

MAHSN News



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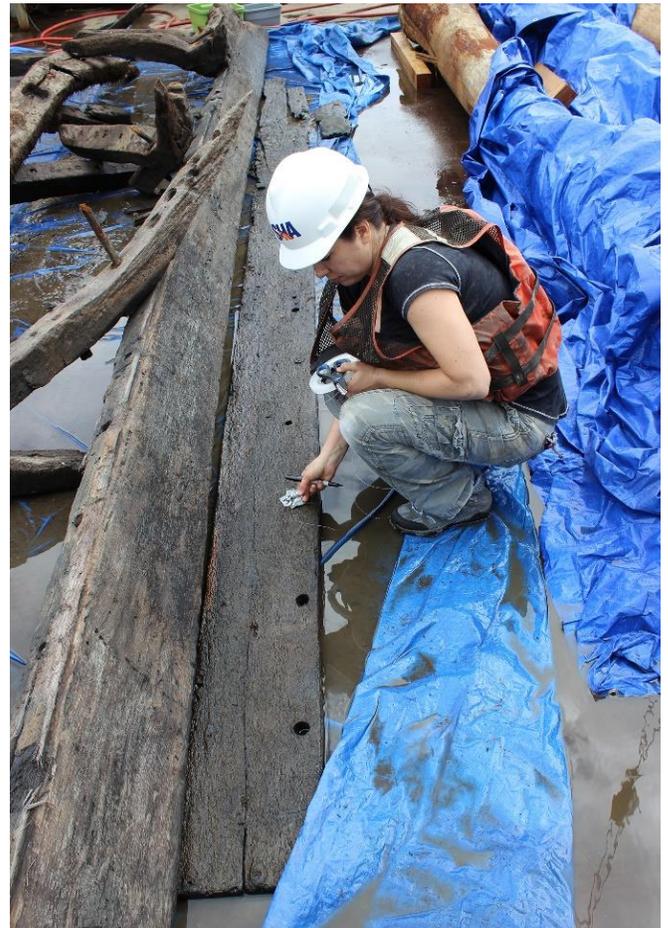
The Nanticoke River Shipwreck, Dorchester County, Maryland

By Jeffrey M. Enright

Archaeologists conducted an emergency underwater archaeology investigation of a shipwreck discovered by the Maryland Department of Transportation State Highway Administration (MDOT SHA), in the Nanticoke River near Vienna, Dorchester County, Maryland. The wreck was encountered during the removal of debris from a damaged dolphin-and-fender system, one of a pair marking the shipping channel beneath the bridge that carries U.S. Route 50 over the river. Inadvertently, commercial divers brought up the keel, keelson, and other timbers onto the work barge. Here, the MDOT SHA inspector recognized the timbers were from an old shipwreck and notified the MDOT SHA archaeologist. The following day, the timbers were lifted by crane onto a tugboat and then trucked to the Maryland Archaeology Laboratory, in St. Leonard, where they were stabilized. Immediately, a consultant team from SEARCH, Inc., was brought in to document the recovered timbers and ensure additional shipwreck timbers did not remain in the water.

The archaeological investigation included on-site marine remote-sensing and archaeological diver investigations; recordation of shipwreck features removed from the site by MDOT SHA, with analyses including wood speciation and dendrochronology; and archival research to establish historical context.

The remote sensing survey encompassed approximately 2.9 ac (1.2 ha), which included not only the waters from which the MDOT SHA recovered the vessel remains, but also the area surrounding all the



Maryland DOT SHA Chief Archaeologist, Julie Schablistky, tagging planks from the Nanticoke River shipwreck. Photo courtesy of MDOT SHA.

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Notes from the Prez – Steven Anthony

Some say that the entertainment of the Florida Keys is provided by the local marine life, including the stingrays, nurse sharks, lobsters, and so many other creatures that thrive in these waters. However, for MAHS, it is the shipwrecks and, more specifically, those wrecks that reside on the seafloor of Pickles Reef off the coast of Tavernier. So, in June, 2017, MAHS volunteers boarded planes for the Florida Keys once again. Our objective was to continue our ongoing survey of the cultural resources residing on Pickles Reef for the Florida Keys National Marine Sanctuary (FKNMS).

Our initial aim was to conduct a sidescan survey of the ocean floor, starting from the location of the Barrel Wreck site and running in a direct route to the Gear Wreck site. The idea was to determine if there was an artifact deposition along this path that may establish a connection between these two sites. We deployed a Humminbird sonar unit, but the effort was unsuccessful. We plan to work with this unit over the winter season and try again next year.

Once the MAHS team arrived at the Gear Wreck site, we immediately laid a baseline over the wide-ranging debris field, and our 2017 Field School students went right to work mapping the various metal artifacts that we found lying about the site. We observed no hull structure which indicates that this site may, in fact, not be a shipwreck. Our work on the Gear Wreck site is reported in an article in this newsletter, where you will find more information about our approach and our findings.

In August, MAHS held our annual summer picnic at Seneca Creek State Park. We have been coming to this park for many years, and this year we were once again fortunate to have a beautiful summer day. Although it was hot, the shade trees of the Fawn Pavilion picnic area that we always reserve kept us all very comfortable. Plenty of cold beverages and a huge watermelon helped too! Dave Shaw and I brought our multirotor drones, and everyone enjoyed learning how to fly them. Drones, mounted with a good camera, can be especially useful for topside surveying of long stretches of water and identifying site conditions and surface conditions before embarking on a project. Besides, they are a lot of fun to fly.

Jim Smailes also brought our underwater survey gear, and he and Tom Berkey led the group in an effort to untangle and recondition our old baselines for future projects. The picnic is always a great opportunity for MAHS members, friends and families to spend a quiet summer afternoon together.

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structures associated with the navigation channel beneath the bridge. Representatives from MDOT SHA requested the expanded survey corridor to determine the presence/absence of additional underwater sites adjacent to the entire fender system. Survey instrumentation included a marine magnetometer, side-scan sonar, and sub-bottom profiler. Magnetometer data and side-scan sonar imagery were collected along survey lines spaced 30 ft (9.1 m) apart, while sub-bottom



SEARCH archaeologists investigating the Nanticoke River Shipwreck site. Courtesy of SEARCH, Inc.

profiler imagery was collected along survey lines spaced 10 ft (3 m) apart. The surveys did not discover information of potential archaeological interest. Any magnetic anomalies were effectively masked by the bridge's steel I-beam fender system. The sonar survey produced a number of acoustic contacts, although later diver investigation verified the majority as tree limbs or modern debris associated with the destruction of the dolphin and fender. Sub-bottom profiler imagery did not identify any potential buried reflectors.

Diver investigations included surface searches, manual probing, and sub-surface hydro-probing. Surface searches recovered four disarticulated historic vessel strakes and one partial iron strap/wood deadeye intermixed with a variety of modern debris. Manual hydro-probing resulted in negative findings. No intact shipwreck remains were located either on the river bottom in the area where MDOT SHA recovered the initial shipwreck remains, or within 6 ft (1.8 m) below the sediment surface where probing was conducted.

The recordation of recovered timbers was designed to capture diagnostic information regarding construction aspects that would help identify the form, function, origin, and age of the shipwreck. In total, 75 timbers were examined, including the keel; a portion of the keelson; the apron, deadwood and stempost; various floors, futtocks, cant frames, and strakes; and miscellaneous timbers. Also among the artifacts from the wreck were two deadeyes and three bricks.

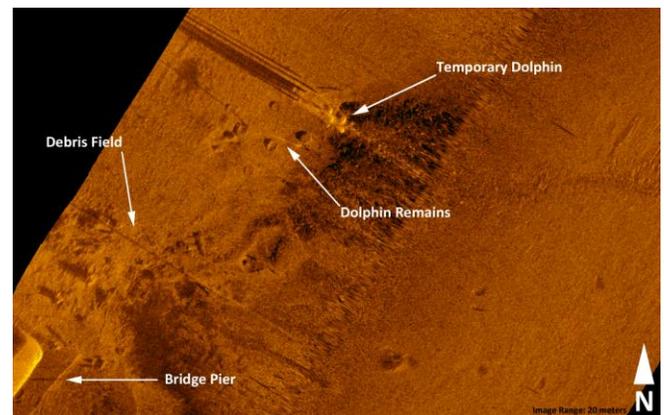
The entire length of the keel, measuring 30 ft 1.5 in (9.5 m) long, was recovered intact. It is molded 9 in (23 cm) at the stern, gradually increasing to 12 in (30 cm) amidships and 13 in (33 cm) in the bow. The bottom is rounded by 0.5 in (1.3 cm) throughout its length, as if it had been cut from a tree that was planed flat on three surfaces. The keel shows no evidence that a false keel

had been attached. Fasteners and fastener holes indicate the positions of 23 frame stations, three of which originally sat atop the apron in the bow. Three additional half frames would have fit into the side notches in the deadwood timber for a total of 26 frame stations. Of the 20 floors attached to the keel, eight would have been attached with blind driftpins and 12 with blind treenails. There is no discernible pattern to the fastener material utilized to attach floors to the keel.

The keelson is

disarticulated from the keel; however, comparison of fastener patterns and articulated floors attached to both the keelson and keel were used to determine its original positioning. It is 21 ft (6.4 m) long and is broken at the forward end approximately 15 in (38 cm) aft of where the apron originally would have been attached. A single mast step is notched into the keelson, the center located 13 ft 8 in (4.2 m) from the stern terminus, approximately 2.5 ft (0.8 m) forward of the keel's midpoint. The mast step measures 8 in (20 cm) long by 5 in (13 cm) wide by 2 in (5.1 cm) deep. It is cut vertically into the timber, indicating that the mast had little if any rake. A second mast step may originally have existed forward of the break in the keelson, which if true would have placed it immediately aft of the apron.

Nine floors exist disarticulated, while five remain attached to the keel, and two to the keelson. A third floor was recovered attached to the keelson but became disarticulated during transport. Many floors, apart from the stern floors, are relatively flat, implying that the vessel had little deadrise amidships (i.e., it was relatively flat bottomed). All floors contain two rectangular timber



Side-scan sonar image of damaged fender system and shipwreck site. Courtesy of SEARCH, Inc.



Lifting keelson to transfer it to a tug boat. Photo courtesy of MDOT SHA.

holes, cut with a chisel, on either side of the keel, or show evidence of limber holes that have degraded. One floor has evidence of burning.

Few timbers were recovered intact in their original positions, presenting a unique challenge in determining the vessel's framing pattern. Two general construction methods were available to shipwrights of the eighteenth and nineteenth centuries: lofting and whole molding. Lofting involved the use of plans scaled to full size, with timbers cut to the exact dimensions of the plans. The process was precise, but it was also time consuming and tedious. Whole molding used master frames to define the shape of the hull, with ribbands or battens attached to guide the placement of outer hull planking. The remainder of the frames were then inserted and attached to the strakes. Multiple lines of evidence suggest that the shipwright responsible for the Nanticoke River vessel used the whole molding technique. Only 12 frames were attached directly to the keel, perhaps representing the master frames. No scarf joints were present between the floors and first futtocks—the timbers were attached by one or two iron nails, suggesting they were inserted during planking and held in place with ribbands. Similarly, the remaining futtocks did not appear to have been joined at scarfs. At least one futtock had a lateral fastener about one-third of the distance from its heel end. Single, non-linear frames such as these were typical of eighteenth century and earlier techniques prior to the introduction of double-framing, as suggested by Morris et al. (1995).

Several frames have unique carvings on their inner faces that resemble two or three Roman numeral "X" marks within squares. One theory regarding the geometric shapes is that they were graffiti placed by a

sailor for luck or protection. More likely, however, is that they were construction cues to distinguish the timber's position in the hull or denote fastener locations. A number of floors contain treenails where their locations had been marked on the inner faces of the timbers prior to placement. In one case the placement of a treenail had changed: tool marks formed a rough square and the original unused position revealed a chiseled out cavity.

It is difficult to reconstruct the bow of the vessel given the limited remains; however, it appears that the cant frame heels butted against the apron in a radial pattern to form the desired curvature. This is reminiscent of archaeological remains of a number of eighteenth and early-nineteenth century vessels.

The investigation documented 25 planks or planking segments that average 1.2 in (3 cm) thick and 8.4 in (21 cm) wide. Numerous planks possess diagonal cut marks resulting from pit sawing and impressions of where they originally would have been attached to frames. The majority of the planks are outer hull strakes, judging by the fastening pattern.

Frame components show that a combination of treenails and nails originally attached outer hull planking to floors and futtocks. Treenails tend to resist transverse strains better than metal, while metal better resists direct separation; in construction, it is thus important to utilize a combination of both to secure outer hull planking. The inner ceiling planks of the vessel were fastened with either treenails to attach to floors or square iron nails to attach to futtocks, but not both. Based upon the blind fastener evidence on the floors and futtocks, it does not seem that ceiling planks originally were attached through the frames and into the strakes. Four planks



Timber with markings thought to be construction guides. Photo courtesy of MDOT SHA.

originally were attached utilizing only nails, implying that these are ceiling planks originally attached to futtocks. Spacing between fasteners on these planks is somewhat random, suggesting that ceilings were not attached at every frame station.

All of the wood samples collected for wood species analysis proved to be white oak (*Quercus alba*), except for a single slice from a futtock that is of the genus hickory (*Carya sp.*). Dendrochronology analysis discovered a high degree of cross-match between a master sample, generated from several timbers from the wreck, and seven reference chronologies from the shores of the Chesapeake Bay region: six from Maryland and one from Virginia. The results indicate that the wood originated along the shores of Chesapeake Bay south of Annapolis and likely north of the Potomac River. The date range of first and last measured rings from the master sample is 1616-1743, providing the *terminus post quem* of 1743 for the wreck. With no sapwood extending to the bark edge, it was not possible to determine a *terminus ante quem*. However, the number of sapwood rings observed in comparison to the number in the reference chronology for white oak suggests a date in the second half of the eighteenth century.

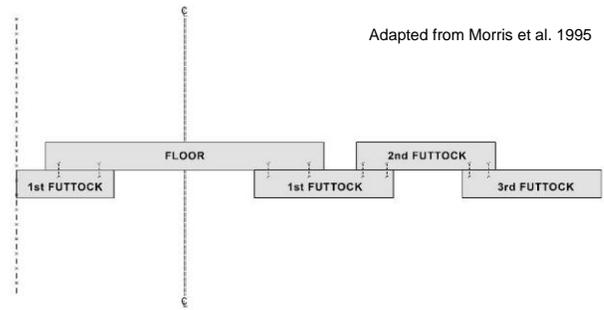
The two deadeyes recovered from the river bottom were iron-bound chain deadeyes, or the lower blocks in a shroud pair that originally would have attached to



One of the detached floors.
Photo courtesy of SEARCH, Inc.



Floor attached to keelson (keelson is upside down).
Photo courtesy of SEARCH, Inc.



Non-linear framing pattern, with staggered futtocks.



Archaeological example of the framing pattern: the Malcolm boat, Charleston, South Carolina.
<http://artsandsciences.sc.edu/sciaa/mrd/malcolmboat>.

chainplates. One deadeye is nearly complete, with much of the wood block extant and the entire wrought iron circular strap still resting in the block groove and the upper link of the chain assemblage intact. The deadeye has three holes to accept a lanyard, and the holes appear to have been scored to help prevent twisting of the lanyard. The second deadeye is missing the majority of the block and upper link of the chain assemblage.

Three hand-formed bricks were recovered from the river bottom. The bricks may have been utilized onboard for a small hearth. They may also have been ballast, although few bricks were recovered overall, indicating this as a less likely interpretation unless the wreck had been extensively salvaged.

Archival research established the context necessary to understand the historical significance of the shipwreck and establish potential candidates for its identity and source of construction.

English and French vessels served as vehicles for trade and transport during Maryland's colonial history. Tobacco was the driving factor in the construction of small riverine vessels until circumstances in the mid-seventeenth century shifted focus to local shipbuilding with local materials. Colonial farmers, merchants, and entrepreneurs found it necessary to own their own vessels, and at the start of the eighteenth century they began funding construction. By mid-century, Maryland



*Recordation of timbers.
Photo courtesy of SEARCH, Inc.*

had established a strong, internal shipbuilding industry. Ports on the eastern shore of the Chesapeake Bay were at the forefront of the shipbuilding boom, as the colony was forced to supplement its less than ideal tobacco-growing soils with maritime-related industry. Less tobacco also meant fewer imports. Consequently, the Eastern Shore relied upon coastal trade closer to home, which meant smaller vessels better suited to brown water conditions (Ford 2002).

Prior to about 1730, internal transport and commerce was conducted in open shallops and pinnaces or small sloops, mainly carrying tobacco and supplies from plantation to plantation. Early Maryland merchants, mariners, and shipwrights experimented throughout the eighteenth century with new ideas and designs in constantly evolving vessel types, ultimately incorporating characteristics of these vessels into the first Chesapeake Bay pilot schooners. Wide beams, short and full bows, short masts, and open decks changed to sleeker shapes of cargo carrying schooners with decks and sharply raking masts.



*One of two deadeyes recovered from the site.
Photo courtesy of MDOT SHA.*

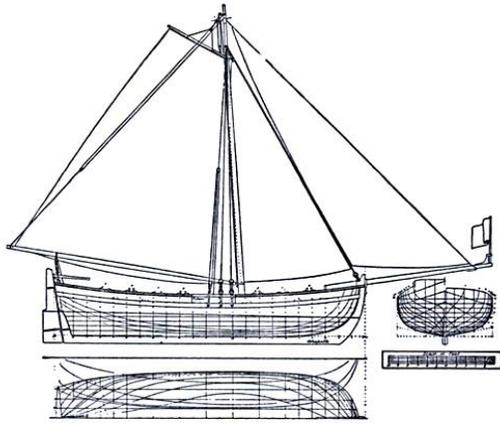
The vessel type that became known as the Baltimore clipper evolved from the eighteenth-century Chesapeake Bay pilot and cargo carrying schooners. Pilot schooners designed to take advantage of the confined waters of the Bay eventually developed into larger, ocean-going vessels better suited to the West Indies trade. Agriculture and economic diversification around the 1730s increased commerce in the Chesapeake Bay as farmers added grain and flour products to tobacco, which influenced the evolution of the schooner in order to increase speed and the ability to deliver the new perishable commodities more swiftly to the Indies (Footner 1998).

The design began with the Maryland backwater shipwrights. The Chesapeake Bay is schooner water, with its shifting and variable winds, restricted riverine channels, and tidal estuaries. The pilot schooner offered increased maneuverability and ease of sail handling for smaller crews, in contrast to the more unmanageable large mainsails of sloops, which required much effort and concentration from crews (Footner 1998). The Chesapeake Bay pilot schooner was fully formed by 1750, but by the turn of the century it had evolved into larger offshore schooners that then developed separately from Bay schooners.

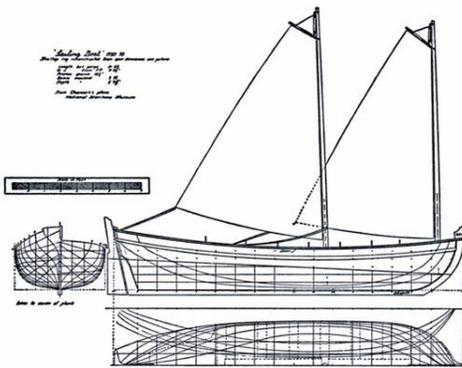
Small shipyards declined later in the eighteenth century as the industry centralized into fewer yards. Ecologically ruinous deforestation related to agriculture further sped the decline until the industry disappeared from the Eastern Shore in the nineteenth century. Plantation-based, small boat construction persisted for a time, but the independent shipyards of the colonial period were replaced by corporate concerns such as Baltimore's Columbia Iron Works (Ford 2002). The Chesapeake Bay pilot schooners continued to carry cargo within the limits of Bay, however, and survived in some form throughout the nineteenth century—the pungy, for example, became a variation, but can still be considered the same vessel type (Footner 1998).

In summary, construction methods and dendrochronology analysis suggest that the Nanticoke River shipwreck is an eighteenth-century merchant vessel, approximately 40-45 feet long, and rigged with one or perhaps two masts. She was constructed in Maryland from local materials, possibly at a small shipyard or plantation, and possesses design characteristics that may represent an early stage in the evolution towards the Chesapeake Bay cargo carrying pilot schooner and eventually the famed Baltimore clipper.

Earlier in the century, many of the predecessors to the Chesapeake Bay pilot schooner launched into Maryland's merchant marine fleet were small plantation craft. Evidence suggests that the Nanticoke River



*Example of a colonial cutter-rigged sloop.
Image from American Small Sailing Craft,
by Howard Chapelle.*



*Example of a colonial two-masted boat.
Image from American Small Sailing Craft,
by Howard Chapelle.*

shipwreck was constructed on a plantation or small yard utilizing Maryland resources before deforestation forced importation of timber from other colonies. The vessel likely represents an antecedent, perhaps even a prototype of the Chesapeake Bay pilot schooner. There may be similarities between the Nanticoke River shipwreck and the cargo carrying pilot schooner, including the shallow-draft hull, ample cargo space, and the sailing rig with a potential foremast located well forward in the hull. It is dissimilar in that it has minimal rake in the sternpost, only slight deadrise amidships, no deck, and does not possess the most distinguishable feature of the pilot schooner—sharply raking masts. Interestingly, a noted scholar of the Chesapeake Bay pilot schooner, Geoffrey Footner, has observed that early cargo carrying schooners employed masts that did not rake. The Nanticoke River shipwreck could thus be the remains of a precursor of the pilot schooner, a design in its infancy, built during an experimental period in Maryland shipbuilding history.

No clear evidence exists to suggest a cause for the

vessel's sinking, but based on evidence of burning on at least one timber, it appears fire was involved. Historic documents mention that during the American Revolutionary War, Tory picaroon forces invaded the Nanticoke River and destroyed a number of vessels at Vienna during three separate raids in 1780 and 1781. It is plausible the Nanticoke River shipwreck is related to this event.

Despite the lack of historic context, researchers from SEARCH argued that the Nanticoke River shipwreck was eligible for listing in the National Register of Historic Places (NRHP) based on its design characteristics and unique ties to Maryland and American maritime traditions. However, the Maryland Historical Trust, the state's Historic Preservation Office, did not concur, citing the compromised integrity of the site.

As part of the mitigation plan for the Nanticoke River shipwreck, MDOT SHA committed to the conservation of five timbers from the wreck, including the deadwood, a floor, two futtocks, and a strake, as well as the two deadeyes. The timbers were chosen based on their diagnostic attributes. In November 2016, these artifacts entered conservation treatment at the Maryland Archaeology Conservation Laboratory at Jefferson Patterson Park and Museum, in St. Leonard, Maryland. They will be permanently curated there and will be made available for exhibit and display, once conservation is complete. The remaining shipwreck timbers were wrapped and inundated in a protected pond where they will remain indefinitely, available to researchers.

This article was excerpted from a technical report submitted in January 2017 to MDOT SHA by SEARCH, Inc. The report was authored by Jeffrey Enright, with contributions by Travis Fulk and Nick Linville.

Historical background for this report was derived in part from the following sources:

Tidewater Triumph: The Development and Worldwide Success of the Chesapeake Bay Pilot Schooner by Geoffrey M. Footner. Tidewater Publishers, Centreville, Maryland. 1998.

Wooden Shipbuilding in Maryland Prior to the Mid-Nineteenth Century. by Ben Ford. The American Neptune 62(1):69-90. 2002.

American Small Sailing Craft: Their Design, Development, and Construction. by Howard I. Chapelle. W.W. Norton & Co., New York. 1951.

The Comparative Analysis of 18th-Century Vessel Remains in the Archaeological Record: A Synthesized Theory of Framing Evolution. by John W. Morris, Gordon P. Watts Jr., and Marianne Franklin. Underwater Archaeology Proceedings from the Society for Historical Archaeology Conference, edited by Paul F. Johnston, pp. 125-133. Washington, D.C. 1995. †

EL SOBERBIO: SALVAGING A SPANISH SHIPWRECK IN THE 18th CENTURY

by Victoria Stapells

A shipwreck is much more than the precious cargo carried in its hold. If we think of a sunken ship as a capsule preserved in time, then the true jewels are the primary documentary sources that tell its story. These are the windows that open new horizons for historians, archeologists, engineers, climatologists, nutritionists, musicians, artists and technologists of all kinds. A fine example is the wreck of a merchant ship *San Francisco de Asís*, known as “*El Soberbio*.” This vessel, which went down off the beach of La Barrosa on the night of 1 February 1752, returning from its first and only voyage to the Indies, had an impact on the neighboring towns of Conil, Chiclana, and Vejer, in the Andalusian province of Cádiz, that lasted more than three years. What follows is a complex multidisciplinary picture of a precise moment in mid-18th century Spanish history.

El Soberbio was owned by the Cadiz-based Irishman, Guillermo Tirry, Marquess of La Cañada, who had commissioned it to be built as a merchant ship of 693 tons in 1738 at the Guarnizo shipyard in Santander, in northern Spain on the Bay of Biscay. Just as it arrived in Cadiz, however, it was requisitioned for the Navy by King Philip V. *El Soberbio* remained there, engaged in battles against the English fleet, until 1749. It was

remodeled for its stint as a warship: originally equipped with 32 iron cannon, it was given a lower tier to bring the number of cannon to 60. All of these gun ports, the *corredor de combate* (passageway), the *paños de munición* (storage compartment), and the soldiers’ berths were later removed when the ship was converted back to a merchant vessel.

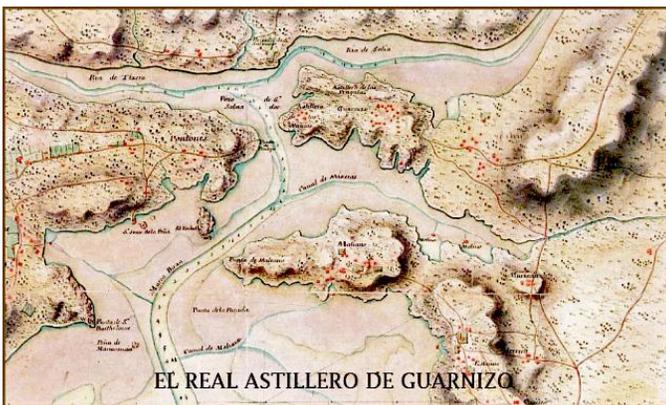
In compensation for providing this service to the Crown, the Marquess of La Cañada was granted a license to send *El Soberbio* as a registered ship to Veracruz, in Mexico, setting sail from Cadiz on 12 October 1750. It returned from Veracruz with a stop in Havana, reaching Cape St. Vincent at the southern tip of Portugal on 31

January 1751. Arriving at the Bay of Cadiz at dawn the next day, the ship was hit by a terrible storm and, that same night, was driven onto the Cadiz coast at Chiclana. The ship was quickly overcome by the storm and the tide, breaking up in just a few hours and losing its lifeboats. Of the 224 people on board, between crew and passengers, only 57 were spared. Among these were the boatswain Diego Bicheron and those who knew how to swim and were brave enough to dive into the turbulent waters.

Even though there were no settlements within a league of the place and the night was dark and stormy, people immediately began arriving on the scene from the nearby towns. The joy of the survivors quickly turned to horror when they saw that far from coming to help, the locals were descending like vultures on the goods being washed ashore. Later that night the authorities also arrived from nearby Chiclana to help the survivors. However, they quickly found themselves obliged to take up arms against the locals, who were almost rioting as they stole the remains of the cargo and even the clothes from the dead bodies. Corpses would continue to be washed up throughout February, up to several kilometers distance, such as on the rocks of Roche (Conil); most were disfigured and hard to identify. Those who the boatswain Bicheron could identify as “notables” were buried in the parish church of Chiclana, while the rest



Cadiz: The modern quay and historic cathedral.
Solundir, Creative Commons.



Map of the Royal shipyard at Guarnizo. Reproduced in *Cantabriaconhistoria* 2016.

were buried on the shore where they were found. To avoid looting, access roads were closed, and when news of the shipwreck reached Cadiz, the Casa de la Contratación (House of Trade) and the Consulado (Merchant Guild) sent their representatives to supervise the salvage.

The official cargo register of *El Soberbio* leaving Veracruz listed the following:

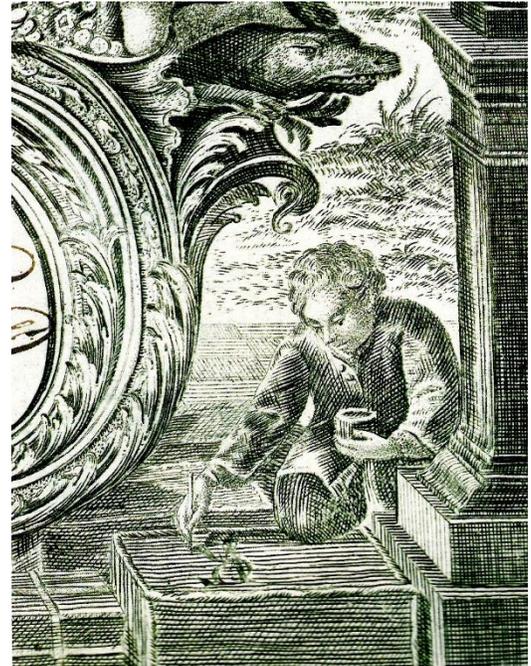
- 1,133,134 silver *pesos Fuertes*
- 13,760 gold pesos
- 11 cases of silver religious and household objects
- 242 sacks of *grana* (a red dye extracted from the shell of the cochineal insect, also known as *grana cochinilla*)
- 249 sacks of *añil* (indigo, a blue dye from Guatemala which was very popular in Europe)
- 5,470 *quintales* of *palo de Campeche* (one *quintal* was equivalent to about 46 kilograms)
- *palo de Campeche* (logwood, a red dye from Yucatán used for wool and silk)
- 963 *arobas* of *purga de Jalapa* and *purga de Michoacán* (one *aroba* was equivalent to about 11.5 kilograms; *purgas* were laxative remedies from different regions of Mexico)
- 4 cases of *polvillo de Oaxaca* (cochineal cheaper residues from processing)
- 16 cases of ceramics from Guadalajara
- 4 cases of chocolate from Soconusco
- 5 cases of sugar
- 71,540 bales of vanilla
- 2 cases of medicinal plants
- 13 bags of *cascarilla* (used medicinally as a bitter digestive and tonic)
- 543 cured skins and furs



Processing cochineal. José Antonio de Alzate y Ramírez, 1777. Edward E. Ayer Digital Collection, Newberry Library.

On behalf of the King, the vessel was also carrying 33 sacks of cacao, 1,784 sheets of copper from the mines of Santiago de Cuba, and a coffer of coins.

The Casa de la Contratación, representing the crown, sent the *contador*, Carlos Valenciano, while the Consulado, representing the merchants, sent the Prior of the Consulate, Andrés Francisco de Argomedo y Velasco.

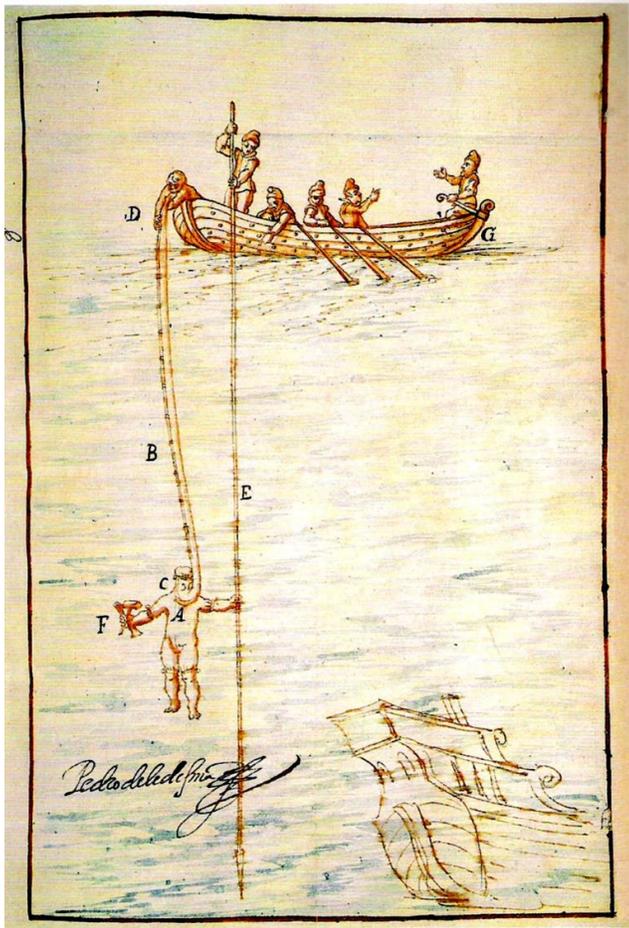


Marking cargo, 1748. Archivo de Indias (A.G.I.) MP. Monedas, 33.

From the start, the two men treated each other with impeccable good manners, and they worked together extremely well. Perhaps having to live side by side in the dreadful conditions of that place convinced them to leave aside the habitual rivalry of their respective institutions. The ship's owner, the Marquess of La Cañada, visited La Barrosa with his son Juan soon after the shipwreck, but the impact of the disaster on the man was so intense that the authorities recommended he should not return.

The group of people at the wreck site immediately began building a "Real," a camp to house all those who would take part in salvaging the cargo. These included Ministers of the Crown, representatives of the merchants, scribes, soldiers, workers from the Cadiz Customs House, sailors, divers, and even an Augustine friar from the Chiclana monastery, there to attend to the spiritual needs of the assembled personnel and perform Mass on Sundays.

Eight structures were made using wood and leather washed up from the ship, supplemented with tents made from sails sent from Cadiz and El Puerto de Santa María. Some of the structures were used as bunkhouses, others as stables for the soldiers' and couriers' horses, and others for storing supplies and guarding the salvaged goods. One shelter was used as a kitchen, but the hired cook soon saw an opportunity for business: he set up another tent at his own expense to cater for the itinerants, travelling salesmen and gawkers who were constantly streaming to the site to see what had happened and how the salvage work was going. It is just possible that this was the first recorded beach bar in history. Food and drink were supplied by the people of Chiclana, although



Salvage diving, 1720. Pedro de Ledesma. Madrid Museo Naval. AMM Ms. 1035.

Cadiz at the time: Dutch Captain Harnay, the Swedish Noordberg and the Italian Marchetti. They brought their particular instruments and gear to the site, but once the wreck was located it became clear the equipment was inadequate. The ship was lying on one side, with the cargo and the ballast intertwined. With each passing day, the amount of sand building up increased. It was clear that the only way to salvage the goods was by using local divers, who simply held their breath as they swam down to the hull and brought out the cases with the help of hooks. This was possible because the wreck was not very deep, but bad weather and the turbulent, murky water circulating inside the hull often brought the work to a halt. From February to December 1752, the divers could work only fifteen days a month on average, except the three summer months, when they could dive on twenty days.

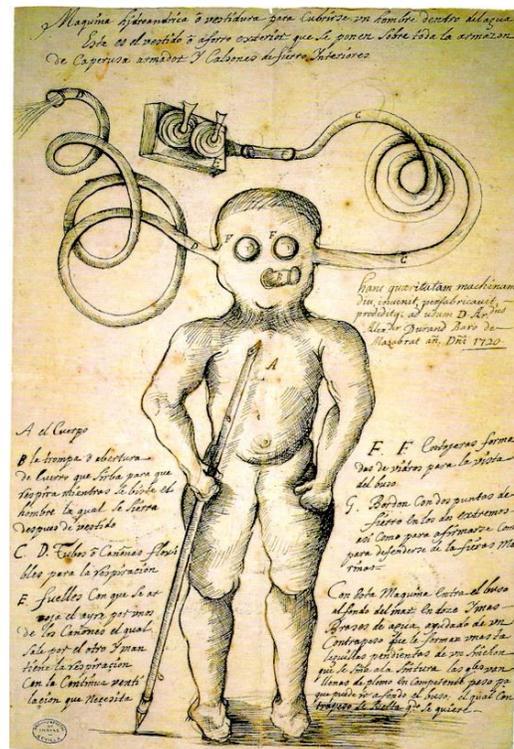
Mateo Capulino, assisted full-time by Bicheron, was awarded the diving contract in exchange for 10 percent of the value of everything recovered. He also had to pay the wages and living expenses of the divers and the sailors handling the boats they were diving from. Apart from one boat which belonged to Capulino, the boats were *falucos* (small, single masted coastal boats with lateen sails) and *boliches* (small fishing boats) from the tuna-fishing fleet, provided by the Duke of Medina Sidonia.

The number of divers varied greatly. Many left because they were not impressed by their earnings or

the authorities in charge of the Real established a price list to make sure they did not profit unduly from the situation.

Even though the beach was scoured daily, hardly anything was found except for a few coins and pieces of *palo de Campeche*, as the local people managed to collect everything that washed ashore. Any thieves caught were sent to Cadiz prison, where their numbers would range from eight to forty over the next few months. At first, their upkeep was paid by the affected merchants themselves, but this eventually stopped when the merchants realized they were not going to get their stolen goods back. The only way to recoup them was by publishing a reward of 8 percent of the value of whatever was recovered. A large portion of the silver objects was recovered in this way, with the thieves maintaining their anonymity by delivering the goods via the confessionals of the friars in the monasteries of San Agustín in Chiclana and San Francisco de Paula in Conil.

Most of the activity in the camp centered around the divers. A local expert, Captain Mateo Capulino, arrived in the first few days. Others also gave their opinions of how to proceed. These were foreigners who were in



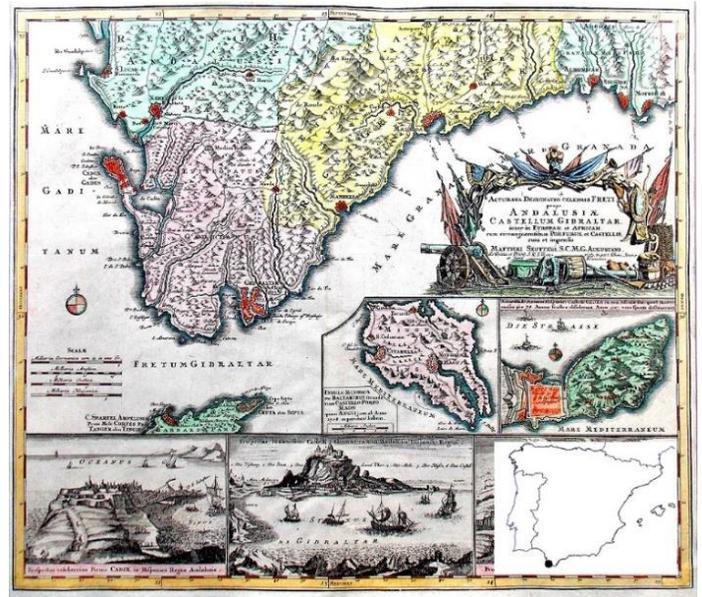
Diving equipment, 1720. Archivo de Indias (A.G.I.) MP. Ingenios y Muestras, 248.

because they became ill or were injured while working. Most were seasoned locals with peculiar nicknames, such as *El Canela* (Cinnamon) and *El Chocolate*. One had even been released from prison to work on the wreck, recommended by Capulino for his experience. They had to be negotiated with each day and were paid regardless of whether weather conditions permitted diving or not. These rough men were treated with the utmost respect and cheered on with chocolate and brandy—clearly, everyone concerned understood that diving in those cold, dangerous conditions required considerable courage. However, life at the Real was hard enough for all of them. For example, in September 1752 most were taken ill with a tertian ague (a recurring fever similar to malaria).

The crown and merchant representatives were required to draw up daily reports on the progress of the salvage operation, with details about the weather and how it changed over the day, what was recovered from the water, what arrived at the salvage camp via the local confessionals, what had been sent on to Cadiz with printed guides, the maintenance costs of the Real, and other incidental information. Based on these reports, we know the salvage operations went on for three years.

For diving maestro Capulino, the project was not very profitable, given his low share of the proceeds. He spent many days working 8 or 10 hours alone with his sons, while the divers would only work for 3 or 4 hours in the mornings. He fell ill and eventually died in June 1753. His sons and son-in-law refused to continue with the contract. The work was taken over by Juan Piñero, the corporal in charge of the Sancti Petri channel and Chiclana coast, a rich resident of the town who was able to negotiate a 50 percent share of the proceeds, because it was clear by then that there was not much left to be recovered. He also took charge of supplies for the camp. Everything recovered was sent to the warehouses in Cadiz, except for a certain amount of money that stayed in La Barrosa to cover the expenses of the camp. When a substantial part of the cargo was considered to have been recovered, distribution began among those merchants who had provided proof of their goods in the ship's records. Anything that could not be allocated was melted down or sold. Its value was added to the distribution after deducting the Royal duties—in other words, taxes the merchants had to pay the Crown for the cargo. The merchants also bore the costs of the salvage operation and gratuities for the personnel working on it.

It is difficult to know what percentage of the cargo was actually saved, because it is also impossible to calculate how much contraband had been loaded on board. As of 1754, dives on the wreck became less frequent, and the camp was finally dismantled at the end of March 1755. One suspects that even though the divers had sworn to be honest and recover as much as



*Map of Andalusia and Gibraltar, including Cadiz.
George Seutter 1740.*

possible, they might have continued diving afterwards independently, taking advantage of their knowledge of the wreck, its location, and what might still be there. Similarly, the local people kept visiting the site of the wreck, searching the beaches after every storm to see what the waves or the tides might have washed up. Years later, cargo from *El Soberbio* was still being sold on the black market. Many residents of these towns did business based on the wreck, others went to jail; some merchants of Cadiz recovered a small part of their cargoes, but others were ruined. The consequences of this tragedy even reached the London Stock Exchange, as many English trading companies had correspondents in Cadiz. What is certain is that 167 people lost their lives and for years, maybe decades, the wreck of *El Soberbio* made its impact on the inhabitants of the entire province of Cadiz.

Primary sources for this article are in various Spanish archives, including:

- **Archivo General de Indias de Sevilla:** *Secciones de Contratación, Consulados, Arribadas, Indiferente General y Audiencia de México. Mapas y Planos.*
- **Archivo General de Simancas (Valladolid):** *Secciones de Secretaría de Marina, Secretaría de Guerra y Mapas y Planos.*
- **Archivo Histórico Nacional de Madrid:** *Sección de Estado.*
- **Archivo Histórico Provincial de Cádiz:** *Protocolos de Cádiz*
- **Archivo Catedralicio de Cádiz:** *Documentacion varia. Registros.*

Victoria Stapells is an independent researcher living and working in Spain. ⚓

New Investigations on Pickles Reef in the Florida Keys National Marine Sanctuary

by Dennis Knepper, Steven Anthony, and James Smailes

MAHS returned once again to the clear waters of the Florida Keys in late June of 2017 to hold its annual Field School in Underwater Archaeology. For the past few years we have been documenting a site on Pickles Reef, in the Florida Keys National Marine Sanctuary (FKNMS). The site consists of a metal shipwreck and an intermingled field of cement barrel casts, and is now known collectively as the Pickles Reef Barrel Wreck. MAHS' research is part of a multiyear project designed to identify and survey cultural resources on the reef formation in the Marine Sanctuary.

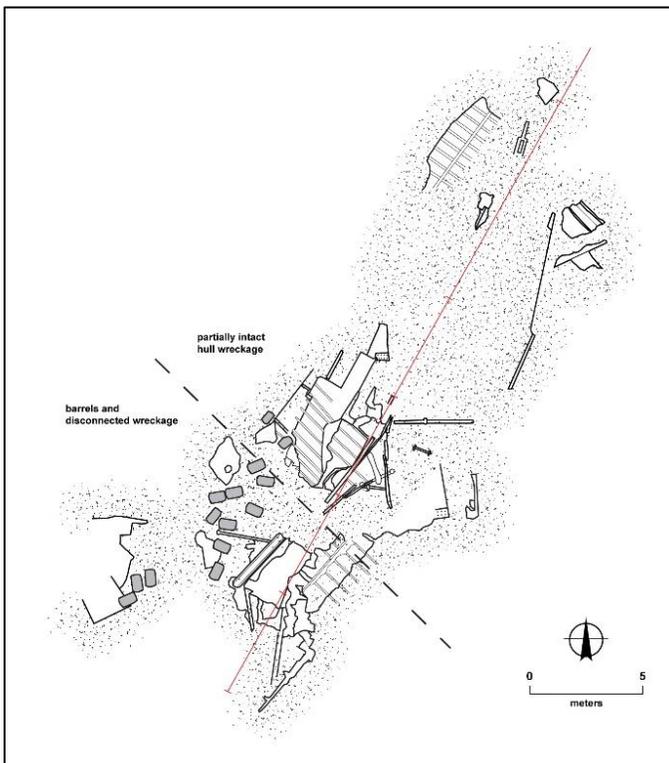
The MAHS Field School, conducted in conjunction with the survey work, is a key component of the MAHS' education and outreach initiative, designed to train recreational divers in the science and techniques of underwater archaeology and of the importance of stewardship, preparing them to participate as qualified volunteers in future underwater archaeology projects.

ship, probably a schooner or a barque, that was lost on the reef sometime around the turn of the twentieth century. With no evidence of cargo, relatively little intact ship structure present, and no material such as rigging remaining, it appears that the wreck was a total loss and had been extensively salvaged. The cement casks at the site were not part of the sailing ship's freight, however, but were probably cargo carried by a Norwegian steamer that became stranded on the reef in 1914. Contemporary news accounts indicate that the cement was thrown overboard to lighten the ship's load, allowing it to re-float, after which it was towed to Key West for repairs.

This season MAHS widened its focus to investigate other parts of Pickles Reef for additional cultural remains. Lawrence suggested that other material reported by divers in nearby areas might be related to the Barrel Wreck.

In extending the study of the reef, MAHS drew on in particular on the work of Chuck Hayes and Denis Trelewicz, volunteers who reported numerous sites for the FKNMS Submerged Resource Inventory. Some of these resources may only be single artifacts, while others are more extensive archaeological sites. MAHS also used information from NOAA's AWOIS database, the Automated Wreck and Obstruction Information System, which provides locations and descriptive information regarding wrecks and obstructions in U.S. waters.

Our continuing research remains focused on the general tasks of identification and site definition: locating sites using present information; defining the characteristics and distribution of the cultural features recorded; determining whether or not the material is associated with other sites on the reef, and specifically



Pickles Reef Barrel Wreck. MAHS site map.

Based on the data we have been able to collect and analyze in several seasons of work at the Barrel Wreck site, and with the assistance of Matt Lawrence, archaeologist with Stellwagen Bank Marine Sanctuary, who is an advisor to MAHS for this project, we have interpreted the wreck to be the remains of a metal-hulled sailing



MAHS volunteers conducting trilateration mapping. All photos by J. Quandt and D. Knepper.

the Pickles Reef Barrel Wreck; and, ultimately, identifying any vessel or vessels present.

The target this season was the so-called Gear Wreck. Hayes described this site as “a large amount of metal debris including rigging and a large gearing mechanism.” He documented the site with a photograph of a feature that looked as much like a spoked wheel as a gear. Hayes’ records showed that the site was situated east of the Barrel Wreck, but its exact location was unclear. More than one set of coordinates have been found, including those published by Hayes, as well as a different set shown in the AWOIS database. Because of the limited amount of time available, we asked Brenda Altmeier, Maritime Heritage Coordinator for FKNMS, for assistance in verifying the location. Altmeier sent volunteer divers to check the area, locate the feature, and confirm the coordinates. This effort did save us valuable time, since the coordinates turned out to be different from those recorded by Hayes.



Diver examining the gear-like feature.

Key Largo set us on top of the gear-like feature pictured by Hayes in his report. After reviewing the dive plan, conducting a safety briefing, and doing buddy checks, the teams entered the water for a reconnaissance dive to orient themselves and draw sketch maps of the site. As the field school students learned in class, the purpose of the initial dive is to familiarize divers with the layout of the site, determine the most appropriate location for a datum and baseline, and begin determining which features to be included on the site map.

Next, a primary datum point was established in a sand scour at one end of the site, and a baseline was extended from the datum for use in documenting the locations of features. All locational data were entered into a Geographic Information System database to assist in generating a georectified site map.

As specified in the permit issued by FKNMS, all MAHS investigations on Pickles Reef are non-intrusive survey and recording projects that include comprehensive mapping and photo-documentation. Mapping consists of baseline trilateration, the primary technique taught in the MAHS introductory course.



Large gear-like feature from which the site takes its name.

Weather conditions were good when we arrived in Key Largo. Skies were clear and winds were variable. As is often the case in the Keys, however, the skies didn’t tell the whole story. An early season tropical storm named Cindy had moved through the Gulf of Mexico earlier in the week, and while the storm had made landfall the day before far to the west along the coast of southwest Louisiana, it brought heavy swells to Florida that ran counter to prevailing currents, producing an irregular 2-3-foot chop. And so, as in several past seasons on Pickles Reef, conditions in the shallow waters were challenging, with an unpredictable but persistent surge.

Nonetheless, using the coordinates supplied by Altmeier, the dive boat captain from Horizon Divers in



Diver measuring a feature.



Axle with gears.



Plotting the day's trilateration data on the site map.



Detail of beveled gear.



Crimped metal rods.

The site is situated on a low ridge of old, rocky coral with sandy areas on either side. It is a common formation on the reef known as spur and groove. Metal

debris, including pipes, bars, heavy cable and wire rope, a geared axle, and other items large and small, are widely spread across the surface of the rocky spur and down its sides into the adjoining sand grooves. The site is an irregular, elongated oval in shape, generally following the shape of the reef spur and measuring approximately 70 meters long and 20-25 meters wide.

Feature documentation included mapping, using baseline trilateration, and recording each feature mapped with drawings and photographs. Among the features documented in this fashion were the gear-like object in the Hayes photo, which was a heavy metal wheel a little more than a meter in diameter. It had five wide spokes and a grooved or channeled rim, indicating that it might have been part of a pulley. A prominent feature in another part of the site was an axle, about 2 meters in length, with a large beveled gear and a hub with gear slots. Several bars and rods with cross pieces, gudgeon-like eyes, or through-bolts were also documented, as well as a mass of bent rods or pipes of unknown function.

Thus far, no positively identifiable ship structure has been documented. The features observed could be material from a wreck that was later salvaged and removed from the reef, or debris jettisoned from one or more vessels that grounded on the reef and needed to lighten their loads in order to float off.

MAHS has proposed additional survey and mapping of cultural features on the reef formation to further assess the character of the debris and determine whether any of the features might be associated with the Pickles Reef Barrel Wreck. The survey will continue by examining other reef structures in the immediate vicinity, including another site reported by Hayes intriguingly called the Honey Dipper Site. We will provide a full update in the Fall issue of *MAHSNews* next year. ⚓

Cuban Archives Research

by John de Bry

Since 2001, I have been going to Cuba on a regular basis to conduct research in the Cuban National Archives, the Archivo Nacional de Cuba, located in downtown Habana Vieja, or old Havana. The archive is a rich repository, especially if one is interested in maritime traffic in the 16th through the 19th-centuries. There are, however some limitations; the archives are not as well organized as repositories in the United States and Europe, with few available inventories, and many of the documents are in a poor state of preservation.

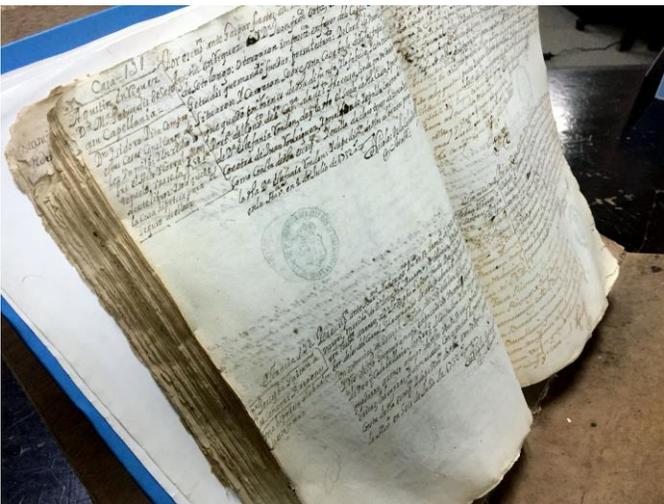
Nevertheless, this repository contains real treasures. The trick, if you will, is to obtain permission to work there, a process that has been at times painful, although things are improving. I have, for example, managed to locate documents pertaining to the blockade-runner *Denbigh*, sunk off Galveston, Texas, on 24 May 1865. The *Denbigh* was active as a blockade-runner for nearly two years, making thirteen successful trips. While some records of the *Denbigh* are still extant, important details of her activities while she was in Havana were missing. I was able to find those missing records in the National Archives of Cuba.

Lately, I have concentrated my efforts on the 1715 Fleet that was sunk in a violent hurricane on 31 July 1715 off the coast of Florida. In fact, I am located just seven miles north of the known location of the northernmost shipwreck from that fleet. I have always felt that most treasure hunters do little or no archival research beyond looking for information on locations, so not enough is known about this fleet and the people who sailed, lived, and died on those ships. I have been pleasantly surprised to find numerous documents in Havana, documents that are not duplicates and that do



*Entrance to the Cuban National Archives in Old Havana.
All photos by the author.*

not exist in Spanish archives including the Archivo General de Indias (AGI) in Seville, or the Archivo General de Simancas (AGS), near Valladolid. What is most intriguing to me is the fact that at least two of the eleven ships salvaged by the Spanish have never been found in modern times, and two ships were lost at sea with no survivors. We can only hope that those ships will be found and excavated by professional archaeologists and not treasure hunters. One of the underwater archaeologists working for the Gabinete de Arqueología in Havana, César Alonso Sansón, is a talented researcher and paleographer who has also done extensive research on the 1715 Fleet, coming up with some interesting documents. We frequently exchange research data.



*Cuban National Archives,
Register of 1732 Documents.*



*Cuban researcher, César Alonso Sansón, left, and the
author examining documents in the Archive.*



Damaged legajos, or document bundles, resulting from inadequate storage practices.

One of the big questions has been about a ship that was reportedly bought by the captain-general of the Nueva España Fleet, i.e. New Spain Fleet from Mexico. We know from some manuscript documents in the Spanish archives that Don Juan Esteban de Ubilla purchased a ship for his private use, but its name has remained a mystery—until last year. In the Cuban National Archives section, Protocolos Notarial, a document dated 15 July 1715 pertains to the sale of a ship by the name of *Santa Rita y las Animas* by its owner, Don Felix de Acosta Hurtado, to Don Juan Esteban de Ubilla, Captain-General of the Nueva España Fleet. The *Santa Rita* was a frigate and was nicknamed *Marigaleta*. The ship had previously sailed from Santa Cruz de Tenerife in the Canary Islands with her owner, Don Felix de Acosta Hurtado, as captain.

Another interesting section in the Cuban Archives is the Protocolos de la Escribania de Marina de la Habana. Although this division deals mostly with the 18th-century, there are a number of sub-sections that can be useful, such as the Protocolos Notariales, mentioned above; the Secretaría de Estado y Justicia; the Secretaría de Estado; Ministerio de Estado; the Tribunal de Cuentas; and Mapas. There are other sections, but they mostly deal with the Revolution of 1959, agriculture, and other modern subjects. It should be noted that the shipwreck database held by the Gabinete de Arqueología has nearly two thousand shipwrecks

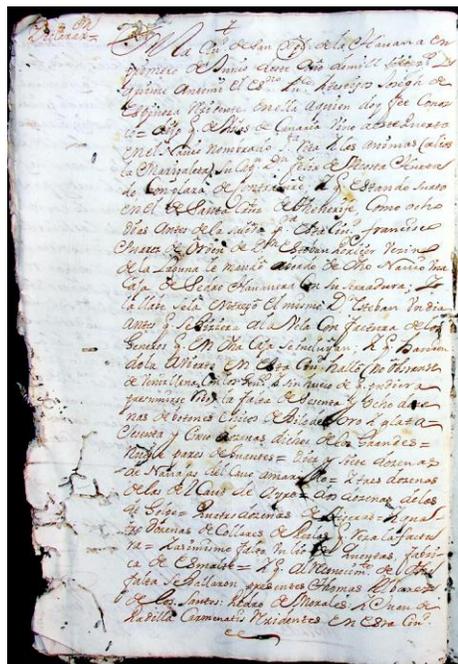
listed, and a large proportion of the shipwreck data was gleaned from the Cuban National Archives.

In addition to scant indexing and the often poor condition of various *legajos* (document bundles), another problem is often encountered. When the Soviets were maintaining a strong presence in Cuba, Cuban archivists were told that Russia had some fantastic material that would ensure the longevity of manuscript documents. Eager to protect their cultural patrimony, the Cubans enthusiastically accepted the new material the Russians were offering, and thousands of single sheet documents were placed in “magic” clear sleeves. Years later it was discovered that the sleeves were not

acid-free and were eating away the documents. Now it is too late, and what is left can no longer be removed from the sleeves. Many documents, especially from the 16th and 17th centuries, are lost forever as Cuban archivists prioritized use of the sleeves for the rarest of their manuscripts.

The Cuban National Archives are rich in many ways, but access is difficult and work can be excruciatingly slow. Yet, I strongly believe that it is well worth the effort, and serious researchers must accept and face the challenge. I am glad I have. Naturally, one must be a good paleographer in order to read old Spanish and up to the challenge of deciphering often difficult script. But since I started conducting research in Havana, I have made many discoveries of previously unknown documents.

John de Dry, PhD, is a historian and paleographer with SEARCH, Inc. †



Documentation of the sale of Santa Rita to Don Juan Esteban de Ubilla.

Review

The Lost Submarines of Pearl Harbor

by James P. Delgado, Terry Kerby, Hans K. Van Tilberg, Steve Price, Ole Varmer, Maximilian D. Cremer, and Russell Matthews
(Texas A&M University Press, 2017)

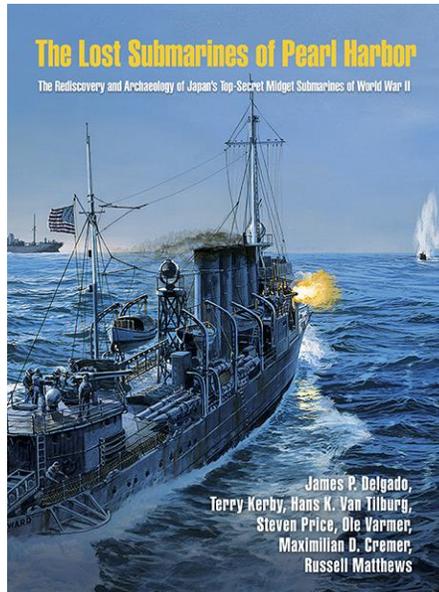
reviewed by Dennis Knepper

Five small, two-man submarines were launched off the island of Oahu by the Imperial Japanese Navy before dawn on December 7, 1941. They were the vanguard of the assault on Pearl Harbor, secret weapons designed to torpedo battleships at anchor. A new and authoritative history of these submarines, *The Lost Submarines of Pearl Harbor*, by James P. Delgado and colleagues, has been published by Texas A&M Press.

Subtitled *The Rediscovery and Archaeology of Japan's Top-Secret Midget Submarines of World War II*, the book brings together extensive archival, oral history, and archaeological investigations to tell the story of what is, to many who are not students of the Pacific War, a little known chapter of the Japanese attack that brought the United States into World War II.

The midget subs were the Type A *kō-hyōteki* submarine. Their highly secretive development began in the 1930s, when they were referred to as human torpedoes. And indeed shaped like an elongated torpedo with a conning tower, the *kō-hyōteki* was 78 feet long, 6 feet in diameter, and weighed 46 tons. Battery powered, the vessels could run at 20 knots. They carried two torpedoes and, as part of the effort to keep them secret, each bore a scuttling charge in case capture was imminent. Experimental in design, the subs had problems with trim and ballast control, as well as with battery life. Completed only a few months before the attack, the crews had little time to train in them.

The story told in the book is not just that of Pearl Harbor, however. The first half of the work follows the history of the subs from their early design and development, through changes made after the initial attack to improve maneuverability and survival rate, to their subsequent use in attacks on Sydney, Australia, and on the British fleet off Madagascar. The narrative also follows stories of the crews, the perception of the vessels on the home islands, and their eventual end. The second half of the text describes in fascinating detail the archaeological search, carried out by two deep diving submersibles operated by the Hawai'i Undersea



Research Laboratory (HURL), seeking the last of the five subs involved in the Pearl Harbor assault.

Although it has taken 60 years to do so, all of the midget subs that were launched in the Pearl Harbor attack have been located. Only one actually reached the harbor, and it was sunk during the attack. A second washed ashore the next day along with the only surviving crew member, Kazuo Sakamaki. The vessel is now part of the collection at the National Museum of the Pacific War, in Fredericksburg, Texas. A third was discovered in 1951 near the entrance to the harbor where it had been scuttled by its crew; it was raised by the Navy and re-sunk in deep water at sea. The fourth was discovered in 1960, also near the

harbor entrance, with the bow and torpedoes still intact. That vessel was also raised by the Navy. The bow was removed and disposed of at sea and the remainder of the vessel was returned to Japan where it is now on display. The last submarine was not found until 2002, lying in 400 meters of water about five miles off the harbor entrance. It had been sunk by a shell from a 4-inch gun on USS *Ward* an hour before the aerial assault began. The sub was discovered by the HURL submersibles, *Pisces IV* and *Pisces V*.

The study of the midget subs masterfully blends archival research, oral history, and archaeological survey into a highly informative and absorbing narrative. The lead author, James Delgado, is the former director on NOAA's Maritime Heritage Program in the Office of Marine Sanctuaries. A long-time supporter of MAHS, he currently serves as Senior Vice President of a private cultural resource management company based in Florida. Delgado's co-authors include maritime heritage specialists from NOAA (van Tilburg and Varmer), from the HURL submersible program (Price, Kerby, and Cremer), and a filmmaker and historian (Matthews).

The volume continues the high standards of Texas A&M University Press publications. The book contains 178 pages of text, an illustrated appendix detailing the construction and engineering characteristics of the Type A *kō-hyōteki* submarine, a useful set of endnotes, an

extensive bibliography, and a practical index. The text is generously illustrated—promotional literature notes 158 color and 87 black-and-white photographs, as well as various line art illustrations and five maps.

The midget submarine program was top-secret, and it is still not well known. Its secrecy was carefully maintained by the Japanese prior to and during the war, while afterwards most of the surviving vessels were either sunk or destroyed and records of their design, construction, and operation were burned. Thus, their history has remained in the shadows. In the words of the book's introduction, it is through a "detailed, methodical approach to the documentation of artifacts, even large ships and submarines," along with deep historical

research, that the story of these weapons has been unfolded.

The two midget submarines still in the water are considered historic sites and war graves. Under an agreement with the Government of Japan, the submarines are managed by NOAA through the Office of General Counsel and the Office of National Marine Sanctuaries' Maritime Heritage Program, and by the National Park Service. The vessels are also protected by the Sunken Military Craft Act, which is administered by the U.S. Navy's Naval History and Heritage Command. The Naval History and Heritage Command maintains a series of online images of the Pearl Harbor attack and the midget submarines. 🚩

continued from page 2

The October membership meeting was devoted to our second 3D photogrammetry training session. Dave Shaw conducted the class. Everyone who wanted to try their hand at this new technology had the opportunity to photograph a mock "artifact" and upload the photos to the Agisoft Photoscan software that Dave had previously installed on his computer. I have noticed that archaeology reports are increasingly including 3D images of wreck sites and related artifacts. MAHS volunteers can increase their productivity by acquiring these new skills, and it provides us with the ability to collect and share better quality images of the wrecks that we are studying. We plan to continue our 3D photogrammetry training sessions throughout the winter season.

A few weeks ago, Bill Chadwell advised that the Battle of the Atlantic Research and Expedition Group (BAREG) will be conducting their 5th Annual Battle of the Atlantic Symposium on Sunday January 28, 2018. MAHS members are invited. There is no fee for the symposium, which will run from 10:00 am to 5:00 pm. Bill invited me to talk about the MAHS educational programs and our various projects at the symposium, and he set me up with a 10:30 am start time. See the BAREG website <http://www.bareg.org/> or the MAHS website <http://www.mahsnet.org> for more details about the symposium.

The new year is around the corner, and MAHS will be celebrating 2018 as our 30th continuous year in operation. So, there will be plenty of activities going on this year. Be sure to check our website for dates and times and come out to join us.



See you on the water,

Steven Anthony
President

Be sure to keep your MAHS Membership current. Renew now. 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
- 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

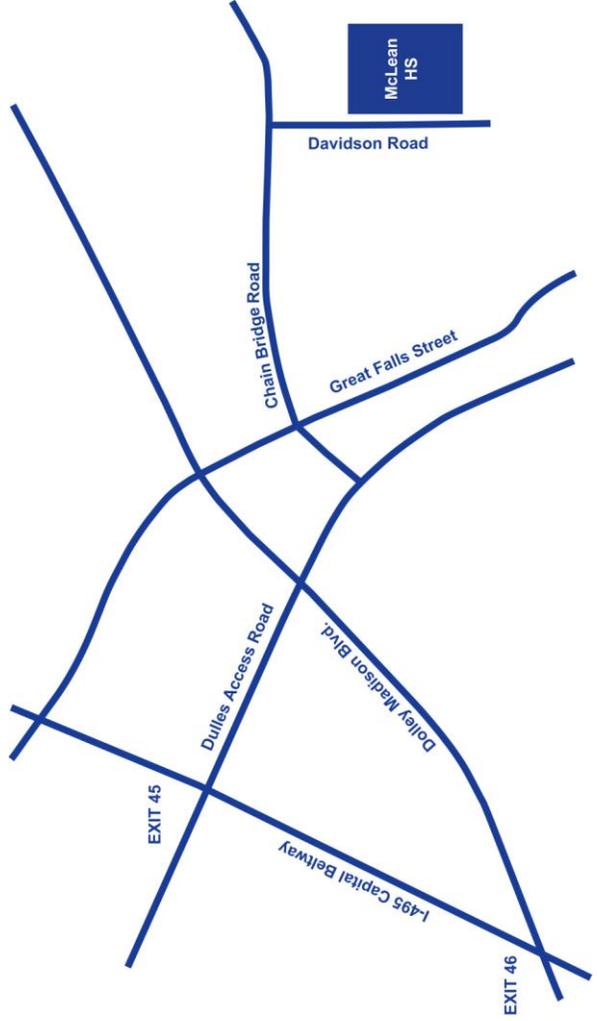
General membership meetings of the Maritime Archaeological and Historical Society are held on a bi-monthly basis, the second Tuesday of each month. Meetings are held at 7:30 p.m. at McLean High School, in McLean, Virginia, except in August and December. Meetings in August and December are held at other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

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