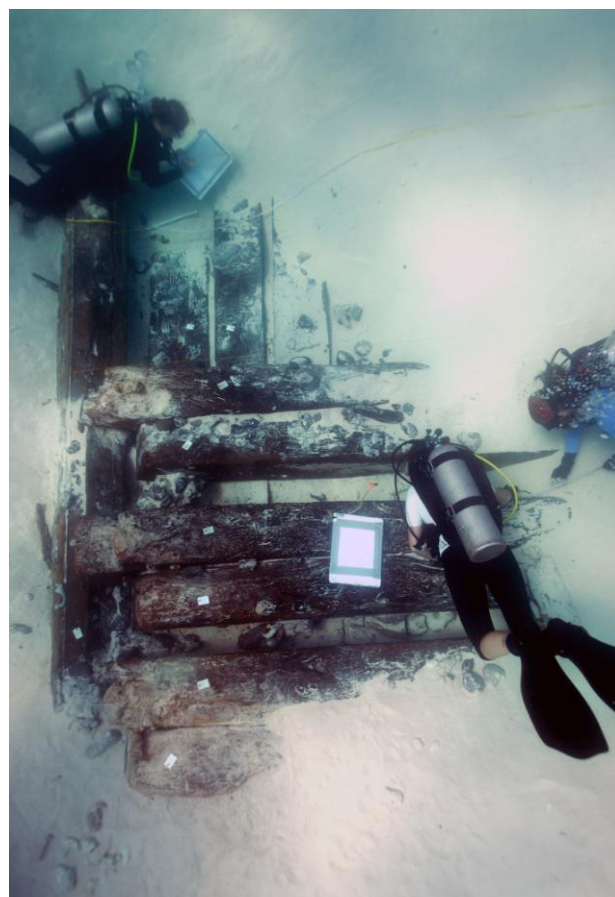
Measuring Effects of Treasure Salvors on Spanish Colonial Shipwreck Sites

By Melissa R. Price

The treasure salvage of submerged archaeological sites has been a topic of continuous discussion within the realm of maritime archaeology. In Florida especially, a culture of treasure salvage developed in the 1950s and became widespread, as much a result of SCUBA technology as of romanticized tales of sunken treasure. As more shipwrecks were discovered and exploited, the State of Florida was faced with a dilemma: how should these underwater resources be managed?

In 1964, as Florida’s shipwreck salvage movement accelerated, the state hired its first underwater archaeologist to oversee exploration and salvage activities. Starting in 1967, the Division of Archives, History, and Records Management retained responsibility for protecting Florida’s cultural heritage, including its underwater heritage. State-owned properties and territorial waters (three nautical miles from the mean low water mark) could only be salvaged with a contract from the Division, with field agents overseeing salvage activities. The state initially instituted a contract system, with contracts being issued for either exploration or salvage purposes, thus giving rise to the Florida Exploration and Salvage Program (now Exploration and Recovery Program). Eventually, the contract system was replaced with a permitting system, and more stringent requirements were placed on commercial salvors.

What could an academic investigation of the treasure salvage industry and looting activities reveal



Students from the East Carolina University investigate the Pillar Dollar Wreck in Biscayne Bay. (Photo courtesy of Charles Lawson/NPS).

continued on page 3

INSIDE THIS ISSUE:

Effects of Treasure Salvors.....	1	Two Oceans Aquarium.....	10
Flint Ballast.....	6	Revised Navy Permitting Guidelines.....	12
Roger Smith Retires.....	9	Review of <i>Privateering</i>, Faye Kert.....	16

Notes from the Prez – Steven Anthony

I am pleased to announce that MAHS conducted its Introductory Course in Underwater Archeology for the 28th consecutive year. We extend our heartfelt thanks to all of the dedicated and talented professionals and MAHS members who have volunteered their valuable time to provide this program to the diving community since 1988.

Also, in January, the Society for Historical Archaeology (SHA) conducted its annual conference in Washington, D.C., from January 6 to 9, 2016. This conference was titled "A Call to Action: The Past and Future of Historical Archaeology." Two anniversaries were highlighted: the 100th anniversary of the birth of the National Park Service; and the 50th anniversary of the passage of the National Historic Preservation Act. Approximately 900 papers were presented and numerous forums on underwater archaeology were offered to SHA members. Jim Smailes and I represented MAHS at the annual board of directors meeting of the Advisory Council on Underwater Archaeology, and Jim conducted a presentation on the MAHS Pickles Reef project, which was well received. He also worked as a volunteer with Paul Johnston in the production of the 2016 Archaeology Film Festival, which was offered on Saturday evening of the conference.

In February, we received very sad news. On February 11, Carol Kerr called to inform us that her husband Dave, a member of MAHS for 20 years and a dedicated supporter of the annual MAHS pool session, died at the age of 72. We will miss Dave and we extended our deep sympathy to Carol and his family.

Also in February, I conducted a detailed review and analysis of the financial reorganization of Odyssey Marine Exploration that was announced on December 15, 2015. As part of the review, I described the affect on the efforts by the British to save the *HMS Victory* from salvage. This analysis outlined how ACUA could intervene in the ongoing efforts by Odyssey Marine Exploration to persuade the public of the benefits of so-called commercial archaeology. Commercial archaeology is the concept of salvage and sale of historic shipwreck artifacts that Odyssey has been relentlessly pursuing with limited success for many years.

The April General Membership meeting presented Dwight Hughes as part of our ongoing Speaker Series. Hughes discussed his recently published book about *CSS Shenandoah*, a Confederate blockade runner that carried the American Civil War around the globe to the ends of the earth on behalf of the South.

continued on page 18

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about what is lost or gained through commercial and illegal exploitation of shipwrecks in Florida, and more specifically of Spanish colonial shipwrecks? What are the impacts of commercial treasure salvors and illegal looting on these shipwrecks, and is there a viable method for measuring these impacts? How could the information revealed by such a study contribute to the future management of shipwrecks in Florida and underwater cultural heritage in general? These questions were the driving force behind a research project involving the history of the Exploration and Salvage Program and four Spanish colonial shipwrecks in the Florida Keys.



Treasure salvors using an airlift on San Pedro in the 1960s. Reproduced from Galleon Alley: The 1733 Spanish Treasure Fleet. by Robert Weller, Crossed Anchors Salvage, Lake Worth, Florida, 2001.

The Shipwrecks

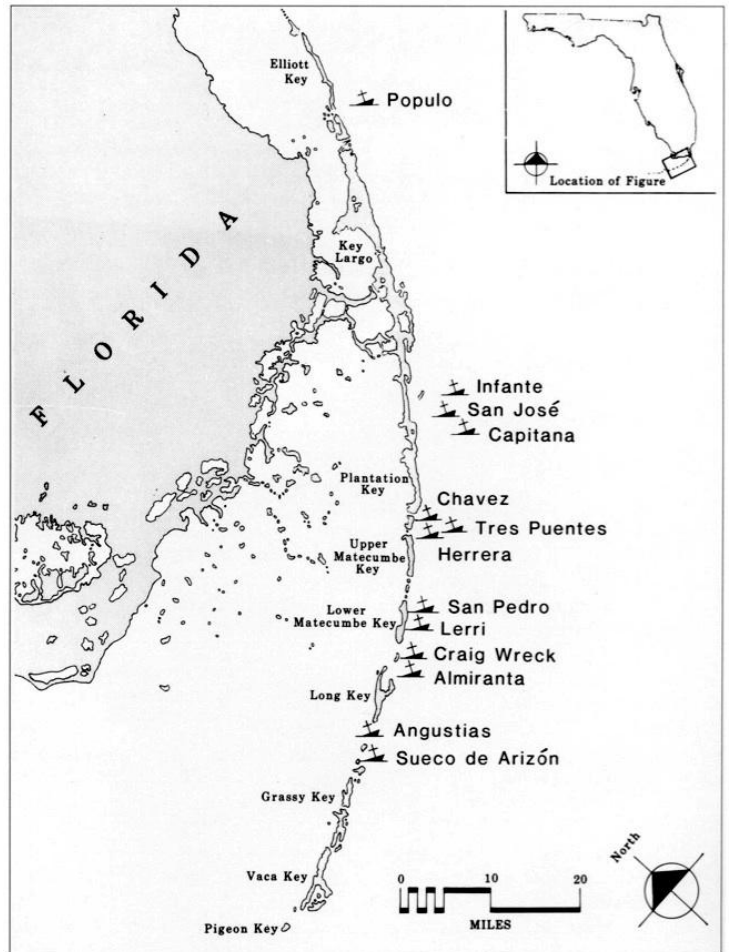
In order to understand and quantify the effects of treasure salvors and looters on shipwrecks, the Pillar Dollar Wreck in Biscayne Bay, Florida, was used as a case study. The Pillar Dollar Wreck is conjectured to be an 18th-century vessel operated by the Spanish at the time of its sinking. The site has been visited by treasure salvors, looters, and archaeologists since the 1950s. East Carolina University's Program in Maritime Studies visited the site during a 2014 field school in which portions of the site were excavated to gain a better understanding of how the site had been affected by treasure salvors and looters, as well as to examine natural processes acting on the shipwreck.

Three shipwrecks from the 1733 Spanish Plate Fleet (*El Populo*, *San Pedro*, and *San José*) were used for comparative analysis in this study. The fleet carried ceramics, indigo, hides, jewels, gold, silver coins and bullion, and other cargo when it wrecked along the Florida Keys in July 1733 as a result of a hurricane. Most of the wrecked vessels were salvaged in antiquity,

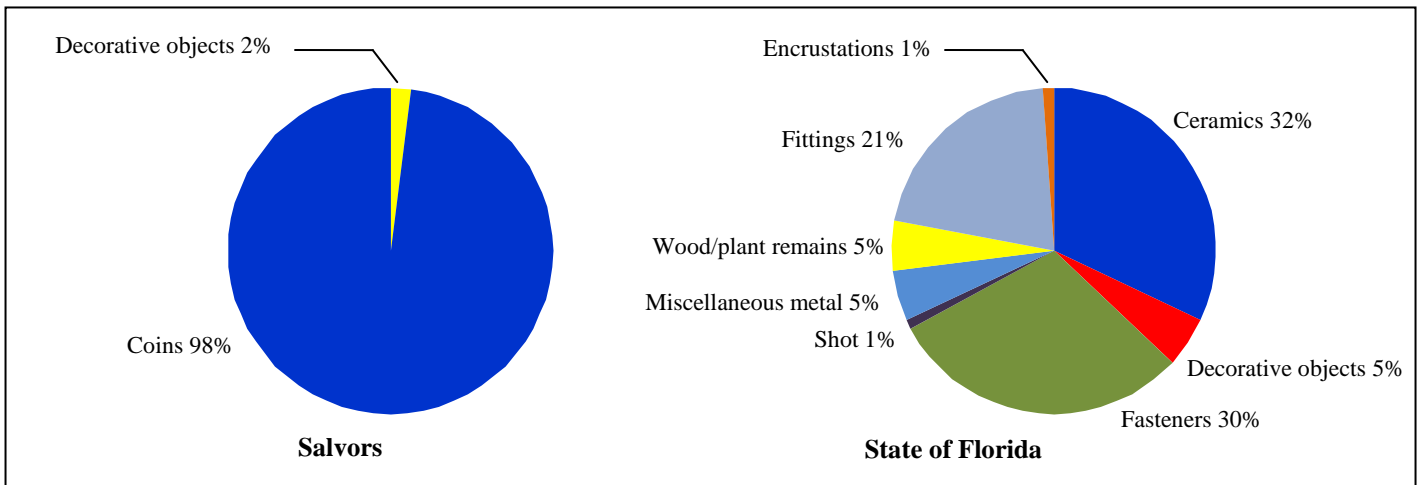
but modern treasure salvors located and further salvaged thirteen of the nineteen shipwrecks. Much information was lost as a result of unchecked access to the shipwrecks, and eventually the State of Florida worked to restrict salvage and protect the wrecks.

Methods and Results

The methods involved in this study involved three avenues of research. First, artifact lists were generated from permit reports, popular publications by treasure salvors, records of the Division of Archives, History and Records Management detailing contracts between the state and salvors, and master inventory lists of artifacts stored in state collections. Division records were particularly revealing in this study because treasure salvors chose which artifacts they kept. Before dividing the artifacts, the state assigned points to each object – the higher the points, the more weight the artifact held in Division percentages. For example, according to *San Pedro* Division records, a Majolica plate received 100 points and fasteners received 0.1 points. Typically, the



Map of 13 relocated 1733 fleet shipwrecks in the Florida Keys. Reproduced from *Establishing an Underwater Archaeological Preserve in the Florida Keys: A Case Study*, APT Bulletin. The Journal of Preservation Technology 22(3):11–18, by R. Smith, R. Finegold and E. Stephens, 1990.



Pie charts depicting analyses of artifacts recovered from San José in 1976. Left, artifacts retained by salvors. Right, artifacts retained by the State of Florida.

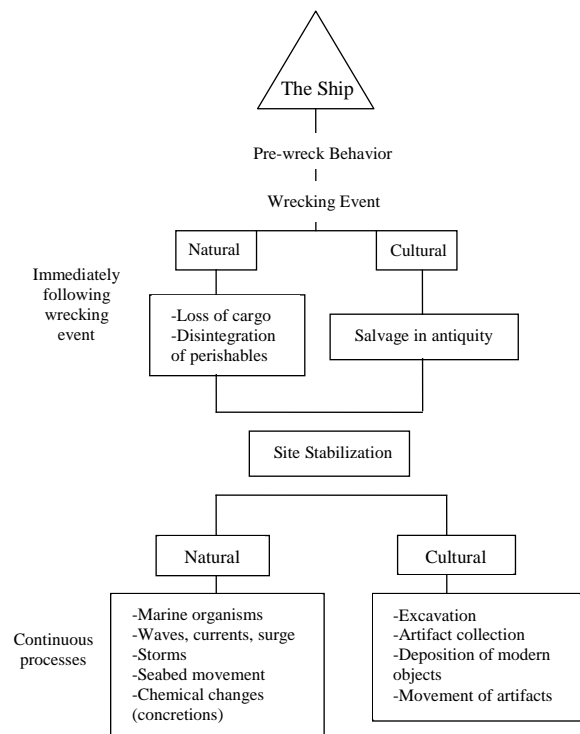
state received 25 percent of the artifacts, with the remaining 75 percent kept by the salvor or company.

For this study, the artifacts in the lists were placed into broader categories to combine similar types of artifacts and create a more streamlined data analysis. Each re-categorized artifact list was then placed into an Excel spreadsheet and pie charts depicting percentages of collected artifact types were generated. Overall, it was revealed that treasure salvors collected many types of artifact but were more likely to keep what they considered to be commercially valuable (coins) or to have aesthetic value (such as complete ceramic vessels or cannon and anchors).

If treasure salvors collect most types of artifact, an archaeologist excavating a Spanish shipwreck in Florida may expect to find very little on a site. This was exhibited during fieldwork on the Pillar Dollar Wreck in 2014: archaeologists discovered only small ceramic sherds, broken fasteners, and brick fragments. With the exception of actual ship structure, ballast was the only sizeable artifact left behind. Furthermore, as per salvage contract stipulations, treasure salvors relinquished unwanted artifacts to the state (ceramic fragments, timbers, ship fittings), which ultimately lead to biased and incomplete collections. The types of artifacts treasure salvors chose to keep did not represent the sites as a whole and contributed to a loss of information concerning the shipwrecks.

The second methodological procedure was a review of site formation process theory, and a review of the environment, geography, and oceanography in the Florida Keys. Site formation studies provided the theoretical framework for this research, allowing for an understanding of the processes that created and altered the four shipwreck sites. Reports, site maps, photographs, artifact lists, and treasure salvor publications concerning the four wrecks were examined to produce a general picture of change over time.

This list of possible natural and cultural impacts facilitated the creation of a site formation diagram tailored to the shipwrecks used in this study. The diagram was based on theoretical models for site formation processes developed by Keith Muckelroy and Martin Gibbs. The specialized diagram considers the rampant salvage and looting of the four shipwrecks and serves as a visual representation of the processes acting on these sites. It is significant in that it is the first diagram specific to shipwreck sites that were extensively salvaged in modernity, and may be a useful aid for the interpretation of other Spanish colonial shipwrecks.



Site formation process diagram tailored to Spanish colonial shipwrecks in Florida.

The final methodological process involved reports comparing treasure salvor reports to archaeological reports to understand types of information included in the publications. Treasure salvors excavating historic shipwrecks in Florida were required to submit preliminary and project reports to the Bureau of Archaeological Research as part of their Exploration or Salvage Contracts with the state. A master list of information categories that are typically included in professional archaeological reports (according to Section 106 federal guidelines and Florida Statutes and Administrative Codes) was generated and are shown in the left-hand column of the table below. Fifteen archaeological publications and sixteen treasure salvor publications were analyzed. Using a statistical analysis program, frequencies were calculated to generate a percent inclusion for each category. All treasure salvor publications underwent cross tabulation with archaeological publications to determine what percentage of reports included the standard categories. It was revealed that treasure salvors are less likely to include standard report categories than are archaeologists. For example, of the 16 treasure salvor publications examined, only about 44% contained a site map, in contrast to 100% of the archaeological publications. And in almost all instances, salvor reports contained substantially fewer of the categories, implying that their reports would not meet the criteria for complete reports according to state standards. This finding is important because when attempting to validate

commercial salvage efforts on historical sites, salvors often argue that they follow archaeological standards and guidelines—this study shows these statements are not always valid.

Limitations of the Study

The most significant limitation of this study concerned compiling the artifact lists. Many times, the lists of artifacts from the sites were vague, incomplete, or entirely missing. The data related to the four shipwrecks was spread throughout the State of Florida: in the State Archives in Tallahassee; other State Collections; boxes of reports with the State Archaeologists; and hidden within a few published archaeological reports and popular treasure salvor books. Missing information often included photographs and videos of the sites, reports, and other publications. Individuals often failed to report accurate data about artifacts on sites or what was collected, while information concerning the present location of artifacts was difficult to find, especially for those items that went into private ownership.

Complicating the analysis of treasure salvor reports was the fact that contract and permit report requirements changed over time as underwater archaeological standards changed. Initially, treasure salvors were not required to report their detailed activities. Furthermore, some sites were salvaged in the 1950s and 1960s before the state managed underwater resources, leading to a loss of data, since there were no requirements at that time to

Standard Report Category	Archaeological	Treasure Salvor
<i>Title Page</i>	86.7 %	62.5 %
<i>Table of Contents, Figure Lists, Table Lists</i>	80.0 %	56.3 %
<i>Introduction</i>	93.3 %	81.3 %
<i>Site Orientation and Location</i>	86.7 %	50.0 %
<i>Physical Environment</i>	66.7 %	18.8 %
<i>Site Formation Processes</i>	33.3 %	6.3 %
<i>Methodology</i>	93.3 %	50.0 %
<i>Results</i>	53.3 %	43.8 %
<i>Interpretations</i>	73.3 %	25.0 %
<i>Recommendations</i>	46.7 %	0 %
<i>Summary/Conclusion</i>	53.3 %	43.8 %
<i>Site Map</i>	100 %	43.8 %
<i>Scaled Photos, North Arrows</i>	93.3 %	56.3 %
<i>Sources for Maps/Historical Photos</i>	46.7 %	6.3 %
<i>Artifact Counts or Artifact Measurements</i>	46.7 %	50.0 %
<i>Bibliography/References Cited</i>	86.7 %	56.3 %
<i>Appendix</i>	53.3 %	62.5 %

Percentages of standard report categories occurring in archaeological and treasure salvor publications.

continued on page 18

Flint Ballast: Rocky Connections with Europe

by Susan Langley, Ray Hayes, Laszlo Takacs, and Marina Congedo

Introduction

This project was engendered when the senior author critiqued a graduate student's submission for making sweeping statements about the origin of ballast materials and shortly after found herself and several colleagues doing almost the same thing about flint nodules in a ballast pile. She showed samples to several colleagues independently and they made the same identification for each piece. But when asked how they could be sure, most couldn't immediately articulate a response. This prompted the question: are some types of flint so distinctive that they cannot be mistaken for any other type? Since all flint and chert are about 96 percent silica, is there something being recognized even implicitly or intuitively in the remaining 4 percent? Is it a combination of elements and features? Some colleagues, after thinking about it, offered that they look for combinations of graininess, weight/density, texture/luster/waxiness and/or a greasy feel. And although everyone included a caveat about using color as a discriminator, all admitted it was one of the first and key features they employed.

First, a word about terminology. There was no real consensus among scholars as to the definition of flint



Numbered samples of flint and chert arranged for the "blind tasting."



*A nodule of English flint.
All photos by the authors.*

and chert, while overseas the definitions varied even more widely. So, for the purposes of this discussion, we will simplify things and use flint to refer to the material found in Europe and chert for the material found in North America.

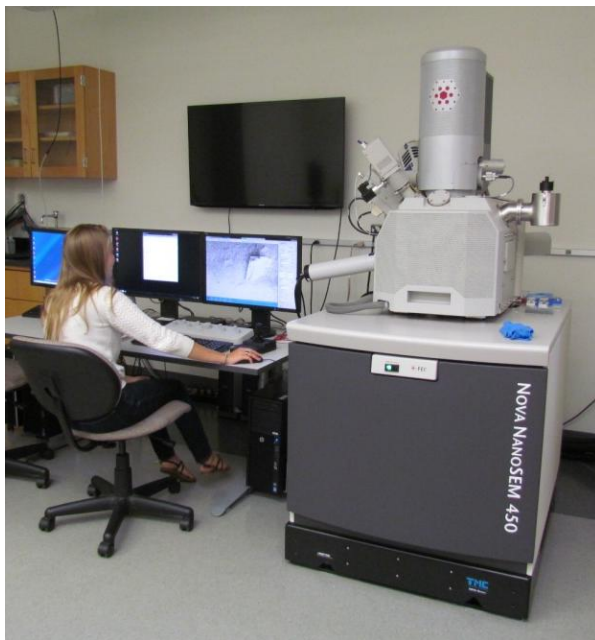
The original project was intended to be mostly anecdotal, sort of a "pub challenge;" what several participants called the blind flint tasting. Langley assembled 100 samples of chert and flint from North America and Europe. The latter were more difficult to acquire so the split was 66:34, respectively. Only samples for which the authors had confidence in the origin were considered. So, a nodule collected from the Thames at low tide, for example, had to be discounted as it could have fallen off a passing ship, even though everyone who looked at it said it was "unmistakably" black English flint from the southeast of the country. Without context for the pieces, the test was intended to be a quick, gut-feel identification. The samples were numbered and the participant needed only to tick a column on a form developed for the test. But the authors ran afoul of egos, wherein one person refused to complete the full list of samples so that if he scored poorly, he could claim the score was the result of incompleteness not lack of knowledge. Another refused to consider any samples that had been sawn (even though they had rough edges), thereby losing 11 samples off the top. Still others took up to an hour and a half to run through the samples, wanted a magnifying loupe, etc. So, rules had to be instituted. The authors mandated that the entire form had to be completed and in less than 40 minutes.

While there were only 25 participants when 100 would have been preferable for statistical validity,

patterns did emerge. Of the 100 samples, only one European flint—a very distinctive agate flint from Germany—was correctly identified by 80 percent or more of the participants. Surprisingly, English flints did not fare as well. However, seven of the North American cherts were identified correctly 80 percent or more of the time. Participants with geological backgrounds fared no better, and generally worse, than archaeologists with no such training.

Physical Analyses

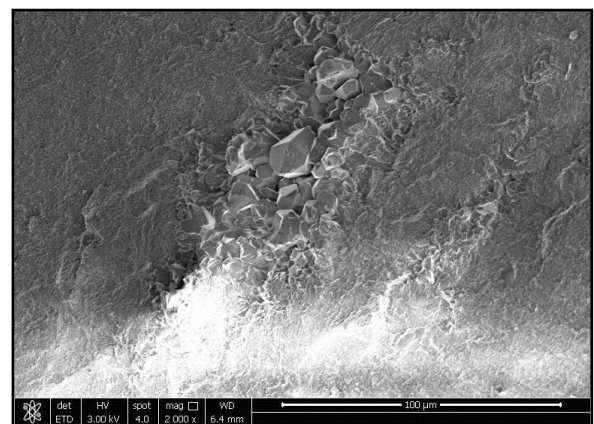
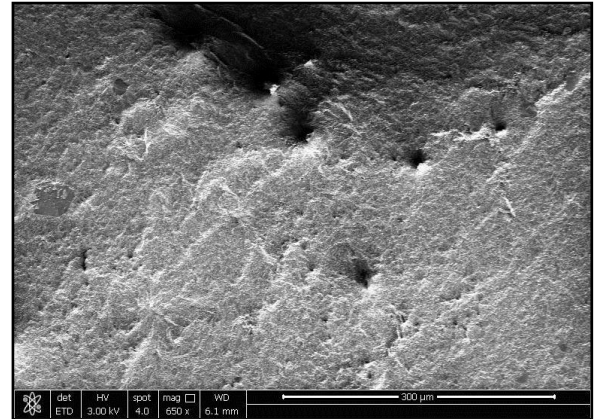
The authors decided to see if there was something inherent in the materials that was being recognized, even intuitively, by archaeologists. With partial funding from the Maryland Historical Trust Board of Directors, the Maryland Maritime Archaeology Program, and the generosity of Dr. Takacs in the Physics Department at the University of Maryland, Baltimore County (UMBC), Marina Congedo, a double major in Physics and Archaeology, was hired. She prepared, photographed and examined the samples. After breaking a couple of \$300 saw blades, the project returned to basics and began reducing the samples by knapping and hammers.



M. Congedo examining samples in the NanoSEM 450 Scanning Electron Microscope.

After initial measurements and photography, the samples were studied under an optical microscope at a magnification of 20X. The graininess, uniformity, and relative amount of impurity particles are all observed and recorded. In addition, Congedo examined each sample with the UMBC Physics Department's Nova NanoSEM 450 Scanning Electron Microscope. In order to obtain an accurate and clear picture of the rock, as many hydrocarbons as possible had to be removed from the sample. First, the samples were soaked in ethanol to

remove any macroscopic dirt and dust particles. Next the samples were attached to holders using silver colloidal paint. As it is no longer necessary to gold coat samples and the UMBC SEM can handle multiple samples at a time, the process went rather quickly. To finish the cleaning process, the sample holders and attached rock samples were put into a vacuum oven at approximately 150° C for 4 to 15 hours.



Samples at SEM 600X magnification (above) and SEM 2000X (below).

Upon completion of the cleaning process, the samples were examined in the SEM. The presence of parallelogram-shaped holes and/or particles, the degree of flakey fracture, conchoidal fracture lines, impurity pits and particles, crystalline areas, spheres, and the degree of charging were all investigated and recorded. Most samples were examined at 650X and 2000X. Some samples were further observed at 10,000X and 25,000X, but these magnifications did not convey sufficient additional information to warrant that level of analysis for each sample.

The collected data were then compared across every rock sample to look for connections between rock type and property, which resulted in approximately 15 pages of data per sample. With so much data it seemed that, like “lying with statistics,” the samples could be made to look strikingly similar or dissimilar simply by where the SEM was focused on the sample (cortex, inclusions,

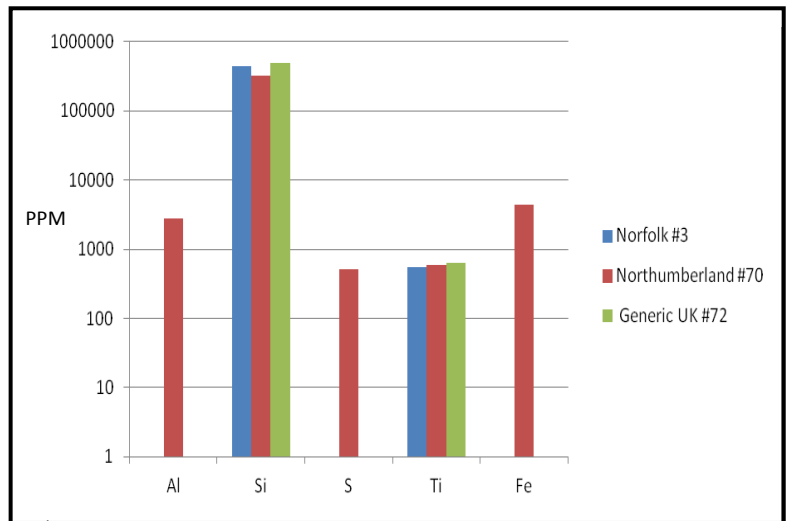
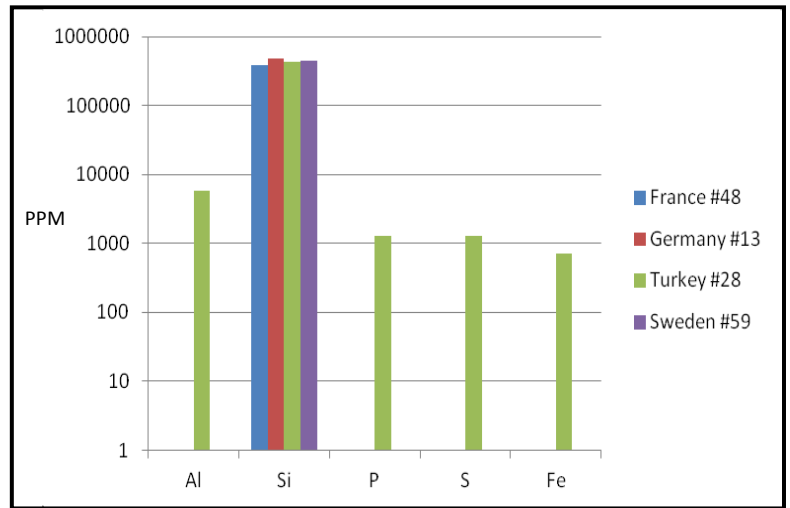
base material). Several very detailed spreadsheets were created trying to find some pattern or connection between samples, rock types and their characteristics. No significant patterns were discerned.

The team had more success using X-ray fluorescence (XRF) analysis. The Naval History and Heritage Command generously loaned us an Olympus Delta XRF analyzer, which was operated by Ray Hayes using Primer5 software. Hayes analyzed all the samples using fresh breaks and clear surfaces, while also taking steps to minimize contamination. The greatest challenge was trying to find the best ways to present the resulting data. Because of the preponderance of silica in each sample, dendritic graphs tended to show a lot of white space at the top and dense clustering at the bottom, looking more like roots than branches. 3D models were interesting but sometimes difficult to discern where samples were “floating” in relationship to each other, and they were difficult to read when there was clustering. Therefore, the authors determined to use histograms, 2D principal components graphs and Bray-Curtis similarity matrices. Histograms which excluded trace elements below 500ppm were the most useful.



R. Hayes operating the Olympus Delta XRF.

Among the European materials, samples from Turkey showed the least similarity to those from Western Europe. It is interesting to note that flint from southeastern England has more in common chemically with French samples than it does with samples from Norfolk and Northumberland to the north. Similarly, flint from the more northern areas of the UK has more in common with Sweden than it does with southeastern England. Thinking about the geology of the region,



Histogram examples: Above, European flints with trace elements excluded showing lack of similarity between samples from Turkey and Western Europe; below, English flints showing lack of similarity between samples from the north and south of the country.

neither of these observations should come as a great surprise, but they are interesting counterpoints to some common assumptions: that flint from southeastern England is black and French flint is brown, for example. Flint from Northumberland is brown and could easily be taken as French when it in fact is closer in chemistry to samples from Sweden. This goes back to the fallacious color argument; just as green chert doesn't always have copper in it.

Several multivariate statistical techniques were applied to the data, including principal components analysis and Bray-Curtis similarity matrices, to determine whether patterns could be identified that suggested geographic sources for the various materials. The European flints were compared to each other and to the North American cherts. The details of the analyses are more than would be appropriate to the length of this article (details are available from the authors), yet the overall conclusion was that there is a notable lack of

variation among the chemicals in the samples. Therein lies the problem for the survey takers. The chemistry of flints and cherts overlaps such that any distinctions must be made in terms of appearance (color) or texture (waxiness).

Conclusions

1. *Identification.* With respect to the sample identifications, archaeologists don't know as much as they think they do without additional information such as context. Of the 25 participants in this study, the scores recorded by most fell within one standard deviation of guessing (50/50 chance). The few who did statistically better were still only in the mid-high 70 percent range, and those few had significant familiarity with the New York and New England regions from which most of the North American samples originated. So, regional familiarity may assist in recognizing that a sample is not from a particular area but not in identifying where it *is* from. Those with a background or experience in geology did no better than archaeologists with no such training but with field experience.

2. *Scanning Electron Microscopy.* While it is possible in some cases to identify fossilized foraminifera or spaces left by the dissolution of fossils that point to the materials having been formed in former seas off the UK, in general results were inconclusive.

3. *X-Ray Fluorescence* appeared to offer a means of identifying significant levels of similarity within and between groups of flint and chert samples.

Finally, archaeologists cannot underestimate the importance of context: they need a good baseline store of data against which to compare samples at the level of XRF. And while they are in a better position if they know their regional materials sufficiently well to

know what is not regional, they aren't quite as accurate as previously thought about determining the origin of most materials intuitively.

In addition, Laszlo Takacs feels that the SEM data may yet yield significant information and intends to pursue this avenue. Ray Hayes is continuing XRF analyses and study of the samples and is happy to hear questions, thoughts or suggestions on this approach. There may be merit in considering a workshop at a future SHA Conference, a luncheon discussion, more surveys by other professionals, local training, academic course offerings, etc. The authors of this study are open for any assistance or ideas that may be forthcoming from readers.

Acknowledgements:

The authors would like to express their appreciation to Captain Craig Kelley; Dr. Barry Keegan; all those who generously participated in the "blind flint tasting;" the Physics Department of the University of Maryland, Baltimore County; the Naval History and Heritage Command; and the Board of Directors of the Maryland Historical Trust.

This article is based on a paper presented at the Society for Historical Archaeology Annual Meeting, Washington, D.C., in January 2016.

Susan Langley is Maryland's State Underwater Archaeologist, MHT; Ray Hayes is a retired professor of Medical Science at Howard University, a MAHS member, and a volunteer with the Institute of Maritime History; Laszlo Takacs is a professor of Physics at the UMBC; and Marina Congedo is a student majoring in Physics and Archaeology at UMBC.

Anyone interested in using the SEM should contact Dr. Takacs for its specifications and fee structure (takacs@umbc.edu). ⚡

Roger Smith Retires as Florida State Underwater Archaeologist

Roger Smith, Florida State Underwater Archaeologist, announced his retirement in April 2016. Roger has long been a champion for the protection of Florida's Underwater Cultural Resources and was an early figure in Florida's ongoing battle to protect these resources from the damages caused by souvenir collecting divers as well as by the most entrenched salvage industry in the nation.

Smith guided state underwater archaeology policies over a long period beginning in the time when shipwrecks were primarily found and looted by profit-seeking divers. Today, due in large part to the efforts of preservationists like Roger Smith, many shipwrecks

are discovered and managed by academically trained professionals guided by an ethic of stewardship that advocates the preservation of artifacts in accessible collections and the publication of project results.

One of Roger's many progressive decisions was to support the involvement of trained, ethically committed recreational divers as volunteers in state and federal management programs throughout the state. He introduced the founding members of MAHS to the fundamentals of underwater archaeology which have guided our organization for the past 26 years in the ongoing training of recreational divers across the nation and various countries around the globe. ⚡

Cape Town's Two Oceans Aquarium

by James Smailes

The Two Oceans Aquarium is located in Cape Town, South Africa, the country's legislative capital and considered one of the most beautiful cities in the world. The aquarium lies near the point at which the Indian and Atlantic Oceans meet, leading to its name, Two Oceans Aquarium, and its slogan, "Two Oceans Under One Roof." The Aquarium houses over 3,000 sea animals and semi-aquatic animals, including sharks and many species of smaller fish, as well as otters, cape fur seals, turtles, and rockhopper penguins.

The Aquarium opened in November 1995 in the Victoria and Alfred Waterfront (you read that right, Alfred was Victoria and Albert's son) and is one of the top tourist attractions among several developments enlarging and improving the Cape Town harbor.

Just inside the entrance is a tank entitled Nemos, from the animated movie "Finding Nemo," with a small crawl space underneath, just large enough for a child to enter. A child crawls under the tank, and then stands up inside a cylinder where they are inside the tank, surrounded and up close and personal with many colorful fish. There is also a touch tank where children of all ages can examine fish and turtles close up.

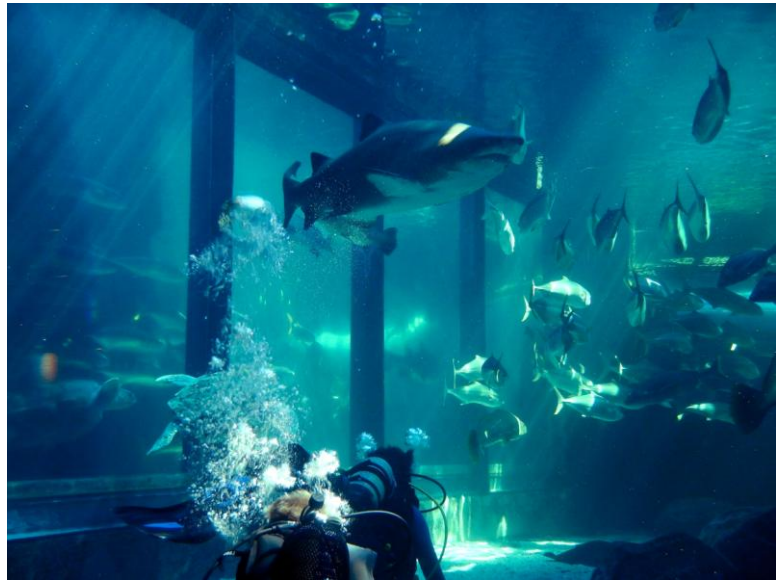


Ragged-tooth shark.

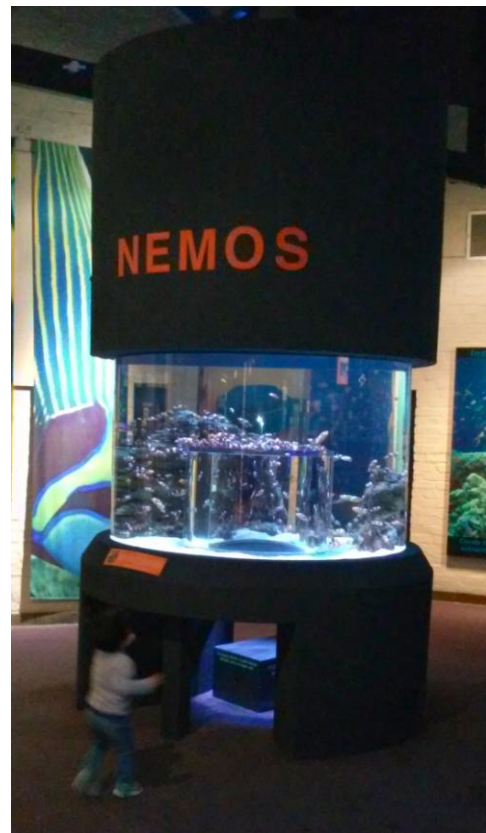
Two large tanks, the Predator Exhibit and the Kelp Exhibit, provide exhibits of various fish and plants to be found in the nearby oceans. They also afford certified divers a chance to dive with the fish and

enjoy a unique, up close experience with creatures one typically sees only from afar, if at all, in the wild. Diving in the Predator Exhibit offers a rare opportunity to get up close—but not too close—to fearsome looking ragged-tooth sharks and other, smaller predators like yellowtail, dusky kob, and black- and white musselcracker. This is diving that you will never find in the natural environment.

The Two Oceans Aquarium participates in research and conservation programs for two species of sharks, namely ragged-tooth sharks (*Carcharias taurus*) and sevengill sharks (*Notorynchus cepedianus*). According to the Aquarium, ragged-tooth sharks are threatened around the world because they are slow to reach sexual maturity, they give birth to few young and, because of



Divers hug the bottom as a ragged tooth shark turns to swim back over them.



A tank in the entrance allows children, and only children, to crawl into a cylinder in the center of the tank to search for Nemo, a clown fish, and see the fish close up. All photos by the author.

their inshore habitats, they are highly vulnerable to over-fishing. The examples in the exhibit are juveniles, kept for only a short period of time before being tagged and returned to the wild. Videos showing the travels of several of the sharks released since the program began in 2004 have been posted to the Aquarium's website. The predator and kelp tanks are the largest exhibits in the aquarium, the latter at over six meters, or 20 feet high. A sample of the tank's thick acrylic wall (measuring 18 centimeters, or 7 inches) is on display, demonstrating the power of the water pressure in the tank. The Kelp Forest exhibit is one of the aquarium's biggest attractions and is home to schools of silver fish that find protection from predators in the kelp.



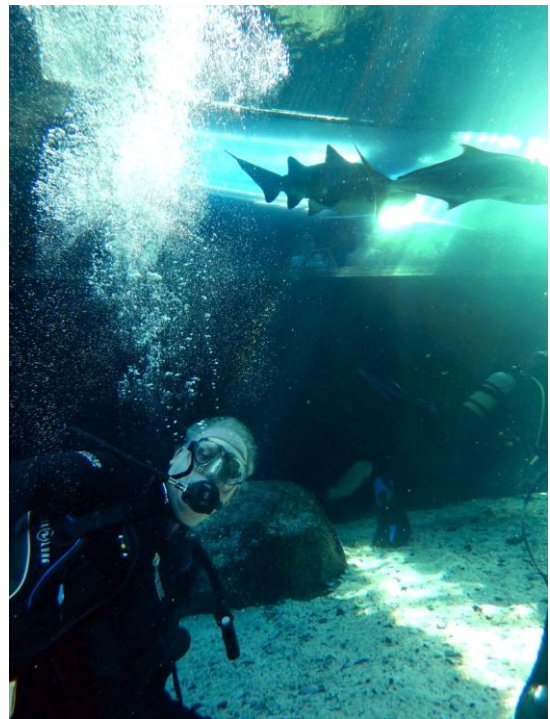
The Kelp Forest Exhibit, one of the most popular in the Aquarium.

As you move through the exhibits, you travel along the coast from the Atlantic to the Indian Ocean. In the Atlantic Ocean Gallery, seven exhibits allow you to discover Atlantic marine life including translucent jellyfish, giant spider crabs, and the tiny and rare Knysna seahorse or Cape seahorse (*Hippocampus capensis*) which is only found in the brackish water of three estuaries on the south coast.

In the Indian Ocean Gallery, six exhibits of marine life include anemones, clown fish, and other colorful fish found on the coral reefs. Other exhibits show the aquatic life in local rivers.

Another popular exhibit is billed as a 30-minute "interactive Penguin Encounter," a chance to get face-to-face with some rockhopper penguins. The birds waddle ashore and will sit in your lap, but when they jump in the water they swim like torpedoes. All of the penguins at the aquarium "were found stranded on southern Cape beaches and were rehabilitated by the South African Foundation for the Conservation of Coastal Birds before being donated to the Aquarium. They cannot be released because of the risk of introducing diseases into wild populations."

And finally, in arrangement with the Aquarium, a 90-minute educational tour on a catamaran is available to explore Cape Town's Table Bay. This eco-safari is a chance to learn about the rich biodiversity of its waters, while looking out for dolphins, seals, sunfish and whales. A trained guide will explain about the unique upwelling currents off the South African coastline, and how this creates an ideal environment for an abundance of sea life.



The author along the bottom as sharks pass overhead.

More information and a variety of picture galleries can be found at the Two Oceans Aquarium website:

<http://www.aquarium.co.za/> 

It's never too late to renew your MAHS Membership. If you aren't a member, become one and join us in supporting maritime historic preservation.



Revised U.S. Navy Sunken and Terrestrial Military Craft Permitting Guidelines

from the History and Heritage Command

The Sunken Military Craft Act, or SMCA, comprises the United States Department of the Navy's regulations establishing and implementing permitting requirements for conducting intrusive activities on sunken and terrestrial military craft under its jurisdiction. Revised guidelines associated with the act went into effect March 1, 2016.

Published in the Federal Register August 31, 2015 following multi-stakeholder consultation, the revised regulations institute a permitting process for those interested in pursuing intrusive activities that may injure, disturb, or remove Navy sunken and terrestrial military craft for archaeological, historical, or educational purposes. The rule also identifies guidelines for inclusion of foreign or other Department of Defense sunken military craft under the Navy's permitting program, and establishes the process by which enforcement provisions of the SMCA will be implemented.

Since publishing Final Rule 32 CFR 767, *Application Guidelines for Archeological Research Permits on Ship and Aircraft Wrecks under the Jurisdiction of the Department of the Navy*, the Naval History and Heritage Command, the Navy's heritage interpretation branch, has developed information about the new program and its associated processes.

The SMCA, the text of which can be read in full at <https://federalregister.gov/a/2015-20795>, was enacted in 2004. The act codified customary international law in asserting that right, title and interest in and to any U.S. government sunken military craft remains with the U.S. in perpetuity, unless expressly divested. These craft are not to be disturbed, removed, or injured, and violators may face enforcement action for doing so without authorization. The permitting process established by the Navy serves to enable access to these resources by providing a means through which individuals may seek the required authorization. Navy regulations do not amend or change the SMCA, or in any way expand the stated prohibitions of the act. Recreational divers or commercial and sport fishermen may continue to operate over and around Navy sunken military craft without

requiring a permit as long as they do not intentionally or negligently disturb, remove, or injure them or their contents.

"The Department of the Navy's sunken ship and aircraft wrecks represent a collection of more than 17,000 non-renewable cultural resources distributed worldwide," said Sam Cox, Curator of the Navy and Director of the Naval History and Heritage Command, the organization charged with carrying out the Navy's responsibilities under the SMCA.

"These wreck sites often serve as war graves, safeguard state secrets, may carry environmental or public safety hazards such as oil and ordnance, and hold historical value. That's why we take seriously our responsibility to protect them from disturbance. I am determined to honor this nation's obligation to its fallen service members to protect the sanctity of those wrecks constituting the last resting place of American Sailors."

In accordance with the SMCA, the Secretary of the Navy is authorized to establish a permitting program allowing otherwise prohibited activities directed at sunken military craft for archaeological, historical, or educational purposes. The Navy has elected to establish such a permitting process through the revision to existing regulations (32 CFR 767). The new regulations allow for controlled access to persons who are presently prohibited by the SMCA from disturbing, removing, or injuring Navy sunken military craft, or their associated contents, and also provide similar

processes pertaining to terrestrial military craft.

While unauthorized disturbance of sunken military craft will continue to be prohibited, actions of the U.S.



*USS Arizona Memorial, Pearl Harbor.
Department of Defense photo by J. Pastoric, USN.*

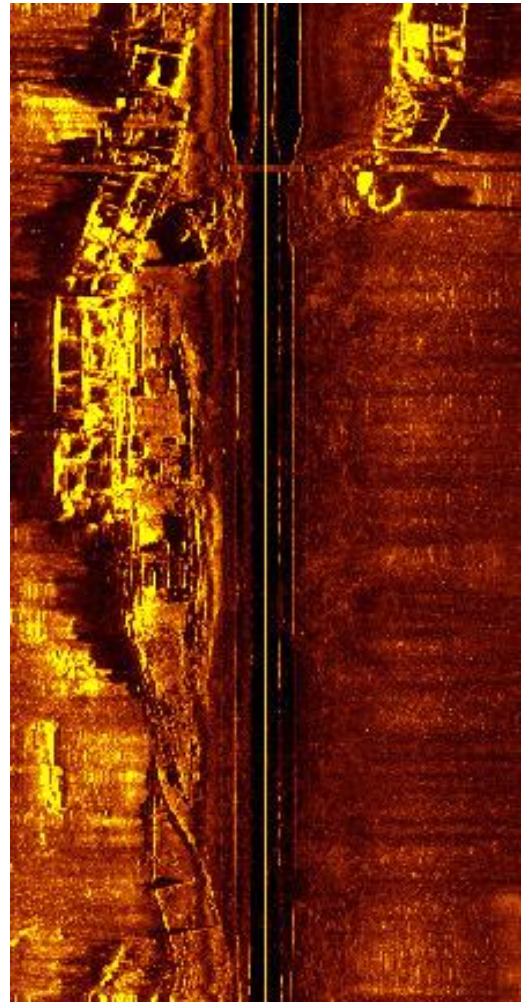
government, or those acting at its direction, including commercial salvage entities under contract with the U.S., will continue to be allowed. The commercial salvage industry may therefore continue to operate through federal contracts and in coordination with the U.S. Government irrespective of the promulgation of the proposed regulations.

The revision to the current regulations was issued after a federal agency comment phase coordinated by the Office of Management and Budget ultimately led to the publication of a Proposed Rule in January 2014, which itself initiated a 60-day public comment period. The Navy, after affording due consideration to all public comments and federal agency stakeholders, proceeded to revise the Proposed Rule and issued the Final Rule that took effect March 1 of this year.



The following is a list of definitions and clarifications excerpted from a series of frequently asked questions on the Department of Navy website:

- *Sunken Military Craft:* A sunken military craft is defined as all or any portion of any sunken warship, naval auxiliary, military aircraft or military spacecraft, or other vessel that was owned or operated by a government on military noncommercial service when it sank. Notably, the definition includes the associated contents of the aforementioned craft.
- *Other Branches of the Military:* The U.S. Army, U.S. Air Force, and the Department under which the U.S. Coast Guard operates are all authorized by the Sunken Military Craft Act to issue regulations for permitting activities directed at sunken military craft under their purview.
- *Foreign Military Craft:* Foreign military craft in U.S. waters remain the property of the respective foreign sovereign unless the craft had been captured prior to sinking or were divested of ownership as per the respective procedures of that foreign nation. Foreign sunken military craft in U.S. waters are protected from disturbance by the Sunken Military Craft Act. The foreign sovereign may request that the U.S. Navy include their vessels within the Department of the Navy permitting program. Otherwise, the appropriate authorities of the respective government should be approached for permitting authorization.
- *Confederate Vessels:* While the U.S. Navy has on occasion assumed responsibility or ownership of Confederate sunken military craft for management purposes, a separate federal agency, the General Services Administration,



Side-scan sonar record of the American Mulberry Group at St-Laurent-sur-Mer, France, from a remote sensing survey of D-Day landings. Image by Naval History and Heritage Command.

- has overall responsibility for property formerly owned by the Confederate States of America, including shipwrecks.
- *Diving Activity:* The U.S. Navy views responsible members of the diving and snorkeling communities as stewards and effective ambassadors for the protection and preservation of sunken military craft. Thus, the revised regulations do not prohibit or discourage responsible diving in the vicinity of sunken military craft. Responsible divers should recognize their limits and skill levels, however, and should approach sunken military craft with care and respect.

Unless there is intent to disturb a sunken military craft, or a diver is acting negligently, accidental disturbance resulting from diving in the vicinity of a sunken military craft is not viewed by the U.S. Navy as a violation of the Act. Examples of accidental disturbance would include inadvertently brushing the side of a

vessel with a fin, or dropping a flashlight on an artifact without meaning to do so. Intentional disturbance, including the removal of any artifacts or elements of the vessel, remains a violation and will be treated accordingly.

- *Penetration Diving:* Despite the dangers associated with penetration diving, the penetration of a wrecksite is not typically an activity that the U.S. Navy can or does prohibit. Nevertheless, divers should be aware that penetrating a wrecksite dramatically increases the risk and likelihood of their activities causing the disturbance, removal, or injury of a sunken military craft. Accordingly, if a diver penetrates a known sunken military craft and disturbs or injures it, the U.S. Navy may consider the diver's actions as negligent and take appropriate action. Note that divers are not authorized to open hatches, remove elements, or open new penetration paths, as this would be considered site disturbance.
- *Artificial Reefs:* The Navy does not restrict access to former U.S. Navy vessels purposefully sunk to establish artificial reefs, such as the ex-*Oriskany* and the ex-*Arthur W. Radford*. In both of these instances, title to the vessels was transferred to the respective state authorities. Elsewhere, such as in the cases of ex-*Vandenberg* and ex-*Spiegel Grove*, the United States transferred title to the local governments in the state of Florida. It is important to note that while no permit is required from the U.S. Navy to dive on these former U.S. Navy vessels, other permits may be required, such as those that might be issued by the National Oceanic and Atmospheric Administration.
- *In-Situ Preservation:* Sunken and terrestrial military craft are in large part fragile, non-renewable resources. Oftentimes, sites, particularly in a benign underwater environment, reach a certain equilibrium with their immediate environment that limits the extent of their



Pharmaceutical bottles from the USS Scorpion. The Navy considers artifacts as part of sunken military craft that may not be removed or disturbed without permit. Photo by G. Schwarz, Naval History & Heritage Command.

degradation. The Navy recognizes, however, that site disturbance is in some cases necessary for resource protection, or justified for research and educational purposes. Accordingly, secondary management strategies involving artifact or craft recovery are considered either as part of mitigation or research efforts by Naval History and Heritage Command or partner agencies, or as part of the permitting process established by the revised regulations.

Unnecessary, uncoordinated, poorly planned, inappropriately executed or inadequately-funded disturbance is unwise and would jeopardize the preservation of these resources, as well as potentially desecrate maritime graves, or endanger public safety and the environment. In situ preservation allows for each resource and proposed activity to be considered individually, allowing for the Navy to determine whether and how controlled

disturbance might impact a site, as well as how to subsequently best preserve the site and any artifacts that may be recovered. It also allows for continuing advances in technology to be applied to the pursuit of knowledge from Navy historic resources.

- *Disturbance:* Disturbance of a sunken or a terrestrial military craft means to affect the physical condition of any portion of it, alter its position or arrangement of any portion the remains, or influence the wrecksite or its immediate environment in such a way that any portion of a craft's physical condition is affected or its position or arrangement is altered.
- *Removal:* Removal means to move or relocate any portion of the craft by lifting, pulling, pushing, detaching, or taking away any parts of the craft.
- *Injury:* Injury means to inflict physical damage on or impair the soundness of any portion of a craft.

- *Punitive Provisions:* The punitive provisions of the Sunken Military Craft Act include civil penalties (up to \$100,000 per violation, each day constituting a separate violation), as well as liability for damages, and reimbursement of enforcement costs.
- *Federal vs. State Jurisdiction:* Regarding the relationship between the federal and state jurisdictions, the Sunken Military Craft Act (federal) and the Abandoned Shipwreck Act of 1987 (state) each addresses a separate set of underwater resources. Unless title to a sunken military craft has been expressly abandoned by the federal government, title has not been transferred to the states for management under the Abandoned Shipwreck Act. As described in the Abandoned Shipwreck Act Guidelines (55 FR 50116):

Although a sunken warship or other vessel entitled to sovereign immunity often appears to have been abandoned by the flag nation, regardless of its location, it remains the property of the nation to which it belonged at the time of sinking unless that nation has taken formal action to abandon it or to transfer title to another party.

The Sunken Military Craft Act is consistent with the Abandoned Shipwreck Act in asserting continuing sovereign ownership of sunken military craft. Neither the Sunken Military Craft Act, nor its implementing regulations, imparts on the federal government additional rights at the expense of states' rights.

The Navy holds dearly its responsibility to honor the nation's obligation to its fallen service members to protect the sanctity of those wrecks constituting the last resting place of American Sailors. Given that the U.S. Navy is responsible for thousands of sunken and terrestrial military craft that represent public assets under Navy stewardship, it is important for the consequences of intrusive actions to be assessed and approved in advance.



*Stern of the submarine USS Moray.
Photo by J. Walker, UB88.com.*

The Naval History and Heritage Command (NHHC) is located at the Washington Navy Yard, in Washington, D.C. It is responsible for the preservation, analysis, and dissemination of U.S. naval history and heritage. NHHC provides the knowledge foundation for the Navy by maintaining historically relevant resources and items that reflect the Navy's unique and enduring contributions throughout our nation's history, and supports the Fleet by assisting with and delivering professional research, analysis, and interpretive services. NHHC is composed of many activities including the Navy Department Library, the Navy Operational Archives, the Navy art and artifact collections, underwater archaeology, Navy histories, nine museums, USS *Constitution* repair facility and the historic ship *Nautilus*.

A continually expanding resource for information on the implementing regulations, the requisite application forms, associated guidelines, related documents and outreach materials may be found on NHHC's web site:

<http://www.history.navy.mil/research/underwater-archaeology/policy-and-resource-management/permits.html> ⚓



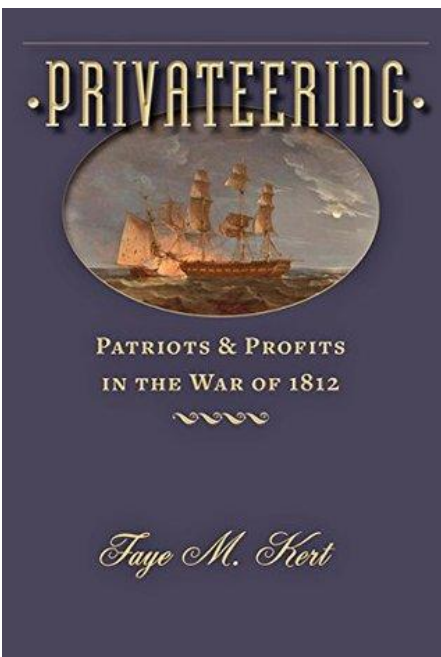
**Naval History and Heritage
Command**

Privateering: Patriots and Profits in the War of 1812

by Faye M. Kert (Johns Hopkins University Press, 2015)

reviewed by Dennis Knepper

The War of 1812 was the last major conflict in which the once common practice of privateering played an important role. Privateers were nautical mercenaries, sea-borne raiders formally sanctioned by warring governments to prey on an enemy's shipping, either military or, more often, commercial. Within certain limits they acted as agents for their governments against an enemy.



Privateers were integral to American success in the War of 1812. This is one of the key arguments of Faye M. Kert's recent work, *Privateering: Patriots and Profits in the War of 1812*. A concise, comprehensive study of privateering in the 19th century, Kert's work summarizes the economic, social, and political background of the institution and its implications for the outcome of the war.

Privateering was a quick and economical way for small nations to equalize forces against larger, more heavily armed enemies—in modern military parlance they were force-multipliers. As Kert notes, the United States was ill-equipped to fight the British at sea, its own navy being mostly limited to a defensive force consisting of shallow-draft gunboats. Thus these mercenary adventurers were an ideal solution for the fledgling nation. And while not a purposeful feature of American naval strategy, they were enthusiastically promoted in some quarters. Thomas Jefferson is quoted thus: "Privateers—let nothing be spared to encourage

them...they will make the [British] merchants feel, squeal, and cry out for peace."

Kert is a Canadian maritime historian, with a special interest in the commercial consequences of the War of 1812, and thus her concern with privateering and, specifically, the business of privateering. Her previous publications have dealt with the loyalist provinces of Canada, referred to as either Britain's Atlantic provinces or the Atlantic Canadian provinces—New Brunswick and Nova Scotia in particular. *Prize and Prejudice: Privateering and Naval Prize in Atlantic Canada in the War of 1812* stemmed from her 1997 dissertation at the University of Leiden and examines the practice from the point of view of international maritime law. *Trimming Yankee Sails: Pirates and Privateers of New Brunswick (2005)* focuses on colonial attacks on American shipping.

The topics in Kert's latest work generally center on prize law, the business of privateering, and the people occupied in the traffic. The term for the privateers' captures—prize—harkens back to the Middle English origin of the word as something seized or taken. Kert summarizes the history of prize law and English prize courts, the latter beginning with the first English high admiral, Sir John Beachamp in 1360, whose role was more judicial in nature than nautical since England did not yet have a navy. Principles of international law regarding privateering and the right of neutrals to trade with the enemy developed in the mid-late 17th century. Privateers were required to verify the legality of their capture before they could sell seized cargo. Adjudication came to be by a single judge, since the complexities of international maritime law were considered too great for an "untrained jury."

While some privateers had patriotic motivations, many if not most took up arms for the profits to be had—they were in it for the money, or as Kert more nicely observes, "prize money was the glue that held privateering together." They were independent minded entrepreneurs, operating with little semblance of command structure or oversight. "Once at sea, privateers were on their own. There was no governing body...no formal code of conduct aside from their letters of marque and any owners' instructions they may have received."

Although an important part of the overall war effort, privateers in reality served little strategic purpose. Kert describes them as an annoyance to the enemy,

embarrassing, but at best only managing to partially disrupt communications, for example, by seizing mail packets—at least 17, by Kert’s accounting. The main effect was on British commerce and the pressure the merchants soon brought to bear on the Crown to end the conflict. Not only were cargos lost, insurance rates grew dramatically, increasing the already high cost of maritime trade.

Kert relates many small details that bring to life the realities of this aspect of the war, some stark and some almost comical. The privateer *Madison* captured the Royal Troop Transport No. 50 in July of 1812 that carried gun powder and other equipment, along with 830 uniforms for the 104th New Brunswick Infantry Regiment. The latter “were bought by the U.S. commissary general for four dollars apiece and turned into band uniforms for American musicians.”

Atlantic Canadian privateers had their own impact on American merchants, occurring in combination with the tight blockade on American ports imposed by Royal Navy ships and the convoy system which helped protect British merchant shipping. Kert describes one American effort to maintain the coastal trade that had been disrupted by the provincial privateers: the so-called “mud-clipper trade.” Wagons drawn by horse or oxen were used to transport goods in the absence of reliable shipping. Newspapers saw the humor in the situation, often publishing “a regular companion to the shipping news entitled ‘Horse-Marine Ship News.’”

One of the book’s final chapters, titled *The Prizewinners*, contains engaging accounts of the most famous, or notorious, privateers on both sides of the conflict. As the chapter title suggests, success was gauged by prizes taken. Privateering was a business venture for most engaged in the endeavor, and thus success was measured not only by number of vessels seized and brought to port, but in the end by the value of the ships and cargoes. Kert’s ranking, however, is by an unspecified combination of number of vessels and monetary awards: “both value and volume.” At the top of the list is the *Liverpool Packet*, the former *Severn*, aka *Black Jock*, an erstwhile slaver that later operated out of Halifax, preying on American shipping (100 prizes, 50 to port). Among the most successful American vessels were *Yankee*, out of Bristol, Rhode Island (57 prizes, 20 to port); *Comet*, out of Baltimore (57 prizes, 11 to port); *America*, out of Salem (45 prizes, 19 to port); and *Saucy Jack*, out of Charleston (45 prizes, 18 to port).

Kert’s text runs a concise 147 pages, is minimally illustrated, and finished with a short appendix listing U.S. and Canadian privateers and their prizes captured and brought in. Following the appendix are

extensive end notes, a short “Essay on Sources,” and a useful 17-page index.

The book reads easily, and facts are interspersed with historical incidents that are instructive but also put a human face on what might otherwise be dry data, helping to keep the general and specialist reader alike interested. She has mined shipping lists and other primary sources for statistics—letters of marque issued, numbers of ships taken, values of cargos—and compiled the data in several useful tables. The perspective of British provincial privateers is valuable, if only because it has not been well documented in the past. However, American and Canadian examples are often mixed together and it is sometimes hard to keep the many ship names straight and determine just who was who and on which side they operated.

The War of 1812 was unpopular both in Britain and in the colonies. And, Kert notes, there were in the end no clear victors. She cites an unnamed contemporary British bureaucrat who described the conflict as akin to two men holding their heads in a bucket of water to see who would drown first. Highlighting the ultimate futility of the war, a key focus of Kert’s study is the commercial cost of the struggle. Neither Britain nor America began the war with a solid financial base, she argues. War debts mounted rapidly and private armed vessels became critical factors in the conflict. She notes, however, that the true impact of privateering is difficult to measure. It did provide employment of a sort, offered investment opportunities, brought money into local economies, and it produced intangible but no insignificant effects such as nuisance value.

Kert notes that there have been more than 400 books published on the maritime War of 1812. Do we need yet another? Since relatively few have focused on the role of privateers in that conflict, and in particular with an emphasis on the Canadian perspective, the answer is yes. Kert’s work, *Privateering: Patriots and Profits in the War of 1812*, capably fills this gap and adds a valuable chapter to the literature of the war.



Faye M. Kert is an independent researcher specializing in maritime history of privateering and holds a Ph.D. from the University of Leiden. Her academic thesis concerned Atlantic Canadian privateers in the War of 1812. ⚓

report actions on historical shipwrecks. As the state gained control of underwater sites, however, illegal looting continued to take place, causing a further loss of data concerning artifacts and site formation processes. The nature of archaeological methods has also changed: archaeologists are increasingly less likely to collect large numbers of artifacts, especially if funding and storage facilities are not available. With this in mind, comparing lists of artifacts that archaeologists collect today to what treasure salvors collected in the past created skewed results. Finally, differences in the quality of the information included in treasure salvor and archaeological reports was difficult to gauge and portray in the quantification analysis. Whereas a number of reports contained site maps, for example, some were more detailed or more useful than others.

Conclusions

The study of the salvage of Spanish colonial shipwrecks in Florida revealed an overall loss of information. What has been learned about history from treasure salvor endeavors is a fraction of the potential information to be gained. Treasure salvor reports contained fewer concepts, such as discussions of archaeological context or hull construction studies. Furthermore, the artifacts treasure salvors kept were

not a representative sample of material culture from the sites.

The results of this study revealed the negative and lasting impacts of commercial treasure salvage and looting on four shipwrecks in Florida and could be used to educate the general public about the negative impacts of failing to protect maritime cultural heritage. Though this study was only modest in scope, it demonstrated that much has been lost due to unchecked commercial salvage and illegal looting.

Cultural heritage management is a relevant topic that is currently at the forefront of maritime archaeology. The research reported here contributed to the database of information concerning protection of historic shipwrecks and specifically explored management issues related to treasure salvage of Spanish colonial shipwrecks in the Florida Keys. Understanding how these sites have been exploited in the past can help present a case for protecting them in the future.

Melissa Price is a recent graduate of East Carolina University. This article is based on her Master's thesis in the Department of History: Intellectual Treasure Hunting: Measuring Effects of Treasure Salvors on Spanish Colonial Shipwreck Sites.

More information about the Spanish Plate Fleets can be found at <http://info.flheritage.com/galleon-trail/plateFleets.cfm>.[†]

Look for a review of Hughes' book in the Fall issue of *MAHSNEWS*.

The MAHS annual Pool Session was conducted in May again this year. This session is an integral part of the MAHS Introductory Course in Underwater Archaeology and was substantially revised this year. Jim Smailes repackaged his Survey and Mapping course, and we expanded the Pool Session to include these training materials. This provided a much more informative and timely class to the students' delight and enjoyment.

During the June General Membership meeting, MAHS conducted a speakerphone presentation by Matt Lawrence, Maritime Archaeologist with NOAA's Stellwagen Bank National Marine Sanctuary. Matt has been guiding MAHS throughout its ongoing survey of shipwreck remains on Pickles Reef in the Florida Keys. He provided recommendations and responded to questions for the upcoming 2016 field session at the end of June. See the next edition of *MAHSNEWS* for more information about the 2016 Field School and the ongoing site survey of the "Barrel Wreck" on this reef.

Finally, a heads up to all members. MAHS will be conducting its annual picnic in August at Seneca Creek State Park again this year. So be sure to keep an eye on the website, www.mahsnet.org, for more information about this event and the many other activities of MAHS.

See you on the water,

Steven Anthony
President



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
- 3. 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

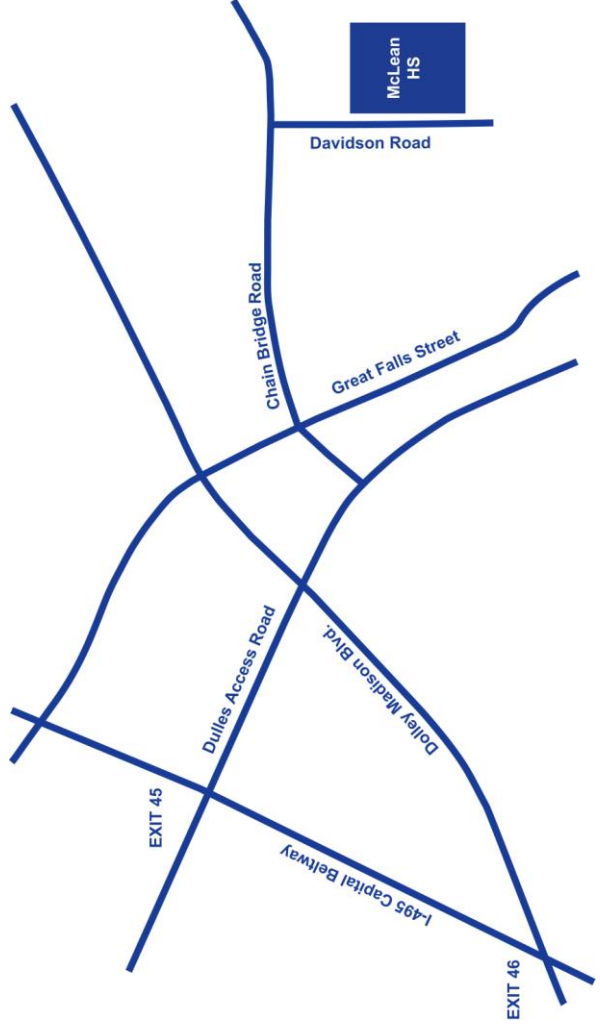
General membership meetings of the Maritime Archaeological and Historical Society are held on a bi-monthly basis, the second Tuesday of each month. Meetings are held at 7:30 p.m. at McLean High School, in McLean, Virginia, except in August and December. Meetings in August and December are held at other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