

THE “BEESWAX WRECK”: A MANILA GALLEON ON THE NORTH OREGON COAST

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ABSTRACT

At the start of the nineteenth century, Euro-American settlers along the Oregon coast learned of a shipwreck with a large cargo of beeswax blocks and candles that had foundered a century or more before their arrival. The wreck and its origin were a mystery, and some observers believed that no vessel could carry such a large cargo of beeswax and therefore the wax must be from a natural source of mineral wax. This paper summarizes archaeological, historical, and geomorphological data that demonstrate the wreck is that of a wayward Manila galleon that wrecked on the Oregon coast sometime after AD 1670 but before the last large Cascadia Subduction Zone earthquake and associated tsunami in AD 1700. An exhaustive search of Spanish shipping records revealed only one eastbound Manila galleon was lost during this time, suggesting that the Beeswax Wreck is actually the missing Manila galleon *Santo Cristo de Burgos*, which left the Philippines in July 1693 and was never seen again.

THE WRECK

At the close of the seventeenth century, a Manila galleon sailing east across the north Pacific Ocean and bound for Acapulco, Mexico, wrecked near Nehalem Bay on the north Oregon coast (Fig. 1). Why the galleon was so far north of the usual sailing route for the galleon trade is unknown: perhaps it was pushed north by storms, or it may have been disabled and drifting. As was typical for the eastbound voyage from Manila to Acapulco, the vessel carried a large cargo that included among other Asian goods beeswax from the Philippines and Chinese export porcelain intended for the markets of New Spain.

For over 200 years, beachcombers along the shores of Nehalem Bay have collected and discussed the source of large beeswax blocks, some of which bore strange marks (Fig. 2). The Lewis and Clark expedition noted that the Clatsop Indians brought beeswax to trade with the explorers when they were camped on the Columbia River in the winter of 1805–1806 (Moulton 2003:276). An account linking the beeswax to a shipwreck was first recorded in 1813 by the fur trader Alexander Henry

of Astoria, Oregon, who noted that local Indians said the beeswax was from the remains of a large ship that wrecked many years before the fur traders settled the area and that the vessel was Spanish (Coues 1897:841).

Euro-Americans who explored and settled the Pacific Northwest and the Oregon Territory in the nineteenth century referred to the ship as the “Beeswax Wreck” because of the tons of beeswax cargo scattered for miles over the sandspit and beaches of Nehalem Bay, as well as beaches to the north and south. The vessel and its cargo were the topic of much scientific and secular speculation throughout the nineteenth and twentieth centuries. A fascination with the beeswax and wreckage, and the mystery of their origin, can be seen in the writings of early settlers on both the Oregon and southern Washington coasts; nearly every written historical account about those areas mentions the beeswax and its association with the wrecked ship (e.g., Gibbs et al. [1877] 1970; Lee and Frost 1844; Palmer 1847; Parker 1838; Scammon 1869; Swan 1857; and Victor 1872).

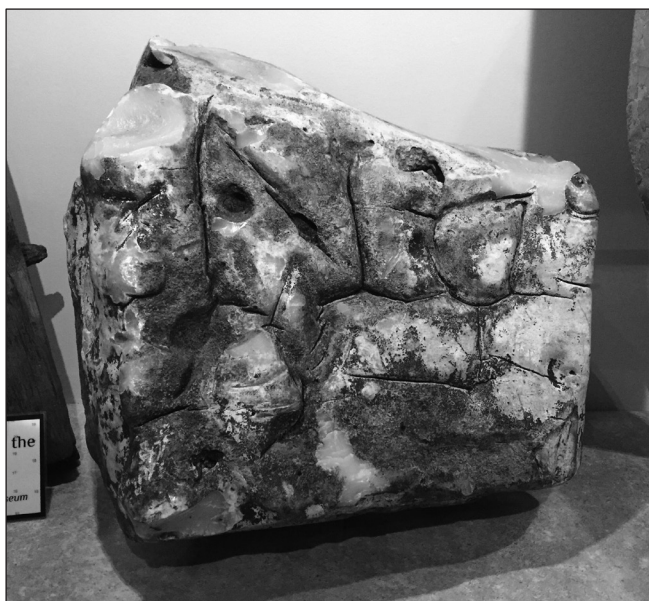


Figure 2. Beeswax block from Nehalem with shipping symbol carved into it, on display at the Oregon Coast Aquarium in Newport, Oregon.

More recently, archaeologists and historians became interested in the wreck (Gibbs 1971; Giesecke 2007; Marshall 1984; Scheans et al. 1990; Woodward 1986), with Marshall (1984:178) identifying it as the likely wreck of the galleon *San Francisco Xavier* which left Manila in AD 1705 and was never seen again. Other investigators suggested the vessel was an Asian junk, a Portuguese merchant, or a Dutch or English pirate rather than a Manila galleon (Stenger 2005; Woodward 1986).

THE BEESWAX WRECK PROJECT

In 2006, a multidisciplinary research project to investigate the origin and identity of the Beeswax Wreck was begun and is currently ongoing (Williams 2007, 2016). The goal of the project is to locate archaeological remains of the vessel and attempt to confirm its identity. The Beeswax Wreck Project is a nonprofit, all-volunteer organization composed of various professional and community members interested in the history and archaeology of the Beeswax Wreck. The project began in 2006 with the preparation of a research design that synthesized known historical and archaeological information regarding the wreck (Williams 2007). Limited fieldwork has been conducted every year since then, including terrestrial and marine remote-sensing surveys (Peterson et al. 2011; Williams 2016).

The research has been done in cooperation with and under permit from or approval of the Oregon State Historic Preservation Office and Oregon State Parks. However, with limited funds and an all-volunteer crew, the scope and results of each season of fieldwork have varied widely. Some offshore survey work has been completed and potential wreck sites identified through magnetometer surveys, and future work is planned for dive surveys to investigate the potential sites.

While the wreck has not yet been located, much material was collected by nineteenth- and twentieth-century residents combing the area, and enough has been preserved in museums and by local collectors to provide a basis with which to establish the nationality and origin of the vessel. The material, which includes beeswax blocks and candles, Chinese porcelain and stoneware sherds, a silver oil jar, and wooden elements of the ship's rigging and structure, clearly shows that the vessel was a Spanish galleon sailing from Manila to Acapulco (Gibbs 1971; Marshall 1984; Stafford 1908; Williams 2007, 2016). Radiocarbon dating, typological analysis of porcelain wares, and the known and historically reported distribution of wreck materials over the landscape indicate the galleon wrecked prior to the last great Cascadia Subduction Zone earthquake and tsunami in AD 1700 (Peterson et al. 2011).

These data combined with Spanish archival records of the Manila-to-Acapulco trade allow us to determine the likely identity of the Beeswax Wreck. The records of galleon sailings and losses between Manila and Acapulco are available in various archives and have been documented by earlier researchers (Blair and Robertson 1909; Dahlgren [1916] 1977; Levesque 2002; Schurz 1939). The Manila galleon trade lasted for nearly 250 years, and was the economic lifeblood of the Spanish colony in the Philippines (Giraldez 2015; Schurz 1939). Spanish merchants would buy Asian goods brought to Manila primarily by Chinese merchants, and once each year a large galleon would be heavily loaded for the voyage to Acapulco, Mexico. Typically, only one ship sailed each year, and the Manila galleons were the largest ships of their day. Many were over 1000 tons in size, and the largest could carry 2000 tons and hundreds of passengers. The galleons sailed a regular route, sailing north toward Japan to catch the winds and currents to carry them past the lower-latitude trade winds and to the west coast of North America, usually sighting land near Monterey, California. They would then sail on to Acapulco without stopping, and there the cargo was sold, profits in the form of silver bars and coins were

loaded along with supplies and new colonists, and the ship would return to Manila.

Porcelain sherds known to be associated with the wreck have been analyzed and their period of manufacture determined (Lally 2008, 2016). Based on stylistic analysis of the design motifs on the sherds, the galleon carrying the porcelain cargo was lost sometime between AD 1670 and AD 1700 (Lally 2008, 2016). Only one eastbound Manila galleon was lost at this time: the *Santo Cristo de Burgos*, which left the Philippines short of crew on July 1, 1693. The galleon had tried and failed to make the voyage to Acapulco the year before, but was forced to return to the Philippines after losing her masts and rudder in a series of storms in the north Pacific. According to contemporary accounts in Spanish archives, the *Santo Cristo de Burgos* left the port of Quipaya near the city of Naga on San Miguel Bay and was never seen again, nor were wreckage or survivors ever found (Archivo General de Indias 1699).

THE 1700 TSUNAMI AND THE BEESWAX WRECK

Summaries of the results of archaeological field investigations and historical research of the Beeswax Wreck Project from 2007 to 2015 have been previously published (Lally 2016; Peterson et al. 2011; Williams 2016). Here, the specific historical and archaeological data supporting the identification of the Beeswax Wreck as the *Santo Cristo de Burgos* is presented and discussed.

In the comprehensive and detailed Spanish records of galleon sailings and losses, only two Acapulco-bound galleons went missing during the period around the turn of the seventeenth century: the *Santo Cristo de Burgos*, which disappeared in AD 1693, and the *San Francisco Xavier*, lost in AD 1705 (Blair and Robertson 1906; Dahlgren 1977; Levesque 2002; Schurz 1939). The *San Francisco Xavier* previously has been identified as the likely candidate for the Beeswax Wreck by some researchers (Cook 1973; Gibbs 1971; Giesecke 2007; Marshall 1984; Williams 2007), although Erlandson et al. (2001:46–48) hypothesized an earlier galleon based on their analysis of radiocarbon dates from wooden artifacts and beeswax known to be associated with the wreck.

The Beeswax Wreck Project's initial research focused on the galleon *San Francisco Xavier* as the most likely vessel for the Beeswax Wreck for two reasons. First, Schurz (1939:259) stated that the *Santo Cristo de Burgos* burned and wrecked near the Marianas Islands. Second, a large

tsunami is known to have struck the Oregon coast in AD 1700 (Atwater et al. 2005), and it was assumed that such an event would have obliterated all evidence of any vessel that wrecked prior to that year. It seemed more likely that the galleon lost in AD 1705 wrecked on the beach after the beach had been eroded and significantly lowered by the tsunami, allowing the wreck materials to be washed onto the spit where they were historically reported.

Fieldwork began in 2007 after approval of the project research design by the Oregon State Historic Preservation Office and Oregon State Parks, and is summarized elsewhere (Williams 2016). A terrestrial magnetometer survey of the Nehalem spit from the town of Manzanita to the Nehalem River mouth was conducted during the lowest tide of the year to determine if any large ferrous targets such as cannons or anchors were buried in the beach, based on the hypothesis that the remains of a ship wrecked on the tsunami-eroded beach would now be inland and covered by sand redeposited on the spit since the tsunami event. Manila galleons carried multiple cannons and several anchors, and one historic account records a sighting of a cannon on the beach (Minto 1900). Ground-penetrating radar surveys were also conducted to characterize the geomorphology of the spit in order to establish the paleo-tsunami erosion scarp and likely wave run-up height, and to determine if paleo river channels once existed north of the modern river channel (Peterson et al. 2011).

Analysis of a large assemblage of porcelain sherds collected over the previous fifteen years by a resident beachcomber was completed in 2008 and confirmed that the cargo represented Chinese export ware intended for the markets in New Spain, as indicated by the presence of lidded coffee and chocolate cups and other items crafted for European tastes (Lally 2008, 2016). Stylistic motifs date the period of manufacture of the porcelain cargo to AD 1670–1700, with AD 1690 the mean manufacturing date (Lally 2016). This supported the paleo-tsunami data indicating the galleon wrecked prior to the tsunami of AD 1700 (Peterson et al. 2011; Williams et al. 2017), as originally hypothesized by Erlandson et al. (2001) based on their analysis of radiocarbon dates.

The ceramic sherds are primarily found in the surf zone at one cove, indicating that an offshore source is “feeding” the beach deposit every year as sand moves offshore and onshore in winter and summer. Given the shoreline topography, the source is likely in relatively shallow water off the cove; it is unlikely the sherds can travel past the rocky headlands on either side. In late

2011, a multibeam sonar survey identified two potential wreck sites in the area, and limited magnetometer and side-scan sonar surveys were undertaken on the offshore anomalies in the summer of 2013. The surveys produced promising targets, but poor visibility, rough ocean conditions, and equipment issues hampered the ability to finish the systematic survey and dive on the sites. Dive surveys in 2014 and 2015 confirmed that one of the targets was a rock outcrop and not a wreck site, but weather and ocean conditions prevented dives to the other anomaly, which to date remains uninvestigated.

The presence of wreck ceramics in the tsunami deposit capping the spit and historic descriptions of beeswax being found on a “thin stratum of earth, like the sediment of a river freshet” (Hobson 1900:223), under the roots of centuries-old spruce trees (*Boston Evening Transcript* 1890), “miles up the Nehalem River” (Stafford 1908:30), and hundreds of yards inland are indicative of tsunami deposition. In describing the distribution of beeswax and other wreck debris, Hobson, who settled in Oregon in 1843, wrote that he believed that “some time after the wreck there was a very high freshet in the river, which spread the wax, logs and timbers all over the peninsula” (Hobson 1900:223). Hobson could not have known about paleo-tsunamis of the Pacific Northwest, which were not recognized until the late twentieth century. Instead, he concluded that a large river flood best explained the distribution of wreck materials that he witnessed.

THE GALLEON SANTO CRISTO DE BURGOS

Based on these limiting dates, the Beeswax Wreck must be the remains of the *Santo Cristo de Burgos*: it is the only eastbound galleon that went missing after 1670 and before the tsunami of 1700. However, Schurz (1939) in his seminal book on the Manila galleon trade, stated that the *Santo Cristo de Burgos* burned and sank near the Marianas Islands in the western Pacific, as reported by two survivors found “years later” in the Philippines (Schurz 1939:259). Schurz did not cite the source of this information, which also was not reported in his original study (Schurz 1915), or by Blair and Robertson (1909) or Dahlgren (1977). Dahlgren (1977:98–99), citing Blair and Robertson (1909:309), wrote regarding the *Santo Cristo de Burgos* that:

it not only failed to reach port, but was wrecked, without our gaining the least knowledge of the place where that occurred. There were some suspicions that it was destroyed by fire, for at one of the Mariannes [sp.] were found fragments of burned wood, which were recognized to be woods that are found in the Philippines only. Careful search was made for many years along the coasts of South America, and in other regions; but not the least news of this ship was obtained (Bl. and Rob. [Blair and Robertson 1903–09] XLII, p. 309).

Blair and Robertson’s suspicion that the *Santo Cristo de Burgos* was destroyed by fire in 1909 became Schurz’s definitive statement in 1939, which then became the source cited by later authors (i.e., Cook 1973; Fish 2011; Giesecke 2007; Marshall 1984). Schurz’s account is very specific in detail, so much so that an internet text search revealed the source: a story written by Percy Hill (1925), later reprinted (Hill 1928) and listed in Schurz’s bibliography. Hill claimed to have found the account of the survivors of the *Santo Cristo de Burgos* in monastery archives in the Philippines. However, as late as 1699, six years after the *Santo Cristo de Burgos* had sailed from the Philippines, Mexican officials reported in a letter to Spain that there was still no information about the fate of the vessel despite years of searching the coasts of both the Philippines and the Americas (Archivo de Indias 1699).

Percy Hill was an American expatriate living in the Philippines in the early part of the twentieth century. He was a prolific writer of tales of adventure and romance set in the Philippines. His account of the *Santo Cristo de Burgos* burning and two survivors resorting to cannibalism to survive the voyage back to the Philippines is the introduction to a tale that clearly satirizes the Catholic Church. If survivors had been found and tried by the Church in Manila, as Hill claimed, it seems impossible that officials in New Spain would not have been aware of such an event or that Blair and Robertson would not have found records of the trial in their extensive research. Clearly the story is fiction, as are the other stories in Hill’s work. Schurz repeated Hill’s account without question, probably assuming Hill’s supposed access to archives in the Philippines yielded information that Schurz’s research in Spanish archives in Seville had not. Hill passed away in 1937, two years before Schurz published his book, and so he could not have corrected Schurz even if he were inclined to do so.

THE SANTO CRISTO DE BURGOS HYPOTHESIS

The following sequence of events is hypothesized to have distributed and then buried debris from the *Santo Cristo de Burgos*, wrecked offshore of Neahkahnie Mountain in the winter of AD 1693–1694. The galleon, with a draft of nearly 8 m, either struck the sand bottom and wrecked in shallow water or struck a pinnacle rock that holed the hull, sinking off Neahkahnie Mountain. As the galleon broke up, the ship's superstructure and lighter materials such as timbers and beeswax drifted south onto Nehalem Spit, and heavy materials such as ballast, cannons, and anchors remained offshore where the galleon sank. The tsunami of AD 1700 swept the beach wreck debris onto the spit and into Nehalem Bay and deposited material on the tsunami inflow strandline, with returning tsunami waters depositing material on the outflow strandline. One relatively intact section of superstructure, historically described as the "offshore wreck," lodged in the bar at the river mouth where it was occasionally visible during extreme low tides. This portion of the wreck is now likely buried under the aggraded beach near the north jetty (Fig. 3). Once de-

posited onto Nehalem Spit by the tsunami, wreck materials including timbers, structural sections, beeswax, and ceramics were above the reach of storm waves and tides, and were continually buried and exposed by aeolian dune movement. The migration of these aeolian dunes across the spit made wreck materials visible and accessible to both Native Americans and later settlers.

CONCLUSION

At the close of the seventeenth century, the eastbound Manila galleon *Santo Cristo de Burgos* wrecked near Nehalem Bay on the north Oregon coast, far north of the usual sailing route for the galleon trade. As was typical for the eastbound voyage from Manila to Acapulco, the vessel carried a large cargo that included among other Asian goods beeswax from the Philippines and Chinese export porcelain intended for the markets of New Spain, and pieces of this cargo have continued to wash ashore in the three centuries since the wreck.

Multiyear and multidisciplinary research conducted on the Beeswax Wreck has resulted in the identification of the vessel and potential locations where underwater wreck

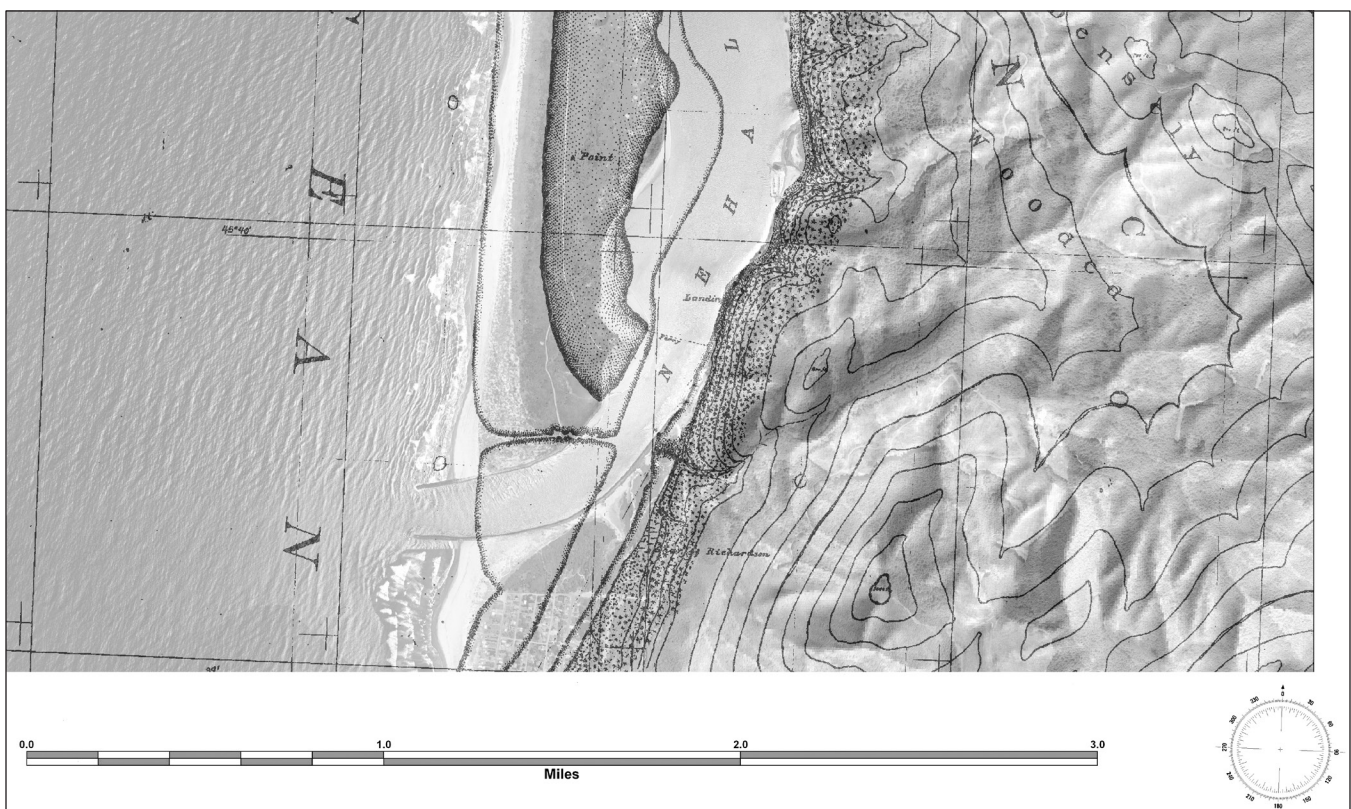


Figure 3. Shoreline of 1875 in comparison to the modern shoreline, showing expansion of the Nehalem beach and spit to the west and south due to construction of the stone jetties at the river mouth.

deposits may be found. Archival research for the project has confirmed the total loss of the *Santo Cristo de Burgos* in AD 1693, and refutes the claim by Hill (1925, 1928) and others (Fish 2011; Marshall 1984; Schurz 1939) that the *Santo Cristo de Burgos* burned in the western Pacific. Lower hull deposits of the *Santo Cristo de Burgos* may still be present offshore of Nehalem Beach or Neahkahnie Mountain and, if located, may provide final confirmation to the identity of the Beeswax Wreck and the fate of the Manila galleon *Santo Cristo de Burgos*, last seen sailing from San Miguel Bay in the Philippines on July 1, 1693.

ACKNOWLEDGEMENTS

The Beeswax Wreck Project has been possible through the generous financial and technical support of David Chaffee of Naga Research, the Maritime Archaeological Society, Richard Rogers, Mitch Marken, and members of the Nehalem Valley Historical Society. The project has benefited from the insight and research of Mitch Marken, Curt Peterson, Richard Rogers, Christopher Dewey, and numerous others. Early drafts of this article were reviewed and greatly improved upon by Lance Wollwage and Daniel Meatte, although any errors or omissions are the sole responsibility of the author.

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