

Russell T. Green THE DEVEREAUX COVE VESSEL AND THE PENOBSCOT EXPEDITION OF 1779: AN HISTORICAL AND ARCHAEOLOGICAL INTERPRETATION OF VESSEL REMAINS AT DEVEREAUX COVE, STOCKTON SPRINGS, MAINE. (Under the Direction of Dr. Lawrence Babits) Department of History, July 2002.

In August 1779, after unsuccessfully laying siege to British-held Fort George, located on the Castine Peninsula in Penobscot Bay, Maine, thirty-nine American vessels found themselves trapped within the bay's upper reaches by a superior British relief fleet. A chaotic retreat up the Penobscot River ensued, only to end with most American vessels destroyed by their crews along various portions of the river and upper bay. Primary documents indicate that nearly all twenty-two American troop transport vessels were destroyed together, just below the Penobscot River's narrow entrance.

In July 2000, with funding from the American Battlefield Protection Program, a team from the Program in Maritime Studies at East Carolina University conducted a Phase II archaeological survey of wooden vessel remains located in a tidal flat at Devereaux Cove, Stockton Springs, Maine. Well within the path of the retreating transports, and in the vicinity of their reported destruction, the site is potentially associated with the failed American campaign, known as the Penobscot Expedition. Construction details and wood sample analysis suggest the badly deteriorated remains are remnant of an eighteenth-century, American-built vessel. It is the purpose of this thesis, through an examination of the historical and archaeological record, to evaluate the Devereaux Cove wreck within the context of the Penobscot Expedition's transport vessels.

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THE PENOBSCOT EXPEDITION OF 1779:
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VESSEL REMAINS AT DEVEREAUX COVE, STOCKTON SPRINGS, MAINE

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Chapter 1

Introduction

In June 1779, while most of the Revolutionary War was focused in the southern United States, a small British fleet landed two regiments of 700 soldiers on the Castine Peninsula, in the upper reaches of Penobscot Bay, Maine. Intent on establishing a base from which they could operate more effectively against American privateers, ensure the extraction of valuable naval stores, and develop a refuge for displaced Loyalists, the British enlisted local support and began the construction of Fort George. Word reached Boston quickly (Maine was a district of Massachusetts until 1820), and over the ensuing month the largest American naval force of the Revolutionary War, known as the Penobscot Expedition, was assembled.

An amphibious operation, the expedition consisted of 40 vessels, nearly 2,000 seamen and marines, 100 artillerymen, and 870 militia. Mounting 350 guns, the sizable fleet included 3 Continental Navy vessels, 3 Massachusetts State vessels, 1 New Hampshire State vessel, 11 Massachusetts privateers, and 22 transports. The expedition was not, however, easily brought to fruition. Several vessels and their requisite crews were pressed into service, and although 1,500 militiamen from three Maine counties were expected to carry out the assault, only 870 unorganized, inexperienced, and ill-equipped troops actually turned out. General Solomon Lovell and Commodore Dudley Saltonstall shared joint-command, the former lacking extensive field experience and the latter indecisive and obstinate. Exceedingly confident of the operation's success, the

Commonwealth of Massachusetts underwrote the entire campaign and failed to consult any significant military authority. Despite being planned by civilians and carried out by part time soldiers, the expedition's various inadequacies escaped serious contemporary criticism, and the flotilla departed Boston Harbor amidst high expectations.

Reaching Castine on 25 July, the Americans found only a modest earthworks situated in the peninsula's center, a couple of outlying redoubts, and the water approach to Castine Harbor defended only by three armed sloops. Ultimately, the apparent mismatch proved deceiving, for the British enjoyed advantages of geography, experience, and efficient cooperation between land and naval forces. By mid August, the poorly coordinated siege of Fort George reached an end when the Americans found themselves pinned within Penobscot Bay by a superior British relief squadron. A chaotic retreat ensued, with most American vessels seeking relative safety within the Penobscot River. Coordinating an effective stand grew increasingly difficult over the following days, as crews began burning their vessels and taking to the woods. Ultimately, all American armed ships and transports, save for at least one captured by the British, were destroyed along various portions of the river and upper bay, resulting in the greatest American naval disaster prior to Pearl Harbor.

The expedition's transport vessels, slower sailing merchant sloops and schooners, met a particularly ignominious end after being left unprotected by the fleeing American warships. With wind and tide against them, most failed to ascend the river and were landed and burned by their crews to prevent capture. Through maps, journals, and official depositions, several expedition eyewitnesses described the transports' retreat and

indicated the contingent's final general location. Historic documents indicate that nearly all of the expedition's twenty-two transport vessels were destroyed along the west bank of the Penobscot River, just below its narrow entrance at Sandy Point.

During the summer of 2000, the American Battlefield Protection Program awarded East Carolina University's Program in Maritime Studies funding to conduct a Phase II archaeological survey of vessel remains located in the lower Penobscot River, at Devereaux Cove, Stockton Springs, Maine. Well within the path of the retreating transports, and in the vicinity of their reported destruction, the site is potentially associated with the Penobscot Expedition of 1779.

Knowing that the failed campaign was responsible for leaving a large number of eighteenth-century shipwrecks on the Penobscot River bottom, determining the Devereaux Cove vessel's association with the event provides a logical beginning for interpreting the site. The large number of expedition transports destroyed in the Devereaux Cove vicinity provides an even narrower context. Through historical research, the present study attempts to confirm the final locations of all but one of the expedition's armed vessels, suggesting the Devereaux Cove vessel is not likely one of the American warships. In some cases, this historical evidence is bolstered by archaeology. The context of the Penobscot Expedition transports can be further narrowed, considering that with the exception of one brig, all expedition transports were sloops or schooners and likely possessed characteristics of New England-built merchantmen. As a necessary precursor to archaeological evaluation, chapter six examines the design, construction, prevalence, and use of sloops and schooners in eighteenth-century New England as

reflected in the historical record. This provides the context within which expedition transports were likely built and operated.

Resting in a tidal flat, the Devereaux Cove vessel's visible portion is comprised of floor timbers and first futtocks, none of which are preserved in their entirety. Left dry at low tide, exposed remains encompass roughly a 52-foot by 12-foot area. Although the site has been significantly impacted by years of tidal exchange and harsh weather, probing below the mud line revealed that well buried structure is better preserved. Construction details and wood sample analysis suggest the badly deteriorated remains represent an eighteenth-century, American-built vessel. This thesis uses a comparison of four known eighteenth-century shipwrecks, particularly those characteristic of New England-built merchantmen, as a basis for these observations.

While a conclusive association between the Devereaux Cove vessel and the Penobscot Expedition of 1779 cannot presently be established, historical and archaeological research found nothing to the contrary. Indeed, historical and archaeological investigations revealed much to suggest a connection.

Chapter 2

Politics, Preparations, and Problems: Massachusetts Reacts to the British Arrival at Castine

In mid-June 1779, a fleet of eight British Navy vessels weighed anchor at Halifax, Nova Scotia, and cruised 270 miles south, intent on bringing "the tract of country that lies between [the] Penobscot River and the river St. Croix" under royal control.¹ Under-Secretary William Knox had previously advised Lord George Germain, that for several excellent reasons the British might benefit by acquiring a post somewhere between the Royal Naval station at Halifax and the rebel port of Boston. The rationale for desiring such a presence was well conceived, if not obvious. By 1779, American privateers enjoyed enormous success along the upper reaches of the North American Atlantic seaboard, and English authorities were determined to stem their unchecked depredations by taking "...prompt and vigorous action to prevent the mischief that would otherwise result."²

An easily defended position, somewhere along the mid-to-lower coast of the District of Maine, would offer a valuable staging point for royal cruisers, and, thereby, protection for British merchant vessels plying trade routes to Nova Scotia, the Bay of

¹ Lord George Germain to Sir Henry Clinton, 2 September 1778, in *The American Rebellion: Sir Henry Clinton's Narrative*, edited by William B. Willcox (New Haven, Yale University Press, 1954), 391.

² Gilbert Nash, *The Original Journal of Solomon Lovell, Kept during the Penobscot Expedition, 1779: With a Sketch of His Life* (Weymouth, Massachusetts, 1881), 52.

Fundy, and lower Canada.³ Equally attractive to Germain was that the proposed post would be 300 miles closer to the port of Boston, which had been void of British occupancy since March of 1776, than the naval base at Halifax. Indeed, the intended site would place the British only 170 miles from Boston, not more than two days' sail in adequate conditions.⁴ Additionally, an outpost in Maine would secure extraction of valuable naval stores, specifically the straight, tall pine used to fashion masts and other spars for Royal Navy vessels, and it would doubtless serve to solidify the pro-British sentiment that already existed in much of the Penobscot area. Finally, the post would "...serve to check [American] incursions into Nova Scotia," and offer British vessels a safe haven during poor weather.⁵

It is well to remember that, although Maine was a district of Massachusetts until 1820, its considerable distance from Boston, by contemporary standards, resulted in a lack of desire to break away from the British Empire.⁶ While the Crown did not officially recognize land grants east of Penobscot Bay for fear of losing valuable timber resources, securing the Penobscot region would aid in maintaining a viable settlement area for British Loyalists, and thus the royal government might ensure their continued support.⁷ A year before the British landing at Castine, Secretary Knox proposed to Germain the idea for a Loyalist province in the region that would be, in the words of Maine historian

³ John E. Cayford, *The Penobscot Expedition: Being an Account of the Largest Naval Engagement of the Revolutionary War* (Orrington, Maine, 1976), 2.

⁴ Jack Coggins, *Ships and Seamen of the American Revolution* (Harrisburg, Pennsylvania, 1969), 163.

⁵ William D. Williamson, *History of the State of Maine* (1832; reprint ed., Freeport, Maine, 1966), 469.

⁶ James S. Leamon, *Revolution Downeast: The War for Independence in Maine* (Amherst, Massachusetts, 1993), xviii.

⁷ *Ibid.*, 105.

Joseph Williamson, "...an asylum for the proscribed citizens of the [Massachusetts] colony."⁸ According to Dr. John Calef, a Tory land speculator who served the British during the assault on Castine, the potential for settlement was exceptional. During the war, Calef opined, "Should this District be severed from the Province of Massachusetts Bay, and erected into a Province under the authority of the Crown, and the inhabitants *quieted in their possessions* [emphasis in original], it would be settled with amazing rapidity."⁹

Moreover, should Britain lose the war, an uncomfortable possibility by the summer of 1779, the strategically valuable property at the mouth of the Penobscot River might represent a significant bargaining chip during treaty negotiations.¹⁰ These considerations resulted in the decision to occupy a small peninsula in inner Penobscot Bay. Bordered by the Majabagaduce River to the southeast and commanding, to the west, an excellent view of the approach to the Penobscot River, the selection was an excellent one (Figures 1 and 2).

Originally named Matchebiguatus (later Majabagaduce and finally contracted to Bagaduce), or "no safe harbor" by resident Penobscot Indians, the peninsula's mile long southern border extends into the bay and measures approximately two miles at its

⁸ Joseph Williamson, "The British Occupation of Penobscot During the Revolution," *Maine Historical Society Proceedings*, second series, vol. 1 (1890): 395.

⁹ John Calef, *A Journal of the Siege of Penobscot*. A surgeon and chaplain at Fort George, Calef maintained a journal between 18 July and 14 August 1779. He published his journal in 1781, along with a detailed map of the siege. The quotation is taken from a postscript included with the publication. The journal can be found in, *Eyewitness Accounts of the American Revolution* (The New York Times and Arno Press, New York, 1971), 7-55.

¹⁰ Flood, Charles B. Flood, *Rise and Fight Again: Perilous Times Along the Road to Independence* (New York, 1976), 155.

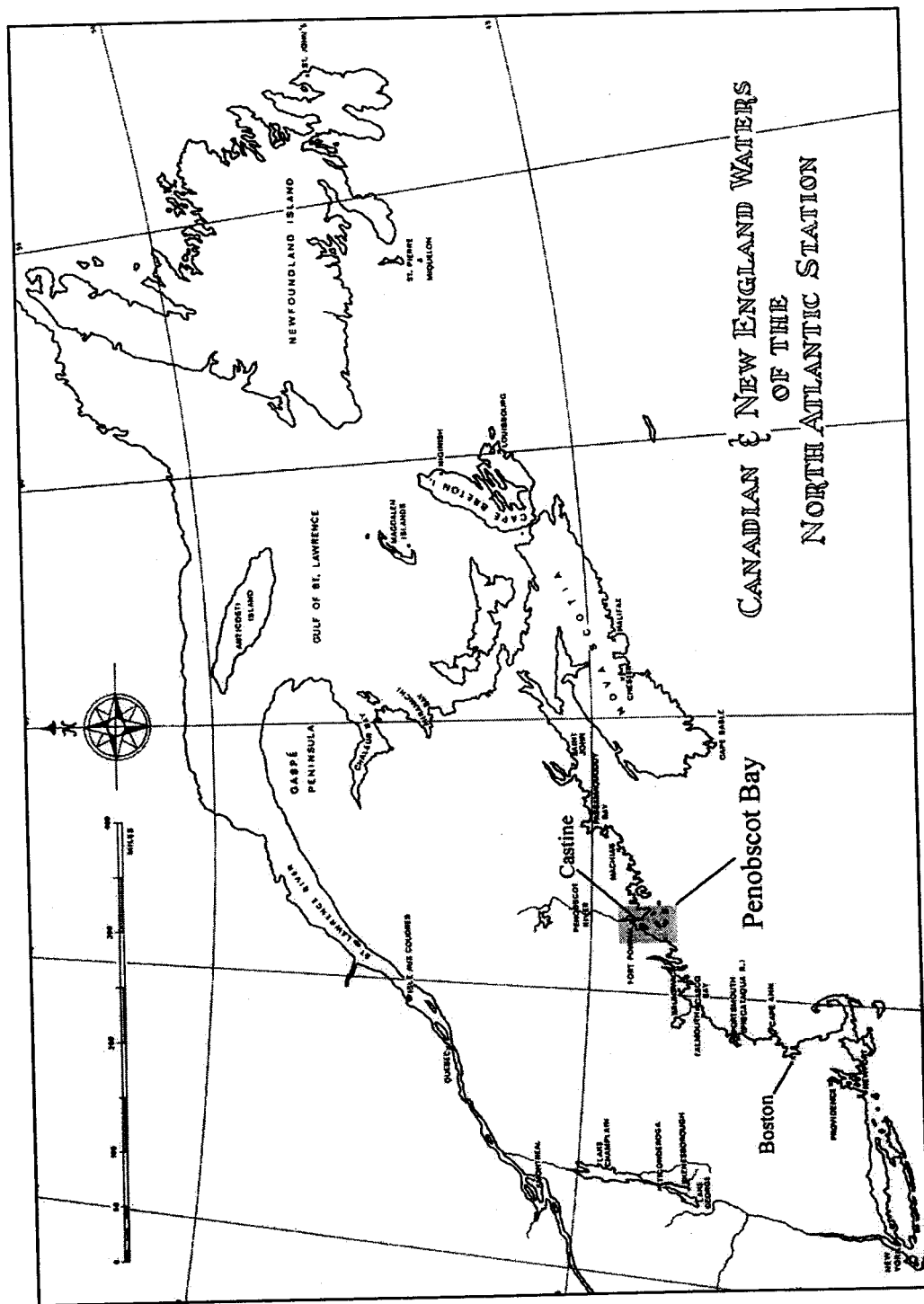


Figure 1. The New England and Canadian coastline
(After Hahn, *The Colonial Schooner, 1763-1775*, 35).

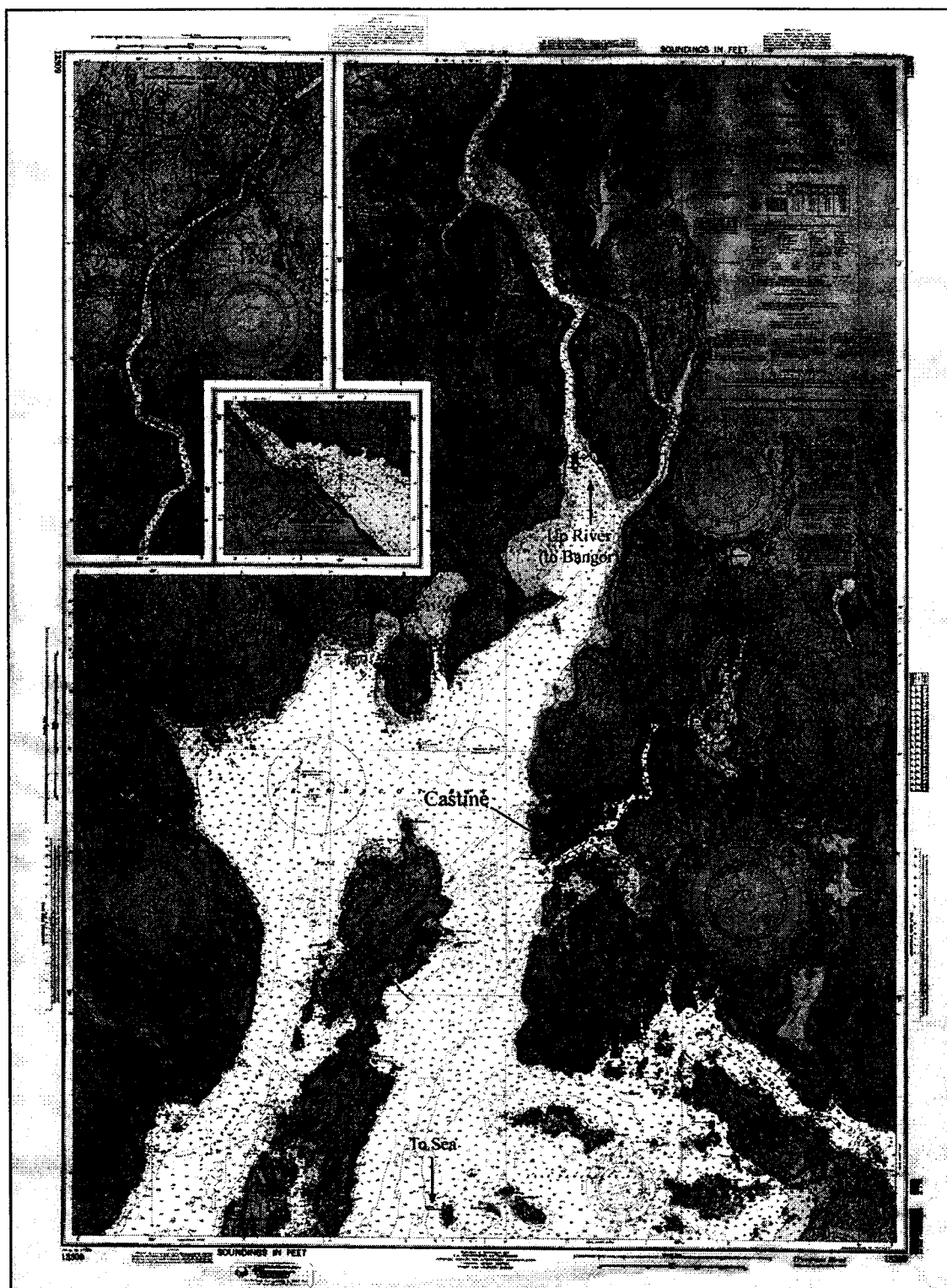


Figure 2. Upper Penobscot Bay and lower Penobscot River (After NOAA chart no. 13309).

greatest width.¹¹ The outer edge of the peninsula's southern extremity is connected to the mainland by a narrow stretch of land that is overflowed at high tide, making the promontory nearly an island; the slender isthmus thus presents both positive and negative considerations for defending the peninsula. The harbor that runs along much of the peninsula's northern edge remains seventy feet or deeper one mile from its entrance, a clear advantage for accommodating deeper draft cruisers and men-of-war.¹² Only six miles from the mouth of the Penobscot River, Bagaduce (today's Castine) is situated twenty miles from Penobscot Bay's outer islands.¹³

The strategic value of Bagaduce was recognized during the early North American settlement period. By 1635, the promontory had already changed hands twice, when an expedition led by Miles Standish attempted to remove the French who had settled there and regarded it as part of their Canadian possessions.¹⁴ The operation was unsuccessful, and over the ensuing century the French developed the site into a minimally fortified outpost. With the loss of Louisbourg in 1745, the commander at Bagaduce, Monsieur Castine, ordered the fort leveled, and the French departed for good, leaving the site to local inhabitants until the British arrived in the summer of 1779.¹⁵

¹¹ Nathan Goold, *History of Colonel Jonathan Mitchell's Cumberland Regiment of the Penobscot Expedition, 1779: With Biographical Sketches of the Commissioned Officers and Pay-Rolls of the Companies* (Portland, Maine, 1899), 1.

¹² Nash, *The Original Journal of Solomon Lovell*, 53.

¹³ Joseph Williamson, *History of the City of Belfast in the State of Maine, From its First Settlement in 1770 to 1875* (Portland, Maine, 1877), 170.

¹⁴ Flood, *Rise and Fight Again*, 158.

¹⁵ Calef, *A Journal of the Siege of Penobscot*, 330.

The British Effect a Landing

On 17 June 1779, Brigadier General Francis McLean and nearly seven hundred predominantly Scottish troops from the 82nd and 74th regiments, the Hamilton and Highlander regiments respectively, were ferried into Penobscot Bay by a small flotilla under the command of Captain Andrew Barkley. The contingent's armed vessels consisted of the 32-gun frigate HMS *Blonde* and three sloop-of-war, the 18-gun *North*, 16-gun *Nautilus*, and 16-gun *Albany*, and the armed brig *Hope*.¹⁶ Four transports carried the two regiments to Bagaduce. After being obliged in their request for a pilot, the British effected their landing and McLean immediately set about enlisting local support. He apparently preferred diplomacy rather than overwhelming the inhabitants with force. His efforts were met with mixed reaction.

On 20 June, Falmouth resident Parson Smith, writing from his home nearly one hundred miles south of Bagaduce, said of the British arrival, "We are in a sad toss: People are moving out. Never did I feel more anxiety."¹⁷ Clearly, his sentiments were those of one enjoying the benefit of Massachusetts' tenuous independence, as he had evidently grown accustomed to living without British intervention. Closer to Bagaduce, and farther from Boston, however, some Mainers were more apt to welcome McLean's arrival. With a significant measure of Loyalist sentiment in the immediate region, the arrival of the British fleet was perceived not only as a blow to the rebellion,

¹⁶ Captain Andrew Barkley to Vice Admiral Arbuthnot Marriot, 8 September 1779. Clinton Papers, Clements Library, University of Michigan.

¹⁷ Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 23.

but also as an opportunity for a more secure financial existence. The blockade imposed by the Royal Navy, or at least the local residents' perception of one, had adversely impacted their ability to trade regularly with Boston. Moreover, the area was underdeveloped, and Mainers in the region, many of whose ideological beliefs were perhaps superseded by the immediacy of financial concerns, welcomed an opportunity to improve their situation.

Tory or Rebel, McLean was interested in inducing both to contribute to raising a fort on the peninsula. Young Bagaduce resident William Hutchings, who sold provisions to the British garrison as the construction of Fort George began, wrote, "He [McLean] was very angry because the Tories drove off so many of the Americans by saying that the English were going to hang them."¹⁸ Aboard HMS *Blonde* on 15 June, McLean and Barkley drafted a proclamation that encouraged those with a rebellious inclination "...to return to [the] state of good order and government...."¹⁹ Further, the document indicated that no one would be punished "...for any former acts of rebellion which they may have been led to commit...."²⁰ Within days, 651 Penobscot inhabitants made their way to the rude works that were the beginning of Fort George, and two senior militia leaders even furnished McLean with a muster roll.²¹ Of course, not all were eager to accept the

¹⁸ William Hutchings Narrative. In George A. Wheeler and Louise Wheeler Bartlett, *History of Castine, Penobscot and Brooksville Maine*, Second Edition (Cornwall, New York, 1923), 276. From a narrative communicated to Joseph L. Stevens by William Hutchings in 1860. Hutchings, as a young boy, sold provisions to the British garrison at Bagaduce, a circumstance that gained him relatively free access to Fort George. He was also one of the last survivors of the Revolutionary War.

¹⁹ Captain Andrew Barkley and General Francis McClean, *Proclamation to the Residents of Penobscot*, 15 June 1779. In Cayford, *The Penobscot Expedition*, 64.

²⁰ *Ibid.*

²¹ Flood, *Rise and Fight Again*, 161.

opportunity to reconcile their rebellious spirit. On 19 June, General Charles Cushing of Pownalborough, wrote to the Massachusetts General Court urging them to expel the British from Bagaduce. He reminded the Court that "Your Honors too well know the Utility of that Harbor to this State to suffer it long in their possession...."²² His concern that the British were daily becoming more entrenched was well founded.

As July 1st approached, the earthworks at Fort George were barely five feet high, still fifteen feet shy of their intended height, but the result of steady progress nonetheless. Overseer of Carpenters John Nutting, a staunch Loyalist and Boston building contractor who owned land in the Penobscot area, directed work on the simple fortification that sat atop a high, wooded plateau.²³ Perhaps representative of Loyalist interest in establishing a military presence at Bagaduce, Nutting, who had fled to Halifax during the British evacuation of Boston, pursued his work with vigor. By mid-July, less than two weeks after the British arrival, a trench had been dug across the narrow stretch of land connecting Bagaduce to the mainland, and an abattis surrounded the low, earthen fort walls.²⁴ Additionally, two guns were mounted within the fort, and artillery batteries had been established on the western edge of the peninsula atop a 200-foot precipice called Dyce's Head, and along the eastern shoreline overlooking the approach to Bagaduce Harbor.

²² General Charles Cushing to Massachusetts General Court, 19 June 1779. In James P. Baxter, ed., *Documentary History of the State of Maine, Containing the Baxter Manuscripts* (Portland, Maine, 1913), vol. 16: 295. Hereafter cited as *Baxter Manuscripts*.

²³ Cayford, *The Penobscot Expedition*, 3.

²⁴ *Ibid.*, 61.

In support of the work being carried out on land, Captain Henry Mowat, now commanding the naval forces, positioned his three sloops-of-war across the approach to Bagaduce Harbor and had the four transports anchored safely behind them. These vessels comprised Mowat's entire fleet, for HMS *Blonde* was summoned to New York shortly after the fleet's arrival at Bagaduce. With the *Blonde's* departure, Mowat's total armament was reduced significantly, from 82 guns to 50. The son of a Scottish Royal Navy captain, Mowat's ability as a naval commander was exceptional. Moreover, he was as intimately familiar with the coast of Maine as the residents of coastal Maine were with him. In October 1775, Mowat directed the fleet that rained artillery shot over the town of Falmouth (today's Portland) for nine hours, leaving two-thirds of the town's buildings in ruins and sinking twelve vessels.²⁵

Ultimately, Mowat's ability to hold the American fleet at bay with only three sloops-of-war, while consistently supporting McLean's land forces with additional men and cannon, proved to be the decisive effort of the campaign. During the actual defense of Fort George, the superior communication between Mowatt and McLean was unmistakably evident, prompting an anonymous British observer to note "...the dispositions ashore and afloat [are] cooperating with and perfectly supporting one another."²⁶ Additionally, since the Britons' arrival at Bagaduce, Mowat constantly supplemented the soldiers working on the fort with sailors under his command. Yet,

²⁵ Leamon, *Revolution Downeast*, 67, 71.

²⁶ Anonymous. From a journal first published in the *Nova Scotia Gazette*, 14 September 1779. In *Maine Historical Society Collections*, 1st series, vol. 7, (1885): 124.

although work continued at a steady pace, Fort George was far from complete as the end of July drew near, and the American fleet approached.

The Seeds of Disaster

While British designs appear obvious to the modern observer, the Continental and Massachusetts Bay governments failed to anticipate the British arrival, or have a contingency plan developed should the valuable land “downeast” be threatened. That the inhabitants of the “Eastern Shores” were at times “...greatly distressed by the Enemies Armed Vessels frequently hovering in & about their Harbours,” was, in fact, known to both the Continental and Massachusetts governments.²⁷ Remarkably, the advent of a full-scale landing by the British at Bagaduce, although clearly alarming, appears to have been met by the Massachusetts government with some measure of arrogance, rather than an admission of complacency toward protecting the region. This may be due, in part, to the fact that since March 1776, Massachusetts had been free of a British presence and was therefore acutely sensitive to the recent incursion.²⁸ In early August 1779, unaware that the expedition was failing miserably, American doctor James Thatcher wrote, “Such was their zeal and confidence of success that it is said the General Court...[took] on themselves the undivided responsibility, [thus] reserving for their own heads all the

²⁷ Jeremiah Powell to the Continental House of Representatives, 7 April 1779. In *Baxter Manuscripts*, vol. 16: 209.

²⁸ Massachusetts had been free of a British presence since 17 March 1776, when the beleaguered British Army departed for Halifax and shortly thereafter arrived in New York. The event is remembered today as Evacuation Day.

laurels to be derived from the anticipated conquest."²⁹ Indeed, Massachusetts intended to carry the operation out with as much of its own resources as possible, for it was reportedly remarked in the General Court that "...if but ten Continental soldiers are concerned, the Continent will take all the Honor."³⁰

As one historian has noted, the enterprise was undertaken "...without the sanction of [General] Washington."³¹ Moreover, General Gates, who was in Providence, Rhode Island, while the Penobscot fleet fitted out in Boston, was also not consulted. It should be noted, however, that even if a request for Continental soldiers were made, it is unlikely that any could have been spared. From a Continental perspective, defending the Penobscot region was a priority of the lowest order, if it was considered at all. The fundamental problem during the expedition's planning, the complete lack of a guiding military influence, appears to be only heightened by the Massachusetts government's desire to operate in a vacuum. On 7 July 1779, amidst the height of preparations, Seth Loring summed up the problem when he wrote to General William Heath, "...all are generals and pretend to be perfect masters of these matters as well as the business of the Court."³² Thus, the Penobscot enterprise was destined to be planned by Massachusetts politicians inexperienced in war, and carried out by part-time soldiers and sailors.

²⁹ James Thacher, *Military Journal During the American Revolutionary War, From 1775-1783* (Silas Andrus and Son, Hartford, Connecticut, 1854), 170. Dr. Thacher's journal offers a remarkable glimpse into several Revolutionary War battles. He was, in fact, on board a transport bound from Boston to reinforce the Penobscot Expedition when he penned this entry. Only days later, he learned of the expedition's failure.

³⁰ Ebenezer Hazard to William Floyd and Ezra L. Hommedieu, 20 March 1780. Miscellaneous Papers, Massachusetts Historical Society (MHS). Both Floyd and Hommedieu were members of Congress.

³¹ Henry Carrington, *Battles of the American Revolution, 1775-1781* (New York, 1968), 474.

³² Seth Loring to General William Heath, 7 July 1779. William Heath Papers, MHS.

News of the British activity on Bagaduce reached the Massachusetts government not long after McLean and his forces arrived in Penobscot Bay. On 30 June, the Council wrote to William Vernon of the Navy Board Eastern Department that the Massachusetts Assembly "...[had] determined on an Expedition to Penobscot to Dislodge the Enemy of the United States."³³ Further, the Council announced that "...[we] very reasonably promise ourselves Success."³⁴

Four days before writing to Vernon, the Massachusetts Council selected a leader for the expedition's land forces and ordered him to stand ready. The man chosen for the task was Brigadier General Solomon Lovell, a Weymouth farmer, an eight-year member of the Massachusetts Assembly, and part-time justice of the peace.³⁵ The appointment was primarily political; Lovell possessed little field experience as a commander. Nevertheless, his limited field experience was curiously similar to that which he would soon encounter, and, because his naval counterpart rendered the American armed-vessels virtually useless, might arguably have constituted the Penobscot Expedition's greatest relative strength.

Born in Abington, Massachusetts, and aged forty-seven years when he took command of the Penobscot Expedition, Lovell was reported to have the appearance more of a "country deacon" than a military officer. As a young first lieutenant of twenty-four years, Lovell experienced the consequences of poor planning during the Crown Point

³³ Massachusetts Assembly to William Vernon, 30 June 1779. In *Baxter Manuscripts*, vol. 16: 317-318.

³⁴ *Ibid.*

³⁵ Flood, *Rise and Fight Again*, 163.

Expedition, which failed dismally in 1756. Historian Gilbert Nash reveals that during that campaign, the summer was "...frittered away in pompous pretensions and dilatory preparations."³⁶ Nash suggests that the waiting resulting from such inactivity was fundamental to a soldier's experience and fortified his understanding of patience and discipline.³⁷ While it is apparent from his leadership during the Penobscot Expedition that Lovell recognized this process, parallels between the failures at Crown Point and Bagaduce are interesting to note. While landing amidst a hail of British musket and artillery fire at Dyce's Head, on the lower western edge of Bagaduce, Lovell perhaps drew upon his Crown Point experience while he maintained an unfortunately short-lived offensive momentum.

In March 1776, Lovell, now a colonel in the Suffolk County Militia, was present during the siege of Boston and took part in securing Dorchester Heights. During the summer of 1777, he was elected to the rank of brigadier general and ordered by the Massachusetts Council to undertake a secret expedition to Rhode Island in joint command with General Palmer.³⁸ The expedition was a failure, and General Palmer was subsequently court-martialed for allegedly disobeying orders.³⁹ In another foreshadowing of Lovell's experience at Penobscot, the lessons and difficulties in sharing joint command were certainly not lost on the newly appointed general. During the following year, Lovell returned and performed exceptionally well during the Battle of Rhode Island. The month

³⁶ Nash, *The Original Journal of Solomon Lovell*, 33.

³⁷ *Ibid.*

³⁸ Chester Kevitt, *General Solomon Lovell and the Penobscot Expedition, 1779* (Weymouth, Massachusetts, 1976), 154.

³⁹ Nash, *The Original Journal of Solomon Lovell*, 47.

long campaign comprised all of Lovell's command experience by the time he set out with the land forces of the Penobscot Expedition.⁴⁰

Lovell's naval counterpart was forty-two year-old Connecticut native Dudley Saltonstall, grandson of Governor Gurdon Saltonstall. Born in 1738, Dudley Saltonstall went to sea early and commanded vessels before the French and Indian War.⁴¹ Prior to the Revolution he captained merchant craft, making voyages to Europe and the West Indies, and by 1775 was in command of the *Alfred* and a senior officer in the fledgling Continental Navy. His appointment to *Alfred* appears to be largely political, for Saltonstall's brother-in-law was Silas Deane, a congressional representative from Connecticut and Naval Committee member.⁴² Serving under Saltonstall in 1775, John Paul Jones described him as a "sleepy gentleman" who was also "ill-natured and narrow-minded."⁴³

In October 1775, Saltonstall was the Continental navy's fourth ranking officer and placed in command of the new frigate *Trumbull*. His significant stature did not, however, spare him the embarrassment of passing the next three years in an unsuccessful attempt to get his warship into action; the vessel remained confined in the Connecticut River where a sandbar at the river's mouth prevented the deep draft frigate from going to sea. In May 1779, Saltonstall assumed command of the frigate *Warren*, then lying at Boston, and two months later found himself in charge of the Penobscot Expedition fleet. Notably,

⁴⁰ Flood, *Rise and Fight Again*, 163.

⁴¹ John A. McMannemin, *Captains of the Continental Navy* (Ho-Ho-Kus, New Jersey, 1981), 384.

⁴² *Ibid.*

⁴³ John Paul Jones' comments are quoted in Flood, *Rise and Fight Again*, 163.

Saltonstall appears to have obtained this command through default. The *Warren's* previous captain, John Hopkins, was suspended after his crew deserted in Boston Harbor.

Securing Vessels

Despite Lovell's orders of 26 June to stand ready, on the second day of July the Massachusetts Council postponed the expedition because of a difficulty in obtaining supplies.⁴⁴ The state's zeal alone was apparently insufficient to overcome real material obstacles. Whereas the Council had previously desired the expedition to be solely a Massachusetts undertaking, securing vessels with a reasonable armament quickly proved challenging. By late June the Assembly voted to request Continental assistance in acquiring vessels. The House of Representatives resolved that in aid of the Massachusetts expedition, measures were to be taken "...to dislodge the Enemy from Penobscot."⁴⁵ Those measures came in the form of three Continental vessels: the 32-gun frigate *Warren*, the 12-gun sloop *Providence*, and the 14-gun brig *Diligent*, all conveniently riding at anchor in Boston Harbor.⁴⁶ Had these vessels been employed on a cruise at the time of Massachusetts' request, their participation in the Penobscot Expedition may not have materialized.

On 30 June, William Vernon wrote to the president of the Massachusetts Council, Jeremiah Powell, that the Continental vessels were being prepared "...with all possible

⁴⁴ Nash, *The Original Journal of Solomon Lovell*, 52.

⁴⁵ House of Representatives Resolve, 30 June, 1779. In *Baxter Manuscripts*, vol. 16: 316.

⁴⁶ Coggins, *Ships and Seamen*, 163.

expedition", and "...we flatter ourselves that they all will be ready in four or five days, if they can be manned."⁴⁷ Indeed, there was a degree of trepidation in the Continental government's offering. Writing to the Navy Board of the Eastern Department on 16 July, the Marine Committee indicated its approval of the Navy Board's "...cautious conduct with regard to sending Continental Vessels on the expedition to Penobscot..." and that the *Warren*, *Providence*, and *Diligent*, would be forthcoming, "...provided you are certain that the Sea force of the enemy is not Superior."⁴⁸ Nevertheless, the Continental vessels were eventually secured. The acquisition of additional vessels and seamen, however, required application of an unpopular measure. Short of men and an adequate number of armed and transport vessels, the state turned to impressing both.

On 2 July the sheriff of Suffolk County was empowered to impress the vessel *General Putnam*, then at anchor in Boston Harbor, "...with [all] her Tackle and Appurtenances... for a Two Months Cruize [*sic*], to Sail on an Expedition to Penobscot..."⁴⁹ At the time of Sheriff Greenleaf's orders, the 6-gun schooner *Charming Polly*, and the 18-gun ship *Charming Sally* had already been impressed.⁵⁰ It should be noted that the capable sheriff dispensed his duties quickly; on the same day his orders

⁴⁷ William Vernon to Jeremiah Powell, 30 June 1779. Massachusetts Archives (MA), vol. 57: 296.

⁴⁸ Charles O. Paullin ed., *Out-Letters of the Continental Marine Committee and Board of Admiralty: August, 1776-September, 1780* (New York, 1914), 95. Hereafter cited as *Out-Letters*.

⁴⁹ Warrant for impressing *General Putnam*, 2 July 1779. Photostat Collection, MHS.

⁵⁰ Gardner W. Allen, *Massachusetts Privateers of the Revolution* (Cambridge, Massachusetts, 1927), 97, 98. Hereafter cited as *Massachusetts Privateers*. And *Baxter Manuscripts*, vol. 16, pp. 320. See Allen for armament and Baxter for impressment of *Charming Polly* and *Charming Sally*.

arrived, he wrote to the Council that the impressment had been carried out and the *General Putnam* delivered to the Board of War.⁵¹

The Essex County sheriff was similarly endowed with powers of impressment to acquire three privateering vessels belonging to various Salem merchants. On 3 July the Massachusetts Council furnished the sheriff with an order to impress the 20-gun *Hector*, 18-gun *Black Prince*, and 18-gun *Hunter* because "...the owners and commanders thereof have refused to hire said ships into the service of this State to be employed in the proposed expedition to Penobscot."⁵² The impressment may have been unnecessary, however. The Massachusetts Council had earlier appointed a committee to sound out owners of the several privately armed Salem vessels. Elias Hasket Derby, the city's immensely successful merchant-turned-privateer owner, represented the Salem ship owners. On 5 July the committee reported to the Massachusetts Council, "Your Committee endeavoured [*sic*] to impress upon their Minds the Importance of the Vessels being engaged & desired them to use their Influence with the respective Owners of said Vessels...."⁵³ During this period similar tactics were being applied to four vessels lying at Newburyport, and the Massachusetts Board of War was not above pitting the two towns against one another. In late June the board goaded Salem merchant George Williams by stating, "...we are assured Salem will never be behind in her exertions."⁵⁴

⁵¹ William Greenleaf to Massachusetts Council, 2 July 1779. Photostat Collection, MHS. Greenleaf simply amended the letter sent to him by the Council to indicate he carried out his orders, and sent the letter back.

⁵² *Proceedings of the General Assembly and the Council of the State of Massachusetts* (Boston, 1780). Reprinted in *The Penobscot Expedition* (New York, 1971), 187.

⁵³ Read and accepted in Council, 5 July 1779. In *Baxter Manuscripts*, vol. 16: 376.

⁵⁴ Massachusetts Board of War to George Williams, 28 June 1779. MA, vol. 151: 295.

This, or combination of tactics eventually succeeded. The Salem privateer owners agreed to send their vessels, and on 11 July the Council ordered the vessels to proceed to Nantasket Harbor and join the fleet assembling under Commodore Saltonstall.⁵⁵ Newburyport sent the 20-gun privateer *Monmouth*, 14-gun *Pallas*, 16-gun *Vengeance*, and 16-gun *Sky Rocket*.

With the determination that the state's large contingent of privateering vessels represented a valuable resource, the General Court logically turned to hiring the privately armed vessels. Rather than leaving them to depend solely on prize money, for which the expedition would likely produce none, the government paid the privateer owners for their services and insured the vessels, thereby "...[guaranteeing] the privateer owners against loss."⁵⁶ Prior to sailing, each privately-armed vessel was assigned an estimated value ranging from £ 100,000 to £ 140,000.⁵⁷ Since the valuation was made in the depreciated currency of 1779, Massachusetts finally settled on the basis of one dollar specie for fifteen in paper money.⁵⁸ Eventually, fifteen of the expedition's armed vessels were destroyed by their crews, and two were captured by the British. At least nine of these losses were privateers. Depending on their future success in privateering ventures, each privateer owner probably considered the loss, and subsequent reimbursement, of his vessel differently. Clearly, for a merchant with as much privateering success as Elias Hasket Derby, whose vessels were responsible for 12 per cent of all Massachusetts

⁵⁵ Massachusetts Council to Elias Hasket Derby, 11 July 1779. In *Baxter Manuscripts*, vol. 16: 349. See Allen, *Massachusetts Privateers*, 184, 173, 84, for vessel armament.

⁵⁶ Gardner W Allen, *A Naval History of the American Revolution* (New York, 1913), 421.

⁵⁷ Albert B. Hart ed., *Commonwealth of Massachusetts* (New York, 1929), 38.

⁵⁸ *Ibid.*

privateering revenue during the Revolutionary War, the insurance claim paled in comparison to his vessels' potential earnings.⁵⁹

Historian Henry Shaw suggests that "Patriotism prompted most private ship owners to volunteer their ships."⁶⁰ Although this may have been partially true, others had to be impressed. The state's considerable exertions to impress seamen indicate that sailors realized the operation was not an ordinary privateering venture, and it is therefore unlikely that the privateer owners saw it differently. It is doubtful that the mere recognition of being associated with the expedition would have been incentive enough for owners to withdraw their vessels from normal, and potentially more profitable, voyages. Indeed, it was the realization that prize money was not to be had that perhaps ultimately soured the privateer captains during the operation, leaving them to side with Commodore Saltonstall and his plan of inaction, a plan that kept all vessels out of harm's way and miserably ineffective.

Nonetheless, Massachusetts appropriated a number of privately armed vessels, chiefly from Salem and Newburyport, perhaps under the illusion that an opportunity to take a prize or two would present itself during the expedition. Although the acquisition and loss of the troop transport vessels will be addressed in chapter 5, it should be noted here that the overall fitting out of the fleet necessitated several remarkable measures on behalf of the Massachusetts Council. In early July, the Council ordered that Boston men engaged in fitting out the vessels for Penobscot could work on the Sabbath, providing

⁵⁹ *Essex Institute Historical Collections*, vol. 53 (Salem, 1961): 195.

⁶⁰ Henry Shaw, "Penobscot Assault-1779," *Military Affairs*, vol. 17, Issue 2 (Summer, 1953): 83-94.

they did so "...with little Disturbance to the Inhabitants of this town as possible."⁶¹ Considering the influence of the Puritan ideal in eighteenth-century Massachusetts, this above all perhaps speaks to the magnitude of the expedition. Additionally, on 3 July the Council ordered "...that all wood or oyster vessels and other small craft...excepting fishing boats" were not allowed to sail out of Boston Harbor, thereby creating an embargo on vessels.⁶² Finally, two days after the embargo order, the Council directed Commissary of Prisoners Joseph Henderson to take officers and men off the "Guard Ship" and put them to work in Boston.⁶³ Clearly, the Massachusetts Council was experiencing serious material problems in assembling and fitting out the fleet.

By the time the fleet sailed from Boston on 19 July, eleven privateering vessels had been hired with a complement of 228 guns.⁶⁴ With the addition of the entire Massachusetts State Navy, the 20-gun brig *Tyrannicide*, 18-gun brig *Hazard*, and 16-gun brig *Active*, and the 20-gun brig *Hampden* offered by the state New Hampshire, the flotilla mounted over 350 guns. Manning the fleet was yet another matter.

Manning the Fleet

As of 6 July, the *Warren* remained seventy men short of her required three-

⁶¹ Ordered by Massachusetts Council, 3 July 1779. MA, vol.170: 205.

⁶² *Ibid.* MA, vol.175: 387.

⁶³ *Ibid.*, 5 July 1779. MA, vol.170: 207.

⁶⁴ Allen, *Massachusetts Privateers*, 65-331. Calculated from Allen's alphabetical list of Massachusetts privateers. Allen's work offers the date of commission, ship type, armament, manpower, commander, bond amount, bonders, ownership, bond witnesses, and the sources from which he obtained the data on each vessel. Other pertinent information may also appear, as is the case for vessels participating in the Penobscot Expedition.

hundred, the *Diligent* wanted at least thirty, and the *Providence* needed men as well.⁶⁵ To compound the problem, William Vernon indicated that of the seventy men needed for the frigate *Warren*, most "...must be Seamen and Americans."⁶⁶ Ultimately, it took three and a half weeks to man the *Warren*. Further, rather than have the warship proceed on a cruise after the expedition ended, the Continental Navy was limited to a one-time outing, for it could only persuade seamen to sign on for the single campaign.⁶⁷ The privateers may have fared relatively better than the Continental and state vessels in acquiring men since Continental and state pay was less attractive than the potential windfall of a privateering voyage. The principal duties of the privateering vessels consisted of escorting the troop transports to Bagaduce, providing cover for a landing, and engaging any British shipping that they might encounter.

Despite the marginally better situation serving on a privateer, Massachusetts seamen probably realized that the privately armed vessels employed in the Penobscot Expedition might have little opportunity for securing a prize. Throughout New England during the Revolutionary War, seamen and landsmen alike flocked to "rendezvous" at seaport taverns in the hope of signing articles of a ship embarking on a privateering voyage. Only three days after recruiting notices were posted, for example, one hundred men signed the articles of the brig *Grand Turk*, a Salem privateer outfitted by Elias Hasket Derby in 1781.⁶⁸ Indeed, it is curious that this was not the case as the fleet

⁶⁵ William Vernon to Massachusetts Council, 6 July 1779. MA, vol. 57: 297.

⁶⁶ *Ibid.*

⁶⁷ Flood, *Rise and Fight Again*, 165.

⁶⁸ W.S. Nevins and C.H. Weber, *Old Naumkeag: A Historical Sketch of the City of Salem* (Salem, Massachusetts, 1877), 232.

outfitted for the Penobscot Expedition. Despite Willis Abbot's suggestion that "Every man who had ever swung a cutlass or sighted a gun was anxious to accompany the expedition," it remains that seamen had to be impressed.⁶⁹ Thus, partly because the expedition was expected to be an incontestable success, and partly because men were difficult to find, seamen were offered exceptional inducements. Despite the offer of double pay, however, the state was still forced to press men.

The term of service for impressed seamen, like that of impressed vessels, was for the limited duration of two months.⁷⁰ These terms were apparently uninviting to local seamen, as agents of the state were authorized to "break open & search any Dwelling, House or other Building in which you Suspect any such Seamen or Marines to be concealed...."⁷¹ The Massachusetts Council wrote to Colonels Orne and Lee on 11 July, "We have furnished you with a Warrant and Instructions...To Impress the Men for the Purpose of the aforesaid [expedition to Penobscot] which you shall deliver if you deem necessary."⁷² Indeed such action was necessary. Joshua Davis, serving as an agent for the transports, wrote on 13 July that he engaged five men as sailors "...which were yesterday impressed & carried on board the Armed Vessels...."⁷³ Davis also indicated that he was "...destitute of hands necessary for that Service...."⁷⁴ Apparently, Massachusetts seamen found the drastic measure as disagreeable as they had when British press gangs roamed

⁶⁹ Willis J. Abbot, *The Naval History of the United States* (New York, 1898), vol. 1: 150.

⁷⁰ Warrant issued by the Massachusetts Council, 2 July 1779. In *Baxter Manuscripts*, vol. 16: 371.

⁷¹ Warrant to impress seamen issued by the Massachusetts Council, 3 July 1779. In *Baxter Manuscripts*, vol. 16: 372.

⁷² Massachusetts Council to Colonel Orne and Lee, 11 July 1779. In *Baxter Manuscripts*, vol. 16: 349.

⁷³ Joshua Davis to the Massachusetts Council, 13 July 1779. In *Baxter Manuscripts*, vol. 16: 356.

⁷⁴ *Ibid.*

the waterfront, and considered flight a reasonable alternative. On 11 July, the Council ordered the sheriff of Suffolk County to post guards at "...the several Ferries in the Town [Boston] & at other outlets...."⁷⁵ The press, however, was apparently carried out with a measure of compassion, as indicated by the release of leather breeches maker James Ivers, whom Sheriff Greenleaf requested be set free on account of the impressed artisan's family responsibilities.⁷⁶

Ultimately, the state's exertions paid off, and two thousand seamen were engaged, impressed or otherwise, for the expedition.⁷⁷ The delay in obtaining vessels, men, and supplies, however, gave the British a critical window of time, over a month, to increase their fortifications at Bagaduce and further improve the odds of repelling the expected American assault. Simply securing enough seamen was only one uncertainty that plagued the operation, acquiring ground troops presented additional difficulties.

Acquiring Ground Troops

For the Penobscot Expedition to be successful, a large-scale amphibious landing needed to be effected at Bagaduce. Believing that Massachusetts militiamen would be eager to join the expedition, Dr. Thatcher wrote that "...the General Court neither consulted any experienced military character nor desired the assistance of any Continental troops on this important enterprise."⁷⁸ Although it is perhaps unlikely that the

⁷⁵ Massachusetts Council to Sheriff William Greenleaf, July 11 1779. In *Baxter Manuscripts*, vol. 16: 384

⁷⁶ Sheriff William Greenleaf to captains of the Warren and General Putnam, 12 July 1779. MA, vol. 175: 423a.

⁷⁷ Allen, *A Naval History of the American Revolution*, 421.

⁷⁸ James Thacher, *Military Journal During the American Revolutionary War*, 170.

Continental government would, or could, have allocated any soldiers for the Penobscot Expedition, the absence of the request demonstrates the Massachusetts government's inability to fathom the difficulty of such an undertaking.

On 1 July, the Council ordered Lovell to send an advance party of "three suitable persons" to the Maine counties of Cumberland, Lincoln, and York, to raise men for the expedition.⁷⁹ Due to their close proximity to the fleet's final destination, these counties were considered ideal for supplying the desired fifteen hundred ground troops. Over twenty transports were obtained by Massachusetts to shuttle the men raised in those counties to the rendezvous point at Townsend (today's Boothbay), where they would combine with the fleet and proceed to Penobscot Harbor. On 19 July, thirty-two days after the General Court first received word that the British were erecting a fortification at Bagaduce, the majority of the American fleet embarked from Boston. As planned, the fleet arrived in Townsend two days later. It was not until the following day that Lovell, and his officers, had an opportunity to review the troops assembled at Townsend in anticipation of the fleet's arrival. Doubtless what they saw during that review offered little encouragement.

Generals Cushing and Thompson, from the Lincoln and Cumberland County militias respectively, were ordered to detach six hundred men each for the expedition, while General Frost, of York County, was directed to detail three hundred soldiers.⁸⁰ Despite the incentive of a nine-month exemption from raising men for the Continental

⁷⁹ Massachusetts Council to General Lovell, 1 July 1779. In *Baxter Manuscripts*, vol. 16: 318.

⁸⁰ Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 3.

Army offered to counties providing soldiers, the final turnout was deficient by over one-third.⁸¹ A monthly return of militia dated 31 July reveals that 873 men were present for duty and 499 were needed to complete the rolls.⁸²

An effort was made to increase the ranks, and soldiers, like their seamen counterparts in Boston, had to be compelled to join the expedition. In response to the need for soldiers, Adjutant General Jeremiah Hill recommended martial powers. In September 1779, during the official inquiry, he revealed that "...the quota was partially filled that way."⁸³ Echoing Hill's sentiment, General Thompson of the Cumberland County militia vowed to "... make the County too hot to hold them."⁸⁴ Yet, beyond the difficulty in raising men was the issue of raising experienced men. Adjutant General Hill's observations regarding this dilemma are particularly illustrative. Of the officers and men, Hill asserted that most were "...unacquainted with any military Manoeuvre," and further, that "Some were old men, some boys, and some invalids."⁸⁵ Nevertheless, after examining the returns of the troops on 21 July, and discovering nearly five hundred missing men, Lovell, undeterred, remarked that in three days the flotilla should be ready to embark "...notwithstanding the shortness of Men...."⁸⁶ Despite the less than expected turnout of militiamen, whose modest number was complicated by their inexperience, the

⁸¹ *Ibid.*

⁸² *A Monthly Return of General Lovell's Detachment of Militia for July 1779.* (Lovell Papers, MHS).

⁸³ Statement of Adjutant-General Jeremiah Hill, 29 Sept. 1779. In *Baxter Manuscripts*, vol. 17: 263.

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*, 263, 264.

⁸⁶ Journal of General Solomon Lovell, 21 July 1779. In Nash, *The Original Journal of Solomon Lovell*, 96.

fleet made sail for Penobscot Bay on 24 July, and that evening dropped anchor nine miles from Bagaduce, under the lee of the Fox Islands.

Chapter 3

The Siege of Fort George

As the American fleet wound its way through the islands of Penobscot Bay, Lovell noticed "several smokes," which were uncharacteristic for the summer months, and determined them to "...to proceed from Traitors hir'd by the Enemy to give them intelligence of our approach."¹ He was correct in his determination of the signal fires' purpose, but this was merely one of several warnings afforded the British. By 20 July, Captain Mowat, reacting to incoming intelligence and again demonstrating cooperation between himself and McLean, sent 180 men from his small fleet to aid the construction of Fort George.²

In contrast to American difficulties during the first stage of preparations, McLean and his men made steady progress. Moreover, according to Dr. John Calef, McLean finally took notice of intelligence regarding the American fleet's progress. In response to that news, Calef wrote that the General "...[has] shown the utmost vigilance and activity...and by his example [is] motivating his men to proceed...."³ Prior to this development, only Captain Mowat, having passed a number of years on the American station and well aware of the rebels' desire to retain the resources of the Penobscot, thought seriously of the incoming intelligence. Unlike Lovell and Saltonstall, however,

¹ Journal of General Solomon Lovell, 23 July 1779. In Gilbert Nash, *The Original Journal of Solomon Lovell, Kept during the Penobscot Expedition, 1779: With a Sketch of His Life* (Weymouth, Massachusetts, 1881), 97.

² Journal of John Calef, 20 July 1779. In *Eyewitness Accounts of the American Revolution* (The New York Times and Arno Press, New York, 1971), 16.

³ *Ibid.*

McLean and Mowat complemented each other well and communicated constantly. Thus, despite McLean's delayed reaction to the news of an approaching fleet, the garrison at Bagaduce was never in danger of being surprised.

First Contact

Upon arriving in Penobscot Bay on 24 July, the Americans sent out a reconnaissance party of marines from the Massachusetts State brig *Tyrannicide* and initiated their first contact with the locals.⁴ The detachment returned not only with information relating to British preparations, but with expressed support from some resident Indians who had, in the words of General Lovell, "...been tamp'd with by Gen McLane but... wou'd not join him."⁵ Additionally, on 24 July, after watching the American fleet approach, Captain John Preble wrote to Jeremiah Powell from a camp at Clam Cove, "I must Recommend the Indians to your Honors Favour...."⁶ The alliance proved to be a significant one, and eventually forty-one Indians operated under command of Lieutenant Andrew Gilman.⁷ Perhaps the Americans might have used the local Indians more effectively, for it is interesting to note that as early as 2 July, the

⁴ Flood, Charles B. Flood, *Rise and Fight Again: Perilous Times Along the Road to Independence* (New York, 1976), 172.

⁵ Journal of General Solomon Lovell, 24 July 1779. In Nash, *The Original Journal of Solomon Lovell*, 97.

⁶ John Preble to Jeremiah Powell, 24 July 1779. In James P. Baxter, ed., *Documentary History of the State of Maine, Containing the Baxter Manuscripts* (Portland, Maine, 1913), vol. 16: 396. Hereafter cited as *Baxter Manuscripts*.

⁷ Nathan Goold, *History of Colonel Jonathan Mitchell's Cumberland Regiment of the Penobscot Expedition, 1779: With Biographical Sketches of the Commissioned Officers and Pay-Rolls of the Companies* (Portland, Maine, 1899), 23.

Massachusetts Council ordered six bushels of corn to accompany the expedition in case an Indian coalition materialized.⁸ Ultimately, the Indian alliance proved invaluable in guiding several retreating Americans, including General Lovell, safely out of the Penobscot region. On 25 July, however, with intelligence indicating that the British fort was merely a simple earthwork, defeat hardly loomed as a possibility for the Americans.

Upon approaching the extreme southern point of the Bagaduce peninsula on the afternoon of 25 July, the joint command of General Lovell and Commodore Saltonstall determined that an attempt should be made on the three sloops-of-war Mowat had anchored in a fine defensive position across the approach to Bagaduce Harbor. A column of nine vessels, in sets of three, formed a line and fired upon Mowat's anchorage in successive fashion.⁹ It was then that Commodore Saltonstall began a series of poor decisions, or rather indecisions, and amply demonstrated his inability to command the fleet. This first exchange between the American and British shipping proved a draw at best, despite the Americans' distinct advantage in gunnery and sheer number of vessels. The broadsides prompted Dr. Calef to write that, "the fire of the Enemy was random and irregular...their manouvers, as to backing and filling bespoke confusion..."¹⁰

Indeed, the first line of American vessels could hardly move out of the way before the second line began to discharge its shot. Additional confusion followed on the heels of

⁸ Massachusetts Council to the Board of War, 2 July 1779. In *Baxter Manuscripts*, vol. 16: 322.

⁹ Flood, *Rise and Fight Again*, 174-175.

¹⁰ Journal of John Calef, 25 July 1779. In *Eyewitness Accounts of the American Revolution*, 18.

that first engagement when a spontaneous landing, under the direction of Lovell's second in command, General Peleg Wadsworth, was attempted later in the evening. Before the first whaleboat even reached shore, the landing parties were recalled when it was observed by Lovell that British artillery fire would make it impossible for the first party to maintain its ground while waiting for the remaining men to be shuttled successively to the beach.¹¹ Coupled with the artillery shelling and musket fire from the British, an unfavorable wind also prompted the decision to call the landing off.¹² The only result was the death of one of the Americans' Indian allies.

The following day, one of what would be many councils of war was held on board the *Warren*, and a plan was hatched to take the island off the southeast corner of Bagaduce. Known as Banker's Island to the Americans and Nautilus Island to the British, after the vessel *Nautilus* that was anchored adjacent to it, the island contained a small British battery of four 4-pounder field pieces and twenty royal marines.¹³ After first calling a halt to the landing, Commodore Saltonstall eventually agreed to allow a contingent of two hundred marines, under the command of Captain Welsh, to land.¹⁴ In the first positive offensive maneuver of the expedition, the marines easily gained the island, took possession of the four field pieces, and routed the Britons, who fled leaving their tents erected and campfire still burning.

¹¹ Journal of General Solomon Lovell, 25 July 1779. In Nash, *The Original Journal of Solomon Lovell*, 98.

¹² Deposition of Colonel Samuel McCobb, 28 Sept. 1779. In *Baxter Manuscripts*, vol. 17: 257.

¹³ Flood, *Rise and Fight Again*, 176. Today the island is still known as Nautilus Island.

¹⁴ Jack Coggins, *Ships and Seamen of the American Revolution* (Harrisburg, Pennsylvania, 1969), 164.

The island was not gained without loss, however. Major Daniel Littlefield and two others were drowned after their longboat was struck by British shelling.¹⁵ In the evening, Paul Revere, commander of the artillery train, carried out his orders and sent two 18-pounders, one 12-pounder, and one howitzer to Nautilus Island.¹⁶ Adding fodder for the criticism that would plague Revere during the expedition and become a subject of official inquiry, he failed to accompany his men to the island. Regardless, the acquisition of Nautilus Island not only afforded the Americans a battery from which to begin shelling the fort on Bagaduce, it also forced Captain Mowat to move the *Nautilus*, *Albany*, and *North*, to an anchorage farther north and into a better defensive position.

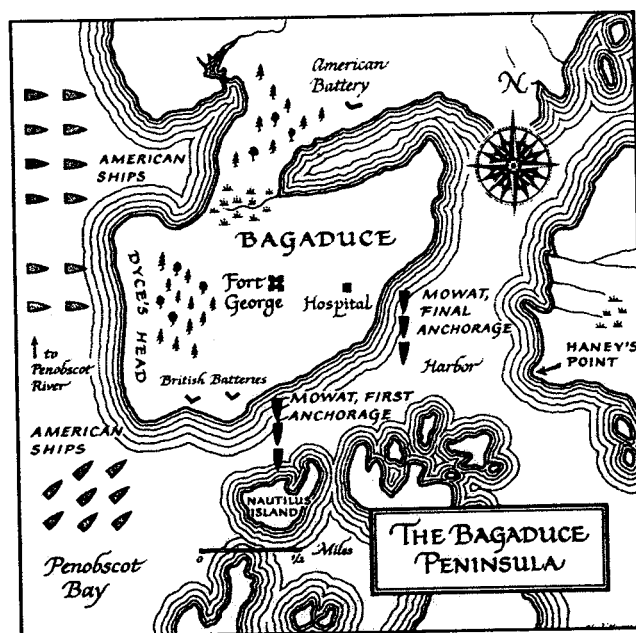


Figure 3. The Bagaduce (Castine) Peninsula under siege. Note Mowat's final anchorage and the British batteries overlooking the peninsula's southeast approach (Flood, *Rise and Fight Again: Perilous Times Along the Road to Revolution*, 154).

¹⁵ Journal of William Moody, 28 July 1779. In Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 31. Moody was a drummer for the company under the command of Captain Peter Warren.

¹⁶ Journal of Paul Revere, 28 July 1779. In Elbridge H. Goss, *The Life of Colonel Paul Revere* (Boston, 1972), vol. 2: 367. Goss' work contains the complete diary of Paul Revere kept during the Penobscot Expedition.

The day of 27 July was filled with no major offensive action by either side. A brisk artillery exchange between the fleets and the shore batteries continued steadily, and the rebels' smart artillery fire was returned "...with as good sulphur as Britons could give...."¹⁷ The accuracy of the American fleet improved little from the day before, however, compelling Dr. Calef to write that it "...again appears to be directed at the moorings."¹⁸ It is conceivable that the commodore had ordered such a foolish tactic in order to preserve the British vessels as quality prizes for the privateering contingent, or perhaps seriously thought he could cut them loose. In either case, whether unduly influenced by the desires of the privateer captains, or simply lacking adequate skill, Saltonstall continued to be ineffective. Further, his hesitancy to attack Mowat was becoming a serious issue. As the master of the brig *Hazard* noted, the day of 27 July afforded "...Fine Weather & a fair Wind to go into the enemy's shipping."¹⁹ Saltonstall's increasingly obvious lack of desire to engage Mowat was further solidified after intelligence from two American spies indicated the ease in which he might accomplish such a feat.

Since McLean's arrival, Colonel Brewer and Captain Smith, two local militiamen, had posed as concerned residents, met occasionally with McLean, and noted the development of Fort George. On 25 July, the two met General Lovell aboard the *Hazard*, and Saltonstall was subsequently summoned from the *Warren*. Brewer and Smith gave a detailed description of the fort's barely four foot high earthworks, troop dispositions, and

¹⁷ Journal of Sergeant Lawrence, 27 July 1779. In George A. Wheeler and Louise Wheeler Bartlett, *History of Castine, Penobscot and Brooksville Maine*, Second Edition (Cornwall, New York, 1923), 265.

¹⁸ Journal of John Calef, 26 July 1779. In *Eyewitness Accounts of the American Revolution*, 19.

¹⁹ Deposition of Sam Morris, 28 Sept. 1779. In *Baxter Manuscripts*, vol. 17: 198.

artillery placement around the peninsula, while also revealing that Mowat's flagship, *Albany*, had only twenty guns aboard.²⁰ Further, they indicated that the Americans' overwhelming superiority in naval firepower, coupled with the Britons' rudimentary works, might allow Saltonstall to land the troops under the cover of the armed vessels' guns alone and "...in half an hour make everything his own."²¹ Whereas Lovell was quite pleased with the news, Saltonstall was not, and the difficulties inherent in joint command began to expose themselves. To the spies' suggestion Saltonstall replied, "You seemed to be damn knowing about the matter! I am not going to risk my shipping in that damned hole [Bagaduce Harbor]!"²²

Whether the commodore's response was founded in cowardice or a real concern for the vessels under his command is difficult to determine. Again, one must bear in mind that the majority of the armed vessels under his command were privately owned. It is possible that the eleven privateer captains, perhaps under directive from the vessels' owners, convinced Saltonstall to remain at a distance, thus preventing damage to the potential prizes, and their own vessels as well. Indeed, William Todd, an aide to General Lovell, later reflected on the issue and wrote, "...the captains of the sundry private armed vessels were so dissatisfied with being at Penobscot that we expected they would leave us."²³ Clearly, Saltonstall must have realized, however, that his Continental vessels alone carried fifty-eight guns and those from the state navies of Massachusetts and New

²⁰ David Perham relating Colonel Brewer's account of the expedition, 13 August 1846. Wheeler and Bartlett, *History of Castine*, 278. The account appears largely accurate, though Mowat's *Albany* carried only fourteen guns.

²¹ *Ibid.*

²² *Ibid.*

²³ Major William Todd, *A State of Facts Respecting the Penobscot Expedition*. Lovell Papers, MHS.

Hampshire carried at least sixty-two. Even without support from the privateers, the compliment of 120 guns at Saltonstall's disposal was surely enough to vanquish Mowat's three sloops-of-war possessing only 50.

The Americans Effect a Landing

Realizing that Saltonstall would not attack the British fleet until the shore batteries were reduced, Lovell effected a landing at Dyce's Head at the lower western edge of Bagaduce on 28 July. As dawn broke, three divisions of 270 marines and 400 militiamen landed under the two tiered, nearly 200-foot precipice that sloped steadily upward at 45 degree angle.²⁴ With marines under the command of Captain Welsh on one flank, and Colonel Jonathan Mitchell's regiment on the other, a division of volunteers and artillerymen landed between them. Though opposed by "...three hundred of the Enemy hid behind trees & Bush...", the assault was a success, and in twenty minutes the Americans gained the top, took an artillery battery, and persuaded Lieutenant Caffrae of the 82nd Highlanders to order a retreat.²⁵ Although Captain Welsh was cut down during the assault, the Americans suffered only thirty-four casualties, compelling General Wadsworth to write that the siege "...would have been highly spoken of, had success finally crowned our Enterprise...."²⁶

Indeed, the landing was successful, though the three huzzahs given by the

²⁴ Flood, *Rise and Fight Again*, 180.

²⁵ Journal of General Solomon Lovell, 28 July 1779. In Nash, *The Original Journal of Solomon Lovell*, 99. Wheeler and Bartlett, *History of Castine*, 249.

²⁶ Peleg Wadsworth to William D. Williamson, 1 Jan. 1828. In Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 22.

Americans, from both vessel and shore, were soon silenced. Instead of continuing their advance, a strategy that would have most likely resulted in the fall of Fort George, the inexperienced Americans chose to entrench. Puzzled and in disbelief, eighteen-year old Lieutenant John Moore, with a splendid military career and knighthood still ahead of him, speculated that the rebels perhaps believed the fort was short of provisions.²⁷ In truth, a lack of confidence regarding naval support is what stalled the advance. The American ships had yet to successfully shell British shore positions and help clear the way for Lovell's ground troops. Further, Adjutant-General Hill described the assault as occurring "...without any Order or Regularity," confirming the lack of discipline and inexperience among the ground troops. On the evening of 28 July, perhaps surprised by his success, Lovell wrote to Jeremiah Powell, "...we are within 100 rod [approximately 1650 feet] of the Enemy's main fort on a Commanding Piece of Ground...."²⁸

Despite the apparent American success, the British were doubtless relieved. Ironically, McLean later divulged to Colonel Brewer, still operating as an American spy, that he entirely expected the fort to be overrun that day and "...only meant to give them one or two guns, as not to be called a coward...."²⁹ The delay in the American advance was a critical turning point. While the rebels dug in and days passed with only brief forays against the simple bastion, a British fleet under the command of Sir George Collier departed New York Harbor with orders to support the garrison at Bagaduce. Moreover,

²⁷ John E. Cayford, *The Penobscot Expedition: Being an Account of the Largest Naval Engagement of the Revolutionary War* (Orrington, Maine, 1976), 100.

²⁸ Lovell to Powell, 28 July 1779. In *Baxter Manuscripts*, vol. 16: 403. One rod equals roughly 5.5 yards.

²⁹ David Perham relating Colonel Brewer's account of the expedition, 13 August 1846. In Wheeler and Bartlett, *History of Castine*, 278.

during his daily visits to the fort, young Penobscot resident William Hutchings discovered that McLean considered each passing day "...as good as another thousand men."³⁰ Although they held their position on Bagaduce until the morning of 14 August, the American troops were tumbling headlong toward defeat. And each day's inactivity only solidified that reality.

Difficulties on Land and Sea

During the landing at Dyce's Head, Commodore Saltonstall was engaged in another fruitless skirmish with Mowat. He detached only two ships and three brigs to cover the assault, and yet, with the remainder of the fleet at his disposal, was unable to inflict any serious damage on the British shipping.³¹ Moreover, with McLean engaged in the defense of Fort George, Mowat received little support from those shore positions, leaving him dangerously under-gunned. Even with additional support from the American battery on Nautilus Island, Saltonstall was unable to overcome the stationary, unsupported British fleet of three small vessels. Indeed, it appears that Saltonstall's flagship *Warren*, suffered the worst of the engagement and was subsequently laid up for two days in order to repair damage to her main mast and bowsprit.³² Unlike Mowat, who aided McLean with work parties of sailors and even had his offside guns brought ashore (his vessels were in a fixed defensive position with only one broadside facing the enemy), Saltonstall became increasingly unwilling to support Lovell.

³⁰ William Hutchings narrative given to Joseph L. Stevens, August 1855. In Wheeler and Bartlett, *History of Castine*, 272.

³¹ Coggins, *Ships and Seamen*, 165.

³² Flood, *Rise and Fight Again*, 186.

The commodore's constant trepidation did not go unnoticed. In a signed petition, thirty-two officers of the fleet conveyed to Saltonstall that "We think Delays in the present Case are extremely dangerous..." and further, that "...our Enemies are daily Fortifying and Strengthening themselves...."³³ General Wadsworth suggested that this group of officers was perhaps in the minority, and he believed that most sided with Saltonstall's plan of inaction because "...his officers were chiefly commanders of Privateers bound on a Cruize as soon as the siege was over."³⁴ Saltonstall's principal argument for not engaging Mowat was a British redoubt on the eastern edge of Bagaduce well positioned to support his adversary, though it consisted of only three 6-pounders. In an attempt to reduce the commodore's anxiety and gain the naval support he needed to storm the fort, Lovell ordered the battery attacked. During the pre-dawn hours of 1 August, the fifty royal marines stationed at the redoubt were displaced by a contingent of soldiers and Indians under the command of General Wadsworth. Though successful, the small victory was short-lived. The British retook the battery the following day, and, once again, Saltonstall was afforded an excuse.

Over the ensuing days American morale steadily deteriorated. As early as 30 July, the largely non-professional American soldiers were becoming impatient and disorderly, forcing Lovell to order that no man stray beyond "...twenty rods from his Lines...."³⁵ Moreover, desertion was becoming an issue. Two unhappy soldiers were caught

³³ Petition delivered to Saltonstall, 27 July 1779. In *Baxter Manuscripts*, vol. 16: 400.

³⁴ Wadsworth to William D. Williamson, 1 Jan. 1828. In Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 19.

³⁵ Orders given by Lovell from headquarters on Bagaduce, 30 July 1779. In *Baxter Manuscripts*, vol. 16: 411.

deserting Colonel Mitchell's regiment and punished by riding a wooden horse for twenty minutes with a musket attached to each foot.³⁶ The reality of low morale and an eroding roll probably struck Lovell hard, when, on 10 August, he called for six hundred volunteers to assemble for a possible assault on the fort and well under four hundred turned out.³⁷

With the hope of securing local manpower, Lovell issued a proclamation of his own to the local inhabitants on 29 July, and though some came out "...with great cheerfulness," the majority lacked arms and ammunition.³⁸ Despite his best efforts, Lovell began to realize the desperate situation, and on 1 August revealed to Massachusetts Council president Jeremiah Powell, "...their works [are] exceedingly strong and our Troops (tho brave) are yet undisciplined."³⁹ He also began to express his distaste for the Commodore's obstinacy. On 11 August, writing from his headquarters at Bagaduce, Lovell communicated to Saltonstall the following reality: "My situation is confined; and while the Enemy's ships are safe, the operations of the army cannot possibly be extended an inch beyond the present limits; the alternative now remains, to destroy the ships, or raise the siege."⁴⁰

He had, perhaps, already realized that his plea was futile. Five days before, during a council of war on board the *Warren*, Saltonstall and his officers determined, by a vote of nine to three, not to fall upon Mowat's fleet until the fort had been secured.

³⁶ Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 13

³⁷ Wadsworth to William D. Williamson, 1 Jan. 1828. In Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 19.

³⁸ Lovell to Powell, 1 August 1779. In *Baxter Manuscripts*, vol. 16: 417.

³⁹ *Ibid.*

⁴⁰ Lovell to Saltonstall, 11 August 1779. In Wheeler and Bartlett, *History of Castine*, 261.

Likewise, with Saltonstall's determination in hand, Lovell and his officers voted unanimously not to storm the works until the shipping was displaced.⁴¹ At this juncture it was evident that the joint command shared between Lovell and Saltonstall was ineffective, due chiefly to Saltonstall's unwillingness to jeopardize the fleet.

The Massachusetts Council also grew weary of Saltonstall's seeming lack of courage. News of the stalled expedition reached Boston via dispatches sent by Lovell on 2 and 6 August. In response to the latter communiqué, the Council put the matter before the Navy Board. On 12 August, the Navy Board Eastern Department ordered Saltonstall to "...Attack & take or destroy them [enemy shipping] without delay."⁴² The Navy Board further indicated that it had been at a loss as to why the commodore had not attacked the small British fleet earlier, and, in a foreshadowing of the next day's events, warned Saltonstall that "...Reinforcmt. Are probably on their passage at this time."⁴³ Still prepared to reinforce the expedition, the Massachusetts General Court instructed the sheriff of Suffolk County to impress some 18-pound shot from a vessel recently arrived from North Carolina.⁴⁴ Deputy Schuael Hawes answered by securing sixty-six 18-pound projectiles.⁴⁵ In addition, Continental troops from Rhode Island were detached to the Penobscot, though news of the Americans' retreat would greet them before they reached Kittery, Maine, well south of Bagaduce.⁴⁶

⁴¹ Proceedings of the Council of War held on board *Warren*, 6 August 1779, and at Bagaduce headquarters, 7 August 1799. In *Baxter Manuscripts*, vol. 16: 430-431.

⁴² Navy Board Eastern Department to Saltonstall, 12 August 1779. In *Baxter Manuscripts*, vol. 16: 456.

⁴³ *Ibid.*

⁴⁴ Massachusetts Council to Sheriff William Greenleaf, 14 August 1779. In *Baxter Manuscripts*, vol. 16: 467.

⁴⁵ *Ibid.* Appears to be appended to orders given to Sheriff Greenleaf, 14 August 1779.

⁴⁶ Goold, *Colonel Jonathan Mitchell's Cumberland County Regiment*, 27.

Meanwhile, the battle for Fort George languished. Nevertheless, the lack of a final, spectacular, traditional field battle, should not eclipse the grisly nature of the several skirmishes that periodically took place on the Bagaduce peninsula. On Saturday 7 August, British commissary William Reidhead reported that the Americans began a very smart cannonade. A corporal of the 74th aiding Reidhead in serving out provisions in the fort's store was struck violently by the third American salvo. Reidhead related in his journal matter of factly, "...his head was knocked about in a dismal manner, and all his brains knocked about my face and shirt and a piece of his skull almost knocked me down."⁴⁷ Indeed, the magnitude of the Penobscot failure, born of inactivity, should not leave one with the notion that the expedition was not a dangerous undertaking attended with all the horrors of eighteenth-century warfare.

On the afternoon of 13 August, a council of war was held on board the *Warren*, and "...after many debates," Paul Revere recalled, those present voted whether or not to raise the siege; there were ten for it and fourteen against it.⁴⁸ With the realization that the siege was all but lost, Lovell and a contingent of four hundred men made a final, daring attempt to take the rear of the works.⁴⁹ Desperate to goad Saltonstall into action, and with hope that local reinforcements under command of Colonels Foster and Allen might soon arrive, the intrepid general made good his assault and gained the ground north of Fort George. The new ground gave Lovell a staging point from which he could attack not only the garrison, but also two small redoubts that supported Mowat's ships and were

⁴⁷ William Reidhead Journal, 14 August 1779. *Maine Historical Magazine*, vol. 5: 228.

⁴⁸ Journal of Paul Revere, 14 August 1779. In Goss, *The Life of Colonel Paul Revere*, 373.

⁴⁹ Journal of General Solomon Lovell, 13 August 1779. In Nash, *The Original Journal of Solomon Lovell*, 104.

the cause of Saltonstall's uneasiness. Lovell's brave offensive, however, quickly gave way to circumstances beyond his control.

Chapter 4

Retreat and Loss of the American Armed Vessels

The Failure of the Expedition under Enquiry seems to me to be owing principally to the Lateness of our Arrival before the Enemy, the Smallness of our Land Forces, & the uniform Backwardness of the Commander of the Fleet¹

-Brigadier General Peleg Wadsworth, 29 September 1779

On 14 August 1779, William Reidhead reflected upon his day and wrote, "Early this morning our Light Company went out and around the island and could see no Yankees."² Indeed, the Americans were not to be found. Within hours of taking the ground at the rear of Fort George, Lovell learned that the state brig *Active* had spotted seven British vessels standing up Penobscot Bay.³ Led by Sir George Collier and his 64-gun flagship *Raisable*, the fleet carried approximately 204 guns, arguably inferior to the American's collective armament, but clearly superior in individual strength, experience, and fighting ability. At midnight on 14 August, Lovell ordered a retreat from Bagaduce. By 5 a.m. the General and his troops had vacated their positions on the peninsula and boarded the transports in good order without the loss of a man. Of the utter confusion that followed, however, Lovell admitted that an "...attempt to give a

¹ Deposition of Brigadier General Peleg Wadsworth, 29 September 1779. Massachusetts Archives (MA), vol. 145: 275-282.

² Journal of William Reidhead, 14 August 1779. In *Maine Historical Magazine*, vol. 5: 230.

³ The following vessels comprised the British relief fleet: *Raisable*, 64 guns; *Blonde*, 32 guns; *Greyhound*, 28 guns; *Galatea*, 24 guns; *Camilla*, 24 guns; *Virginia*, 18 guns; and *Otter*, 14 guns. See William D. Williamson, *History of the State of Maine*, 475.

description of this terrible Day is out of my Power.”⁴

After embarking the troops, the nearly forty American vessels--Continental, Massachusetts and New Hampshire State, privateers, and transports were again a single unit, completely under command of Commodore Saltonstall. And just as Saltonstall was unable to meld the American flotilla into a single, cooperating force during the siege of Fort George, he was also unable to inspire an orderly retreat. His decided lack of leadership, in fact, left every American vessel to shift for itself.

The transports (discussed separately in chapter 5) were first ordered to make sail up river, though contrary winds and an ebb tide ensured that most made it only as far as “The Narrows” (Figure 4). Waiting for the flotilla’s armed vessels around noon on 14 August, Paul Revere, striding the decks of the artillery brig *Samuel*, was “...expecting every minute to hear our ships attack the Enemy.”⁵ His expectations were never met. After forming a brief crescent formation, the American warships also took flight. Chaos reigned, but most captains expected at least a running fight. General Hill, who in the confusion found himself aboard the privateer *Charming Sally*, saw that on his own initiative the captain had cleared the decks for battle, and the general begged to know why the vessel remained idle. Captain Holmes replied that he had recently overheard the commodore order his sailing master “...to make all possible sail up the River,” and he was instructed to do the same.⁶

⁴ Journal of Solomon Lovell, 14 August 1779. In Gilbert Nash, *The Original Journal of Solomon Lovell, Kept during the Penobscot Expedition, 1779: With a Sketch of His Life* (Weymouth, Massachusetts, 1881), 50.

⁵ Journal of Paul Revere, 14 August 1779. In Elbridge Goss, *The Life of Paul Revere* (Boston, 1972), 374.

⁶ Statement by General Hill, 29 September 1779. In *Baxter Manuscripts*, vol 17: 267.

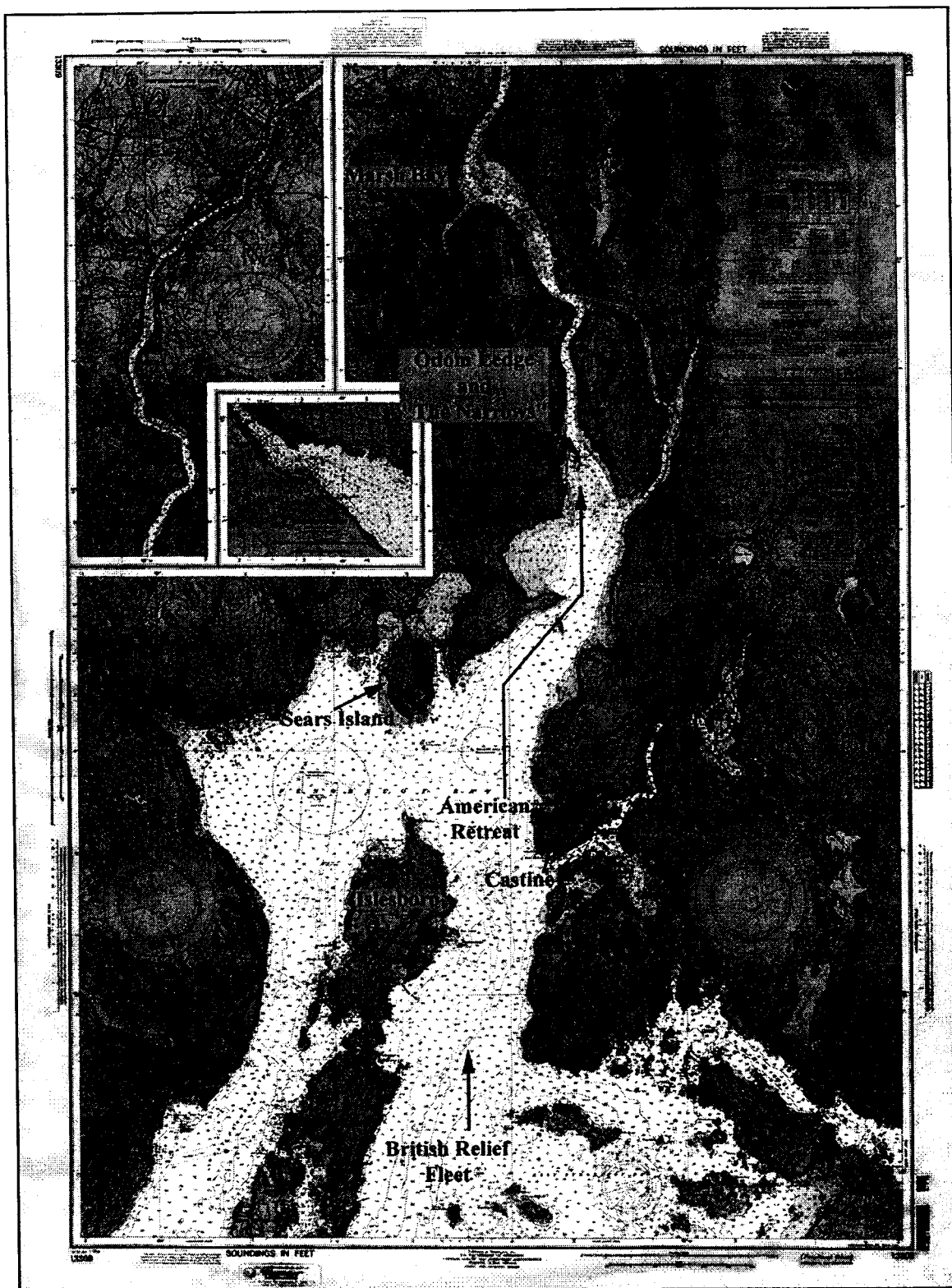


Figure 4. The American retreat from Castine, 14 August 1779 (after NOAA chart no. 13309).

Loss of the American Armed Vessels

In the early hours of the retreat, three armed American vessels, *Hunter*, *Active*, and *Defence*, attempted to run for the open sea. About 2:00 p.m., Captain Barkley of the 32-gun frigate HMS *Blonde*, in the van of the newly arrived British fleet, saw that the American warships were now "...in some disorder, three of them separated from their Mainbody, with an intent to escape round Long Island [today Islesboro Island]."⁷ Barkley had already considered this possibility and immediately sent up a pre-arranged signal. The *Blonde* and *Galatea* cut the American vessels off before they could round the northern tip of the island and reach the channel on the west side. Noticing that the poorly sailing 18-gun ship *Hunter* was particularly vulnerable, Barkley ordered the *Galatea*'s Captain Reid to pursue the American privateer. Attempting to sail inshore past the *Galatea*, Captain Nathan Brown ran the *Hunter* aground with all canvas flying. So too, with hopes of making a dash to the open sea thwarted, Captain Allen Hallet of the 16-gun brig *Active* sailed upriver, only to burn his ship two days later.

Meanwhile, the privateer *Defence*, a 16-gun brig, sought shelter behind Brigadier's Island (today's Sears Island). Having outrun both the *Blonde* and *Galatea*, the *Defence* was now pursued by the *Camilla*, which had been signaled by Barkley. Feeling his way into the shallow water of Stockton Harbor, Captain Edmonds temporarily evaded the deeper draft British warship. Perhaps intending to escape under cover of darkness, Edmonds prepared to wait for the morning tide that would safely carry the

⁷ Captain Andrew Barkley to Admiral Marriot Arbuthnot, 8 September 1779. Henry Clinton Papers, Clements Library, University of Michigan, Ann Arbor, Michigan.

Defence over the shoal that today forms part of the causeway from the mainland to Sears Island.⁸ Expecting that the *Defence's* most likely exit would be the down river approach to the harbor, Captain John Collins stationed the *Camilla* to block such an attempt (Figure 5). By midnight Collins resolved to force the American brig's surrender and deployed a detachment of longboats to force the issue. Escape now impossible, *Defence* crewmen Joseph Bartlett recollected that they "...succeeded in getting her ashore...all got on the shore and at dark laid a train of powder from the magazine."⁹ The effort was a success, for Bartlett also revealed that "...she blew up and all her guns went off together."¹⁰

The remaining American warships were hotly pursued as the British crowded on every sail and dogged the rebels until nightfall. At 4:00 p.m. on 14 August, the 20-gun New Hampshire State vessel *Hampden* fell behind the rest of the fleet and within firing range of the king's ships. With the enemy not more than "a League and a half a Stern," Captain Titus Salter's heavily sailing ship came under fire and was "hulled Sundrey times."¹¹ With his ship's rigging cut away and several men wounded, Salter found it impossible to join the fleet again and was "...abliged to Strick all thou Contrary to my well [will]."¹²

⁸ Shelley O. Smith, "The Defence: Life at Sea as Reflected in an Archaeological Assemblage from an Eighteenth Century Privateer" (Ph.D. diss., University of Pennsylvania, 1986), 26.

⁹ Joseph Bartlett. *Bartlett Reminiscences*, Massachusetts Historical Society (MHS), Boston, Massachusetts.
¹⁰ *Ibid.*

¹¹ Deposition of Captain Titus Salter, 25 September 1779. In James P. Baxter, ed., *Documentary History of the State of Maine, Containing the Baxter Manuscripts* (Portland, Maine, 1913), vol. 17: 214. Hereafter cited as *Baxter Manuscripts*.

¹² *Ibid.*

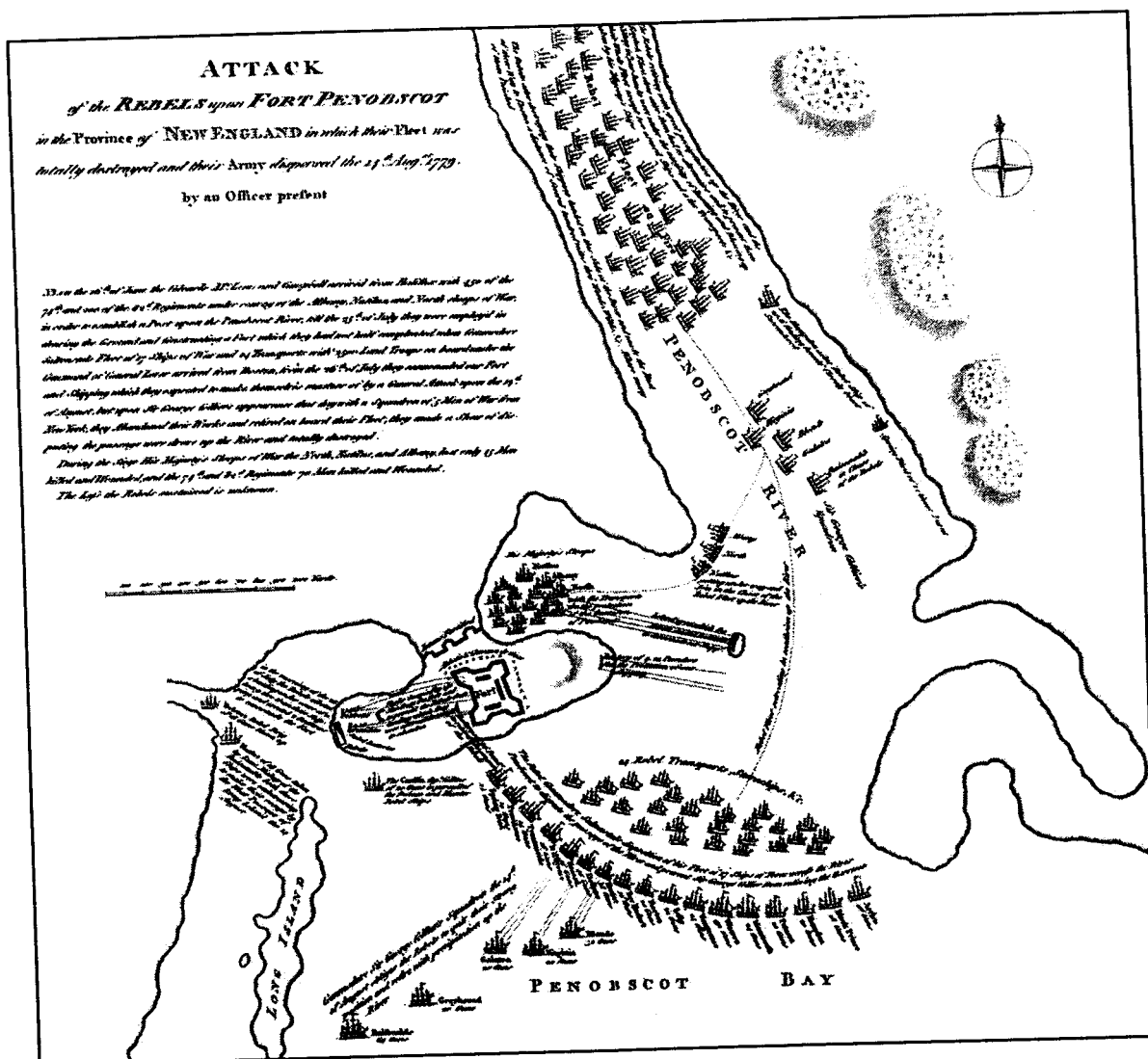


Figure 5. *Attack of the Rebels Upon Fort Penobscot* by an "Officer Present." This well detailed 1785 depiction of the retreat derives its land features from a 1768 map. Some features are shown on the wrong side of the river. Nonetheless, the map illustrates several important details, such as ships' names, initial positions, and final losses. Note the crescent formed by the American armed-vessels. The *Hunter* and *Defence* are to the left of Long Island being pursued by *Camilla*. The *Hampden* and *Spring Bird* (perhaps *Sky Rocket*) are slightly upriver to the right. The bulk of the American fleet is also shown in a second position, fleeing upriver (Doudiet, *Majabagaduce: Castine, Penobscot, Brooksville*, 5).

During this initial leg of the retreat, Castine chronicler George Wheeler indicates that the privateer *Sky Rocket* was burned off Fort Point Ledge, a fact corroborated by eyewitness Major William Todd, who saw the vessel aground at some point on the 14th and half an hour later witnessed the ship "covered in flames."¹³ By nightfall on the 14th, Captain Barkley of the HMS *Blonde* found that he and the *Virginia* were often in less than three fathoms of water. Likewise, the *Greyhound* grounded at least once. With the remaining American warships now above the Narrows and sealed upriver, Barkley and the British relief squadron anchored for the night.

On Sunday, 15 August, after crawling upstream much of the previous day and night, several armed vessels ascended the higher reaches of the Penobscot River. One historian of the expedition reckons that seventeen warships and four transports made it above the Narrows, the critical bottleneck that obliged the British flotilla to halt the previous night.¹⁴ In a statement given during the official inquiry, Captain John Williams of the Massachusetts State brig *Hazard*, revealed that, along with the Continental sloop *Providence*, Continental brig *Diligent*, and Massachusetts State brig *Tyrannicide*, he ran upriver within two or three miles of Bangor.¹⁵ With Major Todd among them, the captains of these vessels endeavored to scout the shoreline for a suitable place to make a stand and report their findings to the commodore. Along the way they encountered the privateers *General Putnam* and *Charming Sally*, which, on orders from Commodore

¹³ George A. Wheeler, *Castine: Past and Present* (Boston, 1896), 36. And William Todd, *The Following are a State of Facts Respecting the Penobscot Expedition*, Lovell Papers, MHS.

¹⁴ Charles Flood, *Rise and Fight Again: Perilous Times Along the Road to Independence* (New York, 1976), 228.

¹⁵ Statement of John F. Williams. In *Baxter Manuscripts*, vol. 17: 229.

Saltonstall, were being prepared for the torch. After receiving a marine captain who related that Saltonstall was landing his men and preparing to burn the Continental frigate *Warren*, the discouraged contingent saw no purpose but to travel again up river to their anchorage. Upon returning to their ships, the party found the privateers *Monmouth*, *Hector*, *Black Prince*, and *Charming Sally* had arrived. The Continental sloop *Providence*, Continental brig *Diligent*, and Massachusetts state brig *Tyrannicide* were still there as well. The Massachusetts state brig *Active* joined the anchorage sometime on the 15th.

Acutely afraid of becoming prisoners, many seamen deserted. Captain Williams assured his crew that even if he had to burn his ship he would "...take Care of them, and geet a Pilot to Carrey us through the woods."¹⁶ Nevertheless, the situation among the nine vessels anchored just below Bangor continued to deteriorate. When Captain Williams received the *Tyrannicide's* Captain Cathcart onboard the *Hazard*, Cathcart indicated that at one point he was obliged to fire upon his men to keep them from fleeing. The breaking point had arrived; defending the vessels was impossible. The following morning, 16 August, all of the vessels were burned. Destroying the ships, at least for these captains, was clearly a last resort. The commanders were apparently ready to fight and only reluctantly scuttled their vessels, for according to Major Todd "...finding they were deserted not having any men left... [and previously] wished so strongly to defend their ships set fire there to."¹⁷ Further down river a handful of vain attempts were made

¹⁶ *Ibid.*, 228.

¹⁷ William Todd, *State of Facts Respecting the Penobscot Expedition*, Lovell Papers, MHS.

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¹⁶ *Ibid.*, 228.

¹⁷ William Todd, *State of Facts Respecting the Penobscot Expedition*, Lovell Papers, MHS.

to gather troops and make a stand, but eventually, like Colonel Jonathan Mitchell, all the expedition's participants made off for home "...without any leave from [a] superior officer."¹⁸

While Williams and his group were travelling up and down the river, a scene previously unimaginable was taking place onboard the Continental frigate *Warren*. First Lieutenant George Little of the Massachusetts State brig *Hazard* witnessed it first hand. On the 15th, he and Captain Waterman Thomas had been chosen by General Lovell, himself onboard the *Hazard* for much of the retreat, to accompany him on a journey down river to see about saving the ordinance brig *Samuel*. Eventually, Little and Thomas freed the brig and proceeded up river with two British warships in pursuit. The men soon came upon, and sought the protection of, the *Warren*, which earlier grounded at Marsh Bay but had now made it to Oak Point Cove, just above Frankfort Village.¹⁹

Here Little discovered General Lovell begging Commodore Saltonstall not to burn the frigate. Unable to hold his tongue, Little felt compelled to suspend military protocol and admonished Saltonstall for leaving the transports to shift for themselves and suggested that the commodore should have "playe'd his Stern Chasers or [kept] the Large Ships In the Rear to Cover them."²⁰ And that was not all the Lieutenant had to say. Two British warships were coming into view, about two miles distant. Consequently, Little "advised" Saltonstall to "...geet Springs on his Cables and Geet his Eighteen pounders

¹⁸ Nathan Goold, *History of Colonel Jonathan Mitchell's Cumberland Regiment of the Penobscot Expedition, 1779: With Biographical Sketches of the Commissioned Officers and Pay-Rolls of the Companies* (Portland, Maine, 1899), 16.

¹⁹ Edward Gould, *Storming the Heights* (Rockland, Maine, 1932), 24.

²⁰ Testimony of Lieutenant George Little, 25 September 1779. In *Baxter Manuscripts*, vol. 17: 240.

on one side and Defend the Ship as Long as possible,” for in the frigate’s current position it was impossible for more than one enemy ship to engage the vessel at one time.²¹

Saltonstall declined. Perhaps with a sarcastic tone, Little even offered to remain on board and help defend the vessel. Having no more of Little’s impertinence, and suggesting that he take notice to whom he was talking, the *Warren*’s second lieutenant indicated that there were better men than Little on the frigate. If Saltonstall wanted to burn her it would be so. Little later revealed during the official inquiry into the failed expedition that his reply was simple. He wished they were onshore where “I Should be as good a Man as he was.”²² After traveling up river again, Lovell sincerely tried to send men back to the *Warren* and save her, though the effort was too late. Saltonstall burned the ship on the 15th. Lieutenant Little saw the commodore the following morning “Slinging his Pack for a March.”²³

On his way down river on 16 August, finally headed home, Captain Thomas saw the *Warren*, [*General*] *Putnam*, *Vengeance*, and “every Other Ship” were burned.²⁴ Thomas knew something of burning ships. Earlier that day he witnessed the destruction of the nine vessels just below Bangor, some of which had their cannon loaded with round and grape shot, which “...came very Plentifully round my boat, as well as a Cross, & up the River.”²⁵

²¹ *Ibid.* Ironically, Mowat used an identical tactic with his three sloops of war while defending the entrance to Bagaduce Harbor.

²² *Ibid.*

²³ *Ibid.*, 242.

²⁴ Testimony of Captain Waterman Thomas, 30 September 1779. In *Baxter Manuscripts*, vol. 17: 312.

²⁵ *Ibid.*

Notably, one armed vessel attached to the expedition escaped the conflagration all together. On 29 July Captain James Johnston of the privateer *Pallas* received an order from the commodore to "Sail for Frenchmans bay in Quest of A schooner of the Enemy's that had plunder'd a Number of inhabitants there."²⁶ Johnston was also ordered to stop any craft that he was "apprehensive of" and to "seize the persons of A number of tories."²⁷ Thus, on 30 July the fortunate brig *Pallas* beat down Penobscot Bay, doubled Cape Roziere, and forever lost sight of the fleet.

Another armed vessel was spared as well. Though listed in several secondary accounts as having been with the fleet at Penobscot, the brig *Renown* does not appear in at least two primary documents listing vessels lost on the expedition.²⁸ Moreover, it seems clear that the vessel did not sail with the original fleet, but rather was part of the relief force destined for Castine. On 17 August, while the *Renown* rode at anchor in Boston Harbor, Captain Robert Adamson received orders from the Massachusetts Council to put to sea the following day and convey transports to Penobscot Bay.²⁹ The transports had been assembled to carry Colonel Henry Jackson's relief forces to Penobscot. Upon passing Marblehead Harbor, Adamson was ordered to signal the brig *Terrible*, then lying there. This was indeed carried out, for on 19 August Massachusetts Council President Jeremiah Powell wrote to General Gates and related that Colonel Jackson's transports had departed the day before under a convoy of a 16 gun ship and two

²⁶ Statement of Captain James Johnston, 25 September 1779. In *Baxter Manuscripts*, vol. 17: 232.

²⁷ *Ibid.*, 232-233.

²⁸ *Vessels Lost at Penobscot*, Nathan Dane Papers, MHS. *List of Debts Due in the Naval Department on the Expedition to Penobscot*, in *Baxter Manuscripts*, vol. 17: 140.

²⁹ Council to Captain Robert Adamson, 17 August 1779. In *Baxter Manuscripts*, vol. 17: 16-17.

brigs.³⁰ Unfortunately, in the same letter Powell was obliged to admit that word had just come from General Lovell that the troops on Bagaduce were in retreat. Colonel Jackson's relief force learned of the disaster and immediately put into Portsmouth, New Hampshire. Dr. James Thatcher, a surgeon in Jackson's regiment who also noted that the 14-gun brig *Renown* was part of the relief fleet, took the news as "...a source not only of universal regret, but of infinite chagrin and mortification among all who had been concerned with the plan."³¹

Thus, in reconciling inconsistencies between several primary and secondary accounts regarding the original number and final losses of American armed vessels, it appears that eighteen armed vessels may actually have departed Boston in July 1779 for Penobscot. Historical accounts regarding the eventual destruction of fourteen armed vessels, as well as the capture of two others and the early departure of yet another, are alluded to above. At present, however, no eyewitness account of the destruction of the armed vessel *Charming Polly* has been found. Nevertheless, it is clear that the vessel was impressed (see chapter 2) and the vessel does appear on a primary document tallying vessel losses at Penobscot. The document indicates that the vessel was an armed sloop of 6-guns under command of John Palmer.³² If the *Charming Polly* was in fact scuttled during the retreat from Castine, the total of armed vessels scuttled during the Penobscot Expedition is fifteen. Finally, it should be noted that the loss and location of the privateer *Defence* is well substantiated in the archaeological record, and that shipwreck remains at

³⁰ Jeremiah Powell to General Horatio Gates, 19 August 1779. In *Baxter Manuscripts*, vol. 17: 23.

³¹ James Thatcher, *Military Journal of the Revolutionary War* (Hartford, 1854), 172.

³² Nathan Dane Papers, MHS.

the *Warren's* final reported resting place near Oak Point, also suggest a strong archaeological association.³³

This process of elimination is of considerable value in analyzing the Devereaux Cove vessel within the context of the Penobscot Expedition. With the exception of the *Charming Polly*, the loss or capture of all armed vessels can be historically documented, thereby accounting for all but one of these vessels. Moreover, with the exception of the *Defence*, whose location is known, these armed vessels were destroyed above the "Narrows," a considerable distance above Devereaux Cove. That the Devereaux Cove vessel, if in fact part of the Penobscot Expedition fleet, is probably not an armed vessel is a critical distinction; the remaining ships engaged in the expedition were transports of smaller vessel types (sloops and schooners).³⁴ Considering that the expedition is clearly responsible for depositing the largest number of eighteenth-century warships in the Penobscot River, concluding that the Devereaux Cove vessel is likely *not* one of the armed vessels, is an important first step in analyzing the wreck site.

The Aftermath

In the wake of the disastrous expedition to Penobscot, the Massachusetts General Assembly established a committee of inquiry and heard testimony from several key officers who had been part of the operation. Revelations produced during that inquiry constitute much of the material in the present work, and thus need not be summarized at

³³ Dr. Warren Riess, Associate Research Professor, Darling Marine Center, University of Maine, personal communication, October 1998.

³⁴ The artillery brig *Samuel*, considered a transport, is the one exception.

length. There are a few points worthy of note, however. Commodore Saltonstall refused to testify before the Massachusetts inquiry by virtue of his position in the Continental Navy. Although he escaped official discipline from the state of Massachusetts, the Continental Navy was less forgiving. After a court-martial held on board the Continental frigate *Deane* on 25 October, 1779, he was dismissed from the service but later had some success as captain of the privateer *Minerva*.³⁵

A few contemporaries rightly doubted that Saltonstall should have shouldered all the blame. In writing to two members of Congress, Massachusetts resident Ebenezer Hazard suggested that Saltonstall was purposely being held up by the Massachusetts government as the lone scapegoat, for "...his bulk would keep the smaller fry out of the light, and thereby the credit of the state would be saved."³⁶ These "little fry" were presumably officers of the state navy and militia. Going a step further, Hazard also conjectured that a verdict against Saltonstall, a Continental Navy officer, would furnish the state of Massachusetts with a plea "...for validating the Continent with the expense."³⁷ Whether this last theory of Hazard's was true is difficult to discern. The Continental government did eventually reimburse Massachusetts, however. Notably, Saltonstall's counterpart, General Solomon Lovell, was exonerated entirely.

Artillery train commander Paul Revere also suffered a blow to his reputation. His reputed arrogance and neglect of duty during the campaign led to the collective scorn

³⁵ John McManemin, *Captains of the Continental Navy* (Ho-Ho-Kus, New Jersey, 1981), 407.

³⁶ Ebenezer Hazard to William Floyd and Ezra L. Hommedieu, 22 March 1780. Miscellaneous Papers, MHS.

³⁷ *Ibid.*

of fellow officers and was the subject of lengthy depositions, but resulted in no official reprimand. Interestingly, after his character had been sufficiently impugned by those with whom he served, Revere requested his own court-martial in an attempt to clear his name.

It is apparent that the failure of the Penobscot Expedition began well before the American fleet first sighted the British garrison at Castine. Despite the area's considerable resources and strategic value, the state of Massachusetts failed to develop a plan for protecting the region until the arrival of the British. Moreover, state authorities severely overestimated their ability to expel the Britons once they arrived. Delays in actually getting the expeditionary force to Castine proved critical. Sailing on the Continental sloop *Providence*, Thomas Philbrook recalled time spent embarking militia in Maine where, "...we wasted several days seemingly, for no other purpose, but to give the enemy sufficient time to prepare for us."³⁸ In writing to General William Heath roughly three weeks before the fleet departed Boston, Seth Loring's pessimism proved prophetic when he griped, "I imagine it will not be so easily accomplished as many of our sanguine citizens suppose."³⁹ That the expedition's planners were chiefly civilian is a related criticism. Israel Keith echoed this point while contemplating the folly of a civilian committee attempting to understand military matters. During the inquiry, he lamented to General Heath "what will arise from [military] men being examined by an ignorant court is impossible to tell"⁴⁰

³⁸ Journal of Thomas Philbrook, in Benjamin Cowell, *Spirit of '76 in Rhode Island* (Boston, 1850), 316.

³⁹ Seth Loring to General William Heath, 7 July 1779. William Heath Papers, MHS.

⁴⁰ Israel Keith to General William Heath, 26 September 1779. William Heath Papers, MHS.

Difficulties in obtaining supplies, vessels, and manpower, were further exasperated by the inexperience of the ground troops, and, to some degree, that of Lovell himself. Moreover, the lack of homogeneity among vessels doubtless led to command problems. Captains of the privately armed vessels employed for the operation were clearly unaccustomed to the realities of fleet actions, and were doubtless unwilling to risk needlessly their most valuable asset, the vessel themselves.

Finally, despite orders from the Massachusetts Council to "...at all times Study [and] promote the Greatest Harmony...between land and sea Forces," the joint-command shared by Lovell and Saltonstall was sorely ineffective.⁴¹ This was chiefly because of Commodore Saltonstall's obstinacy. His unwillingness to use decisively the superior American fleet imperiled the expedition from the moment Bagaduce was within sight and ultimately consummated the failure of the poorly conceived operation. Captain John F. Williams of the privateer *Hazard* made this clear during the official inquiry when he stated, "Whenever any proposition was made for attacking the enemy's Shipping the Commodore open'd his Council by Preaching Terror."⁴² Indeed, while enamored over the recent exploits of John Paul Jones and the *Ranger*, Abigail Adams was not mistaken when she wrote on 13 December 1779, "Unhappy for us that we had not such a commander at the Penobscot expedition."⁴³ Arguably, such a man, admired for his decisiveness and courage, would have made a considerable difference.

⁴¹ Orders to Lovell and Saltonstall from the Massachusetts Council, 2 July 1779. In *Baxter Manuscripts* vol. 16: 321.

⁴² Statement of Captain John Williams, 25 September 1779. In *Baxter Manuscripts* vol. 17: 230.

⁴³ L.H. Butterfield and Marc Friedlaender, eds., *Adams Family Correspondence* (Cambridge, Massachusetts, 1973), vol. 3: 248.

Chapter 5

The Devereaux Cove Vessel as a Transport: Historical Evidence

"O then how we wished for a place of Rendezvous,
the Transports might have been saved."

-Brigadier General Peleg Wadsworth, 1 January 1828

Upon embarking on any archaeological analysis one must identify as precisely as possible the question, or problem, around which the investigation will center. In outlining standards within which archaeology should be carried out, Fred Plog admonishes that "formulating the problem should always involve an extensive review of the literature pertaining to the problem."¹ Indeed, a review of historic literature is not only required for developing the historic context for an archaeological site, but can also serve as an analytical tool. In this latter sense, conducting historic research becomes much like conducting the archaeological site investigation; it is useful for eliminating possibilities. So too, like the site investigation, historical research often leads to more questions, albeit of a more refined and precise nature. In developing a plausible historic context for the Devereaux Cove vessel, historical research is, of course, essential. As an analytical adjunct to the fieldwork, ongoing historical research is proving critical.

One cannot assume the Devereaux Cove vessel was attached to the Penobscot Expedition. Identifying the remains at Devereaux Cove first, as shipwreck, and second, as an eighteenth-century vessel, provide a logical beginning. As the archaeological data

¹ Fred T. Plog, *The Study of Prehistoric Change*, in Lawrence Babits and Hans Van Tilberg, eds., *Maritime Archaeology: A Reader in Substantive and Theoretical Contributions* (New York, 1998), 179.

will reveal, the first question can be answered in the affirmative, and the second with reasonable certainty (see chapter 8). With the knowledge that the failed Penobscot Expedition was responsible for contributing the single greatest deposit of eighteenth-century shipping to the Penobscot River bottom, it then becomes a logical next step to determine if the Devereaux Cove vessel was attached to that fleet.

The historical evidence offered in chapter 4 suggests that the vessel remains at Devereaux Cove, with the exception of one vessel, the schooner *Charming Polly*, cannot be one of the 15 armed warships lost during the expedition. Again, with the expedition leaving so many destroyed ships throughout the Penobscot River, eliminating armed vessels as potential candidates for the Devereaux Cove remains is significant. In this case, knowing what the shipwreck is not, is a natural precursor to understanding what it might be. As the historical research below suggests, determining the period, type, and possible identity for the ship remains at Devereaux Cove is enhanced considerably by an analysis of the Penobscot Expedition transports. The wreck is located below the "Narrows" at the mouth of the Penobscot River, immediately south of Sandy Point, Stockton Springs, Maine. Mentioned by several expedition eyewitnesses, historical documents suggest that the main body of American transports were scuttled near Sandy Point.

Unsurprisingly, historical accounts of the number of transports that initially departed Boston vary. Maine historian Edward Gould, whose work bears both the virtue of thorough research and the vice of occasional sentimentality, suggests that 25 transports

were originally attached to the expedition (19 sloops, 5 schooners, 1 brig).² In his account of the expedition, amateur historian and salvor John Cayford, puts the number at 23 (17 sloops, 5 schooners, 1 brig).³ Although they differ on the identity of three vessels, both authors list vessels' names in the same non-alphabetical order, suggesting that they worked from the same primary source or one from the other.⁴ Still another secondary account lists 20 transports (16 sloops, 3 schooners, 1 brig).⁵ Finally, in his *History of the State of Maine*, William D. Williamson indicates that 24 transports ferried troops to Castine.⁶

A manuscript in the Massachusetts Historical Society offers more insight. Here, in what appears to be a ledger specifying the individual value of vessels lost on the Penobscot Expedition, 22 vessels (18 sloops, 3 schooners, 1 brig) are listed without armament.⁷ Since the armament of other vessels in the ledger is given and can be substantiated in other documents, those without indicated armament were probably transports. Moreover, the transport vessels appear in a separate section and are chiefly small vessel types (sloops). Using these 22 vessels as an initial reference point, one can partially deduce how many transports were lost in the Sandy Point vicinity.

² Edward K. Gould, *Storming the Heights* (Rockland, Maine, 1932), 11-12.

³ John Cayford, *The Penobscot Expedition* (Orrington, Maine, 1976), 10.

⁴ Gould's work (1932) does not include a bibliography, though it must be assumed he used primary material. Cayford (1976) did use primary material, though he may have borrowed from Gould as well. Because of the disagreement on three vessel identities, at least one used a source the other did not.

⁵ John McManemin's, *Revolution on the High Seas* (Ho-Ho-Hus, New Jersey, 1988), 96. Though lacking some of the entries on Gould's and Cayford's lists, McManemin list is identical to theirs.

⁶ William D. Williamson, *History of the State of Maine* (1832; reprint ed., Freeport, Maine, 1966), 470.

⁷ Nathan Dane Papers, Massachusetts Historical Society, Boston, Massachusetts.

Historical Evidence: The Transports in Retreat

As with the Penobscot Expedition's armed vessels, the transports' retreat devolved rapidly into confusion soon after the troops were extracted from Bagaduce on 14 August. Ironically, the possibility that the transports' safety might be in jeopardy during a retreat was previously considered by Joshua Davis. As agent for the transports, Davis was appointed by the Massachusetts Council to oversee the fitting out of the contingent and provide overall stewardship during the expedition. Prior to the retreat, Davis was concerned about Saltonstall and the "Inactivity of the Armed Vessels," and consequently intimated to Lovell that he was "Anxious for the Safety of the Transports under my care."⁸ Davis inquired about the fate of the transports should a retreat become necessary, and according to Davis, Lovell responded flatly that as long as the British held Bagaduce Harbor he could not secure a retreat for the transports.

Retreating from Bagaduce before the armed vessels, the transports started up river and anchored briefly off Fort Point because of an ebb tide and contrary winds (Figure 6). When conditions permitted, the transports again got underway, only to be overtaken by the fleeing armed vessels before reaching Odom Ledge, beyond which the river narrowed sharply.⁹ Referred to by several eyewitnesses as the "Narrows," the outgoing tide at this critical bottleneck made it impossible for the transports to proceed upriver. With better sailing qualities than the transports, most of the American warships easily caught up to

⁸ Testimony of Joshua Davis, 24 September 1779. In James P. Baxter, ed., *Documentary History of the State of Maine, Containing the Baxter Manuscripts* (Portland, Maine, 1913), vol. 17: 314.

⁹ Statement of Colonel Samuel McCobb. Massachusetts Archives (MA), Boston, Massachusetts, vol. 145: 54. McCobb refers to the ledge as "a very rapid place of tide."

troop ships during this first leg of the retreat, but afforded no protection to the slower, unarmed vessels. Remarkably, not only did the American warships fail to protect the unarmed shipping, they were even reported to have hailed the transports and demand they give way.¹⁰

While scouting the shoreline along Fort Point for a suitable place to make a defensive stand, General Wadsworth cast his eyes slightly upriver and witnessed in disbelief that "...the Foremost of our Vessels of war were passing the Transports...."¹¹ Likewise, Lovell's aide, William Todd, revealed that the armed vessels offered no assistance to the transports but rather, "... with every endeavor strove to flee from the enemy."¹² Joshua Davis remarked that he too saw the armed ships retreating, and to his "...great Mortification They all Passed the Transports Without any Notice or assistance."¹³ The transports, many within grape shot of British warships and unable to defend themselves, had no alternative but to run ashore and land the several hundred troops on board.

On 8 September 1779, Captain Barkley of the HMS *Blonde* informed Admiral Arbuthnot that on the first day of the American retreat, "About seven [p.m.] their transports got into a small bay near the narrows under cover of some rocks, where they run on shore."¹⁴ It is unclear precisely which bay Barkley referred to, though it is

¹⁰ *Ibid.*

¹¹ Statement of General Wadsworth, 28 Sept. 1779. In *Baxter Manuscripts*, vol 17: 275.

¹² William Todd, *State of Facts Respecting the Penobscot Expedition*. Lovell Papers, Massachusetts Historical Society, Boston, Massachusetts.

¹³ Testimony of Joshua Davis, Agent for the Transports, 24 September 1779. In *Baxter Manuscripts*, vol. 17: 314.

¹⁴ Captain Andrew Barkley to Admiral Marriot Arbuthnot, 8 September 1779. Henry Clinton Papers, Clements Library, University of Michigan, Ann Arbor, Michigan.



Figure 6. Unable to ascend the river, the majority of American transports were lost below the "Narrows." Several eyewitnesses identified Odom Ledge, Sandy Point promontory and town, and Fort Point, while describing the retreat and loss of the transports; these landmarks can be seen here. The Devereaux Cove Wreck is located well within the path of the transports' chaotic retreat (after NOAA chart no. 13309).

likely either Mill Cove, approximately three quarters of a mile north of the Sandy Point promontory, or the small unnamed eddy immediately north of Sandy Point. Nevertheless, the sheer number of transports in retreat, suggests that not all of the unfortunate vessels ended up in a small, confined area. Mill Cove is only one half mile wide, and the width of the unnamed cove immediately north of Sandy Point is about half that distance. Even if they were sailing as close as possible, which is unlikely given the frantic nature of the retreat, the 22 fleeing transports required considerable sea room to maneuver. Some vessels inevitably strayed, and as other eyewitnesses revealed, the transports were likely huddled around Sandy Point rather than in one specific bay. Immediately south of Sandy Point is Fort Point Cove, within which are five smaller coves including Devereaux Cove. That some, or at least one, of the transports landed here during the retreat, or whose charred carcass drifted here sometime during the ensuing days, is likely.

The log of the *Blonde* estimates that 20 transports were confined in the bay mentioned by Barkley, and that after landing, the crews fired their vessels. Historian Charles Flood reckons the number to be 18.¹⁵ That the transports were burned in short order is substantiated by Barkley's later observation that during that same night, "The boats of the Frigates [British] were Employed all night in towing on shore the flaming Rebels ships and vessels...which floated very near us."¹⁶ Indeed, the entire night was "...one continued flame and blowing up of their ships in the Narrows."¹⁷

¹⁵ Charles Flood, *Rise and Fight Again: Perilous Times Along the Road to Independence* (New York, 1976). 227.

¹⁶ Captain Andrew Barkley to Admiral Marriot Arbuthnot, 8 September 1779. Henry Clinton Papers, Clements Library, University of Michigan.

¹⁷ *Ibid.*

Artillery train commander Paul Revere recounted in his journal that the armed ships overtook the transports off Fort Point, and the transports soon "...ran onshore, and landed their men, in the utmost confusion."¹⁸ General Wadsworth's account of the retreat corroborates Revere's in fixing the place where the transports were lost. According to Wadsworth, with the tide turning against them, the American transports "chiefly shot into the eddy on the west, only side of the river, and ran ashore about two miles below the narrows."¹⁹ During the retreat Wadsworth went ahead to find a suitable place to haul up some cannon and make a defense. Upon his return to the "cluster of transports," he found "many on fire, all deserted, and our troops scattered in the bush in utmost confusion."²⁰ Nearly fifty years after the expedition, Wadsworth lamented to Maine historian William D. Williamson "O then how we wished for a place of Rendezvous, the Transports might have been saved."²¹

Several expedition eyewitnesses detailed the American retreat and subsequent destruction of the fleet with maps and charts. In a letter to General Heath on 24 October 1779, Revere gave his version of events and included a map that depicts the transports being burned at Sandy Point (Figure 7). Additionally, a 1785 British map entitled *Attack of the Rebels Upon Fort Penobscot* by an "Officer Present", clearly shows the American fleet fleeing upriver (Figure 5). A note on the map reveals that many vessels were landed and destroyed on the west side of the river. Unfortunately, the map, with land features

¹⁸ Journal of Paul Revere, in Elbridge Goss *The Life of Colonel Paul Revere* (Boston, 1972), 375.

¹⁹ Wadsworth to Massachusetts Council, 19 August 1779. In *Baxter Manuscripts*, vol. 17: 29.

²⁰ *Ibid.*

²¹ Wadsworth to Williamson, 1 January 1828. Upon Williamson's request, Wadsworth furnished him with an account of the siege and several character evaluations of those involved.

from a 1768 version, places the Castine Peninsula on the wrong side of the river. Other maps survive as well, including one by Tory doctor John Calef and another by an anonymous author (Figures 8 and 9).

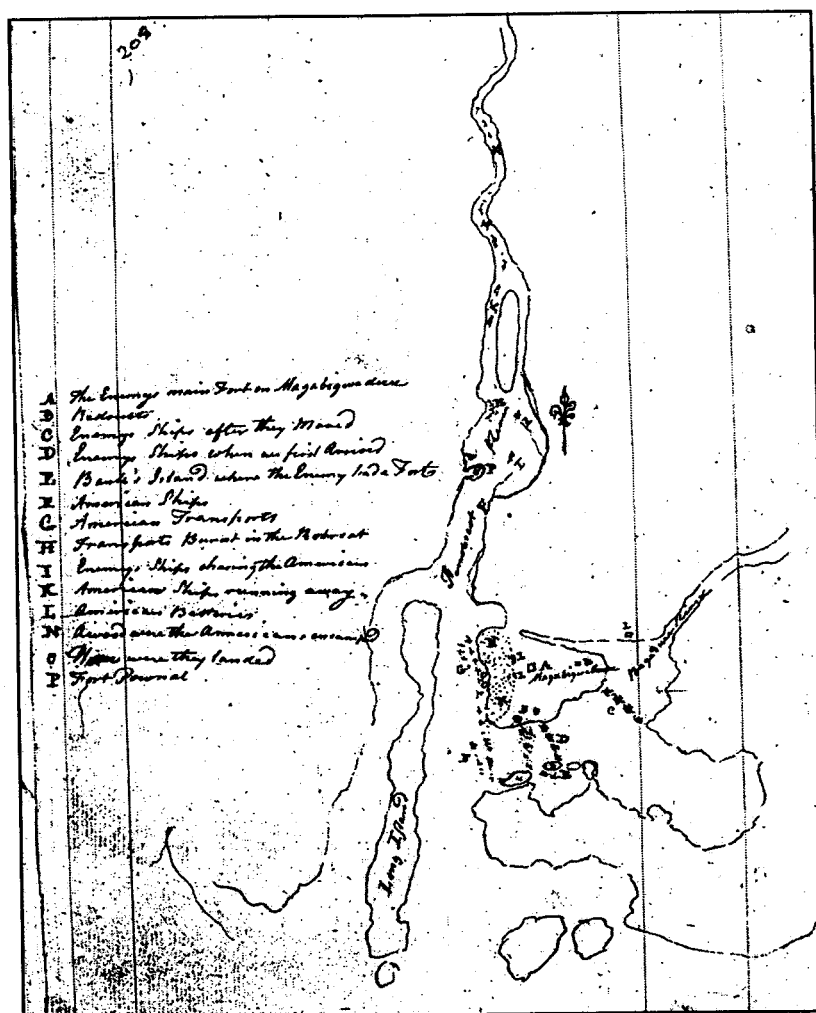


Figure 7. A map of the American retreat by Paul Revere. Castine is shown clearly, as is the entrance to the Narrows. Fort Pownall (on Fort Point) is indicated by the letter "P". Just north of Fort Point is Sandy Point, where Revere indicates the burning transports with the letter "H" (Paul Revere to General William Heath, 24 October 1779, *William Heath Papers*, MHS).



Figure 8. One part of Tory doctor Dr. John Calef's two part map of the retreat. The American fleet's difficulty getting past the Narrows is clearly depicted (From the Journal of John Calef, in *Eyewitness Accounts of the American Revolution*).

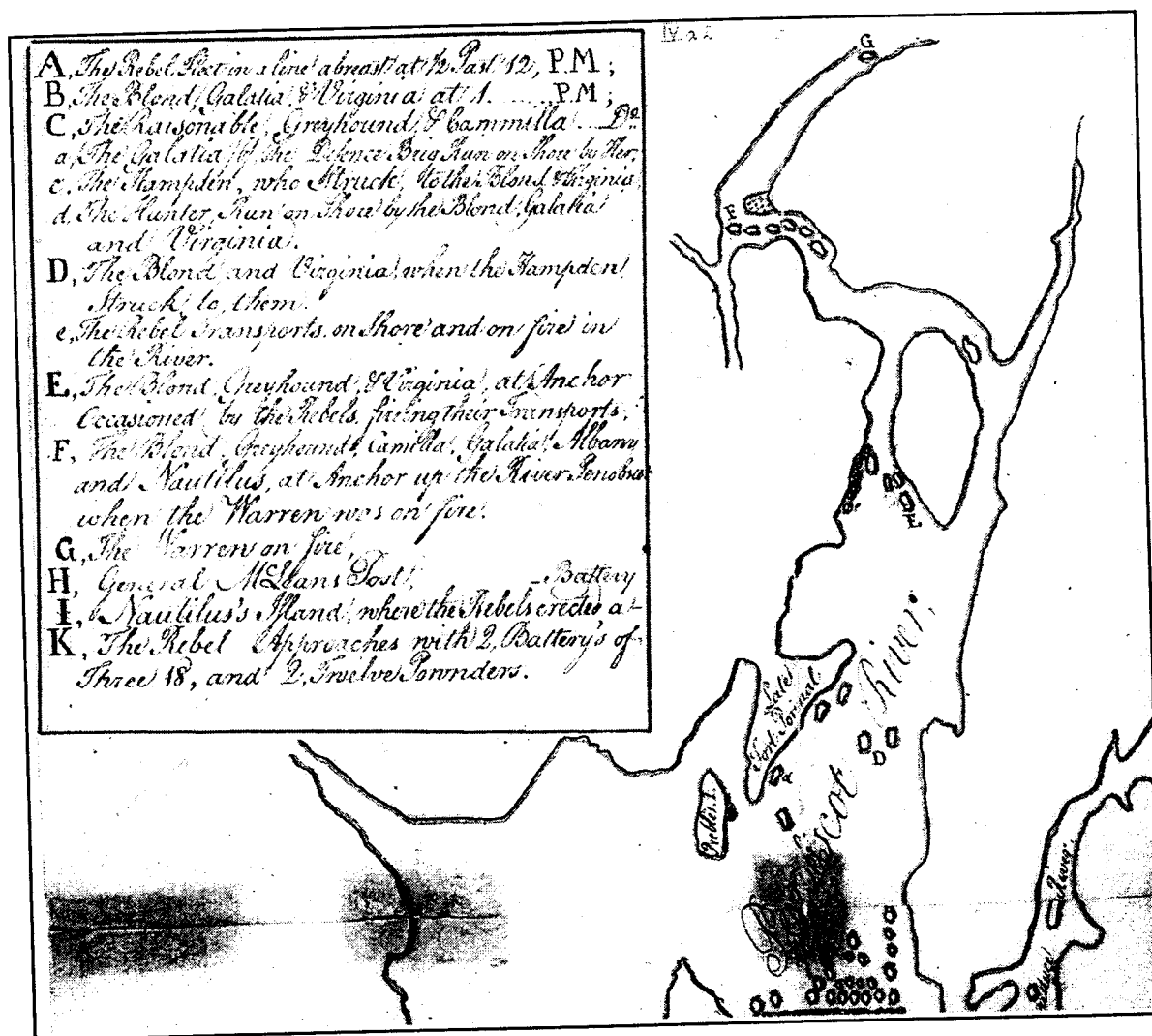


Figure 9. A portion of a large map at the Massachusetts Historical Society by an anonymous author. Note the cursive, lower case letter "E" depicting the loss of the transports around Sandy Point. The upper case letter "E" shows the position of HMS Blonde, HMS Greyhound, and HMS Virginia, while the transports were being "fired" (Map Collection, MHS, IV a.2).

Not every transport, however, met an immediate fate in the initial conflagration. Paul Revere was quick to point out that his ordinance brig, *Samuel*, was "...the last who came ashore."²² This was true, for being unable to ascend the river, Captain James Brown "...thought it would be best to run ashore upon the West point of the Narrows."²³ Here he found two other transports in flames along side his own and expected that the *Samuel* would eventually catch fire. Incredibly, the *Samuel* did not remain grounded with the other transports. Despite the fact that Brown testified he left the vessel's anchor down (but with insufficient scope) and all her canvas flying to "press her onshore", the vessel was later seen to clear the flaming transports and travel, unmanned, a considerable distance upriver. Major William Todd, who, with other officers, was critical of Revere's conduct during the entire operation, confirmed later that indeed the *Samuel* initially grounded at Sandy Point.²⁴

On 14 August, Revere found himself onboard yet another fortunate transport. That evening he was seen travelling upriver on the sloop *Pigeon*, by Lieutenant George Little, who accompanied General Lovell back down river after the initial retreat and would later witness the destruction of several armed vessels.²⁵ That the *Pigeon* ultimately ascended the river safely is corroborated by Lieutenant Little. After he saw Revere, Little heard General Lovell hail a Colonel Mitchell and tell him "to repair with what men he could collect to the head of the river, that the Sloop *Pidgeon* was there with

²² Journal of Paul Revere, in Goss *The Life of Colonel Paul Revere*, 375.

²³ Testimony of Captain James Brown, 29 September 1779. In *Baxter Manuscripts*, vol. 17: 280-281.

²⁴ William Todd, *State of Facts Respecting the Penobscot Expedition*. Lovell Papers, MHS.

²⁵ Deposition of Lieutenant George Little, 25 September 1779. In *Baxter Manuscripts*, vol. 17: 239.

provisions.”²⁶ Revere himself wrote in his journal that he “Went on board a Transport which had got up River and stayed till Day light.”²⁷

The transport *Hannah*, like the armed vessels *Hunter* and *Hampden*, was captured. Joshua Davis revealed during the official inquiry that he sailed for Bagaduce “...on the State Schooner *Hannah*” and that during the retreat he attempted to land provisions from “his schooner.”²⁸ While landing provisions, Davis instructed the *Hannah*’s captain, Samuel Lapa, to remain on board until the landing was completed and then “Sit fire to the Schooner.” Unfortunately, the small boat to be used for the captain’s escape went adrift and left the commander without means to ferry himself to shore. Unable to set the vessel on fire, it was not long before the “Enemy Sent five barges which Toke the Vessel.”²⁹ All this transpired “...Within Musket Shot of the Comedores Stern who never Sufered a Gun to be fired.”³⁰

Notably, *Hannah* was a popular vessel name throughout the eighteenth century, and another expedition transport possessed the name as well.³¹ Both a schooner *Hannah* and a sloop *Hannah* are referred to in a primary document at the Massachusetts Historical Society concerning the Penobscot Expedition.³² The manuscript lists the schooner *Hannah* as having 6 guns and a value of £ 10,000, certainly more likely to be Davis’ command vessel. The sloop *Hannah*, under a Captain Sampson, is valued at only

²⁶ *Ibid.*, 243.

²⁷ Journal of Paul Revere, in Goss *The Life of Colonel Paul Revere*, 375.

²⁸ Testimony of Joshua Davis, 24 September 1779, In *Baxter Manuscripts* vol. 17: 312, 315.

²⁹ *Ibid.*, 315.

³⁰ *Ibid.*

³¹ The first vessel of General George Washington’s fledgling naval force (1775) was named *Hannah*.

³² Nathan Dane Papers, MHS.

£ 6,000. Interestingly, Maine maritime historian William Rowe reveals that a 60-ton sloop *Hannah*, launched by Colonel Jonathan Buck, was the first vessel built in the "Penobscot Bay country," and burned by the British ship *Nautilus* in 1779.³³ That some confusion exists on Rowe's part is possible, though difficult to substantiate either way without determining his source of information. Moreover, the question remains as to whether the British eventually burned Davis' *Hannah*, thus confusing the issue further. Nevertheless, these references may substantiate the loss of two separate transports.

Other transports may have been captured as well, although an exact accounting is difficult. Amidst the confusion of the mass landing, Colonel Samuel McCobb noticed two transports dangerously close to the British warships. The transports held four companies of men who, without small boats to ferry them to shore, were "...crying out for assistance."³⁴ McCobb hailed a sloop under the command of Captain Drinkwater, whose crew was busy salvaging their vessel's sails, and demanded that they help ferry the stranded and unprotected troops to shore.³⁵ According to McCobb, "...they paid no regard till they got off their sails."³⁶ They eventually did ferry men, which suggests that troops were removed before the vessel landed and could be set on fire. Being so close to the enemy and in mid water, it is conceivable that the two transports were captured. Maine historian William D. Williamson offers tantalizing corroboration when he

³³ William H. Rowe, *The Maritime History of Maine: Three Centuries of Shipbuilding and Seafaring* (New York, 1948), 59-60.

³⁴ Statement of Samuel McCobb, MA, vol: 54.

³⁵ This was either the *Fortune* or *Sparrow*, commanded by David Drinkwater and Samuel Drinkwater respectively.

³⁶ *Ibid.*

mentions that in Marsh Bay, "...prizes were made of the [transports] *Nancy* and *Rover*."³⁷ Nonetheless, Marsh Bay is above the Narrows, rather than near Sandy Point, and Williamson does not reveal his source. Thus, Williamson's claim requires further investigation.

Captain Barkley of the HMS *Blonde* noted that on the first night of the retreat the British boats and frigates were engaged in "...securing some transports and Victualers, which the Enemy had not time to destroy."³⁸ Dr. John Calef, the Loyalist doctor who witnessed much of the campaign, figured that nine transports were captured and ten were "Burnt."³⁹ The estimate of nine captured transports seems high when one considers that most other known eyewitnesses describe the conflagration of transports as being total. Would only 10 blazing vessels produce the same grave descriptions as 18 or 19? The answer may lie somewhere in between. According to Major William Todd, of the transports "...left at Sandy point some [were] at Anchor some aground Some in Flames and others near the same Ruin."⁴⁰ Further research is needed to confirm or refute Calef's claim.

Nevertheless, by the time the schooner *Hannah* was captured, Davis noted that most of the transports were on shore and many were on fire. Nothing more could be done for the moment. With the provisions he saved, Davis headed upriver and was

³⁷ Williamson, *A History of the State of Maine*, 476.

³⁸ Captain Andrew Barkley to Admiral Marriot Arbuthnot, 8 September 1779. Henry Clinton Papers, Clements Library, University of Michigan.

³⁹ Journal of John Calef, *A Journal of the Siege of Penobscot*, 32. The journal can be found in, *Eyewitness Accounts of the American Revolution* (New York, 1971), 7-55.

⁴⁰ William Todd, *State of Facts Respecting the Penobscot Expedition*. Lovell Papers, MHS.

subsequently taken aboard the armed brig *Hazard*. He later obtained a small boat and with some others journeyed back down river to save whatever provisions and transports might have escaped destruction. Nothing apparently survived below the Narrows. Nevertheless, Davis did note that "In Returning I found Four Transports now in the Stream above the Narrows & ordered them to make the best of their Way to the head of the River."⁴¹

Davis returned upriver and even stored some provisions "over the falls" (at Bangor), though he did not mention the four transports again. It is unlikely that the vessels ventured back below the Narrows, since the British remained there for some time. Thus, these four vessels, along with the *Samuel* and *Pigeon*, account for six transports that appear to have ascended the river. Notably, Captain Philip Brown of the Massachusetts State brig *Diligent*, burned with others below Bangor, mentioned that on the morning of 16 August "...to my great Surprise Saw one of the Transports on fire."⁴² Considering Brown's position near Bangor this statement either accounts for one of the six transports mentioned above, or perhaps another vessel entirely.

As evidenced above, an exact accounting for the number of American vessels burned around Sandy Point is difficult; a minimum of 10, to a maximum of 16 or 18 appears likely. Either extreme, however, represents a considerable loss of eighteenth-century shipping in the Sandy Point/ Devereaux Cove vicinity. Indeed, because of poor

⁴¹ Testimony of Joshua Davis, 24 September 1779, In *Baxter Manuscripts* vol. 17: 315.

⁴² Testimony of Captain Philip Brown, 29 September 1779. In *Baxter Manuscripts* vol. 17: 291.

sailing qualities, the strength of the outgoing tide at the Narrows, a contrary wind, and the knowledge that fleeing American armed vessels forced many to run aground prematurely, it is not unreasonable to speculate that few transports actually ascended the river.

Primary accounts, in the form of journals and maps help establish the location of the burned transports, though fail to provide an exact number. One of the best first-hand accounts revealing the number of transports lost in the Sandy Point/Devereaux Cove area is the log of HMS *Blonde*, which indicates that, during the first day of the retreat, 20 transports were confined "to a small bay." How many were ultimately burned is unclear. Several secondary accounts of the transports' final dispositions provide tantalizing clues, although, as indicated above, some authors do not reveal their sources and must be viewed with care.

In light of historical evidence confirming the final disposition of all but one of the expedition's armed ships, it appears that the vessels scuttled in the vicinity of Sandy Point/Devereaux Cove were exclusively transports. Consequently, if the Devereaux Cove vessel were attached to the Penobscot Expedition, it is most likely a transport -- sloop or schooner-- rather than a larger armed vessel. Thus, the archaeological investigation of the Devereaux Cove wreck was undertaken with a view toward discerning the vessel's dimensions, age, and type, as a means of determining its association with the Penobscot Expedition. With this in mind, the design, construction, use, and prevalence of sloops and schooners in pre-Revolutionary New England must next be considered.

Chapter 6

Sloops and Schooners in Eighteenth-Century New England

The Rise of Colonial Shipbuilding

In sharp contrast to the late seventeenth century and first three quarters of the eighteenth century, the earliest decades of English colonization in North America saw minor shipbuilding activity. Indeed, in response to newly opened sea routes for the Mediterranean, East Indian, American, and English coal trade, shipbuilding in England expanded steadily in the early 1600s, while in America, vessels were built merely to replace wrecked ships (that originated overseas) and aid coastal exploration.¹ Internal and external demands for vessels, however, quickly brought about the full realization of North America's most considerable shipbuilding resource: enormous stands of inexpensive, accessible, high quality timber. Notably, it has been argued that the rise of colonial shipbuilding occurred nearly in spite of itself, for in North America, "capital was not so abundant as in England and Holland; labor was scarce, less skilled, and higher priced; and the primary market for vessels was Europe."² As shown below, however, these factors were progressively mitigated after the mid seventeenth century.

Externally, timber shortages in Europe required the English crown look to its American colonies for shipbuilding timber. As early as 1700, Great Britain's forests had

¹ Joseph Goldenberg, *Shipbuilding in Colonial America* (Charlottesville, Virginia, 1976), 5.

² John Hutchins, "History and Development of the Shipbuilding Industry in the United States", *The Shipbuilding Business in the United States of America*, vol. 1, F. G. Fassett ed., (New York, 1948), 22.

decreased to one-eighth of the total, and large sized native oak, prized for compass timber and durability, was in particularly short supply.³ Conversely, every species of timber required for shipbuilding could be found in abundance along North America's eastern seaboard until the turn of the nineteenth century.⁴ Northern New England's straight, tall white pines, often three feet in diameter, were particularly valuable for use as masts, the first cargo of which was shipped from Camden, Maine, in 1634.⁵ Although shipwrights in the royal dockyards initially disfavored white oak from New England and the middle Atlantic colonies, it compared favorably with European oak and subsequently became a major shipbuilding material. Live oak, found from Virginia to Texas, was used only sparingly until the mid nineteenth century, because it was extremely hard and difficult to work.⁶

The colonial shipwright's inexperience with native timber, though initially an obstacle, was overcome by the end of the 1600s. For example, red oak, though abundant in New England and the middle Atlantic region, is less resistant to decay and water than white oak.⁷ The widespread use of this plentiful species during the seventeenth century contributed to American-built vessels' poor reputation, a circumstance reversed by the 1770s when most American-built vessels listed in *Lloyd's Register* carried the highest

³ *Ibid.*

⁴ The value of North American timber was revealed in the revised Navigation Acts of 1729, when shipbuilding timber, particularly oak and pine, was considered an enumerated article and could be shipped only to England.

⁵ William Baker, *A Maritime History of Bath, Maine and the Kennebec River Region*, vol. 1 (Bath, Maine, 1973), 110.

⁶ Amy Mitchell, "A Comparison of Wood Use in Eighteenth Century Vessels" (Master's Thesis, East Carolina University, 1994), 80.

⁷ Goldenberg, *Shipbuilding in Colonial America*, 15.

hull rating (A).⁸ Locust, cedar, maple, beech, and birch were also suitable for ship construction, though these species were more commonly used in commercial craft rather than naval vessels.⁹

Great Britain's timber shortage was further exasperated by the demands of war and trade, which necessitated an ever-increasing need for naval and merchant vessels. The eighteenth century opened with Queen Anne's War (1702-1713), and after a reprieve between 1713 and 1739, Great Britain remained in conflict with Spain, France, and the Baltic countries, until the end of the French and Indian War in 1763. Economic necessity forced the British Empire to turn away from home grown and Baltic timber and toward the American colonies. As early as 1730, one-sixth of England's trading fleet was built in her American colonies, and by 1774, nearly one-third of all British ships (2,342 out of 7,694) were built in America.¹⁰ Notably, by the start of the American Revolution, one half of all colonial built vessels exported to Great Britain were built in New England.¹¹ Boston particularly flourished as a shipbuilding port, where by the mid eighteenth century it cost only £8 per ton to build a ship, as opposed to £10.10 in the Carolinas, and as much as £16.6 in England.¹² The cost effectiveness of building vessels close to the timber source eventually led to an influx of shipwrights into the American colonies, and naturally engendered continued expertise in the trade. By 1710, Great Britain's Board of

⁸ Mitchell, "A Comparison of Wood Use in Eighteenth Century Vessels", 83.

⁹ Hutchins, "History and Development of the Shipbuilding Industry", 16.

¹⁰ David MacGregor, *Merchant Sailing Ships, 1775-1815: The Heyday of Sail* (London, 1985), 12.

¹¹ Gregory Cook, "The Readers Point Vessel: Hull Analysis of an Eighteenth-Century Merchant Sloop Excavated in St. Ann's Bay, Jamaica" (Master's Thesis, Texas A&M University, 1997), 88. Goldenberg, *Shipbuilding in Colonial America*, 53, 99.

¹² Mitchell, "A Comparison of Wood Use in Eighteenth Century Vessels", 32.

Trade estimated that half the country's shipwrights had departed; most went to New England.¹³

Internally, as coastal developed, profit minded American merchants rapidly recognized water transport as a cheaper and quicker alternative to carrying goods overland. Massachusetts, in particular, dominated inter-colony trade throughout the colonial period, and New England merchants owned the majority of vessels employed and sold in the West Indian trade.¹⁴ Thus, the declining availability of English-built ships, the experience gained by American shipwrights in harvesting and experimenting with different species of native timber, and the need to build vessels for its own burgeoning merchant fleet, resulted in the proliferation of colonial shipbuilding by the mid-seventeenth century.

At the turn of the eighteenth century, American colonists built and utilized a wide range of vessel types, from full-rigged ships, to fore and aft rigged, single-masted sloops and shallops. Within this wide spectrum of vessel types, additional "sub classes" of single vessel types further expanded the variety of watercraft built in America. Generally, for each type of vessel: ship, snow, brigantine, schooner, sloop, etc., both large and small versions were constructed, the larger exported to England and the smaller for ownership and use in colonial coastal trade. During the first three-quarters of the eighteenth century, for example, Pennsylvania-built ships and brigs purchased by London merchants averaged 235.8 tons and 140.4 tons respectively, whereas the colonial

¹³ Goldenberg, *Shipbuilding in Colonial America*, 53.

¹⁴ *Ibid.*, 96, 98.

equivalents averaged only 145.9 tons and 62.2 tons.¹⁵ Massachusetts-built brigantines purchased by British merchants were nearly twice the tonnage of those owned by colonists and employed in the coastal and West Indian trade.¹⁶

Political dynamics also played a part in colonial American shipbuilding and particularly influenced design. Originally a loosely enforced measure that placed a prohibitively high duty on molasses, the 1733 Molasses Act produced a sharp rise in colonial smuggling.¹⁷ Indeed, the profitability of smuggling fueled its wide spread existence, and the ease with which it was carried out is clearly revealed by the English crown's failure to collect more than a paltry £2 in molasses duties in 1735.¹⁸ Bolstered by the notorious Writs of Assistance, the Molasses Act was more strictly enforced by the end of the Seven Years War (1763). Consequently, an American trend toward faster vessels, born in part from the necessary requirements of a successful smuggling vessel emerged. Maritime historian Howard Chapelle contends that during the eighteenth century "the search for speed under sail", manifested chiefly in finer hull lines, was a distinctively American aim. Indeed, purpose-built American privateering and blockade running vessels of the Revolutionary era were constructed with speed in mind.¹⁹ It should be emphasized, however, that the above applies to purpose-built privateers and

¹⁵ *Ibid.*, 81.

¹⁶ *Ibid.*

¹⁷ Harold H. Hahn, *The Colonial Schooner: 1763-1775* (Annapolis, Maryland, 1981), 17.

¹⁸ Albert B. Southwick, "The Molasses Act-Source of Precedents," *William and Mary Quarterly*, 3rd ser., vol. 8, no. 3 (1951): 404.

¹⁹ This is well illustrated by the design of the American privateer *Defence*, described in chapter 8.

smuggling craft; it has been argued that colonial vessels, on the whole, did not sail any faster as the period progressed.²⁰

Further, as a significant offshore colonial fishery developed, most notably in Massachusetts, inexpensive vessels with excellent sailing qualities and a reasonable cargo capacity, such as sloops and schooners, proliferated. Smaller, fore and aft rigged craft dominated the colonial commercial fleet, and the advantages of these vessel types reflected the requirements of coastal and West Indian trading and offshore fishing. A shallow draft and a thrifty use of timber were necessities. Additionally, the fore and aft rig required a smaller crew than a square rig, which translated into higher profits for the vessel owner. The fore and aft rig also enabled schooners and sloops to sail closer to the wind and excel in variable coastal breezes. In this context, it is understandable why, with the exception of the artillery brig *Samuel*, transports engaged in the Penobscot Expedition were solely sloops and schooners. As mentioned previously, primary sources indicate that, of the 22 vessels engaged as transports for the expedition, 18 were sloops, 3 were schooners, and 1 was a brig.²¹

Sloops

The preponderance of sloops as Penobscot Expedition transport vessels reflects the vessel type's prevalence in late-eighteenth century Massachusetts. The "next step up the scale" from the smaller shallop, the sloop is of Dutch origin and first mentioned in

²⁰ James F. Shepherd and Gary M. Walton, *Shipping Maritime Trade, and the Economic Development of Colonial North America* (Cambridge, 1972), 80.

²¹ Nathan Dane Papers, Massachusetts Historical Society (MHS), Boston, Massachusetts.

Massachusetts in 1651 or 1652.²² Although the contemporary image of a sloop is a one masted vessel, the term originally identified a range of small vessels, which, as late as 1732, were "Sail'd & Masted as Mens fancys leads them...."²³ The earliest mention in Massachusetts of a clearly single masted sloop is a 1685 bill of sale for the *Amity*. The vessel type was indeed popular; between 1697 and 1714, sloops comprised 40 percent of Massachusetts' shipping register.²⁴ Like other colonial vessel types, sloops were constructed in various sizes. Those employed as coastal traders generally ranged from 20-40 tons, while those undertaking West Indian voyages were usually greater than 50 tons.²⁵ Design plans for a 100-ton Virginia-built sloop reveal that vessels of such size may occasionally have been constructed.

At least one expedition eyewitness clearly recognized the preponderance of sloops as transport vessels and commented on their size. Upon embarking the Continental sloop *Providence* prior to the American fleet's departure for Penobscot, Thomas Philbrook observed that "Forty coastal sloops of about one hundred tons each [were] employed as transports."²⁶ That Philbrook recognized the transports as coastal sloops is significant, as is his impression that they were generally uniform in size. While the transports may not all have been 100 tons, some were clearly of the large sloop variety. The transport *Centurion*, a sloop valued at £2,900, was reportedly 80 1/3 tons, and carried four

²² William A. Baker, *Sloops and Shallops* (Barre, Massachusetts, 1966), 47.

²³ *Ibid.*, 38. Quote from Thomas Riley Blanckley's 1732 nautical dictionary *A Naval Expositor*, found in Baker.

²⁴ *Ibid.*, 59, 63

²⁵ Goldenberg, *Shipbuilding in Colonial America*, 77.

²⁶ Journal of Thomas Philbrook. In Benjamin Cowell, *Spirit of '76 in Rhode Island* (Boston, 1850), 316.

crewmens.²⁷ Depending on one's definition, a "coastal" sloop was usually considerably smaller than 100 tons. However, discrepancies between eighteenth-century vernacular and modern definitions are often frustrating. As evidenced by Philbrook's remark, expedition transports seem to fit the modern conception of a vessel large enough to trade along the Atlantic seaboard and West Indies. An experienced sailor, Philbrook, like other contemporary seamen, would have easily recognized a vessel's characteristics, making even a cursory remark worthy of consideration.

The preponderance of Massachusetts sloops, employed as fishing vessels, wood carriers, and general purpose coastal traders is further evidenced by the dozens that petitioned to sail under the auspices of the Penobscot Expedition. Indeed, fishing vessels and wood sloops entered and cleared Boston Harbor so often they were assessed a yearly fee.²⁸ Perhaps as a way to circumvent the General Court's embargo on vessels, or simply to enjoy protection under the fleet, many coastal vessels applied for a permit to sail with expedition only as far as their destination warranted. On 13 July 1779, the Massachusetts Council ordered Nathaniel Barber, "Naval Officer for the Port of Boston," to allow twelve vessels bound for various destinations to sail with the Penobscot fleet. Among the other sloops and "coasters" was the sloop *Olive*, "bound to North Yarmouth- Coaster", and the sloop *Dolphin*, "...bound to Kennebeck River with two cows, Eight Sheep & two Hogs and a quantity of Household Furniture on Board."²⁹ And these were only two of the dozens of "coasters," "small vessels," and sloops, cleared out with the eastward

²⁷ Nathan Goold, *History of Colonel Jonathan Mitchell's Cumberland County Regiment of the Bagaduce Expedition, 1779* (Portland, Maine, 1899), 9.

²⁸ Baker, *Sloops and Shallops*, 108.

²⁹ Order by Massachusetts Council, 13 July 1779. In *Baxter Manuscripts* vol. 16: 358.359.

bound fleet during July 1779. The livestock and furniture carried by the latter vessel, and others like it, provides insight into the type of cargo, and perhaps design (full lines rather than sharp), of sloops plying the northern New England coast.

As few building plans survive detailing the design of eighteenth-century American sloops, Howard Chapelle and William Baker offer useful British comparisons to discern general trends and characteristics of American sloops. Comparing the British sloop *Ferret*, built in England around 1711, with an American vessel of similar design that appears in William Burgis' 1729 painting *Boston Light*, offers a point of departure. At 65 feet on deck and displacing 115 tons, *Ferret* was probably uncommonly large. A cursory observation of the sheer plan reveals a single line of gun ports, several swivel stocks bolted to the outside of the hull along the rail, and cutouts for eight sweeps on each side. Two fore and aft platforms are present below the main deck; the forward platform served to house the crew and perhaps a galley stove; and the aft platform comprised the officers' quarters. The aft cabin's roof constituted the slightly raised quarterdeck.³⁰

Noting the fine run aft, medium rise of floor, "easy" bilge, and outwardly flared topsides, Baker likens *Ferret* to a larger, faster Bermuda type sloop than a stout coastal trader.³¹ Here again, local characteristics and the intended region of operation, manifested themselves in the Bermuda sloop's design. Built for Caribbean trading, where pirates, buccaneers, and enemy naval vessels posed a threat, smaller, fast sailing Bermuda and Jamaica style sloops were popular. Significant rise of floor, a hard chine,

³⁰ Howard I. Chapelle, *The History of American Sailing Ships* (New York, 1935), 25.

³¹ Baker, *Sloops and Shallops*, 113.

raking ends, minimal freeboard, and a raked mast characterized the Jamaica sloop.³²

Prior to 1750, Virginia and Maryland shipyards produced many of the American-built Bermuda and Jamaica sloops, whose hull designs evolved into the fabled Baltimore clipper. Eighteenth-century commercial sloops in Massachusetts, however, had little need for such an extreme design, and one would not expect to find such characteristics in the archaeological remains of expedition transports.

With their shallow draft, large cargo capacity, and minimal deadrise, New England-built sloops were particularly noted for their value as trading vessels. Comparing this hull form to the finer lines of Chesapeake sloops, Joseph Goldenberg notes that New England sloops also had tumble home sides, where their southern equivalent possessed sides with a slight outward flare.³³ More comparable to a British hoy, a coasting vessel of about 60 tons that was often sloop rigged, inter-colony merchant sloops in the 1700s were fuller at the ends and load waterline, possessed little deadrise, and had flatter floors.³⁴ Baker offers a British hoy built around 1720 as a good comparison (Figure 10). With a length on deck of 64 feet and a beam of approximately 20 feet, he indicates that the real distinction between it and other sloops mentioned above is a lack of deadrise.³⁵ One would expect to find these attributes in the archaeological record of Penobscot Expedition sloops.

Here again, however, generalizations, are dangerous. In Connecticut between 1776 and 1783, sloops were the most popular type of privateering vessel, suggesting

³² *Ibid.*, 111.

³³ Goldenberg, *Shipbuilding in Colonial America*, 81.

³⁴ See Peter Kemp, ed., *The Oxford Companion to Ships and the Sea* (Oxford, 1988), for definition of a British hoy.

perhaps that the hull shape was refined for this service, or simply that so many were on hand at the outbreak of hostilities merchants merely armed the most available vessels. During the Revolutionary era, 88 Connecticut sloops were employed as privately armed vessels, compared to 51 schooners, 51 brigs or brigantines, 10 ships, and 2 snows.³⁵ Nonetheless, despite potential variations in hull form, sloops were clearly the most common vessel type employed as Connecticut privateers.

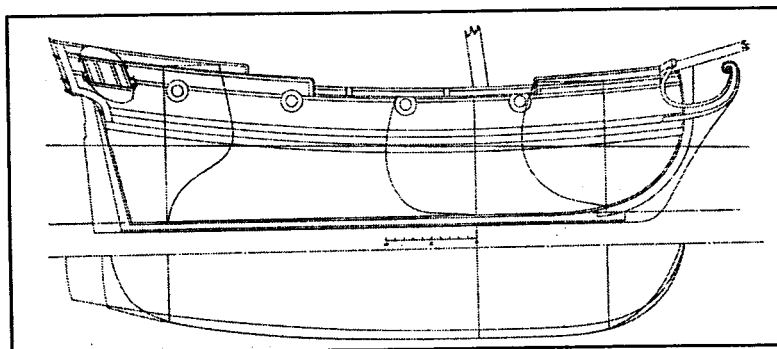


Figure 10. A British hoy of 1720 serves as a good comparison to a typical eighteenth-century New England coastal sloop. Note the full ends, minimal deadrise, and tumble home topsides. This vessel was about 64 feet on deck with a beam of 19 feet, 6 inches (Baker, *Sloops and Shallops*, 114).

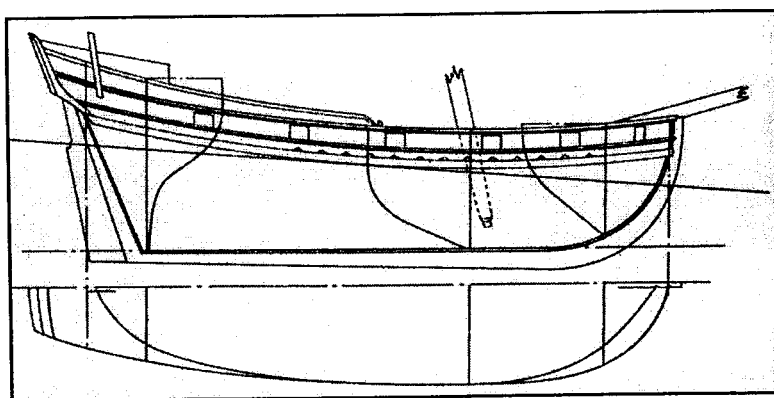


Figure 11. A Bermuda sloop of the same period. Note the substantially sharper lines and increased deadrise as compared to the hoy (Baker, *Sloops and Shallops*, 116).

³⁵ Baker, *Sloops and Shallops*, 113.

³⁶ *Ibid.*, 107. Baker cites a study done by E. P. Morris.

Eighteenth-century American sloops utilized a multitude of fore and aft rig configurations. Generally, coastal sloops utilized a gaff mainsail and three headsails: fore staysail, jib, and jib topsail. Larger sloops undertaking ocean passages might employ a square mainsail, square course, and square topsails, to take advantage of a following breeze. The height of a sloop's mainmast was usually identical to the length of the hull on deck. In addition, the gaff was one-third to three-sevenths the length of the main mast and constituted a considerable improvement over spritsail and lateen rigs.³⁷ A gaff-rigged sloop could turn into the wind ("come about") without the gaff requiring excessive handling, and, unlike many European sloops that employed a fixed gaff, the American version permitted the sail to be furled by simply lowering the gaff. Nevertheless, despite its usefulness and preponderance in the American colonies during the eighteenth century, the sloop was eventually improved upon. The result was the schooner, an economic alternative to large, full-rigged ships, yet a vessel that retained sailing characteristics identical to the sloop. Three schooners, employed as transports, appear to have sailed on the Penobscot Expedition, necessitating a brief historical discussion regarding the vessel type.

Schooners

Some seventy-five years after the first American-built sloop appeared, the term schooner became forever part of the American maritime lexicon. Two masted, gaff rigged vessels appeared in America as early as 1700, although pictorial evidence reveals that a

³⁷ Chapelle, *The History of American Sailing Ships*, 26.

similar vessel already existed in Holland and Britain during the greater part of the seventeenth century.³⁸ Constituting a logical progression from the fore and aft rigged, single-masted sloop, the schooner divided the sloop's sizable sail area between two or more masts, yet remained fore and aft rigged. The arrangement resulted in improved sailing ability and economy of operation. Not only could a schooner alter its sail area to meet variable weather conditions, it did so with fewer crew, as the smaller individual sail configurations were more easily managed than the single large mainsail employed by a sloop. A smaller crew meant larger profits. Further, the resultant lighter masts and rigging proved less expensive to purchase and maintain, doubtless an attractive feature to colonial ship owners.

More than merely an innovation in sail arrangement, however, the American schooner's hull design was also a product of the "search for speed under sail," and developed identically to the sloop. Like sloops, schooners were divided into two classes: a coastal class of 20-40 tons and a larger West Indian class. Because they were engaged in the same trade, according to Goldenberg, colonial sloops and schooners were generally the same size.³⁹

Subtleties in hull design were as readily discernable to the eighteenth-century seaman as a vessel's sail configuration. Like the sloop, the schooner's hull evolution and regional adaptation, were as distinctive as its sail arrangement. Ultimately, dividing sail area on a number of smaller masts allowed the schooner to be longer, thus increasing

³⁸ Basil Greenhill, *The Merchant Schooners: A portrait of a vanished industry, being a survey in two volumes of the history of the small fore-and-aft rigged sailing ships of England and Wales in the years 1870-1940, with something of their previous history and subsequent fate.* (London, 1968), 19.

³⁹ Goldenberg, *Shipbuilding in Colonial America*, 78.

speed. Indeed, as several maritime authors have suggested, the schooner's early hull shape represented a milestone in a progression that included the Baltimore clipper, and ultimately the clipper ships of the nineteenth century. It was those fine hull lines, in fact, that reportedly inspired a witness to the 1713 launching of a previously unnamed Gloucester vessel to exclaim "she really schoons," as the vessel slid down the ways and skidded across the water. According to maritime legend, recognizing the appropriateness of the slang term "scoon" (the act of skipping a flat stone across water), owner Andrew Robinson immediately replied "then a schooner let her be."⁴⁰ Although the exact date and authenticity of that exchange, as well as other nearly mythical origins of the word "schooner" are difficult to substantiate, it is worth noting that the vessel's hull lines rather than its sail arrangement reportedly roused the comment.

The popularity of schooners in colonial America, and of American-built schooners abroad, is further revealed by their prevalence. Used nearly to the exclusion of all other vessel types in the Massachusetts fishery by 1750, the schooner's popularity there induced a visiting New York merchant to comment that the entire Massachusetts fishing fleet was comprised of schooners.⁴¹ This trend held in other northern New England colonies, but in southern New England sloops remained popular. With their speed and adequate cargo capacity, New England fishing schooners proved themselves useful as trading vessels as well. Although large-scale schooner construction was slow to evolve in southern New England and in certain middle colonies where sloops remained prevalent until the end of the century, some southern colonies built schooners rather than

⁴⁰ Hahn, *The Colonial Schooner 1763-1775* (Annapolis, Maryland, 1981), 14.

sloops almost exclusively. In South Carolina during the early 1740s, schooner construction out-paced sloops by 83 to 4.⁴² By the last quarter of the eighteenth century, the schooner to sloop ratio was 100 to 1.⁴³ Historian Joseph Goldenberg suggests that it was the southern colonies late entry into full scale shipbuilding that resulted in the prevalence of schooner construction, for the sloop never gained a foothold.

By the mid eighteenth century, the British Navy was keenly interested in the American-built schooner, particularly those from Massachusetts, for in 1764, the Lord of the Admiralty ordered the Navy Board at Halifax to purchase six "Marblehead schooners."⁴⁴ By 1775, the Royal Navy possessed about twenty schooners, including the infamous HMS *Halifax*, fourteen of which had been built in New England after the Marblehead fishing schooner model.⁴⁵ Schooners also constituted a portion of the fledgling American Navy, most substantially as converted merchantmen. The first recognized by the Continental government was the 78-ton schooner *Hannah*, a vessel sanctioned by General Washington and leased to the government by Colonel John Glover of Marblehead.

The 52-ton schooner *Sultana* and the 83-ton *Halifax* provide references for common mid-to-late eighteenth century commercial schooner hull design, and offer a further glimpse into the likely proportions of some Penobscot Expedition transport vessels. The smallest of the six original schooners purchased by the Royal Navy, *Sultana*

⁴¹ Goldenberg, *Shipbuilding in Colonial America*, 79.

⁴² *Ibid.*

⁴³ *Ibid.*

⁴⁴ Hahn, *The Colonial Schooner*, 20.

⁴⁵ Chapelle, *The History of American Sailing Ships*, 38.

was built in Boston in 1767, and measured 50 feet 4 inches on deck with a 16-foot beam (Figure 12).⁴⁶ She was lightly armed with eight, ½-pounder swivel guns and typically carried a crew of 24. Designed as a cargo carrier with minimal deadrise, the vessel was very full, but well formed, producing a "...fair turn of speed."⁴⁷ Baker suggests that colonial schooners were even more plainly finished than the *Sultana*.⁴⁸ Setting only five sails, the schooner possessed a loose footed foresail and a boomed main, both with unusually long gaffs.⁴⁹ Two head sails and a course on the foremast constituted the remainder of her sail compliment.

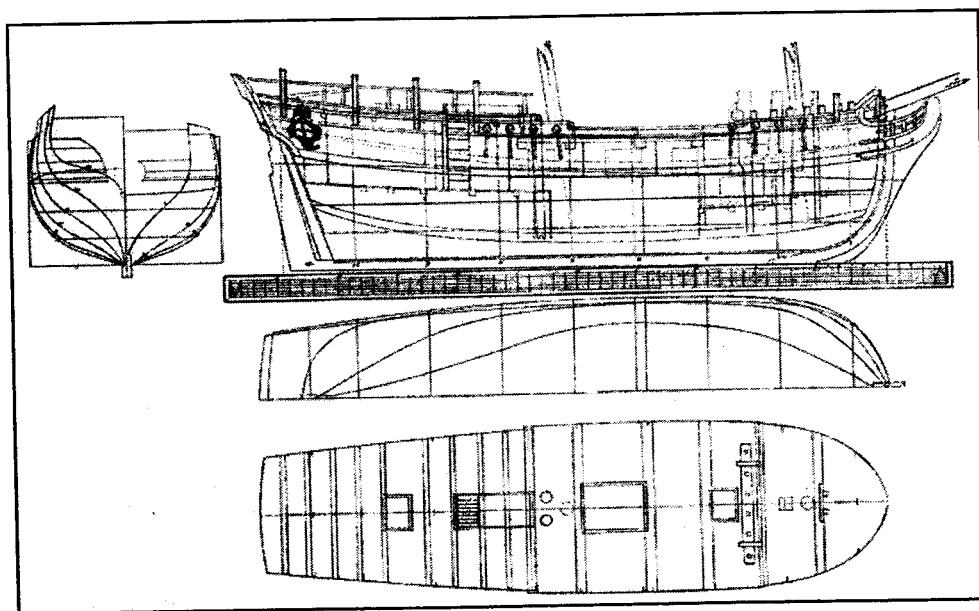


Figure 12. The 52-ton schooner *Sultana* (Baker, *A Maritime History of Bath, Maine*, 137).

⁴⁶ David MacGregor, *Merchant Sailing Ships 1775-1815* (Annapolis, Maryland, 1982), 19.

⁴⁷ William A. Baker, *Maritime History of Bath, Maine and the Kennebec River Region* (Bath, 1973), 136.

⁴⁸ *Ibid.*

⁴⁹ MacGregor, *Merchant Sailing Ships*, 21.

Perhaps even more typical of expedition schooner design is the *Halifax*, built in the port of the same name in 1765 and purchased by the Royal Navy three years later (Figure 13). Writing from Halifax in 1768, Commodore Samuel Hood revealed that the vessel was well worth the £550 cost, for she was "...extreamly well built with the best materials, and is altogether a proper Vessel for his Majesty's Service..."⁵⁰ Prior to entering service, the vessel was surveyed and had her lines taken off at the Portsmouth Dockyard, leaving modern historians with ample design information.

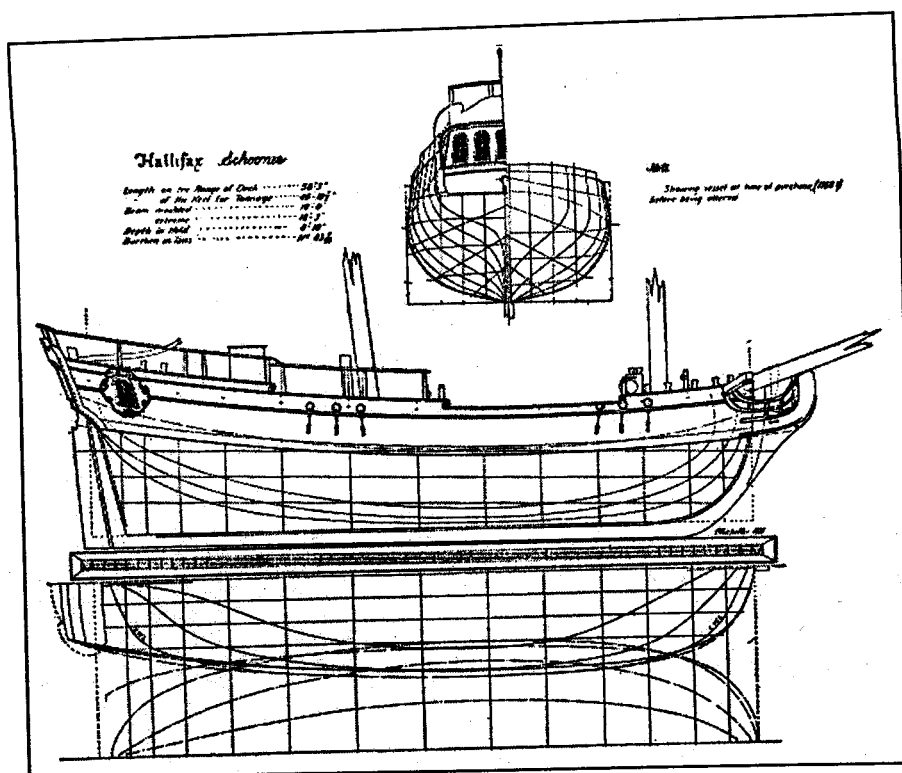


Figure 13. The 83-ton schooner *Halifax*. Note the bluff bow, relatively flat floors, minimal deadrise, and full lines typical of a mid-eighteenth-century New England merchant schooner. Purchased by the Royal Navy in 1768, she was formerly a packet running between Boston and Halifax (Chapelle, *The History of American Sailing Ships*, 34).

⁵⁰ Hahn, *The Colonial Schooner*, 62. Hahn includes the entire letter from Commodore Hood to Philip Stephens, written 11 July 1768.

The 83-ton schooner was 58 feet long on deck, had a beam of 18 feet, and a 8 foot, 10 inch depth of hold.⁵¹ This is perhaps closer to the size of the Penobscot Expedition transports observed by Thomas Philbrook. Originally a packet running between Boston and Halifax, the vessel possessed the full lines, flat floors, and minimal deadrise typical of a New England merchant schooner. Figure 13 shows her hull shape before and after structural modifications that gave the vessel slightly finer lines. Further alterations included 8 swivel guns and six 3-pounders, the latter requiring the bulwarks to be raised and pierced and the former requiring the rail to be strengthened. As a merchantman, *Halifax* likely employed only fore and aft sails, typical of period commercial schooners.⁵² The simpler sail arrangement required fewer crew and made for a more profitable vessel. After the vessel's refit, square topsails were added, and her crew increased to the standard navy compliment of 30.

Shipwrights and Shipyards

The commercial sloops and schooners of eighteenth-century New England were built chiefly in small, family owned shipyards, where the master shipwright also owned the business.⁵³ Away from the few major ports, land could be acquired cheaply, and the rural colonial builder often lived on the premises. It was an extremely localized endeavor. In smaller communities, several yards might group together, sharing labor and common facilities such as wharves and launch ways. As has been indicated, regional and

⁵¹ *Ibid.*, 63. Chapelle, *The History of American Sailing Ships*, 34.

⁵² Hahn, *The Colonial Schooner*, 62-63.

local influences were so well manifested in a vessel's design that contemporary seamen could usually identify a vessel's place of construction by its hull shape.⁵⁴

As noted earlier, the readily available quality shipbuilding timber in New England was a primary advantage, enhanced greatly by the region's geography. The area's long coastline, many rivers, bays, and coves facilitated access to shipbuilding timber. The mildly sloping land where the Appalachian Piedmont meets the Atlantic and its estuaries was well suited for building and launching ships.⁵⁵ With considerable natural advantages, building a ship required little capital and could be done more profitably in America than England. Working from sunrise to sunset, the majority of investment was physical rather than financial, save for an initial outlay for tools. Consequently, a large number of competitive, small-scale shipyards producing vessels on contract or speculation characterized the industry.⁵⁶

Apprenticeship in the colonies was less formal than in Europe. In England, a seven-year apprenticeship was the rule; in America a young shipwright would likely learn his trade from a brother or father. Those who were formally trained might spend four to seven years under a master shipwright. It was not an exceptionally lucrative trade, although shipwrights earned a comparatively comfortable tradesmen's living. While some merchant-shipbuilders became wealthy, the average Boston shipwright was the financial equivalent of a tavern keeper. Hatters, bricklayers, and house carpenters were

⁵³ Cook, "The Reader's Point Vessel," 66.

⁵⁴ Goldenberg, *Shipbuilding in Colonial America*, 81.

⁵⁵ Warren Riess, "The Ronson Ship: The Study of an Eighteenth-Century Merchantman Excavated in Manhattan, New York in 1982", (Ph.D. diss., University of New Hampshire, 1987), 60.

⁵⁶ Hutchins, "History and Development of the Shipbuilding Business in the United States", 17.

all assessed higher taxes than shipwrights, while captains, sailors, and school teachers were assessed at lower rates.⁵⁷ Particularly in smaller towns, however, and within the context of a tradesman, a shipbuilder could potentially parlay his relative financial success into greater social recognition.

The American shipyard did not become truly specialized until the second half of the nineteenth century. Thus, a skilled colonial shipwright was at once a sawyer, dubber, borer, fastener, joiner, caulker, and finisher.⁵⁸ The number of shipwrights in a single yard necessarily varied with the yard's output. During the initial, labor intensive stages of construction, a builder might employ 4 to 6 shipwrights, who were paid either by the day or by certain tasks.⁵⁹ Located on small parcels of land along a river, stream, or bay, New England shipyards were exposed to the elements, and output was subject to both daily and seasonal weather variations. A small tool shed often constituted the yard's only building. Labor fluctuations also affected output. Nonetheless, an ambitious colonial builder could launch two ships per year, while his English counterpart could produce only one.⁶⁰ Interestingly, by 1830, the average American yard turned out 2-5 ships of 200 to 300 tons annually.⁶¹

Colonial vessels were built by contract or on speculation, with the purchasing merchant often providing iron and sails under the former type of agreement. Many New England vessels were built on speculation and sent to promising markets where both ship

⁵⁷ Goldenberg, *Shipbuilding in Colonial America*, 73.

⁵⁸ Hutchins, "History and Development of the Shipbuilding Business in the United States," 18-19.

⁵⁹ Goldenberg, *Shipbuilding in Colonial America*, 70.

⁶⁰ *Ibid.*, 71.

⁶¹ Hutchins, "History and Development of the Shipbuilding Business in the United States," 18.

and cargo were sold together.⁶² Inexpensive New England-built sloops were particularly sought after in the West Indies and England during the eighteenth century and regularly sold in this manner. In light of New England's sloop building reputation, it is not difficult to understand why so many were employed as Penobscot Expedition transport vessels.

Regional and local influences on construction techniques were legion, and though some general guidelines were followed. Under direction of the master shipwright, workers first shaped the vessel's keel, which might consist of two or three segments scarphed (joined) together. Hard, durable, and growing to considerable heights and widths, white oak or elm were good choices for this important timber.⁶³ The stem and sternposts, generally white oak (elm is not as impervious to being intermittently wet and dry), were then assembled and attached to the forward and after ends of the keel. The stem assembly was usually comprised of several pieces of curved timber. Depending on availability, naturally curved pieces (compass timber) would ideally be used to fashion any curved load bearing components of the ship's structure.

Working from molds, or patterns, produced in the "mold loft" or other open area in the yard, shipwrights next fashioned the vessel's white oak frames. Depending on the size and type of craft, a shipwright might use pre-assembled "mold frames" to define the vessel's shape. Constituting every third or fourth frame, mold frames consisted of a floor timber (the bottom-most timber fastened to the keel), and successive, overlapping

⁶² Cook, "The Readers Point Vessel", 69.

⁶³ Mitchell, "A Comparison of Wood Use in Eighteenth Century Vessels," 64.

futtocks. Fastened with horizontal treenails, a large vessel's frames might consist of four futtocks, whereas a small vessel might have only one. Using tackles to hoist the U-shaped mold frames upright and onto the keel, they were then centered and fastened to the keel with iron drift bolts.

If building from memory, a shipwright would erect only enough mold frames to give the vessel its shape. The mold frames were held in place with long fore and aft running ribbands (battens), while workers carefully adzed the frames until they fit flush against the ribbands. Intermediate frames were then added and faired the same way, working upward from the keel, beginning with the floor timber and then adding each successive futtock. Intermediate frames were not always horizontally treenailed together, but might only be fastened to the planking with treenails and iron spikes.

If built exclusively from plans and patterns, mold frames were already fair before being erected on the keel, and intermediate frames were built to match the ribbands. In another method, every individual frame timber (the floors and futtocks that comprise the frames) could be shaped separately, and each frame pre-assembled and lifted into place.⁶⁴

As an alternative to using mold frames, every other floor timber might be bolted in place, a ribband secured to the end of each, and then the remaining floors added.

Framing and planking then continued as described above. In this instance too, frames were not necessarily treenailed together, but were only secured to the outer hull planking.

In all methods, once the vessel was framed to the master shipwright's satisfaction, the

⁶⁴ Riess, "The Ronson Ship," 67-68.

keelson was laid over the floors, bolted in place, and the outer hull and ceiling planking added.

Because of the local nature of eighteenth-century shipbuilding, the freedom of design available to individual shipwrights, and the lack of a unifying method of design and construction, ship construction methods were necessarily subject to variation. In this area, physical evidence, as observed in the archaeological record, is of immense value. By examining the actual remains of eighteenth-century vessels, one can gain a better understanding of their construction methods.

Chapter 7

Archaeological Investigation of the Devereaux Cove Vessel

Previous Investigations in the Penobscot River

Over the last 30 years, several efforts have been made to locate, document, and develop management plans for Penobscot Expedition shipwrecks. In one sense, expedition shipwrecks can be considered a single archaeological site; their association with a single historical event dictates that they be considered for their relationship to one another geographically, archaeologically, and historically. As individual archaeological sites, some of which may never be conclusively linked to the Penobscot Expedition, each shipwreck and its associated material culture also represent rare opportunities to gain a better understanding of eighteenth-century life, seafaring, ship construction, and design. For these reasons, the several projects outlined here, as well as the Devereaux Cove project, should be considered for their combined value as well as individual findings.

In the summer of 1972, the first Penobscot Expedition site was discovered when a team of students and faculty from the Massachusetts Institute of Technology and the Maine Maritime Academy (MMA) found the remains of the privateer *Defence* in Stockton Harbor, Maine.¹ Led by W. F. Searle, the team located the 170-ton brig using an experimental side-scan sonar unit developed by participants in an engineering field

¹ David Switzer, "Defence Project Symposium, Introduction", *The Proceedings of the 13th Conference on Underwater Archaeology*, edited by Donald Keith (San Marino, California, 1984), 67. For more historical and archaeological information on the *Defence* see this paper's bibliography for works by Barbara Ford, Shelley O. Smith, David C. Switzer, and David B. Wyman.

school at the MMA. The site's significance was realized immediately, and an archaeological task force consisting of the Maine State Museum (MSM), the MMA, and the Institute of Nautical Archaeology (INA) was subsequently assembled. In 1973 and 1974, a student team recovered two cannon and other artifacts from the site. Between 1975 and 1980 systematic excavations, led by Plymouth State College's Professor David Switzer, were carried out with funding from the National Endowment for the Humanities, the MSM, and the Maine Historic Preservation Commission (MHPC).² During the five-year project, hundreds of artifacts were recovered, revealing much about life aboard an eighteenth-century American privateer. Additionally, the vessel's remarkable state of preservation (roughly 40 percent of the hull is intact) allowed retrieval of substantial ship construction and design data (see chapter 8).

In 1975, Martin Meylach, of Meylach Magnetic Search Systems, conducted a Phase I survey along the Penobscot River using a magnetometer, side-scan sonar, and sub-bottom profiler.³ Unfortunately, the results of Meylach's five-day investigation are unpublished. Further remote sensing and ground truthing carried out by Klein Associates, Inc. the following summer resulted in the discovery of a 6-foot Admiralty anchor and several ship timbers near Oak Point. The three-week project also obtained a magnetic profile of the *Defence* and attempted to locate remains of Penobscot Expedition transports around Sandy Point.⁴

² Robert Neyland, et al., *The Penobscot Expedition of 1779: an Archaeological Survey and Site Investigation of ME 054-004 Penobscot River, Penobscot County, Maine* (Washington, DC, 2001), 3.

³ *Ibid.*

⁴ *Ibid.*

Commensurate with the Abandoned Shipwreck Act, the Maine Department of Transportation contracted the University of Maine's Dr. Warren Riess and the Maritime Archaeological and Historical Research Institute (MAHRI) to conduct remote sensing at two bridge construction sites between Bangor and Brewer, Maine. The project concluded with negative findings.⁵

Between 1994 and 1997, the University of Maine conducted additional remote sensing and shore inspection in selected portions of the Penobscot River. With funding from the Department of Defense Legacy Resource Management Program and smaller grants from MAHRI, the university initiated the Penobscot Expedition II Project. Under the direction of Dr. Warren Riess, the endeavor produced site assessments and management plans for the Continental frigate *Warren*, artillery brig *Samuel*, and coal barge *Hampden*, and continued research to detect other Penobscot Expedition sites.⁶

To determine if the final reburial of the *Defence* was sufficiently protecting the vessel's structure, the University of Maine returned to the site in 1996 and retrieved wood samples. At that time it became clear that the upper hull and mainmast protruding from the sediment were deteriorating rapidly. Those areas exposed during excavation were extensively degraded by microorganisms.⁷

Recent archaeological work in the Penobscot River includes the ongoing investigation of an eighteenth-century shipwreck in Brewer, Maine, by the Naval Historical Center's (NHC) Underwater Archaeology Branch (see chapter 8). A Phase II

⁵ *Ibid.*

⁶ *Ibid.*, 4.

⁷ *Ibid.*

survey was conducted in 1999, and although initial data did not conclusively link the vessel to the Penobscot Expedition, historical research and local lore suggest a possible association. Remote sensing in the immediate area using side scan sonar did not produce any other reliable targets. The NHC conducted further fieldwork in 2000 and 2001, the results of which are pending publication.⁸

Project Objectives

The primary aim of the 2000 Devereaux Cove project was to conduct a Phase II archaeological survey of wooden vessel remains located along Devereaux Cove's northeastern shoreline and to document visible remains using mapping and photographic techniques. Archaeological data generated by this reconnaissance level survey determined the extent of intact hull structure and established the shipwreck's current state of preservation. Secondary goals were to determine the site's potential for further archaeological investigation, develop a management plan, begin the process of nominating the shipwreck to the National Register of Historic Places, and, through archaeological and historical research, determine the shipwreck's association with the Penobscot Expedition of 1779.

Site Location and Description

Named for the tidal cove within which it rests, the Devereaux Cove vessel is located in Stockton Springs, Waldo County, Maine (Figure 6). Situated at the

⁸ *Ibid.*, 18-25.

approximate center of the Maine coastline, Waldo County is bordered to the east by the Penobscot River and includes several Penobscot Bay islands. The county seat of Belfast is approximately 30 miles south of Bangor, 40 miles east of the state capital of Augusta, and 85 miles northeast of Portland.⁹

Devereaux Cove is one of five small coves located along the north-northwestern shoreline of Fort Point Cove, on the west side of Penobscot Bay at the mouth of the Penobscot River. Approximately one quarter of a mile wide at its entrance, Devereaux Cove is a shallow tidal flat, roughly 3 feet deep at mean low tide.¹⁰ The immediate shoreline is comprised of coarse sand and small stones, with rocky outcroppings at the outer edges of the cove. The high water mark quickly gives way to larger stones, rocks, marsh grass, underbrush, and finally stands of hemlock, white pine, and mixed hardwoods. The northeastern portion of the cove, immediately beyond the high water mark, rises dramatically to a height of 50 feet and provides a panoramic view of both Devereaux Cove and Fort Point Cove. Several private dwellings skirt the higher ground along Devereaux Cove, resulting in protective barrier of private property that reduces recreational traffic at the wreck site.

The Devereaux Cove wreck lies in the northeast portion of the cove, approximately 50 feet from the high water mark, and is completely exposed at low tide (Figure 15). Positioned with a northwest to southeast orientation, the visible remains cover a 52 foot by 12 foot area, and to the casual observer are hardly discernable as the remains of a wooden vessel. While interviewing local residents, it was interesting to note

⁹ Goodman, Kenneth, *Soil Survey of Waldo County, Maine*, series 1940 (Washington, D.C., 1955), 3.

that at least one family was completely unaware that the "drift wood" within the cove is actually the remains of a wooden ship. The visible remains are comprised of floors and first futtocks, none of which are preserved in their entirety. The timbers are embedded in thick mud and protrude roughly 2 inches above the mud line. The sided (exposed) surfaces of the timbers are eroded significantly, resulting in a fragile archaeological surface riddled with channels worn into the timbers over years of tidal exchange and harsh weather. The inboard ends of treenails, used to attach the outer hull planking to the frames, are clearly evident. The dynamic site environment has resulted in the exposed (inboard) ends of many treenails becoming pointed, with a circular depression surrounding the treenail itself.

Because the Devereaux Cove Wreck is located in a tidal flat, the visible remains are left dry at low tide and completely submerged at high tide. Consequently, the vessel's exposed timbers become waterlogged during high tide, only to partially dry out when exposed at low tide. This circumstance accelerates decomposition of the exposed timbers.

The region's average year round temperature is 45° Fahrenheit (F), with winter temperatures averaging 20° F.¹⁰ The resultant ice formation, and repeated expansion and contraction of the waterlogged timbers further compromises their structural integrity. Ice formation also produces "rafting," a condition where loose timbers may be worked free of the site as the ice they are attached to shifts with the tide. The exposed timbers are

¹⁰ National Oceanic and Atmospheric Administration Chart No.13309.

¹¹ National Oceanic and Atmospheric Administration, *Climate of Maine* (Asheville, North Carolina, 1982), 4.

also perpetually eroded by the daily tidal exchange and the constant movement of water over the timber's sided surfaces. Those timbers not firmly ensconced in the mud bottom or attached to a more substantial part of the wreck are subject to being dislodged and carried away with the tide. Notably, the shoreward portion of the vessel is considerably less intact than the open water side, suggesting that the wreck initially listed toward open water, leaving shoreward frames more exposed to the elements and tide. Extant outer hull planking on the vessel's shoreward side, now free of frame timbers, suggests that when the wreck came to rest in Devereaux Cove, more frame timbers were present.

The wrecking event, contemporary salvage, and modern artifact collecting must also be considered for their impact on the site formation process. If the Devereaux Cove vessel is a Penobscot Expedition transport, run aground and burned to prevent capture, it likely burned well below the waterline after the tide ran out. Moreover, should the remains at Devereaux Cove be the carcass of a transport burned at a nearby location only to drift to the present site, that process too would have further compromised the wreck's structure.

Like other beached expedition transports, the Devereaux Cove vessel likely represented a windfall of iron, and depending on the extent of its initial destruction, building timber for local inhabitants. That locals may even have re-burned the wreck to claim every valuable iron fastener, is not inconceivable. Finally, because of the wreck's close proximity to shore, modern human impact on the site, in the form of souvenir hunting or mere curiosity, likely ensured the loss of easily portable timbers, planks, or artifacts. Clearly, much of the vessel has been lost via all, or a combination of, the

environmental and human impacts described above. It should be noted, however, that anaerobic conditions well below the mud line appear to have slowed deterioration of some buried hull structure.

Methodology and Fieldwork

Designed as a Phase II predisturbance survey, the field investigation of the Devereaux Cove Wreck called for documentation and archaeological assessment of the site as it lies. The research design did, however, allow for removal of three wood samples, whose taxonomic identifications were confirmed by the Center for Archaeological Investigations at Southern Illinois University-Carbondale. Additionally, selected diagnostic features of the vessel were minimally cleared of sediment. These areas were ultimately reburied, an effort aided by daily tidal exchange over the site. Throughout the project care was taken to minimize archaeological impact to the wreck.

Fieldwork was carried out over a four day period in July 2001 by a team of five graduate students from East Carolina University's Program in Maritime Studies. Funding was obtained from the National Park Service in the form of an American Battlefield Protection Program grant, and housing provided by the University of Maine's Darling Marine Center, in Walpole, Maine. Prior to the team's arrival on site, arrangements were made with Chip and Sandra Bradsteet, whose property is adjacent to Devereaux Cove, to gain access to the site. The Bradstreets also graciously allowed their property to serve as a staging area for field equipment.

Actual fieldwork began on 10 July with crew members familiarizing themselves with the site. All fieldwork was coordinated with the daily tide schedule, and mapping was done at low tide when the wreck was relatively dry and exposed. High tide found the wreck site covered by approximately two feet of zero visibility water, making accurate documentation time consuming. Since the limited remains are completely exposed at low tide, and the research design called only for a reconnaissance level survey, it was deemed more efficient to record the site during tidal lows.

A standard baseline system was used to document the site, with a baseline established along the vessel's apparent centerline, indicated by several extant full floor timbers. Careful probing revealed that more of the wreck lay beneath the extreme ends of the visible remains. Consequently, the 0'0" end of the baseline was established five feet beyond the visible remains at the northeast end of the site, in an area free of buried hull structure. The baseline was anchored with a 6-foot long, 2-inch diameter length of PVC pipe driven into the mud bottom and reinforced with a 10-foot long $\frac{3}{4}$ inch diameter length of rebar. A plastic coated, $\frac{1}{8}$ inch diameter steel cable, graduated in feet and inches, served as the baseline and terminated at the southwest end of the site at 58 feet 10 inches. Here too, the baseline was anchored in an area determined to be free of buried remains by probing.

Crosslines positioned every ten feet extended beyond the edges of the wreck, with the largest grid measuring 10 feet by 7 feet. A carpenter's square ensured that each crossline lay perpendicular to the baseline, and crossline ends were trilaterated to the baseline to guarantee accuracy. Because of the site's minimal relief, and the level,

uniform nature of the exposed features, the baseline/crossline system was positioned a minimal distance of 8 inches above the wreck. This helped facilitate accurate measurements, since it reduced the distance crew members were required to drop a plumb bob.

The level nature of the wreck also enabled crew members to use a 10-foot length of 3-inch PVC pipe, with measuring tape attached, as a sliding measuring bar in each grid. Resting on the floors and futtocks, the ends of the "sliding bar" were accurately positioned under each crossline using a plumbob, and the bar was subsequently leveled. After first taking measurements directly under the baseline, crew members slid the bar at 6-inch intervals (or less depending on the features in their grid) toward the crossline ends. The field crew simply recorded measurements along the graduated PVC pipe and plotted them on mylar backed with graph paper. Akin to a fixed grid system, this method proved to be an accurate and efficient means of documenting the site.

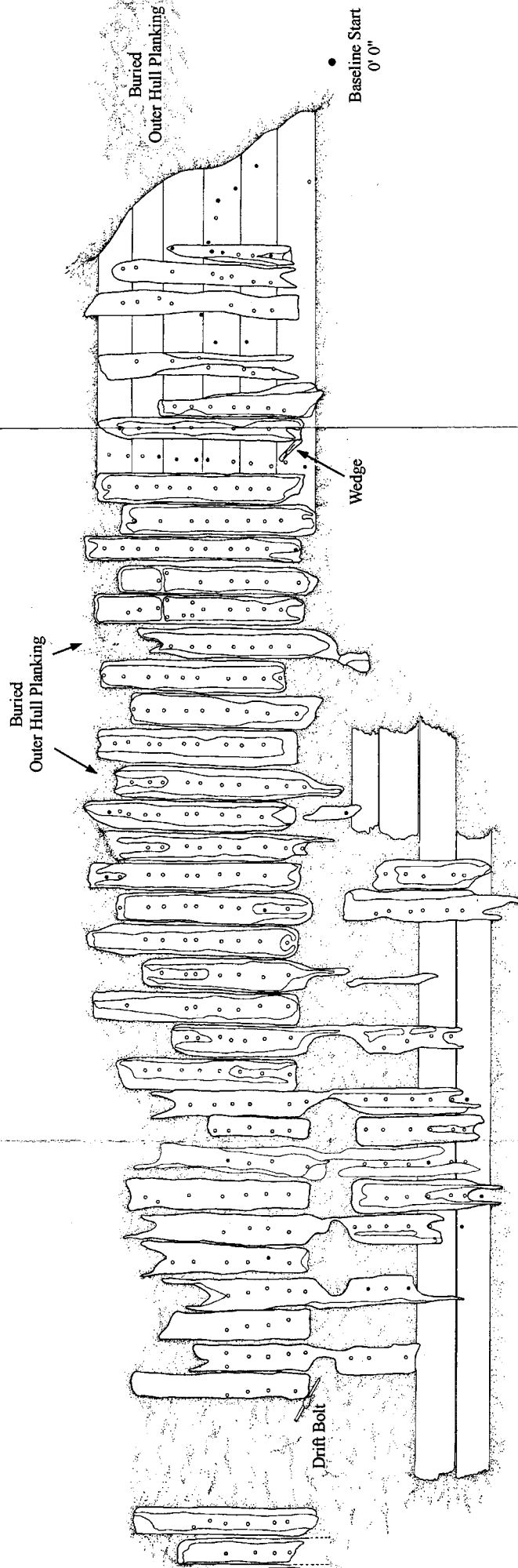
Offset and trilateration measurements supplemented data obtained from the "sliding bar" method, and crew members ultimately produced scaled drawings of the timbers in each grid. When completed, the individual mylar field drawings were transferred onto individual sheets of graph paper where inconsistencies were resolved and accuracy checked. The individual graph paper drawings were then brought to the drafting table, joined together, and a plan view of the wreck eventually emerged (Figure 14).

Due to its close proximity to shore, the Devereaux Cove wreck also required delineation within its larger geographical context (Figure 15). The vessel's orientation to

the shoreline, for example, may reveal something about how and why it came to rest as it did. Determining the site's exact position within the tidal zone also makes observations about environmental impact more accurate. Additionally, future, and possibly unplanned, archaeological finds in and around the cove may enhance the present site's interpretation, and their spatial relationship to the Devereaux Cove wreck will need to be considered.

With the above in mind, the site's main datum was established just above the high water mark atop a large flat rock that provided an unobstructed view of Devereaux Cove. Serving as a central reference point, the datum allowed the field crew to orient accurately the wreck site within the cove and plot the cove's shoreline and high and low water contours. This was accomplished using standard surveying equipment (transit, electronic distancing meter, and stadia rod) to record the distance and angle of features relative to the main datum. The result was an accurate representation of the Devereaux Cove Wreck's relationship to its larger geographical setting.

Finally, interviews with local residents provided insight into the more modern history of the Devereaux Cove Wreck. Two residents revealed that over the years "pegs" (likely treenails) had washed up on shore from time to time, and another long time resident probably collected various artifacts from the site. It was further intimated that these artifacts may have been subsequently destroyed in a fire, though neither the existence of the artifacts nor their possible loss has yet been confirmed. Long time resident Nancy Wilkens, whose family once owned most of the property adjacent to Devereaux Cove, recalled that as a young girl she could jump along the timbers of the Devereaux Cove wreck. That the shipwreck was once an attractive place for children



Devereaux Cove Wreck Stockton Springs, Maine July 2000	
○ = Treenail ● = Treenail Hole	Scale:  = 5 Feet

N 

Figure 14. Devereaux Cove Wreck Site. Drawings by Russell T. Green

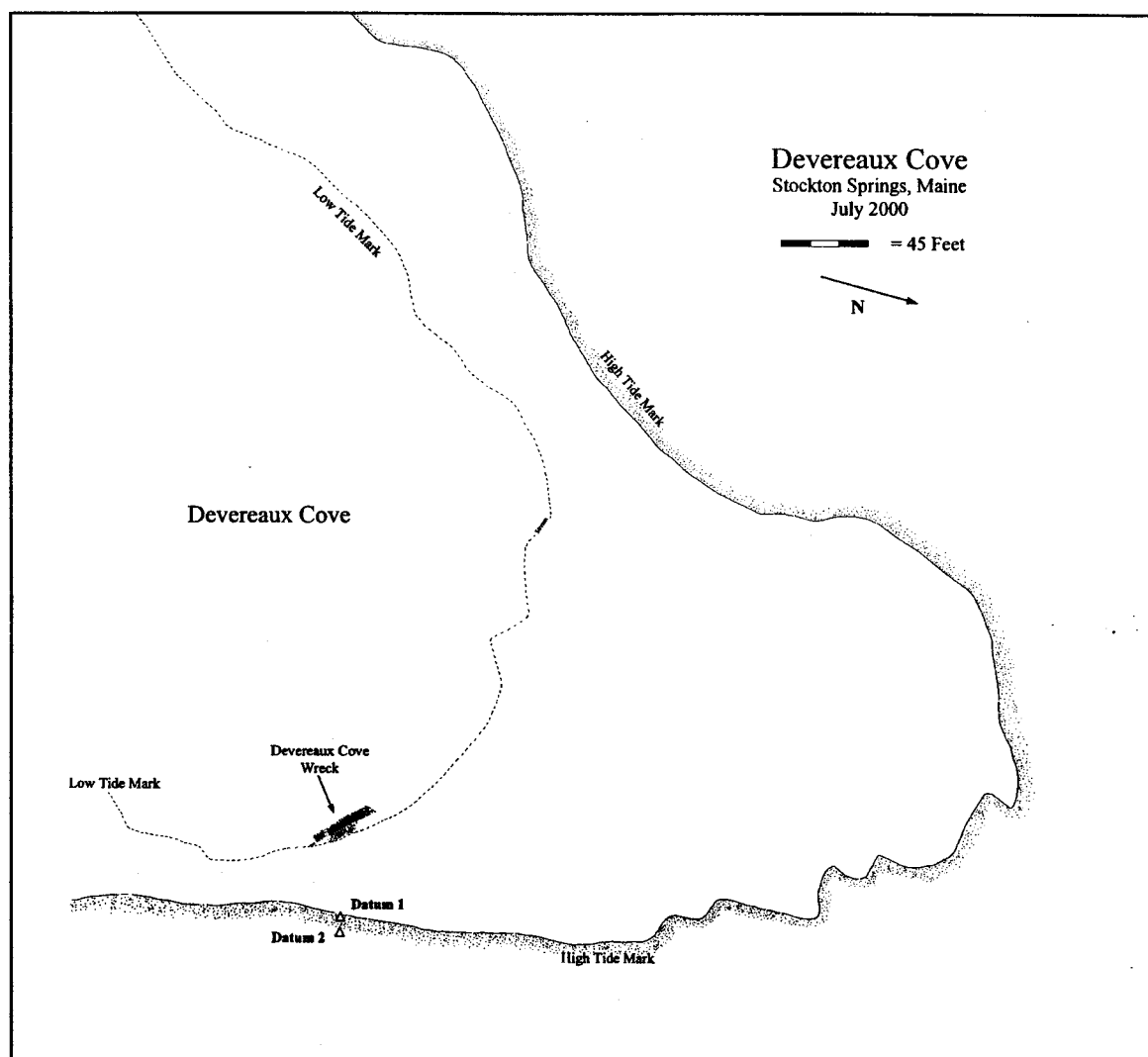


Figure 15. Devereaux Cove overall site plan. Drawing by Russell T. Green.

to play suggests that within the last 50 years the site possessed considerably more relief. Ms. Wilkens also recalled that planks were visible during her childhood. Considering that playing atop (along the sided surface) of the frame timbers was a vivid memory for Ms. Wilkens, the planks she recalled may have been ceiling planking. That the site has apparently deteriorated significantly over the last generation is well illustrated by the family, mentioned previously, who when interviewed in July 2000 had no idea that the timbers in the cove were that of a wooden vessel.

Findings

Floors

Forty-seven frame timbers constitute the exposed remains of the Devereaux Cove Wreck. Although none of the timbers are preserved in their entirety, the relative position of extant timbers indicates a possible framing pattern. Six floors clearly cross the keel, 5 others, though deteriorated, strongly appear to have once crossed the keel, and the remaining 10 can only be identified as floors due to their position within the overall framing pattern. Due to limited preservation, total lengths for floors vary considerably. Of those timbers that are clearly floors, the longest is 9 feet 11 inches. The longest single arm is 6 feet, the shortest 4 feet 7 inches; the opposing arms of both these floors, located on the wreck's shoreward side, are deteriorated. Sided dimensions for the 11 most intact floors range from 10 ½ inches to 11 ½ inches, averaging 11 ¼ inches. Floors are spaced on approximate 22-inch centers.

Obtaining an accurate molded measurement was precluded by the tight space, or lack of space, between most floors and futtocks. Since clearing any space of the thick

mud between floors and futtocks could have potentially dislodged timbers not securely fastened to the outer hull planking, molded floor dimensions were taken sparingly. The greatest molded dimension obtained was 5 inches, though it should be noted that the sided surfaces of all frame timbers are significantly eroded, producing an unusually small molded measurement. Indeed, the inboard ends of treenails used to fasten outer hull planking to the frames are clearly evident, suggesting that the treenails were either driven into through holes, rather than blind holes, or that a significant portion of the frame timbers' sided faces have eroded. The sided surfaces do not preserve tool marks; determining if the timbers were sawn or hewn, for example, is presently impossible. That the floors have significantly deteriorated is corroborated by the observation that, of the 6 floors crossing the vessel's centerline, the portion of each directly over the keel is thin and fragile, where once it had to be thick enough to hold the fastener that presumably secured the floor to the keel.

The exposed floors are separated from the keel. Limited preservation along the vessel's centerline precluded cursory observations about the floors' limber holes, or determining if the floors were notched to fit over the keel. Additionally, in most areas the sided surface of the keel is significantly eroded, making observations about its dimensions and fastening method impracticable. In several locations, just below the mud surface (where the top of the keel should presumably be detectable) only small, badly decomposed wood fragments were found. Probing along the vessel's centerline did, however, indicate that deeper buried portions of the keel may be intact. Probing at

baseline (BL) 45.5 feet, revealed a fore and aft running timber with notches that accept two consecutive floors. The piece is possibly a fragment of rising wood or a notched portion of the keel.

A single piece of evidence for the type of fasteners used to secure either floors to the keel, or the keelson to the floors, is an iron drift bolt found at baseline 39 feet (Figure 16). Found lying at the heel of a first futtock, the drift bolt is 1 foot 7 $\frac{3}{8}$ inches long, $\frac{7}{8}$ inches in diameter at its mid point, and has a slightly flared 1 $\frac{1}{4}$ inch head. The fastener was probably not long enough to pass through the keelson, floor, and into the keel. More likely, it was used to secure a floor to the keel. Notably, the concretion around the drift pin's mid section has wood striations in it, suggesting that the bolt was driven into wood. That the fastener is intrusive, or perhaps used on another part of the vessel (i.e. deadwood or stem assembly) is entirely possible.

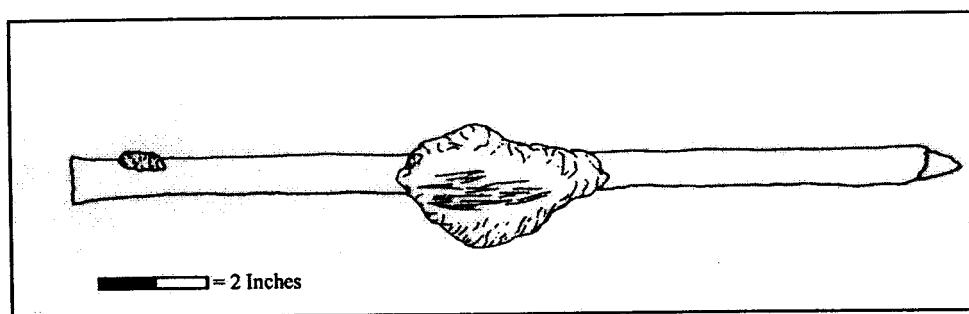


Figure 16. Iron drift bolt at BL 39 feet. Drawing by Russell T. Green

First Futtocks

The remainder of the exposed portion of the vessel consists of 25 first futtocks. A wood specimen from a frame timber (probably a first futtock) at BL 5.5 feet proved to

be red oak (*Quercus rubra*). The many growth rings are quite narrow, indicating that the timber was fashioned from slow growth timber.¹²

Nearly identical to the floors, the best preserved first futtocks range between 10 inches and 11 $\frac{3}{4}$ inches sided, averaging 10 $\frac{3}{4}$ inches. As with floors, discerning molded dimensions for first futtocks proved difficult without excavation. Of the few futtocks that produced a molded dimension, a measurement of 5 $\frac{1}{2}$ inches was obtained, albeit with the same caveat as the floors. The relatively uniform heels of first futtocks averaged 7 $\frac{1}{4}$ inches from the baseline (theoretical center of the vessel), suggesting that if they met the keel/keelson assembly's outboard face, the keelson was sided at over 14 inches. If the keelson were that large is impossible to know, but by subtracting from this theoretical extreme, one can develop scenarios for potentially determining how far the futtock heels were from the keelson.

All first futtocks are fastened to the outer hull planking with treenails. A loose futtock at BL 5.5 feet (Figure 17) was removed to gain access to an intact treenail, and one semi-intact, white oak (*Quercus* sp.) octagonal treenail was recovered. Taxonomic identification suggests that the treenail is very likely American white oak (*Quercus alba*).¹³ A second, disarticulated, treenail produced an identical identification.

¹² Lee Newsome to Russell Green, 9 August 2001. Wood sample analysis conducted by Lee Newsome, Associate Scientist, Southern Illinois University Carbondale, Center for Archaeological Investigations.

¹³ *Ibid.*

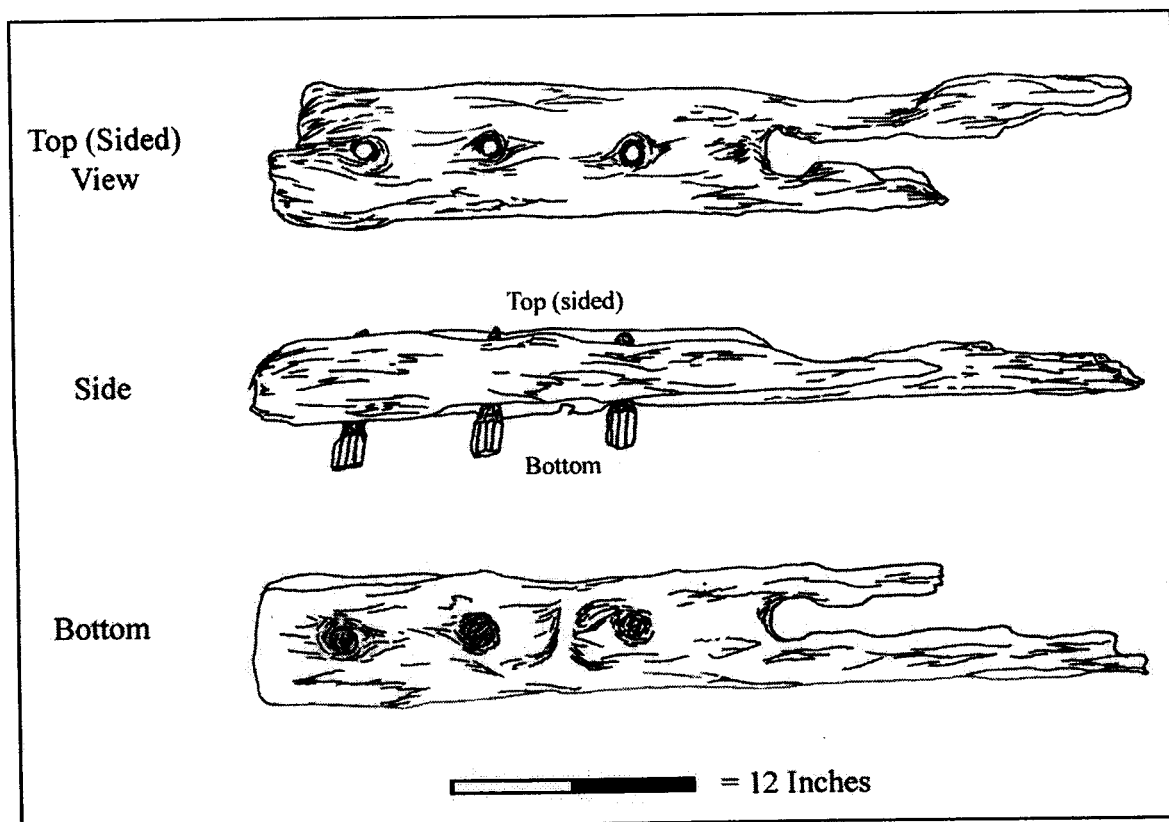


Figure 17. Futtock at BL 5.5 feet. Drawing by Catherine M. Green.

Space between floors and first futtocks ranges from none to 4 $\frac{3}{4}$ inches. Here too, archaeological surfaces may have produced skewed measurements. Nevertheless, it is clear that very little, if any, space exists between the floors and first futtocks best preserved. Since the average sided dimension of first futtocks is nearly identical to those of the floors, and no space exists between most floors and futtocks, the Devereaux Cove vessel appears to have room equal to the space.

It is not clear how, or if, the floors and first futtocks are sistered into complete frames, or mold frames. However, possible evidence of a fastener hole exists between a floor and first futtock at BL 16 feet. With much of the sided surface of these two timbers eroded, the remnant of a possible horizontal fastener hole is visible. The extant hole, now more of a trough, is approximately 1 $\frac{1}{4}$ inches wide and passes completely through both frame timbers. Since the sided faces of all frame timbers appear to have eroded somewhat uniformly, it is curious that only at this single potential frame set did such a feature become exposed. That this "trough" is simply an errantly drilled fastener hole or was produced through erosion are possible alternative explanations.

Notably, a tapered wood piece was found between the first futtock and outer hull planking at BL 11 feet (Figure 18). The smooth piece, tapered at one end and along one edge, appears to be worked, rather than eroded, into a wedge shape. The wedge measures 9 $\frac{1}{8}$ inches long by 1 $\frac{1}{2}$ inches wide by $\frac{7}{8}$ inches thick, and was driven between the futtock and planking with its untapered face against the planking and its tapered end pointing obliquely toward the vessel's centerline. The piece was possibly used to shore up unwanted space between the futtock and planking.

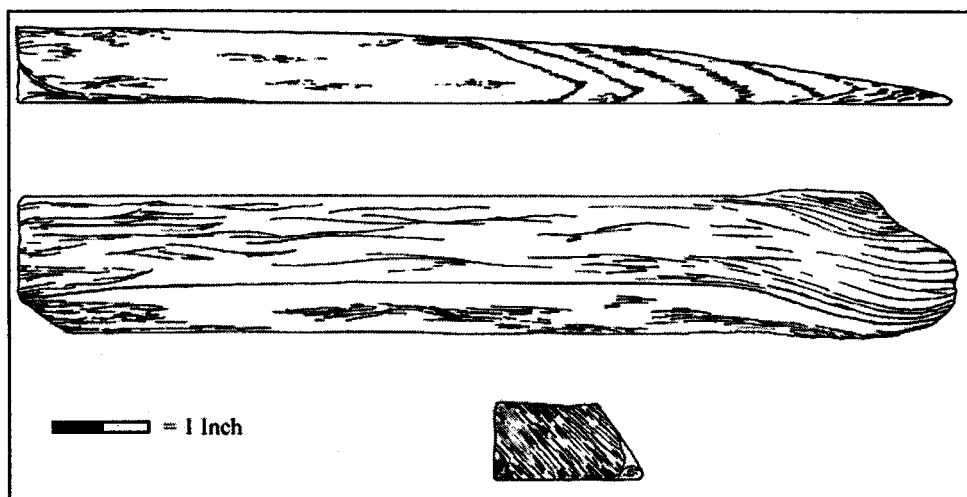


Figure 18. Wedge at BL 11 feet. Drawing by Catherine M. Green

Outer Hull Planking

Careful probing around the site's exposed timbers revealed extant portions of outer hull planking. A small, transverse section (approximately 1 foot by 7 feet) of planking was uncovered between BL 11 feet and BL 12 feet, in order to obtain a wood sample and discern the planking's dimensions and fastener pattern. The planking was covered by roughly 4 inches of sediment. Other portions of outer hull planking were documented by simply feeling below the sediment at regular intervals.

The outer hull plank proved to be red oak (*Quercus rubra*), with growth rings similar enough in morphology to suggest that the plank derived from the same original tree as a futtock sampled from the same area.¹⁴ The six planks in this section vary from 11 inches to 13 ¼ inches in width, and are between 2 ½ and 3 inches thick. No scarphs or sacrificial planks were visible. The outer hull planking is fastened to the frames with 1 ¼

¹⁴ Lee Newsome to Russell Green, 9 August 2001.

inch diameter treenails. Treenails are closer to the edges of the hull planking than the middle, and generally spaced more than 7 inches apart. Treenails are spaced uniformly on 11-to 12-inch fore and aft centers, substantiating that floors and futtocks are sided relatively uniformly as well. Randomly sided frame timbers, employed in a vessel with no space between those timbers, would have necessitated unevenly fore and aft spaced treenails, assuming that treenails were driven through the middle of each frame timber. Curiously, treenails used to secure the Devereaux Cove vessel's outer hull planking are not staggered along the futtocks and floors (top to bottom), but rather, are in a straight line. Staggering the fasteners would have helped avoid splitting the frame timbers.

With archaeological knowledge of the Devereaux Cove vessel's construction in hand, one can next turn to the interpretation of data. Coupled with insight relating to Penobscot Expedition transports, and historical evidence for the construction, use, and prevalence of eighteenth-century New England-built sloops presented in chapter 6, archaeological findings begin to suggest that the limited Devereaux Cove vessel remains are an eighteenth-century shipwreck. Comparing the Devereaux Cove vessel with known eighteenth-century shipwrecks, particularly New England-built merchantmen, provides additional evidence. Constituting the substance of the following chapter, it is these comparisons, in fact, that are most helpful in interpreting the Devereaux Cove vessel's construction.

Chapter 8

Interpreting the Devereaux Cove Vessel's Construction

Although contemporary paintings and a few surviving plans offer valuable insights into eighteenth-century American ship design, much of the practical knowledge, that is, the intricacies of construction techniques, is relatively unknown. Moreover, as *Defence* archaeologist David Switzer indicates, of the few plans that do exist, most "...are 'taken off' lines rather than builders' plans."¹ Images of eighteenth-century vessels allow one to only partially extrapolate the actual elements and process of ship construction. Documentary evidence from contemporary shipwrights is nonexistent, for they passed knowledge on verbally rather than in writing, leaving apprentices to learn in the practical atmosphere of the shipyard rather than from books. Additionally, as has been suggested, regional and local design variations were legion, and it is no stretch to imagine that construction methods varied widely as well.

Several contemporary ship construction treatises were written, yet they deal primarily with the complexities of design and architecture, rather than the physical construction of ships. Moreover, these works were published abroad and chiefly address naval vessels, rather than American-built merchant ships such as the Penobscot Expedition transports. Significant literary contributions of the period beginning with Anthony Deane's *Doctrine of Naval Architecture* (1670), span approximately 100 years

¹ David Switzer, "Defence Project Symposium, Introduction", *The Proceedings of the 13th Conference on Underwater Archaeology*, edited by Donald Keith (San Marino, California, 1984), 67.

and end with Fredrik Chapman's *Merchant Ship Architecture* (1768).² Deane's work expanded on outdated methods in Edmund Bushnell's *Compleat Ship-Wright* (1664), which despite its title, has been referred to as "quite misleading" with respect to offering practical ship construction techniques.³ William Sutherland's *The Shipbuilder's Assistant* (1711) is perhaps the most comprehensive in terms of construction method, and offers wisdom on selecting timber and bettering the shipwright's trade. Mungo Murray followed Sutherland's work with *A Treatise on Shipbuilding and Navigation* (1754), which also includes an abridged version of Duhamel du Monceau's *Elements of Naval Architecture* (1752).

Closer to the Revolutionary War period is Leonard Euler's *A Complete Theory on the Construction and Properties of Vessels* (1776), which predominantly addresses the physics of a vessel moving through water. Of the works by Deane, Sutherland, Murray, and Chapman, historian Warren Riess summarizes their deficiencies relative to American ship construction, by adding that, chronologically, they constitute "...a treatise on designing warships, another on warship construction, a simplified version of the two, and a fourth publication which is a collection of merchant ship plans."⁴ To fully appreciate the intricacies of eighteenth-century ship construction, therefore, one must turn to the

² Warren Riess, "The Ronson Ship: The Study of an Eighteenth-Century Merchantman Excavated in Manhattan, New York in 1982" (Ph.D. diss., University of New Hampshire, 1987), 61-64.

³ Brian Lavery, ed., *Marine Architecture: Directions for Carrying on a Ship*, facsimile of the original published in 1739 (Delamr, New York, 1993), 16-17. This anonymous work largely copied material written more than a half a century earlier by Edmund Bushnell, Henry Bond, and Thomas Miller. Lavery also mentions slightly later works by William Falconer, Marmaduke Stalkaart, and David Steele as noteworthy.

⁴ Riess, "The Ronson Ship", 63.

archaeological record. To understand eighteenth-century American merchant ship construction, this is even more true.

Comparable Archaeological Investigations

Examining the Devereaux Cove vessel within the context of eighteenth-century New England merchant vessels, is enhanced significantly by a comparison of relevant archaeological investigations. It should be noted that three of the four projects outlined below were carried out over multiple field seasons and most generated large amounts of archaeological data, adding significantly to our understanding of eighteenth-century ship design and construction. However, because of the Devereaux Cove vessel's limited preservation, archaeological comparisons offered below are limited to relevant findings. To further condense the potentially lengthy and confusing comparison between the Devereaux Cove vessel's features and the individual comparable archaeological investigations outlined in this chapter, each of the investigations are summarized first, and then compared collectively with the Devereaux Cove vessel in the chapter's final section.

An additional caveat: over the last twenty-five years many important eighteenth-century shipwrecks in America have been examined archaeologically. Those absent from, but potentially relevant to, the present study include the British sloop *Boscawen*, built at Fort Ticonderoga in 1759; the British collier *Betsy*, scuttled in 1781 during the siege of Yorktown; the stoutly built Ronson Ship, constructed in Virginia between 1705 and 1720, and used as a crib ship in lower Manhattan around mid century; the

Revolutionary period gondola *Philadelphia*, lost near Valcour Island, Lake Champlain; and the Terence Bay wreck, a mid eighteenth-century New England fishing schooner.⁵

The most striking relationship among the vessels addressed below, and those omitted, is the sheer diversity of construction techniques. There was, for instance, no definitive construction method or feature required of every sloop built in eighteenth-century America. In other words, not all sloops were necessarily fastened the same way, or had mold frames spaced the same --or even used mold frames at all. The vessel's intended use, local availability of certain timber species, the shipwright's expertise, and the political and/or military environment in which construction took place, are only a few influences manifested in the construction of a single vessel type. Fortunately, the "database" of construction techniques has increased steadily over the last twenty-five years, and continues to do so with each new archaeological site's analysis. Consequently, general trends in eighteenth-century ship construction, as well as fascinating variations and intricacies, are emerging and offer some guidance.

ME 054-004

In August and September 1999, the Naval Historical Center's Underwater Archaeology Branch, in association with the University of Maine's Darling Marine Center and the Maine Historic Preservation Commission, conducted a remote sensing survey and reconnaissance level site investigation in the upper Penobscot River near

⁵ See this paper's bibliography for works by Crisman, Broadwater, Steffy, Riess, Bayreuther, and Carter and Kenchington respectively, for historical and archaeological information about these excavations.

Bangor/Brewer, Maine. The project's site investigation component focused on ship remains found at Brewer, on the eastern riverbank. The effort was part of an ongoing partnership between the University of Maine and the Naval Historical Center to "research, investigate, and document the Penobscot Expedition's sites and to design a management plan for their ultimate protection and preservation."⁶

Although preliminary data did not provide a direct association with the Penobscot Expedition, the remains appear to represent an eighteenth-century vessel. Subsequent investigations were conducted in 2000 and 2001; results are pending publication. The exposed remains of site ME 054-004 consist of a keelson, frame timbers, and two cannon, all partially buried (Figure 19).⁷

The vessel's keelson consists of two sections with an overall length of approximately 69 feet. The larger section, 30 feet in length, begins just aft of the last cant frame and is 11 inches sided and 11 inches molded. The second, shorter section, is 18.98 feet in length, 8.07 inches molded and 10 inches sided. The forward end of this section is 11 inches square in cross section where it joins the after end of the first keelson section with a horizontal plain scarph. Slipped about 1.5 inches, the scarph is fastened with four iron through bolts, each 1.02 inches in diameter. The keelson is fastened to every other floor with a 1-inch diameter through bolt. Neyland et al. note that before

⁶ Robert Neyland, et al., *The Penobscot Expedition of 1779: an Archaeological Survey and Site Investigation of ME 054-004 Penobscot River, Penobscot County, Maine* (Washington, DC, 2001), ii.

⁷ *Ibid.*, 19.

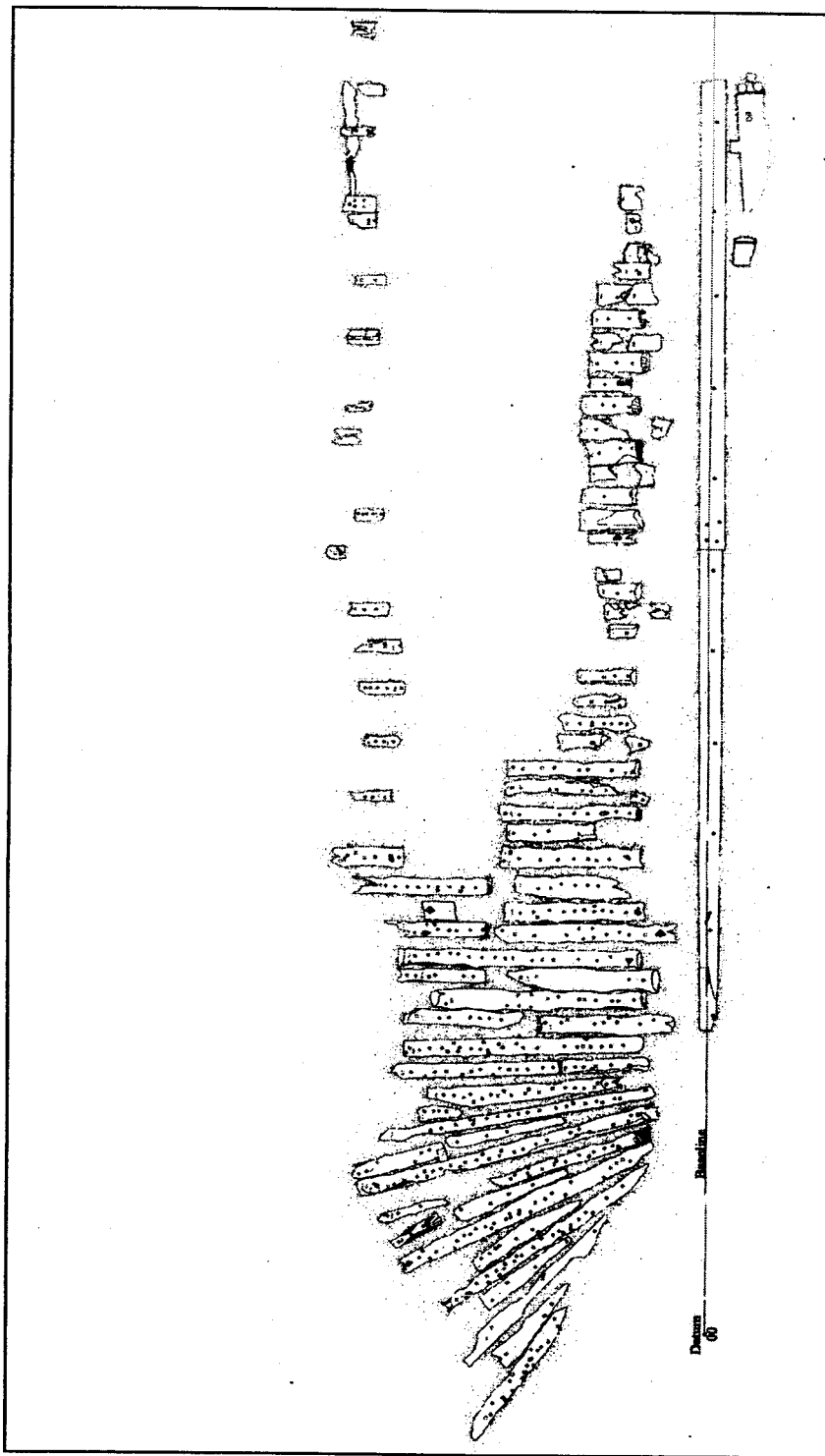


Figure 19. ME 054-004 site plan showing the forward 55 feet of remains. (Neyland, et al., *The Penobscot Expedition of 1779: an Archaeological Survey and Site Investigation of ME 054-004*, Appendix A, Figure A-6).

1800, keelson assemblies were typically bolted through to the keel at every other floor, usually with two through bolts varying from 1 to 2 inches in diameter.⁸

Sixty-seven frames are exposed at the ME 054-004 site, but do not reveal a conclusively diagnostic pattern. It does not appear that timber chocks were used to join the individual futtocks. Several timbers are, however, joined with a plain flat scarph or a hook scarph, yet are not pinned at futtock heels. According to Neyland et al., this suggests that the vessel was built before 1811, the earliest date when the system of pinning futtocks at the heel was introduced.⁹

The archaeological surfaces of the exposed frame timbers at the ME 054-004 site do not preserve tool marks. However, ceiling planking and frame timbers possess square holes with iron oxide staining, indicating that iron nails may have been used to fasten ceiling planking to the frames.¹⁰ The vessel's cant frames offer further evidence of late eighteenth century construction. Nineteen cant frames arranged in a radial pattern are preserved on the vessel's port side, although a lack of fashion pieces indicates that the extant cant frames are incomplete. Surviving cant frames are attached to the planking with 1.25-inch diameter treenails and iron fasteners. Neyland, et al. note that the pattern is similar to cant frames on the 1772 British collier *Betsy*, scuttled during the siege of Yorktown in 1781.¹¹ A wood sample taken from a treenail used to fasten outer

⁸ *Ibid.*, 20. Neyland, et al. cite Peter Goodwin's *The Construction and Fitting of the English Man of War, 1650-1850* (Annapolis, Maryland, 1987), 28, for the method of fastening the keelson to the floors before 1800.

⁹ *Ibid.*, 19.

¹⁰ *Ibid.*

¹¹ *Ibid.*, 19

hull planking proved to be a species of white oak (*Quercus*).¹²

As with wood samples taken from a treenail, frame timbers, and outer hull and ceiling planking, the keelson proved to be oak (*Quercus*). The treenail, keelson, and outer hull planking samples are a species of white oak, while the frames and ceiling planking samples may represent the white oak group. Although white oaks include both American and European varieties, none of the wood samples represented live oak (*Quercus virginiana*) or English oak (*Quercus robur*).¹³

The Defence

Found in 1972 by a team of faculty and students from the Massachusetts Institute of Technology and the Maine Maritime Academy, the eighteenth-century privateer *Defence* was systematically excavated over five years and conclusively linked to the Penobscot Expedition. The 170-ton brig was discovered in Stockton Harbor, near Sears Island, Maine, where she was burned by her crew in August 1779 (see Chapter 4). Fortunately, before much of the vessel was consumed by fire, the magazine exploded, severing the vessel's stern and quickly sending the privateer to the soft bottom of Stockton Harbor. Well protected by the anaerobic environment created by mud, silt, and ballast, nearly 40 percent of the privateer's structure is intact.¹⁴ Much has been written

¹² *Ibid.*, 23

¹³ *Ibid.*, 23.

¹⁴ Switzer, "Defence Project Symposium, Introduction," 67.

about the archaeological investigation of the *Defence*, as well as the site's enormous assemblage of period artifacts.¹⁵

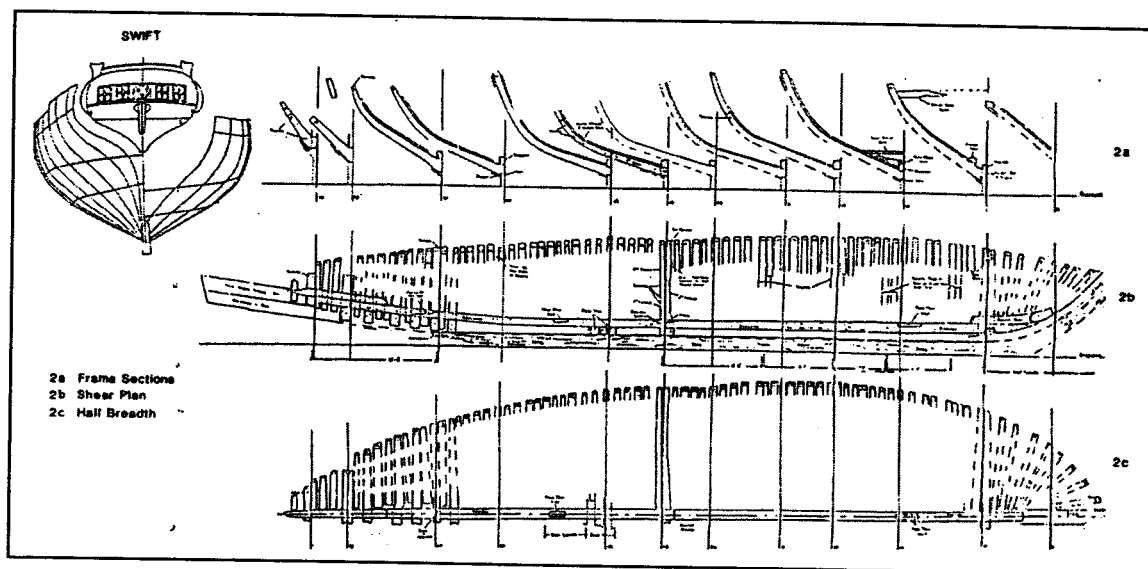


Figure 20. Illustration of frame sections, sheer, and half-breadth plans for the *Defence*, as generated from the archaeological record. A view of the brig *Swift* is offered for comparison (Feldman, "A Study of Mid-Late Eighteenth Century American Small Vessel Framing Practices", 154).

The vessel's sizable extant remains measure 76 feet at the keel (not accounting for the approximate 18 foot section torn away at the stern) and 22 feet in beam (Figure 20). Built expressly for privateering, the *Defence* possesses substantial deadrise and a sharp bow, a design adopted from fast sailing, contemporary Virginia-built vessels.¹⁶ The brig's construction exhibits indications of hasty and frugal building; materials were typical for the period. Oak, larch, pine, and fir, were used, and fasteners included $\frac{3}{4}$ inch

¹⁵ The *Defence* excavation produced perhaps the most comprehensive assemblage of eighteenth-century American marine artifacts. The site revealed much about Revolutionary period seafaring, privateering, and ship design and construction. For an analysis of the site's artifacts see Shelley O. Smith's "The *Defence*: Life at Sea as Reflected in an Archaeological Assemblage from an Eighteenth Century Privateer" (Ph.D., diss., University of Pennsylvania, 1986).

¹⁶ David Switzer, "Nautical Archaeology in Penobscot Bay: The Revolutionary War Privateer *Defence*", *New Aspects of Naval History*, edited by Craig Symonds (Annapolis, Maryland), 99.

drift bolts, iron spikes, and a large number of wedged octagonal treenails. Notably, iron fasteners are not as prevalent as might be expected, perhaps suggesting a wartime shortage. Evidence of saw milled planking indicates at least part of the vessel may have been mass-produced.¹⁷

Nine double frames were found at irregular 4 to 10 foot intervals, while single, intermediate futtocks were present roughly every 5 inches.¹⁸ Here too, the lack of mold frames suggests that hurried construction demanded only the minimum amount of mold frames required to give the vessel its shape. Although few true mold frames were used in the vessel's construction, those documented were complete to the bulwarks and yielded significant information regarding assembly. Massive natural floor timbers conform to the hull's angle of deadrise and extend straight along the hull shape for 6 to 8 feet. Some floors are fastened with ¾-inch iron drift bolts driven through the keelson and floor timber, and into the keel. First futtocks are set next to the floor on either side of the keelson, outboard of the keel, and about 6 inches off the vessel's centerline. They extend to the turn of the bilge, approximately 7 to 9 feet. First futtocks are fastened to the floors with two 1 ½-inch diameter octagonal treenails, one 6 inches from the heel of the futtock and the other 6 inches from head of the floor. Second futtocks, formed from naturally curved timber to make the turn of the bilge, are fastened to first futtocks in the same way.¹⁹

¹⁷ Peter Throckmorton, ed., *The Sea Remembers: Ships and Archaeology* (New York, 1987), 194.

¹⁸ Switzer, "Nautical Archaeology in Penobscot Bay: The Revolutionary War Privateer *Defence*", 92.

¹⁹ David Wyman, "Understanding the Structure of the *Defence*", *The Proceedings of the 13th Conference on Underwater Archaeology*, edited by Donald Keith (San Marino, California, 1984), 70. See Wyman for framing data.

All frame timbers are white oak, and molded 8 inches at the keel and 6 inches at the turn of the bilge. Made from compass timber, frame timbers are randomly sided, ranging from 4 to 10 inches. According to naval architect and associate *Defence* project director David Wyman, this was done primarily to suit the wood used and provides another indication of economical timber use.²⁰ Notably, between the few mold frames, intermediate frames are spaced between 3 to 6 inches apart. These frames have molded and sided dimensions similar to the floors and futtocks comprising the double futtock mold frames and are laid out similarly, but unlike the mold frames, are not fastened together. The intermediate frames, in most cases, were fastened only to the planking.

Similar to contemporary vessels, mold frames were bolted to the keel through the floor, while intermediate, or filling frames, were simply butted against it and to each other. Evidence of rapid construction is readily apparent. At least one of the *Defence's* mold frames passed over a horizontal keelson scarp and a partially adzed lower breast hook, with tree bark extant, was fit in the bow. A crudely made, ill-fitting pine pump box and shot locker offer further evidence of thrifty construction. Additionally, an irregular nailing pattern allowed for as much as 6 feet between nail holes.²¹

The Rose Hill Wreck

In May 1988, North Carolina's Underwater Archaeology Unit excavated an eighteenth century shipwreck at the former Rose Hill Plantation, on the northeast Cape

²⁰ *Ibid.*

²¹ Switzer, "Nautical Archaeology in Penobscot Bay," 99.

Fear River, six miles above Wilmington, North Carolina. The vessel's construction characteristics and proximity to the colonial plantation's landing suggest it was built between 1725 and 1750.²² Laying in 18 feet of low visibility water, the wreck encompasses a 62-foot by 12-foot area and was minimally covered with a layer of sandy sediment. Projected measurements indicate a vessel 67 feet in overall length, 22 feet in beam, displacing approximately 103 tons (Figure 21).²³ Colonial records indicate that most vessels of this size trading in North Carolina during the early eighteenth century were New England built.²⁴

The Rose Hill wreck's hard maple keel measures 54 feet, 6 inches. Although it could not be determined if the keel is comprised of multiple lengths, the exposed portion is 8 inches sided and 15 inches molded, including the false keel attached to the bottom of the primary keel. Extending the entire length of the keel, the rising wood is 2 inches molded and 10 inches sided. The keel is attached to the stem with a horizontal nibbed scarph, 2 feet 9 inches long with 5-inch nibs. Three ¾-inch diameter iron fasteners hold the joint together.²⁵

Twenty-three floors, spaced on 22-inch centers, were found at the site. Random sampling indicated average dimensions of 10 ½ inches molded and 11 inches sided. The floors are notched at their midpoint to fit over the rising wood, and are consequently flush

²² Mark Wilde-Ramsing, et al., *The Rose Hill Wreck: Historical and Archaeological Investigations of an Eighteenth Century Vessel at a Colonial River Landing near Wilmington, North Carolina* (Kure Beach, North Carolina, 1992), ii, 77.

²³ *Ibid.*, 3.

²⁴ *Ibid.*, 56.

²⁵ *Ibid.*, 38, 39.

with the outer hull planking. The notches have an enlarged width of 2 ½ inches to provide limber holes. Fashioned from beech (*Fagus* sp.) and white oak (*Quercus* sp.), none of the floors extend to the turn of the bilge. Interestingly, upon removal of a floor timber for recording, a wedged shaped filler piece, called a furren, was discovered. Likely used to increase an undersized floor's molded dimension, the furren was attached to the outer hull planking.²⁶

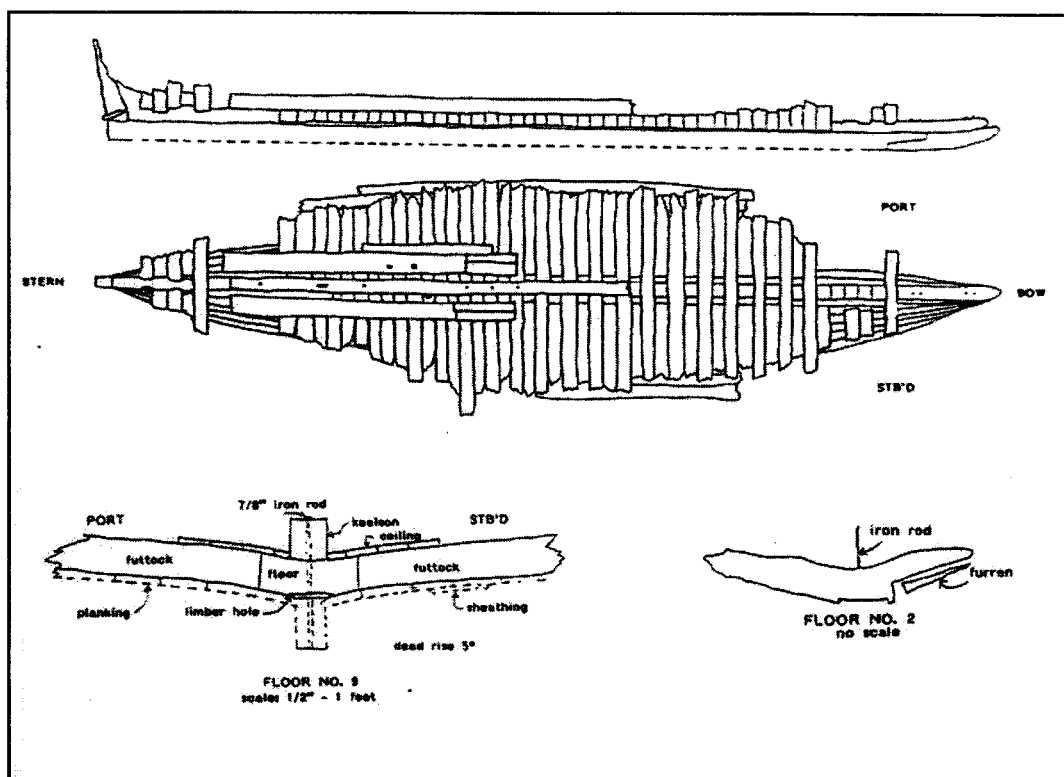


Figure 21. Rose Hill Wreck site plan. Note the lack of space between frames and the use of a furren to increase floor number two's molded dimension (Wilde-Ramsing, et.al, *The Rose Hill Wreck*, 38).

Identical to the floors' dimensions, first futtocks measured 10 ½ inches molded and 11 inches sided. Floors and first futtocks do not appear to be fastened together,

²⁶ *Ibid.*, 40, 42.

indicating a lack of mold frames. First futtock heels were positioned 11 inches from the baseline, which ran directly over the keelson. Assuming the baseline was close to the vessel's actual centerline, and knowing that the keelson is sided 10 inches, heels of the first futtocks are approximately 6 inches from the keelson's outboard edge. Because first futtocks are the same dimension as floors, and completely filled the space between floors, archaeologists determined the frames possess room equal to space.

Deadrise, measured at the theoretical midship bend, was 5 degrees, and minimal as well near the stem and stern. Moreover, first futtocks did not appear to enter the turn of the bilge, indicating the craft had a relatively flat bottom and a "bulky" appearance.²⁷ The vessel's well-preserved 12 foot 4 inch long rudder, implies a draft of at least 8 feet, eliminating the possibility that the wreck was a lighter or barge, or was employed solely in riverine use.

Only a 28 foot, 9 inch portion of the Rose Hill wreck's keelson remains, extending from its finished aft end at the stern, to just forward of admidships. Built of white oak (*Quercus* sp.), the timber is 12 inches molded and 10 inches sided. The extant keelson is randomly fastened in seven locations with ¾-inch diameter drift pins, driven through the keelson and floors and into the keel. Drift bolts are clenched at the upper end, though it could not be determined if the fasteners pierce the bottom of the keel at their lower end. Wilde-Ramsing, et al., indicate that such a method would have been typical in the eighteenth century.²⁸ Due to the limited keelson remains, and thereby solid

²⁷ *Ibid.*, 42.

²⁸ *Ibid.*, 43.

evidence for mast step placement, a definitive mast arrangement was not determined.

With the vessel's extrapolated 103-ton displacement, Wilde-Ramsing et al., submit that the vessel was perhaps a schooner or brig. However, project archaeologists also add, that were the vessel two masted, the existing segment of keelson should reveal evidence of a mast saddle or mortise, yet it does not.²⁹ Unfortunately, due to the missing forward portion of keelson, any evidence of a single mast has also disappeared. New England-built sloops of 50 tons or greater were used for the West Indian trade, and, as evidenced by a similar sized sloop excavated in Jamaica, possessed little deadrise and flatter floors at the midship bend.³⁰

Notably, extant portions of ceiling planking proved to be red oak (*Quercus* sp.), and varied in width between 3 ½ inches and 15 inches, with an average thickness of 2 inches. With limited access to the vessel's outer hull planking, measurements were taken sparingly. The port side garboard strake, attached to the rising wood affixed to the top of the keel, measures 10 inches wide. The first plank is 12 inches wide, the second 17 inches wide, and the next 3 successive strakes 14 ½ inches wide. One disarticulated, 12-foot length of planking measured 2 ¾ inches thick. The planking is fastened chiefly with polygonal 1 ¼ inch diameter treenails. The wedged, white oak (*Quercus* sp.) treenails are placed toward the outer edges of the planking, with fore and aft centers ranging from 11 to 13 inches. Treenails are not staggered fore and aft, or top to bottom along floors and futtocks. Quarter inch stock iron nails, driven in at 5-foot intervals were also discovered,

²⁹ *Ibid.*, 55.

³⁰ Cook, "The Readers Point Vessel," 91, 92.

and were perhaps used to initially hold the planking in place while treenail holes were augured.³¹

A small section of hard pine (*Pinus* sp.) sheathing was also uncovered. The ½-inch thick sacrificial planking is attached to the outer hull planking with ⅛-inch square stock iron nails, with a layer of horse or mule hair between it and the outer hull planking.³²

The Readers Point Vessel

In 1994, archaeologists from the Nautical Archaeology Program at Texas A&M University, the Jamaican National Heritage Trust, and the Maritime Studies Program at East Carolina University, excavated the remains of an eighteenth-century merchant vessel in St. Ann's Bay, Jamaica. Historical and archaeological documentation suggests that the vessel was a colonial sloop plying the West Indian/North American trade. The vessel's well preserved hull remains are intact from the base of the apron in the bow to its eroded stern knee, revealing a sizable sloop about 60 feet in length, 18 feet in beam and displacing 100 tons (Figure 22).³³ Artifact and construction analysis suggests the lightly built sloop had a long career before being abandoned during the late eighteenth century.

Wood analysis suggests that the Readers Point vessel was built in the northeastern American colonies, probably New England.³⁴ White oak, the predominant shipbuilding

³¹ *Ibid.*, 46.

³² *Ibid.*

³³ Gregory Cook, "The Readers Point Vessel," 47. 88.

³⁴ *Ibid.*, 86, 87.

timber in colonial America, is used extensively throughout the carefully built hull, including the framing, outer hull planking, ceiling planking, keelson, bow timbers, treenails, and mast step repairs.³⁵ Nine mold frames define the shape of the vessel, which possesses less deadrise than Bermuda or Chesapeake sloops and is more indicative of New England-built vessels. Flatter floors amidships gave the sloop a shallower draft and increased cargo space, albeit at the expense of speed.³⁶

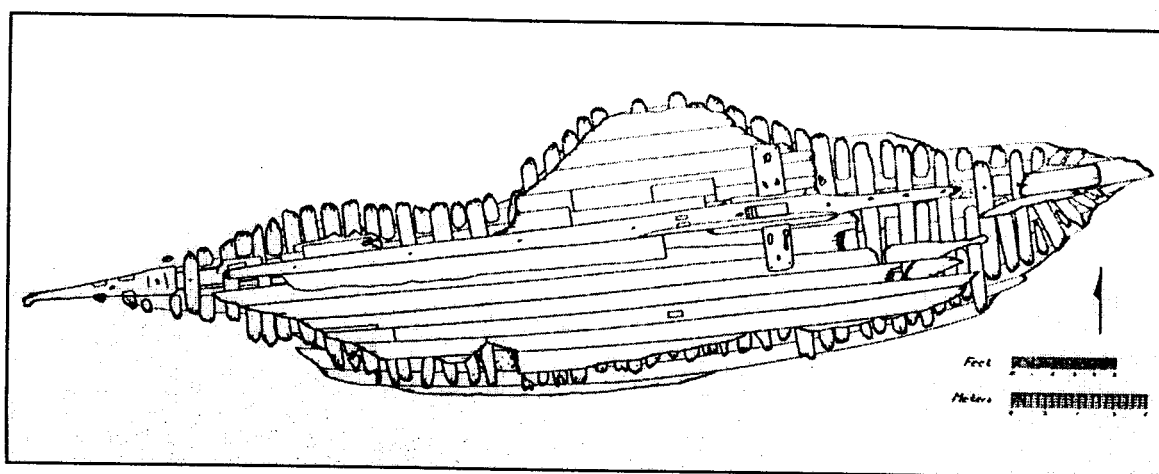


Figure 22. Readers Point Vessel site plan (Cook, *The Readers Point Vessel*, 106).

The vessel's 23 extant floors, each fixed to the keel with a single 1 inch diameter iron drift bolt, are spaced on 22 inch centers, with a room of 9 ½ inches and a space of 1 foot ¼ inches on average. Sided dimensions for the floors range from 7 ¼ inches to 1 foot ¼ inches, averaging 9 ½ inches. Floors are molded ranging from 8 ½ inches to 1 foot 1 ½ inches and average 10 inches. Seventy-seven first and second futtocks survive and are treenailed to the outer hull planking. Sided dimensions for first futtocks range from 7

³⁵ *Ibid.*, 58.

³⁶ *Ibid.*, 87.

¼ inches to 10 ¾ inches, and average 8 7/8 inches. First futtocks are molded from 6 inches to 10 ½ inches, averaging 8 ½ inches.³⁷

The frame assembly is particularly illustrative. Nine frame sets, used as mold frames, are joined together with horizontal treenails. Forward of amidships, floors are joined to the futtocks situated aft of them, and aft of amidships floors are joined to the futtocks forward of them. Mold frames are evenly spaced, at every second floor near the curved stem and stern, and at every third floor at the flatter midships area.

Laying atop the floors is a keelson fashioned from a single piece of white oak (*Quercus* sp.), sided nearly 11 inches and molded just over 9 inches.³⁸ Shallow notches are cut in the timber's bottom to accept 8 floors. Forward of the mast step, the keelson is bolted to every floor with iron through bolts, and fastened to every third floor aft of the mast step.

The white oak outer hull planking of the Readers Point vessel is 2 inches thick and ranges from 8 inches to 1 foot 6 inches in width. Planks are fastened to the frames with treenails. As excavation did not extend to the outer hull planking, fastener patterns and scarf types were not documented. The hull is sheathed in ¼-inch hard pine sacrificial planking, with a layer of pitch mixed with animal hair between planking layers.³⁹

As a West Indian/North American trader, the Readers Point sloop saw considerable service before becoming a derelict in St. Ann's Bay, Jamaica. That the sloop may have been built in New England, yet came to rest in Jamaica, is not unusual.

³⁷ *Ibid.*, 51-52.

³⁸ *Ibid.*, 53.

³⁹ *Ibid.*, 54-55.

Colonial North American sloops bound for Jamaica initially stopped at Kingston Harbor, then traveled to other ports. This circuitous trade route, according to Readers Point project archaeologist Gregory Cook, suggests that traffic between Jamaica and North America was not exclusively two-way.⁴⁰ Much inter-West Indian trade was conducted by New England-built sloops, and the Readers Point vessel's association with a Jamaican plantation suggests that the vessel was Jamaican owned, yet New England-built. Indeed, a lucrative West Indian market existed for shallow draft, low cost American-built sloops with fair sailing qualities and a large cargo capacity.

Interpretation

The Devereaux Cove wreck's articulated visible remains cover approximately a 52 foot by 12 foot area, indicating the vessel was at least 52 feet long. Assuming that detected buried structure is also part of the Devereaux Cove wreck, and articulated, the vessel's minimum length approaches 60 feet, entering a common range for eighteenth-century New England-built sloops and schooners engaged in inter-colonial and West Indian trade. The future discovery of stem and/or stern assembly remains would be of considerable value in discerning the vessel's actual length. Given the vessel's limited preservation, finding articulated stem and stern components is unlikely. Nonetheless, intact portions of the keel may disclose where, and how, the posts joined the keel, while also revealing the vessel's length.

⁴⁰ *Ibid.*, 87.

As the 2000 investigation was limited to a Phase II survey, archaeologically extrapolating a reliable beam, deadrise, draft, or tonnage measurements could not be done. This may be difficult even with excavation because of the wreck's limited preservation. Nonetheless, as evidenced by visible athwartships remains, the vessel's beam could not have been less than 12 feet, and was quite probably greater.

Early to mid-eighteenth-century vessels with lengths in the 60-foot range, and characteristics of New England-built merchantmen offer a point of departure for exploring hypothetical beam and displacement measurements for the Devereaux Cove vessel; similar sized vessels likely constituted much of the Penobscot Expedition's contingent of transports. The British hoy (circa 1720) mentioned in Chapter 6, measured 64 feet long on deck with a beam of 19 feet 6 inches. Proportionally identical, the schooner *Sultana* (built in 1767) measured 50 feet on deck with a 16-foot beam, and the schooner *Halifax* (built in 1765) was 58 feet on deck with a beam of 18 feet. Archaeological evidence reveals similar proportions for eighteenth-century New England-built coastal merchantmen. The Readers Point sloop was determined to be about 60 feet long with a beam of 18 feet, and researchers believe the slightly larger Rose Hill wreck was 67 feet long overall with a 22-foot beam.

Both the Readers Point and Rose Hill vessels were flat floored with little deadrise, and figured to have been about 100 tons burthen. The *Sultana* and *Halifax* were 52 tons and 83 tons respectively. Although probably flattened over time, the Devereaux Cove wreck's floors and first futtocks do not show any upward curve, indicating they did not enter the turn of the bilge and that the vessel may have been flat floored. Given the

wreck's estimated 60 foot minimum length, and analyzing the wreck within the context of the Penobscot Expedition transports, the Devereaux Cove vessel may have looked something like the New England built merchant sloops and schooners alluded to above. As mentioned in Chapter 6, expedition eyewitness Thomas Philbrook remarked that forty "coastal" sloops of about 100 tons each were employed as transports. Further, the transport *Centurion* was reportedly 83 ½ tons. A comparison of framing patterns and scantlings offers more insight.

Floors on the Devereaux Cove vessel are on approximate 22-inch centers and average 11 ¼ inches sided. Best preserved first futtocks average 10 ¾ inches sided. In comparison, the Readers Point vessel's floors are on 22-inch centers and average 9 ½ inches sided. The Rose Hill wreck has 11 inch sided floors, also on 22-inch centers. First futtocks on the Readers Point vessel are slightly smaller than floors and those on the Rose Hill wreck are the same size as its floors. Thus, relative to its framing, the Devereaux Cove vessel has more in common with the heavier built Rose Hill wreck than the Readers Point vessel, though all three possess similarities. Manuscripts indicate that the schooners *Sultana* and *Halifax* possessed floors sided 9 inches and 10 inches respectively, offering further evidence of proportionally similar scantlings among comparably sized vessels.⁴¹

Like the Rose Hill wreck, the Devereaux Cove vessel possesses little, if any, space between floors and first futtocks. A contract specification for several 3rd rate British warships, written about the same time as *Deane's Doctrine of Naval Architecture*

⁴¹ Hahn, *The Colonial Schooner*, 54 and 63 respectively.

(1670), indicates that "lower" futtocks should fill up the room between floors, resulting in room equal to space.⁴² Wilde-Ramsing, et al. indicate that as the eighteenth century progressed, space between floors and first futtocks increased to improve air flow within the bilge and thereby reduce potential for rot.⁴³ Manuscripts reveal that the 83-ton schooner *Halifax* (1765) had 10-inch sided "Timbers at the Keel," and a room and space of 1 foot 9 inches, apparently resulting in only 1 inch of space between frames.⁴⁴

That the Devereaux Cove wreck appears to possess room equal to space suggests an earlier, rather than later, eighteenth-century construction date. Should future excavation reveal any consistent spacing between the Devereaux Cove vessel's frames, that space will clearly be minimal. Considering that outdated construction methods may have persisted, especially in the small, rural shipyards of the American colonies, an "earlier" date may be a relative term. A merchant vessel lost on the Penobscot Expedition (1779), and built in 1750, for example, would have been almost 30 years old when lost. Generally, vessels built of seasoned white oak lasted around 15 years, although a well cared for merchantman could last considerably longer.⁴⁵ New England-built vessels were particularly known for their durability. Notably, at least part of the Devereaux Cove vessel was built of less desirable red oak, suggesting it may not have been exceptionally old when lost.

Like the Readers Point vessel, Rose Hill wreck, and *Defence*, the Devereaux Cove vessel's first futtocks do not cross the keel, a building practice common in England

⁴² Brian Lavery ed., *Deane's Doctrine of Naval Architecture, 1670* (London, 1986), 116.

⁴³ Wilde-Ramsing et al., *The Rose Hill Wreck*, 53.

⁴⁴ Hahn, *The Colonial Schooner*, 63.

⁴⁵ Hutchins, "History and Development of the Shipbuilding Business," 16.

during the early eighteenth century, and one specified by William Sutherland in his *Shipbuilders Assistant* (1711).⁴⁶ Moreover, similar to the three vessels mentioned above, heels of the Devereaux Cove's first futtocks may not have met the now missing keelson. The resultant space between the keelson/keel assembly and first futtocks acted as a sump and allowed water to accumulate below the bilge ceiling rather than within the cargo hold.⁴⁷ First futtocks on the Rose Hill wreck begin 11 inches from the vessel's centerline, approximately 6 inches from the keelson. The Readers Point vessel's first futtocks are also about 6 inches off the keelson, while those on the *Defence* are closer, but do not meet the keelson.

First futtocks on the Devereaux Cove wreck begin approximately 7 ¼ inches from the vessel's apparent centerline. Since other scantlings on the Devereaux Cove wreck are similar to both the Readers Point and Rose Hill vessels, a hypothetical scenario might assume the vessel employed a similar sized keelson. The keelsons of both the Rose Hill and Readers Point vessels are sided about 10 inches, as is the aft keelson segment on ME 054-004. If a similar sized keelson were used on the Devereaux Cove vessel, then the first futtocks were approximately 2 ¼ inches outboard of the keelson. Conversely, if the first futtocks met the keelson, that timber would have been sided about 14 inches. Should further archaeological research prove that the vessel's first futtocks met the keelson, this would suggest an earlier eighteenth-century construction date, as futtocks were moved away from the keelson as the century progressed.

⁴⁶ Sir Westcott Abel, *The Shipwright's Trade* (New York, 1962), 69.

⁴⁷ Wilde-Ramsing et al., *The Rose Hill Wreck*, 53.

Due to erosion of the timbers' exposed faces, it is presently impossible to discern if the Devereaux Cove vessel's frame timbers were carefully fashioned, like those on the Readers Point Vessel, or rough hewn like some used on the *Defence*. Such information would indicate something about the circumstances under which construction took place, the vessel's intended purpose, and the overall quality of craftsmanship. Interestingly, with aberrations apparently caused by erosion, sided dimensions of the Devereaux Cove vessel's frame timbers are relatively uniform. Unlike the hastily built *Defence*, it appears that the Devereaux Cove vessel's builder did not have to, or desire to, frame the vessel with odd sized timber. Moreover, frame timber scantlings on the Devereaux Cove vessel, like the Rose Hill wreck, indicate a heavily built vessel. This suggests that the vessel may have been constructed to withstand a long career as a coastal trader, rather than a potentially short career as a privateer. The Devereaux Cove vessel's owner perhaps intended to generate income via consistent, long-term trading, rather than attempt a privateering venture. As evidenced by the *Defence*, purpose built privateers were often constructed rapidly and inexpensively, in order to put to sea quickly and compensate for their potential loss.

An interesting piece of evidence indicating the Devereaux Cove vessel was perhaps built by "rack of eye," with frames faired after being erected onto the keel, is the wedge found between outer hull planking and the inboard end of a first futtock. The practice of piece by piece framing was common during the early to mid-eighteenth century and used for small New England-built sloops and schooners as late as the

Revolution.⁴⁸ That the wedge was used to increase the futtock's molded dimension, and thereby fill in unwanted space between it and the outer hull planking, is a possible explanation. The wedged shaped furren found on the Rose Hill wreck, although configured differently, served the same function.

Treenails were used on the Devereaux Cove vessel to fasten outer hull planking to floors and futtocks. Of the three treenails still attached to the first futtock removed for recording, none were wedged at their outboard ends and all are octagonal. Wedging the ends of all treenails did not become common until the later eighteenth century, although wedges were used to expand loose or undersized treenails.⁴⁹ Additionally, cylindrical treenails were not commonly used until the advent of the Industrial Revolution, when they could be shaped more efficiently on a lathe.⁵⁰ Treenails used on the Devereaux Cove wreck were not staggered from top to bottom along floors and futtocks, suggesting that the builder was perhaps inexperienced, or that frame timbers were deemed substantial enough to accept a single line of treenails without splitting. Staggering the treenails would have ensured that frame timbers did not split.

Nevertheless, treenails are noticeably uniform, both fore and aft and along each frame timber and appear to be spaced with some precision. Like the Rose Hill wreck, treenails on the Devereaux Cove vessel are consistently placed toward the outer edges of the hull planking, and two are driven into each floor and futtock. Fore and aft treenail centers are consistently between 11 and 12 inches, substantiating the fact that the vessel's

⁴⁸ Baker, *A Maritime History of Bath, Maine*, 132.

⁴⁹ Riess, "The Ronson Ship," 75.

⁵⁰ Warren Riess, personal communication, 24 January 2002.

floors and first futtocks are sided uniformly as well. Randomly sided frame timbers, employed in a vessel with no space between those timbers, would have necessitated uneven fore and aft spacing of treenails.

Finally, wood usage on the Devereaux Cove Vessel suggests an origin in the American colonies. Wood samples from two treenails proved to be white oak, very likely American white oak. Historically, treenails were made slightly smaller than the augured holes they were driven into, leaving natural swelling to ensure a tight fit. Oak is exceptionally useful for this purpose as it is tough, durable, and resists radial shrinking.⁵¹ American white oak is found in the central and eastern United States.

Wood samples from a first futtock and an adjacent outer hull plank proved to be red oak, with many narrow growth rings indicating older, slow growth timber. Red oak was less desirable as a shipbuilding material, because it lacks the strength, durability, and water resistance, of white oak. That the shipwright chose red oak suggests the vessel was a merchantman, for naval vessels were known to garner higher quality timber. Growth rings in both samples are similar enough in morphology to suggest that the futtock and plank derive from the same original tree. This indicates that timber used for the Devereaux Cove vessel was probably not massed produced, where the chances of obtaining two entirely different components made from the same tree would be highly remote. More likely, the shipwright constructing the Devereaux Cove vessel harvested his own timber and used each part of the tree as economically and efficiently as possible. The vessel's builder perhaps purchased a plot of land, best utilized the shipbuilding

⁵¹ Mitchell, "A Comparison of Wood Use in Eighteenth Century Vessels," 84.

timber growing there, and constructed and launched his vessel from the same property.

White oak, as used to frame much of the *Defence*, Readers Point, Rose Hill, and ME 054-004 vessels, would have been a preferable choice. Yet, an eighteenth-century New England shipwright who owned a large stand of red oak, and was interested in selling his vessel for profit or using the vessel himself for coastal trading, would not have neglected it.

Chapter 9

Conclusions and Recommendations

Without a positive identity, conclusions concerning the Devereaux Cove vessel's association with the Penobscot Expedition of 1779 must remain tentative. Nevertheless, historical and archaeological investigations revealed nothing to the contrary. In comparison with known eighteenth-century American-built vessels, particularly those with New England-built characteristics, preliminary archaeological findings suggest the Devereaux Cove wreck represents an eighteenth-century American-built vessel.

Historical research indicates that as many as eighteen Penobscot Expedition vessels were destroyed in the Devereaux Cove vicinity. Final locations for nearly all of the fleet's armed vessels can be confirmed historically (and in some cases archaeologically), revealing that if the Devereaux Cove vessel was part of the Penobscot Expedition, it was not likely an armed vessel. Consequently, it is a transport vessel rather than a larger, heavily armed warship. With the exception of one brig, all expedition transports were sloops and schooners, most likely New England-built merchantmen.

Colonial records show that Massachusetts merchants and their vessels dominated coastal trade, and that New England was unrivaled in the production of coastal merchantmen. Such vessels would have been readily available as the fleet assembled in Boston. It seems unlikely that the expedition would have engaged, or required, vessels from distant regions. As with ships constructed in other colonies, eighteenth-century New England merchant sloops and schooners possessed distinctive regional design traits

and were known for having flat floors, full ends, little deadrise, and tumblehome topsides. Ideally, archaeological confirmation of these characteristics would provide a means of more closely identifying the Devereaux Cove vessel as a Penobscot Expedition transport. As the 2000 investigation was limited to a Phase II survey, however, archaeologically extrapolating reliable beam, deadrise, draft, or tonnage measurements could not be done.

Historical evidence, again, within the context of the Penobscot Expedition transports, offers some insight. Thomas Philbrook, a sailor on the Continental sloop *Providence* and eyewitness to the fleet's departure from Boston, indicated that the transports were all "coastal" sloops of about 100 tons each. Another source indicates that the transport *Centurion* displaced 80 tons. Although eighteenth-century vernacular appears at odds with the modern conception of a "coastal" sloop (20-40 tons), clearly some expedition transports were of a size more often associated with intercolonial or West Indian trading vessels (50 tons or greater). Frame timber scantlings, when combined with the Devereaux Cove vessel's estimated minimum length, compare favorably with archaeological and historical evidence for mid-eighteenth-century New England-built merchant vessels averaging 60 feet in length and displacing roughly 100 tons.

Floors and first futtocks comprise the Devereaux Cove vessel's articulated exposed remains and indicate a heavily built vessel with a 52-foot minimum length. Of the floors most intact, all appear to be full floors with equal length arms on each side of the keel, rather than half floors. Characteristic of early to mid-eighteenth-century vessels,

frames appear to have room equal to space, and first futocks do not cross the keel. First futocks probably began just outboard of the keelson, allowing water to accumulate below the ceiling rather than in the cargo hold, suggesting the vessel was built as a merchantman. Both the space between frames and the distance of first futtock heels from the keelson increased as the eighteenth century progressed, suggesting the Devereaux Cove vessel was built earlier rather than later in the century.

Floors and first futocks are fastened to the outer hull planking with treenails, a sampling of which proved to be non-wedged and octagonal. Wood sample analysis revealed that treenails were made of white oak, very likely American white oak, indicating construction in the American colonies.

Wood samples taken from an outer hull plank and first futtock located in the same area, showed that both were fashioned from old growth red oak. Both timbers possess growth rings similar enough in morphology to suggest they derived from the same original tree. Small, privately owned shipyards were ubiquitous along colonial America's rural waterways, and it is possible that the Devereaux Cove vessel's builder harvested his own timber and used each part of the tree as economically as possible. That two of the vessel's components originated from the same tree, suggests the timber was cut specifically for the vessel, rather than mass produced.

Additionally, the use of red oak, rather than more durable white oak, further indicates that the Devereaux Cove vessel is a commercial vessel, for navy ships were known to garner higher quality timber. That the shipwreck was an inexpensive, purpose-built privateer is a possible explanation, although the uniform framing pattern, timber

scantlings, and fastener pattern suggest the vessel was not hastily built. Despite the use of red oak, the vessel was perhaps intended to serve a long career as a trading vessel.

Recommendations

The present study's observation should be substantiated through additional historical and archaeological research. Within the context of the Penobscot Expedition, identifying the transports in additional contemporary shipping records might reveal critical information about the exact type and size of those vessels, thus providing direct connections between the archaeological and historical record. Additionally, a more thorough understanding of eighteenth century maritime activity in northern Penobscot Bay, would be helpful in determining the volume of shipping in the area. Consequently, alternative scenarios for the Devereaux Cove vessel may emerge.

Although exposed portions of the wreck have been negatively impacted by the site's dynamic environment, sufficient integrity exists to warrant further archaeological investigation. Through excavation, diagnostic framing details such as the use and assembly of mold frames, method of joining heels and heads of frame timbers, conclusive frame timber scantlings, and degree of craftsmanship will become more apparent. Since deeper buried hull structure appears to be better preserved, those areas will likely yield greater design and construction information. Additionally, a more comprehensive wood sample analysis will help identify the vessel's place of origin, as well as the builder's wood preferences for various components. All of the above would be of considerable value in more precisely determining the vessel's age, type, and purpose. These findings

are not only important for establishing the vessel's identity, but also for expanding our presently limited understanding of eighteenth-century American merchantman design and construction.

Remote sensing within the wreck site, and in Devereaux Cove itself, should be included in any further archaeological investigations. A comprehensive magnetometer survey would detect buried fasteners or artifacts within and outside the wreck site, greatly enhancing interpretation. Outlying portions of the Devereaux Cove vessel's structure, or possibly additional shipwreck sites, may also be identified through remote sensing.

Unfortunately, the Devereaux Cove vessel is located in a highly dynamic environment, and the natural loss of structure cannot be mitigated, reversed, or significantly slowed. Reburying the site periodically would be helpful, although the logistics of doing so and regular disruption to private landowners would make such efforts unsustainable over any reasonably effective duration. The site's thorough documentation, therefore, must be accomplished before further deterioration renders such an undertaking less likely to yield reliable archaeological data.

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