

RECONSIDERING THE *ROYAL SAVAGE*

A Thesis

by

CARRIGAN ROSE MILLER

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Chair of Committee,
Committee Members,
Head of Department,

Kevin J. Crisman
Donny Hamilton
April Hatfield
Cynthia Werner

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ABSTRACT

The 1770s was a formative decade for the United States, most famously for the declaration of the colonies' independence from Great Britain, but this era also saw the formation of the nation's first navy. At the forefront of this was a small, ragtag, squadron on Lake Champlain led by a two-masted schooner, *Royal Savage*, with none other than Benedict Arnold, the famous traitor, in command. *Royal Savage's* contribution to United States history, and to the field of Nautical Archeology, was not limited to this service, however. After sinking during the Battle of Valcour Island on 11 October 1776, the wreck was subjected to over a century and a half of looting and tampering by residents of the Champlain Valley until it was raised in 1934 by a salvor named Lorenzo F. Hagglund. The remains then suffered an additional eighty years without conservation before finally being returned to the U. S. Navy's Naval History and Heritage Command (NHHC) in 2015, where they are currently being conserved. Because of this long and complicated history, *Royal Savage* has a great deal to offer nautical archaeologists, not only as an interesting historical specimen, but as a case study for managing and extracting information from wrecks that are no longer in their original context. The following thesis traces *Royal Savage's* journey from her role as the first American flagship, through her tenure on the bottom of Lake Champlain and her initial recovery, all the way up to her condition at the time of this writing, through the lens of the people that interacted with her along the way. This was accomplished by reading original correspondence and contemporary newspapers, made available by the Lake Champlain Maritime Museum (LCMM), as well as interacting with the remains themselves during an internship at the NHHC. The resulting work is a comprehensive, though concise, record of *Royal Savage* and the people who have interacted with her.

Dedicated to Lorenzo Hagglund

-

I hope that we can finally
make your dreams come true

ACKNOWLEDGEMENTS

The creation of this work, much like the subject matter that it covers, was much more complex than it might seem on the surface. I could not have done it without each of the following people who guided and supported me throughout this journey.

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CHAPTER I

INTRODUCTION

Royal Savage was a two-masted schooner built by the British government in 1775 at Fort St. Jean, located along the Richelieu River in Quebec, to help them gain control over Lake Champlain. She was described as “a vessel of between 70 and 80 tons’ burden, very long, elegantly built and finished off, mounting fourteen brass six-pounders besides a number of swivels.”¹ She was about 50 feet (15.25 m) long with a 15-foot (4.57 m) beam and was crewed by a complement of 40-50 sailors.²

During the fall of 1775, the schooner was sunk, captured, raised, and repaired by Continental troops when they took St. Jean and from then on would be used as their flagship (Fig. 1.1).³ One account put forth the notion that she was not named *Royal Savage* until this time, the title supposedly having been conferred by the rebels in reference to the tendency of King George’s troops to incite Indian tribes against them.⁴ The truth, however less entertaining, is that the British were, in fact, the ones to christen *Royal Savage* as such. In fact, the colonials briefly considered renaming her *Yankee*, but the name did not stick.⁵

The first American naval squadron was built around her, and she was commanded, for a time, by the infamous future traitor Benedict Arnold. Under his leadership, she would play a pivotal role in the Battle of Valcour Island, which, despite its limited mention in most history books, was a defining battle in the American War for Independence.

During this battle, the schooner was again sunk and its upperworks burned. The wreck remained on the bottom of the lake, undergoing regular small-scale salvage by souvenir hunting locals until 158 years later, when Lorenzo Frederick Hagglund brought her to the surface once

more. Hagglund, and later his son, Hudson Hagglund, searched with increasing desperation for a museum willing to preserve and display the wreck. Eventually, in 1995, the remains were sold to the city of Harrisburg where, for the next twenty years they continued to be mismanaged to the point where they looked more like a pile of firewood than a ship. Finally, in 2015 the timbers were handed over to the Naval History and Heritage Command headquarters in Washington, D.C., where they are currently being documented, conserved, reconstructed, and will ultimately be displayed.



Fig. 1-1. A contemporary watercolor painting of *Royal Savage*. This may also be the earliest known representation of the colonial “jack and stripes” ensign. Reprinted from the Schuyler Papers, Rare Books and Manuscripts Division, New York Public Library.

The Internship

I first encountered *Royal Savage* during the summer of 2017 as an intern working for the Underwater Archaeology (UA) Branch of the Naval History and Heritage Command (NHHC) of the United States Navy. I was assigned to study *Royal Savage*, a project that consisted of two major components. The first part, from which most of this thesis was constructed, involved organizing and interpreting the available written record of the ship from the past two centuries. These documents were acquired by the branch in two parts. The first were given directly to the NHHC by Lorenzo's son, Hudson Hagglund. The later collection was generously shared by the Lake Champlain Maritime Museum (LCMM), which currently holds the documents, and allowed them to be photographed. This collection also originated with the Hagglund family and was passed along to Peter Barranco, a long time Lake Historian who worked with Lorenzo Hagglund as a child. Barranco donated the papers, along with his own research collection to the museum and it has since been supplemented with materials and notes from the museum staff.

Without these resources, this study would have been nearly impossible. Evidence from Hagglund's own notes and papers not only supported and enlightened many of the scientific discoveries that will be discussed in Chapter 7 but enabled researchers to identify how the vessel was originally raised, how many of the timbers were present at the time of salvage versus which ones had already been destroyed or looted, and how the vessel might eventually go back together. The thorough records that Hagglund kept offered a multitude of insights.

For the other part of the project I had the opportunity to interact with the physical remains of *Royal Savage* itself. A disarticulated mass of timbers lying under tarps in a warehouse is not particularly glamorous, but there is tremendous value in researchers being allowed to handle the timbers, much like a British carpenter, shipwright, or infantryman originally did 243 years ago.

This part of the project was documentary in nature and produced scale, three-dimensional models of eight timbers, the process for which is described in detail in Chapter 7 and Appendix A.

Overview

History has established what *Royal Savage* is and was, at least physically, but that is not the only relevant aspect of her for my purposes. More important are the interactions between this physical object and all of the people who share a part in its story. It started with the people who made the schooner, and progressed through the people who captured her, the people who sailed the vessel, the people who sank her, the people who collected souvenirs from the wreck, and the people who finally brought her back into the light of both the sun and of academic and cultural inquiry. All of this culminated in that assignment that I was given for my internship during the summer of 2017 and the decision to continue this research and ultimately publish it. This is *Royal Savage* in the context of the people whose lives intersected with the schooner's short career as a sailing warship and much longer career as an interesting wreck. These intimate vantage points can be found with the aid of original documents, images, and newspaper stories written as *Royal Savage*'s history unfolded.

Chapter Two will narrate the historical background and establish the relevance of *Royal Savage* while detailing the experiences of those who built and fought with the American naval squadron on Lake Chaplain in 1776. It begins with the start of the American Revolution, focusing on the events between the capture of *Royal Savage* from the British at St. Jean and its destruction at the Battle of Valcour Island, and concludes with the famous Battle of Saratoga in 1777. Most of the information in this chapter is extracted from letters exchanged between the

leaders of the colonial forces, supplemented with historical interpretations of the events of 1775-1777.

Chapter Three will examine the attitudes of Champlain Valley residents toward the wreck of *Royal Savage* between 1776 and 1934. The bulk of this chapter is devoted to detailing and understanding the motives for the incessant salvage of objects from *Royal Savage* by locals. It relies heavily on contemporary newspaper articles.

Chapter Four examines Lorenzo F. Hagglund, the history-loving U.S. Army lieutenant turned professional salvor, who successfully raised the wreck in 1934. Sources for this chapter include the letters that he wrote and received and the documents he collected, including his own master's thesis, "Concerning the *Royal Savage*." These documents, as mentioned previously, are currently maintained by the LCMM and NHHC.

Chapter Five of the thesis will delve into what happened to *Royal Savage* after the death of Lorenzo Hagglund in 1961. It follows his son, Hudson Hagglund, as he continued to search for a worthy museum to purchase, preserve, and display *Royal Savage*, ultimately resulting in its sale to the City of Harrisburg, Pennsylvania. This section draws from Hudson Hagglund's correspondence, as well as newspapers and legal documents from Harrisburg.

Chapter Six focuses on the acquisition of the remains by the U. S. Navy and highlights some of the legislation enacted to protect vessels like *Royal Savage*. Chapter Seven examines the wreck from a modern-day perspective, focusing on what the Naval History and Heritage Command is doing with the timbers and other artifacts now in their possession. It will look at current scientific and historic research, as well as the recording, documentation, and cleaning of the timbers, the proposed reassembly of the structure, and the NHHC's ultimate goal of public display and interpretation of the remains.

The final chapter will review the insights gained by the study of *Royal Savage*, reiterating the value of knowledge derived from degraded archeological materials, acknowledging the laws that protect some shipwrecks, and encouraging a deeper appreciation for both the vessel and the people who partook in its story.

Objectives

Through conducting this research and writing this paper, I have learned a great deal, not only about *Royal Savage* but about the field of Nautical Archaeology as a whole and the direction in which it is going. That being said, there are five major goals that I have developed in completing this paper.

The primary goal is to bring to light the story of the Lake Champlain naval squadron's role in America's Revolutionary War and give recognition to those heroes that shaped a nation. Although the Continental Navy is well represented in historical texts and museums, the action on Lake Champlain, and particularly that of *Royal Savage* often fades into the background. The remains and associated story are therefore a valuable expansion of the historical record, providing a touchstone for a more intimate understanding of the people who founded our nation. The following text will hopefully help the reader to more fully understand how even seemingly minor events and the material culture they leave behind can have lasting impact by helping people to connect with their nation, their community, and with their past.

A related goal for this paper is to paint historical figures as the complex characters that they were. Despite historical publications increasingly presenting rich, multifaceted life stories, popular understandings of historical figures are diluted by the fact that it is easier to look at people from the distant past in two dimensions. In the following chapters, I hope that readers can

begin to see these individuals more clearly and think critically when presented with a historically accepted but single-sided account of a person or event. Hopefully, readers will come away from this narrative with a broader understanding of the significant role that Benedict Arnold played in the creation of the United States rather than settling for the popular notion that he was simply a traitor. I hope to also portray Lorenzo Hagglund as more than just that salvor who irresponsibly recovered *Royal Savage* and left it to lie in storage for eighty years. Even when considering the hull itself there is more to the mangled remains than meets the eye.

For the remaining purposes, my goal is to have *Royal Savage* serve as an enlightening case study. Her story helps the reader understand the importance of and purpose behind the laws protecting similar vessels and other archaeological material. The complicated history of the remains also presents an interesting case for both sides of the ongoing debate over whether *in situ* preservation or recovery is better for the long term wellbeing of shipwrecks and other archaeological sites. Likewise, the extensive use of Lorenzo and Hudson Hagglands' collections of documents, research materials, drawings, and photographs in the writing of this paper illustrates the necessity of documenting your findings and taking the extra step of publishing documented and detailed research for advancement of the field. Had the Hagglands not kept such in-depth records of their activities, this paper would not have been possible.

Finally, and most important of all, the ongoing work on the remains illustrates how even abused and disarticulated vessels can still have great educational value to both researchers and the general public. Hopefully this story will encourage researchers, funding institutions, and the public to not discount damaged archaeological resources and to continue to support the study, protection, and display of ships with similar histories.

With this in mind, let us now dive in and reconsider *Royal Savage*.

Notes

¹ Russel P. Bellico, *Sails and Steam in the Mountains, a Maritime and Military History of Lake George and Lake Champlain* (Fleischmanns, 1992), 124. Quote by Major James Livingston.

² “Dictionary of American Naval Fighting Ships,” Naval History and Heritage Command, 21 October 2005, <https://www.history.navy.mil/research/histories/ship-histories/danfs/r/royal-savage.html>.

³ St. Jean is alternatively referred to in some texts as St. John. (now St. Jean sur Richelieu, Quebec, Canada).

⁴ Ed Finn, “Aqualung Historians find Ship: Colonial War Relic Sunk in 1776,” unknown newspaper clipping, 1955. From Hagglund Collection, [NHHC - Folder 53.3].

⁵ O. Bredenberg, “The Royal Savage,” *The Bulletin of the Fort Ticonderoga Museum*, XII, 1966, 136-7.; Bellico, *Sails and Steam*, 124; David Lyon, *The Sailing Navy List, All the Ships of the Royal Navy, Built, Purchased and Captured, 1688-1860*, (Cambridge, 1993), 298.

CHAPTER II

HISTORY

Combatants on both sides of the American Revolution were heavily dependent on the strength of their maritime resources. This is not entirely surprising, since they lived an ocean apart from one another. In fact, this distance and the ability, or lack thereof, to span it for trade purposes were the primary causes for the onset of war in the first place. One of the best examples of this was the colonial response to the passage of the Tea Act on 10 May 1773, which gave the East India Company a monopoly over the importation and sale of tea in the Americas.¹ On 16 December 1773, the colonists protested this restriction on their trade rights by throwing 342 chests of tea into Boston harbor.² The Boston Tea Party and the subsequent passage of the “Intolerable Acts” as punishment, illuminates the close connection between maritime trade and navigation and the imminent revolution.

Oddly enough, one of the pivotal naval battles that would shape the outcome of the Revolutionary War occurred not on the Atlantic, nor even on the Great Lakes, but rather, on the waters of Lake Champlain (Fig. 2-1). In conjunction with the Hudson River (which flows south from just below the lake to New York City), and the Richelieu River (which flows from the lake northwards into the St. Lawrence River), this body of water formed an important north-south highway through otherwise nearly impassable wilderness.³ Lake Champlain was an important asset to control, and rebelling colonial forces had the advantage of initiative. In February 1775, two months before the first shots of the Revolution were fired at Lexington, Massachusetts, the rebel leaders proposed military plans for the Champlain Valley. John Brown, a representative of the Massachusetts Committee of Correspondence, was sent northward to evaluate the solidarity



Fig. 2-1. A map of Lake Champlain and the surrounding area. Reprinted from Nelson 2006.

of Canadian residents with the rebel cause, which he found unfavorable. He observed that “The fort at Tyconderoga must be seized as soon as possible should hostilities be committed by the Kings Troops.”⁴

The Continental Congress similarly acknowledged the importance of controlling the region’s outposts and wasted little time, once the fighting broke out, in sending forces to secure the lake. That May, a party of colonial troops and local Green Mountain Boys led jointly by Benedict Arnold and Ethan Allen took Fort Ticonderoga and Crown Point, as well as Mr. Philip Skene’s, the founder of the loyalist settlement at Skenesborough, 41-foot (12.5 m) long trading schooner *Catherine* (renamed *Liberty*).⁵ These men also captured a sloop, alternatively referred to as *Betsey* or *King’s Sloop* (renamed *Enterprise*).⁶ The next month, Philip Schuyler was appointed to Major General, given command of the part of the American army “which is, or may be employed in the Province of New York”, and ordered to “exert his utmost power to destroy or take all vessels, boats, or floating batteries, prepared by [Governor Guy Carleton of Canada] or by his order, on or near the waters of the lake.”⁷

Building the Navies

On 17 July 1775, Schuyler arrived at Fort George to take command of what was termed the Northern Department and immediately set to work training and disciplining the available troops and employed them in constructing watercraft to defend the lake.⁸ Both Schuyler and the completed vessels progressed northwards over the course of that summer. By the end of July he had arrived at Fort Ticonderoga and on 23 August 1775 he reported that there were enough boats on Lake Champlain to move 1,300 men and twenty days worth of supplies.⁹ Schuyler’s unrelenting work schedule, had the shipwrights “begin their work at sunrise and continue at it

until sunset excepting one Hour at Breakfast and one and a half Hours at Dinner,” and by the end of the construction season they had produced nearly 100 small, barge-like boats called bateaux, designed with the express purpose of transporting troops and supplies.¹⁰ Congress, meanwhile, had started pushing for them to build armed galleys as well.

Unfortunately for the colonials, the creation of a naval force on Lake Champlain was hindered by difficulties in gathering the necessary supplies to build and outfit the vessels. There was a constant deficit of nails, oakum, pitch, blacksmith supplies, and other materials, as well as a lack of skilled laborers such as shipwrights, carpenters, and blacksmiths.¹¹ This was further complicated when, despite a congressional offer to send shipwrights from New York and Philadelphia to build galleys, Schuyler dissented, determined to focus on constructing bateaus to transport troops and to use local shipwrights familiar with these craft.¹² Nevertheless, by the end of August, the small force on Lake Champlain added of two sloop-rigged gondolas, *Hancock* and *Schuyler* (Fig. 2-2).¹³

That fall Congress appointed General Richard Montgomery to take the flotilla from Crown Point and initiate the Continental invasion of Canada, starting with the shipyard at St. Jean (alternatively referred to as St. John’s) on Champlain’s Richelieu River outlet.¹⁴ The summer prior to this invasion, British Major General Guy Carleton sent shipwrights to the St. Jean garrison to build, launch, and outfit a schooner, *Royal Savage*, which now kept the colonial attackers at bay by occasionally sending grapeshot into the ranks.¹⁵ After two failed attempts to take the fort, and under a steady barrage from the British schooner, Montgomery called for volunteers to capture *Royal Savage*. This initially went unanswered, but eventually 320 men gathered and on 16 October 1775, *Royal Savage* was sunk in the shallow water by her dock.¹⁶

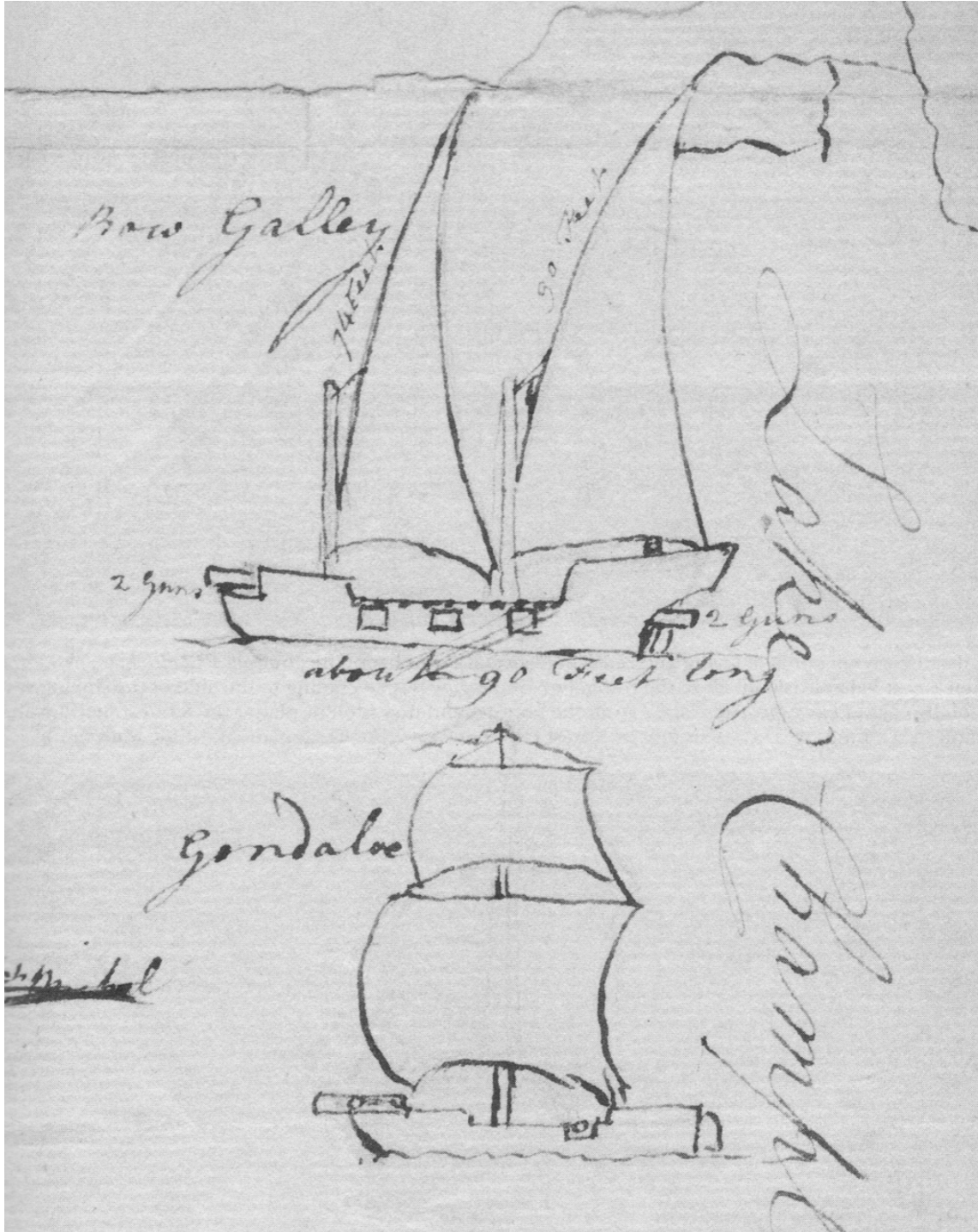


Fig. 2-2. These contemporary sketches of a galley (top) and gondola (bottom) by a British engineer named Charles Terrot illustrate some of the key differences between the two vessel types. Reprinted from Nelson 2006.

After 56 days of resistance, St. Jean fell to the rebels after word arrived that Carleton's reinforcements were cut off by the Green Mountain Boys.¹⁷ Major Charles Preston signed the articles of capitulation after receiving Montgomery's assurance that if he did not surrender that

day, “the Garrison shall be prisoners of war, without the honours of war, & I cannot insure the Officers their baggage.”¹⁸

The success of the siege at St. Jean was a great triumph for the Continental troops; they not only seized the fort with the loss of only twenty men, but were also able to raise and repair *Royal Savage* as well as capture the timbers for a cutter that they completed and later named *Lee*.¹⁹ Both vessels were promptly sent to Fort Ticonderoga, while the rest of Montgomery’s army continued north to commence an ill-fated wintertime siege of Quebec during which Benedict Arnold was seriously injured and Montgomery killed.²⁰ This failed Canadian campaign saw nearly thirty percent of the colonial army desert due to the dire conditions; smallpox was rampant and those who survived were driven to eating their shaving soap, the leather of their shoes, and eventually Captain Henry Dearborn’s dog.²¹ The following May, the colonial blockade of Quebec was broken and the survivors forced to flee up the St. Lawrence River when a military force was sent by sea to relieve the British garrison.²² The retreating Colonials did however prevent the British from reaching St. Jean until 18 June 1776.²³ As soon as this fort was regained by the British they began building ships to combat the Continental forces on the lake.

Meanwhile, the colonists also went to work at Skenesborough and Ticonderoga, expanding their small existing flotilla into a credible naval squadron. This effort was greatly hampered by the continued shortage of necessary materials, particularly of rigging.²⁴ The perceived “laziness of the artificers, or the neglect of those, whose duty it is to see them diligent at their work” continually frustrated colonial officers.²⁵ Nevertheless, by early June, construction was well underway, aided by Congress authorizing premium pay to attract skilled shipwrights, carpenters, blacksmiths, armorers, oar makers, and sailmakers.²⁶

The pace further improved with the arrival of Benedict Arnold on 22 July 1776. A seasoned sailor himself, he was ordered there by General Horatio Gates to “give directions for putting our whole squadron afloat” and expedite the production of warships.²⁷ Around the same time, Congress’s offer of generous wages had begun to produce results as experienced shipwrights poured into Skenesborough from Connecticut, Massachusetts, and Pennsylvania, amounting to a workforce of almost two hundred by the end of July.²⁸ They were still short on basic supplies, however, and the rate of production quickly outpaced the supply chain. Builders ran out of iron spikes and caulking materials and the carpenters use of local sawmills was hampered by wet weather flooding the facilities and rendering the wood unworkable.²⁹ Likewise, there were twenty-five blacksmiths at Skenesborough but only sufficient tools to run four forges.³⁰ Attempting to remedy this deficit became the full time job of Schuyler’s aide, Captain Richard Varick, who scoured the colonies for materials.³¹

The final problem was recruiting sufficient skilled manpower to sail and fight the vessels. Even with congressional incentives, it was virtually impossible to lure experienced seamen and marines away from the thriving privateering business in which reward money and glory were all but assured.³² Eventually the crews were filled out with drafted soldiers and volunteers. Their inexperience concerned Arnold, who protested to Schuyler that lacking skilled seamen, “our navigation... will be useless, soldiers or landsmen will by no means answer without a number of seamen in each vessel.”³³ To make matters worse, in late August, sickness swept through the shipyard workers with alarming speed, nearly halting construction. This was not smallpox, which had been aggressively eradicated from the army after the previous winter’s plague, but ague, a malaria-like disease causing chills, sweating, and fever.³⁴

Despite all of this, the army now had three new gondolas, *New Haven*, *Providence*, and *Boston*. Additionally, the gondola *Spitfire* was completed and nearly rigged, the gondola *Philadelphia* was completed but not rigged and the cutter *Lee* was ready to be rigged as soon as materials were available.³⁵ Galleys, which were favored due to their superior speed, handling in adverse weather, and ability to carry almost twice as many men and greater fire power than the square rigged, flat bottomed, gondolas, were critically lacking, however (Fig. 2-3).³⁶

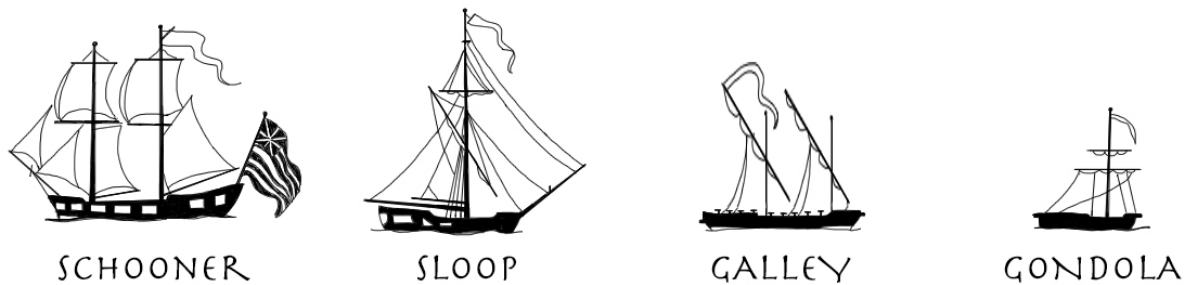


Fig. 2-3. Digital drawing of the four main vessel types used by the colonial navy, by Carrigan Miller. Based on the painting, “A View of New England Armed Vessels, on Valcour Bay on Lake Champlain, 11 October 1776” by Charles Randal. The original image can be seen in Fig. 2-5.

The Continental Army also struggled to find a commander for the Lake Champlain naval squadron. In the early months of 1776 there was no one willing to fill the position because, unlike a blue water naval command, the lakes offered limited opportunity for glory or prize money, promising little more than a protracted headache.³⁷ Finally, after having already lost one candidate, Major William Douglas (who was hoping for a better offer), Schuyler suggested that the command be given to Jacobus Wynkoop, a 51-year-old captain who had served in two previous wars on both land and sea.³⁸ Unfortunately, the old captain was not as effective as he had once been and Gates quickly grew impatient with his inactivity, writing to Arnold, “I think the Commodore seems slow & wish he may retain all the prowess for which he says he was so famous in the last war.”³⁹ Wynkoop’s tenure was inauspicious at best, featuring a cannon explosion that killed a man on board *Providence* and Wynkoop’s own error, mistaking a flock of

gulls for an enemy ship.⁴⁰ Following this display of ineptitude, Arnold offered to take over as soon as all of the vessels were equipped. This pleased Gates, who was delighted by Arnold's zeal and ability to animate the dockyards.⁴¹ In August, he was formally appointed as the head of the squadron.⁴²

Arnold joined the assembling squadron at Crown Point on 15 August 1776.⁴³ Wynkoop, however, continued to act as commander and would later claim that Arnold had not made his authority clear and that he, Wynkoop, was the admiral as appointed by Schuyler. This issue was exacerbated on 17 August when Arnold ordered *Revenge* and *Liberty* to investigate a signal fire.⁴⁴ Wynkoop, apparently thinking that the captains of the schooners were deserting, fired a swivel gun to call them back.⁴⁵ After hearing of his predecessor's confusion and countermanding orders, Arnold confronted Wynkoop on board *Royal Savage*, warning him that if he did not allow the schooners to depart, he would "be under the disagreeable necessity, of Convincing [him] of [his] Error by Immediately Arresting [him]."⁴⁶ When Wynkoop still failed to heed Arnold's orders, insisting that he had accepted his commission solely on the condition that he would not be subordinate to anyone, both men wrote to Gates, who promptly ordered Wynkoop's arrest.⁴⁷

As the now-undisputed American commander on the lake, Arnold chose, (as Wynkoop had before him) *Royal Savage*, the largest vessel, as his flagship and continued amassing his squadron. In the following months, the three schooners, one sloop, and five gondolas would be joined by the cutter *Lee* and gondola *New Jersey*, followed by another gondola, *New York*, and finally three galleys, *Trumbull*, *Congress*, and *Washington*.⁴⁸ This swelled Arnold's command to fifteen vessels, not including *Liberty* which was sent to Ticonderoga with wounded and ill soldiers (Fig. 2-4).

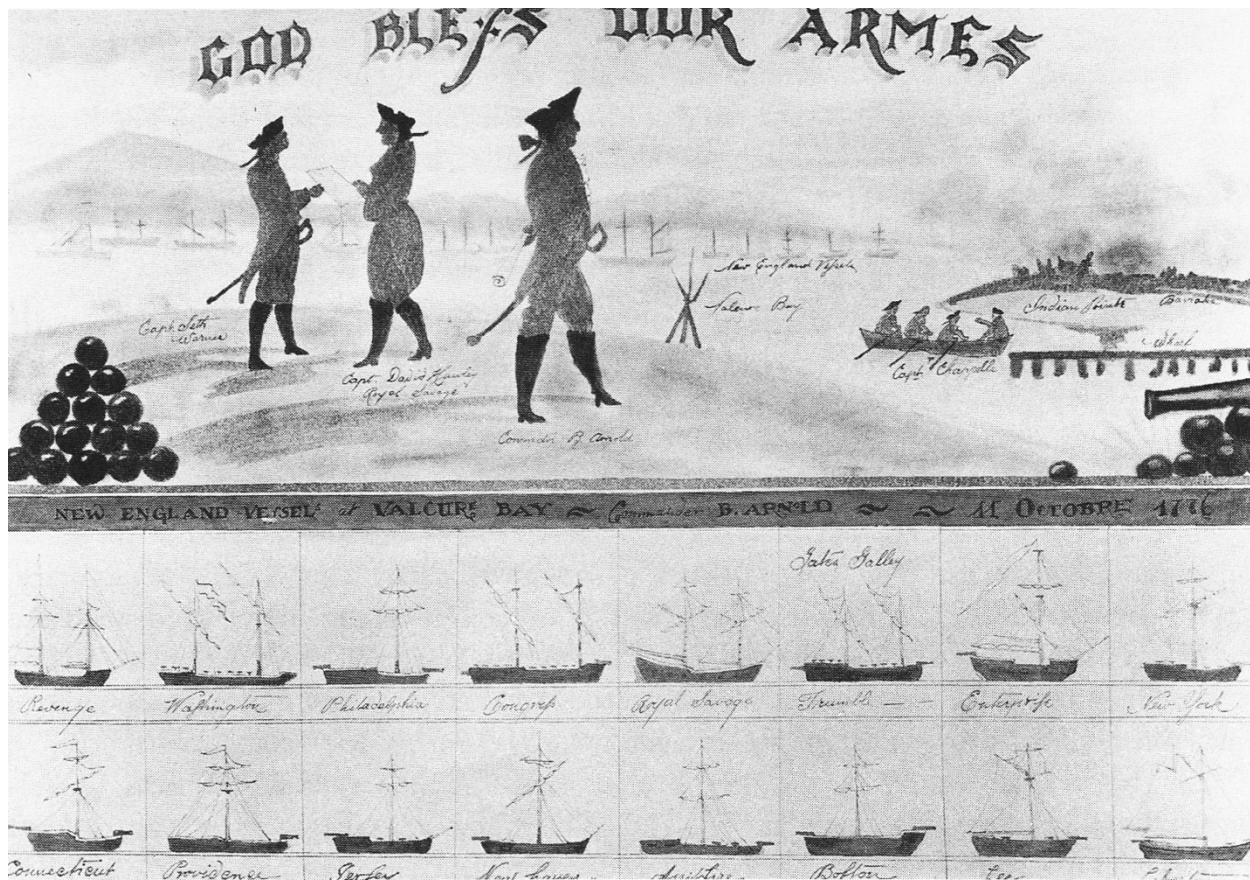


Fig. 2-4. “God bless our Armes”, a watercolor by Charles Randal, 1777, shows the vessels of the colonial squadron. From top right: *Enterprise*, *Washington*, *Philadelphia*, *Congress*, *Royal Savage*, *Trumbull*, *Enterprise*, *New York*, *Connecticut*, *Providence*, *New Jersey*, *New Haven*, *Spitfire*, *Boston*, *Lee*, and *Revenge*. Original at the Fort Ticonderoga Museum. Reprinted from Bellico 1992.

Meanwhile the British rushed to finish their own squadron. Although their resources and men were far superior to the rabble of the continental naval force, they faced their own set of challenges.⁴⁹ The principal obstacle was the position of their large squadron of transports and warships on the St. Lawrence River.⁵⁰ The only access to St. Jean and the rest of Lake Champlain from this point was over the St. Therese rapids in the Richelieu River at Chambly. These were not navigable by the larger ships so the vessels had to be deconstructed and either loaded on barges that could be portaged or dragged over the falls or hauled over land in small enough pieces to avoid sinking into the muddy roads.⁵¹

Despite these difficulties, the Royal Navy managed to put together an impressive force of thirty-four vessels in a mere four and a half months.⁵² The schooners *Maria* and *Carleton* were

carried up the Richelieu over the rapids at Chambly, while the ship *Inflexible* was brought over land in pieces and reassembled and the gondola *Loyal Convert* dragged up the rapids from Quebec. In addition, twelve gunboats were brought from England for assembly, and the radeau (or floating battery) *Thunderer* was built from the keel up in St. Jean.⁵³ *Inflexible* and *Thunderer*, in particular, were unlike anything that the lake had seen. Their size and firepower outmatched *Royal Savage* by nearly three times and launching them shifted the balance dramatically in favor of the British.

The Battle of Valcour Island

With the onset of autumn, conditions on the lake rapidly deteriorated as fever and ague swept through the tightly packed and inadequately dressed crews. The men on the gondolas suffered most, crammed as they were with 44 other men onto an open, 50 foot-long (15.25 m) boat with only a canvas awning to protect them from the elements.⁵⁴ No one, however, was spared from exhaustion. Arnold did not know the extent of the enemy squadron, but he expected that it would be formidable and kept a rigorous watch at all hours.⁵⁵ At least two men were punished for falling asleep on their watches, though not so harshly as was common for such an offense.⁵⁶ Arnold recognized that they were all at the limits of their endurance.

Understanding that the ultimate objective of the campaign was to prevent enemy invasion, Arnold sailed his command north to Valcour Bay to wait for the British.⁵⁷ The squadron was positioned in a crescent spanning the bay between the mainland and the southern cove of Valcour Island in hopes that the British, sailing south with a north wind in their sails, might unwittingly pass the American position and have to beat against the wind to engage.⁵⁸ Even if the British sailed well up wind, few of the Royal Navy's vessels would be able to attack

at the same time.⁵⁹ Arnold had managed to find the maritime equivalent of holding the high ground, with an escape route in the rear as an additional advantage (Fig. 2-5).

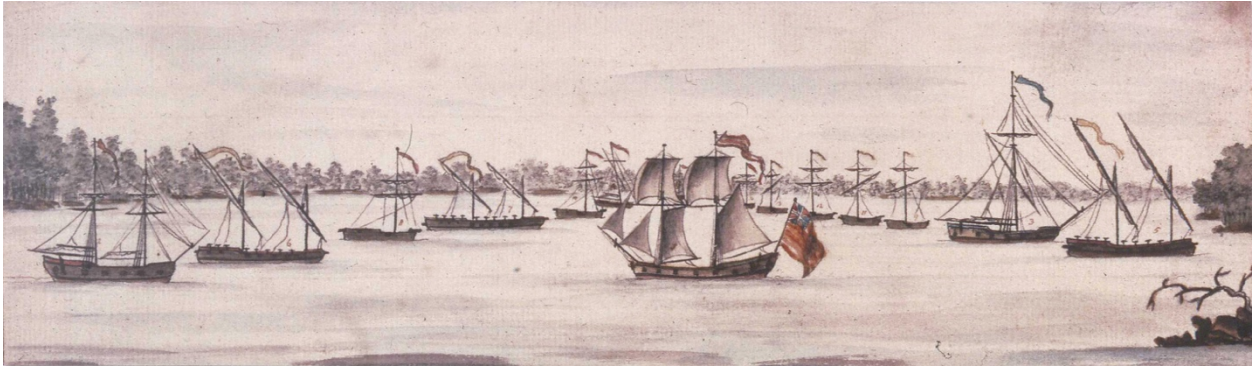


Fig. 2-5. “A View of New England Armed Vessels, on Valcour Bay on Lake Champlain, 11 October 1776.” A painting by Charles Randal. Original in the National Archives of Canada. Reprinted from Lundberg, Cohn, Jones 2017.

Due to contradictory accounts, it is uncertain whether the British had intelligence of the true location of their enemy. Three of Carleton’s officers wrote a scathing letter after the battle stating that Admiral Thomas Pringle had received intelligence of the American squadron’s location the night before.⁶⁰ However, since Arnold’s plan came to fruition, it is reasonable to assume that accounts of Carleton having been erroneously informed that his foes were in Cumberland Bay were correct.⁶¹ Regardless, early on the morning of 11 October 1776, a colonial guard boat raised the alarm signifying the first sighting of the British. Arnold’s freshwater sailors prepared their boats for battle.

Meanwhile, Arnold gathered his second and third in command, General David Waterbury and Colonel Edward Wigglesworth, on the deck of *Royal Savage* to formulate a plan. Waterbury suggested that they raise sail and have a fight on the run, but Arnold insisted that doing so could only end in disaster.⁶² He also knew that the Lake Champlain naval squadron had, in a sense, been built for the purpose of sacrificing it to delay the British invasion; to save it and allow the British to go unchecked would defeat the purpose of having it at all.⁶³ With that settled, Arnold transferred his flag onto *Congress*, a less comfortable but more maneuverable vessel, and

ordered *Royal Savage* and the galleys to sail out from behind the island to ensure that the British did not miss them entirely.⁶⁴

By 10:30 the British gunboats rounded the southern end of Valcour Island and the battle began (Fig. 2-6). *Congress*, *Trumbull*, and *Washington* made it back to the line before the enemy gunboats entered the bay, but *Royal Savage*, never a good sailor, lagged behind, missed stays and failed to turn the bow through the wind while tacking.⁶⁵ The poorly-managed schooner received the brunt of the gunboats' fire, as well as at least three shots from *Inflexible*, tearing up the rigging and causing the schooner to fall off to leeward before running aground on the southern point of Valcour.⁶⁶ Here she was abandoned by her crew, who attempted to take shelter on the island.



Fig. 2-6. "The Battle of Valcour Island" by Henry Gilder, 1776. Original at Windsor Castle Library. Reprinted from Lundberg, Cohn, Jones 2017.

This was far from the end for *Royal Savage*, however. Royal Navy Lieutenant Edward Longcroft of either *Loyal Convert* or *Thunderer* took a group of men to board the disabled schooner and turned its guns on Arnold's troops.⁶⁷ It was now the colonials' turn to focus their fire on *Royal Savage* until enough of the British boarders were killed to force another

abandonment. Before they left however, they set the schooner on fire to ensure that the Rebels could not retake it.⁶⁸

For the next several hours the navies continued to exchange fire. Despite all of the disadvantages discussed previously, the Continental troops put up a terrific fight. Arnold's positioning of the vessels evened the odds by keeping the most formidable ships, ironically those that the British had spent so much time building, out of the equation (Fig. 2-7). *Thunderer*, a large, floating gun platform, was unable to tack against the wind. *Inflexible* was only slightly better and after lobbing a couple of shot into *Royal Savage*, had to fall back and contributed little else to the fight.⁶⁹ Meanwhile, *Maria*, despite being the most weatherly of the large British ships, made little effort to join the fighting and anchored a mile (1.6 km) away.⁷⁰ The only vessel of consequence that successfully hauled upwind into the battle was the schooner *Carleton* but it was swiftly disabled when the wind off the island pushed it directly into the center of the colonial crescent, making *Carleton* an easy target.⁷¹ Her crew suffered so many casualties that the command fell to nineteen-year-old midshipman Edward Pellew, who extracted the vessel from this predicament by climbing through enemy fire onto the bowsprit, first adjusting the sail there and ultimately securing a tow rope from the two gunboats that came to his aid.⁷²

Finally, around dusk, after nearly six hours of intense combat, the British squadron pulled out of range for the night, planning to resume the attack in the morning. The ships formed a loose line spanning the southern end of Valcour Bay, confident that this would be sufficient to block any escape and that their Native American allies would intercept any Americans trying to escape through the woods.⁷³

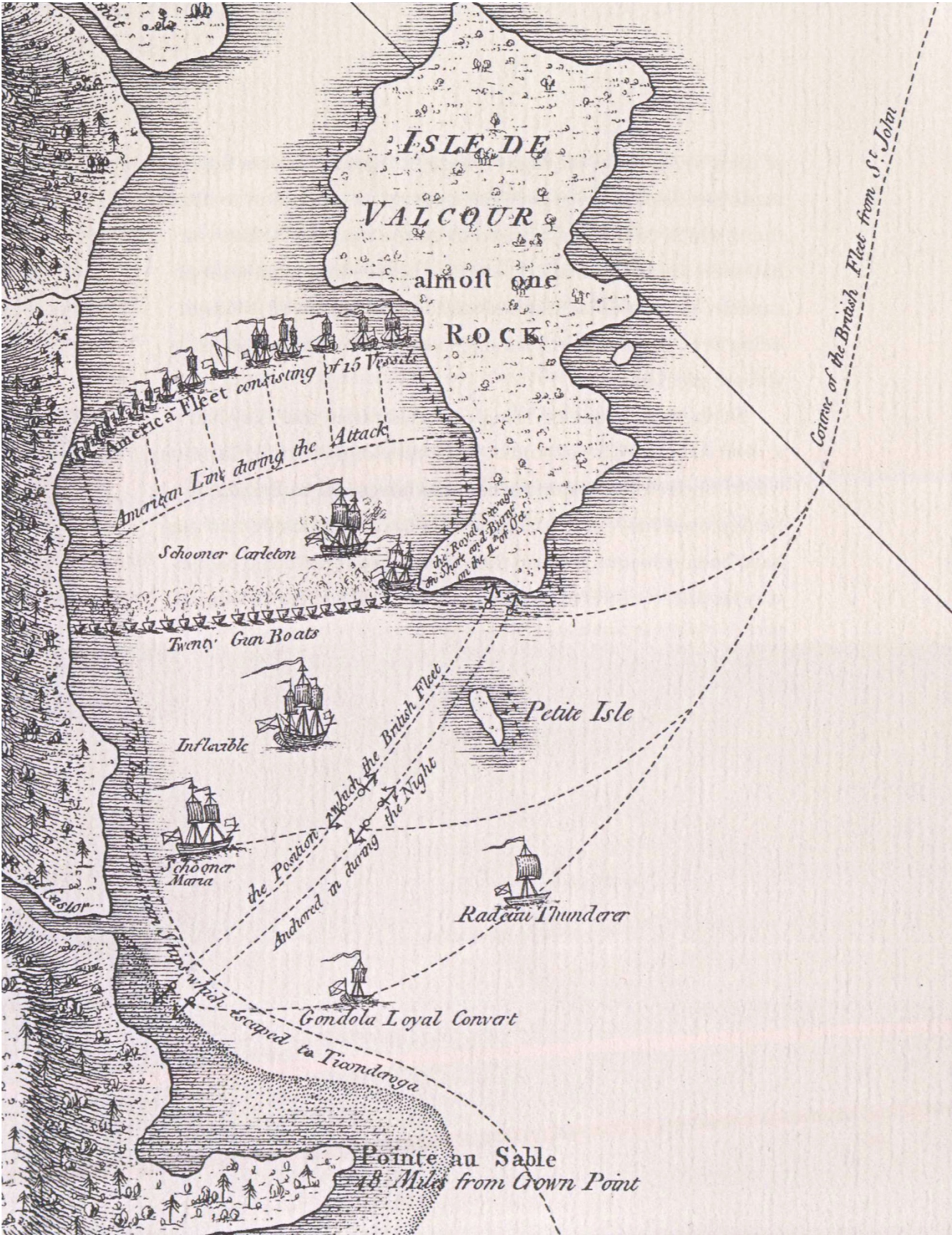


Fig. 2-7. "The Attack and Defeat of the American Fleet under Benedict Arnold by King's Fleet Commanded by Captain Thomas Pringle, Upon Lake Champlain, the 11th of October, 1776." Engraved from a sketch by an officer present at the battle and published by William Faden, 1776. Original in Beverley R. Robinson Collection, Annapolis. Reprinted from Lundberg, Cohn, Jones 2017.

Arnold's men were surely feeling less optimistic than their foes. Nearly sixty men had been killed or wounded, about eight percent of their original ranks, as well as the gondola *Philadelphia* (sunk an hour after the close of the action) and schooner *Royal Savage* (which exploded during the fighting and continued to burn all night).⁷⁴ Meanwhile the British had lost just one gunboat and about twenty seamen. The only option when Arnold gathered his officers that night was to try to escape undiscovered and retreat to Crown Point. They elected to slip quietly through the gap between the westernmost British ship and the mainland shore. Once the night was sufficiently dark, *Trumbull* took the lead, followed by the gondolas, with *Washington* and *Congress* in the rear, each with a shaded lantern in the stern for the next to follow.⁷⁵ The escape was aided by the fact that the British were so confident of capturing their opponents in the morning that they did not keep an adequate watch during the night.⁷⁶ The fire from the burning *Royal Savage* that night and the din of the heavy cannonade of the day likely also rendered them blind in the darkness and somewhat deaf.

When the sun came up the next morning to reveal nothing but empty water, Carleton's astonishment and rage were so great that he immediately hoisted anchor to give chase, neglecting to leave instructions for the troops camped on shore in his haste.⁷⁷ The wind, however, was unfavorable, so little progress was made by either party and, ultimately, the British spent another night in Valcour Bay. Meanwhile the rebels attempted a frantic escape, rowing all night and stopping only briefly at Schuyler's Island to make necessary repairs (Fig. 2-8).⁷⁸ Two of the gondolas, *New Jersey* and *Spitfire*, sank during the escape, and none of the vessels were without damage.⁷⁹ The next day, as the exhausted colonials slowly made their way south to Crown Point, the British came up the lake swiftly with favorable winds propelling them much more efficiently than was possible for the wounded gondolas. By then the Continental squadron was widely

dispersed over nearly seven miles (11.26 km) as faster ships made progress and slower ones struggled along. By the time they reached Split Rock, the British caught up to the stragglers.⁸⁰

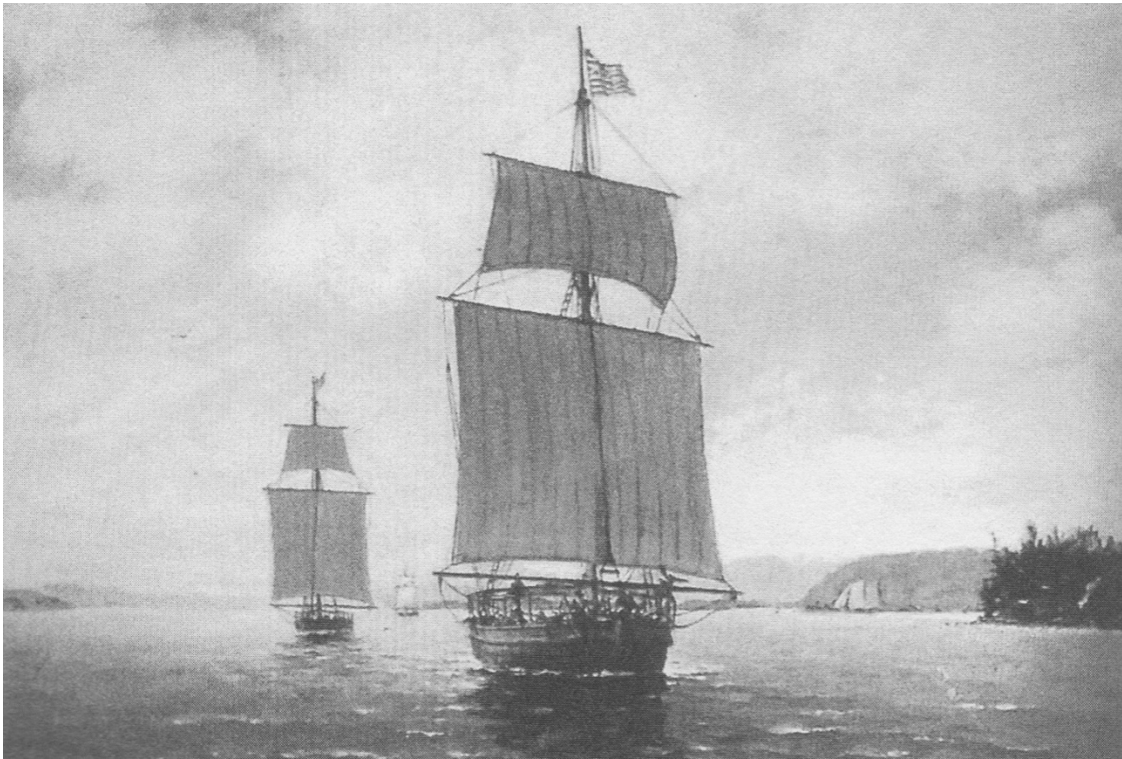


Fig. 2-8. Painting by Ernest Haas depicting colonial gondolas running up the lake. Reprinted from Nelson 2006.

They first met with *Washington*, under the command of Waterbury, who surrendered without a fight.⁸¹ Next they overtook *Congress* and were faced with Arnold himself, who had no intention of doing the same. After two and a half hours of running battle, which overtook four of the remaining American gondolas, Arnold ran his galley and gondolas aground in Ferris Bay (afterwards renamed Arnold's Bay) and burned them with their flags still flying (Fig. 2-9).⁸² To further emphasize the patriotic spirit that had not yet died inside of him, he waited with his troops in a line on the shore until the vessels were sufficiently engulfed to ensure there was no risk of their enemies boarding them to strike the colors.⁸³ They then walked the remaining ten miles (16 km) to Crown Point on land, luckily not encountering any hostile Native Americans along the way.⁸⁴



Fig. 2-9. “Escape from Ferris Bay, October 13, 1776” by Leslie A. Wilcox. Reprinted from Lundberg, Cohn, Jones 2017.

In the mean time, the surrendered *Washington* was joined by *Lee* and *New Jersey*, both of which were abandoned by colonial forces during the chase. All were subsequently added to the British squadron. Only *Enterprise*, *Revenge*, *Trumbull*, and *New York* made it to the safety of Fort Ticonderoga.⁸⁵ In total, Arnold lost one schooner, two galleys, seven gondolas, and over eighty men while the British lost only two gunboats and no more than forty men.⁸⁶ Benedict Arnold’s little navy was thoroughly shattered a mere three and a half months after its creation. However, it served its purpose. After defeating the rebel naval forces, Carleton decided that the season was too far advanced and, on 2 November, ordered his squadron to return to winter quarters in Canada to pick up the fight next season.⁸⁷ This strife of pigmies, as famous naval historian Alfred Thayer Mahan referred to the miniature navies in his book *The Major Operations in the War of American Independence*, bought the Continental Army a year of valuable time.⁸⁸

Significance – On to Saratoga

Although the American squadron on Lake Champlain was ruined, its very existence was sufficient to delay Carleton's advance for one crucial year.⁸⁹ Even the British praised Arnold for his leadership, going so far as to refer to him in their letters by his rank; an honor not often awarded to traitors of the Crown.⁹⁰

The real value of the Lake Champlain naval squadron was its existence. Carleton could not have justified returning to Canada empty handed, so without the naval battle on Lake Champlain to placate him, his forces would have proceeded into the colonies, perhaps even joining with the British forces in New York. The brave efforts of these inexperienced but impassioned freshwater warriors bought a year of delay, giving the Continental Army valuable time to organize its defenses. Without that year of preparation, it would not have been strong enough to impose the capitulation of Saratoga on 17 October 1777 that persuaded France to support the colonists and enter the war.⁹¹ With the arrival of the French, the maritime interest shifted back to the Atlantic, but for a short period, Lake Champlain was the epicenter of a naval conflict in which *Royal Savage* played an important, though brief, role.

Notes

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³ Robert Gardiner, *Navies of the American Revolution, 1775-1783* (Annapolis, 1996), 28.

⁴ William B. Clark, *Naval Documents of the American Revolution*, Vol.1 (Washington, 1964), 162.

⁵ Phillip K. Lundeberg, Arthur B. Cohn, and Jennifer L. Jones, *A Tale of Three Gunboats: Lake Champlain's Revolutionary War Heritage*, (Washington, 2017), 9.

⁶ Clark, *Naval Documents*, Vol. 1, 319; Clark, *Naval Documents*, Vol. 1364-6; Russel P. Bellico, *Sails and Steam in the Mountains, a Maritime and Military History of Lake George and Lake Champlain*. (Fleischmanns, 1992), 115-23.

⁷ Clark, *Naval Documents*, Vol. 1, 771; Clark, *Naval Documents*, Vol.1, 763.

⁸ Bellico, *Sails and Steam*, 121-2; Peter Force, *American Archives: A Documentary History of the North American Colonies*, Series 5, Vol. 1 (1937-1953), 582.

⁹ Clark, *Naval Documents*, Vol. 1, 1217.

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¹¹ James L. Nelson, *Benedict Arnold's Navy: The Ragtag Fleet that Lost the Battle of Lake Champlain but Won the American Revolution* (New York, 2006), 170.

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¹⁴ Alfred T. Mahan, *The Major Operations of the Navies in the War of American Independence* (New York, 1969), 9; Bellico, *Sails and Steam*, 122-124.

¹⁵ Robert Malcomson, *Warships of the Great Lakes, 1754-1834* (Annapolis, 2001), 27; Bellico, *Sails and Steam*, 124.

¹⁶ Bellico, *Sails and Steam*, 124.

- ¹⁷ Gardiner, *Navies of the American Revolution*, 28; Bellico, *Sails and Steam*, 124.
- ¹⁸ William B. Clark, *Naval Documents of the American Revolution*, Vol. 2 (Washington, 1966), 830.
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- ²⁰ Bellico, *Sails and Steam*, 125-34.
- ²¹ Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 16; Bellico, *Sails and Steam*, 126-8.
- ²² Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 14-6.
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- ²⁵ William J. Morgan, *Naval Documents of the American Revolution*, Vol. 5 (Washington, 1970), 1075.
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- ²⁷ Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 12; Bellico, *Sails and Steam*, 139; Morgan, *Naval Documents*, Vol. 5, 1115.
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- ²⁹ *Ibid.*, 238-51.
- ³⁰ *Ibid.*, 251.
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- ³⁴ Nelson, *Benedict Arnold's Navy*, 252-3.
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- ³⁹ Morgan, *Naval Documents*, Vol. 5, 1115-6.
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- ⁴⁷ Morgan, *Naval Documents*, Vol. 6, 216-233.
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- ⁵⁴ Nelson, *Benedict Arnold's Navy*, 264, 280-1.
- ⁵⁵ Mahan, *Major Operations*, 18.
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- ⁵⁷ Bellico, *Sails and Steam*, 148.
- ⁵⁸ Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 31-2.
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- ⁶⁴ Bellico, *Sails and Steam*, 152; Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 35.
- ⁶⁵ Nelson, *Benedict Arnold's Navy*, 296.
- ⁶⁶ Nelson, *Benedict Arnold's Navy*, 296-7; Bellico, *Sails and Steam*, 152.
- ⁶⁷ Nelson, *Benedict Arnold's Navy*, 299-300; Mahan, *Major Operations*, 21.
- ⁶⁸ Mahan, *Major Operations*, 21.
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- ⁷⁰ Schank, Starke, and Longcroft, *BFTM*, 18; Bellico, *Sails and Steam*, 154.
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- ⁷³ Mahan, *Major Operations*, 23; Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 36. Morgan, *Naval Documents*, Vol. 6, 1230.
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- ⁷⁶ William L. Stone, *Memoirs, and Letters and Journals, of Major General Riedesel* (Arno Press, 1969), 71; Morgan, *Naval Documents*, Vol. 6, 1230.
- ⁷⁷ Stone, *Memoirs of Major General Riedesel*, 71; Lundberg, Cohn, and Jones, *A Tale of Three Gunboats*, 43.
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⁸³ Bellico, *Sails and Steam*, 158; Mahan, *Major Operations*, 24-5.

⁸⁴ Mahan, *Major Operations*, 25.

⁸⁵ Malcomson, *Warships on the Great Lakes*, 34; Bellico, *Sails and Steam*, 160.

⁸⁶ Mahan, *Major Operations*, 25.

⁸⁷ Bellico, *Sails and Steam*, 160; Morgan, *Naval Documents*, Vol. 6, 1257.

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⁸⁹ Stone, *Memoirs of Major General Riedesel*, 79.

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⁹¹ Mahan, *Major Operations*, 6-7.

CHAPTER III

EARLY ATTEMPTS AT RAISING *ROYAL SAVAGE*

Unfortunately for *Royal Savage*, and everyone who has tried to make sense of the schooner's mangled remains, the wreck's troubles did not end when the British fleet departed in chase of the rest of the Continental squadron. This was only just the beginning of a second battle that would last 158 years. The threat was no longer enemy cannon balls, nor fire, but the interest of souvenir hunters and salvors who lacked our modern-day understanding and appreciation for the knowledge that can be gained from archaeological remains. The first visits to the wreck were for practical, military reasons. Shortly after the battle ended, the British returned to raise any salvageable cannon and war material.¹ During the American Civil War there was another attempt to recover any cannon that might have been useful had they actually still been there, but by this time, they were not.²

After that people's motives for visiting the wreck were increasingly focused on acquiring relics for personal collections. People growing up around Lake Champlain heard tales of the wreck and wanted souvenirs to establish personal connection with the wreck and with the heroes that fought and died in the Battle of Valcour. Many of these visits are documented in local papers, clippings of which were found in the Hagglund Collection, tucked away as a part of his own research. The local fascination with *Royal Savage* was seemingly insatiable. Not surprisingly, everyone wanted to own a piece of the story and with only 20 feet (6 m) of water separating them from the coveted souvenirs below, almost anyone could access them.

This chapter will detail a few of those stories and attempt to log what artifacts were taken from the wreck site and what became of them. This will allow the reader to better understand

both the present condition of *Royal Savage* and the evolving attitudes that the locals had concerning the wreck. Someday this compilation might also serve as a starting point for future attempts to relocate some of these souvenir artifacts.

Treasure Hunts and Tercentennials

One of the earliest references to the salvage of relics from *Royal Savage* comes from the early 1830s when a Dr. Barnes of Grand Isle, Vermont claimed that he had once seen wax candles taken from the wreck. His account gives little insight into who took the candles from the wreck and the informant seems to doubt that they still existed at the time of his telling. The accuracy of the claim is similarly difficult to determine, but it does illustrate an eagerness to own something from the wreck even within the first half-century after the sinking.³

Another early account comes from a Captain Anderson, who bragged that he and a Captain Proctor, who at that time represented South Burlington, Vermont in the state legislature, were present at Valcour Island in 1845 when an attempt was made to pull the wreck out of the water with a stump puller, taking a considerable section of what was, to them “nothing more valuable than pieces of wood.” These were taken into Burlington and given to the stage drivers employed in the salvors travels between there and Boston to be made into whip stocks.⁴

Another stump machine was employed in 1847, this time by Amzl Turner, his son, Bentley S. Turner, and Richard Hayworth. According to Bentley, they succeeded in pulling up timbers 15 to 20 feet (4.5 to 6 m) long. These were then made into canes, rulers, and other such souvenirs.⁵

Some visitors were determined to prove to the public that their claim of salvaging something from the wreck was authentic. This sentiment is illustrated by the actions of one H. R.

Sanborn who recovered wood from *Royal Savage* in 1851 and sent a nice ruler made of oak, a piece of rough wood, and a spike, to the *Plattsburgh Republican* to substantiate his story.⁶

Also in 1851, yet another stump machine was brought to the wreck site, this time by a man referred to simply as Hayward of Peru, New York who supposedly tried to pull the wreck onto dry land and hauled up 20 feet (6 m) of keelson, which was then made into canes.⁷ By the summer of 1867, however, the stump machine had fallen out of style. When Captain George Conn anchored over the wreck and pulled up several large pieces of planking from the vessel's side, he did so with grappling irons instead.⁸

Until this point, most of the tampering had been for the sake of personal interest and the relic-seekers either kept their finds or gave them to people who had helped them. However, the wreck eventually attracted entrepreneurs who sought to make a profit from their visits. The first account of this is the story of a Frenchman living in Plattsburgh named Jonas Maurice, who had made his living working for the Chateaugay Ore & Iron Co., diving at an old ore dock and picking up spilled ore in a bucket.⁹ Using this diving experience, he earned money on the side when people occasionally took him out to *Royal Savage* to secure a souvenir for them.¹⁰ This employment reflects a new standard for souvenir acquisition. Personally recovering material from the wreck was not the primary goal at this point; simply having the souvenir was sufficient.

This trend is further reflected in an account, sent to the *Plattsburgh Republican* by an informant who signed off simply as "SCRIBE". The author boasted that he had received a most interesting chunk of iron from *Royal Savage* from one Peter McGee, who had done the "vandalism," as Scribe so aptly labeled the act.¹¹ The author then went on to describe their analysis, determining that part of the iron had been chiseled off on one end and that, as a whole, the iron was of superior quality. He then made six small hammers from the unchiseled end and

distributed them to other seekers of wreck souvenirs, including a Henry Arnold of Peru, New York who had recovered many relics himself by that point.¹²

It appears that it was becoming an increasing honor to be able to give pieces of the wreck, or objects crafted from its timbers, to prominent individuals. When James Baggs and his team approached *Royal Savage* with just a common gaff hook tied to a pole on 15 July 1880, they pulled up the vessel's breast hook, a nearly complete gun carriage, a seven-foot (2.13 m) long section of a cross beam, two pieces of plank, a large bolt, and an undisclosed quantity of wood.¹³ The gun carriage was presented to the the editor of the *Plattsburgh Sentinel*, and some of the wood pieces were cut up and made into canes, two of which were distributed to a Mr. Mould and one G. C. Wilkinson.¹⁴ Mr. Wilkinson apparently turned around and gave his cane to an E. Kingsland, who was rather vocal about his appreciation of the gift. He wrote about how, every time he looked at it, he valued it even more, in part because of the ingenuity and workmanship that went into making it but predominately because it was worked out of a piece of wood obtained from *Royal Savage*.¹⁵

By 1886, gossip about *Royal Savage* must have made it to Boston, as this year saw an influx of non-locals visiting the wreck site. On 6 and 7 October, two hard hat divers from Boston worked on the wreck, recovering cannon balls, bar shot, and many silver spoons.¹⁶ Then, on 11 October Captain W. D. Duncan, also from Boston, took up more cannon balls as well as some 'ribs'.¹⁷ By 1901, enthusiasm for the wreck had spread even further and drew in J. G. Falcon from Evanston, Illinois.¹⁸ He approached the wreck on 21 June of that year and located what he supposed to be her magazine and, with the use of a derrick he had been using to construct a waterworks intake in Burlington, reportedly secured massive amounts of material. Among the reported finds are three gun carriages, 100 ten-pound cannon balls, as many as 500 grape shot,

fourteen bar shot, eight chain shot, several old muskets and ‘revolvers’, a quantity of lead bullets, knives, forks, spoons, flints for muskets, bayonets, buttons, boarding pikes, sailor’s needles, thimbles, fish hooks, spears, pieces of leather shoes, glassware, and even human bones.¹⁹ The gun carriages were presented, one to the University of Vermont, another to Dr. Webb, for whom Falcon had been laying the pipe (Webb told him about the wreck), and the third to Northwestern University. The cannon balls were sent to historical societies all over the United States, with Vermont societies receiving the bulk of them.²⁰

Finally, in the fall of 1908, in preparation for the 300th anniversary of the discovery of Lake Champlain by Samuel de Champlain in 1609, the tercentenary commission put forth a proposal to raise and display *Royal Savage*. The commission had lofty goals for the raising, claiming that they intended to “have it treated to a preservative process” and displayed on a float or raft to allow for permanent exhibition around the lake.²¹ Some particularly optimistic members of the commission even dared to suggest that if the wreck was found in a good enough condition that they would rebuild *Royal Savage* on her original lines.²² A man named either J. E. Cushman or A. G. Cashman, depending on which newspaper is to be believed, was selected to raise *Royal Savage*.²³ However, despite the commission’s enthusiasm, the wreck proved to be too deeply buried beneath sand and rock and too expensive to raise, so *Royal Savage* remained in Valcour Bay.²⁴ The tercentenary’s surveys reported that the wreck was 45 feet (13.7 m) long in 1908, but sadly only 35 feet (10.67 m) of the hull remained when it was ultimately recovered.²⁵ Continued visits by local salvors were additionally confirmed in the reminiscences of Dr. Henry Hudson, who recalled having spent many summer days out on Valcour Island recovering cannon shot and musket balls from the rocky crevasses.²⁶

The Champlain Valley gets Possessive

The array of articles concerning *Royal Savage* relics suggest that a great many people in the Champlain Valley were involved in salvaging relics from the wreck, but the same people got rather possessive when people from outside the region threatened to take their treasured wreck away. The actual legality of these situations will be discussed further in Chapter 6, but it is intriguing to consider this phenomenon in the context of how the community approached its relationship with the *Royal Savage* remains. For example, Captain Duncan and the other divers from Boston mentioned above were chased off by customs authorities from Plattsburgh and ultimately prosecuted for criminal offenses when those authorities brought their meddling to the attention of the U.S. District Attorney.²⁷ Lake officials similarly antagonized another salvager, Mr. Falcon, to prevent him from taking objects from the wreck site. Falcon, however, reached out to higher governing bodies and obtained permission from the Treasury Department to commence operations.²⁸

Note that the only individuals that had any sort of trouble with the government were men from Massachusetts and Illinois. Local authorities seemed to be eager to report the activities of outsiders and overlook those of the locals. Clearly the people living along the shores of Lake Champlain felt that they could make a specific claim to pieces of the lake's history. It certainly was not just a matter of timing because the only clamor surrounding a later visit in 1908, by one Frank Skinis, was that of local historians wondering if he had found the gold and silver rumored to have been on the ship. A diver employed on a government breakwater at the time, Skinis had gone out to the wreck with several prominent individuals from Plattsburgh and Burlington and brought up pieces of bar shot, a spoon, and some musket balls, but, as one might expect

considering the abysmal condition of Arnold's crew in 1776, there was no thousand-dollar fortune.²⁹

Even Hagglund, whose successful raising of *Royal Savage* will be discussed further in the next chapter, was not immune to a certain degree of harassment from possessive locals. In 1934, when he was loading the timbers into a freight train bound for his home in Long Island, two young men approached him and asked how he had managed to get *Royal Savage* up there without getting shot. They then informed him that the last person who had "come up there" to secure *Royal Savage* left when a "local patriot" took a few shots at him.³⁰ Later that night his efforts to move the remains were sabotaged by the local train station workers who guessed that "they are going to send this ship back to Canada."³¹ Declaring, "we won't help them any," during the night they placed two cars behind the one containing the *Royal Savage* remains to ensure that the car could not be positioned without pushing one or both of the others onto the main track.³² The statements and actions of these residents underscore the notion that *Royal Savage* belonged to the community. Evidently, the logic was that if a local took relics from the wreck, at least the pieces remained in the area, but if a perceived outsider took some part of the ship the community was being robbed of its property. The residents did not appear to have had any notion that *Royal Savage* was part of a greater American narrative; *Royal Savage* belonged to Lake Champlain.

Conclusion

This is by no means a comprehensive list of every expedition to remove items from *Royal Savage*, as research is limited to what was published in the papers or confessed in correspondence and there were certainly casual visits that were not recorded. Many of these

accounts were also written after the fact by people who did not mention or did not know the specific date of a visit and thus cannot be fit into a tidy timeline, such as that of Charles Dodge, who casually disclosed in a letter to Hagglund that he had a piece of the hull with two British cannon balls embedded in it given to him by a man named Charlie Wood.³³ Some of the published accounts may also have been duplicated, as different informants brought contradictory details of the same story to the papers, and these got twisted and repeated through time.

Likewise, many salvage claims are likely exaggerated, if not entirely falsified. Two particularly dubious claims merit closer examination. The first is a widely accepted notion that a portion of the bow of *Royal Savage*, consisting of a few ‘ribs’, part of the keel and keelson, and a copper or bronze ram, broke off in an early raising effort and was displayed in the Hotel Champlain until the building burned down in 1910, destroying the bow with it.³⁴ At first glance this seems plausible since, according to Hagglund’s initial measurements, 17 feet (5.18 m) of the bow of *Royal Savage* was missing and he supposedly found a photograph showing approximately the same length of timbers on shore in front of the Hotel Champlain labeled, at least in part, erroneously as, “The End of the Royal Savage” (Fig. 3-1).³⁵ However, the cited image shows not a bow, but a stern assembly and no one was able to locate any information regarding when, why, and by whom this section was supposedly raised, even in the 1930s.³⁶ A nearly identical image is attributed to a portion of the galley *Congress* (recovered from Arnold’s Bay in 1891) and further indicates that this report was inaccurate in all but the approximate dimensions of the piece.³⁷

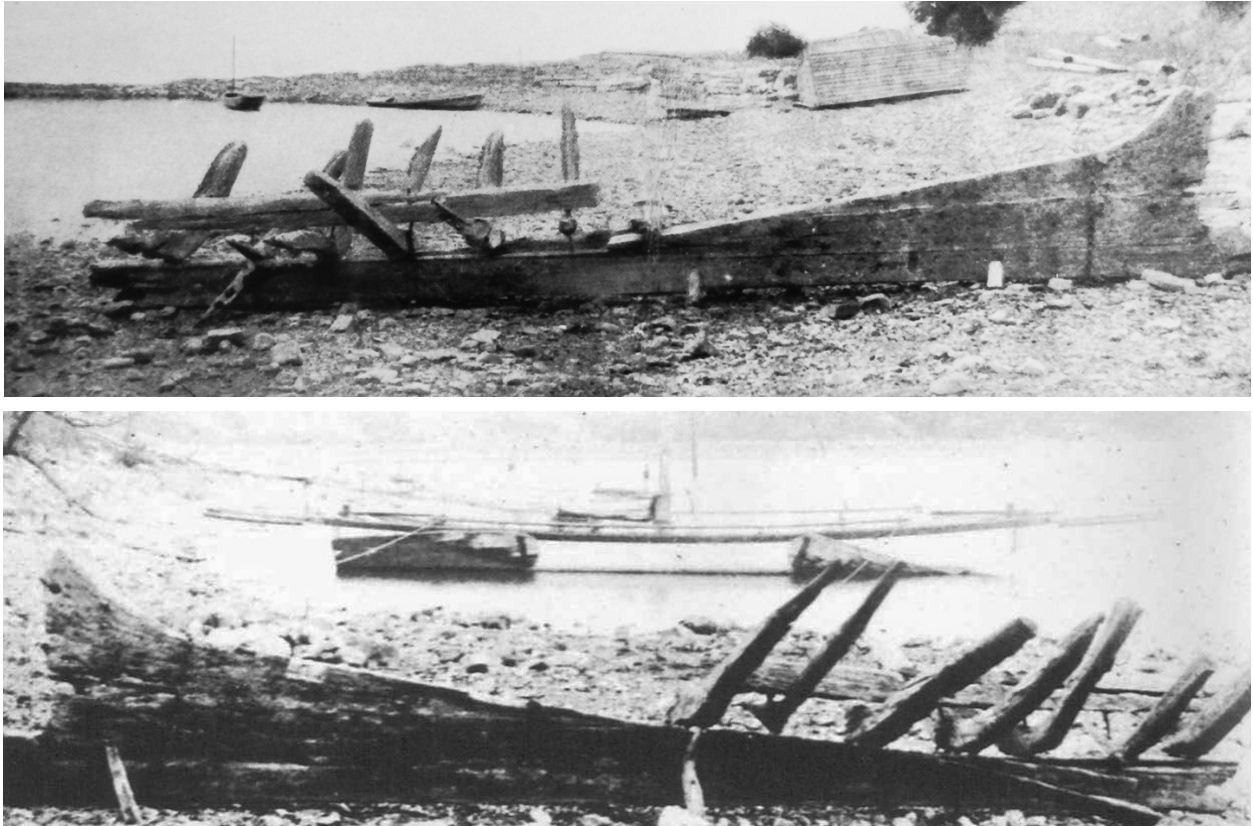


Fig. 3-1. Image entitled “The End of the Royal Savage” (top) and the supposed stern of *Congress* (bottom). Reprinted from Hagglund Collection [NHHHC, Folder RS-053.5] with permission from NHHHC, 2017, and Lundberg, Cohn, Jones 2017. respectively

Another intriguing report that is likely inaccurate comes from Horace S. Mazet, who claims to have visited the wreck of *Royal Savage* in 1934, in the late 1940s or early 1950s, and again in the early 1960s.³⁸ This would be impossible given the fact that after 1934, there would have been minimal remains of *Royal Savage* left on the lake bed to visit and Mazet’s article suggests that the hull was still present during his second visit, after World War II. Regardless, he insisted that he visited the site and pulled up a rib from which he made a model of *Royal Savage*, which he finished in 1976 (Fig. 3-2). All of this reveals that these accounts should be taken with caution. Nevertheless, it seems that by the 1900s many families on the shores of Lake Champlain and the neighboring region had something brought up from *Royal Savage* on their mantle. If nothing else, this list of known salvage efforts is a good start and gives the reader an idea of the scope of the problem and why the schooner’s remains are in such a poor a state.

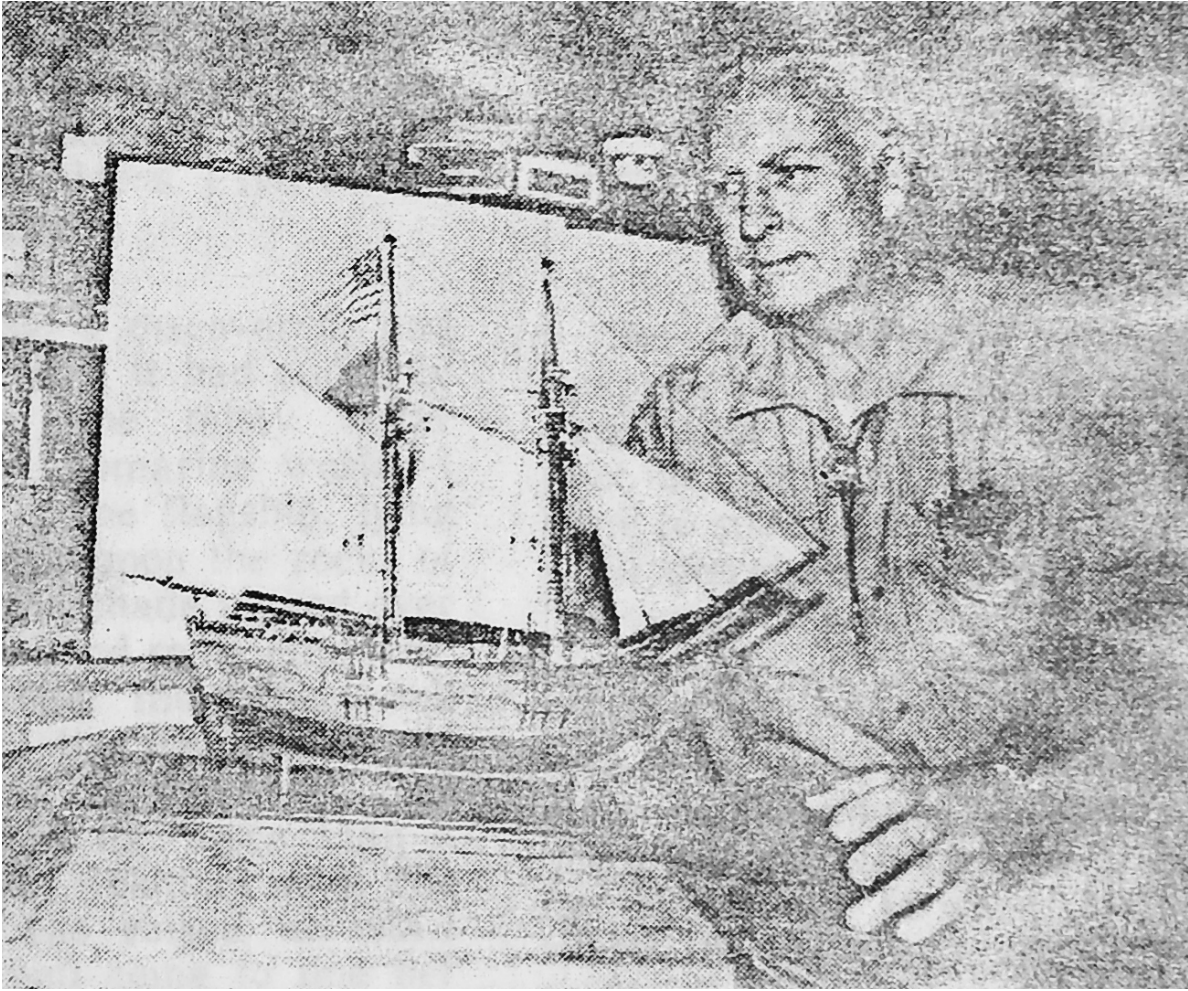


Fig. 3-2. Horace Mazet with his model of *Royal Savage*, supposedly made from one of the schooner's ribs. Reprinted from *Model Ships & Boats Magazine*.

The love for the wreck was ultimately detrimental, but shows how important a piece of history it was, and still is, to this community. Unfortunately, none of these well-intentioned enthusiasts figured out how to tap into this and find a way to make the wreck available to everyone. Thus, for 158 years, *Royal Savage* lay at the bottom of the lake, being slowly destroyed by the very people who loved it and wanted it to stay. Nevertheless, the remains of *Royal Savage*, and sunken vessels like her, are still valuable connection points between people and their past. Just the knowledge that such an object still exists inspires wonder and patriotism in those who hear about it.

In fact, the community's fascination with *Royal Savage* endured long after the wreck itself was raised in 1934. In the 1970s Don and Barbara Benjamin bought a local tearoom that they renovated and renamed the Royal Savage Inn after finding a large brass bolt, a "huge chunk of the *Royal Savage*", a pewter plate, and a small cannon ball tucked into one of its closets (Fig. 3-3).³⁹ The inn remained a popular Plattsburg landmark until its closure in 2002.



Fig. 3-3. Keith Herkalo, city clerk of Plattsburgh, New York, and a trustee of the Battle of Plattsburgh Foundation holds what is purported to be a piece of *Royal Savage* outside of the Royal Savage Inn in Plattsburgh. Reprinted from *The Times Argus*, 20 January 2001.

The site also continued to attract visitors despite the hull's absence. Around the 1950s a team of skin divers inspected the site, recovering several cannon balls and fasteners that they donated to the Kent-Delord House Museum in Plattsburgh (Fig. 3-4).⁴⁰ Even as late as the 1970s people like Jonathan Eddy, the owner of the Waterfront Dive Center in

Burlington, Vermont, would take an underwater metal detector to look for *Royal Savage* artifacts buried in the sand, all of which he has since donated to the Lake Champlain Maritime Museum.⁴¹



Fig. 3-4. Airman Jay Griggs and Lieutenant Irwin C. Nichols examine the relics they recovered while skin diving at the site of the Battle of Valcour Island with curator L. Newton Hayes at the Kent-Delord House Museum in Plattsburgh, New York. Reprinted from Hagglund Collection [NHHC, Folder RS-021] with permission from NHHC, 2017.

Notes

¹ Charles H. Jones, *Campaign for the Conquest of Canada in 1776: from the death of Montgomery to the retreat of the British Army under Sir Guy Carleton* (Philadelphia, 1882), 169.

² Lorenzo F. Hagglund, "Concerning the *Royal Savage*," (Unpublished Master's thesis, Hofstra College, 1950), Unpublished Notes.

³ *Burlington Free Press and Times*, 15 October 1886

⁴ Ibid.

⁵ *Burlington Free Press and Times*, 11 December 1903; *Malone Farmer*, 19 May 1909

⁶ *Plattsburgh Republican*, 16 August 1851

⁷ *Burlington Free Press and Times*, 11 October 1886

⁸ *Malone Farmer*, 21 May 1909; Hagglund, "Concerning the *Royal Savage*," 46.

⁹ Rod Bigelow, "History of the Chateaugay Ore and Iron Company," Bigelow Society, <http://www.bigelowsociety.com/slic/mine/hisore1.htm>.; Letter from Bart Francis and E. H. Tremblay to Lorenzo F. Hagglund, 5 November 1937.

¹⁰ Bart Francis and E. H. Tremblay to Lorenzo F. Hagglund, 5 November 1937; *Plattsburgh Republican*, 28 June 1873.

¹¹ *Plattsburgh Republican*, 26 April 1879

¹² Ibid.

¹³ *Plattsburgh Republican*, 31 July 1880

¹⁴ *Essex County Republican*, 27 October 1881

¹⁵ E. Kingland to G. C. Wilkinson, 20 October 1881

¹⁶ *Burlington Free Press and Times*, 8 October 1886

¹⁷ *Burlington Free Press and Times*, 13 October 1886; *Burlington Free Press and Times*, 25 April 1905

¹⁸ *Plattsburgh Republican*, 20 June 1908

¹⁹ *Burlington Free Press and Times*, 22 June 1901; *Plattsburgh Republican*, 20 June 1908

- ²⁰ *Plattsburgh Republican*, 20 June 1908
- ²¹ *Plattsburgh Evening News*, 5 April 1909
- ²² *Essex County Republican*, 9 April 1909
- ²³ *Essex County Republican*, 30 October 1908 refers to him as J. E. Cushman; *Elizabethtown Post*, 29 October 1908 calls the same man A. G. Cashman.
- ²⁴ Hagglund, “Concerning the *Royal Savage*,” 47.
- ²⁵ *Essex County Republican*, 9 April 1909; Hagglund, “Concerning the *Royal Savage*,” 63.
- ²⁶ Hagglund, “Concerning the *Royal Savage*,” 58-9.
- ²⁷ *Burlington Free Press and Times*, 8 October 1886; *Plattsburgh Republican*, 16 October 1886.
- ²⁸ *Plattsburgh Republican*, 20 June 1908.
- ²⁹ *Essex County Republican*, 30 October 1908
- ³⁰ Hagglund, “Concerning the *Royal Savage*,” 90.
- ³¹ Hagglund, “Concerning the *Royal Savage*,” 91.
- ³² Ibid.
- ³³ Charles M. Dodge to Lorenzo F. Hagglund, 4 September 1941.
- ³⁴ J. T. Loree to Lorenzo F. Hagglund, 20 January 1936; Hagglund, “Concerning the *Royal Savage*,” 47.
- ³⁵ Hagglund, “Concerning the *Royal Savage*,” 48.
- ³⁶ J. T. Loree to Lorenzo F. Hagglund 20 January 1936; Hagglund, “Concerning the *Royal Savage*,” 47-52.
- ³⁷ Phillip K. Lundeberg, Arthur B. Cohn, and Jennifer L. Jones, *A Tale of Three Gunboats: Lake Champlain’s Revolutionary War Heritage*, (Washington, 2017), 134.
- ³⁸ Col. Horace S. Mazet, “Diving to the Wreck: The Only Place to Research the Vessel Was On the Bottom of the Lake,” *Model Ships & Boats Magazine*. (October 1976), 12-32.
- ³⁹ Don and Barbara Benjamin, *Remembering the Royal Savage Inn*, (Plattsburg, 2013), 5-6.
- ⁴⁰ Hagglund Collection [NHHC, Folder RS-21].

⁴¹ “Bios”, Waterfront Diving Center, <http://www.waterfrontdiving.com/bios.shtml>; Personal correspondence with Dr. Kevin Crisman and Jonathan Eddy.

CHAPTER IV

LORENZO HAGGLUND SALVAGES *ROYAL SAVAGE*

The man who finally raised *Royal Savage* was Lorenzo F. Hagglund, a retired U.S. Army lieutenant from Long Island, New York who owned a salvage company and had a deep fascination with American history (Fig. 4-1). What was it that made him different from all of the other enthusiasts and amateur treasure hunters who had tampered with and taken relics from the wreck over the preceding 158 years?



Fig. 4-1. Portrait of Lorenzo Hagglund. Reprinted from Hagglund Collection [NHHC, Folder RS-044.2] with permission from NHHC, 2017.

The collections of documents cited throughout this paper have been vital in understanding Hagglund's methods and motives, as well as the popular mindset at the time of, and preceding, the excavation. Sorting through, digitizing, and making sense of these boxes of notes, letters, newspaper clippings, drawings, and photographs, was one of the major projects that I worked on during my internship with the UA. Thus I was given a unique insight into what Hagglund did right - or if not right by modern archaeological standards, at least better than anyone else up to that point.

One of the most pivotal revelations from my study of the collection was the overwhelming evidence of Hagglund's good intentions. Looking at the remains of *Royal Savage* as they are today, it is easy to criticize the recovery, management, and preservation techniques employed by Hagglund, but considering the context in which he was working and the lack of underwater archaeological standards in the 1930s, it became increasingly clear to me that he put a lot of care and thought into doing the best he could for the wreck and, all things considered, did a fairly good job.

Perhaps the most noteworthy benefit of having access to Hagglund's writings is that the collection gives researchers a unique appreciation of his thought processes and actions, as well as glimpses into his character. One such insight was his motivation for examining, and ultimately raising, *Royal Savage*. Though he had first heard rumors about *Royal Savage* at an army training camp in 1917, the idea that he might actually find the wreck was planted in 1929 while his salvage company was employed to help build a bridge between Crown Point, New York and Chimney Point, Vermont.¹ During the operations, one of the divers brought up a Revolutionary era gun. This aroused Hagglund's interest, and he started searching through historical records to secure all possible information on the subject and see if there was anything worth recovering

from 18th century sites like *Royal Savage*.² His interest was piqued when, through continued research, Hagglund discovered that the Battle of Valcour Island was largely fought by American infantrymen who had been diverted to the squadron as a substitute for skilled sailors. As a former lieutenant of the 307th infantry in the U.S. Army, Hagglund was delighted by this fact.³

The first obstacle that he faced also helps to illuminate the level of care and thought that Hagglund put into this project. This involved attempts to ensure that he had the necessary funds and facilities lined up to accommodate and preserve the remains prior to bringing them up. Before even conducting the survey, Hagglund was concerned about where *Royal Savage* would ultimately be kept. He first turned to the Director of the New York State Museum, Charles C. Adams. Hagglund's initial letter simply pondered the possibility that the remains might be displayed at a private estate or museum, but it did not take long for him to suggest that *Royal Savage* "would make an extremely interesting addition to the New York State Historical Collection."⁴ Over the course of the next year and a half the pair discussed the potential of the museum funding the project. Initially the prospects were promising. Adams anticipated that the support needed to construct a new building could be found due to an active interest in state memorials at the time so he requested that Hagglund prepare a proposal for consideration by their council. The director fully expected to find support for "such a worthy study."⁵ Unfortunately, the effects of the Great Depression hit before any agreement could be reached, and in the fall of 1931, when Adams presented his budget request for the work on Lake Champlain, he was informed that the predicted increase in state funds had failed to materialize.⁶ It was time to consider other options.

Next on the list was New York State Historian, Dr. Alexander C. Flick who, according to Hagglund, was "most enthusiastic about this project and offered all the support that his

department could give.” However, when this proved to be insufficient, Hagglund next turned to the State and War Departments of the U.S. Government to evaluate their interest in *Royal Savage*. Hagglund finally approached the U.S. Army’s Historical Section, suggesting to Colonel Charles H. Mason that, since he had been unable to find funding and there was no indication that they were likely to have disposable funds, that they consider implementing an examination of the wreck into their normal summer training at Plattsburgh.⁷ Despite passing the proposal along and suggesting several alternatives, Colonel Mason was also unable to provide the requested aid and asserted that the best option was to seek the aid of private institutions.⁸ With Colonel Mason’s final suggestion to take the matter up with Mr. Stephen Pell, the owner of Fort Ticonderoga, Hagglund’s line of inquiry had come full circle and he was running out of options.⁹ He had reached out to Mr. Pell two years prior to substantiate the information that he had on *Royal Savage* and investigate whether there were efforts being made to raise the wreck. Hagglund did not want to return to Mr. Pell, or anyone else for that matter without first converting the spot on a chart where he supposed *Royal Savage* lay into usable map coordinates.¹⁰

With this goal in mind, in 1932 Hagglund, his wife, Gladys, and their five-year-old son, Hudson, set about conducting a survey to locate the vessel. He first hired a Plattsburgh man who claimed to know the location of the wreck, but this was quickly revealed to be a lie and their survey for that day yielded nothing more than a pleasant cruise about the island.¹¹ Hagglund then discovered that a man named John Manly, who he had met earlier by his camp site, had a launch for hire and from then on worked with him. With the help of Manly and Gladys, and later a Mr. Henry Seton who lived on Valcour Island, Hagglund made at least three dives attempting to locate the wreck. He knew that he was in the right vicinity because he was finding iron shot, musket balls, and a multitude of other evidence from the battle in crevasses of the island’s rock

face. However, he had no luck locating *Royal Savage* itself until finally, on a calm, sunny Sunday he rowed out on his own, back and forth over a point where the wreck was rumored to lie and, peering into the water, saw the forward portion of her framing less than 20 feet (6 m) below the surface.¹² He dived that same day to get a better look, found the remains to be 35 feet (10.67 m) long and 15 feet (4.57 m) at the maximum beam, and recovered as many four and six-pound cannon balls as he could fit into the large pockets of his dive suit (Fig. 4-2).¹³ Unfortunately, his vacation was then coming to an end, so all he could do was take bearings on the location so that he might more easily find the wreck the next time.



Fig. 4-2. Cannon balls recovered from *Royal Savage*. The smaller shot on the right would have been the size that Hagglund put in his pockets. Reprinted from Hagglund Collection [NHHC, Folder RS-055.2] with permission from NHHC, 2017.

Hagglund was already considering potential means of preserving the vessel, again demonstrating his unprecedented foresight. Unfortunately, the conservation of waterlogged wood was not well understood at this time, and there were no archaeological standards for him to reference or even to encourage taking this precaution. The advice he received reflects this general lack of knowledge on the matter, even amongst experts. P. R. Hicks, a representative of the American Wood-Preserver's Association, upon receiving Hagglund's inquiry, replied "One

cannot do a very good job of preserving in the finished structure. The timbers should be treated by the piece, and probably put back together again.”¹⁴ Hicks advice up to this point was not far removed from the practices of modern conservators. However, Hagglund later received a call from another man with whom the association had put him in contact, who stated that *Royal Savage* could be treated but should be air dried first.¹⁵

Today, conservators know that this is problematic, for as the current condition of the *Royal Savage* timbers shows, drying out waterlogged wood without a proper bulking agent to replace the water causes the wood to warp and shrink, meaning that any conclusions regarding the initial construction of the vessel drawn based on the timber dimensions will be inaccurate, and they are unlikely to fit back together properly.¹⁶ Unfortunately, Hagglund had no way of knowing this, and the preservatives that were available in the 1930s would not have done much good anyway because they tended to serve primarily as insecticides and fungicides and did not have any bulking properties. Thus the remains of *Royal Savage* were ultimately just air dried.

Hagglund might have had more time to come up with a better plan, but his hand was forced when he came back in the summer of 1934. While he had intended to raise the wreck, he approached the matter with greater urgency upon realizing that “irresponsible persons” had tampered with it during the intervening summer.¹⁷ This is not altogether surprising, considering the attention that was attracted by Hagglund’s dive the day that the wreck was located. Hagglund described the “sizable Sunday afternoon crowd” that was drawn in 1932 as including three or four canoes with boys from nearby summer camps, two speedboats and a couple of rowboats.¹⁸ The news spread throughout the neighborhood that the wreck’s location had been discovered, and during the summer of 1933, a number of college boys “got the relic-hunter’s fever,” as one magazine put it, and set about exploring the wreck for themselves.¹⁹ The general approach seems

to have been to send whoever could hold his breath longest down to tie a rope onto one of the timbers, and then the rest of the group would yank on the other end until the timber broke loose.²⁰

Others displayed more ingenuity in their attempts to explore the wreckage. Two boys, Bernard Hubenet and his friend Robert heard about the location of *Royal Savage* and, in Hagglund's absence during the summer of 1933, decided to make a diving helmet to explore the wreck.²¹ The boys had taken a Model-T Ford gas tank, cemented a washing machine window into one side, ran a garden hose from the top to a two-way action pump from a car, and weighted themselves down with lead pipe to access the wreck.²² They only took some spikes and a few grape shot, but this amateur expedition showed that truly anyone could visit and tamper with the site.

Now that the location of the wreck was public, *Royal Savage* was not safe. Fearing that if he waited much longer, there would no longer be any remains left to raise, Hagglund set out to salvage the hull and again demonstrated the care and ingenuity with which he approached this project.²³ As stated previously, the common practice at the time appears to have been sending a diver down to tie a rope to a timber and pulling on it until something came up. Hagglund however, was a professional salvor and did not want to cause any damage to the hull. In lieu of his normal, professional-grade salvage equipment, Hagglund innovatively employed emptied tar drums.

On the drive to Valcour Island, Hagglund had noticed twenty-four drums abandoned by a road builder near the highway bridge on the Little Ausable River. He formulated his plan around them. He would fill the drums with water to sink them on the wreck, lash them in place around the remains, and then pump air into them to make the drums buoyant (Fig. 4-3). This was a

tedious process since there was only one air pump available. Hagglund had to dive down, attach the inflation hose to the first drum, and return to the surface. His assistants then disconnected his air line from the pump, attached the inflation hose, and pumped until bubbles rose to the surface, indicating that the barrel was emptied of water. The pump was then reconnected to Hagglund's helmet so that he could move the inflation hose on to the next drum.²⁴ When this process was complete and all of the drums inflated, the team put out barrel floats to control the ascent of the wreck, attached a homemade, hand-operated winch to the bow, and started the process of hauling the hull ashore (Fig. 4-4 and Fig. 4-5).²⁵ This way they were able to maintain the trim of the wreck and raise it intact, minimizing the strain on the timbers.



Fig. 4-3. The tar drums that were used to lift *Royal Savage*. Reprinted from Hagglund Collection [NHHC, Folder RS-056] with permission from NHHC, 2017.



Fig. 4-4. The homemade winch and raft used for raising the *Royal Savage* remains. Reprinted from Hagglund Collection [NHHC, Folder RS-056] with permission from from NHHC, 2017.



Fig. 4-5. Pulling *Royal Savage* onto the shore of Valcour Island with a rope tied around the bow. Reprinted from Hagglund Collection [LCMM, Box 32] with permission from LCMM, 2017.

Hagglund and his team left the artifacts inside of the hull in place until it was brought ashore. This more controlled excavation method could, in some ways, be compared to more recent excavations, specifically the much more famous raising of *Vasa* twenty-seven years later. Though that was a significantly larger-scale operation and involved more sophisticated equipment, the general practice of excavating the contents of a vessel after it had been floated closely mirrors Hagglund's approach.²⁶ Hagglund, however, seems to have done this mostly for convenience's sake, for he did not record the locations of the artifacts within *Royal Savage*.

However, he did do a surprisingly good job of recording other aspects of the vessel. This was necessary, in part, because with the wreck now out of the water, *Royal Savage* was at risk from relic hunters and needed to be quickly removed from the shores and stored elsewhere for safekeeping. There was little time left in Hagglund's vacation at this point, so he decided to dismantle the structure for ease of shipment, first marking each piece to facilitate eventual reassembly.²⁷ The timbers were then loaded up in a freight car and taken to his home in Port Washington, Long Island, where they were stored for ten years in a shed owned by Donald D. Wysong Inc. They were subsequently moved back to Lake Champlain in 1947 when Hagglund purchased land there.

There is a detailed sketch of the intact hull assembly as it appeared prior to disassembly, as well as a number of photographs of the assembly. Each timber in the diagram is numbered to match the tags he pinned to the timbers (some of which are still in place). Hagglund intended to reassemble *Royal Savage* and put the remains on display for all to enjoy, so he recorded the dimensions of the timbers and how they fit together in his notes. He also took photographs and made detailed drawings of several of the main timbers, accompanied by measurements taken from them and notes written in the margins (Fig. 4-6).

Sketch of Sep. Royal Savage
Sunday, Sept. 9th, 1934

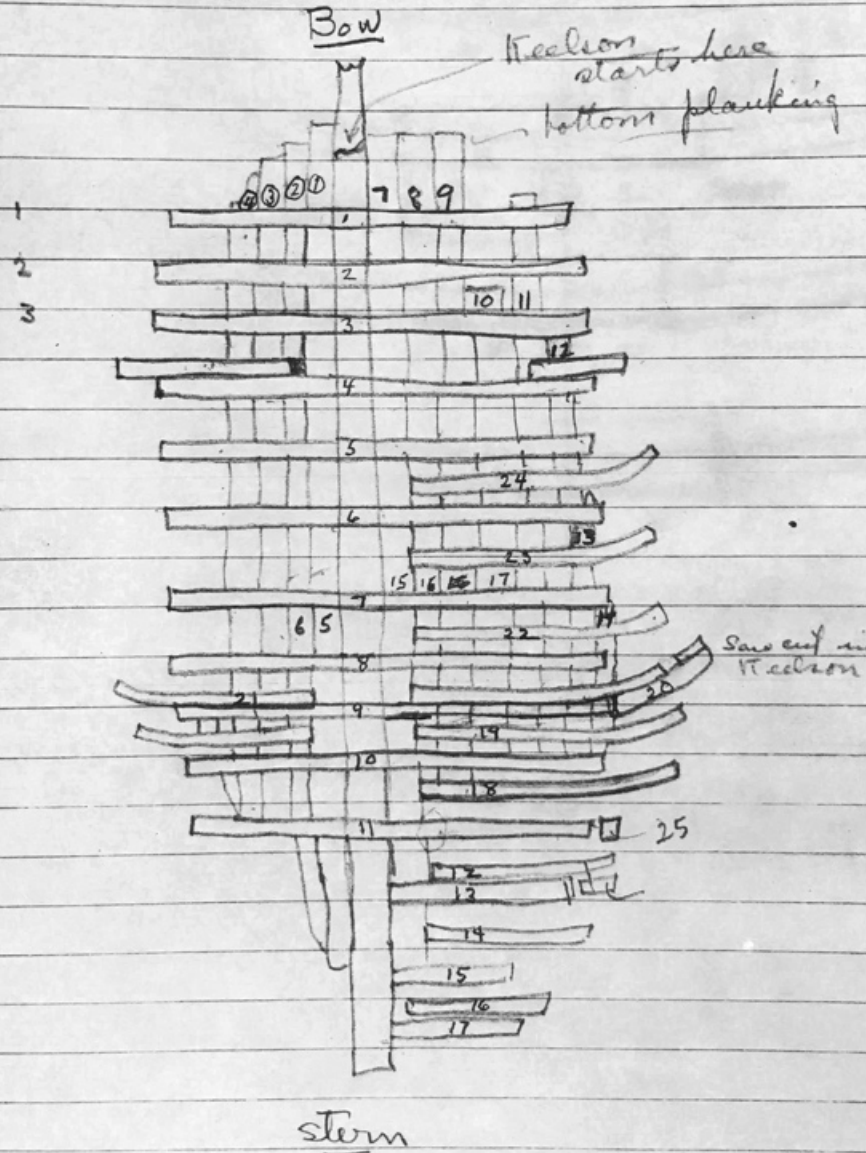


Fig. 4-6. Hagglund's wreck plan with numbered timbers. Reprinted from Hagglund Collection [LCMM, Box 32] with permission from LCMM, 2017.

Now that *Royal Savage* was raised, Hagglund renewed his search for proper accommodations and preservation options with vigor. For preservation options, he looked to the Monsanto Chemical Company, who furnished him with a pamphlet promoting their product, Santophens, a Pentachlorophenol-based fungicide supposedly effective in “controlling various organisms which cause stain, mold, and decay in wood and wood products.”²⁸ Apparently this was not what Hagglund had in mind because, as was suggested in letters between his son Hudson Hagglund and Admiral Edwin B. Hooper, Director of Naval History, and confirmed by analyses conducted by the NHHC’s Conservation Lab, the timbers were never actually treated.²⁹

Hagglund was not so easily discouraged in searching for an individual or institution to purchase the remains. This likely had something to do with wanting to get back the \$1,045.85 (equivalent to over \$19,000 today) he spent to raise and transport the vessel.³⁰ Despite this cost, he was determined to ensure that the wreck would reside in a weatherproof and fireproof building in which it could be publicly exhibited.³¹

Hagglund carried on extensive correspondence with Charles Harrington, a notable member of the Rotary and Kiwanis clubs of Plattsburgh. Shortly after the wreck was raised, Harrington informed Hagglund that his committee was interested in purchasing the ship and asked for the sale price.³² Hagglund responded with the costs that he had incurred in locating, raising, dismantling, and transporting *Royal Savage* and, though he made it clear that he had not raised the hull with the intention of selling it, he assured Harrington that “if a group of people in Plattsburgh are sincerely interested in preserving it for its historical value, any offer that the committee may make for our work will be given first consideration.”³³ Harrington came back after presenting Hagglund’s proposed price to the committee and asserted that they felt that the price was more than could be raised locally, as any funding was to be raised by popular

subscription and asked whether he would accept \$1,000.³⁴ To this Hagglund replied with four points: that his preference was to display the remains in Plattsburgh, that he hoped to recoup his expenses, that it would depend on whether the premises had a place suitable for displaying the wreck, and that he might be able to make it pay for itself by charging visitors a small fee to see it.³⁵ The correspondence ended with Harrington's admission that although they could store the remains, they did not have a public exhibition space available.³⁶

In 1937, Hagglund's acquaintance, Cecil Killien approached Dixon Ryan Fox, president of the New York State Historical Association, informing Fox that Hagglund was interested in preserving the remains of *Royal Savage* and hoped that a museum might be found in which to house and exhibit them. Killien asked if "as president of the New York State Historical Association, [Mr. Fox] might be able either to interest that body or, because of [his] many contacts with historically minded people, to suggest other possible means by which this... might be realized."³⁷ Apparently, this too was a dead end. Hagglund, by now willing to consider any proposal for preservation, even visited with the mayor of Plattsburg but was informed that Plattsburgh had no money to do anything with the wreck.³⁸

By the early 1950s, Hagglund took matters into his own hands and teamed up with Payson E. Hatch and John Kiehl to plan a naval museum at Ausable Chasm to display *Royal Savage* along with two of Hagglund's more recent finds (Fig. 4-7).³⁹ These included *Vermont*, the oldest existing steamboat (raised in 1953), and *Philadelphia*, another of the Battle of Valcour ships (raised in 1935).⁴⁰ The idea was first promoted in local newspapers in the fall of 1953, with construction slated to start in 1954, but by 1955 the trio was still struggling to raise the necessary funds. The last mention of the museum was in early April of that year.⁴¹



Fig. 4-7. The proposed plan for the naval museum at Ausable Chasm. Reprinted from Hagglund Collection [NHHC, Folder RS-050] with permission from NHHC, 2017.

Ultimately, the *Royal Savage* remains went unclaimed and unpreserved. Despite all of these disappointments, Hagglund never reached a point where he was willing to sell artifacts off as souvenirs. Shortly after the remains were recovered, a Benedict Arnold enthusiast by the name of Theodore Smith reached out to Hagglund inquiring whether he “would be willing to sell [him] one of the cannon balls, preferably one of the British balls shot into the *Royal Savage*,” and offered to pay “a good price”.⁴² Hagglund was not tempted, for in the follow-up letter sent 11 days later, Mr. Smith wrote “I fully appreciate your decision to keep all the materials together,” and offered advice on some documents that might be of interest to Hagglund’s research.⁴³

In addition to recording his finds, Hagglund also conducted research. He consulted with specialists for information on artifacts and additional evidence in his notes shows that he

consulted with both primary documents and people who had first-hand accounts in order to better understand the history of the vessel. For information on the pewter artifacts discovered in the hull, he reached out to W.G. Snow, the Director of Information and Research at the International Silver Company. Snow referred him to Millicent Stow, an antiquarian and expert on old silver who offered insights into the probable identity of the pewterer who made a spoon marked “F B” (Fig. 4-8).⁴⁴ According to Stow, F B was the touchmark of an American freeman (meaning that he had fulfilled all of his obligations as an apprentice and could now have his own business) named Francis Bassett who had been inducted into the pewterers guild in 1719, but she could tell him little else.⁴⁵



Fig. 4-8. Three pewter spoons recovered from *Royal Savage*. The middle spoon is stamped with the maker’s mark “F B,” visible about three quarters of the way back on the handle from the bowl. Reprinted from Hagglund Collection [NHHHC, Folder RS-056] with permission from NHHHC, 2017.

To determine the origin of the uniform buttons found on the wreck, Hagglund sent inquiries to both the Massachusetts and Connecticut Historical Societies, both of whom referred him to the New York Historical Society (Fig. 4-9). He found that they had nothing to offer that he did not already know.⁴⁶ He had more luck with his inquiries about the status of *Royal Savage* as “the flagship of the first American fleet.” Retired U.S. Navy Captain B. W. Knox confirmed that the fleet on Lake Champlain was in fact the first American fleet, but cautioned against referring to it as “Arnold’s Fleet” without further explanation. Knox did, however, have doubts about *Royal Savage*’s title as flagship, which was complicated by the fact that *Enterprise* initially held this title when the fleet was founded and by the time the first shots of the Battle of Valcour were fired Arnold had again moved his flag to *Congress*. *Royal Savage* was only one of three flagships, but was certainly Arnold’s flagship from at least 22 August to 11 October 1776.⁴⁷



Fig. 4-9. Six uniform buttons recovered from *Royal Savage*. Reprinted from Hagglund Collection [NHHC, Folder RS-056] with permission from NHHC, 2017.

All of this shows that Hagglund wanted to preserve and share as accurate an account of the history of the vessel as possible. He did so by conducting good research and preparing reports on his work. The most notable of the later was his master's thesis describing the salvage and research, entitled "Concerning the *Royal Savage*." Hagglund also contributed articles to journals and magazines and gave multiple lectures on his work.⁴⁸ He presented to such diverse groups as the Kiwanis Club of Hempstead, New York, the Men's Club of the First Congregation, and The Wading River Historical Society, and was even asked to participate in a "New Yorkers of Note" lecture series.⁴⁹

By the standards of the time, Lorenzo Hagglund did his best for *Royal Savage*; his intentions were good and he truly wanted to make the right choice for the ship. He wanted, more than anything, for *Royal Savage* to be reassembled and housed alongside the lake that the schooner fought to defend. Hagglund even purchased land on the shore of Lake Champlain in 1945 "about midway on that three day battle line," and shipped the timbers of *Royal Savage* back to the place he felt they belonged.⁵⁰ Sadly for both Hagglund and *Royal Savage*, this dream of preserving and displaying the vessel did not come to fruition in his lifetime.

Notes

¹ Lorenzo F. Hagglund, "Concerning the *Royal Savage*," (Unpublished Master's Thesis, Hofstra College, 1950), 44.

² Lorenzo F. Hagglund to Col. Charles H. Mason, 15 December 1931. Hagglund does not specify what he means by "gun" in this letter but in a proposal sent to Charles Adams on 29 October 1930 he refers to it as a "small cannon."

³ Lorenzo F. Hagglund to Charles C. Adams, 29 October 1930.

⁴ Lorenzo F. Hagglund to Charles C. Adams, 10 February 1930; Lorenzo F. Hagglund to Charles C. Adams, 12 August 1930

⁵ Charles C. Adams to Lorenzo F. Hagglund, 2 October 1930; Charles C. Adams to Lorenzo F. Hagglund 3 November 1930.

⁶ Charles C. Adams to Lorenzo F. Hagglund, 20 October 1931

⁷ Lorenzo F. Hagglund to Col. Charles H. Mason, 15 December 1931

⁸ Col. Charles H. Mason to Lorenzo F. Hagglund, 15 December 1931; Col. Charles H. Mason to Lorenzo F. Hagglund, 19 January 1932

⁹ Col. Charles H. Mason to Lorenzo F. Hagglund, 19 January 1932

¹⁰ Lorenzo F. Hagglund to Col. Charles H. Mason, 18 November 1932.

¹¹ Hagglund, "Concerning the *Royal Savage*," 51-2.

¹² R. G. Skerrett, "Lake Champlain Yields Wreck of 'Royal Savage'," *Compressed Air Magazine*, XL, No. 1 (January 1935), 4628.

¹³ Hagglund, "Concerning the *Royal Savage*," 63-64.

¹⁴ P. R. Hicks to Lorenzo F. Hagglund, 5 January 1933.

¹⁵ P. R. Hicks to Lorenzo F. Hagglund, 5 January 1933. Note about a Phone Call taken on 10 January 1933 on bottom of letter.

¹⁶ Donny L. Hamilton, *Methods for Conserving Archaeological Material from Underwater Sites* (College Station, 1999), 22-24.

¹⁷ Charles C. Adams to Lorenzo F. Hagglund, 25 September 1934.

- ¹⁸ Hagglund, "Concerning the *Royal Savage*," 65.
- ¹⁹ R. G. Skerrett, "Lake Champlain Yields Wreck of 'Royal Savage'," *Compressed Air Magazine*, XL, No. 1 (January 1935), 4628.
- ²⁰ Ibid. 4628-9.
- ²¹ Hagglund, "Concerning the *Royal Savage*," 79; Letter from Bernard J. Hubenet to Lorenzo F. Hagglund, 27 June 1959.
- ²² Bernard J. Hubenet to Lorenzo F. Hagglund, 27 June 1959.
- ²³ Hagglund, "Concerning the *Royal Savage*," 60; Skerrett, *Compressed Air Magazine*, 4628-9.
- ²⁴ Hagglund, "Concerning the *Royal Savage*," 76-83.
- ²⁵ Hagglund, "Concerning the *Royal Savage*," 82-3; Skerrett, *Compressed Air Magazine*, 4629. On page 82 of *Concerning the Royal Savage*, Hagglund says that they "secured towing line to the bow," and their raft to the stern to help keep the after portion afloat while bringing it ashore.
- ²⁶ Fred Hocker, *Vasa*, (Oxford, 2011), 176-90.
- ²⁷ Skerrett, *Compressed Air Magazine*, 4630.
- ²⁸ Pamphlet from Mr. K. R. Fox of the Monsanto Chemical Company to Lorenzo F. Hagglund, 29 April 1937.
- ²⁹ Hudson Hagglund to Admiral Edwin B. Hooper, 10 April 1972.
- ³⁰ Lorenzo F. Hagglund to Charles M. Harrington, 8 October 1934.
- ³¹ Charles M. Harrington to Lorenzo F. Hagglund, 2 February 1935.
- ³² Charles M. Harrington to Lorenzo F. Hagglund, 26 September 1934.
- ³³ Lorenzo F. Hagglund to Charles M. Harrington, 8 October 1934.
- ³⁴ Charles M. Harrington to Lorenzo F. Hagglund 21 December 1934.; Charles M. Harrington to Lorenzo F. Hagglund, 18 January 1935.
- ³⁵ Charles M. Harrington to Lorenzo F. Hagglund, 18 January 1935. Note on bottom of letter.
- ³⁶ Charles M. Harrington to Lorenzo F. Hagglund 2-2-1935.
- ³⁷ Cecil Killien to Dixon Ryan Fox, 24 April 1937.

- ³⁸ Hagglund, “Concerning the *Royal Savage*,” 86-7.
- ³⁹ “Naval Museum Planned at Chasm”, clipping from unknown newspaper, Autumn 1953. From Hagglund Collection.
- ⁴⁰ “Steamboat Vermont, Sunk In Richelieu, Will Be Restored,” *Rutland Daily Herald*, 5 August 1954; Phillip K. Lundeberg, Arthur B. Cohn, and Jennifer L. Jones, *A Tale of Three Gunboats: Lake Champlain’s Revolutionary War Heritage*, (Washington, 2017), 52.
- ⁴¹ *Essex County Republican*, 25 September 1953.; *Essex County Republican*, 1 April 1955.
- ⁴² Thomas Smith to Lorenzo F. Hagglund, 18 November 1935.
- ⁴³ Thomas Smith to Lorenzo F. Hagglund, 29 November 1935.
- ⁴⁴ W. G. Snow to Lorenzo F. Hagglund, 1 November 1934.
- ⁴⁵ Millicent Stow to Lorenzo F. Hagglund, 27 March 1935; John Fiske and Lisa Freeman, “Hallmarks, Touchmarks, and Guilds: Regulating the Production of Silver, Pewter, and Furniture,” Fiske + Freeman: Fine and Early Antiques, <http://www.fiskeandfreeman.com/Hallmarks.aspx>.
- ⁴⁶ Allyn B. Forbes to Lorenzo F. Hagglund, 20 March 1935.; Letter from Albert C. Gates to Lorenzo F. Hagglund, 23 March 1935.
- ⁴⁷ Captain D. W. Knox to Lorenzo F. Hagglund, 26 April 1937. Knox wrote a nearly identical letter on 23 April 1937 but this was not sent and kept for reference.
- ⁴⁸ Captain D. W. Knox to Lorenzo F. Hagglund, 26 April 1937.; Skerrett, *Compressed Air Magazine*, 4628-30.
- ⁴⁹ Paul J. Leach to Lorenzo F. Hagglund, 16 January 1941.; Barle G. Brown to Lorenzo F. Hagglund, 18 April 1941.; William Alexander to Lorenzo F. Hagglund, 26 April 1941.; Evelyn Meier to Lorenzo F. Hagglund, 26 May 1952.; Robert G. Smith to Lorenzo F. Hagglund, 25 April 1941.
- ⁵⁰ Hagglund, “Concerning the *Royal Savage*,” 94.

CHAPTER V

SALE TO HARRISBURG, PENNSYLVANIA

As discussed in the previous chapter, Lorenzo Haggglund had long demonstrated his determination to keep the remains and relics of *Royal Savage* together and display them somewhere in the Champlain Valley. After his death in 1961, the *Royal Savage* was left to his son, Hudson Haggglund. There are no records of Hudson carrying on his father's search for a museum to display the wreck until 1972 when the Director of the Naval History Department of the Navy reached out to his mother, Gladys Haggglund. Retired Vice Admiral Edwin B. Hooper had been asked to put together a display for the upcoming bicentennial of the Revolutionary War only to find that the Navy's holdings from this period "are slim indeed."¹ Having heard about the *Royal Savage*, he decided to see if the Navy might acquire some or all of the remains for the exhibit (Fig. 5-1). This message was forwarded to Hudson, who responded with information about the wreck accompanied by an assertion of his "tentative, dreamed of plan" to, upon his retirement, erect a fire and weather proof building near the scene of the Battle of Valcour Island, in which to form an exhibit for *Royal Savage*. He did not entirely dismiss the idea of giving up the remains at this time, however, with the closing statement: "Certainly, making the ROYAL SAVAGE a part of the exhibit of our Nation's Navy Memorial Museum is to be considered."² An exchange of information and ideas continued for nearly three months during which Hooper asked on multiple occasions whether Hudson would be willing to "place the remnants with us for an indefinite period."³



Fig. 5-1. The *Royal Savage* timbers in the Hagglund's storage facility. Reprinted from Hagglund Collection [NHHC, Folder RS-056] with permission from NHHC, 2017.

The discussion stagnated until 1974 when it was rekindled by Captain J. H. B. Smith, the head of the Navy's Curator Branch when returning photographs that Hudson lent two years earlier to copy into the Navy's historical collection.⁴ During that time, Hudson decided he would be willing to part with one "small, but valuable piece of the ROYAL SAVAGE" and sent it along with his response.⁵ After an exchange of pleasantries and a discussion of the credits to be given on the plaque accompanying the artifact in the exhibit, this discourse too went silent for almost a year when U. S. N. Captain Roger Pineau made one final attempt to acquire the materials. The last letter Hudson received in this exchange inquired about what "further artifacts might in some way be available" to be incorporated into the Navy's exhibit.⁶ These negotiations never yielded anything and ceased entirely by 1975. Hudson, like his father, was evidently serious about his keeping the collection in the Lake Champlain region.

Hudson Hagglund first reached out in 1979 to Kingsland Bay State Park, a lakeside property in Ferrisburg, Vermont which was being developed at the time. The Chief of Park Planning for the Department of Forests, Parks and Recreation expressed interest in hosting the ship, but no arrangements were ever made because the development of the park would not “get off the ground for several years due to the publics’ present negative attitude toward additional capital funding.”⁷ Fourteen years later in 1993, another effort to secure the wreck a home along the lake brought Hudson to Fort Ticonderoga. His proposal that the private museum purchase *Royal Savage* was rejected on the grounds that the Board of Trustees “could not see taking on another project of that magnitude” given all of their other commitments at the time.⁸

In 1995, Hagglund began looking further inland and submitted an application to the Saratoga National Historical Park to acquire and display *Royal Savage* (Fig. 5-2). The park turned this down. Curiously, the reason cited for the denial was that “the historical theme of the material is different from the 1777 Saratoga Battles that are interpreted here.”⁹ Clearly Hudson should have written more than four sentences in the historical context section of his proposal, for, as illustrated throughout this thesis, it is not a leap to connect the Battles of Saratoga and Valcour Island. The latter set the circumstances under which the Saratoga victory could be won.¹⁰ Nevertheless, no deal was struck and the search continued.



Fig. 5-2. Hudson Haggund displays *Royal Savage* artifacts as part of his proposal to the Saratoga National Historical Park. Reprinted from Haggund Collection [NHHHC, *Royal Savage Scrapbook*] with permission from NHHHC, 2017.

By this time, after thirty-five years of trying to keep *Royal Savage* in the Champlain Valley, Haggund was willing to settle for finding any museum willing to take the timbers, regardless of location. In August 1995, just three months after receiving the Saratoga National Park's refusal, he started communicating with Wes Small of Cashtown, Pennsylvania, who owned a Civil War antiques shop called the Horse Soldier and had connections with the National Civil War Museum in Harrisburg, Pennsylvania. Mr. Small also had connections with Harrisburg's mayor, Stephen Reed, likely through their shared enthusiasm for collecting Civil War artifacts for the museum. Harrisburg's mayor evidently did not share Saratoga National Park's qualms about overstepping the bounds of his museum's mission for, within days, Small brokered a deal for Hudson to sell *Royal Savage* to the city in exchange for \$42,500.¹¹

Hudson reported to his friend, Peter Barranco, on 17 October 1995 that he had sold *Royal Savage* to the yet-unfinished City of Harrisburg Archives and Museum. On 19 October the museum sent a truck to Hagglund's home to collect the artifacts in storage there, then on to retrieve the timbers in Willsboro, New York the next day.¹²

Hagglund finally succeeded in finding a new home for the timbers. However, *Royal Savage*'s tumultuous journey was far from over. The National Civil War Museum was not completed until 2001, and when it finally did open, *Royal Savage* was not among the exhibits. Wrong century, wrong war. The timbers had made horizontal progress: out of an upstate New York storage building and into a water treatment plant in Harrisburg (Fig. 5-3).

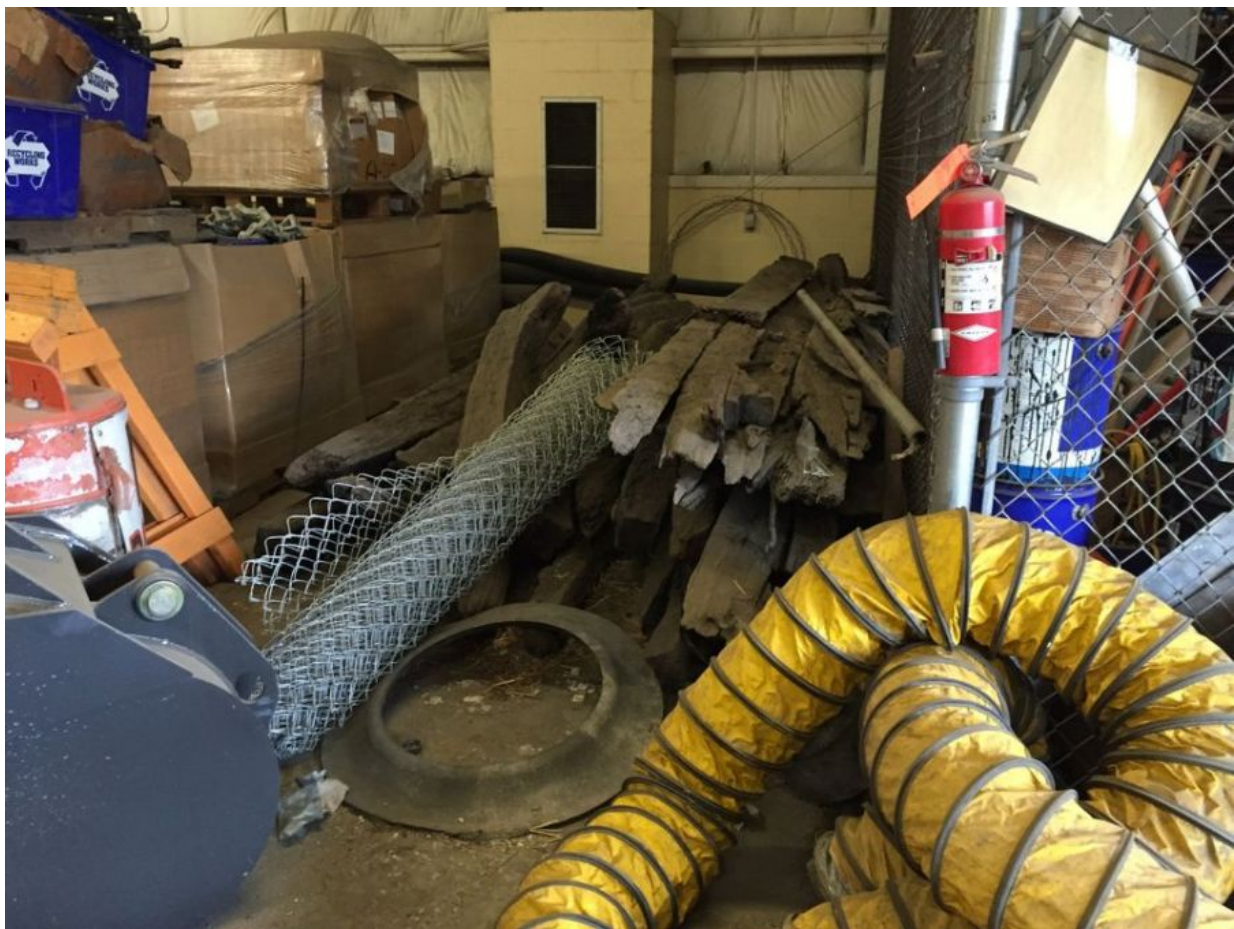


Fig. 5-3. The condition of the *Royal Savage* timbers while stored in a Harrisburg water treatment warehouse. Reprinted from www.navsource.org/archives/09/86/86558.htm.

It would later come to light that, not only had the mayor used public funds to purchase the charred remains of a ship from the 1770s, a full century prior to the museum's intended 1860s date range, he had accrued nearly four times more artifacts than the museum had the capacity for.¹³ In addition to iconic articles from the Civil War, other acquisitions included a large amount of collectables destined for a proposed Wild West museum and objects like *Royal Savage* that had nothing to do with any of the museum themes.

Additional tension mounted in 2000 when the Battle of Plattsburg Association rallied the city of Plattsburg around the idea that *Royal Savage* belonged in New York. Five years too late, a Lake Champlain institution decided it wanted *Royal Savage* after all.¹⁴ Upon hearing about this, a spokesman for Reed, Randy King, insisted that, "They're going to have to raise some money if they ever want to get it back... We're not just going to give it back."¹⁵ Perhaps there was still hope at this stage that the other four museums Reed intended to build in Harrisburg would have space for the vessel.

In 2003 this dream and Reed's political career began to fall apart. The mayor's prodigious spending caught up to him when his willingness to pay top dollar for artifacts without any haggling or hesitation raised suspicions among his dealers. One trader from Arizona reached out to the *Patriot News* of Harrisburg with questions about Reed's wild spending throughout the western states. Jack Johnson, of Cadillac Jack's Trading Post in Colorado, confirmed that "Money's not an object for your mayor."¹⁶ The *Patriot News* turned around and published this, resulting in a substantial backlash from the public and fellow politicians alike.

Jason Smith ran against the incumbent mayor in the election that year, launching a website which decried Reed's museums and campaigning with finger puppets depicting Reed dressed in a Stetson hat and leather chaps.¹⁷ Reed won the election, but his reputation was

irreparably damaged. A series of three auctions intended to recover the funds raised \$1.66 million, hardly enough to cover over \$8 million in expenditures or save Reed's career.

The largest of these sales, held by Heritage Auctions in Dallas, Texas in 2007, gave some insights into the grand ideas Reed had when he was assembling these collections. One Western artifacts specialist observed, "I think he definitely had a vision in mind when he assembled this collection... he probably could be rated as a great visionary for what he tried to do."¹⁸ This is not hard to imagine given the impressive list of city-owned artifacts found in Reed's home, office, and city storage spaces. Specimens ranged from Abraham Lincoln's hat box and Ulysses S. Grant's sword, to an Indian buffalo headdress and a Wells Fargo Stagecoach, a Sumerian beaded necklace, money from the French Revolution, items from World War II, Egyptian mummy artifacts, and much more. One member of the Harrisburg Authority, Fred Clark, went so far as to refer to Reed as "the Walt Disney of our time in Central Pennsylvania."¹⁹ Reed's ultimate goal had been to bolster Harrisburg's economy with a boom in tourism based around the museums. His purchases instead led the city dangerously near to bankruptcy.

In 2007, Harrisburg Authority board member Eric Papenfuse attempted to reconcile the city's inventory against the collection of artifacts in storage, but his work was impeded by incomplete or missing data. At this point, a criminal investigation against Reed was called for.

After 28 years in office, Reed lost the 2009 mayoral election to Linda Thompson. Five years later, in 2014 Eric Papenfuse was elected mayor; as in 2007, he was determined to hold Reed accountable for debt and fraudulent fiscal reporting.²⁰ During investigations from 2014 into 2017, other instances of dubious fiscal practice were brought to light. During Reed's tenure, Harrisburg, home to just 50,000 inhabitants, nearly a third of which live below the poverty line, accrued over \$450 million dollars in debt.²¹

Ultimately, Reed was brought to trial for 499 counts of theft by accepting stolen property, most of which were thrown out because they were “too old to prosecute.”²² Of the remaining 112 counts and the money laundering and tampering with evidence charges associated with each, Reed plead guilty to twenty, and the prosecutors agreed to dismiss the other 94.²³ The City of Harrisburg was also charged with securities fraud in 2013 for misrepresenting its poor financial health under Reed, which was the first time a U.S. city has faced such charges.²⁴ In January 2017, ex-mayor Reed was sentenced to two years of supervised probation and a fine of \$2,000.

Papenfuse, in addition to his work straightening out Reed’s mistakes and addressing Harrisburg’s poverty, brought closure to the fate of *Royal Savage*. The U. S. Government entered the discussion about what would become of the remains when The Naval History and Heritage Command was alerted to the *Royal Savage* situation by the Lake Champlain Maritime Museum’s Director, Arthur Cohn, who reported that he saw the schooner’s timbers posted for sale. When the NHHC approached Harrisburg the proceedings were more amicable than the city’s communications with the Battle of Plattsburg Association in 2000. Both Papenfuse and the city council were eager to send the ship remains on their way, stating that it was embarrassing for Harrisburg to have bought something without any means of preserving it.²⁵ In July 2015, Papenfuse held a press event at the Harrisburg City Hall to formally return *Royal Savage* and its artifacts to the care and custody of the U.S. Navy (Fig. 5-4). In addition to Papenfuse, remarks commemorating the significance of *Royal Savage* were given by NHHC Director Sam Cox, and LCMM’s Arthur Cohn.



Fig. 5-4. Mayor Papenfuse speaks at a ceremony on 1 July 2015, formally returning the artifacts and timbers of *Royal Savage* to the U. S. Navy for conservation and preservation. Taken by Mass Communication Specialist 2nd Class Eric Lockwood. Reprinted from www.history.mil with permission from NHHHC, 2017.

Notes

- ¹ Retired Vice Admiral Edwin B. Hooper to Gladys Hagglund, 8 February 1972.
- ² Hudson Hagglund to Vice Admiral Edwin B. Hooper, 1 March 1972.
- ³ Vice Admiral Edwin B. Hooper to Hudson Hagglund, 17 March 1972.
- ⁴ Captain J. H. B. Smith to Hudson Hagglund, 22 April 1974.
- ⁵ Hudson Hagglund to Captain J. H. B. Smith, 11 May 1974.
- ⁶ Captain Roger Pineau to Hudson Hagglund, 3 February 1975.
- ⁷ Jerome J. McArdle to Hudson Hagglund, 26 January 1979.
- ⁸ Bruce M. Moseley to Hudson Hagglund, 1 December 1993.
- ⁹ Doug Lindsay to Hudson Hagglund, 26 May 1995.
- ¹⁰ Russel P. Bellico, *Sails and Steam in the Mountains, a Maritime and Military History of Lake George and Lake Champlain*. (Fleischmanns: 1992), 162.
- ¹¹ Carola, Chris, "The Royal Savage: Plattsburgh vs. Harrisburg in tug-of-war over historic 1776 warship," *Pittsburgh Post Gazette* (PA), 19 January 2001.
- ¹² Hudson Hagglund to Peter Barranco, 17 October 1995.
- ¹³ "The National Civil War Museum." The Smithsonian Institution, <http://www.nationalcivilwarmuseum.org/about-us/>.
- ¹⁴ Carola, Chris. "The Royal Savage: Plattsburgh vs. Harrisburg in tug-of-war over historic 1776 warship." *Pittsburgh Post Gazette* (PA). 19 January 2001.
- ¹⁵ Ibid.
- ¹⁶ John Luciew, "Ex-mayor Stephen Reed's decades long artifacts obsession," *PennLive* (PA), 23 January 2017, http://www.pennlive.com/news/2017/01/exmayor_stephen_reeds_decades.html.
- ¹⁷ Ibid.
- ¹⁸ Charles Thompson, "Grand jury recommends criminal charges against former Harrisburg Mayor Stephen Reed, source says," *PennLive* (PA), 13 July 2015, http://www.pennlive.com/midstate/index.ssf/2015/07/source_former_harrisburg.html.

¹⁹ Ibid.

²⁰ “Office of the Mayor,” City of Harrisburg, Pennsylvania, <http://harrisburgpa.gov/office-of-the-mayor/>; Charles Thompson, “Grand Jury recommends criminal charges”, *Pennlive* (PA), 13 July 2015, http://www.pennlive.com/midstate/index.ssf/2015/07/source_former_harrisburg.html.

²¹ “The Indictment of Longtime Harrisburg Mayor Stephen Reed: What Comes Next?,” Center for the Advancement of Public Integrity, 23 July 2015, https://www.law.columbia.edu/sites/default/files/microsites/public-integrity/harrisburg_mayor_reed_what_comes_next_revised_7-23-15.pdf;
Donald Gilliland, “Steve Reed says he knows nothing of grand jury investigating his Harrisburg financial dealings.” *PennLive* (PA), 5 April 2014, http://www.pennlive.com/midstate/index.ssf/2014/04/steve_reed_grand_jury_harrisbu.html.
A significant portion of Reed’s debt came from a project to retrofit the city’s trash incinerator, which went terribly wrong and pushed the city to the brink of bankruptcy. Likewise, the Harrisburg Authority, which Reed controlled, had bought up tax liens from municipalities in exchange for a fee, which Reed used to finance the Harrisburg School District, construct a state prison, and collect artifacts for his museums.

²² “The Indictment of Longtime Mayor Stephen Reed” Center for the Advancement of Public Integrity.; Snyder, Myles. “Ex-Harrisburg mayor Stephen Reed avoids prison in Wild West artifacts case.” *ABC News*. 27 January 2017. <http://abc27.com/2017/01/27/mayor-to-learn-sentence-in-wild-west-museum-artifacts-case/>.

²³ Myles Snyder, “Ex-Harrisburg mayor Reed avoids prison,” *ABC News*, 27 January 2017, <http://abc27.com/2017/01/27/mayor-to-learn-sentence-in-wild-west-museum-artifacts-case/>.

²⁴ “The Indictment of Longtime Mayor Stephen Reed” Center for the Advancement of Public Integrity.

²⁵ Marc Levy, “Fate of Benedict Arnold-Commanded Ship in Pa. City’s Hands,” *NBC Philadelphia*, 28 April 2015, <https://www.nbcphiladelphia.com/news/local/Fate-of-Benedict-Arnold-Commanded-Ship-in-Pa-Citys-Hands-301590571.html>.

CHAPTER VI

A MORAL AND LEGAL QUANDRY

It took over 80 years for *Royal Savage* to rejoin the U.S. Navy's ranks, but legally, it had belonged to the Navy before Lorenzo Hagglund even started his search. While the remains were not protected by historic preservation laws at the time of their salvage, it was publicly acknowledged that they were government property as early as 1886. Before then, the world was still operating under the Law of Salvage and the Common Law of Finds, but in 1886 the Revised Statutes of the United States were published featuring Section 5358. This stated that "Every person who plunders, steals or destroys any money, goods, merchandise, or other effects from or belonging to any vessel in distress or wrecked... upon the sea... or in any other place within admiralty and maritime jurisdiction of the United States... shall be punished by a fine not more than five thousand dollars and imprisoned at hard labor not more than ten years."¹

A series of newspaper articles discussing the implementation of Sec. 5358 suggest that the government did not hesitate to invoke this newfound power when dealing with visitors to *Royal Savage*. It quickly became known that government permission was required before anyone raised or otherwise interfered with the wreck. The new law did not stop souvenir hunters from visiting the site, but during the years immediately following 1886 some of them were likely discouraged by fear of prosecution.

The first of these articles, "The *Royal Savage* Wreckers: The Law for Their Case," was published in the *Plattsburgh Republican's* 16 October 1886 issue as a follow up on a story three days prior detailing the exploits of Captain W. D. Duncan who had taken cannon balls and 'ribs' from *Royal Savage*.² The update informed the citizens of Plattsburgh that United States

authorities had been notified of the diver's exploits and made a statement that "no unauthorized interference with the wrecks will be permitted" under Section 5258.³ This article was followed by similar announcements in other papers throughout the region such as the *St. Albans Messenger*, which on 22 October 1886 stated that "the divers who recently explored the 'Royal Savage' off Valcour Island are to be prosecuted by the US district attorney as it is said their operations constitute a criminal offence."⁴ Then, on 23 October, another *Plattsburgh Republican* update published the US Treasury Department's full response to the local authorities' query on how to handle Captain Duncan's case.⁵

By 29 October the region was buzzing with the news as any "residents who visited the wreck of the *Royal Savage* on a pleasure trip and brought away tangible evidence of their visit were considerably stirred up... to learn that a United States Officer was in town looking up evidence in the matter."⁶ Many locals had acquired something off one of Lake Champlain's more than 300 wrecks at some point in their lives, so the new law was startling to a population who had grown up without this sort of regulation in place. A statement published by Bentley S. Turner, who had been raised in the Champlain Valley but at the time resided in Connecticut, well illustrated the lasting, pervasive sense of unease and confusion felt by previous visitors to the site. In response to a 1903 publication about a company being organized to raise *Royal Savage*, Turner reflected on his role in helping his father, Amzl Turner, and Richard Hayworth attempt to raise that wreck in 1847 before asserting that "I doubt if those engaged in attempting to raise the *Royal Savage* at the time ever dreamed they were violating one of Uncle Sam's laws, and I am not inclined to think they made this attempt 'without permission.'"⁷ And he was correct; they had not needed permission. At the time of their attempted raising, the law that stirred up the region 39 years later did not exist. Souvenir collecting prior to 1886 was done legally.

From the time the Revised Statutes on salvage were passed, however, those interested in raising the wreck had to acquire permission to do so. In 1901, partially inspired by local officials' efforts to prevent him from taking objects off *Royal Savage*, Joseph G. Falcon sent a letter to the Treasury Department inquiring whether they had any objection to his search for relics. The response indicates that enforcing Section 3538 had fallen out of style by this time. Assistant Secretary M. E. Ailes's letter failed to mention the statute at all and instead cited another law with far less enforcement power. According to him, the only authority the Treasury had over abandoned property was conferred by "Section 3755 R. R." which simply gives the government power to make contracts for the collection of any property that may have been wrecked, abandoned, or become derelict. As such, Ailes declared that since the vessel had sunk one hundred and twenty-five years earlier, the Treasury Department "deems it would be futile to make any contract in regard to it," effectively giving Mr. Falcon the all-clear to do as he pleased on the wreck site.⁸

Despite the federal government's apparent relaxation, in 1909 when the three-hundredth anniversary of Samuel de Champlain's discovery of the lake came around, the New York Tercentenary Commission asked for permission before attempting to raise *Royal Savage* for their proposed exhibit. A formal application was submitted to the Treasury Department and divers were sent to examine the wreck, but the remains were not raised.⁹ The hull was badly degraded and so thoroughly covered with rock and mud that the commission deemed it unsafe to remove it. Nevertheless, they had taken the appropriate legal measures to do so if that had been the path chosen.

This precaution was further merited by the recent passage by the Federal Government of the Antiquities Act of 1906. This was the first law that offered real protection to historic and

prehistoric objects. It established a new regulated permitting system for scientific research and required that artifacts be housed in qualified repositories. More importantly for *Royal Savage*, the act also applied to submerged material, covering internal waterways, like Lake Champlain, and the United States' territorial sea. However, the Antiquities Act's application was limited to "lands owned or controlled by the Government of the United States," so the protections granted to *Royal Savage* were still limited.¹⁰

In light of these laws, Lorenzo Hagglund's salvage endeavor was all the more legitimate than those of his predecessors. His correspondence with Charles C. Adams, the Director of the New York State Museum clearly indicate that he was aware of the laws. Hagglund expressed his concern that, in the case "all of the material recovered would have to be turned over to the state as property of the state," potential investors in the project might lose interest.¹¹ Nevertheless, on 15 December 1931, Hagglund asked the government for approval to raise the wreck.¹²

After nearly four months of exchanging ideas with Colonel Charles H. Mason of the U.S. Army's Historical Section (detailed in Chapter 4), Hagglund informed his contact that he had made plans to identify the definite location of the wreck.¹³ The pair maintained contact as Hagglund kept the Historical Section up to date on his actions. In November 1932 he sent a letter about the previous summer when he examined the wreck, enclosing a short list detailing what he took away from the site, including a collection of cannon balls and an old bayonet.¹⁴ In short, Hagglund handled his interactions with *Royal Savage* legally and in the manner prescribed by representatives of the U.S. Government.

The legal situation has become more rigid since Hagglund raised *Royal Savage* in 1934. More laws and standards have been passed to protect underwater cultural resources and give increased power and clarity to those seeking to defend them. Today, getting permission to work

on a wreck is more difficult, and the consequences of doing so without approval much more severe. This trend favoring the increased legal protection of cultural resources began with the passage of the National Historic Preservation Act (NHPA) in 1966. This act was ambiguous in its language, so it did not offer concrete protection, but its passage indicated important progress towards the government's accepting responsibility for the nation's cultural heritage. The NHPA also established the National Register of Historic Places which provided that districts, sites, buildings, and other objects exceeding roughly fifty years of age could be considered for listing, though no additional protection was granted to these sites at the time. The Advisory Council of Historic Preservation was also established to hold federal agencies accountable for the effects of their undertakings on sites potentially eligible for the National Register and gave local communities a voice in determining how their historic places were managed.¹⁵ Whether or not the existence of this Act would have changed the outcome of Mr. Falcon's or others applications to take objects from *Royal Savage* is unclear. If it had been deemed to apply to shipwrecks, the NHPA could have given the members of the community greater power to oppose the removal of relics, though only if a federal permit, or government funding was involved in the undertaking. Regardless, submerged material was not expressly covered.

The NHPA of 1966 was followed by the National Marine Sanctuaries Act of 1972, which could have applied to *Royal Savage* had it still been in Lake Champlain and deemed worth protecting. The passage of this act authorized the establishment of National Marine Sanctuaries and gave the Department of Commerce power to establish regulations for them and require permits for certain activities, including the disruption of cultural and natural resources within these areas.¹⁶ It was also the first act to establish clear, enforceable penalties. This trend in greater clarity of meaning and additional penalties continued in 1979 with the passage of the

Archaeological Resources Protection Act. This act offered protection to archaeological resources on public and Indian lands older than one hundred years.¹⁷ It was an important milestone in the protection of cultural material in a number of ways: declaring unambiguously that artifacts from federal lands remain federal property, stating that intent to conduct scientific research was a requirement for acquiring a permit, and establishing penalties with which to hold people accountable for failing to meet standards.

Next came the Abandoned Shipwreck Act of 1987. This act stated that the law of salvage and common law of finds no longer applied. It took an unprecedented step and asserted federal title to certain categories of abandoned ships in and on state submerged lands. That title was subsequently transferred to the respective state or territory in which the vessel lies, and the governing bodies therein were encouraged to manage the shipwrecks in accordance to the Abandoned Shipwreck Act and its guidelines. The only problematic ambiguity stemmed from the act allowing each state to define “abandoned” for itself, leading to inconsistency in its application.¹⁸

These were the laws in place when Hudson Hagglund sold the remains of *Royal Savage* to Harrisburg in 1995. The laws that might have prevented this sale still did not have clarity nor did they give the government any sort of teeth with which to enforce the laws. As such, the issue with Hagglund’s sale of the material stemmed not from the legislation, but from the fact that title to the remains had never been surrendered by the General Services Administration of the U.S. Government. Without title to the remains, Hagglund could not legally sell them.

This was further clarified in 2004 with the Sunken Military Craft Act. This act stated in unambiguous terms that the ownership of naval ships, aircraft, spacecraft, and their contents remains with the US government regardless of location or time of loss. It also prohibited the

disturbance of United States craft or foreign sunken military craft in US waters and established a rigorous permitting program that must be submitted in order to obtain permission to conduct archaeological, historical, or educational research on this type of material. Other types of unauthorized disturbance were forbidden and, with the passage of this act, the government was given increased enforcement power with penalties up to \$100,000 in fines per violation, per day, additional payment for any damages, and the confiscation of vessels. These penalties could be adjusted depending on the extent and intent of the disturbance; unintentional disturbance would not be considered to be in violation of the act, though it was to be reported to the NHHHC, the U.S. Coast Guard, and the appropriate state historic preservation office.¹⁹

By the time *Royal Savage* was returned to the U.S. Navy in 2015, there was no longer any ambiguity regarding to whom the remains legally belonged. Federal government title to these shipwrecks had long before been recognized but there had been no means to properly enforce it. While it is tempting to hold Lorenzo Hagglund to current standards, it is important to remember that the laws and standards that are now taken for granted did not exist in 1934 and over the following decades for him to abide by. He did his best to protect *Royal Savage* within the limits of 1930s legislation. Likewise, when Hudson Hagglund corresponded with the U. S. Navy in 1972, laws and codes hinted at the Navy's ownership of its sunken heritage, but only much later was the Navy granted real power to do anything about it. Whereas Vice Admiral Edwin B. Hooper and Captain Roger Pineau were limited to incessantly asking that Hudson Hagglund consider donating the *Royal Savage* remains, when Sam Cox, Director of the NHHHC, approached the city of Harrisburg in 2015, he did so with federal laws to back up his claims. Fortunately, he hardly needed them since the Harrisburg government had also undergone substantial transformation since the 1995 purchase of the timbers and the new mayor was eager

to be relieved of them. The materials were inventoried, packed in cushioned containers, and taken to the NHHC facility at the Washington Navy Yard for assessment, cleaning, documentation, and conservation.²⁰

Notes

¹ “Revised Statutes,” *Criminal Law Magazine*, Vol. II, 770; *Plattsburgh Republican*, 16 October 1886.

² *Burlington Free Press and Times*, 13 October 1886.

³ *Plattsburgh Republican*, 16 October 1886.

⁴ *St. Alban’s Messenger*, 22 October 1886 (From Hagglund Collection [LCMM, 32]).

⁵ *Plattsburgh Republican*, 23 October 1886.

⁶ *Burlington Free Press and Times*, 29 October 1886.

⁷ *Burlington Free Press and Times*, 11 December 1903.

⁸ *Plattsburgh Republican*, 20 June 1908.

⁹ *Plattsburgh Evening News*, 5 April 1909; *Essex County Republican* 9 April 1909.

¹⁰ “American Antiquities Act of 1906: 16 USC 431-433,” National Park Service, <https://www.nps.gov/history/local-law/anti1906.htm>.

¹¹ Lorenzo F. Hagglund to Charles C. Adams, 10 February 1930.

¹² Lorenzo F. Hagglund to Colonel Charles H. Mason, 15 December 1931.

¹³ Colonel Charles H. Mason to Lorenzo F. Hagglund, 15 December 1931; Colonel Charles H. Mason to Lorenzo F. Hagglund, 19 January 1932; Lorenzo F. Hagglund to Col. Charles H. Mason, 31 May 1932.

¹⁴ Lorenzo F. Hagglund to Col. Charles H. Mason, 18 November 1932.

¹⁵ “National Historic Preservation Act of 1966: Public Law 102-575,” National Park Service, <https://www.nps.gov/history/local-law/nhpa1966.htm>.

¹⁶ “National Marine Sanctuaries Act,” National Park Service, https://www.nps.gov/history/local-law/FHPL_NtlMarineSanct.pdf.

¹⁷ “The Archaeological Resources Protection Act of 1979 (ARPA),” National Park Service, <https://www.nps.gov/archeology/tools/Laws/ARPA.htm>.

¹⁸ “Abandoned Shipwreck Act,” National Park Service, https://www.nps.gov/history/local-law/FHPL_AbndShipwreck.pdf.

¹⁹ “Sunken Military Craft Act: H.R. 4200,” Naval History and Heritage Command, 24 February 2016, <https://www.history.navy.mil/research/underwater-archaeology/policy-and-resource-management/sunken-military-craft-act/smca.html>.

²⁰ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

CHAPTER VII

ONGOING EFFORTS

In addition to the 67 timbers and over 2,000 artifacts that were sent from Harrisburg, the Naval History and Heritage Command also received *Royal Savage*'s supposed stern assembly from Hudson Hagglund, including parts of the after keel, keelson, and sternpost. The timbers in the collection included floor timbers, futtocks, the keel and keelson, and planking, while the artifacts represented a range of objects from eating utensils to ordnance, and materials including glass, ceramic, wood, iron, pewter, and textiles.¹ Now that *Royal Savage* is in the possession of the NHHC, the Underwater Archaeology (UA) Branch has developed a research plan to analyze the hull and preserve as much of the vessel as possible. Their efforts, thus far, can be divided into three main categories of research focusing on conservation, archival, and documentation aspects of understanding and working on the vessel. Their main objectives are to research, preserve, record, and ultimately reconstruct and display the remains now in their care.

Conservation

In order to effectively preserve the *Royal Savage* timbers, conservators must first understand the various forces, both natural and human, that have been working on them for the past two and a half centuries. In an attempt to do so, UA has sampled and tested several of the artifacts and timbers to determine what chemicals, if any, were used in the past to preserve or stabilize them. They started by reviewing documents in the Hagglund Collection to see if there were any clues regarding preservatives used on the materials. One letter, sent on 10 April 1972, from Hudson Hagglund to Edwin Hooper, Director of Naval History for the NHHC (previously

Naval Historical Center), revealed that some of the small wooden artifacts, like the gun carriage and cleats, were treated with a preservative called Cuprinol, most of the metal artifacts with shellac, and the timbers themselves were not treated at all.² With this information in hand, UA began a project to identify these coatings and determine whether they are stable, if they can safely be removed, and, if not, whether modern treatments can be effectively applied over them to further protect the artifacts.

The first part of this investigation centered on the iron artifacts and was funded by the Office of Naval Research and the Naval Research Enterprise Internship Program (NREIP) and was executed by the NHHC's Archaeology and Conservation Laboratory at the Washington Navy Yard over a 10-week period in 2016. Many of the iron artifacts displayed active corrosion products beneath the unidentified coating indicating that it had failed, so the main objectives were to definitively identify the coating(s) and determine the most effective way of removing them. The first step was to conduct an overall survey of the artifacts, which revealed that 383 of the 459 iron artifacts were coated in an unknown material. Samples were selected out of those 383 and brought to the US Naval Academy's Chemistry Department where they were analyzed using Fourier-transform infrared (FTIR) spectroscopy, a minimally invasive test used to identify organic material by measuring reflected infrared light, which confirmed that they were, in fact, coated with shellac. Back at the Washington Navy Yard, longwave ultraviolet (UV) radiation was also used to examine the coatings. This revealed that the coating had the properties of aged shellac, fluorescing green instead of the typical orange color emitted from fresh shellac. Fortunately, through a variety of tests, the UA Lab was able to identify two methods of removing the shellac, one by using a topical solution of 50% acetone and 50% ethanol, the other by

immersing the artifact in a sodium hydroxide solution, both causing the coating to swell and detach from the iron surface.³

They then turned to the small wooden artifacts. This study began in 2017 and is ongoing at the time of this writing. The first objective was to understand what Hudson Hagglund meant when he wrote that the wood was conserved with Cuprinol. The conservators at the lab had not heard of conservation treatments using this material, but eventually were able to identify Cuprinol as a trade name for copper naphthenate, which is primarily used as a fungicide rather than for long term preservation. With this in mind, they analyzed the wooden artifacts to determine which of them had been treated, using longwave UV radiation and pH analysis. Ultimately, the most effective method of determining which artifacts had been treated proved to be a “water bead test” in which they observed how deionized water behaved when dropped onto the wooden surface. On 59% of the artifacts, the water “beaded” and did not absorb into the wood at all, indicating that the wood had been treated. Thirty-five percent showed beading on the surface that eventually absorbed, and 6% immediately absorbed.

The conservators also returned to the archives for additional clues to identify what had been treated. They examined photographs from 1974 that focused on 63 of the wooden artifacts and hypothesized that those were likely the ones treated, since the images included the gun carriages and cleats, which Hudson had expressly stated as having been preserved (Fig. 7-1). Artifact samples were selected, along with an untreated control from amongst the ship’s timbers, and brought to the US Naval Academy Chemistry Department to determine whether there was copper or naphthenic acid, the anticipated components of Cuprinol, remaining on the surface. This analysis was conducted using FTIR and X-Ray fluorescence, another method of determining the elemental composition of a sample by introducing X-rays into its atoms and measuring the

energy emitted. These tests revealed hardly any copper, and only two samples had traces of naphthenic acid, but all, except for the control, showed a high percentage of zinc.



Fig. 7-1. Photograph of a selection of wooden artifacts from Hudson's 1974 inventory and proposal. The cleats used as a reference for sampling are shown in the far right center. Reprinted from Hagglund Collection [NHHC, Folder RS-055.2] with permission from NHHC, 2017.

This presents a conundrum with a couple of possible explanations. On the one hand, it may be theorized that the Cuprinol on the artifacts wore off over the years. This is a possibility since all of the copper in Cuprinol would likely have disappeared within about 30 years, and the letter in which Hudson made his statement was sent approximately 45 years before this study began.⁴ On the other hand, this hypothesis does not explain the elevated levels of zinc, so it is possible that Hudson was mistaken in stating that Cuprinol had been used.

As of this writing, no definitive conclusion has been reached. However, an innovative application of one of the aforementioned shellac analysis techniques yielded interesting results of

a different nature. While observing one of the artifacts, NREIP intern Rachel Vykukal noticed a small amount of chalk residue. Upon further inspection with longwave UV radiation, a hand written label reading “mast step wedge” was revealed. Unfortunately, after further investigation with the UV lamp, there does not appear to be any evidence of this method’s use in labeling the other timbers. However, a few of the original paper tags remain intact and, during the scanning process described below, a numbers of brass tacks with numbers engraved on them, which match the Hagglund tags, were discovered. These hidden labels will be valuable in the eventual reassembly process since they can be used to match more timbers to Hagglund’s original drawings and site maps.

Archival Research

In addition to informing researchers of Hagglund’s efforts on behalf of the wreck, as discussed in Chapter 4, the Hagglund collection also yields useful insights into the remains themselves. Newspaper clippings, notes, and correspondence detailing early recoveries of ‘relics’ allow researchers to get a sense of the condition the wreck was in at various moments throughout its history and compile a fairly comprehensive list of what was taken off the wreck both before and during Hagglund’s recovery. These accounts are what Chapter 3 was drawn from and, in conjunction with the inventory of *Royal Savage* artifacts sent by Hudson Hagglund to Paul Okey in 1995, could be useful in getting a sense of what artifacts were raised, what the UA should currently have in their inventory, and what might still be in private collections.⁵

The diagrams mentioned in Chapter 4 provide similar insights for the hull itself. The labeled drawing of the timbers, when compared to the physical timbers that still bear their original tags, are helpful in understanding what remains the branch should have and will be a

good starting point for eventually reassembling the remains digitally and potentially physically, as was Hagglund's intention. This process could be further aided by consulting the numerous photographs of *Royal Savage* as the remains were being raised and of their early days in storage. These will hopefully yield insights useful for the reconstruction as well as for assessing the condition of the timbers and artifacts at the time the pictures were taken. When compared to their current condition, this research can contribute to understanding how well the remains have endured over the years.

Then there is the issue of a stern assembly assumed to be from *Royal Savage*. In the 1950s, a group of young men from Montreal, Canada, raised the stern and gave it to Hagglund, claiming that it belonged to the schooner. However, correspondence between Hudson Hagglund and Peter Barranco comparing the dimensions of the stern assembly to the likely dimensions for the stern of *Royal Savage* have led to some alternative speculations (Fig. 7-2). According to Barranco, the stern assembly in UA's possession more likely belonged to one of the Canadian built gunboats than *Royal Savage*.⁶ This documentary investigation into the vessel's past, particularly when compared against the remains themselves, was deeply enlightening.

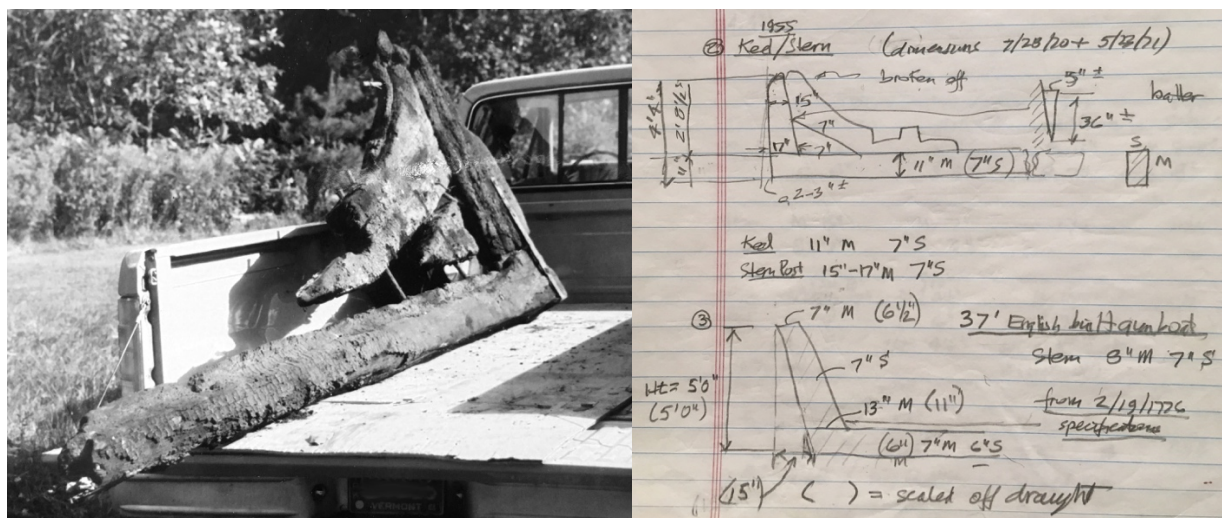


Fig. 7-2. The stern assembly pulled up in 1954 (left) and Peter Barranco's calculations assessing whether it truly belonged to *Royal Savage*. Reprinted from Hagglund Collection [LCMM, Box 32] with permission from LCMM, 2017.

Reconstruction

Finally, and of perhaps the highest priority, is the reconstruction effort being undertaken by the UA. The push in this area has been primarily directed at digitally documenting and recording the hull remains to the highest degree possible. This will allow for further study of and interactions with the remains even if, in the future, access to the timbers themselves must be limited. The endeavor offers a wide array of benefits and will be pivotal in helping UA to meet their long term goals for *Royal Savage*.

The first of these objectives is the production of high quality, scale models of the individual timbers for documentation and analysis.⁷ This will allow, first and foremost, for the creation of a detailed timber catalog in which the diagnostic features, texture, and even color of each timber are accurately represented at a level unattainable with drawings alone. The timbers will be preserved in a digital space as they are currently, even as the physical remains inevitably continue to degrade. This opens up the possibility that researchers in the future will be able to interact with, and continue to learn from the wreck even when the timbers themselves are inaccessible. To accomplish this, laser scanning technologies have been employed to produce three-dimensional models of the timbers. This was supplemented during my time with UA as, in addition to the historical aspect of the project, I was placed in charge of producing photogrammetric models of the timbers. This may sound redundant, but it speaks to a secondary goal for this endeavor, the technical comparison of available digital documentation techniques in order to contribute to the rapidly growing field of digital archaeology.⁸ The raised and disarticulated remains of *Royal Savage* present an unusual opportunity for the use of these technologies, which have been primarily utilized on *in situ* wreck sites, to be tested in their ability to three-dimensionally model and reconstruct an old collection.

Photogrammetry

Photogrammetry allows a three-dimensional model to be generated with information derived from photographs. The first step of the photogrammetric process is collection of the data. For our purposes, each timber was laid out individually to be photographed with a Nikon D90 camera with a flash and four InterFit SXT 3200 tungsten studio lights set up to create even lighting (Fig. 7-3).⁹ The lighting is a necessary consideration due to the Agisoft software's ability to preserve the textures and coloration of the wood in the model based on the input images. Appropriate lighting ensures the most accurate color and minimizes loss of information due to shadows.



Fig. 7-3. Carrigan Miller (left) and Agustin Ortiz (right) photographing a timber to produce a three-dimensional model. Photograph taken by Dr. George Schwarz, UA/ NHHC.

Once each of the components was set up properly, photographs were taken of all parts of each timber. To ensure adequate coverage and overlap, the photos were taken while circling the timber in three tiers, the first with the camera as low to the ground as possible in order to get a view of the side, the second from a kneeling position capturing both the side and upper faces but favoring the side face, then from a standing position in order to capture both faces favoring the upper face. Finally, a pass was done photographing along the length of the timber's upper face. With this first round of photographs completed, the timber was flipped and the process repeated to capture images of the opposite side. On average, each set of photographs took approximately 40 minutes to complete.

Once the images were captured and uploaded onto the computer, they were ready to be imported into Agisoft Photoscan where they were processed into an accurate three-dimensional model of the timber. The process for creating these models is relatively user-friendly but still has a steep learning curve and requires a significant amount of trial and error since each project is unique and requires slightly different techniques. It is not useful at this time to detail the full process as there are numerous works dedicated to the subject, but the following paragraphs give a brief overview and detailed instructions about the process can be found in Appendix A.

After opening Agisoft Photoscan, the first step is to import the photographs in two 'chunks,' the top and bottom. The software can then build a rough point cloud by looking at the pixels and determining where each image belongs in relation to all of the others, as well as where the camera must have been in relation to the artifact to have captured that image. The resulting map can be used to check the alignment and ensure that adequate coverage was achieved by zooming out until all of the camera angles are in frame and seeing whether or not they are dense enough to obscure the whole artifact. With the information from this initial point cloud, a dense

point cloud can then be built. During this stage, Agisoft conducts aggressive depth filtering to determine precise point locations and create a more accurate point cloud. The process is followed by building a mesh from the dense point cloud data, which connects the points into triangles to form a solid face for the model and fill any holes. At this point, the two halves can finally be merged into one object. Then, the final step is to build the texture for the model. Since the mesh is calculated from pictures, this process assigns an average color value to each triangle, projecting accurate colors and textures from the artifact onto the mesh. The completed model looks just like the original timber, not only in size and dimension, but in coloration and texture as well (Fig. 7-4).

In this manner I successfully completed eight scale models for the timbers labeled Ft Ti, 41, 26, 22, 25, 20, 006, and 31, and started on another, number 28.¹⁰ These finished models can now be manipulated in Agisoft, exported into other programs, or even printed with a 3D printer.



Fig. 7-4. Orthophotos of each face of timber RS-26 extracted from the photogrammetric model.

Laser Scanning

Generally, a laser scanner works by emitting a line of photons which bounce off of the scanned object and return to a sensor whose location in relation to the laser is known. The scanner rotates on a vertical and horizontal axis in order to cover the maximum amount of an object as possible from a given position. The photon returns collected during the scanning session are registered by the scanner and accurately plotted in space using triangulation, forming the point cloud used to create an accurate scale model of the object.¹¹

When laser scanning was initially conducted on the *Royal Savage* timbers, a light detection and ranging (LiDAR) tool called the Leica Geosystems C10 ScanStation was used.¹² Due to time constraints and the complicated logistics of maneuvering such a large number of heavy objects, the timbers were scanned all at once. All 67 timbers were spaced out so that they were several inches apart on the flat, level floor of a warehouse at the Washington Navy Yard.¹³ The scanning unit was positioned four feet (1.22 m) above the floor and the initial scan of the project area taken. The scanner was then moved six times to different locations in the room to collect a total of seven scans of the space from a variety of angles.¹⁴ This was to ensure full coverage of every timber in the project space. Then, all of the timbers were inverted and rescanned from each of the same locations.¹⁵

With the data collected, the resulting point clouds were ready for post-processing in a proprietary three-dimensional editing software called Leica Cyclone.¹⁶ The seven point clouds collected for each side of the timbers needed to be cleaned up and merged before anything else could be done with the data. To merge the clouds, the “cloud to cloud” technique was used. This process takes matching features from each of the point clouds and, as long as the scans have sufficient overlap for the software to identify at least three common points, the program should

be able to use them to match up the scans and combine them into one complete point cloud. The idea was that someone would then digitally isolate the individual timbers from each point cloud so that the top side and bottom side could be registered into a complete three-dimensional representation of that timber and migrated into AutoDesk RECap where accurate colors and textures would be applied to their surfaces.¹⁷

Ultimately this proved unnecessary, because in November of 2017, UA contracted a 3D scanning firm to come in and scan all 76 structural timbers individually. For this, they used an Artec Eva 3D scanner, which was able to accurately record large timbers, as well as their texture and features.¹⁸ With help from these scans, UA was able to start creating scale two-dimensional drawings of each timber and thoroughly document all four sides, annotating them and noting tool marks, construction features, and other details that will aid in the reconstruction process.¹⁹

Comparison

As mentioned above, the secondary goal in conducting both laser scanned and photogrammetric modeling was to compare the efficacy of each process. There are a number of considerations to take into account when selecting a digital recording method for a project. Usability of a method is dependent upon the environment in which the work is taking place, the nature of the object being recorded, the availability of time, equipment, and funding, the goals and priorities of the project, and a practitioner's level of understanding on how to use the method. For the purposes of recording the *Royal Savage* timbers, UA initially concluded that three-dimensional photogrammetry was the preferred method over LiDAR scanning.²⁰ This decision was reached based on the requirement of specialized training to operate the scanner

compared to the relative ease of using a camera. There is also an additional learning curve in post processing, Agisoft being more user friendly than Leica Cyclone.

However, when the option of contracting out the full laser scanning arose, NHHC was able to precision-scan each individual timber. The time that went into the procurement of data and post processing were both substantially reduced due to the capabilities and speed of both the hand-held scanners (which were much more efficient than any human photographing a timber), and the associated software. The laser scans were also more dimensionally reliable since Agisoft Photoscan requires the user to manually define the scale, while the Artec Eva head knew where it was in relation to the timber and correct dimensions were inherent in the scan.

Nevertheless, there was value in the Agisoft photogrammetry due to its ability to capture the true color and visual texture of the pieces. The photogrammetric surfaces were aesthetically superior while the laser scanned surfaces were better in terms of dimensional accuracy. The value of either system boils down to what the resulting model will be used for. For example, photogrammetric models are better for incorporation into a display because the model looks like what a casual observer would expect the object to. For reconstruction purposes however, the dimensional accuracy of laser scanning is more valuable than a model's aesthetic qualities.

Production of Drawings from the Models

It is important to note that the intention behind using these high-tech methods to create three-dimensional models is not to replace traditional recording methods but to complement them. Whether created with photogrammetry or laser scanning, each model was then used as a starting point to create traditional, accurate, two-dimensional drawings for *Royal Savage's* timber catalog and for use in future publications (Fig. 7-5). This way, researchers are still able to

engage intimately with the features of each timber while still benefitting from the work already done in creating the models. Despite the general neglect they have faced over the years, many of the hull's elements retain enough detail to render valuable information regarding *Royal Savage's* design and construction. As such, thorough documentation will help in reconstructing the schooner and recording as many features as possible for study and exhibit.

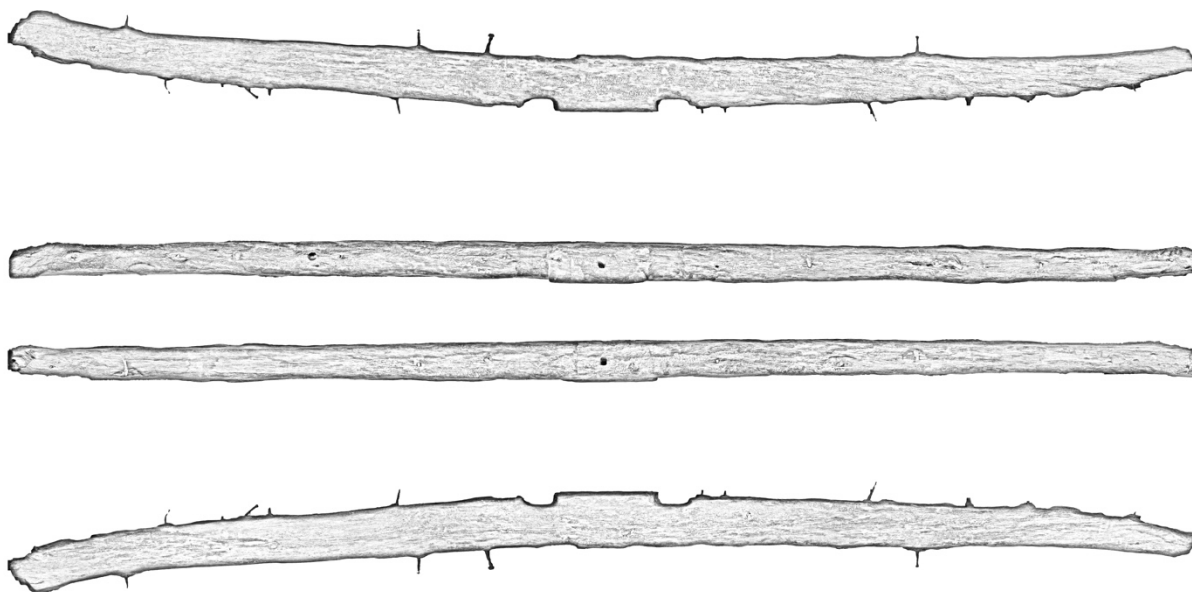


Fig. 7-5. Drawing templates derived from the orthophotos for timber RS-26, seen in full in Fig. 7-4. The photos pulled from the model are useful starting points for creating traditional, two-dimensional drawings for each of the timbers. The process for creating these is detailed in Appendix A.

Goals Looking Forward

Once both the digital and manual documentation work is done, the final goals for the ship are the reconstruction and public display of the remains. The first step toward this end is the virtual reconstruction of *Royal Savage*. With all of the timbers existing in a digital space, they can be virtually manipulated to study how the hull remains can be best reassembled. This type of experimentation would be extremely difficult with the heavy, fragile timbers themselves.

However, it is a necessary step if researchers are to have any hope of learning more about the

design of the ship. The resulting model will have additional value in helping to pique the interest of potential donors and museums. A display of the reconstructed *Royal Savage*, whether in a digital format or a three-dimensional printed model, is more impressive and easier to imagine in an exhibit than a warehouse full of large, disarticulated pieces of wood. So, in addition to a useful research tool and record of the timbers in their current state, such a model could be the key to bringing the *Royal Savage* story to a satisfying end.

In the mean time, the timbers themselves are being fumigated and cleaned. This is the current priority because the timbers may have to endure more moves due to construction projects going on at the Washington Navy Yard which may affect the warehouse in which *Royal Savage* currently resides. Regardless of circumstance, this will be a necessary consideration in the long term, but treating the timbers now will make them more suitable for potential storage facilities.

Hopefully these efforts will culminate with the reconstruction of the surviving structure and its display at a museum. *Royal Savage* has been abused for long enough and it is time that it finds a home in which this story can be told. The information gathered in this thesis and elsewhere needs to be shared with the public and the academic community. *Royal Savage*, if given the opportunity, can focus attention on the early history of the United States Navy as well as the challenges of preserving and interpreting neglected cultural remains. This purpose can be achieved with virtual exhibits and printed three-dimensional models, but the long-term objective is to use the models to convey the design and construction of *Royal Savage* and develop an exhibit with a physical reconstruction of the actual hull, potentially at the National Museum of the U.S. Navy or a regional museum with a connection to the Battle of Valcour Island. A traveling exhibit has also been discussed to display some of the conserved artifacts and a digital reconstruction of the vessel in order to further share the *Royal Savage* story.

Notes

¹ Jonathan Crise, Ben Ford, and George Schwarz, (Forthcoming), “From Ship to Kindling to Ship: The Digital Reconstruction of the *Royal Savage* Timber Assemblage,” In *New Life for Old Collections*, ed. Rebecca Allen and Ben Ford, (Lincoln, 2019).

² Hudson Hagglund to Edwin B. Hooper, 10 April 1972.

³ Shanna Daniel and Kate Morran, “The Royal Treatment: Conservation of Archaeological Material from Revolutionary War Vessel *Royal Savage*,” (presentation, 51st Annual Conference on Historical and Underwater Archaeology, New Orleans, LA, January 3-5, 2018).

⁴ Shanna Daniel and Kate Morrand, “The Royal Treatment”.

⁵ Hudson Hagglund to Paul Okey, 8 May 1995. Inventory of *Royal Savage* timbers and artifacts attached to letter.

⁶ Peter Barranco to Arthur Cohn, 30 June 2006.

⁷ Crise, Jonathan, Ben Ford, and George Schwarz. (Forthcoming). “From Ship to Kindling to Ship: The Digital Reconstruction of the *Royal Savage* Timber Assemblage” In *New Life for Old Collections*. edited by Rebecca Allen and Ben Ford. (Lincoln, 2019).

⁸ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

⁹ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹⁰ The timber labeled Ft Ti was originally on display in a bar in Ticonderoga, then at Fort Ticonderoga, and has since been reunited with the rest of the *Royal Savage* timbers.

¹¹ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹² Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹³ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹⁴ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹⁵ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹⁶ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹⁷ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

¹⁸ Shanna Daniel and Kate Morrand, “The Royal Treatment”.

¹⁹ Shanna Daniel and Kate Morrand, “The Royal Treatment”.

²⁰ Jonathan Crise, Ben Ford, and George Schwarz, “From Ship to Kindling to Ship,” In *New Life for Old Collections*, (Forthcoming).

CHAPTER VIII

CONCLUSION

The realization of plans to conserve and return the remains of *Royal Savage* to the Champlain Valley would bring a two and a half century long epic to a satisfying end. Another generation will have the chance to love and learn from *Royal Savage* and connect with their country's rich history. This thesis has described *Royal Savage* as it was known to the American Revolutionaries, the populace of the Lake Champlain region from centuries past, those who raised and tried to save her, the current historians and archaeologists of the United States Navy, and myself. Now, you too are a part of this story for having read this. Hopefully the reconstruction, restoration, and research efforts will allow many others to interact with the remains firsthand in a well-thought-out and constructed exhibit space.

There has hardly been a time in American history during which this sort of narrative has been so likely to be as well received as it is now. Having recently been featured in nearly every area of the media, the ideals of the American Revolution have not been so prominent in pop culture since the late 18th century when the American people were living it. When "Hamilton: An American Musical" opened in 2015, it took Broadway by storm and furthered an unparalleled fascination with musical theater, brought previously untouched demographics pouring into the seats, and swept the Tony Awards for that year. Even more importantly, it made the American Revolution approachable and applicable to the diverse crowds that were drawn in and brought these long-dead heroes back into the public eye more intimately than a history book ever could. Likewise, the character of Ichabod Crane in Fox TV's adaptation of "Sleepy Hollow" presented a less accurate but similarly beloved depiction of the era. This fantastical revolutionary hero who

suddenly woke up in a small town in modern New York captured the imaginations of viewers with his humorous anecdotes about the 18th century so fully that the show continued for four seasons between 2013 and 2017. AMC followed suit in 2014 offering its own take on Revolutionary War themed entertainment with its television series ‘Turn: Washington’s Spies’ which ran until 2017. The growing fascination even revealed itself in video games with the 2012 release of Assassin’s Creed III, which was set in the context of the American Revolution and sold 6.5 million copies. Perhaps the most indicative trend however, is the inundation of internet memes featuring General Washington and the other founding fathers (Fig. 8-1). These bits of modern folk art are one of the best indicators of what members of the public are thinking about and interested in, so the increasing prominence of these Revolutionary themed memes speak to the importance and enduring relevance that this topic holds for young Americans.



Fig. 8-1. Example of a Revolutionary War inspired internet meme offering a satirical commentary on the withdrawal of the United Kingdom from the European Union in 2016.

Pop-culture aside, American students begin learning about the Revolution as early as the fourth grade, so no adult in the United States should be a stranger to the subject matter. The problem is, as high-profile as this period is, there is minimal mention of the naval side of these events. This integral piece of history has been neglected in the overall revival of interest, but given the proper means, *Royal Savage* could play a role in changing that. Using innovative means to display the remains, artifacts, and documents and allowing the public to engage with these events and people through the materials they left behind provides a unique opportunity to fill this gap in the public memory and tell this story of the fledgling Navy's role in the American War for Independence. If done well, this effort can also facilitate a greater understanding of the enduring importance of material culture in helping people to feel connected to their communities and to the past and why it should be protected. The average member of the public has limited, if any, knowledge of the laws in place to protect this sort of material, and stories such as that of *Royal Savage* serve well to demonstrate their importance.

It is also a good reminder to those within the field of Nautical Archaeology of the necessity of good management practices. Lorenzo Hagglund's raising of the vessel (described in Chapter 4) was notable not just for his success but his determination to record, document, research, preserve, and publish on his finds to the best of his ability. These deliberate steps set him apart from the relic hunters who came before him. In this way, Hagglund was ahead of his time. *Royal Savage* is a reminder of why putting together a comprehensive management and conservation plan prior to beginning an excavation is a requirement for research approval.

Despite the unfortunate condition of the *Royal Savage* timbers at present, Hagglund actually did better work than one could expect given the lack of archaeological standards in the

1930s. Conservation was not even a concept at this time; there does not even appear to be a word for it in contemporary documents. All of Hagglund's correspondence on the subject refers solely to the idea of "preservation," a notion limited to applying pesticides and more frequently used to protect fence posts than archaeological material.

With this in mind, it is difficult to find much fault with Hagglund's excavation of the wreck. Unlike many of the other visitors to the site, he truly wanted to do justice to *Royal Savage* and to the memory of those who fought on her. He did not just raise the vessel; he conducted research on it, made sure that he was accurate when making statements about it, and repeatedly showed that he wanted to properly understand it. Likewise, salvaging *Royal Savage* was never just collecting mementos for him; he planned all along to share his finds with everyone. His motivations were more or less the same as those of anyone in the field today; he simply did not have the same set of tools available to him. Hagglund was even progressive enough to take the desires of the local community into account, which is still a fairly novel, complicated notion first addressed in the 1966 National Historic Preservation Act and solidified in the 1990 passage of the Native American Graves Protection and Repatriation Act (NAGPRA).¹ Having noted the intense relationship that the people of the Champlain Valley had with the wreck and the protectiveness with which they treated the remains, he wanted to honor that by finding a repository for them on the banks of Lake Champlain.

When considered critically, it is fortunate that Hagglund raised the wreck when he did. It is a shame that the remains were not treated ideally, but if he had left them *in situ* for future generations of archaeologists to find, *Royal Savage* would have been effectively destroyed. Given the rate at which souvenirs were being taken and the methods that people were using to do so, there would be nothing left. Even when Hagglund was looking for the wreck, he was not sure

that he would find anything even if he found the site, given all of the reports that he had obtained of objects being removed.² It is tempting to think of Hagglund as the villain for bringing the remains up too soon but *Royal Savage* would likely have been better off if someone who cared as much as Hagglund had gotten to it even sooner. Maybe then some of the innumerable pieces that disappeared into private collections or were refashioned into souvenir collectables might have remained in their original context for scholars to study and the public to enjoy.

Sunk in an easily accessible location and with the lore of a famous naval battle surrounding it, time was not on *Royal Savage*'s side, and *in situ* preservation was not a feasible option. This is not to say that *in situ* preservation is an inherently inferior approach to submerged archaeological sites. Archaeologists have several advantages now that were not available in the 1930s, including laws and other means through which such sites are protected. The issue is complicated and there are two contradictory morals that can be taken from the story of *Royal Savage*.

The first potential takeaway is that people in the future will almost always have better knowledge and technology than is available at present. Under this assumption, it is best to thoroughly record findings and leave the cultural material in place for future researchers to find and conserve, giving it the best chance for survival. For example, there is no denying that the NHHC or the LCMM could both have done a better job excavating and conserving *Royal Savage* today than Hagglund did 84 years ago. However, this is not always an option. In certain cases, if the cultural material is left for future researchers there is a risk that they will not get there in time due to environmental or human factors (ranging from storm events, to construction projects and looting) negatively impacting the integrity of the site. This argument also only works under the assumption that these imagined future archaeologists will both be aware that these sites are

awaiting study and be interested in those specific wrecks. If not, the information might be lost anyways. Going back to the *Royal Savage* example, had Hagglund not raised the remains, the UA Branch might have gone to Valcour Island and found nothing but a few scraps of wood and a handful of lead bullets, everything else having been taken up as souvenirs or degraded by zebra mussels. The sole record of *Royal Savage* after the 18th century would then be dubious newspaper accounts and individual stories passed down with the associated relics.

In cases like the latter, it is better to go forward with a project, excavating to the highest possible standards and disturbing as little as possible. It is far better to have some information, even imperfectly preserved, than no information at all. This thesis would not exist without Lorenzo Hagglund's efforts and the continued efforts of Hudson Hagglund, Peter Barranco, the NHHC, and the LCMM. Had Hudson and Peter not donated their collections and the LCMM not noticed that the timbers had gone up for sale on the internet and brought it to the NHHC's attention, this thesis would have looked very different (Fig. 8-2). The research efforts of today have their roots in Hagglund's efforts in the 1930s.

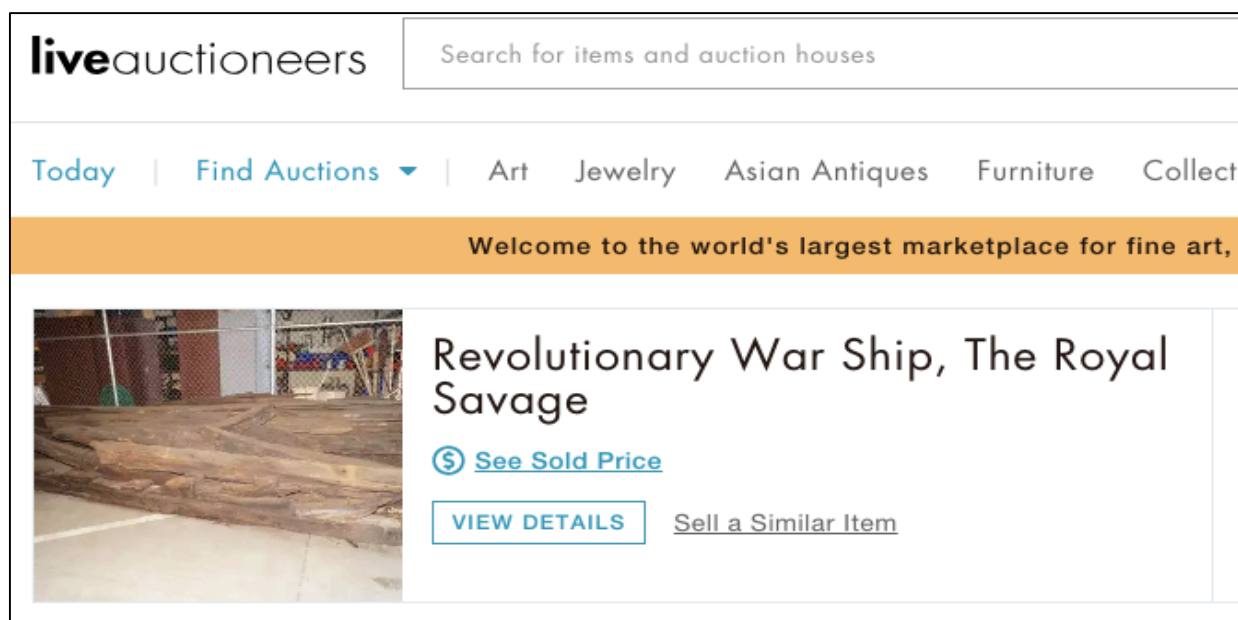


Fig. 8-2. Screen capture of the auction listing for *Royal Savage*. https://www.liveauctioneers.com/item/20185726_revolutionary-war-ship-the-royal-savage.

Likewise, if archaeologists always chose *in situ* preservation, there is the risk of stagnating as a field. There comes a point where, if everyone insists on not excavating because someone in the future will do a better job, no one is going to do it at all, and Nautical Archaeology would effectively cease to exist. Researchers and scholars must thoughtfully keep moving and accept the consequences, lest the field never develops those hypothetical new technologies that future generations are expected to provide. Archaeologists are creating the future that they hope for every time they decide upon positive action. It is not going to be perfect, but that does not mean that it is not the best, and in some cases only, option. There is, as is so often true, no single correct answer that is best under all circumstances.

The existence of this thesis also demonstrates the importance of recording and publishing findings. The bulk of its research on *Royal Savage* has been driven by and built upon earlier work and Hagglund's own master's thesis, "Concerning the *Royal Savage*." Had Lorenzo Hagglund not kept detailed notes and prepared reports, the work that has been done since his death would have been much more difficult. Nearly all of the information in Chapters 3, 4, and 5, on early recovery attempts, Lorenzo's own attempt at raising the vessel, and Hudson's eventual sale of the timbers was derived from the articles and correspondence that the Hagglunds collected.

Because of their extensive collection of related documents, and because of the Navy's dedication to the recording and conservation of the remains, a lot can still be learned despite all that *Royal Savage* has been through. In this way, *Royal Savage* has the potential be a valuable ambassador for similarly abused and diminished shipwrecks, proving that old, mistreated vessels and artifacts can still have great educational and sentimental value. I hope that this story will

encourage future researchers, funding institutions, museums, and the public not to discount the importance of these wrecks and to support their study and display.

Equally important to the intellectual value of *Royal Savage* and similar vessels is the emotional value that people assign to them. As illustrated in Chapter 3, the remains of *Royal Savage* hold memories for many people, especially those who grew up in the Champlain Valley or have connections to the battles that took place there. One of the most stirring examples of this was Lorenzo Hagglund's story about an old man who came to visit the wreck. The remains had only recently departed on a train for Long Island when the man arrived, hoping to see a piece of the ship that had played its part in building the nation he called home. "This old wreck, the 'Royal Savage,' or the spirit that that old vessel has helped to keep alive had drawn one old man six miles (9.65 km) along a rough and dusty road... Perhaps he felt the spirit in that little American Fleet of 1776."³

Even to 'outsiders' without any connection to the lake, the tale of *Royal Savage* and the ragtag squadron in which the schooner served is a fascinating topic. Most of the people with whom I have shared my research have been astonished to learn that there was a navy on the lakes, and even more so that it was established so early in the nation's history. Nearly all of them have wanted to know more about the little ship with such an awe-inspiring name that was commanded by such an infamous general.

The latter part of this notion inspired another of the secondary purposes of this paper: to stress the importance of acknowledging that historical figures, despite their feats or flaws, were complex human beings. The history of *Royal Savage* presents an interesting platform through which to acknowledge the troublesome shorthand of history wherein real people are often presented as two-dimensional characters and complicated events as one-sided, pre-determined

outcomes. Winston Churchill popularized the sentiment that history is written by the victor. More specifically, I have found that, while the current trend in historical biography is to portray high profile figures in all of their glory and disgrace, popular historical tradition tends to emphasize the contributions of heroes and understate their mistakes, while doing the opposite for villains.

This phenomenon cannot be blamed on any one historian; rather it is a byproduct of the nature of human discourse and stems from the biases inherent in primary sources. Historical research is largely reliant upon newspapers, letters, and journal entries, all of which are inherently biased and hyperbolic. Media is polarizing because drama gets people to buy papers and letters are a single sided expression of the sender's perspectives and opinions. Imagine a historian two and a half centuries in the future trying to write a biography about the current president based on modern media. The flaws and biases present in any one piece of this material are glaring, yet it is tempting to hold earlier media to a different standard. I am guilty of this myself. This thesis was built around newspaper articles, letters, journal entries, and books written using those same, semi-reliable documents. With these inherent shortcomings in the available resources, the only way to get as close to an objective view of history as possible is to acknowledge these biases and find diverse sources with multiple views of the same people and events. Reality looks a little bit different to everyone experiencing it, so all we can do is try to get as close as possible to finding the truth that exists somewhere in the middle.

To return to the *Royal Savage* example, it is easier, and more entertaining, to imagine Benedict Arnold as a traitor and nothing more, yet before he was that, he was also a great war hero whose ingenuity, determination, and boundless energy were great assets to the rebel cause (Fig. 8-3).



Fig. 8-3. Portrait of Benedict Arnold. One of the only known portraits done from life rather than based on the artist's imagination of him. Reprinted from Nelson 2006. Original at the Fort Ticonderoga Museum, Ticonderoga, New York.

To better understand Arnold's character, it is helpful to reevaluate his treachery in light of the slights and abuses that he faced leading up to it. The breaking point seemingly came in the aftermath of his having been shot at the Battle of Saratoga in 1777. During his recovery, he encountered perceived indifference and insults from Generals George Washington and Horatio Gates, two long term patrons and trusted friends. However, prior to this Arnold spent most of his wartime career fending off incessant detractors who, no matter what he did, had their criticisms.⁴ In May 1776, for example, Arnold was described by Dr. Lewis Beebe as an "infamous, villainous traitor" for his decision to retreat out of Canada and regroup at St. Jean, a move that most everyone else saw as "resolute stewardship of his forces."⁵ After the Battle of Valcour, he

was similarly attacked. A false rumor spread by Dr. Robert Knox, a British chief medical officer, alleged that when Arnold ordered the boats destroyed in what is now Arnold's Bay, he burned the wounded and sick with them.⁶ Then, despite praise for his leadership flowing from both the American and British observers, American Colonel William Maxwell fumed that "Our evil genius to the north has, with a good deal of industry, got us clear of all our fine fleet."⁷ Even members of the Continental Congress referred to him as someone who was "fiery, hot, and impetuous, but without discretion, who failed to obtain proper intelligence and retire when faced with a superior force."⁸

With such harsh language flowing from his fellow rebels in response to a job done well under impossible circumstances, it is not hard to imagine the appeal of abandoning them. Some scholars have even gone so far as to fully exonerate him, such as one Reverend J. F. Schroder, who stated that "Benedict Arnold's country and the world owe him more than they will ever liquidate; and his defection can never obliterate the solid services and the ample abuse which preceded it."⁹ I do not intend to argue that he was a hero or even a good person - he made a lot of enemies and was power hungry to a fault - but his character should be considered more critically than it often is in textbooks, classrooms, and popular culture.

Similarly, when looking despairingly out at a warehouse full of disarticulated frames and planks it is easier and more satisfying to think poorly of Lorenzo Hagglund. It requires more mental energy to acknowledge that a significant amount of the damage was already done by the time he found the wreck site, and that he tried to ensure that the remains would be treated, recorded, and displayed properly.

Both men deserve more credit than they have been given. It brings to mind the popular concept that one either dies a hero, or lives long enough to see oneself become the villain.

Arnold, despite being severely wounded in battle twice, lived long enough to see himself become a villain. Hagglund, on the other hand, died a hero, but his name endures solely in archaeological discourse. Eventually, as time progresses and values change, everyone risks either being forgotten or finding themselves on the wrong side of history.

The same can be said of archaeological methods. The standard at one time will inevitably be viewed as archaic and irresponsible with the rise of the next paradigm. However, this knowledge that the current methods of discovery and preservation will be outdated someday does not mean that the work should not be done. It is wrong to stop practicing archaeology altogether just because its methods are not perfect, just as it would be wrong to forget the ingenuity and care with which Hagglund approached *Royal Savage* because better methods came a few decades too late or to exclude *Royal Savage* from displays and history books because her remains are unimpressive. Nothing in this story is two-dimensional; every person, ship, and practice is real and dynamic with a rich and complicated past.

Notes

¹ “National Historic Preservation Act of 1966: Public Law 102-575,” National Park Service, <https://www.nps.gov/history/local-law/nhpa1966.htm>.; “Native American Graves Protection and Repatriation Act,” National Park Service, 16 November 1990, https://www.nps.gov/history/local-law/FHPL_NAGPRA.pdf.

² Lorenzo F. Hagglund, “Concerning the *Royal Savage*,” (Unpublished Master’s thesis, Hofstra College, 1950), 60.

³ Hagglund, “Concerning the *Royal Savage*,” 92-3.

⁴ James L. Nelson, *Benedict Arnold’s Navy: The Ragtag Fleet that Lost the Battle of Lake Champlain but Won the American Revolution* (New York, 2006), 357-9.

⁵ Russel P. Bellico, *Sails and Steam in the Mountains, a Maritime and Military History of Lake George and Lake Champlain*. (Fleischmanns: 1992), 134.

⁶ Cohn, Art, “An Incident Not Known to History: Squire Ferris and Benedict Arnold at Ferris Bay, October 13, 1776,” *Vermont History: The Proceedings of the Vermont Historical Society* 55, no. 2 (Spring, 1987), 97-110.

⁷ Bellico, *Sails and Steam*, 162.

⁸ Ibid.

⁹ Alfred T. Mahan, *The Major Operations of the Navies in the War of American Independence* (New York, 1969), 18.; Kenneth Roberts, *Rabble in Arms* (Garden City: 1947), pre-text.

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APPENDIX

PHOTOGRAMMETRY INSTRUCTION GUIDE

Camera Settings: (What we have been using at NHHC)

- DSLR with a high resolution (The Nikon D90 has worked well).
- Automatic & Automatic Focus tend to be fine, just make sure that everything in the frame is in focus before and after snapping the picture – ideally you want the widest possible depth of field without sacrificing lighting.
- Flash (keeps color and lighting even = facilitates alignment later).
- Disable auto rotation – the program does not like different orientations

Data Collection:

1. Lay timber out on top of blocks of foam (optional), to prevent unnecessary contact with the floor, and surround it with studio lights so that all areas are as evenly lit as possible.
2. Place a scale bar next to the timber. (This should be included in several of the photos).
3. Remove any tags and place them off to the side where they will not be lost.
4. Make a note of the time that you begin photographing
5. Take photographs in 3 levels:
 - a. As low to the ground as you can get to photograph the side face
 - b. From a kneeling position, capturing both faces but favoring the side face
 - c. From a standing/ bending over slightly position, capturing both faces but favoring the upper face
6. Take photographs in a pass over the upper face of the timber, occasionally swinging the camera over each side in order to further reference the upper face to the side faces.
 - a. **TRY NOT TO GET YOUR SHOES OR SHADOW IN THE PICTURE** – the program will factor these features in during alignment and get confused, so to eliminate extra time spent cropping, just keep them out of the picture in the first place.
7. Pass back over the upper face of the timber again (this time reference swings are not necessary).
8. Make a note of the time that you finish photographing
9. Take a photograph of something other than the timber to denote the end of one side and make a note of what this photo contains. This makes it easier to identify which photographs represent each side.
10. Flip the timber over.
11. Repeat steps 2 through 8 (also repeat step 9 if continuing on to photograph another object).
12. Replace any tags that were removed and return the timber to its storage space


Data Organization:

1. Import the photographs from the camera's SD card onto a computer with Agisoft Photoscan installed on it.
2. Within the folder for your project create a folder labeled with the timber ID.
3. Create folders within this timber folder labeled "Recto" (for Side 1) and "Verso" (Side 2)
4. Copy the images for each half of the timber into their respective folders. (This is where that irrelevant image as a divider comes in handy).

Note: Additional folders can be added if there are additional variables. E.g. If the timber is recorded with two different cameras, there should be a folder for each camera, each containing their own recto and verso files. Likewise, if the data is collected in both JPEG and RAW format, there should be separate folders for each file type within the recto and verso folders.

Data Processing:


SAVE FREQUENTLY


1. Reduce your pictures to a reasonable size (~1 MB) before putting them into Agisoft or it will take too long to process. This can be done with **FastStone Image Viewer**:
 - a. Click "Tools" > Open Batch Convert/ Rename Dialogue
 - b. Click on the "... " next to the search box to browse and find your source folder
 - c. Click the "Add All" button to import your photos into the conversion box. In the settings below, select the following:
 - i. Output format = leave as JPG
 - ii. Output folder = click "Browse" > find your folder and select it > click on the "Create Folder..." button and name the new folder "reduced"
 - iii. Advanced Options = reduce it to ~60% to get to 1MB
 - d. Click Convert
2. Open Agisoft Photoscan
3. Import both sets of photos
 - a. On the Menu bar select "Workflow"
 - b. From the drop down menu select "Add Photos"
 - c. It will open up your Documents. Navigate to the "recto" folder that you made, open it, click Command + A to select all of the photos, then hit enter (or "OK")
 - d. Click the "Add Chunk" button 
 - e. With Chunk 2 highlighted, again select "Add Photos" and repeat step c, only this time, pull your "verso" photos.

NOTE: To change the active chunk, simply double click on the chunk that you want to work on/ look at. It should be highlighted when it is selected.

4. Align Photos
 - a. On the Menu bar select "Workflow"
 - b. From the drop down menu select "Align Photos"
 - i. Accuracy = high
 - ii. Everything else should be fine in default mode

NOTE: Don't freak out yet if it looks like there are holes in the point cloud, usually there is data there that it is just not showing you and it will be there in the dense point cloud.



5. Resize your Constraints
 - a. Click on the resize working area icon 

- b. Click and drag each ball to fit the rectangle closely around your timber without cutting into any portion of it. This restricts the area that the program will pull information from, thus enhancing your results and reducing the processing time.
- 6. Optimize Cameras (This highlights questionable data – after running each step and pushing “OK”, press the Delete key)
 - a. Edit > Gradual Selection > Reproduction Uncertainty = 10
 - b. Tools > Camera Optimization  = (have all cameras checked except the last)
 - c. Edit > Gradual Selection > Reprojection Error = I tend to put the bar about half way but honestly, whatever you are comfortable with.
 - d. Tools > Camera Optimization
 - e. Edit > Gradual Selection > Projection Accuracy = about 10% of the highest value
 - f. Tools > Camera Optimization

7. Generate Dense Point Cloud



- a. On the Menu bar select “Workflow”
- b. From the drop down menu select “Build Dense Cloud”
 - i. Face count = high

8. Create Scale bars

- a. Right click over one corner of your scale and select “create marker”. 
- b. Right click over the opposite corner of your scale and create another marker.
- c. Now, at the bottom of your Workspace there are two tabs. Click so that you are working in the “Reference” Tab.
- d. Select both markers by clicking on one, holding the Control key down, then clicking on the other.
- e. Right click over the selected markers and select “Create Scale Bar” 
- f. Double click in the blank area to the right of the new scale bar listing and input the length of your scale in meters.

NOTE: If you can’t get a good view of the scale at this time, this can be done after building the mesh, but DO NOT cut the background out until AFTER the scale bar has been made!

9. Cut Background Out

- a. Rotate your timber until the floor is flat and you are looking straight at one side.
- b. Use your selection tool  to select the floor and any other areas that are not a part of the timber, then push the X button in the top menu  (or the Delete key) to delete these areas.

10. Go back to the point cloud tab  and delete the background from there as well.

11. Build Mesh

- a. On the Menu bar select “Workflow”
- b. From the drop down menu select “Build Mesh”
 - i. Arbitrary
 - ii. From Dense Cloud
 - iii. High

12. Import Masks from Model (this tells the program to ignore what you deleted in step 9)
 - a. Tools > Import > Import Masks
 - i. From Model
 - ii. Replacement
 - iii. All Cameras

13. Align Chunks

- a. Make sure that one of the chunks that you want to merge is highlighted
- b. On the Menu bar select “Workflow”
- c. From the drop down menu select “Align Chunks”
 - i. Make sure that the chunks that you want to align are checked (probably Chunk 1 and Chunk 2)
 - ii. Method: Point Based
 - iii. Accuracy: High or Highest
 - iv. Make sure that “constrain by mask” is selected (otherwise step 10 was pointless).
- d. Do not move the models before proceeding to the next step – I don’t know for certain that this actually misaligns them, but it has never ended well for me...

14. Merge Chunks

- a. On the Menu bar select “Workflow”
- b. From the drop down menu select “Merge Chunks”
 - i. Select all of the chunks you want to combine (Chunk 1 and Chunk 2)
 - ii. Make sure that “Merge dense clouds” and “Merge models” are both checked

15. Build Texture

- a. On the Menu bar select “Workflow”
- b. From the drop down menu select “Build Texture”
 - i. Generic
 - ii. Average

NOTE: You can also build textures individually before aligning chunks but this takes longer

16. Create Orthophotos of each face

- a. Orient the model so that it is seen from perfectly above the first face that you want to capture (you will do this for all faces so it doesn’t really matter which)
 - i. A (sometimes useful) shortcut: “View” > “Predefined Views” > then select which view you would like –OR- use the following shortcuts:
 1. Top = 7
 2. Bottom = Ctrl+7
 3. Front = 1
 4. Back = Ctrl+1
 5. 8 rotates the timber 90 degrees
 - ii. If the results don’t look like a perfect top down view, you will have to eyeball it and make adjustments.
- b. On the Menu bar select “Workflow”
- c. From the drop down menu select “Build Orthomosaic”
 - i. Type = planar
 - ii. Projection plane = current view
 - iii. Blending Mode = mosaic

- iv. The boundaries should be pretty good so leave those as the default
- d. Click OK and let it process
- e. On the Menu bar select “File”
- f. From the drop down menu select “Export Orthomosaic”
- g. Select “Export JPEG/ TIFF/ PNG...”
 - i. Background color = white
 - ii. De-select “write alpha layer” (otherwise your nice white background doesn’t really exist)
 - iii. Everything else can stay as the default
- h. Save it as a TIFF file into whatever folder you want it to go to
 - i. Name it something straight forward (e.g. RSTF-041.top.tif)
- i. Repeat steps a-h for each face of the timber/ artifact

A note on Batch Processing:

This saves a large amount of button pushing and eliminates the risk of running a step for one half and forgetting to do it on the other half.

1. For any given step click “Workflow” > “Batch Processing”
2. At the bottom of the popup box, click the “Add...” button
 - a. Under “Job Type” select whatever step you want to add to the workflow
 - b. Under “Apply to”, select all of the chunks you want it to work on
 - c. In the settings box, adjust the settings in the same way described above
 - d. Click “Ok”
 - e. Repeat steps a-d as many times as you wish to add any additional steps (you can set it up to do most of the process for you).
3. Once you have all of your jobs lined up, click “OK” and it will start chugging away.

Manual Alignment using Markers: (LAST RESORT ONLY)

1. Build your texture before attempting to align the chunks.
2. Right click on an easily recognizable feature on the timber and select “Create Marker”.
3. Repeat this several times until there are enough points for the software to align the chunks (around 8 should work).
4. Double click on the opposite chunk and flip it so that it is in the same orientation as the one you were just working on.
5. Create markers in the same places on this half of the model as you did on the other half.
6. Click “Workflow” > “Align Chunks” and instead of the point based method, select “Marker Based”.
7. From there follow the same process.

Creating a 2D drawing from the Orthophoto (As suggested by Dan Bishop)

Method 1: Probably the quickest and most straightforward method

1. Open the image file in Photoshop
2. Duplicate the background layer (make another that is unlocked) - the keyboard shortcut is: Control+j
3. Click the "Image" tab at the top of the screen and select "hue/saturation"
4. Slide the saturation all the way to the left (-100)
5. Click the "Image" tab again and select "brightness/contrast"
6. Increase the brightness to a desired level
7. Increase the contrast all the way
8. You can keep repeating the last step (but only turn up the contrast) as many times as you need to darken the edges.
9. To create an outline from the resulting silhouette, use the magic wand tool to select the black area, click on edit > stroke > and I like about a 5 pt. line, but whatever suits your purposes best. (Added by Carrigan).

Method 2: Makes the orthophoto look somewhat like a drawing:

1. Open the image file in Photoshop
2. Duplicate the background layer (make another that is unlocked) - the keyboard shortcut is: Control+j
3. Click the "create new fill or layer adjustment" button -- found on the layers tab near the bottom (it's the button that has a circle icon that is half dark and half light).
4. Click "hue/saturation"
5. Slide the saturation all the way to the left (-100)
6. Click back to layer 1
7. Change the blending mode to "color dodge" - it should be in the drop down menu above the layers - you might see it labelled as "normal" -- the default setting.
8. invert the colors in layer one - keyboard shortcut is: Control+i (It may look almost completely white at this point)
9. Click on the "Filter" drop down menu at the top of the screen and select Blur, then click Gaussian Blur
10. Then use the slider to choose the best look
11. Click the "create new fill or layer adjustment" -- the half dark/half light circle button under the layers and select "levels"
12. Slide the 3 bars to preferred locations (for outlines I would slide the dark one to the right and the light one to the left).
13. Clean up the image with eraser (a slightly lower opacity eraser might help in certain places).