

# Ancient Wreck Gets a New Look

## *Sparrow-Hawk* Research Project Gets Underway

By Donna D. Curtin



Archeologist Calvin Mires organizes cutting edge research for a new Sparrow-Hawk exhibition in 2022.

In January, over a hundred gnarled, age-darkened timbers were arrayed on the floor of Pilgrim Hall Museum's Main Hall for an unprecedented round of systematic scientific analysis. These are believed to be ancient bones of the shipwrecked *Sparrow-Hawk*, the only surviving remains of a transatlantic 17th-century vessel carrying colonists to America. William Bradford detailed the unexpected arrival of a small ship with about two dozen passengers, including Irish servants, which foundered off the treacherous shoals of Cape Cod in 1626.

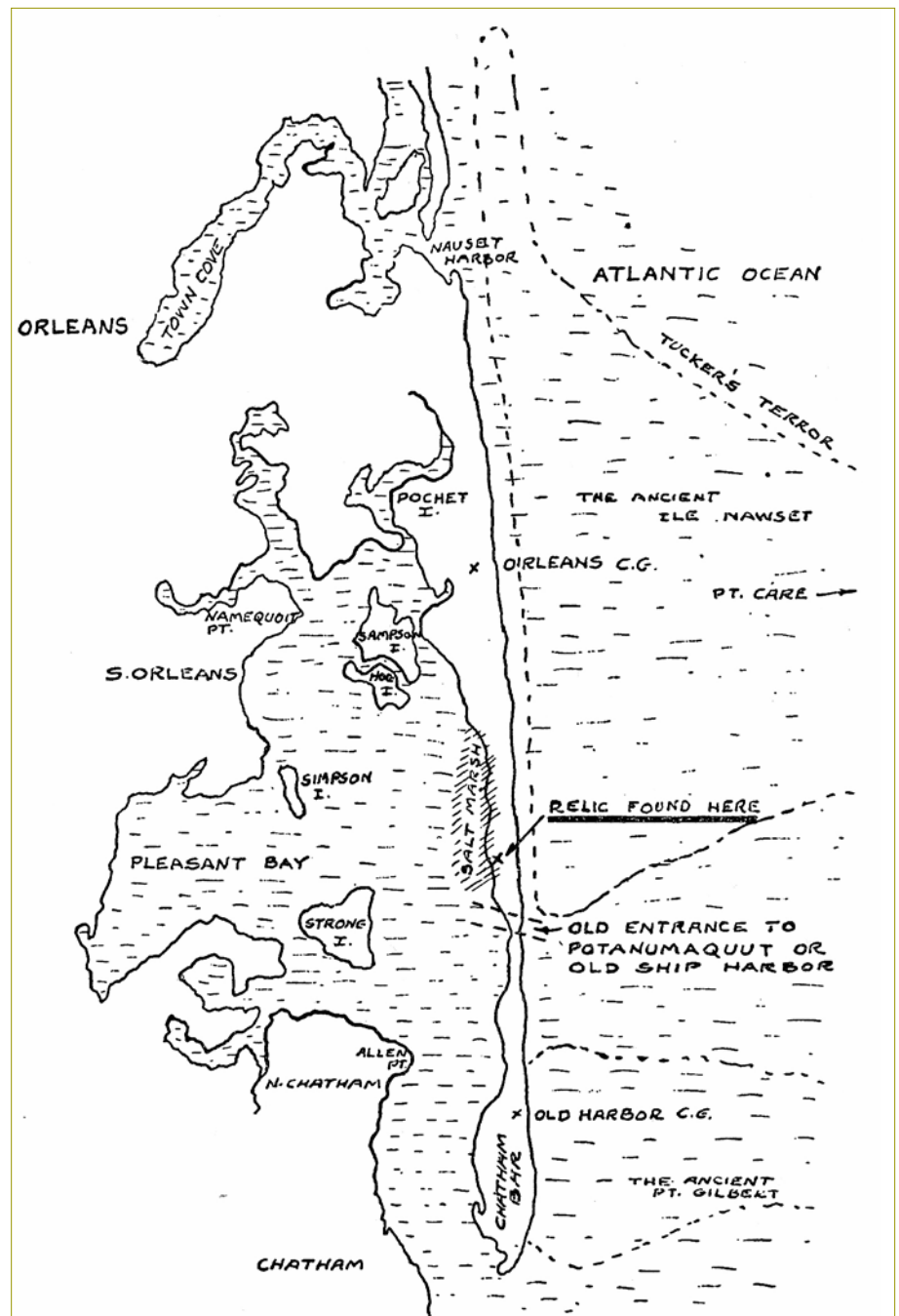
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*There was a ship, with many passengers in her and sundry goods bound for Virginia. They had lost themselves at sea, either by the insufficiency of the master, or his illness, for he was sick and lame of the scurvy.... they came right before a small blind harbor that lies about the middle of Manamoyick Bay to the southward of Cape Cod, with a small gale of wind, and about high water touched upon a bar of sand.... But towards the evening the wind sprung up at sea, and was so rough as broke their cable and beat them over the bar into the harbor, where they saved their lives and goods...*

William Bradford, *Of Plymouth Plantation* (New York: Alfred A. Knopf, 1982, ed. Samuel Eliot Morison, pp.189-191)

The vessel grounded on the tidal flats of Pleasant Bay in the area that later became the towns of Orleans and Chatham. The beached survivors struggled to bring their goods ashore and recover. The Native Nauset people soon found them and told them of the nearby English colony in Plymouth. They escorted two of the castaways to Plymouth to request help. Governor Bradford accompanied the shallop, laden with supplies and also trading goods, to rescue the stranded passengers and crew. After an effort to salvage the ship, a second storm beat it beyond repair and it was abandoned to the sea.

Plymouth sheltered the newcomers, who stayed till the end of the following summer in 1627, helping to raise crops, trading with the Pilgrim settlers, and stirring up controversy when one of their leading members, Mr. Fells, was discovered having an illicit affair with his maidservant. When two vessels heading for Virginia finally carried the group to their original destination, Bradford was probably glad to see them go. His last note on the matter, penned in his journal, was that some of them later sent word from Virginia to acknowledge their thankfulness to Plymouth. The episode then faded into a forgotten footnote of the early colony.



About 1782, a storm exposed the wreck, near an old entrance to the harbor that had long ago closed up. The location prompted observers to connect the old ship to accounts of the 1626 shipwreck. Before the story took deeper hold, shifting sands soon reclaimed the vessel, the beach turned to salt marsh, and memory of the wreck survived only locally in the name given to its site, "Old Ship Harbor."

In 1863, a great storm once again churned the old wreck from its resting bed on the tidal marshes. Recognized

as a relic of antiquity, remembered and connected once again to Bradford's account, the vessel was hailed as "one of the greatest curiosities of the age." Onlookers scavenged materials, including ballast stones, beef and mutton bones, leather soles of shoes, and tobacco pipes from the wreckage. Benjamin Drew, a once prominent Plymouth resident, was among eager crowds who came to see the shipwreck, and was struck by a visceral sense of connection to the past, and a "deep human sympathy" for the ship's passengers and crew.





Top:  
Sparrow-Hawk as once  
displayed in Main Hall.

Bottom:  
Hefting solid oak timbers  
left to right:  
Victor Mastone, Director of  
Commonwealth Board of  
Underwater Archaeological  
Resources, Calvin Mires,  
Donna Curtin,  
Rebecca Griffith, Aoife Daly  
and Dr. Hocker.

Page 6:  
Map reproduced from Otis,  
An Account of the Discovery  
of an Ancient Ship.





Top left to right:  
PHM Trustee Monty Fischer  
and Community Preservation  
Committee chair Bill Keohan  
brace a timber as  
dendro expert  
Aoife Daly drills a core.

Professor Daly sleeves a  
fragile coring in a plastic straw  
for transport to laboratory.

Dr. Hocker (left) and Aoife  
Daly (right) assess a timber for  
coring, as Monty Fischer and  
Donna Curtin observe.

Dr. Hocker records timber data  
with volunteers Lorraine Tamsky  
and Leland Crawford.



Amos Otis, a genealogist and Cape Cod historian, also visited the site, recording detailed notes and drawings of the wreck, which he later published. In interviewing many of the locals, Otis encountered a tradition that the ship's name was *Sparrow-Hawk*. Otis considered the attribution to be "uncertain and unreliable," more likely based on the name of a prominent local family, and not on any actual evidence. But the moniker stuck. Although the ship's real 17th-century name is unknown to this day, it has been called the *Sparrow-Hawk* for over 150 years.

In the flush of its newfound attention, the *Sparrow-Hawk* was famously exhibited on Boston Common in the fall of 1865. A generation later, in 1889, it was gifted to Pilgrim Hall and became one of the museum's most widely recognized artifacts, still well remembered today. "It was always there," Ben Brewster recalls, describing the assemblage of timbers positioned somewhat incongruously beneath Henry Sargent's *Landing of the Pilgrims* in the Main Hall, the keel resting on the floor, and strips of painted wood holding the ribs in place. The ship enjoyed a long residency in this prime location, though in 1952, the Museum introduced a special "Seventeenth-Century Ship Room" in the Lower Gallery to highlight the *Sparrow-Hawk* more prominently, drawing on the extensive research of H. Hobart Holly. Holly, a Pilgrim Society Trustee and employee at the Quincy shipyards, devoted himself for decades to studying the ship's construction. More recently, the artifact was loaned to the Cape Cod Maritime Museum in 2007 as a featured exhibition. In 2012, the ship returned to PHM, and has remained in storage ever since.

For over a century, the *Sparrow-Hawk* shipwreck has been studied by maritime experts, assembled and disassembled, measured, drawn, and exhibited, but it has never been fully examined archeologically or forensically. One great question haunts this assemblage of salt-worn

timbers: are they, in fact, from the same vessel described by Bradford?

This winter, PHM embarked on a long-term re-evaluation of the *Sparrow-Hawk* to seek an answer based on today's science. The results, whatever they may be, will be used to develop a digitally enhanced maritime exhibition at PHM, planned for 2022. Dr. Frederick Hocker, Director of Research at the *Vasa* Museum in Stockholm and one of the world's foremost authorities on 17th-century ship building, led an international team of specialists for the first phase of the process, an exacting week-long evaluation of each individual timber in early January of this year.

As steward of one of the most famous early modern shipwrecks - the Swedish warship *Vasa* that sunk on its maiden voyage in 1628 - Dr. Hocker has long been keen to examine the *Sparrow-Hawk* more closely. Joined by marine archeologist Dr. Calvin Mires of Bridgewater State University, museum staff, and numerous volunteers, Hocker supervised the careful preliminary documentation of each surviving piece of the vessel. A fragile portion of the bilge pump, a sleeve-shaped piece of elm wood, was of special interest, as it is nearly identical to the corresponding piece on the *Vasa*.

A goal of this initial phase of study was to determine whether any timbers were suitable for dendrochronological analysis. Professor Aoife Daly of the Saxo Institute, University of Copenhagen, was a key member of the project team as a leading specialist in dendrochronology, a sophisticated method of analyzing tree ring growth to precisely date wood and determine its place of origin. Daly is principal researcher for a European Research Council project called TIMBER, which seeks to analyze material and written evidence for timber usage over six centuries (1100 to 1700). Professor Daly has sampled a wide range of maritime-related historic objects, using a variety of techniques, including dendrochronology.

Dendrochronology often involves drilling a core that ideally extends from the heart of the wood to the bark edge. An intact or nearly complete coring from the *Sparrow-Hawk* could determine exactly when trees were felled to build the vessel and indicate the origin of the wood. Further research based on this evidence might uncover more details, such as where the ship was constructed, and possibly even its original name and port of departure. Daly scrutinized each of the 109 *Sparrow-Hawk* timbers, selecting about a dozen to be sampled by coring, including futtocks, planks, crutches, and floor timbers, and choosing five additional pieces to be less invasively sampled by minutely shaving off end wood to expose ring growth. She is analyzing these materials in her lab in Copenhagen, with results anticipated later this year.

Pilgrim Hall Museum is pursuing grant options for additional support to continue the *Sparrow-Hawk* Research Project through 2022. The next phase of the project is a series of immersive educational programs with Dr. Mires, geared towards engaging new audiences at PHM, including young and working adults. Participants will create detailed drawings of each timber, and carry out 3D mapping under the direction of Dr. Hocker, using an engineering tool known as a Faro Arm, to scan twisted ship's timbers with precision. The compiled physical information will be used to create a full-scale digital reconstruction of the original vessel, a virtual centerpiece for a new multi-media exhibition on the *Sparrow-Hawk* saga.

## Sources:

Amos Otis, *An Account of the Discovery of An Ancient Ship on the Eastern Shore of Cape Cod* (Albany, J. Munsell, 1864); Charles Livermore, *The Ancient Wreck, Loss of the Sparrow-Hawk in 1626* (Boston: Alfred Mudge & Sons, 1865); Mark C. Wilkins, *Cape Cod's Oldest Shipwreck: The Desperate Crossing of the Sparrow-Hawk* (The History Press, Charlestown, SC, 2011).