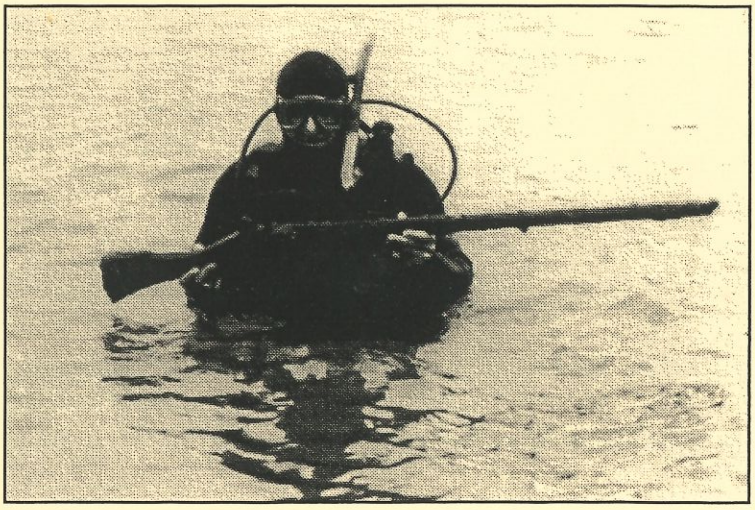
The 1992 Fort Ticonderoga–Mount Independence Submerged Cultural Resource Survey

Executive Summary



Lake Champlain Basin Program

May 1995

Prepared by Arthur Cohn, Project Director
Lake Champlain Maritime Museum

for
Lake Champlain Management Conference

PUBLICATION SERIES

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This demonstration report is the fourth in a series of reports prepared under the Lake Champlain Basin Program. Those in print are listed below.

Lake Champlain Basin Program Demonstration Reports

1. Case Study of the Town of Champlain, Yellow Wood Associates, October 1993.

2. (A)Demonstration of Local Economic/Other Community Impacts, Community Case Studies for Economic Plan Elements. The City of Vergennes, Vermont. Economic and Financial Consulting Associates, Inc. October 1993.
   (B)Demonstration of Local Economic/Other Community Impacts. Community Case Studies for Economic Plan Elements. Appendix. The City of Vergennes, Vermont. Economic and Financial Consulting Associates, Inc. October 1993.

3. The Archeology of the Farm Project. Improving Cultural Resource Protection on Agricultural Lands: A Vermont Example. Jack Rossen. May 1994.

4. (A)The 1992 Fort Ticonderoga-Mount Independence Submerged Cultural Resource Survey. Executive Summary. Arthur Cohn. May 1995.
   (B)The 1992 Mount Independence Phase One Underwater Archaeological Survey. Kevin Crisman. May 1995.
   (C)The Great Bridge "From Ticonderoga to Independant Point". Arthur Cohn. May 1995
   (D)Geophysical Reconnaissance in the Mount Independence Area: Larrabee's Point to Chipman Point. Patricia Manley, Roger Flood, Todd Hannahs. May 1995.
   (E)Ticonderoga's Floating Drawbridge; 1871-1920. Peter Barranco, Jr. May, 1995.
   (F)Bottom Morphology and Boundary Currents of Southern Lake Champlain. May 1995. Hollistir Hodson.

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I would also like to extend my thanks to the staff of the Lake Champlain Maritime Museum for their tireless assistance throughout the project. I would also like to recognize Middlebury College, the Institute of Nautical Archaeology at Texas A&M University, the University of Vermont, and SUNY Stonybrook for their assistance in implementing this project and the Vermont Division for Historic Preservation and the New York Office of Parks, Recreation and Historic Preservation for their collaboration.

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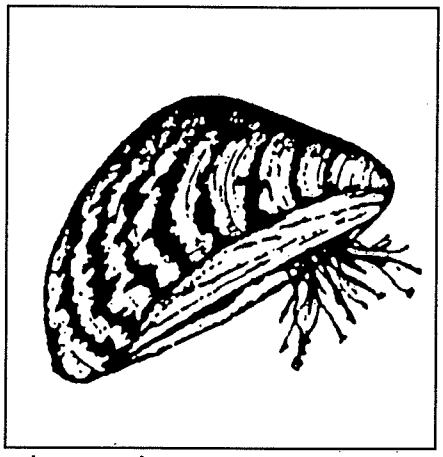
Arthur B. Cohn
Lake Champlain Maritime Museum

The 1992 survey team:
Peter Barranco, Patricia Manley, Fred Fayette, Kelly Kryc, Todd Hannahs, Jonathan Eddy, Ron Plouffe, Art Cohn.

The 1993 archaeological field-school. Front row, from left Scott Mulholland, Dave Robinson, Elizabeth Keenan, Elizabeth R. Baldwin, Scott McLaughlin, Science Kilner, Peter Hitchcock, Standing from left, Alan Flanigan, John Bratten, Art Cohn, Joe Cozzi, Kevin Crisman, Pat Beck, Nathan Wells, Eric Emery, Steve Paris.

Threats from Zebra Mussels:

As of this writing, the implications of the newly discovered infestation of Zebra mussels on these structures is not known. While no evidence of Zebra mussels was noted during the 1992 or 1993 surveys, it is predicted that they will soon cover the exposed portions of the historic sites located during the survey. The Museum recommends that efforts be undertaken to study the implications of Zebra mussels to submerged historic properties.



Zebra Mussel

Submerged Site Monitoring:

While there is minimal sport diving activity in this part of Lake Champlain, there is considerable surface boating activity including a daily seasonal tour boat operating from Larrabees Point, Vermont to Fort Ticonderoga and Mount Independence. Both the State of Vermont and the State of New York (or their designees) should formally brief boat owners and captains, as well as State marine patrols and the Coast Guard about the importance of the locale's submerged resources and applicable state laws and policies regarding diver visitation. Such efforts could also assist State agencies to monitor the condition of the Great Bridge by notifying them if additional bridge caisson timbers are observed to have come loose.

Monitoring of submerged sites could also take place from Fort Ticonderoga which commands of view of much of the water in the survey area. When the Mount Independence Visitors Center is built and in operation, monitoring of submerged sites could become a regular activity of the Center.

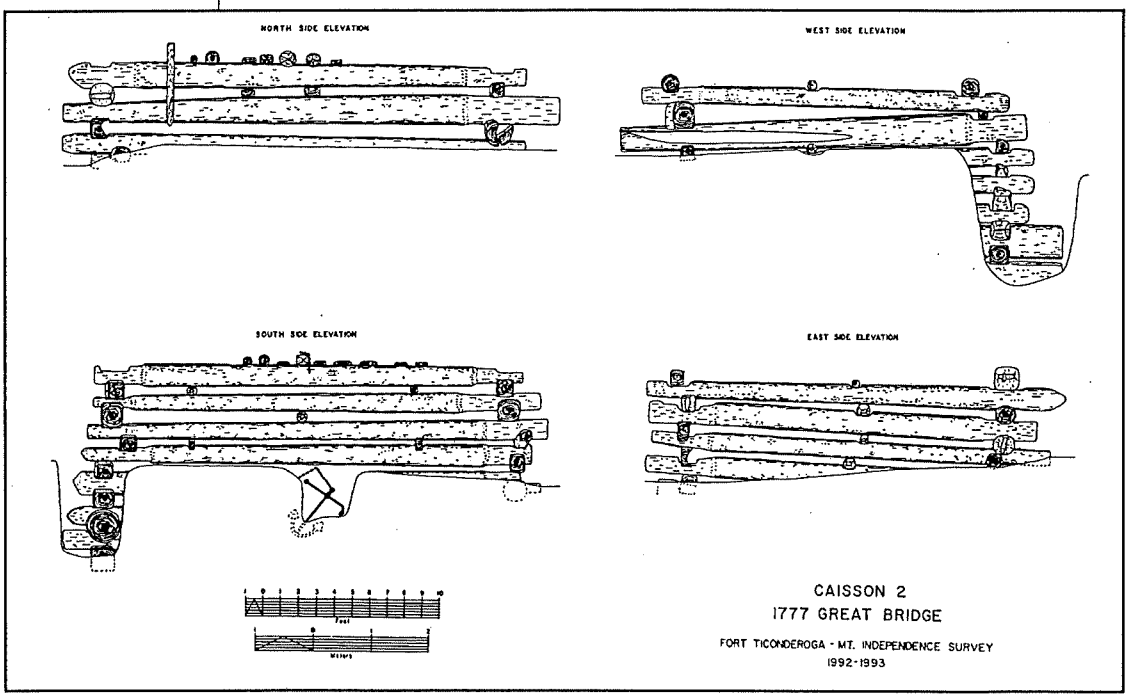
Funding:

Obtaining on-going, secure and appropriate funding for preserving, monitoring, documenting, interpreting, and managing the cultural resources of the Champlain Valley will continue to be a challenge. However, heritage tourism development of our uniquely historic Lake Champlain region provides great potential economic benefits. Linking the already existing historic sites and museums from Saratoga to Chambly is a program idea which has not only great economic potential, but also important humanities benefits. The addition of a Visitors Center at Mount Independence will sigificantly strengthen this network. It is hoped that the Mount Independence/Fort Ticonderoga Survey Project has demonstrated the extraoridnary potential for scholarship and public benefit from this type of program.

Preservation and Management of the Caissons:

A major emphasis of this project was to determine the structural status of the Great Bridge caissons. Initial concern had been that deteriorating condition or new stresses could be causing the caisson remains to break up. During the survey, project personnel noted large pleasure boats throwing significant wakes which could be felt underwater. In addition, the deep draft oil barges which pass over the cassions could presumably cause significant underwater movement.

Final analysis of all the data suggests that the remaining caissons, after 218 years, are quite stable. The two documented 20th century cases of caisson break-up appear to have been caused by accidental, but damaging, fouling in lines and nets. The Museum recommends that the "Great Bridge" corridor between Mount Independence and Fort Ticonderoga be designated a "no anchor" zone by the U.S. Coast Guard. [figure 23] In addition, the Museum recommends that precise location of cultural targets in this area be made available to all legitimate research vessels operating on the lake as well as law enforcement personnel. This will help avoid accidental contact as well as provide protection from unauthorized activities. Consideration should also be given to the potential impacts and benefits of locating all significant submerged sites on standard lake charts.



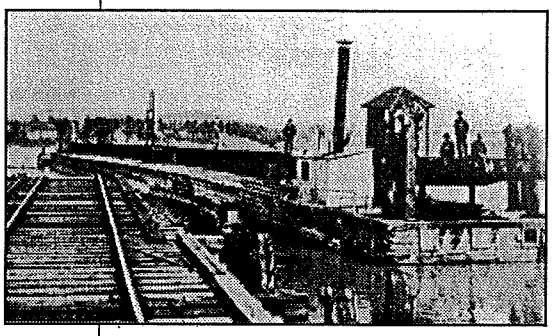
[Figure 23] Elevations of caisson #2. Note the anchor cought in the south side elevation.

Archaeological Data Potential, Preservation and Management of selected sites:

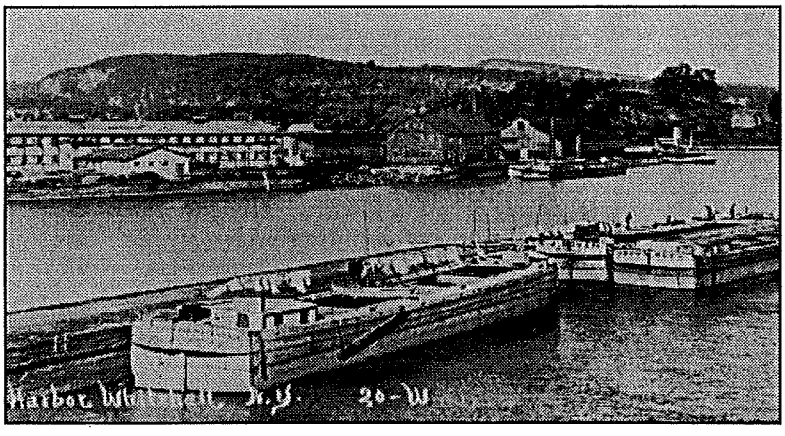
The collection of canal boats provides great archaeological potential for understanding the development and characteristics of this category of watercraft and aspects of life on-board. Future study, including detailed documentation and intersite comparison, will yield valuable new information. [figure 20]

Documentation of the railroad drawboats and associated trestle remains also has great archaeological potential to understand this unusual and little documented aspect of Lake Champlain history and technology. [figure 21]

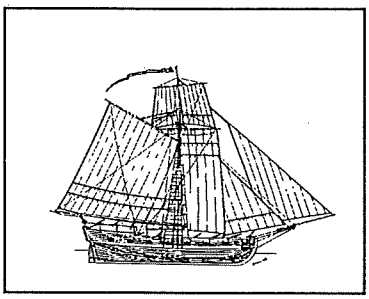
The remaining two vessels located during the 1983 survey and preliminarily identified as being ca. 1758-9 French or British naval craft hold great archaeological and historical potential. As formal study of the *Boscawen* (1759) nears completion the potential to document, compare and contrast it with these remaining sites presents an extraordinary opportunity for scholarship. [figure 22] In the meantime, these sites should be included in a monitoring plan which protects them from inappropriate disturbance.



[Figure 21]
Photograph showing the floating railroad drawbridge in use.



[Figure 20]
Photograph showing standard-canal boats in the basin at Whitehall, New York.

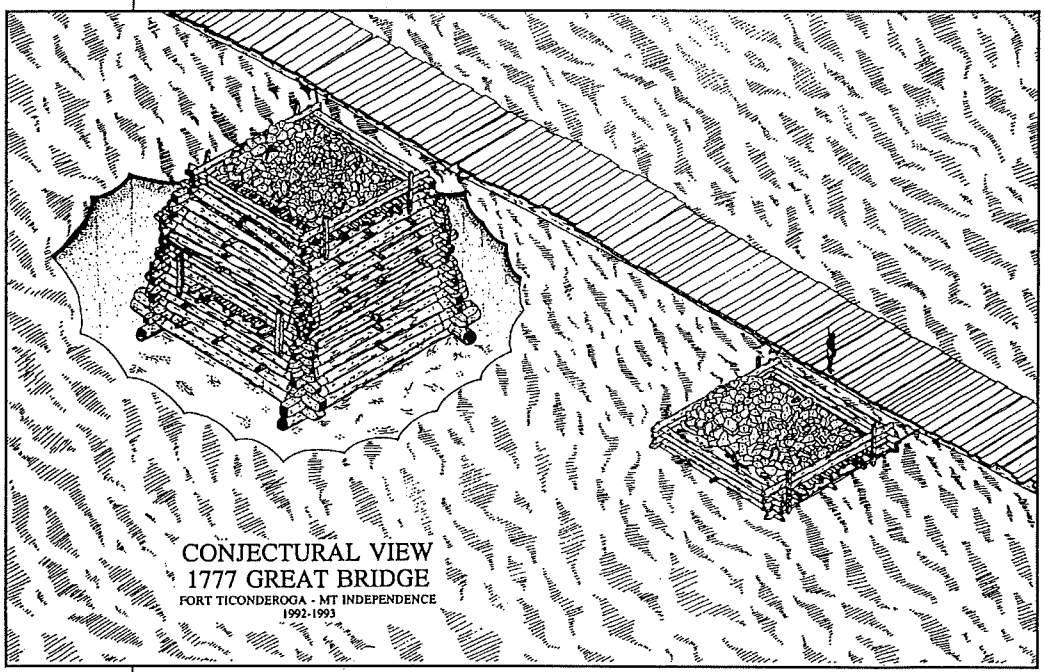


[Figure 22]
Reconstructed drawing of the HMS *Boscawen*, built by the British in 1759. Drawn by Kevin Crisman.

Recreational Sport diving Potential of this Historic Locale:

The Museum recommends that, because of the extremely limited visibility within the survey area, recreational diving not be encouraged. While the bridge caissons and other submerged cultural properties are interesting, the potentially dangerous diving conditions make them inappropriate as part of the Underwater Historic Preserve system, a recreational sport diving program.

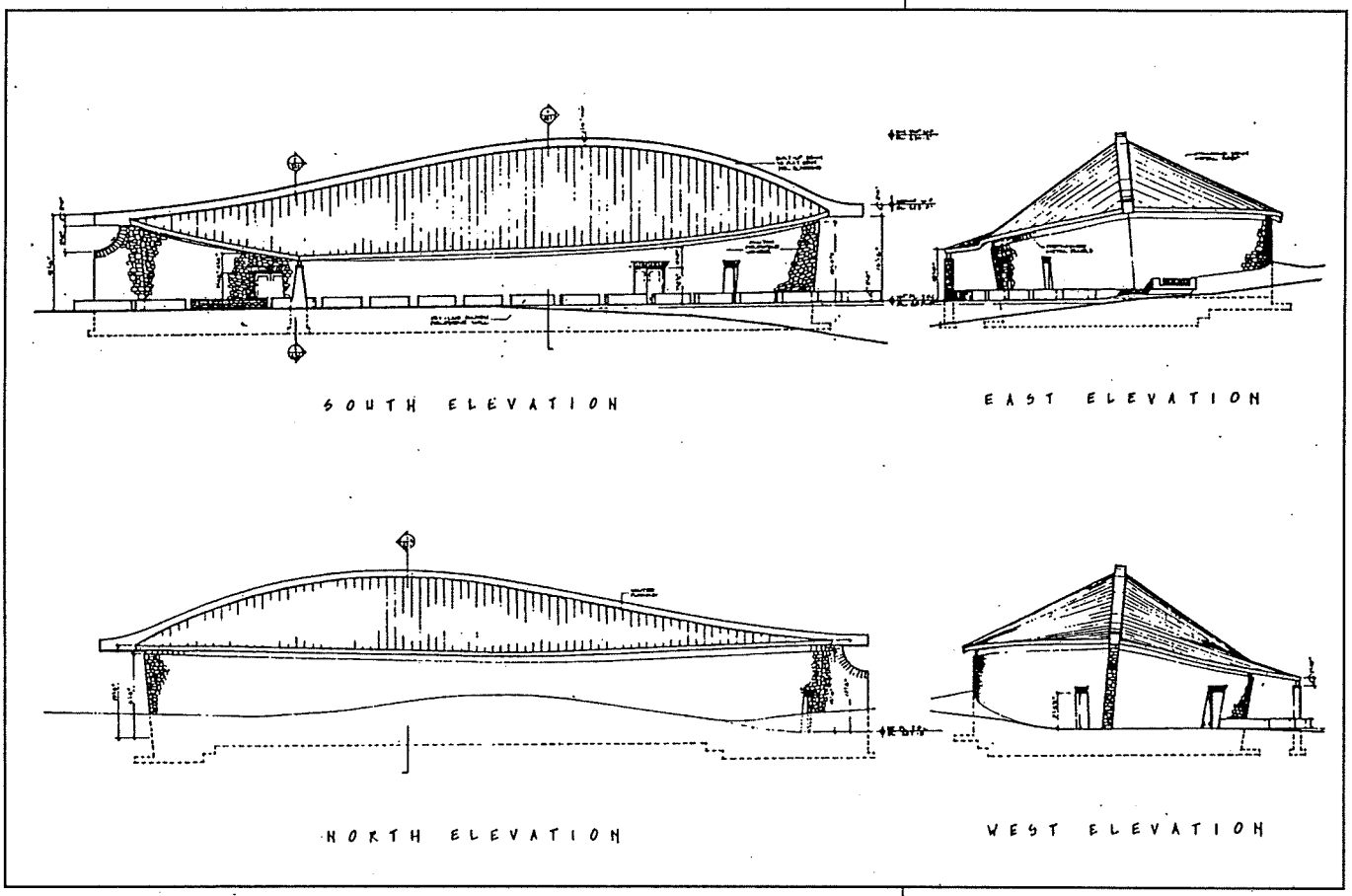
Some divers may choose to locate and dive these historic resources on their own initiative. The Museum recommends that Vermont and New York State Historic Preservation Offices adopt a policy which allows voluntary diver access to appropriate resources, with the provision that divers do not damage these historic properties by anchoring and do not remove any historic materials from the water. [figure 19] This can be summarized as a "no impact" policy. State managers will need to determine if this will be a self regulating process or whether some type of pre-dive registration should first be required. If the later option is chosen then appropriate procedures will need to be adopted.



[Figure 19]
Conjectural view of the floating "Great Bridge" and its caissons. Drawn by J. Cozzi.

It is also recommended that the proposed Mount Independence Visitors Center incorporate the associated submerged archaeological sites into its exhibitions, visitor interpretation programs and into the overall site preservation and management plan.

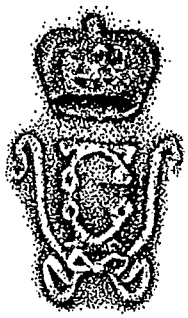
The Museum also recommends that the Great Bridge, canal boats, and the railroad drawboats be formally listed on the State and National Registers of Historic Places.

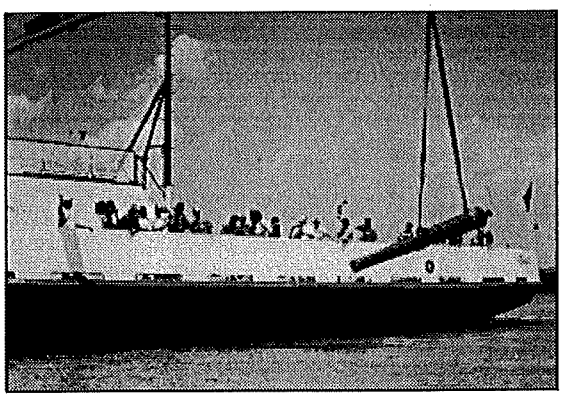


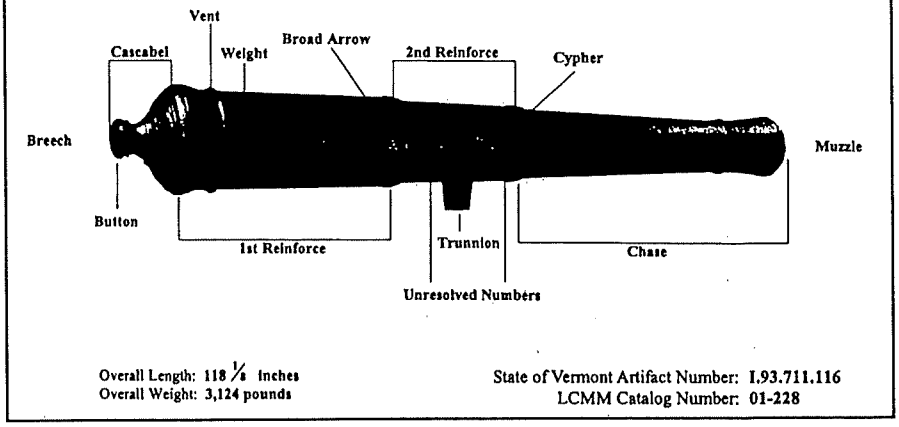
[Figure 18]
The following are preliminary architectural sketches for the recently approved Mount Independence Visitors Center. Plans were developed for the Vermont Division for Historic Preservation by Truax, deGroot and Collins, Burlington, Vermont.

Collection Management, Interpretation and Public Access

The Museum's primary recommendation for the removal and conservation of the exposed submerged Revolutionary War collection has been successfully implemented. [figures 17] The Museum recommends that construction and maintenance of a Visitors Center at Mount Independence be one of the State of Vermont's highest priorities. [figure 18] This Center will interpret the Mount's rich on-land and submerged history and become the permanent public repository for the recovered artifact collection. As of this writing, initial funding for this proposed Visitors Center was appropriated by the Vermont Legislature in 1994, and the remaining funding has recently been approved by the Legislature during its 1995 session. Opening of the Visitors Center is tentatively scheduled for July, 1996.





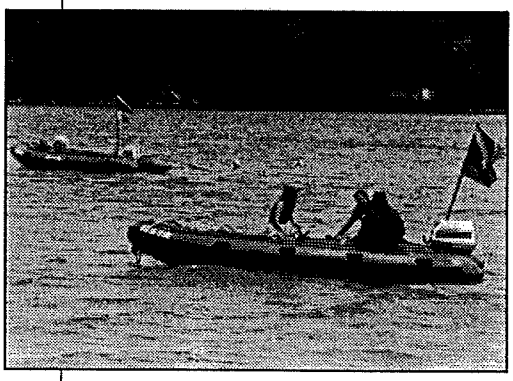


[Figure 17]
The Mt. Independence cannon being recovered, drawn after conservation, and a close-up of the cartouche. Preliminary identification suggests the twelve-pound iron gun was cast for the Scottish navy in 1676 and is extremely rare.

Management Plan for the Mount Independence/ Fort Ticonderoga Submerged Cultural Resources

This management plan is the result of the Lake Champlain Maritime Museum's 1992 and 1993 field investigations in the historic waters off of Mount Independence, Vermont and Fort Ticonderoga, New York. This plan addresses those submerged cultural resources documented, and in some cases recovered, in 1992 and 1993, but also includes other cultural resources that exist within these water located on a previous survey, such as the submerged remains of French and Indian War wrecks.

Located in the middle of the Mount Independence/Fort Ticonderoga National Historic Landmark, the submerged cultural resources in this locale have national significance. The Vermont Advisory Council on Historic Preservation determined on September 22, 1992 that these submerged historic archaeological resources are eligible for inclusion in the National Register of Historic Places. The State of Vermont has designated these submerged cultural resources as Vt-AD-711 (Mount Independence Submerged Historic District, North End) and Vt-AD-731 (the Great Bridge) on the Vermont Archaeological Inventory. The historic canal boats, railroad drawboats, and associated railroad trestle have been listed on the Vermont Archaeological Inventory. It is the Museum's opinion that these resources are eligible for the Vermont and New York State Registers of Historic Places and are also eligible for inclusion in the National Register of Historic Places under Criteria A and D.



A number of major management issues have been identified relating to (a) the short and long-term preservation and management of the submerged cultural resources in the waters off Mount Independence and Fort Ticonderoga, and (b) the proper preservation and management of the unique historic and archaeological collection recovered in 1993. These issues include: collection management, interpretation, and public access; recreational sport diving potential; archaeological data potential, preservation and management of selected sites; preservation and management of the Great Bridge caissons; threats from Zebra mussels; submerged site monitoring; and funding.

Endnotes:

(1) The Revolutionary Journal of col. Jeduthan Baldwin 1775-1778, Printed for the DeBurians, Bangor, Maine.1906.

(2) John A. Williams, editor, Laws of Vermont, State Papers of Vermont, vol. Fourteen, 1966. p.32

(3) A Report on the Archaeology of Lake Champlain: Results of the 1983 Field Season. R. Montgomery Fischer, editor. "The Mount Independence Project," Arthur Cohn, p.41-45. Champlain Maritime Society, Burlington, Vermont, 1985.

(4) 1992 Maritime Cultural Resource Survey and Management Project, Preliminary Report, Arthur Cohn, Project Director. Lake Champlain Maritime Museum, October, 1992.

(5) Five separate reports are also being published as a componant of this project. They are; THE GREAT BRIDGE "From Ticonderoga to Independant Point" by Arthur Cohn; The 1992 Mount Independence Phase One Underwater Archaeological Survey, by Kevin Crisman; Geophysical Reconnaissance within the South Lake: Larabee's Point to Chipman Point, Lake Champlain, by Patricia Manley et. al.; Ticonderoga's Floating Railroad Drawbridge, 1871-1920, by Peter Barranco, Jr., and Bottom morphology and Boundary Currents of Southern Lake Champlain, by Hollistir Hodson.

Conclusions:

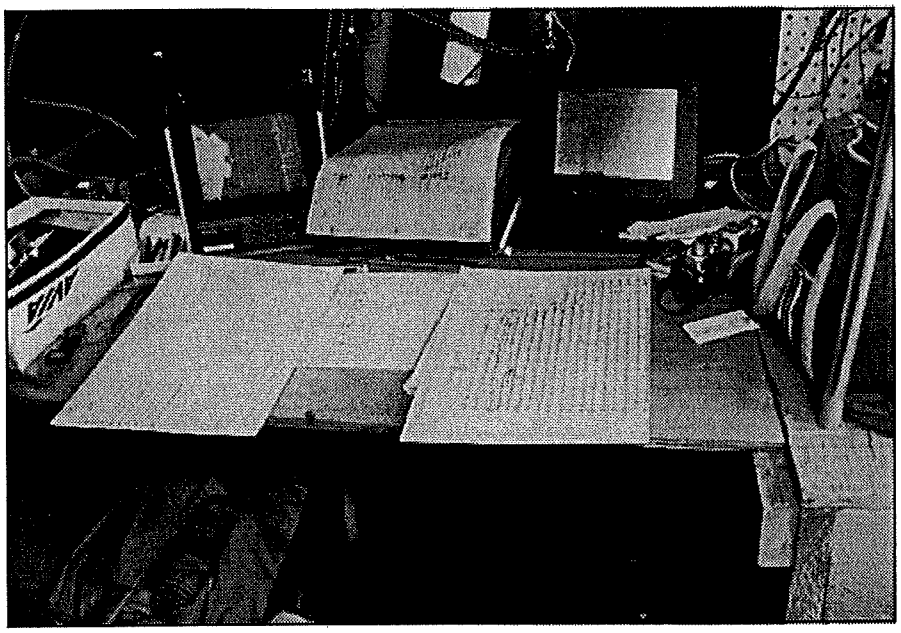
This project demonstrated both the extraordinary cultural wealth of Lake Champlain and how modern technology can be systematically applied to examine simultaneously the lake bottom both archaeologically and geologically. The historical, archaeological and geological results presented in this report clearly reflect the potential of this process.

The results of the project are presented in five reports by the principal investigators. (5) The research team hopes the positive results of this survey will ensure that this lake mapping program continues. The recent discovery of Zebra mussels in the lake adds new urgency for continuation of the Lake Champlain submerged cultural resource mapping and documentation project. The tools, technology and team are in place; the systematic mapping of the entire bottom of Lake Champlain and comprehensive inventory of submerged cultural resources is a project whose time has come.

Post script: The arrested diver contested the charge of "excavating without a permit" and, after failing to rally the regional divers to his cause, was convicted in 1992 in Vermont District Court of violating the 1975 Historic Preservation Act.

How did the technology work?

While the several research vessels, side-scanning sonar, and magnetometer worked extremely well, one shortcoming of the survey was the navigation control system. In 1992, the LORAN-C navigational system experienced frequent signal lapses in the survey area. These signal lapses made running proper transect lines and precise overlapping difficult. To compensate for this problem and to insure complete coverage of the survey area, it was necessary to conduct significantly greater overlapping than might otherwise be needed. This survey weakness has recently been overcome through the development of a new satellite generated "Differential GPS" [Global Positioning System] navigational control system. [figure 16] This new navigational control capability provides positioning accuracy within 2-3 feet.

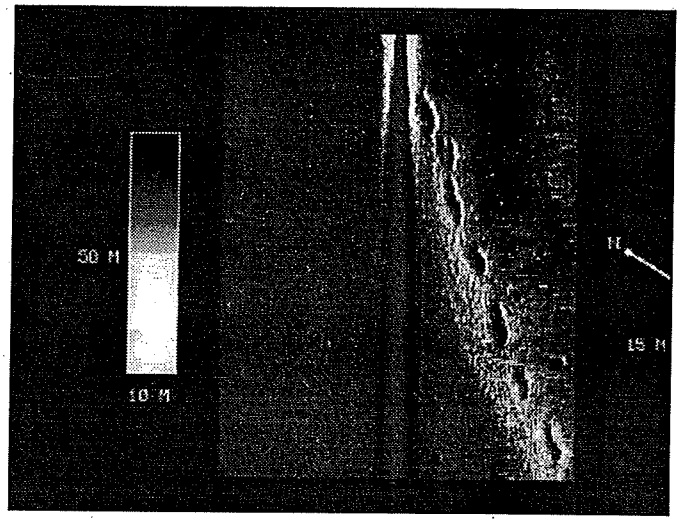


[Figure 16]
Using Loran for navigational control created some problems during the 1992 survey. The above photograph from a later survey illustrates the vast improvement in running track lines with the new "differential global positioning system".

Geological Findings:

This project demonstrated that a survey designed to inventory the lake bottom archaeologically could also gather important geological information. The resulting analysis of bottom furrows, sediment waves and pockmarks has profound implications for understanding the hydrodynamics of Lake Champlain. [figures 15] In addition, results of the coring project executed in the vicinity of the "Great Bridge" corridor suggests a new and potentially valuable tool for analysis of historic land use and rates of lake sedimentation.

a)



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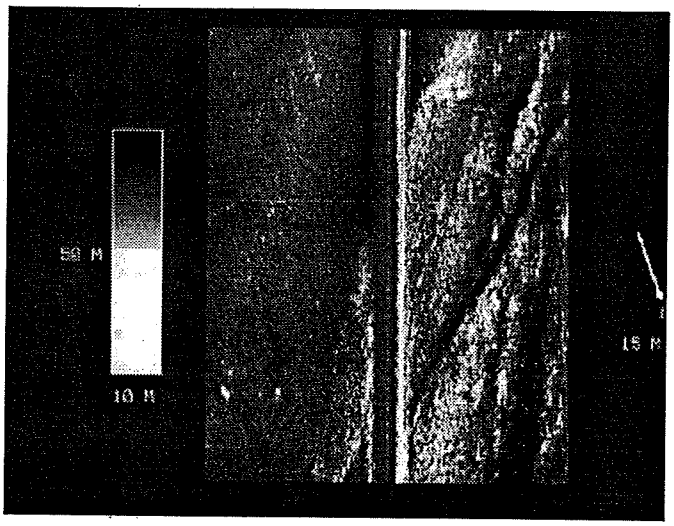

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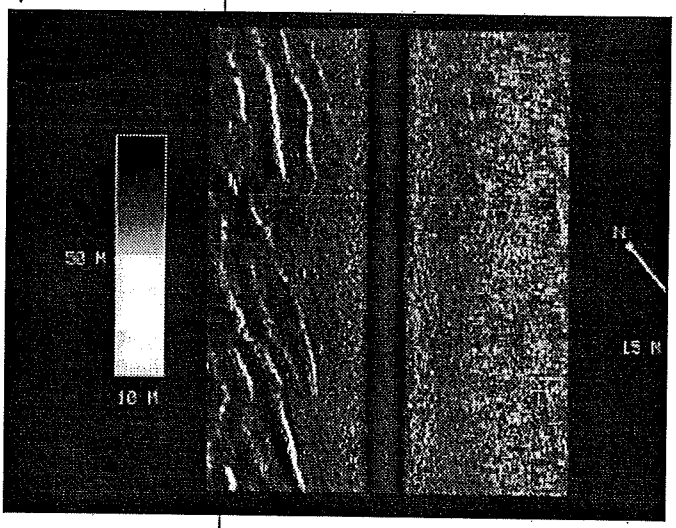
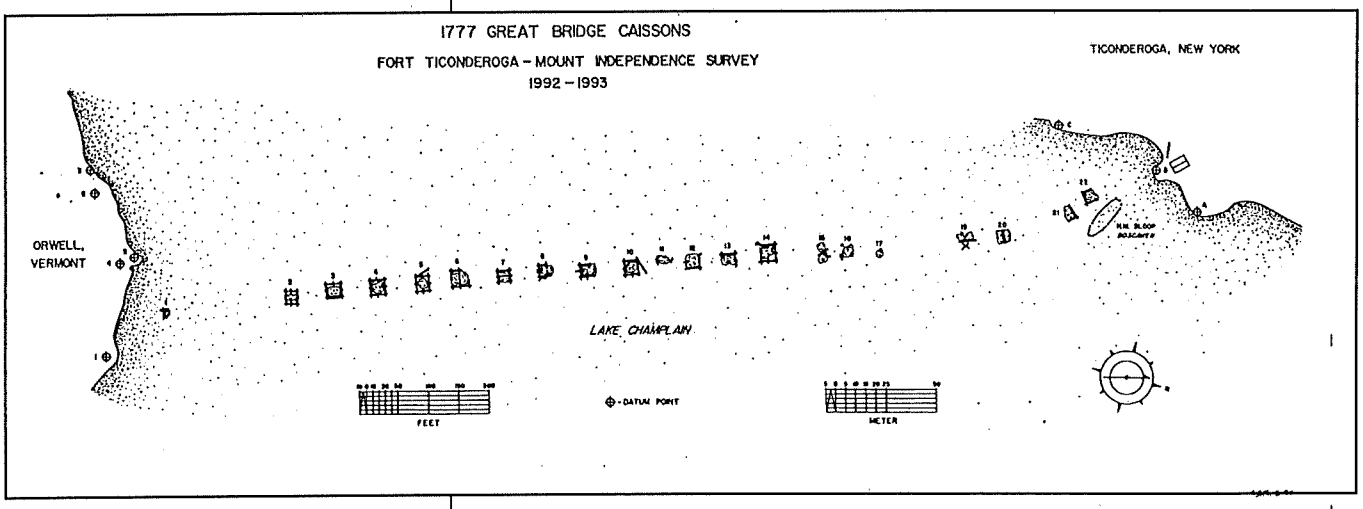


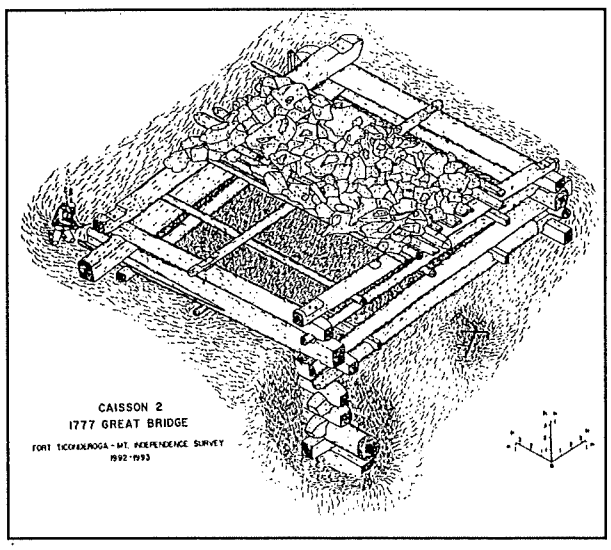
[Figure 15]
The sonar record of the survey area lake bottom has been utilized to interpret the area geologically. The three sonar images illustrate three distinct geological features a), pockmarks, internal waves b) and furrows c).

Phase Two: The "Great Bridge"

The second phase of the 1992 project focused on a diver-documentation of the "Great Bridge", designated Vt-AD-731 in the Vermont Archaeological Inventory. During this survey, divers successfully located twenty-one of the twenty-two caissons. [figure 13] The most intact caisson, caisson #2, was selected for complete archaeological documentation. [figures 14] All the other caissons were located, surveyed and structurally analyzed to determine their relative stability. This analysis determined whether pro-active efforts to preserve these structures were needed. The caissons' archaeological and structural analysis, coupled with results of historical research, suggest the caissons are in reasonably stable condition and do not require additional stabilizing efforts at this time.



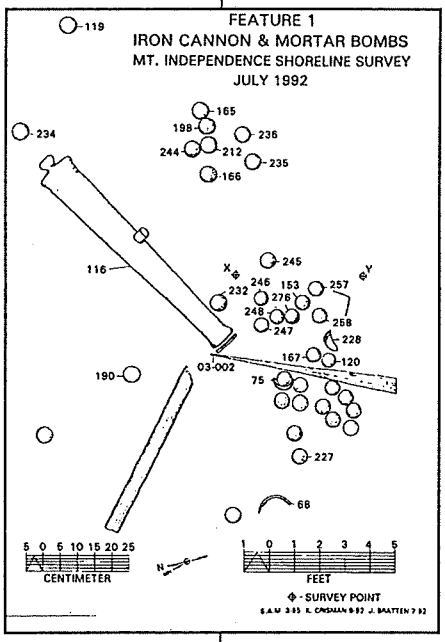
[Figure 13]
This survey map shows the precise location of the remaining "Great Bridge" caissons. Note that number18 is missing and believed to have been removed to prevent steamboats from striking it on their approach to the new dock.

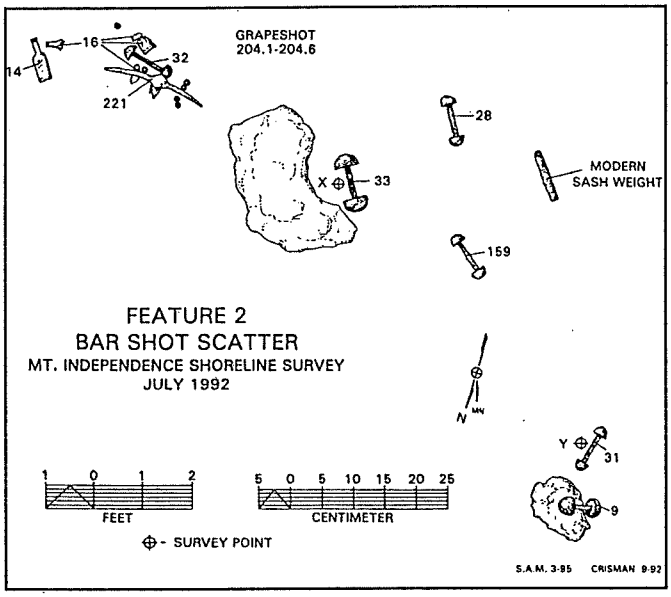


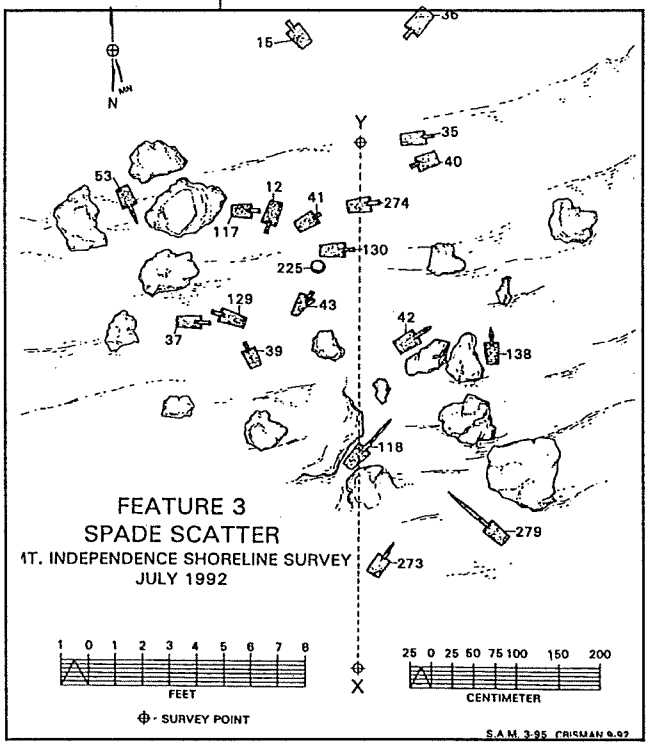
[Figure 14]
Archaeological drawing of caisson #2.
Illustration by J. Cozzi.

The Mount Independence Submerged Archaeological District:

The 18th century artifact concentration located off of Mount Independence proved to be one of the richest collections of Revolutionary War material ever located. [figures 12] This submerged archaeological site was designated the Mount Independence Submerged Historic District, North End, Vt-AD-711. Realization of the quantity, quality and vulnerability of this public collection led to an immediate management recommendation for the documentation, recovery and conservation of this unique historic and nationally significant collection.(4) This recommendation was implemented in 1993 by the Lake Champlain Maritime Museum through an appropriation by the Vermont Legislature and in collaboration with the Vermont Division for Historic Preservation. Recovery and conservation of over 900 Revolutionary War artifacts was successfully completed in conjunction with the Institute of Nautical Archaeology at Texas A&M University and the University of Vermont.







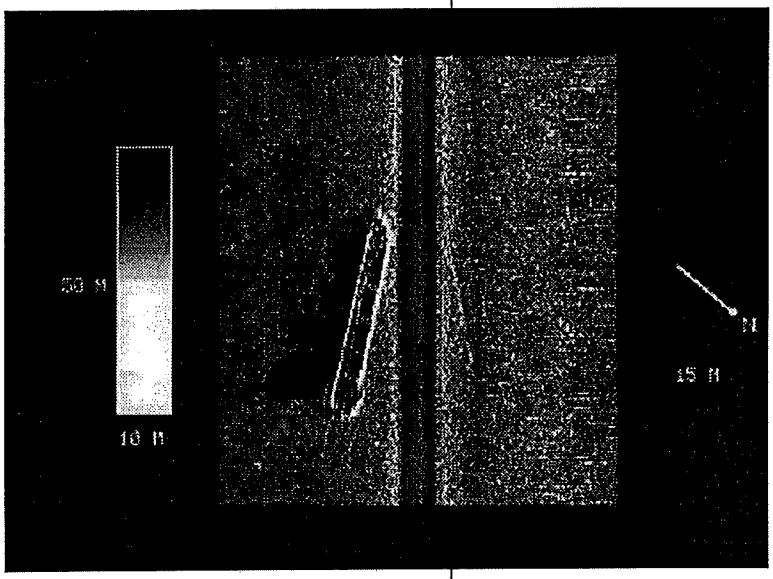
[Figure 12]
Feature drawings 1, 2, and 3 illustrate exceptional artifact concentrations located off Mount Independence in 1992. The photograph captures diver Curtis Hite locating a musket.

• Several newly discovered shipwrecks were identified as 19th century canal boats. Three of these, targets #7, #9, and #14, share the common characteristic of being largely buried under the lake's mud bottom. [figure 10]

• Significant new findings were the remains of two railroad drawboats associated with the railroad trestle which crossed the lake from 1871-1920. These are targets #4 and #5. [figure 11]

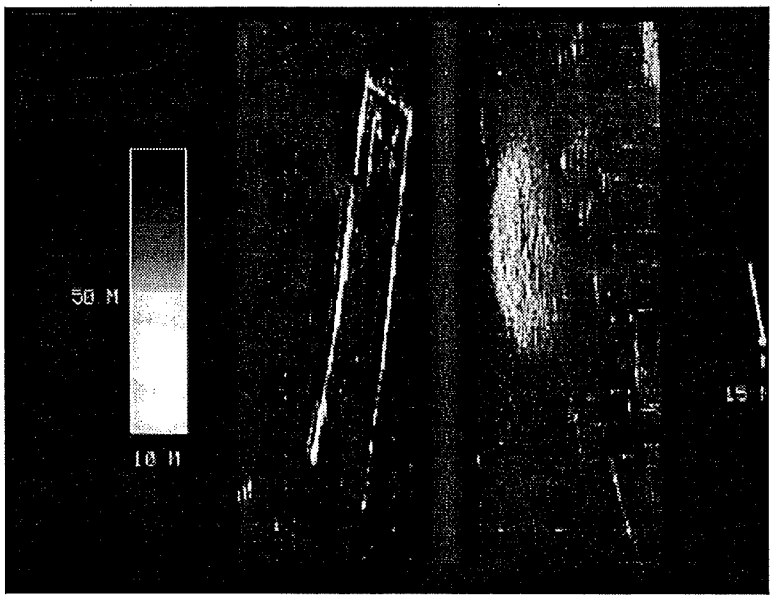
• The line of "Great Bridge" caissons was imaged with sonar. Feature #10.

• A grouping of four large iron cauldrons of unknown origin was located on the bottom of the lake. Feature #11.



[Figure 10] Sonar image of one of the canal boat targets.

[Figure 11] Sonar Image of the remains of the floating railroad drawboat.

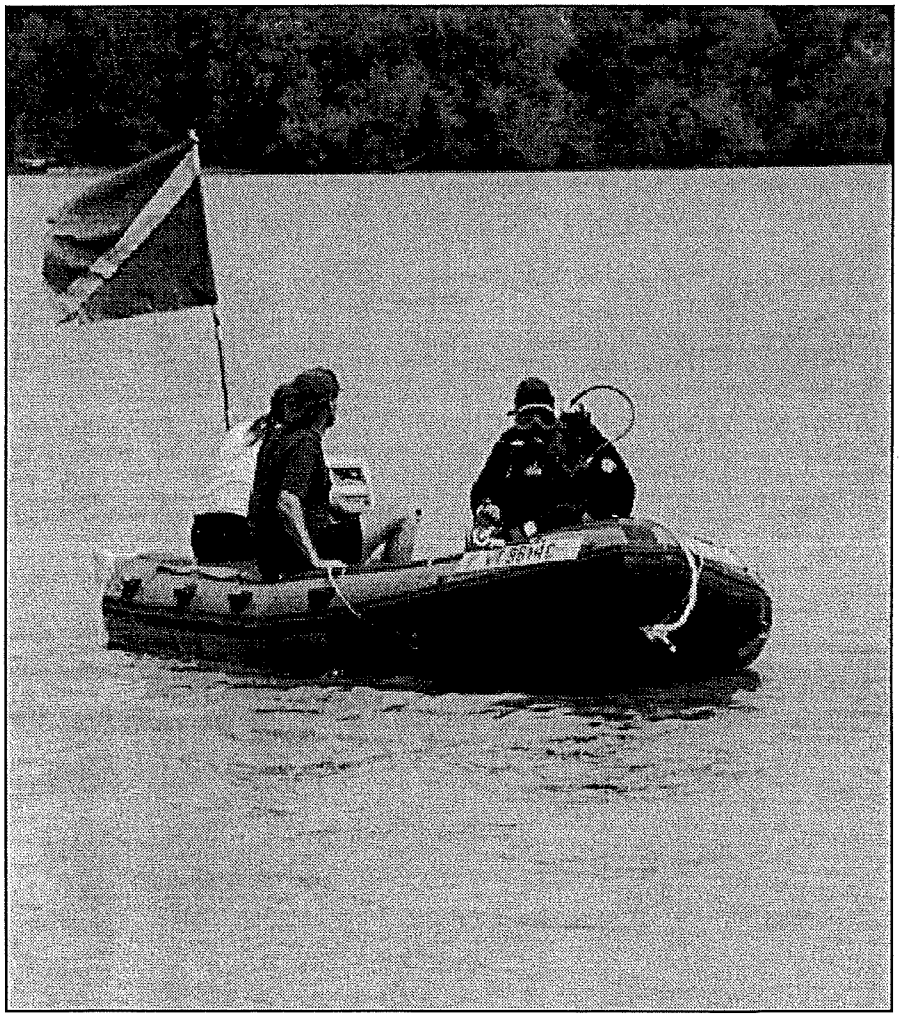


1. Jersey Redoubt, 1776–1777 - approximate location.
2. Boom, 1776–1777 - approximate location.
3. Wreck " F " and " G " - 2 unidentified canal boats.
4. Railroad drawboat, 1888 - in two pieces.
5. Railroad drawboat, 1871.
6. Crib, 30' X 30', wooden.
7. Wreck " C " - canal boat.
8. King's Shipward - French & Indian War wrecks.
9. Wreck " B " - canal boat.
10. Bridge, 1777 - location approximate.
11. Irion cylinders (4).
12. Wreck " K " - located by CMS 1983.
13. Ferrt wreck - M/V MONTCALM.
14. Wreck " I " - canal boat .

[Figure 9]
Map of cultural targets found within the survey area.

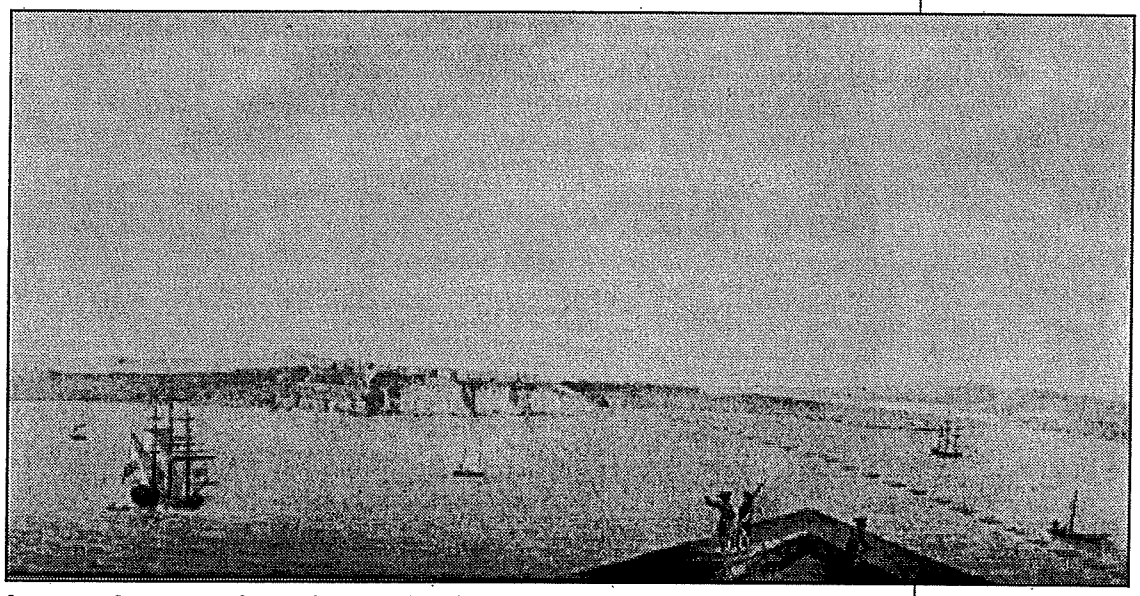
Phase I:
Remote sensing survey findings:

The remote sensing phase utilized side-scanning sonar and a proton precession magnetometer as principal underwater survey tools. During the two weeks of electronic survey a number of promising submerged cultural targets were located. Diver verification of these targets was complicated by the near zero visibility of the water, a normal condition in this region of the lake. [figure 8] Nonetheless, a number of significant submerged cultural properties were discovered and indentified [figure 9]:

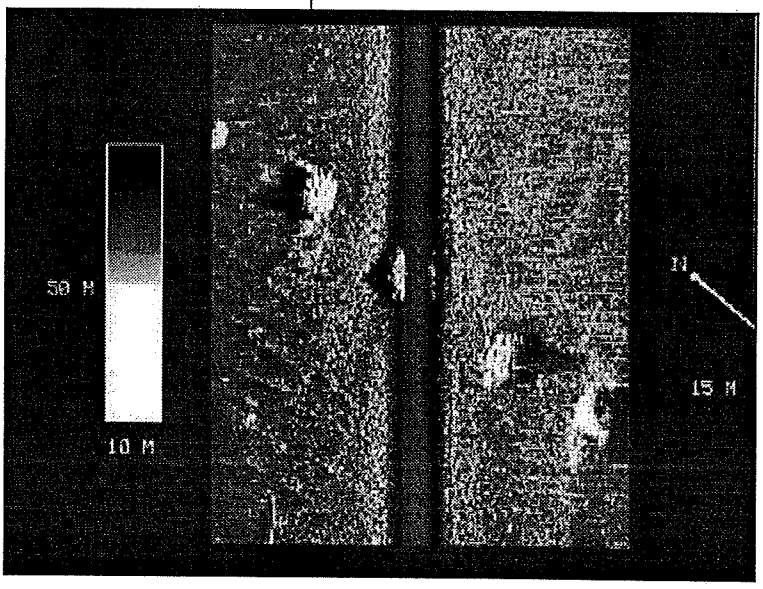


[Figure 8] Divers working out of inflatable boats checking targets located during the remote-sensing survey.

The second phase of survey identified and examined each of the remaining "Great Bridge" caissons. This extraordinary structure, built by American forces during the winter of 1777, spanned over 1700' of lake, connecting Fort Ticonderoga and Mount Independence. [figure 7] Remains of the bridge, as well as the artifact-rich underwater site had both been initially located in 1983 during a joint Champlain Maritime Society State of Vermont survey, and a report detailing the findings had been issued.(3)



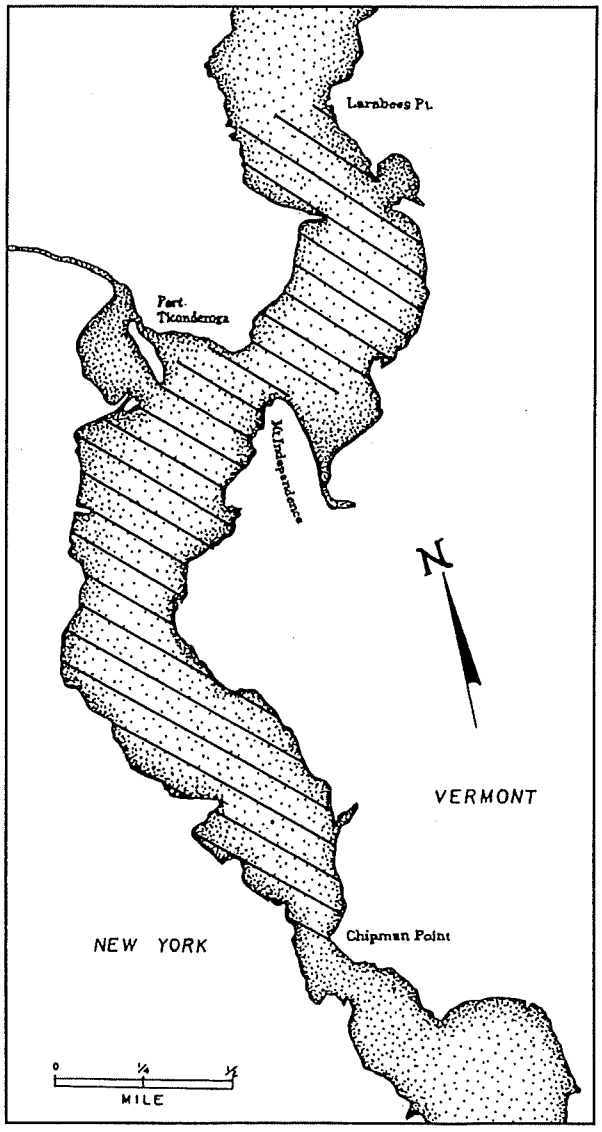
[Figure 7a] *A View of Ticonderoga taken from the Sand Redoubt showing the Piers for a Bridge constructed by the Americans in the year 1777 intended to form a commun ication with Ticonderoga and Mount Independence.*
By Henry Rudyard. Courtesy National Archives of Canada, C 40336.



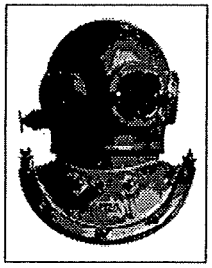
[Figure 7b]
Sonar image of the submerged remains of some of the bridge caissons.

Survey Strategy

The 1992 project was executed in two parts. The first phase utilized electronic remote-sensing equipment to examine a large area of lake bottom. This phase identified cultural resource targets between a northern line at Larrabee's Point and Chipman Point to the south, a distance of approximately five miles. [figure 6] Promising targets were examined and evaluated by divers. A unique component of this archaeological survey plan was simultaneous collection of data to map and analyze the geology of the area's lake bottom. A third task of this phase of survey examined in greater detail the artifact-rich submerged archaeological site surrounding Mt. Independence to determine its size, characteristics and significance.



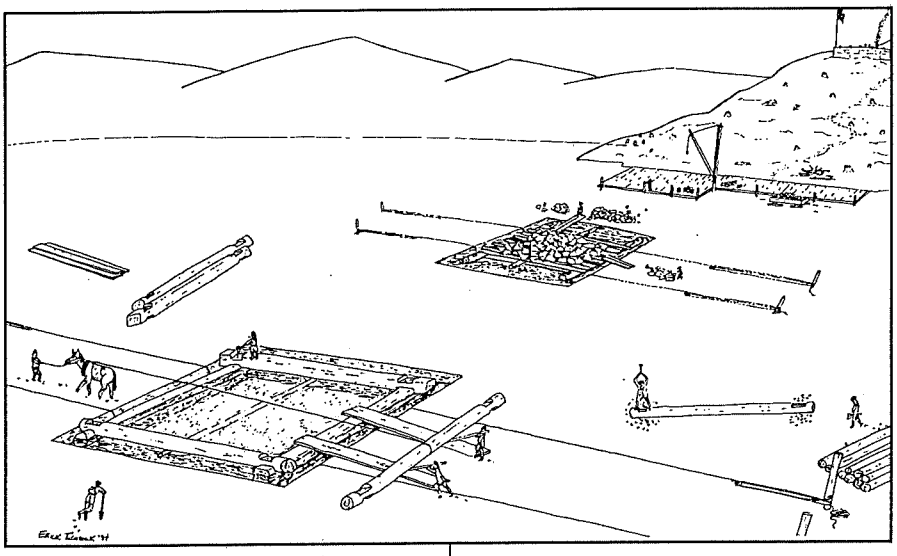
[Figure 6]
This map shows the area surveyed in 1992. Adopted from NOAA chart # 14784



The strength of the British advancing forces caused American General Arthur St. Clair to order a nighttime retreat in an attempt to save his army to fight again. As Burgoyne advanced into the Hudson River Valley, the American's got their chance. After stunning the British at Bennington, American forces at Saratoga delivered a decisive defeat to the British Army, a major event in determining the very outcome of the war.

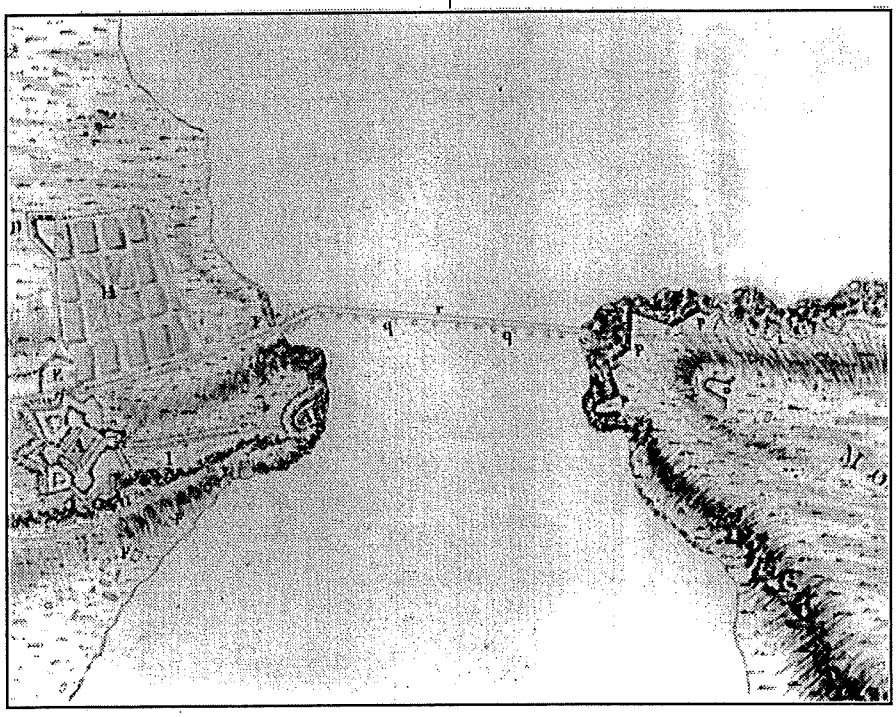
Back on Lake Champlain, we now know that after receiving word of Burgoyne's surrender, the British rear guard forces at Mount Independence disposed of a large quantity of war material by throwing it into the waters of Lake Champlain. They also burned the exposed tops of the "Great Bridge" to prevent it from being used again. Later, once peace was established, the Vermont Legislature authorized the removal of broken or discarded war material at Mount Independence. We believe at that time, many "cannon, Mortars, Mortar Beds, Bumbshells, Carriage Wheels of Cast Iron in and about Mount Independence" and the lake were recovered and recycled. (2) As the decades passed, the bridge caissons continued to deteriorate both by natural forces and by intentional removal to reduce the hazard to ever-increasing 19th century commercial navigation. This period saw ever larger steamboats and large numbers of canal boats operating through this corridor, and in 1872, a railroad trestle with a floating center span was established across the lake about a mile north of where the Great Bridge had been. By modern times the location of the Great Bridge caissons and awareness of the artifact collection off the north end of Mount Independence had disappeared from consciousness.

In 1983, a survey team from the Champlain Maritime Society, working in conjunction with the Vermont Division for Historic Preservation, located these nationally important submerged cultural resources and reported them to State officials. In 1991, an out-of-state diver, using information shared by the state, located and illegally recovered artifacts from the north end of Mount Independence. This event and concern for the structural integrity of remaining bridge caissons were the prime catalysts for the 1992 underwater cultural resources survey.



[Figure 4]
Interpretive sketch of how the American forces built the Great Bridge on the ice in March, 1777.

With the immediate threat of invasion past, most of the defending troops went south, leaving only a small force to over-winter at these frontier posts. Engineer Baldwin was assigned the daunting task of building a permanent bridge across the lake to facilitate communication between the two posts. On March 1st, 1777, Baldwin's journal records that he "began to build the Great Bridge, from Ticonderoga to Independant point."(1) [figure 4] This extraordinary accomplishment took place on an ice covered Lake Champlain and tested his troops resolve while also inspiring admiration from the enemy. By spring, twenty-two log cribs or "caissons" provided support for a floating bridge connecting the two posts, and the chain boom had been re-installed to impede enemy shipping. [figure 5] However, these elaborate defenses proved to be no match for the combined naval and land forces advancing through the lake under the command of British General John Burgoyne in July of 1777.

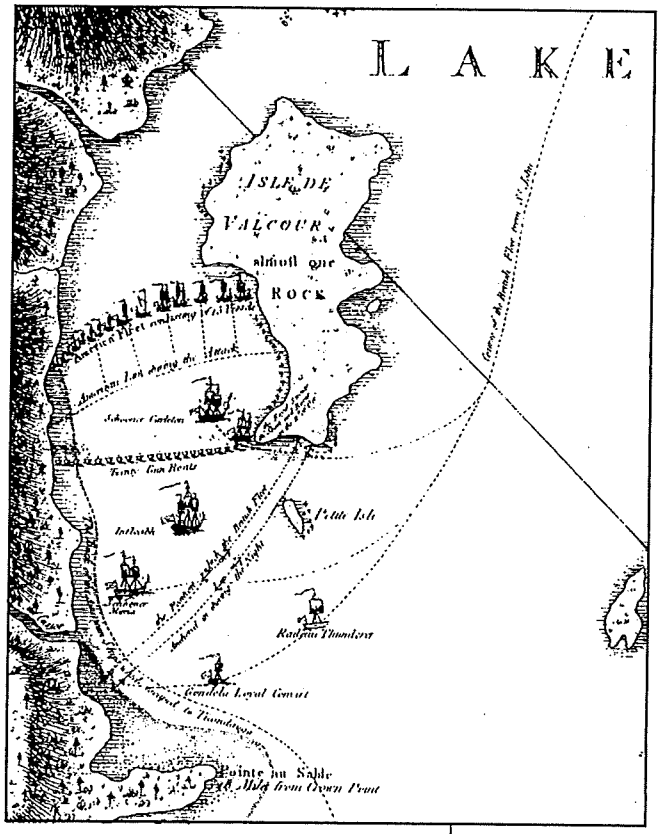


[Figure 5]
Detail from; *Plan of Ticonderoga and Mount Independence including Mount Hope, and showing the Rebel Works & Batteries as they were when His Majesty's Troops took Possession of them on the 6th July 1777*

Surveyed by Lieut. Charles Wintersmith, Assistant Engineer. Copied by Lieut. Hockings, Engineer, and Lieutenant Terrot, Assistant Engineer. By order of Lieutenant Twiss, Commanding Engineer.

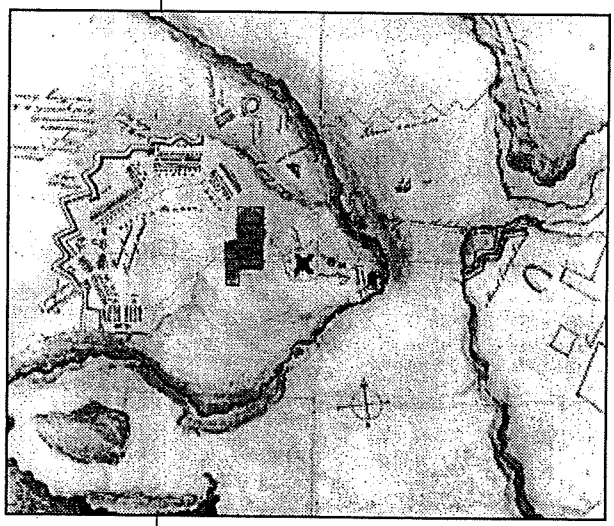
Three editions of this map have been located, one at the Fort Ticonderoga Museum, a second at the John Carter Brown Library at Brown University and the third at the Bailey Howe Library at the University of Vermont. This image courtesy of the Fort Ticonderoga Museum.

The American strategy was to place a powerful fleet between the British force in the north and their defense line at Fort Ticonderoga-Mount Independence. To accomplish this, skilled shipwrights from the coast were brought to Skenesboro [now Whitehall, New York] to rapidly build a collection of gunboats and row-galleys which would be used to guard against British penetration into the colonies. Taking charge of this effort was the dynamic and complex Benedict Arnold, a principal player in this northern drama since the taking of Ticonderoga in May of 1775. Arnold's fleet of vessels patrolled the northern reaches of the lake, unaware that the British were engaged in an extraordinary effort to contest his control. They had gambled on saving time by taking ships apart and transporting the pieces overland to their shipyard at St. Johns, Quebec. On October 11, 1776, the two naval squadrons faced each other at the Battle of Valcour Island. [figure 2]



[Figure 2]
The Attack and Defeat of the American Fleet under Benedict Arnold ... upon Lake Champlain, the 11th of October, 1776. by William Faden.

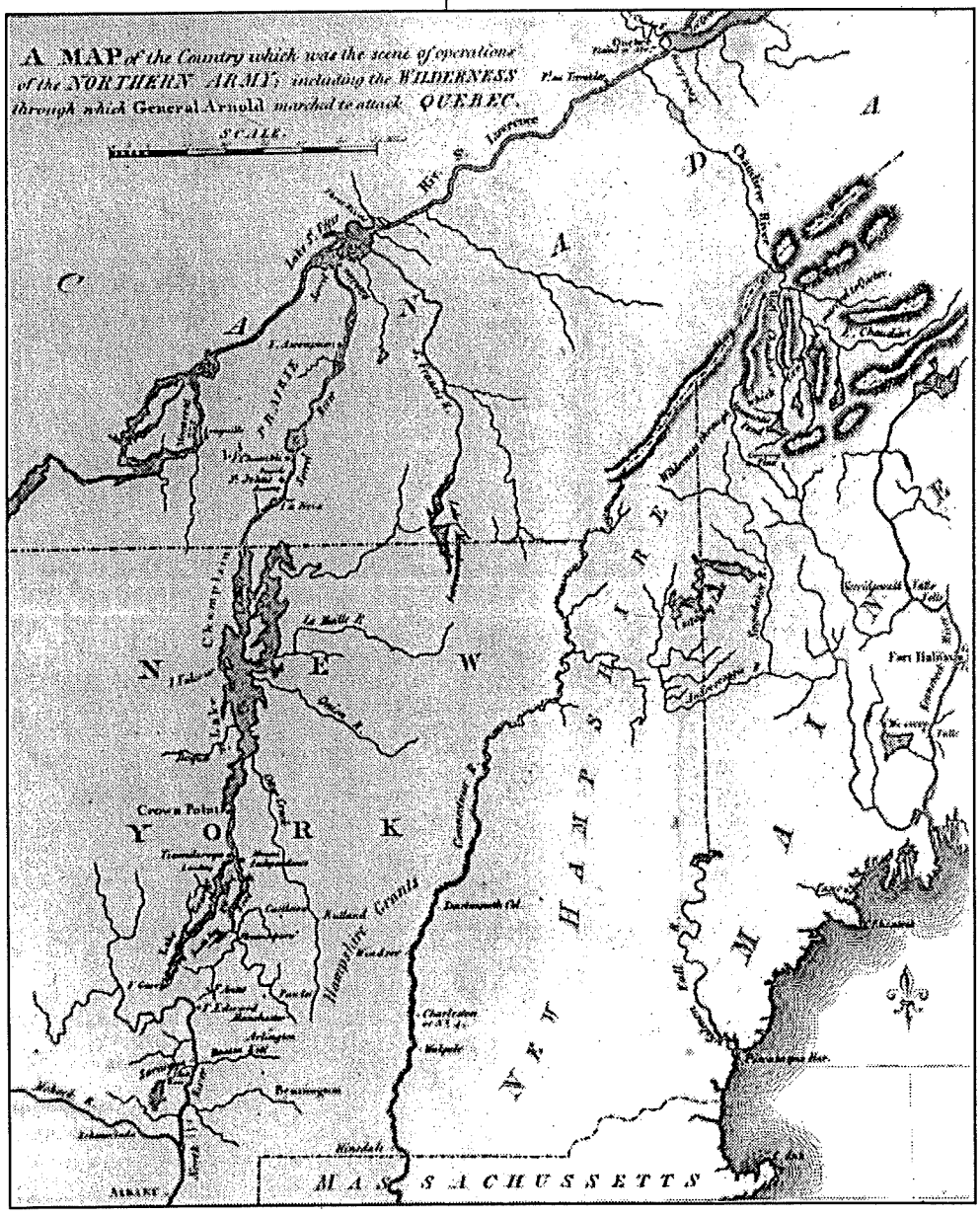
This hard fought naval engagement stretched over three days of intense fighting. In the end Arnold had lost or scuttled ten of his fifteen ships and control of the lake shifted to the British. American forces at Ticonderoga and Mount Independence furiously prepared for an all out British attack. Militia came streaming in to defend the lines. Chief engineer Jeduthan Baldwin expanded the fortifications and he deployed a floating bridge across the lake to allow troop movement between the forts and also stretched an iron chain boom to block British vessels. [figure 3] The boom was located north of the bridge and in firing range of a series of Ticonderoga shore batteries. The Americans waited but the attack did not come. The onset of cold weather and the strength of their positions persuaded the British to break off the campaign until the next season.



[Figure 3] A map of Ticonderoga and Mt. Indepen-dence by Colonel John Trumbull. This undated map appears to show the temporary first floating bridge and boom placed across the lake following the American naval defeat at Valcour Island in October, 1776. Courtesy of Hall Park McCullough.

Historic Background

In the spring of 1776, a demoralized and sick American army retreated back into the Champlain Valley from a failed attempt to capture British Canada. They were a mere shadow of the cocky force which had captured Lake Champlain a year earlier, using the strategic waterway to launch their invasion. [figure 1] The retreating Americans were being pressed by a fresh British army just arrived from Europe, but American naval superiority on the lake forced the British to stop their advance at St. Johns, the northernmost point of navigation on Lake Champlain. With this British threat to their north, the American's hurriedly began to prepare for defense of the lake highway by augmenting their naval force and by building a new fortification on the lake's eastern shore opposite Fort Ticonderoga. Ticonderoga [Carillon] had been built by the French in 1755 to guard against British attack from the south, but now the threat was from the opposite direction and the new fortification would command the northern water approach. Building of the new fort coincided with Congress' Declaration of Independence and, therefore, the new fort was appropriately christened "Mount Independence".

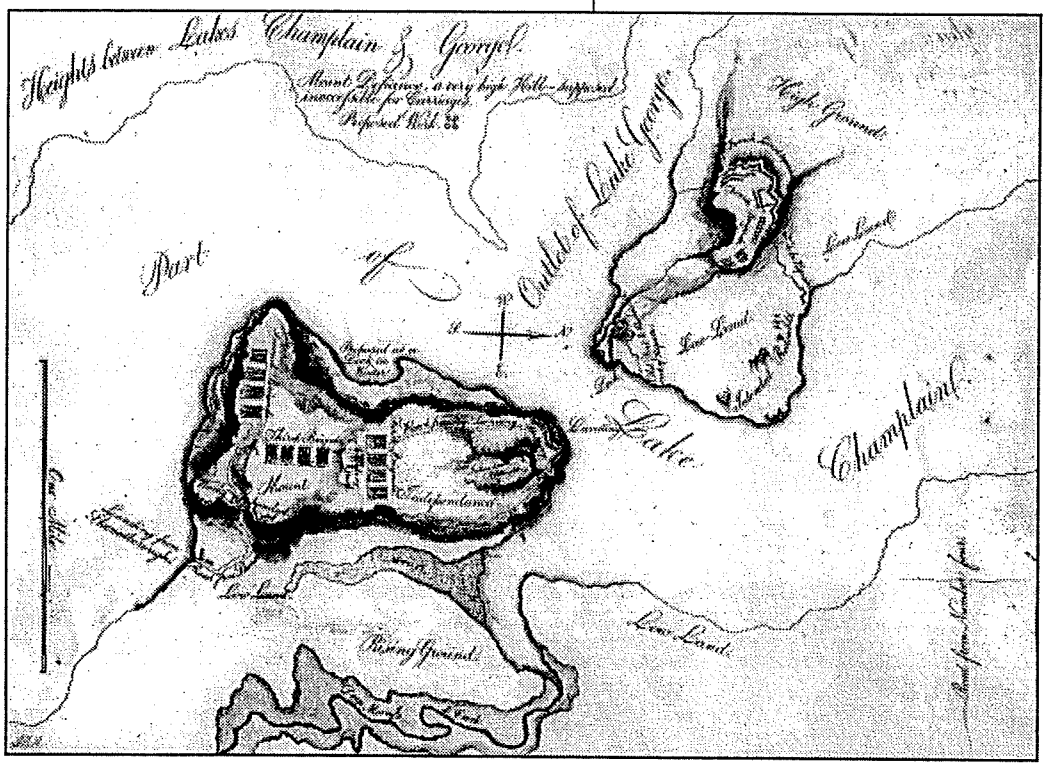


[Figure 1]
"A Map of the Northern Army". This map depicts the area where much of the action took place in the Northern Theater during the years 1775-1777. Courtesy of the University of Vermont.

Introduction

On July 4, 1777 American troops stationed at Fort Ticonderoga and Mount Independence celebrated the first anniversary of the signing of the Declaration of Independence, unaware that, within 24 hours, they would have to abandon their fortifications and retreat. These frontier Lake Champlain posts were the northernmost line of protection separating British forces from the heart of the rebelling Colonies. But British success on Lake Champlain was followed by a stunning defeat at Saratoga just a few weeks later. British rear-guard units stationed at Ticonderoga and Mount Independence subsequently abandoned their positions and retreated north into Canada.

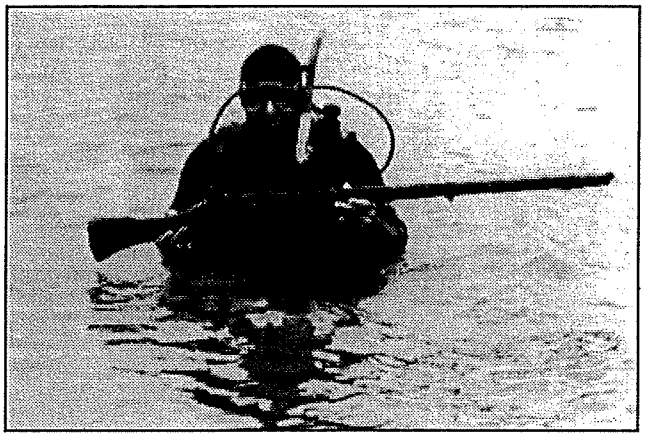
On July 4, 1991, a diver from Indiana was arrested for removing important Revolutionary War artifacts from the waters around Mount Independence. In that same period, concern had also been raised about the structural integrity of the remains of Revolutionary War bridge caissons still resting on the lake bottom. These two issues galvanized public concern for this historic stretch of water and stirred the Lake Champlain Management Conference to authorize a survey and documentation project to determine the character and extent of submerged cultural resources in this area. The project investigators were also asked to provide management recommendations for these waters based on survey findings. The project was funded by the Environmental Protection Agency (EPA).



Ticonderoga & its Dependencies, August 1776. From The Autobiography of John Trumbull.

The 1992 Fort Ticonderoga–Mount Independence Submerged Cultural Resource Survey

Executive Summary



Prepared by Arthur Cohn
Project Director

Lake Champlain Martime Museum