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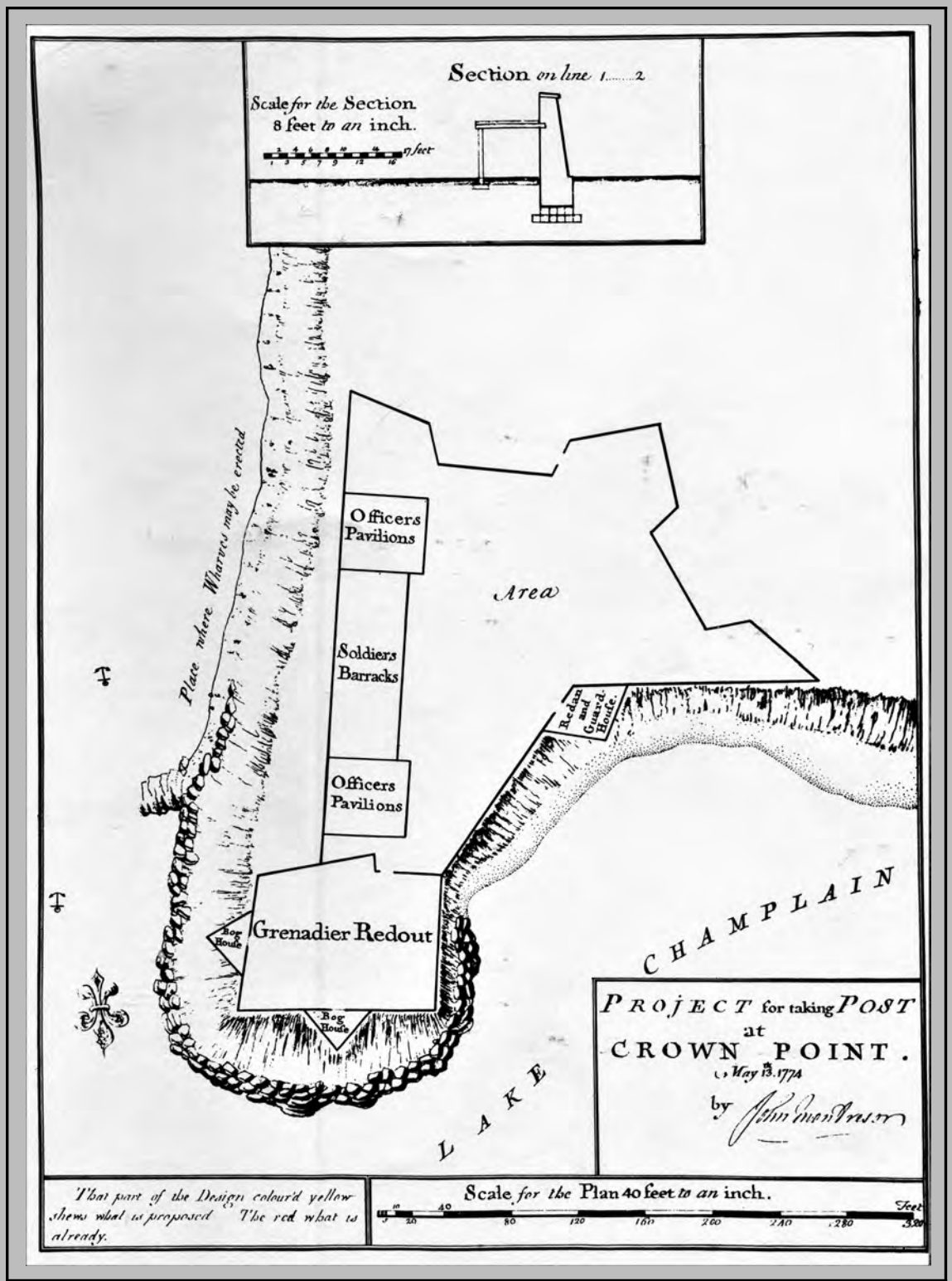

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Timothy J. Abel, Guest Editor

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Cover: The Grenadiers' Redoubt at Crown Point with a proposal to strengthen it with additional fortification, dated May 1774 (Huey, Figure 4).

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ARCHAEOLOGY OF THE WAR OF 1812 IN SACKETS HARBOR, NEW YORK

TIMOTHY J. ABEL, Consulting Archaeologist

Sackets Harbor, New York was the site of persistent military activity from 1810, right up through the end of World War 2. From 1812 - 1815, this little village on the east end of Lake Ontario hosted the headquarters of the US Navy on the Great Lakes. As such, it was protected by large US Army and Marine detachments during the entire war, and the object of two British attacks. This prolonged military activity left an indelible signature on the village's landscape and an extensive archaeological record that has been continuously investigated, both academically and otherwise, since the 1950s. Unfortunately, much of the documentation for those investigations remains in grey literature. The purpose of this article is to summarize previous investigations and bring them into the discourse of War of 1812 archaeological research.

Introduction

Sackets Harbor is one of the few natural harbors on the eastern end of Lake Ontario (Figure 1). It was sheltered from the violent lake storms by a large, persistent peninsula that completely enclosed the harbor on all but part of one side. The harbor itself was 15 - 25 ft deep, amply deep enough to support larger vessels. It had a gently sloping shoreline on the south side that could support ship building and maintenance. Augustus Sackett purchased the large tract of land surrounding the harbor in 1803, hoping to build a shipping and commerce center. When the US completed construction of its first armed vessel on Lake Ontario, the *Oneida,* in 1809, Sackets Harbor was chosen for its base.

When war with Great Britain began in 1812, Commodore Isaac Chauncey, top naval officer on the Great Lakes, chose Sackets Harbor as his headquarters and immediately commenced preparations to make this sleepy little village of 20 families into a naval station. By the end of the war, the village would see two major engagements, be the staging ground for two major offensive operations, and serve as the construction yard and base of a squadron of eight warships ranging in size from the one-gun dispatch schooner *Lady of the Lake* to the 58-gun heavy frigate *Superior.* At the end of the war, the shipyards would be put into overdrive with the construction of two 106-gun ships of the line, but the war ended before they saw completion.

The end of the war in early 1815 saw the quick dismantling of all fortifications and naval facilities. Though the army returned in 1816 to construct Madison Barracks, the Navy packed up and left the village except for two ship-keepers assigned to keep tabs on the two unfinished liners. The Navy Yard was turned over to civilian ship production. Fort Tompkins and Smith Cantonment were leveled. The village palisade was dismantled, and its fortifications leveled, though the Fort Virginia blockhouse survived as a barn until the Civil War. Only partial earthworks of Forts Pike and Kentucky remained. The larger vessels of Chauncy's once-mighty fleet were sold off for freight shipping. The smaller warships laid in the harbor until they eventually sank, clogging the harbor. The government dredged them all out in the 1820s, dumping their broken carcasses into the bay (Ford 2015).

Much of what was the Sackets Harbor battlefield of 1813 (Wilder 1994) became farmland. A small park in the village was preserved by the Camp family for memorial observances, but it eventually became an unkempt lot. The lot was gifted to the Jefferson County Historical Society in 1886. They cleaned it up and maintained the park until the 1960s (JCHS 1887). At the 100th anniversary of the battle in 1913, a monument and memorial tree grove of 100 maple trees was dedicated there by the Daughters of the American Revolution (Camp 1964a, 1964b). In 1967, the Society turned the park over to the state of New York, who had previously gained ownership of the former 1850s Navy Yard in 1955.

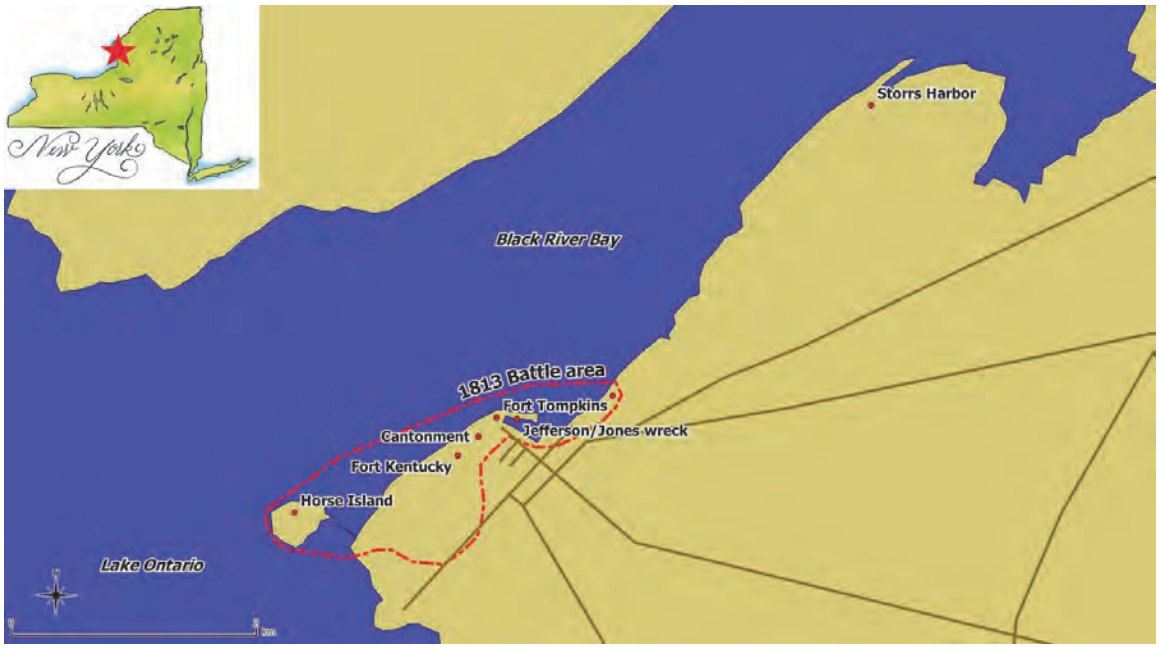

Figure 1. Map of locations mentioned in the article.

Early Investigations: 1950 - 1960

While the collecting of military relics at Sackets Harbor has been ongoing virtually since the war ended, the first of what could be called archaeological study of the war period in the village began under the direction of J. Duncan Campbell, a military historian and avocational archaeologist. He began his avocational career volunteering with John Witthoft (O'Donnell 2000) and conducted public archaeology digs at several former military sites including Morristown, Valley Forge, Fort Stanwix, West Point, and others. Though he learned the benefit of screening from Witthoft, he was much more interested in artifacts than contexts (he used chicken wire for screen). His methods would be judged harshly today.

Campbell came to Sackets Harbor periodically beginning in the 1950s, eventually buying a lot here with plans to build a summer home. In his own words, it was his favorite place to dig. He dug extensively in middens and trash dumps below former Fort Tompkins, Smith Cantonment, and Fort Pike (Figure 1). He only documented one such midden on the hillside below Fort Pike in an article published in *Military Collector and Historian* (Campbell 1955). The rest are described only in private notebooks. Campbell recovered large numbers of military artifacts, most of which he gave away to his workers to keep them interested. He retained the museum-quality artifacts for his own collection which he eventually donated to the Pennsylvania State Museum (PMHC). The PMHC collections and notes were recently repatriated back to the State of New York and are now at Peebles Island.

New York State Acquires the Navy Yard and Battlefield Park

New York State acquired the former US Navy Yard at Sackets Harbor in 1955, and in 1967, they acquired the adjacent 1812 Centennial Memorial Park from the Jefferson County Historical Society. With these acquisitions, the state made plans to raze the 1850s Navy Yard buildings and reconstruct Fort Tompkins as an historical attraction, much like had been done with Fort William Henry and Fort Stanwix. In preparation for this undertaking, the Thousand Islands Park Commission (TIPC) hired archaeologist Edward M. Larrabee to undertake excavations of Fort Tompkins, Smith Cantonment and Fort Kentucky (Figure 1) and assess the integrity of the War of 1812 archaeological deposits, if they existed.

He began by trenching to determine the stratigraphy of these three locations (Larrabee 1967, 1968). In the Navy Yard, he sought to document evidence of the Fort Tompkins block house, magazine and ramparts. These were structures that should have left an obvious archaeological record if they were not destroyed by redevelopment. The magazine was also where General Pike and two other officers were

interred in 1813, before they were removed in 1819 to the post cemetery at Madison Barracks. Larrabee intersected a solid beam floor on the east end of the Navy Yard which he believed to be the magazine. Further excavations defined walls of the structure, as well as a basement. He also located interlocking log foundations for the fort's embankment (Figure 2).

Figure 2. Image of 1967 excavations showing log bulwarks beneath what is believed to have been the Fort Tompkins earthwork.

Looking for Smith Cantonment, Larrabee exposed several builder's ditches and stacked stone structures near the present-day monument and around what should have been the northwest corner bastion blockhouse. But he could not make any sense of them. They did not align with any of the structures shown on the historical engineer's drawings of the cantonment. He did, however, document thin subsurface middens with a rich assemblage of 1812-period military artifacts including round balls, buttons, bayonets, buckles, and domestic ware. Significantly, he also documented that the 1913 monument erection did not disturb underlying deposits.

At Fort Kentucky, also referred to as the Mud Fort, Larrabee's excavations documented the construction of earthen embankment but found no features and few artifacts inside the fort (Kardas 1968). Later more extensive testing by Albert Dekin (1974a, 1974b) confirmed these results. The fort had been described in historical accounts as having a blockhouse and several guns, but no evidence of either were found. Instead, archaeologists found largely domestic and personal artifacts post-dating the war. Given the conflicting historical accounts, support was given to the simplest description of it being simply a mud rampart with no cannon. There is no evidence that it was ever garrisoned.

Larrabee's excavations illustrated the need for more extensive excavations in the Navy Yard, but he would not continue them. In 1968, the Thousand Islands Park Commission hired William D. Hershey to continue the excavations. Hershey's excavations more extensively explored the area east of the Commandant's House, where the Fort Tompkins gun battery was located (Hershey 1969). Grid trenching

demonstrated much of what existed there to be fill brought in during 1850s construction of the Commandant's House. They did encounter a mound-like earthen structure consistent with the location of the "Old Sow" cannon. One of the conclusions of his first year's investigations was that if the historical engineer's drawings of Fort Tompkins were accurate, what Larrabee thought was the blockhouse and magazine could not have been so. What Larrabee found was rather probably a naval warehouse structure on the hillside adjacent to the fort.

In subsequent years, Hershey (1970a, 1970b, 1974) would go on to excavate much of the area between the Commandant's House and the bluff, completely exposing the fort's gun battery (Figure 3). In doing so, they documented extensive fill deposits and a previously unknown domestic structure between the Commandant's and Lieutenant's houses that likely predated the war (Figure 4). This structure was likely razed for the construction of Fort Tompkins. The entire "gun mound" was exposed, and a stone foundation structure found beneath it, but this feature did not correlate well with the historical engineer's drawings of the fort. The location suggested that significant portions of the bluff at the time of the fort had fallen into the lake.

Figure 3. 1968 excavations of the area inside Fort Tompkins.

By 1970, the Park Commission had shelved plans to reconstruct Fort Tompkins and chose instead to interpret the 1850s Navy Yard as it was left to them. This removed the urgency of doing large-scale investigations. Instead, the Parks Commission sponsored numerous small-scale investigations on the park grounds in support of on-going maintenance and remediation activities. Few of these had any direct investigation of 1812-era deposits, but two investigations do stand out in that regard.

Test excavations along the edge of the existing cliff were undertaken in 1994 - 1995 prior to attempts at stabilizing the eroding cliff face. Three of five small test units (Figure 5) documented more of the interlocking log rampart foundations of Fort Tompkins (Florance 1995). In tree plantings along Hill Avenue, Historic Sites branch archaeologists found 1812-period military artifacts but no associated middens or features. The artifacts were clearly mixed with later materials in a general surface midden (memorandum on file at Sackets Harbor Battlefield State Historic Site).

Figure 4. Small stone foundation found in 1969 believed to have been a residence predating the fort.

CRM Investigations Throughout the Village: 1970-present

With the advent of the National Historic Preservation Act in 1966, cultural resource management (CRM) investigations became the primary driver of research on the War of 1812-period archaeology in the village. By necessity, this will be a summary of significant finds. A full inventory of more than 100 references to archaeological work in the village has been compiled by Paul Huey (HAA 2007). The first major undertaking to sponsor CRM investigation was the expansion and upgrade of sewer utilities in the village. Construction was proposed primarily adjacent to the Battlefield site, and as such, the TIPC assumed responsibility for the investigations. William Hershey (1974) conducted the investigations. He focused his work on the area behind the Pickering/Beach Museum and fields southwest of Fort Kentucky (Figure 1). Hershey excavated 10-foot squares adjacent to Fort Kentucky, but found no artifacts. This area was likely between Fort Kentucky and Hill Avenue, adjacent to the current maintenance building.

At the Pickering/Beach Museum lot, Hershey excavated 12 contiguous 10-foot squares, most of them joined at their corners. The investigations recovered a rich assemblage of military artifacts, including fragments of a Regiment of Artillery cap plate. A buried hewn log was excavated along Hill Avenue that paralleled the street. Hershey thought this to be a feature of Smith Cantonment, but it is more likely associated with former outbuildings of the Pickering/Beach House, as later research revealed. Previous excavations by Campbell, as well as research conducted by the author in association with a later CRM project, suggested that the wall of the cantonment crossed the lot directly south of this one, at an angle to the street as it is now (Abel 2015a, 2016). Later testing across the Pickering/Beach lot has recovered more military artifacts in mixed context, likely associated with middens disturbed by the Pickering/Beach residential occupation (Abel 2015a; HAA 1995; Rush and Galizia 1994).

The next major undertaking to comply with NHPA mandates was the redevelopment of Madison Barracks, built in 1819 partially over the remains of Fort Pike. The Cultural Resource Group (CRG) conducted investigations in 1986 around the old post hospital (built 1899), on the former parade field, around the old stone barracks, and along the shoreline of Mill Creek and Black River Bay. Most of the investigations involved shovel testing at 100-foot intervals and exploratory trenching (CRG 1987). Most investigations documented post-1812-period disturbance. They recommended further testing in several

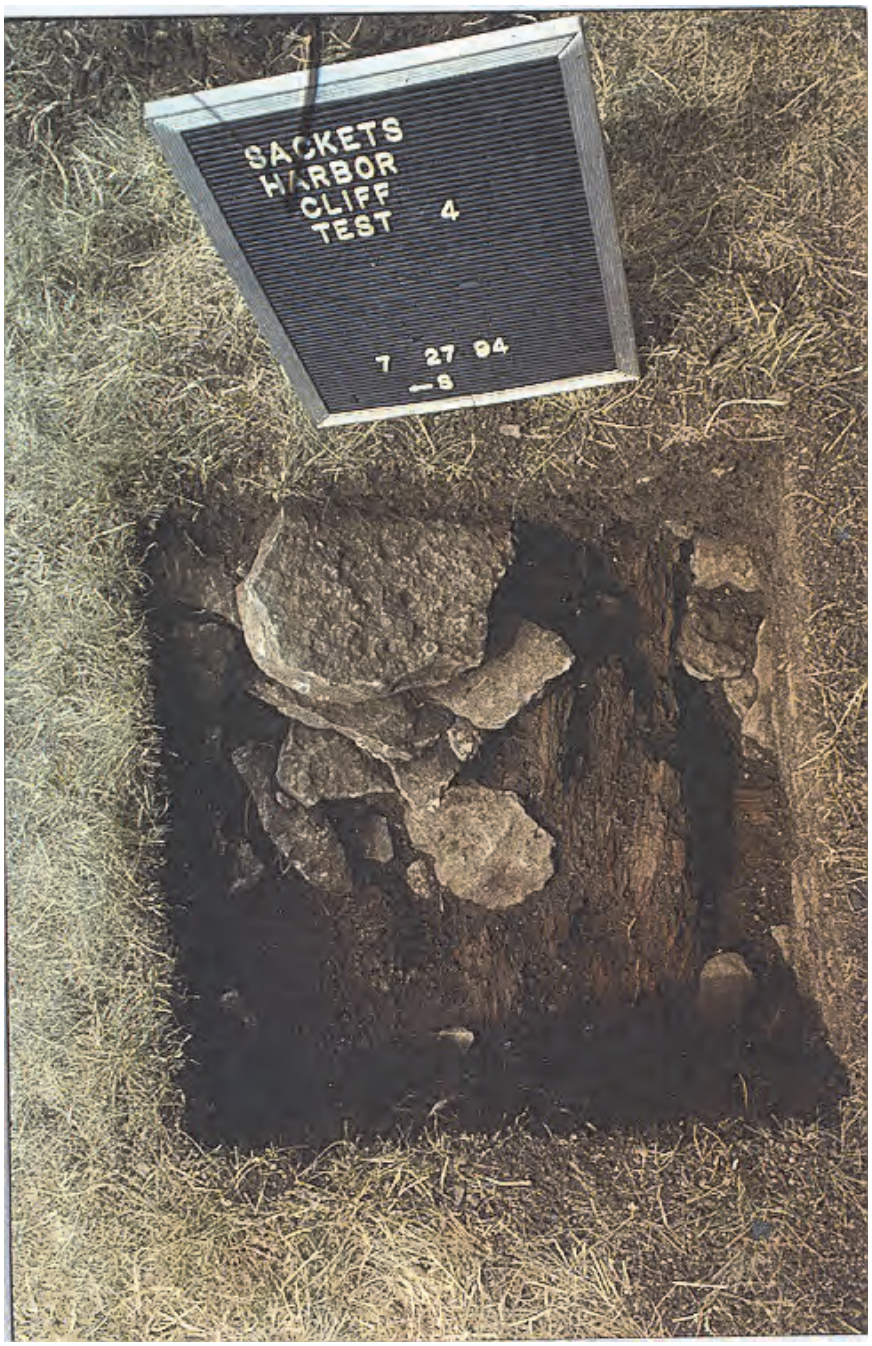

Figure 5. More log bulwarks beneath the Fort Tompkins earthwork documented in 1984 along the edge of the lake bluff.

sensitive areas that was continued in 1988 by Greenhouse Associates (GA) (Roberts 1989). For the most part, only 19th and 20th century artifacts in a generalized midden context were found.

Near the old post hospital, which was the site of Fort Pike from the 1812 period (Figure 1), GA excavated a backhoe trench and encountered a ditch which at the time was ignored as the 1899 hospital disturbance. On reflection, this may have been the filled ditch of Fort Pike. Near there, GA found human remains as well. On exposure, the remains were determined to be historic. It was thought at the time, and continues to be popular opinion today, that this was an old military cemetery, but later research by the author suggests this was the (Merchant) Marine Hospital cemetery established in 1807. Shovel testing

around the Fort Pike earthwork by the author in 2008, and test pitting in the lawn south of the earthwork in 2014 produced few artifacts (Abel 2008).

CRM investigations have continued around Madison Barracks in areas which GA designated as needing further investigation. The Thousand Islands Chapter (TIC) of the New York State Archaeological Association, under the direction of the author (2002), conducted a shovel test survey around the old post hospital (built 1838) in 1999. Laurie Rush (2005) conducted shovel test survey for a water and sewer line replacement in 2005. Nothing related to the 1812-period was found in either project. The author was contracted in 2010 to assess plans for future development at Madison Barracks. The assessment synthesized previous investigations and recommended areas which still needed further study, including the 1814 naval rope walk site (Abel 2011a). Trenching there produced negative results, while exploration of a nearby domestic site revealed that the cellar hole had likely been filled with debris excavated from construction of the post hospital built in 1899, because it contained 1812-period Artillery coatee buttons mixed with later artifacts (Abel 2011b).

In 2006, the author was contracted to investigate a proposed housing development adjacent to Hill Avenue, in an area that historical aerial photography suggested might contain segments of the 1814 village palisade (Abel 2007). A series of 4-foot-wide backhoe trenches was excavated across the parcel. One of these trenches intersected what appeared to be a segment of a shallow ditch 2 m wide and 50 cm deep, filled with flat limestone fieldstones (Figure 6). Though not explored further, the feature was designated as significant and development of the area was avoided. Trenching in other areas has failed to find further evidence of the ditch (Rush and Keck 2009).

Figure 6. Trench excavation in the Battlefield Commons subdivision intersecting what is believed to have been a portion of the 1814 palisade trench.

The author was contracted in 2016 to conduct investigations for a residential lot subdivision along Hill Avenue, an area that archival research suggested was within the Smith Cantonment (Abel 2016). Five-meter interval shovel testing and total coverage metal detection were conducted. The shovel tests did not find any subsurface features or middens, and few artifacts were recovered including a musket ball and a few buttons. The metal detection, however, recovered several 1812-period artifacts including neck stock clasps, a cross belt breast plate, sprue, a lead flint wrap and a brass band (Figure 7). They were, however, in a mixed general midden with later artifacts.

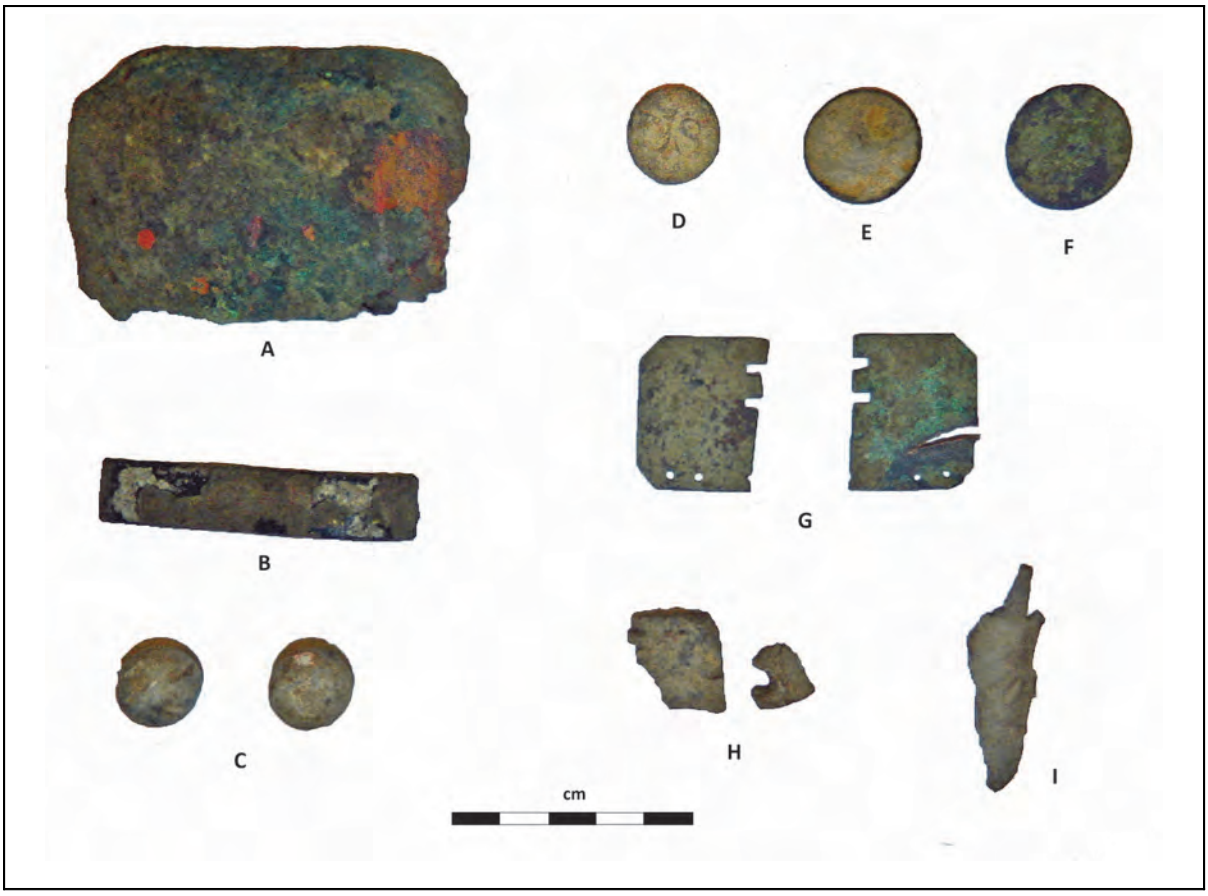

Figure 7. Artifacts from the Holman lot, Sackets Harbor; A: brass belt plate, B: brass strip, C: lead round shot, D: pewter US general service button, E-F: plain brass buttons, G: stock clasps, H: possible lead flint wrap, I: lead sprue.

Academic Research

It had been common knowledge since the late 1800s that the wreck of at least one of Chauncey's ships was present in the harbor. Popular legend identified it as the ship *Jefferson,* but subsequent research has made it unclear whether it is the *Jefferson,* or her sister ship the *Jones* (Figure 1). Both were 22-gun brigs launched in April 1814. Like the rest of Chauncey's fleet, the ship was put in ordinary at the end of the war and eventually sank into the harbor mud. Somehow, it survived the 1820s dredging of the harbor.

In 1984, underwater archaeologists Kevin Crisman and Arthur Cohn surveyed the wreck (Crisman 1984; Crisman and Cohn 1984). They assessed that about 115 feet, 75% of the ship's hull, remains intact including one complete side (Figure 8). Subsequent excavation of the hull recovered a complete officer's pistol, military coat buttons, dinnerware, coins, and kitchen utensils. They also salvaged a complete wooden grate hatch (Crisman 1989, 2014).

Figure 8. Underwater photo of the ship *Jefferson* or *Jones* in Sackets Harbor.

Another underwater archaeological study was undertaken of the bay waters outside the harbor under the direction of Ben Ford, then a graduate student at Texas A&M University. His goal was to survey the bottom of Black River Bay for the rest of Chauncey's fleet. Using side-scan sonar with limited diving to inspect targets, Ford and colleagues were not able to locate any wrecks in the bay consistent with Chauncey's fleet (Ford 2015; Ford, et al. 2012; Ford, et al. 2013).

Between 2005 and 2009, the TIC, under direction of the author (2015b), conducted investigations of the Storrs Harbor site (Figure 1). Located three miles northeast of Sackets Harbor, this was the site of a naval shipyard involved in construction of the 106-gun *Chippewa,* one of two first-rates the US Navy began in the winter 1815. The ship was never completed, and the site was dismantled in 1833. Through mostly 1 m square test pits, the chapter excavated a convincing assemblage of late-war military artifacts, including artillery and infantry coatee buttons, ship spikes, shot and musket balls (Figure 9). An 1814 Halifax half-penny token was also recovered. Through the artifact assemblage, the probable locations of the blacksmith shop and a blockhouse were estimated though no structural features were found. The site was listed on the National Register of Historic Places, nearly 200 years to the date of when it was constructed. Underwater archaeology off the shore of the site produced no evidence of the ship or shiphouse (Ford 2009).

Recent Investigations Sponsored by the American Battlefield Protection Program

In contrast to the numerous archaeological studies of the areas around fixed War of 1812 structures, there had been few such investigations of the 1813 battlefield itself (Figure 1). In 2004, however, such a comprehensive study was sponsored by an American Battlefield Protection Program (ABPP) grant. Hartgen Archaeological Associates (HAA) conducted the study (HAA 2007). They conducted archival research of the battle, defining a study area for the battlefield based on a KOCOA (**K**ey terrain, **O**bservation and fields of fire, **C**over and concealment, **O**bstacles, and **A**venues of approach/withdrawal) analysis of the battlefield terrain. They used the analysis to predict where significant events and archaeological resources were likely to be found.

Figure 9. Artifacts from the Storrs Harbor site; Top row: Infantry coatee buttons, middle left: brass Artillery militia coatee button, middle right: gunflints, bottom left: iron and lead shot, bottom right: 1814 Halifax half-penny token.

In the field investigations, they gridded the accessible battlefield (the "study area") into 100 m squares, conducting full-coverage metal detection in nine of them. Much to everyone's astonishment, considering 200 years of collecting and looting, they found significant artifactual evidence of the battle. The artifacts included musket balls, grape shot, buttons, coins and buckles. By plotting where each was found (Figure 10), they were able to verify key aspects of the battle and found evidence disputing the historical record of a hasty militia retreat (Kirk and McQuinn 2016).

In 2018, the State of New York acquired Horse Island, the site of a militia picket camp during the war and the British landing in 1813. They were awarded a ABPP grant to conduct an archaeological assessment of the island. Fieldwork by the Public Archaeology Facility (PAF) occurred in 2020. While tantalizing details have been made public about the success of the survey, we eagerly await the published results.

Current Repositories

Currently, extensive collections from archaeological work at Sackets Harbor reside in only a few repositories, some more secure than others in terms of potential for long-term preservation. By far the largest collections are housed at the NYS Parks Historic Sites Branch and New York State Museum. Having sponsored the largest research project in the village to date, this is not surprising. The next largest collections are arguably my own. Spanning multiple projects throughout the village, these collections are accessible, but remain vulnerable to loss or damage in the long term. The Village of Sackets Harbor has been reluctant to accept responsibility for the collections, and other repository options are limited to those

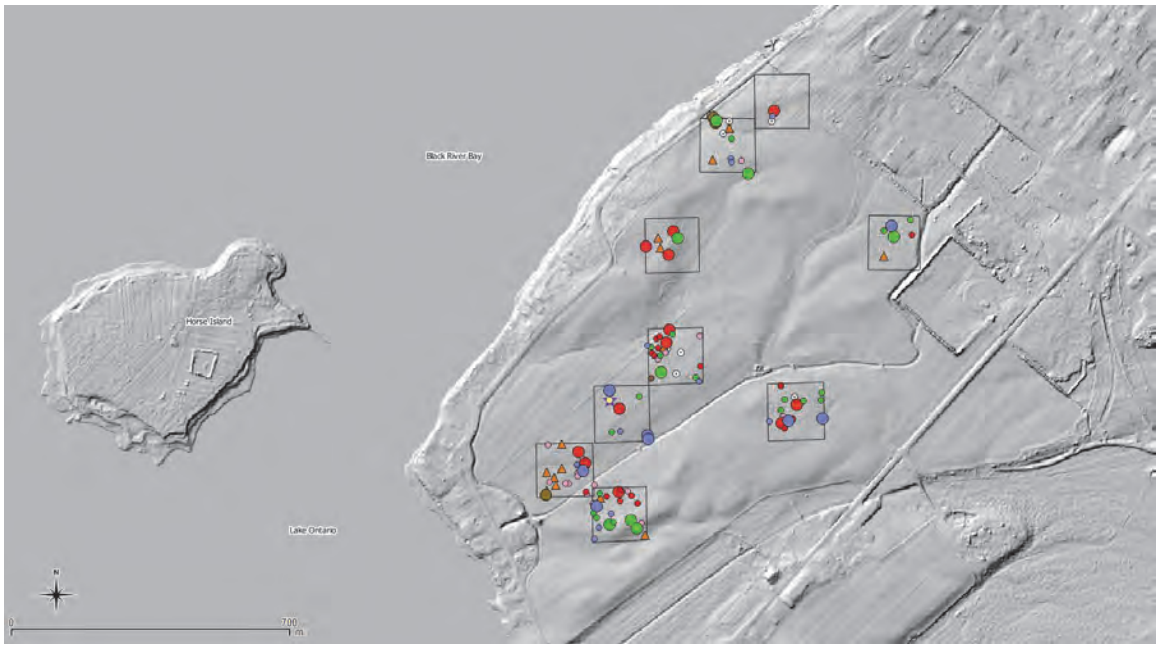

Figure 10. Distribution of artifacts found during survey of Sackets Harbor battlefield on LiDAR background. Modified from data reported by Kirk and McQuinn 2016.

that remove the collections from the area. The Jefferson County Historical Society also houses a small collection of artifacts from the village, some of which are interesting in having been curated among families prior to their donation to the museum. They include a scrimshaw powderhorn made a generation earlier and reportedly taken from the battlefield shortly after the battle in 1813, a NYS militia canteen, firearms reportedly carried in the battle, and other memorabilia. Behind this are numerous private collections that I've had the privilege to examine over the years. Some are more provenienced than others, like all cultural collections, but they nonetheless provide some data.

Preservation and the Future of Research in the Village

Despite 200 years of looting and expanding development, Sackets Harbor remains one of the best-preserved War of 1812 archaeological sites, according to studies sponsored by ABPP. And to be sure, there has been a lot of archaeological investigation of this site to date. Much more research could be done. There are yet several unanswered questions about both the battlefield and the cantonments that could be investigated. In addition, though a large portion of the battlefield is under state stewardship, most of it is still privately-owned and vulnerable to looting and development.

The most prescient question is the location of the 1813 British cemetery. Following the battle on April 29, 1813, around 30 British soldiers were buried in a common grave somewhere near the landing site on the mainland (HAA 2007; Wilder 1994). There has been significant residential development along the shoreline here, but no systematic archaeological investigation has attempted to locate the site. There have been no reported finds of human remains in the area, and it is unlikely that such would have gone ignored by the press. Some residents claim to know where the site is, but no one has yet verified the location. The cemetery is still out there, somewhere, and should be located and protected.

Little has also been done to successfully delineate the walls of either Fort Tompkins or Smith Cantonment, which should at least be partially preserved. While investigation was done by NYS Parks along the bluff edge, much more could be done. The barrier to this research is state bureaucracy since much of the area lies within the state-owned battlefield park. The state would only sponsor investigations out of necessity, and any academic research would have to contend with an enormous amount of paperwork.

Interest in the War of 1812 has diminished significantly in the years following the bicentennial, and private funding for its research has similarly dried up. The TIC still actively conducts limited research in the area, but that activity is waning. Like all non-profit organizations, TIC is also suffering from the attrition of aging members. The ABPP thankfully continues to support investigations on the battlefield, but this research is limited to delineation and preservation, not academic research. Research continues, for the most-part, under CRM-mandated investigations, but accessibility to reports remains a significant barrier.

Much more could also be done to locate the village perimeter palisade and its associated perimeter forts. While there have been some attempts to locate these features, success has been as limited as the attempts. Development has likely destroyed significant portions of these earthworks, but segments may remain in undeveloped portions of residential and vacant lots. Remote sensing would be especially useful for assessing the potential for these features to be preserved, but it will likely be driven again by CRM-mandated research. If the state historic preservation office does not request the research, it likely will not be done.

Metal-detector-based research, tied with sub-meter GPS location, should be implemented throughout any areas of the village where feasible, to assess the extent of the 1813 battlefield more accurately. While historical descriptions of the battlefield exist, ABPP-sponsored assessment has shown these descriptions to conflict with archaeological reality. Only when we have a much broader systematic search for battle activity will we be in a better place to accurately delimit the field of the 1813 battle.

There is still enormous potential for underwater archaeology in the harbor and beyond. A systematic underwater survey of the area is incomplete and targeted to high-potential areas. Continuing research on the remains of the *Jefferson/Jones* is lacking since the 1984 project. Coupled with archival research, there is much potential for the comparison of lake and maritime ship construction.

Conclusions

Sackets Harbor continues to be a significant site for archaeological research into the War of 1812. But knowledge of the site, and its role in the war suffer from a lack of sustained research. The War of 1812 is not popular in American memory, and thus interest in it waxes and wanes significantly with anniversary dates. In addition, there has been little sustained academic interest in studying the war period of the village as an archaeological and anthropological study unit. Military archaeology is about much more than the wars, their battles, and their facilities. It is ultimately about understanding the role of warfare in shaping human action and understanding the culture of that life, for the soldiers of all ranks, and for the civilian populace that hosted and supported the conflict. We are far from this understanding in any conflict, and especially in the War of 1812. Sackets Harbor is one of the best-preserved places to begin that research.

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EXCAVATIONS AT THE CHAMPLAIN MEMORIAL LIGHTHOUSE AND SITE OF THE GRENADIERS' REDOUBT, CROWN POINT, 1978

PAUL R. HUEY

The French at Crown Point in 1740 built a fortified windmill on a high point east of Fort St. Frédéric, a strategic point closest to the east shore of Lake Champlain with a view to the south. The French destroyed both their fort and the windmill with the advance of a British army in 1759. The British immediately began building a new fortress with outlying redoubts. One, the Grenadiers' Redoubt, was on the site of the French windmill. The British fortress burned accidentally in 1773, and in 1774 British engineers designed fortifications around the Grenadiers' Redoubt to replace the burned fort. These were believed never to have been built. Excavations in 1978, however, revealed that a substantial trench was in fact constructed to defend the point. It is believed the fortification was constructed by the British under General Carleton in 1776, and regimental buttons indicate British occupation in 1777 under Lieutenant-General Burgoyne.

Introduction

On September 29, 1978, the Archeology Unit of the Bureau of Historic Sites, New York State Office of Parks, Recreation and Historic Preservation completed an interesting excavation project at Crown Point State Historic Site. The excavations were at the proposed site of the new Department of Environment Conservation sewage filtration bed and lift station near the Champlain Memorial lighthouse, site of the British Grenadiers' Redoubt at Crown Point built in 1759 (Figures 1, 2). The Redoubt stood on a point of land commanding the narrow width of Lake Champlain at Crown Point. This small point was previously the site of a fortified stone windmill (Figure 3) built by the French in the summer of 1740 as a key position in the defense of nearby Fort St. Frédéric (Beauharnois and Hocquart 1740). The windmill was blown up and destroyed by the retreating French in 1759, after which the British arrived and constructed the Grenadiers' Redoubt on the site. The Redoubt was one of three redoubts that served as outworks surrounding the immense central Crown Point fort constructed by the British beginning in 1759, but that fort was destroyed in a massive accidental fire and explosion in 1773. The Redoubt was about 1800 ft northeast of the British fort. Engineers' proposals in 1774 to enlarge the Grenadiers' Redoubt as a larger fort (Figure 4) to replace the recently burned British fort were apparently never carried through (Anonymous n.d.:15). A lighthouse was built on that site on the point in the 19th century, and this was remodeled into the present Champlain Memorial (Figure 5) which was dedicated on July 5, 1912, in the presence of Governor John A. Dix (Holden 1913:18).

Three trenches each between 80 and 84 ft in length were laid out in a north-south direction to cover most of the proposed filter bed site (Figure 6). Each trench was 2 ft wide, and the trenches were 13 ft apart. In addition, a 5-ft by 5-ft test square was excavated on the proposed lift station site. Running south of the Grenadiers' Redoubt and parallel to the bluff overlooking the lake, the trenches were numbered 1, 2, and 3, with trench #1 placed within 2 ft of the edge of the bluff (Huey 1978a, 1978b). The artifacts and stratigraphic evidence from the project remain to be studied thoroughly. They may confirm or alter the preliminary conclusions about the site that follow, and they will certainly provide additional significant information.

Data Recovery and Interpretation

The first significant discoveries occurred in Trench #1, where precontact Native American flint chips and fire-burned rock from a hearth and/or occupation zone were found in association with a possible Brewerton Side-Notched point later re-utilized as an end scraper, together with two non-diagnostic broken sections of points. The Brewerton Side-Notched point dates from around 5000 to 3000 BP (Ritchie 1961:19). Because this trench revealed evidence of a precontact Native American site, with

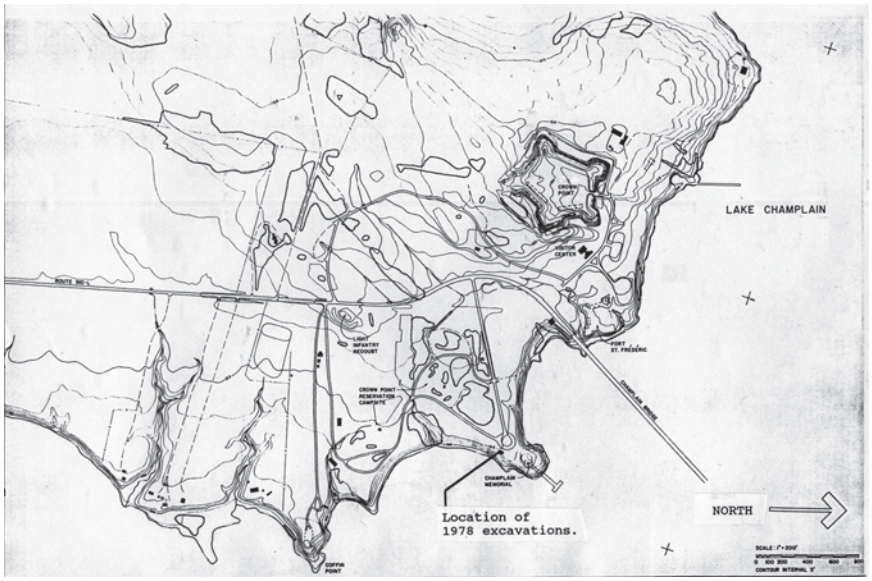

Figure 1. Base map of the northeast portion of Crown Point with location of the 1978 excavations.

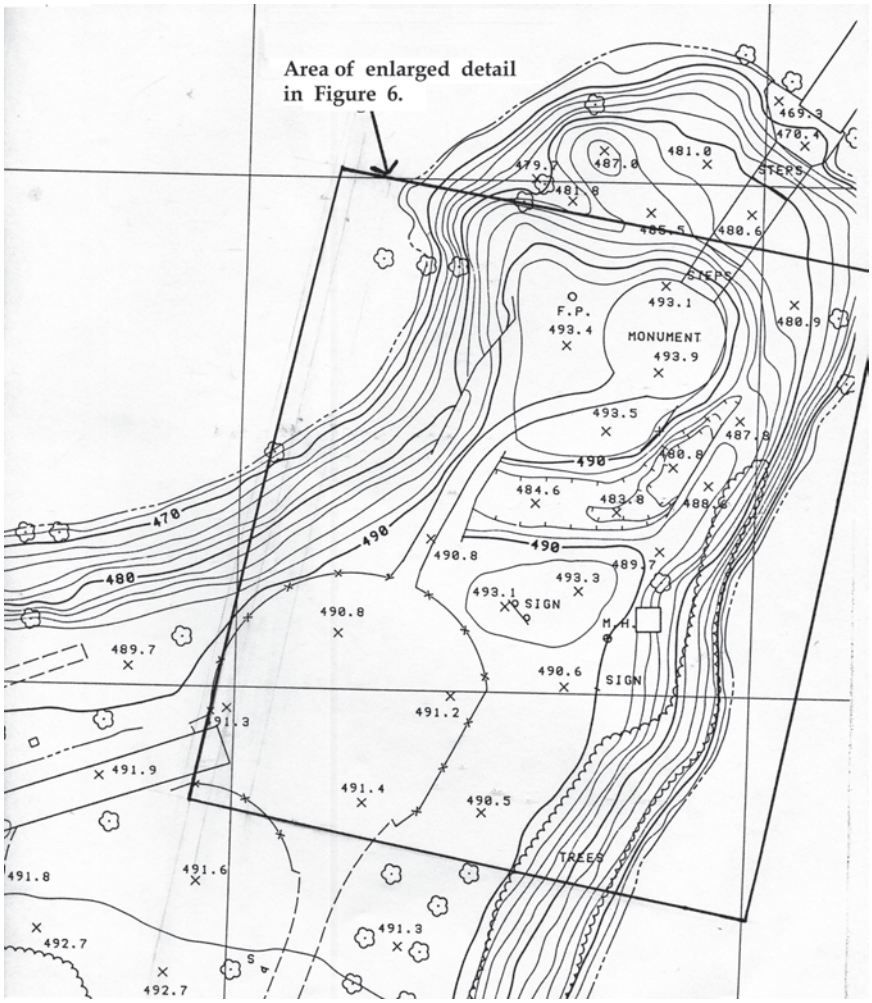

Figure 2. Survey map of the Champlain Memorial lighthouse and Grenadiers' Redoubt site at Crown Point. The rectangle marks the area depicted in Figure 6.

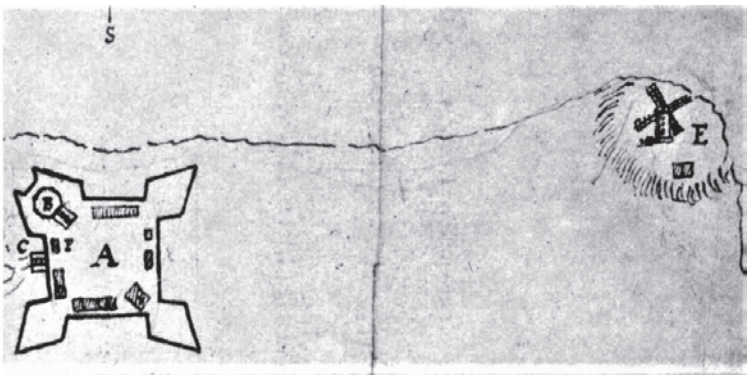

Figure 3. Detail from an English map of Crown Point dated January 20, 1748/9, showing Fort St. Frédéric and the windmill to the east.

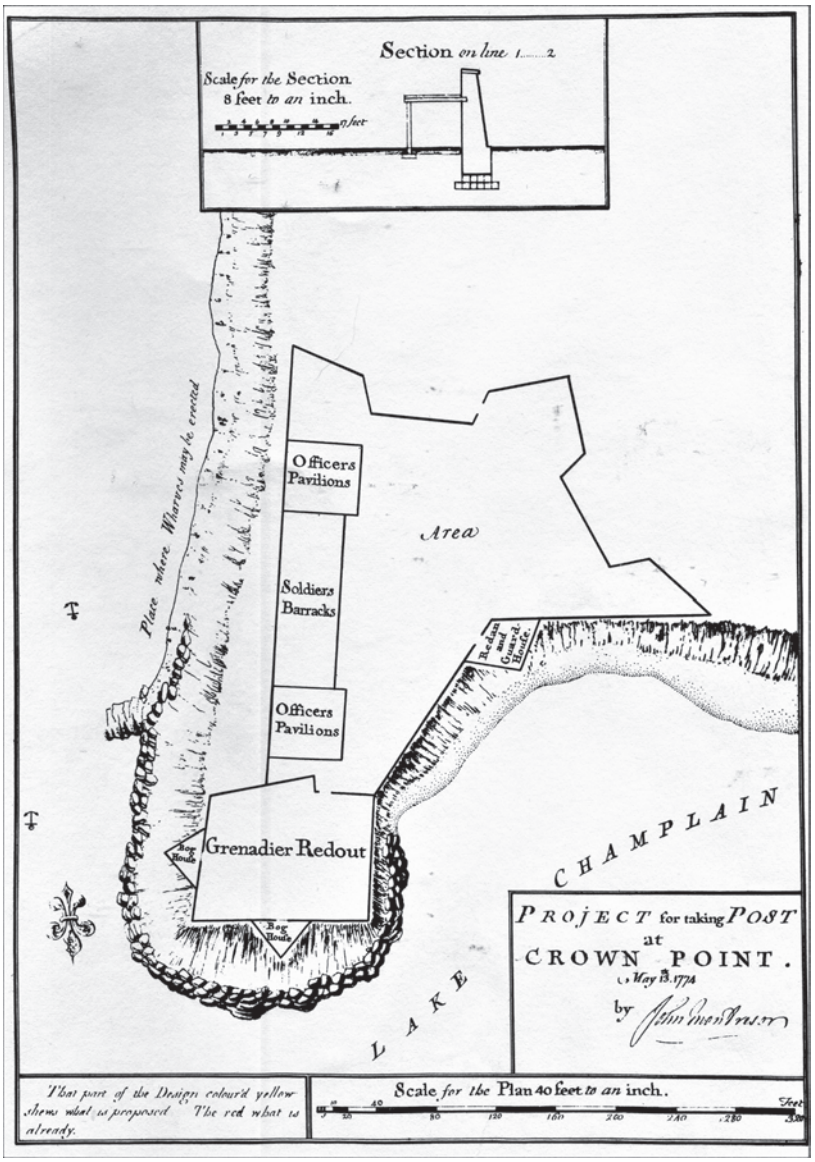

Figure 4. The Grenadiers' Redoubt at Crown Point with a proposal to strengthen it with additional fortification, dated May 1774 (British Library, Cartographic Items, Maps K. Top.121.54).

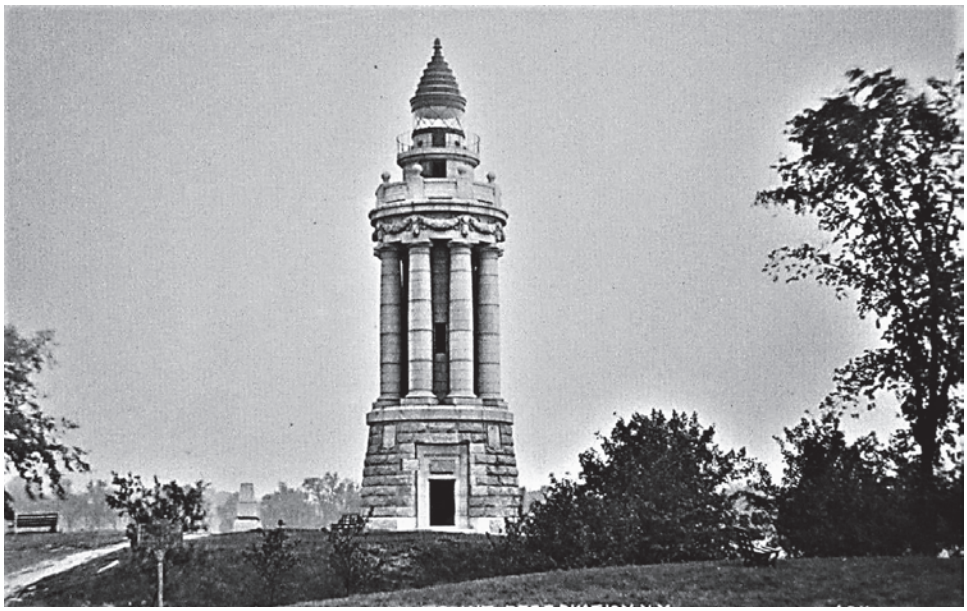

Figure 5. View of the Champlain Memorial lighthouse, with a portion of the original moat of the Grenadiers' Redoubt visible in the foreground.

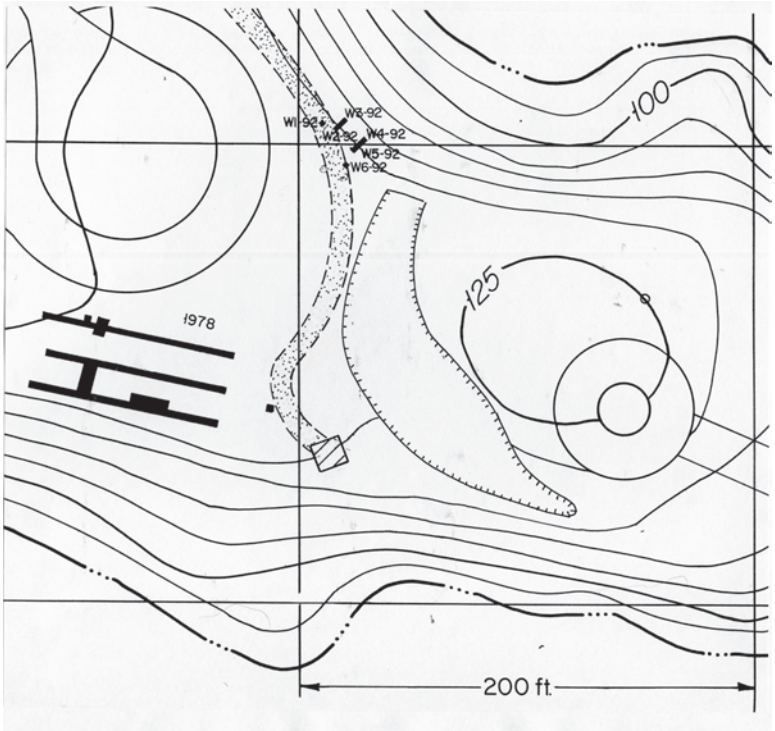

Figure 6. Detail of the area outlined in Figure 2, with the locations of excavation units and trenches excavated in 1978.

an occupation zone resting on natural subsoil below the later levels of historic occupation, Trench #1 was enlarged with excavation of a 5-ft by 5-ft area to allow further definition and identification of the precontact occupation area. This expansion resulted in recovery of refuse bone fragments in the precontact zone and a triangular Levanna point (Figure 7). The Levanna point (A.CP.3.1978.144) dates

Figure 7. Levanna point (A.CP.3.1978.144).

from the Late Woodland period, ca. 1100 to 650 BP (Ritchie 1961:31). No pottery fragments, pits, or other features were discovered. Nevertheless, these discoveries represent probably the first controlled excavation of precontact activity at Crown Point, about which very little had been known previously.

The three trenches also revealed several significant archaeological features that provided new information about occupation during the colonial through Revolutionary War periods. These features were excavated as fully as possible to retrieve the information they contained, thereby mitigating the adverse impact of the proposed filter bed construction on archaeological evidence there.

Perhaps the most intriguing feature was a trench or ditch that once ran across the point at nearly right angles to the three test trenches (Figures 8, 9). This trench feature was completely excavated between test trenches #1 and #2, in addition to about 2 additional feet on each side of test trench #3. The trench was generally about 4 ft wide and at least 30 in deep. Approximately 3 ft of the trench had been destroyed in the 1960s, when a sewer line was installed in a pipe trench of that width running parallel with and between test trenches #2 and #3. (Sewer construction at that time was unfortunately not preceded by archaeological surveys.)

This defensive trench contained an intentionally placed series of rocks in the bottom, and the south edge of the trench was carefully angled. No post molds were found, however. It is believed the trench may have contained a wood frame sleeper beam or log that anchored a row of pointed stakes or pickets at an angle. Unfortunately, the fill in the trench contained no diagnostic artifacts and very few materials of any kind. The artifacts in the trench were limited to part of a heavy sounding lead, two musket balls, two small iron shot, some refuse bone, a single piece of window glass, and several small pieces of broken wine bottle. The musket balls (A.CP.3.1978.144) are approximately .66 and .69 caliber (Figure 10). One of the round iron shot (A.CP.3.1978.151, AC2554) weighs 160 gm and is 1.375 in in diameter (Figure 11).

If this trench had been dug by the French as a defense line for the fortified stone windmill, one might expect the trench fill to contain rubble and debris left from the explosion and destruction of the windmill by the French in 1759. This event must have scattered debris, and its absence in this trench suggests a later date in the British period, perhaps considerably after construction of the Grenadiers' Redoubt by the British in 1759 or during the Revolutionary War. The musket balls are of a size not only used in French but also English firearms of the period. Musket balls of .69 caliber were used with British .75-caliber smoothbore flintlock muskets of the 1770s. The .66-caliber musket ball could have been used with a French .72-caliber musket of the period, if not with a French or English pistol

Figure 8. Eastward view of the defensive entrenchment, between trenches #1 and #2. Scale is in feet.

Figure 9. Westward view of the defensive entrenchment, between trenches #1 and #2. Scale is in feet.

Figure 10. Lead musket balls (A.CP.3.1978.144) of approximately .66 and .69 caliber.

Figure 11. Iron shot (A.CP.3.1978.151, AC2554) weighing 160 grams, 1.375 in in diameter.

of .69 caliber of which there are many examples in private collections. The trench, as a protective picket line, nevertheless would have provided an effective defense of the windmill point from land attack from the south. The trench crossed the windmill point in an exact alignment with the Bastion du Moulin (Mill Bastion) of Fort St. Frédéric to the west, from which cannon fire could sweep the trench, if it was of French origin, making it untenable by attackers (Franquet 1752) (Figure 12).

Figure 12. View eastward from ruins of the French fort toward the 19th-century lighthouse and lighthouse keeper's house built on the site of the Grenadiers' Redoubt, before construction of the Crown Point bridge.

Trench #3 contained additional items of interest. South of the unidentified defensive trench or ditch a single filled pit of small size was found. The uppermost lens of fill in this pit contained several very small pieces of iron and a pewter button of the British 20th Regiment (Figure 13). Elsewhere in Trench #3, in a recently disturbed context, was also found a British 62nd Regiment button (Figure 14). Finally, the upper levels of Trench #3 contained extensive deposits of recent fill as well as a deposit of early 20th-century debris from a 19th-century barn that evidently stood nearby.

Figure 13. British 20th Regiment button, front and back (A.CP.3.1978.110, AC2506).

Figure 14. British 62nd Regiment button, front and back (A.CP.3.1978.159, AC2542).

The 5-ft by 5-ft test square on the lift station site was closer to the south moat of the Grenadiers' Redoubt. This test square revealed the southern edge of a deep deposit of clay and was evidently graded and sloped up toward the moat of the redoubt and formed the glacis. This glacis evidently did not have a stone covering.

Summary and Conclusions

The excavations produced evidence of precontact occupation at Crown Point, possibly in separate episodes during the Archaic and the Late Woodland periods. The defensive trench that crosses the point on which the French fortified windmill and then the Grenadiers' Redoubt were built remains incompletely dated or documented. The absence of debris in the trench suggests it was dug and filled later than the demolition of the French windmill by an explosion in 1759. The discovery of buttons of the British 20th and 62nd Regiments suggests the trench dates from the Revolutionary War.

The Americans took Crown Point from the British in May 1775 and held it until October 13, 1776. The defeat of the American fleet on Lake Champlain in the Battle of Valcour Island on October 11 and 13 preceded the rapid evacuation and retreat of the Americans from Crown Point southward to Ticonderoga. British troops under Canadian Governor and General Guy Carleton occupied Crown Point, and Carleton's troops included the 20th Regiment of Foot and perhaps the 62nd Regiment (Troiani and Kochan 2012:66, 131). A French map of 1776 (Anonymous 1776a) clearly shows Carleton's encampment between two other British redoubts, the Light Infantry and Gage's redoubts, located southeast and southwest of the central Crown Point fort. The camp of the 20th Regiment was just east of the southwest redoubt, Gage's Redoubt, a location that is quite far from the Grenadiers' Redoubt. The same map, however, actually shows a zig-zag entrenchment or *crémaillière* defending the Grenadiers' Redoubt that probably represents the trench discovered in the excavations (Figure 15). Historian Thomas Barker notes that this map "shows how the tactically-wary Canadian governor arrayed his local forces in a defensive manner." The map, however, does not show any camp for the 62nd Regiment (Barker and Huey 2010:100). At least two other maps depicting Carleton's occupation of Crown Point in 1776 show, in less detail, the angled fortification at the same location defending the Grenadiers' Redoubt. One was drawn by Georg Heinrich Paeusch of the Hessen-Hanau German troops and shows the fortification east of the British fort and southeast of the ruins of Fort St. Frédéric. The other map was drawn in March 1777 in Canada by Jakob Heerwagen as a compilation from other sources (Barker and Huey 2010:95-105) (Figure 16). It is quite possible that Carleton in 1776 began to enlarge the Grenadiers' Redoubt with a defensive trench in accordance with the engineers' proposed plan of 1774 (Figure 4).

Figure 15. Detail from a French map made in 1776 showing the entrenchment or *crémaillière* constructed to defend the Grenadiers' Redoubt, out of scale but east of the Crown Point fort and southeast of the ruins of the French fort (Anonymous 1776a).

Figure 16. Detail from the map drawn in March 1777 in Canada by Jakob Heerwagen as a compilation from other sources depicting the British occupation of Crown Point in 1776, showing the angled fortification east of the fort defending the Grenadiers' Redoubt (Barker and Huey 2010: 102).

On October 14, 1776, Carleton ordered additional troops to join the army at Crown Point, including "engineers and all artificers," who were to come with all the necessary tools for rebuilding the burned-out stone barracks in the fort and to build entrenchments (Brymner 1886:347). An officer writing to England from Chambly, on the outlet of Lake Champlain in Canada, reported on October 23 that "We are fortifying Crown-point" (Anonymous 1776b). The Americans were also aware of this work, and on October 24 Benedict Arnold at Ticonderoga wrote to Major-General Philip Schuyler that "the Enemy from the best accounts we can collect, are endeavouring to Fortify Crown Point" (Anonymous 1868: 518). With cold weather rapidly approaching, however, the British left Crown Point on November 2 and returned to Canada. Lieutenant-General John Burgoyne, then a subordinate, on November 7 criticized Carleton for evacuating Crown Point, since Carleton could "have held the post if he had ordered the troops to cover themselves, to construct huts instead of barracks & called in his own good sense to direct the fortification without being guided by the drawings & technical reasonings of dull, formal, methodical, fat, engineers" (Cubbison 2012:160).

Burgoyne in 1777 commanded the second British invasion southward from Canada up Lake Champlain, and Burgoyne's army included both the 20th and the 62nd regiments. When the army arrived at Crown Point on June 26, 1777, "the two English brigades under the command of General Philips occupied the plain and the fort of Crown Point. Lt. Col. Breymann's corps [occupied] the right bank of the lake, so-called Windmill Point, and further to the left toward so-called Chemney Point. Gen. V. Riedesel made his camp with the German brigade" (Hubbs 1978:273-274). One of the two brigades under Philips forming the right wing of Burgoyne's army, the Second British Brigade commanded by Brigadier-General James Hamilton, consisted of the 20th, 21st, and 62nd Regiments. In forming a line of battle the

20th Regiment marched behind the 62nd Regiment, and the 20th Regiment always encamped to the immediate right of the 62nd Regiment (Baxter 1887:196; O'Callaghan 1860:102; Rogers 1884:68). No record has been found indicating regiments of Hamilton's Brigade ever encamped on the point with the Grenadiers' Redoubt, site of the former French windmill.

The names for Chimney Point and for the opposite high point directly across Lake Champlain on which the French fortified windmill and the British Grenadiers' Redoubt had been built were sometimes reversed and confused. The name "Windmill Point" was sometimes mis-applied to Chimney Point, which was not known to have had a windmill, unlike the Grenadiers' Redoubt point. A British map from 1777 erroneously shows Chimney Point as "Wind Mill Point" on the right (east) bank of the lake, at the same time the map also shows at least one other major landmark on the wrong side of the lake (Rogers 1884: 90a). The map shows a string of boats connecting Chimney Point (mislabeled "Wind Mill Point") with the Grenadiers' Redoubt point, the true "Windmill Point."

Orders were issued that each wing was to act independently of the other, and "retrenchments and fleches were thrown up for the regiments of the entire army." Each wing received six 6-pounders and three 3-pounders (Stone 1868:109-110). "Capt. Pauch of the Hessian Artillery was sent with his own Company and Four 6-Pounders to join the Germans, now encamped on *Windmill Point*" (Rogers 1884:79). The entrenchment from 1776 defending the Grenadiers' Redoubt apparently survived, however, and because Burgoyne found "that neither the description of others, nor the delineation of maps and charts have been so perfect in every particular, as not to make some change in the intended dispositions necessary," at least some of the entrenchments which Burgoyne had intended to construct at Crown Point were not actually built (Anburey 1789:266, 307-308). He ordered fortifications "in the best manner [in] the circumstances of the place," and he declared "Brest Works of earth and Timber are generally to be effected in a short time, and the Science of Engineering is not necessary" (Rogers 1884:70-71).

The army remained at Crown Point for only three days before advancing against Ticonderoga, during which period only Breymann's corps on June 28 "moved a half-hour further forward to cover the army's front more effectively and to take a better position." On June 30, when Breymann advanced his reserve corps even farther south, the day before the entire army left Crown Point, "a detachment of one staff officer and two hundred men were stationed around Crown Point to cover the depot there" (Hubbs 1978:274-275). Burgoyne had established his supply depot on Chimney Point, directly across from the point with the Grenadiers' Redoubt, and the Redoubt may have been the landing place for provisions and supplies from Chimney Point. Friedrich Baum on June 28, in fact, mentioned "the difficulty of fresh supplies across the Lake" (Baum 1777). To explain the presence of the 20th and 62nd Regiment buttons recovered in the excavations near the Grenadiers' Redoubt, it is possible some soldiers of those regiments were left there after June 30 to guard the landing from Chimney Point. Otherwise, the 20th and 62nd regiments were a part of the right wing of Burgoyne's army, which camped probably between Gage's Redoubt and the Light Infantry Redoubt, not close to the Grenadiers' Redoubt (Hubbs 1978: 269-270).

The 20th and 62nd regiments were subsequently captured at Saratoga, and the 20th Regiment, as prisoners of war, encamped at Somerville, Massachusetts, and then at various other locations until 1783 (Miller 1943:53, 60). Buttons of the 20th Regiment, for example, have been found at the site of Camp Security in York, Pennsylvania, occupied from 1781 to 1783 by Burgoyne's captured army (Catts and Roberts 2000). The 20th Regiment button excavated near the Grenadiers' Redoubt is not the first occurrence of examples of 20th Regiment buttons at Crown Point. In August 1963, the museum display at Crown Point Reservation then contained two buttons of the 20th Regiment. The Hartley Collections in the Margaret Reaney Memorial Library at St. Johnsville, New York, also include at least three 20th Regiment buttons. One of these was found at "Fort Crown Point" in September 1908, and another was found in Prospect Hill Park at Somerville, Massachusetts, in 1902 (Miller 1943:52, 53).

Interestingly, Hartley was, in 1908, at Fort St. Frédéric and Crown Point for several days with William L. Calver, the button collector. One day they walked south about a mile along the lake shore to the first farm, where they met a young farmer named John Rains who showed them a collection of artifacts he had found on the farm. The collection included not only a 20th Regiment button but also a very fine compass with its glass face intact. The initials J.B., engraved on the case, were supposed to indicate ownership by John Burgoyne. Subsequently, Hartley discovered that Burgoyne's army is

recorded to have camped on the plain about a mile south of Crown Point on the night of June 30, 1777, and the next morning notice was given that General Burgoyne had lost his compass and that the finder would be rewarded (Miller 1943:45-46). This interesting anecdote is not supported by any presently known primary source. The United States Census records indicate that Hartley and Calver evidently spoke with Henry Raine (1848 - 1928) or, more likely, with Henry's son, Earl Raine (1879 - 1951). Both are buried in Forest Dale Cemetery in Crown Point. The 1900 and 1910 Census records list Henry's farm as a dairy farm and suggest that the farm was the second farm south of the lighthouse.

Calver and Bolton illustrated examples of a type of 20th Regiment button found at Somerville, Massachusetts, that is different from the one that was excavated at Crown Point in 1978 (Calver and Bolton 1950:100, 112). The button found at Somerville is identical to one found near Saratoga Battlefield and to one excavated from a site at Crown Point in an area near where both Carleton's army and the right wing of Burgoyne's army camped in 1776 and 1777 (Troiani and Kochan 2012:67; Christopher Miller, personal communication, April 10, 2021). On the other hand, at least one other example of the pewter 20th Regiment button identical to the one that was excavated near the Grenadiers' Redoubt at Crown Point has been found elsewhere in the Champlain Valley (Troiani and Kochan 2012:67, #m). Examples of the pewter 62nd Regiment button matching the example excavated near the Grenadiers' Redoubt are also less common. One example was found "near Fort Gage" at Lake George (Troiani and Kochan 2012:131, #e). Another was excavated at Crown Point from the site near where the British armies camped in 1776 and 1777 (Christopher Miller, personal communication, April 10, 2021).

An abundance of historical literature and documentary sources exists relating to the British northern campaigns of 1776 and 1777. Many historians have discussed and debated the reasons for these failed invasions (Nelson 1976:339-340, 365-366). Despite the availability of numerous documentary resources, many questions remain unanswered. Information recovered and interpreted through archaeological research, however, can fill in important missing details. It appears that General Carleton in October 1776 had commenced work to strengthen and fortify the Grenadiers' Redoubt as proposed in the engineering plan of 1774, a fact not previously known. Burgoyne may have considered that plan the product of "dull, formal, methodical, fat, engineers." Burgoyne's army occupied Crown Point for only a few days, but the entrenchment Carleton had constructed likely secured and protected the landing place for supplies and provisions ferried across from the British supply depot on Chimney Point.

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EXCAVATIONS AT A BRITISH HUT SITE OF THE REVOLUTIONARY WAR NEAR "HIS MAJESTY'S FORT AT CROWN POINT"

CHRISTOPHER D. MILLER

Crown Point was arguably among the most significant military installations along the Hudson-Champlain corridor during the eighteenth century, yet details regarding the use of the area during temporary encampments are surprisingly absent from the historical records. Recent archaeological excavations have revealed important evidence suggesting a complex history of the significant grounds outside the various fort walls. An analysis of artifacts including numbered regimental buttons suggests a British camp of Burgoyne's campaign of 1777, while dendrochronological studies of wood associated with the study area support the conjecture of a Revolutionary War time frame. The study of specific artifacts however, contradicts a straightforward explanation of the site. A button commemorative of the Duke of Cumberland provides intriguing evidence which may link a potential Revolutionary War camp with a much earlier hut site of the French and Indian War. The archaeological investigation has helped provide invaluable information which continues to unravel the unwritten history.

Introduction

Crown Point, a peninsula extending into Lake Champlain, lies between a large bay and a long, narrow riverine section where it empties into the much larger main body of the lake. Adjacent to Crown Point, the "river" portion of Lake Champlain, only 430 yd wide at its narrowest, formed a sort of natural toll gate on the important eighteenth-century waterway connecting the trade route from Albany to Montreal. The French built forts in 1731 and 1734 to command the narrows at the northern tip of Crown Point. The British took Crown Point from the French in 1759, demolished the stone French fort of 1734, and beginning in 1759 built a large stone and timber fortress including three outlying redoubts, "His Majesty's Fort at Crown Point." The main fort burned accidentally in 1773, and in 1775 Americans captured the ruined British fort. The British recaptured Crown Point in 1776 and held it until the end of the Revolutionary War. French and English villages developed near the forts during peacetime, and during wartime, large French, British, and American armies often occupied Crown Point. Winter encampments, as in 1759, required construction of huts for British and provincial American regiments until the stone barracks could be completed in the new British fort. The underlying limestone of the 450-million-year-old Chazy Group (Mehrtens and Selleck 2015), provided construction materials for the forts, while exposed limestone ridges provided preferred hut sites for soldiers (Fisher 1993:68; Huey and Miller 2015).

"His Majesty's Fort of Crown Point," though never fully completed, would become the largest British fortification in North America at the time. The new military complex contained not only three defensive redoubts but also numerous breastworks and a line of blockhouses at the base of the peninsula. The focus of the present research is a small section of an area near the fort that was frequently used for military encampments through much of the eighteenth century (Figure 1).

In June 2015, with the consent of the landowners, excavations on private land adjacent to the Crown Point State Historic Site were undertaken with a goal to rescue potentially valuable historical data which were being lost to illegal looting and relic hunting. Using data from surveys which attempted to locate areas of potential historic interest, a site was investigated and a report is in progress which seems to indicate it was possibly a Rogers' Rangers hut site occupied during a short time span during the French and Indian War (Huey and Miller 2015). Further archaeological and documentary research undertaken since then has uncovered evidence which indicates that some locations in the immediate area of the 2015 site may not be a continuation of Rangers huts from 1759 and1760, but instead may be from much later British camp sites from the Revolutionary War, specifically 1776 and 1777.

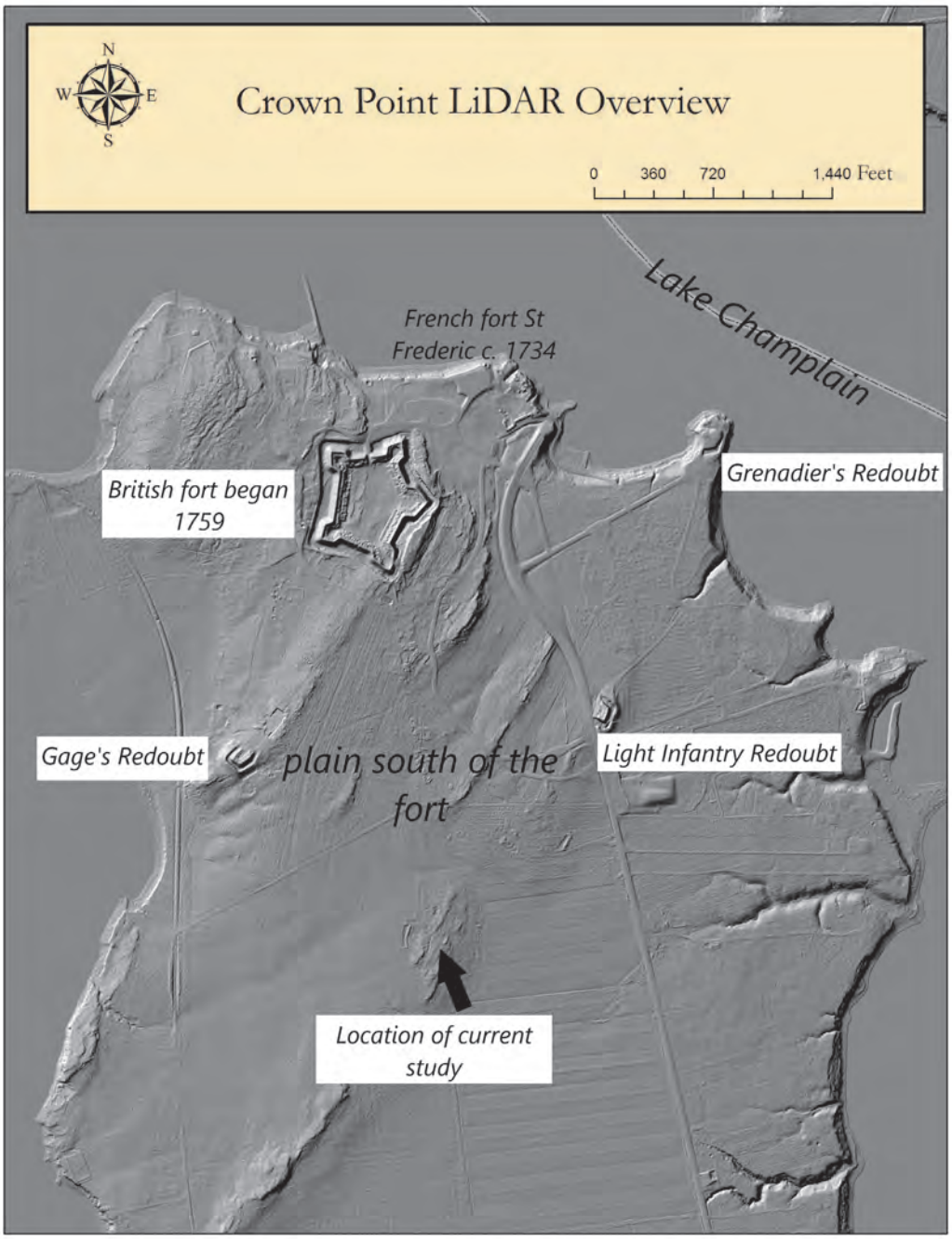

Figure 1. LiDAR image of the Crown Point peninsula showing location of historic structures and the current research area. (Image courtesy of Vermont Agency of Transportation, Project Delivery Bureau. Text overlays by author).

Numerous documentary sources suggest the possible use of this location by other pre-Revolutionary War British forces. In addition, it is entirely possible, even likely, that the French used the location during their pre-1759 occupation, and that the newly-formed American armies used this area of the Crown Point peninsula for military purposes during the Revolutionary War. Numerous small civilian populations could have also left their mark at this location as settlement slowly took place in conjunction with the military outposts. To develop a better understanding of this area and to attempt to unravel the area's complex past, excavation has continued over a limited area within reach of the original hut site excavated in 2015.

The available historical records and sources related to Crown Point fail to provide the information needed to create a more detailed picture of events and the use of land at this frontier post. As archaeologist Dean Snow (2016:81) comments on his research at Saratoga Battlefield, "…what has characterized the efforts of archaeologists working on the battle-field is the clarification of events that remain unclear based solely on documents, and discovery of unexpected details and stories that enhance our knowledge." Historical archaeology is crucial to help clarify and confirm details of history which are missing from journals and maps.

Archaeological Investigation

For the present archaeological project, an initial north-south running baseline which was established for the 2015 excavation was extended with stakes set in concrete at 40-ft intervals. Five-foot grid squares were all measured from and oriented along this baseline using a total station. All base line stakes can be readily located from coordinates recorded from survey markers which were set in 2013 during initial survey work. Thirty-five units have been created and numbered numerically before being excavated to bedrock or culturally sterile clay subsoil. Of the 35 units, 14 units thus far were excavated only as half sizes (2.5 by 5 ft), or quarter sizes (2.5 by 2.5 ft) (Figure 2). Soil from all excavated units was sifted through ¼-inch screen. Soils were recorded using the *Munsell Soil Color Charts,* as well as descriptions following the National Soil Survey Center's (2012) *Field Book for Describing and Sampling Soils.* All units were mapped and drawn, and photographs were taken of each stratigraphic horizon where appropriate. The stratigraphic layers were fairly consistent, and in general they were relatively thin in most places, mainly being dictated by the proximity of the limestone bedrock to the surface, which in some places was less than 2 in deep. In areas where the limestone was fractured, these fissures were a catch-all for eighteenth-century artifacts. This may suggest that the limestone was exposed either naturally or cleared before occupation.

The most frequently found artifacts are faunal remains of which more than 1,300 fragments and complete bones were spread evenly throughout the complete study area. Bone fragments were found in similar quantities within both level I and level II and consisted of the butchered remains of the occupants' food sources. A closely-packed "bone-bed" consisting of articulated bones mixed with other bones in various states of disarticulation were excavated as a complete section by creating a plaster jacket to encase and protect the bones as a whole unit. It is hoped that information regarding butchering methods or allocation patterns of different cuts of meat among regular soldiers and officers may be obtained from lab-controlled study of these bones (Figure 3).

The next most frequent artifacts found were hand-wrought nails with a total of 510. This total quantity does not include 270 nails from an original test square which was located by metal detector during the initial survey of the area. As with the faunal remains, the hand-wrought nails were spread in relatively even numbers throughout the study area. Patterns for nail usage were not readily discernible during this early stage of analysis.

Along the border of unit 7 and unit 11, a crudely built stone hearth was uncovered with the remains of numerous larger bones among the rocks of the feature (Figure 4). The large size of the bones suggests a large mammal such as a cow or horse. There were also numerous small fragments of calcined bones in sizes of .5 in and smaller. Small amounts of mortar found in unit 7 did not seem to extend into unit 11 where the largest section of the feature was present. The stones of this feature were relatively small and appeared to have been hastily put together. Numerous fire-cracked rocks were found around a burned clay reddish brown surface, Munsell 2.5YR 4/4. The width of the reddish-brown clay area was 17 in. This feature in fact may have been a double-sided hearth, as a possible second firebox opposed slightly northwest of the previously described firebox showed similar but not definitive characteristics. The opposing area contains a 15-in heat-altered surface of clay surrounded by rocks some of which are fire-cracked. This surface was color-altered by heat with mottled hues ranging from yellowish brown to dark yellowish brown, Munsell 10YR 5/6 – 10YR 4/4. In the northern edge of unit 7 along the border with unit 11, an initial test square contained approximately 270 nails with sizes ranging from .25 - 4 in total length. During excavation of the units encompassing the hearth feature, it was found that nails, while common, were actually not present in such large quantities. This may suggest the initial test square represented the

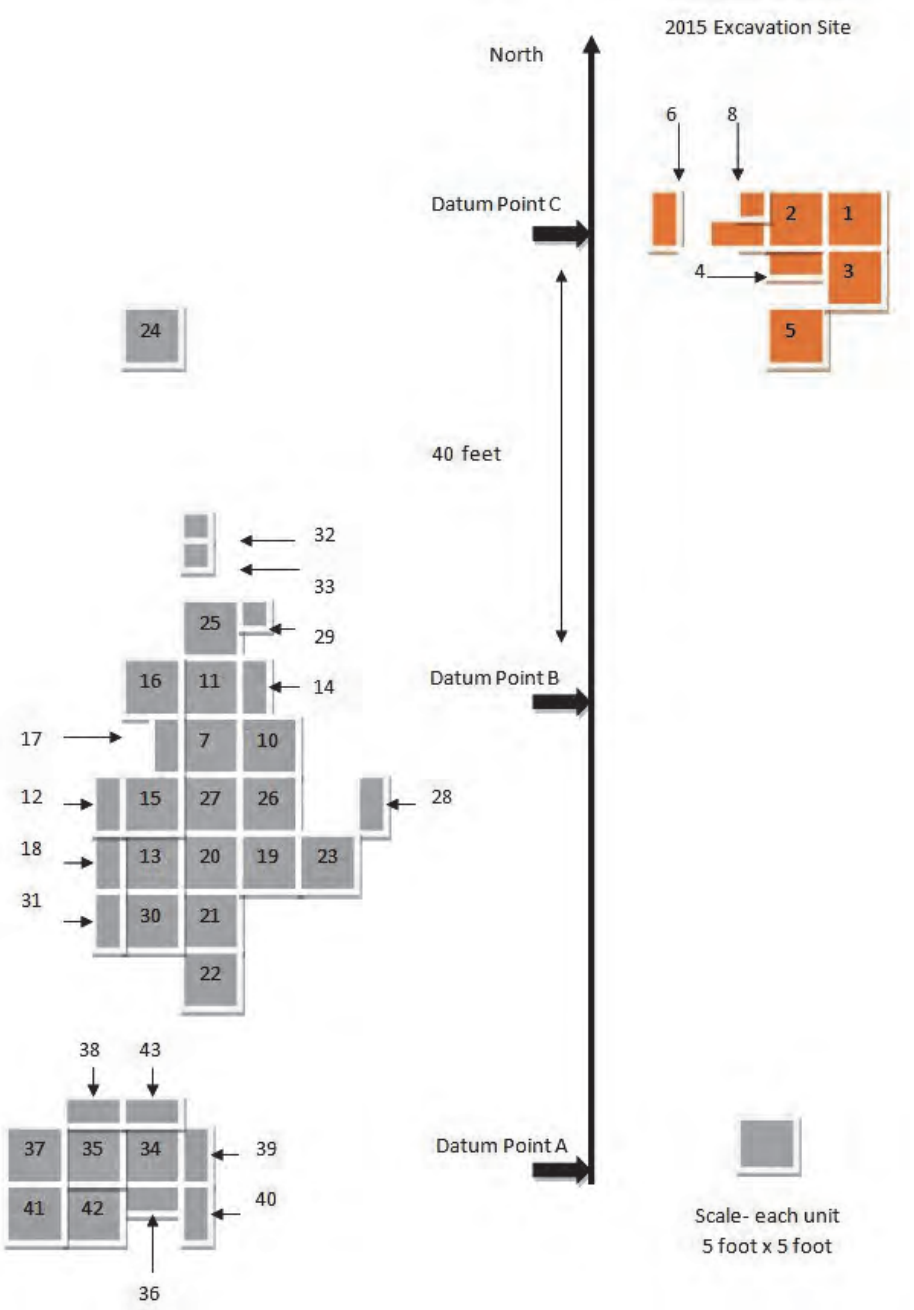

Figure 2. Site map showing locations of 5-ft squares and extent of excavation as of September 1, 2021.

burning of scrap lumber in the hearth area. Numerous small bits of charcoal were present on the surface of level III, which was a very hard packed, dark yellowish brown silt loam (Munsell 10YR 3/4). Small fragments of what appear to be yellowish brown brick (Munsell 10YR 5/6), are likely not actual brick, but represent parts of level III which were inadvertently heat-altered. In all cases, this heat-altered sediment was found below the rocks comprising the stone feature.

In some units, such as unit 19, level III was found covering sections of the underlying bedrock where it dipped downward, which may have been left in place to create a flattened living surface. Artifacts were more frequent both within level I and level II, and infrequently found in level III, and even less frequently in level IV. Artifacts were found on the surface of the bedrock as well as within cracks generally where level III was not present.

Figure 3. Excavation of partially articulated “bone bed” from unit 7 near the hearth in unit 11.

Figure 4. Westward view of hearth feature in unit 11. Heat-altered clay is visible along the southeast edge and northwest edge.

In the east half of unit 12, small cobbles of stone on the surface of level III seemed to suggest a surface layer. In areas such as this, artifacts were rare except in the uppermost parts of level III, but were found within the overlying layers. Similar to the thick sandy nature of unit 12 was nearby unit 25 where three small round surface stains of approximately 1.25 in diameter were recorded in line with what appears to be a crudely made tent peg. This line ran perpendicular to a northeast-oriented ridge nearby. Except for the tent peg and associated small stains, level III in this location seems to be a thick layer of culturally sterile sediment. Unit 32 and unit 33, both north of unit 25, also continue with what appears to be a similar occupation surface. The top of level III is very sandy and contains coarse gravel within the surface layer and then quickly gives way to culturally sterile subsoil clay.

The northern border of adjoining units 13 and 18 contains a pedestal of rocks which may have been a stone pier used to level the sloping bedrock. This same occurrence happens within unit 26, unit 19, and on the northern border adjoining unit 41 and unit 42. A stone pier would be a useful way to level a sloping section of bedrock before running a log or lumber sill plate or floor joist.

An additional fire feature was found in the vicinity of unit 34 and unit 35,with calcined bones and charcoal concentrated along the border with unit 36 (Figure 5). Large segments of partially burned wood were collected from level II. It is difficult to tell if the wood was deposited later than the underlying artifacts. In some sections hand-wrought nails were found within the wood fragments. The fragile wood was covered with plaster, carefully removed, and sent to Carol Griggs of the Cornell Tree Ring Laboratory at Cornell University. She was able to determine that the wood, eastern white pine (*Pinus strobus* L.), was from a tree that was felled sometime after 1728. However, an analysis based on the possible loss of about 50 tree rings within the sample due to shaping and/or degradation suggests, remarkably, a felling date of circa 1777 (Griggs 2021).

Figure 5. Westward view of fire feature in unit 34. Well preserved wood sections are visible in the foreground and also within the partially excavated unit to the south ((lower left of image).

Artifacts

This article is a current progress report and as such contains only preliminary descriptions of the artifacts and surrounding evidence. The artifacts and field notes, with continuing study, may change or further clarify some of the conclusions. The artifacts consist almost exclusively of objects from the eighteenth century, except for the occasional modern cartridge case left by a hunter, or sections of barbed wire. As of this writing, 2,511 artifacts have been entered into a collections database. While many of the artifacts are fragmentary, most are identifiable and statistically valuable. The total number includes faunal remains, as well as type examples of mortar collected from the site. The brief summary which follows is organized by the function of the artifacts. Faunal remains are assigned a separate category.

Kitchen Artifact Group

The total number of artifacts related to food and drink preparation and consumption was unfortunately rather small, especially in relation to the frequency of bone which was widespread throughout the entire excavated area. Biases in certain artifact frequencies could of course be indicative of class distinction of the occupants. Certain artifacts related to the "tea ceremony" for example may be indicative of higher social class and rank, and occupation of the site by soldiers of low rank could plausibly help explain the small number of ceramic sherds recovered. Obvious issues arise, however, not only because of the small sample available, but also the difficulty associated "with correlating ceramics with social status, relative wealth, and class in the eighteenth-century…" (Kirk 2010:170). As an alternative, the location of the site also may lend itself to the probable scenario of fast-moving expeditionary forces, traveling lightly and encamping relatively briefly.

Ceramics

At excavations of the possible Rogers' Rangers hut site excavated nearby in 2015, the ceramic assemblage was exclusively scratch-blue decorated white salt-glazed stoneware (Huey and Miller 2015). In the current study area, tin-glazed buff bodied earthenware or "delft" represents 100% of the 47 total fragments of ceramics. Four sherds have completely lost all traces of glaze. Thirty-one undecorated white sherds represent the largest variety and likely are plain white sections from decorated vessels. Eight sherds decorated in blue represent the second variety. Sherds of the third and final variety are decorated in polychrome colors of blue and yellow, possibly part of a vessel with "Fazackerly" colors (Figure 6). The sherds represent at least three different vessel types as indicated by shape and thickness, but many of the small sherds are likely fragments from only a small total number of individual vessels. During excavations of what may have been officers' huts from Whiting's 2nd Connecticut Regiment of 1760 and 1761, Charles Fisher described tin-glazed earthenware fragments as the most numerous ceramic sherds encountered, although he acknowledged the large number of polychrome Fazackerly-decorated fragments is quite misleading and may represent fragments from a single delft punch bowl (Fisher 1993:20-21). Whiting's officers' huts were approximately 350 yd from this study area. At another nearby excavation from behind the British Soldier's Barracks in the main fort, occupied from 1759 - 1773, delftware numbered 202 sherds, or 19% of the total eighteenth-century ceramics. Creamware (post-1762) and white salt-glazed stoneware sherds were both found in greater quantities at this location, numbering 29% and 27% respectively (Feister 1998:84). In excavations at Fort Michilimackinac, tin-glazed earthenware comprised the largest category of ceramic artifacts (Miller and Stone 1970:26).

Green Glass Wine Bottles

"The commonest glass object found in archaeological excavations is the English-style dark green glass 'wine' bottle…" commonly used not only for wine but also numerous other alcoholic beverages (Jones 1986:17; Jones and Smith 1985:13). It is therefore no surprise that the largest quantity of artifacts from the Kitchen Artifact Group at the site are dark green glass wine bottle fragments. The total artifact count of "wine" bottle glass fragments is however misleading, as seemingly few total bottles are represented archaeologically. Of the 121 total fragments of dark green glass fragments, unit 35 and the immediately adjacent units surrounding unit 35 account for 109 total fragments, which could possibly represent only one bottle. The sizes range from .25 – 2.5 in, with an average size of 1 in. The small sizes

probably resulted from foot traffic on the exposed limestone bedrock. The remaining 12 fragments were excavated at a distance which seems to form a cluster independent of this area. Each area contained a bottle fragment with finished lip and string rim indicating at least two separate bottles.

Other Glassware

Wine glasses are the most common drinking glass found on military sites of the Seven Years War period, and the form of wine glasses continued to evolve through the Revolutionary War period (Jones and Smith 1985:38-39). Five fragments of clear wine glass were excavated from unit 35 in the area of the highest concentration of wine bottle fragments. The lack of a stem section makes a general wine glass identification difficult. Three fragments from the foot include the rim edge (Figure 7). The thickness of the foot suggests a wine glass, and not a firing glass. "Glassware in military contexts was mainly personal property associated with officers. Although enlisted men may have acquired bottles from sutlers, it is unlikely they owned table glass" (Fisher 1993:25).

Figure 6. Delftware sherds, blue-decorated (left) and polychrome-decorated (right).

Figure 7. Three fragments from the foot of a clear wine glass including rim edge from level I of unit 35 (cat. #152).

Utensils

Typical table knives and forks of the early eighteenth century have handles of bone or wood. "By the 1720s, the flat tang began to be used regularly on table cutlery alongside rat-tail and through tangs (Dunning 2000:33). The fragmentary remains of bone handled knives are represented by five pieces measuring .5 in to 1 in. Each bone section has crude scoring as a design. Also excavated was the rear section of a flat tang with two pins. Two small sections of handle were excavated in the same unit as the flat metal tang and may be associated with it.

Building / Dwelling Materials

Hand-wrought Nails

At this site, all the recovered nails are hand-wrought types. The combined nail count totals 510 overall pieces. Of this total, 298 are complete nails which measure in sizes beginning from .25 in and increasing in .125 in intervals to a maximum nail size of 4.875 inches. The nails exhibit various body thicknesses as well as what appear to be different individual techniques suggesting different nail makers.

All complete nails have a pointed end except one example which exhibits the flat spatula end known from other eighteenth-century sites. The head type is predominately of the rose head variety.

Broken nails number 212 pieces and measure between .25 in and 2.75 inches. There are eight complete clinched nails in sizes ranging between 1.25 in and 4.75 in long. These nails were bent over or "clinched" at 2.75 in, 1 in, and .75 in which can infer wood thickness.

Window Glass

Fragments of light blue glass less than 1.5 inches in size were found in unit 13 and unit 40. The largest is a piece from unit 13, and in unit 40 three other pieces were found. The light blue glass fragments have a maximum thickness of .0645 inch. They may represent fragments of window glass or possibly of a glass apothecary bottle. However, all pieces are flat with no visible curve, which strongly indicates window glass. A color comparison to glass excavated behind the nearby British soldiers' barracks may prove useful in identifying these sherds. The thickness is consistent with the sizes found from the barracks (Feister 1998:119).

Tent Hardware

Two large iron pins possibly from the top of the standard pole of tent hardware were excavated from unit 7 and unit 25 (Figure 8). The larger pin measures 9 in and has four flat sides which taper to a point on one end. The opposite end has a round profile and a rounded end. The pin was evidently created to be easily hammered into a piece of wood leaving only a smooth rounded pin exposed. The smaller pin measures 5.5 in and is constructed and shaped in the same manner.

What may be a crudely carved wooden peg used to secure a tent was excavated from unit 25 (Figure 9). It measures 6.5 in and was recovered *in situ* at a 45° angle within what appeared to be a line of four 1.25-in diameter dark stained circles. Three circles were 5 in apart; the fourth was situated 12 in south from the rest. The wooden artifact was within the southernmost of these circular stains which were oriented on an axis continuing northwest from the *in situ* peg, perpendicular to the nearby stone ridge.

Figure 8. Two iron pins most likely from the standard pole of a tent. Upper: from unit 7 measures 9 in total length (cat. #182); Lower: from unit 25 measures 5.5 in total length (cat. #88).

Figure 9. Crudely carved possible tent peg or stake from unit 25 (cat. #91).

Lewis Lochée (1778) gave a detailed description of an eighteenth-century tent in his *Essay on Castrametation.* "These tents are fixed by means of three poles and 13 pegs: the poles A are called *standard poles,* and are about 6 feet high; the pole B is called *ridge pole,* and is about 7 feet long: the ridge and standard poles are held together by two iron pins, fixed in the top of the standard poles" (Lochée 1778:2). Firm evidence related to tent hardware is scant in the archaeological record. Iron ferrules, which are known from Fort Stanwix and Fort Ligonier (Hanson and Hsu 1975:50; Grimm 1970:123), may be from the ends of tent poles. One unique example of the wooden end of a tent pole

complete with ferrule and iron pin is part of the collection of the Fort Ticonderoga Museum. A large iron pin possibly used for a tent pole (described only as "iron pin") was excavated at Fort Ligonier (Grimm 1970:136). Wooden stakes or pegs used to secure a tent to the ground are known from Fort Ligonier, Rogers Island, the *Boscawen* wreck site, and the tent of George Washington (Grimm 1970:92; Starbuck 2004:87).

Mortar

The presence of small pieces of lime mortar was relatively sparse and mostly restricted to units surrounding the fireplace feature between unit 7 and unit 11. There is a total of 90 pieces mostly of small sizes averaging about .5 in. The largest cluster was collected from unit 25, level I, and were most likely samples which were later intrusions removed from unit 11 and not *in situ*.

Brick

Important questions exist about the origins and use of brick at Crown Point, and all samples of brick and potential brick fragments were collected. Sorting out the use of reclaimed French brick from nearby Fort St. Frédéric as well as British-made brick shipped from Fort George in 1759 or British brick from the Crown Point brickyard begun in 1760 is an important question in determining the possibility that the nearby hut structure excavated in 2015 was in fact a hut from one of Rogers' Rangers (Huey and Miller 2015). The brick fragments from the current study area totaling 90 pieces are mostly small fragments measuring on average .5 in. The largest grouping is from unit 10 with a total of 30 pieces. The exclusively small fragments found in this location were in contrast to the hut site excavated in 2015 which contained easily identifiable large fragments as well as complete and measurable sections of brick.

White Clay Tobacco Pipes

Eight fragmentary pipe stems were recovered. At least two mend together. The dispersal pattern of the small quantity of stems suggests fragments from three different pipes. One stem has a bore diameter of 5/64 in, and seven have bore diameters of 4/64 in. For these sizes Harrington's histogram gives a broad date range of 1750 - 1800. Using pipe stem dating formulas such as the Binford formula gives a mean occupation date of 1773, but that is probably meaningless because of the small sample size. Short-term occupation of the site may explain the small number of fragments of this usually common eighteenth-century artifact.

Pipe bowl fragments were fairly numerous with a total quantity of 41 pieces. The fragments are small and indistinct with an average size of .25 inch to .5 in, and currently no makers marks or identifying features have been recorded. The small average size is likely due to the bowl pieces being crushed by foot traffic on the limestone bedrock.

Military objects

Lead Shot

A total of forty-three round lead shot were recovered consisting of various sizes, all assumed to date from the occupation of the site. There is a small number of lead shot which are misshapen perhaps as a result of impact after firing. Certain pieces appeared to be altered both intentionally or indirectly as a result of being chewed. These musket balls were somewhat difficult to measure, but during future research a more accurate diameter will be measured using the Sivilich (2016:24-27) formula based on the weight and density of the "non-round" shot.

There were 7 musket balls with .69-in diameters and 14 with .70-in diameters which is consistent with large bore muskets which were standard issue to British Crown forces (Sivilich 2016:28). One additional ball at .67 in is also within the proper size range for this musket grouping. The English musket (sometimes also used by the American forces) had a .75-in caliber barrel which fired a smaller round shot of between .66-in and .71-in diameter. Lead shot from this size range were scattered evenly throughout the entire study area and were found in fourteen units. There was one small cluster which was found in the west half of unit 14 which contained four musket balls with two others found in adjacent unit 11 in the area of the stone hearth. One musket ball from the northwest quadrant of unit 29 was lightly chewed and

could have conceivably been caused by human teeth; the more likely suspect, however, was a rodent or some other small mammal. Also within the English musket ball examples are two balls with human modification, although neither ball seems to reflect the common act of trimming the sprue during manufacture. One ball displayed a deliberate knife mark, and one with deep impressions on opposite sides of the ball may represent removal of a fired ball with forceps.

A total of seven musket balls were found each with a .62-in diameter, a size generally associated and within the range of the .69-caliber barrel of a French Charleville musket (Fisher 2004:127-128; Hanson and Hsu 1975:80; Huey 2016:135). One deformed musket ball consistent with this size range from unit 25 was severely chewed. This likely indicates the presence of some type of swine to be able to cause such extreme deformation by chewing alone (Sivilich 2016:102). Another musket ball from the east half of unit 41 was likely fired and deformed from impact. A French origin for the .62-caliber lead shot is possible since the French controlled the Crown Point area for almost 30 years prior to British occupation. American troops also may have used French Charleville muskets during the American occupation of Crown Point for 17 months in 1775 and 1776. British use of the French Charleville musket at Crown Point may, however, more neatly fit with the other associated artifacts, and documentary records provide intriguing evidence of their use by the British Light Infantry in 1759 (Fisher 1993:37). British General Carleton, whose troops briefly occupied Crown Point and camped in the site area late in 1776 after the Battle of Valcour Island, mobilized three provisional *companies canadiennes* formed from the ranks of the Canadien militia who were issued old French muskets captured in the previous war. These companies were re-raised in 1777 to serve with Lieutenant-General Burgoyne, who led the British army that again briefly camped at Crown Point in June 1777 in the invasion that ended with the Battle of Saratoga (Schnitzer and Troiani 2019:3).

There is not complete consensus, however, when assigning a .62-in musket ball to the French Charleville (Fisher 1993:37; Sterling 2010:26). There were numerous other weapons which could also have fired lead shot in this size range. Many English and French pistols as well as various trade muskets, fusils, and carbines had gun barrel calibers which could have fired a lead ball of .62-in (Fisher 1993:37; Neumann and Kravic 1975:65, 125-127; Sivilich 2016:31). British regulations in 1776 called for the use of various carbines of .65 caliber to be used by private men of the Artillery, as well as various non-commissioned and commissioned officers. The British Army's standard carbine ball caliber was .615 (Moss 2018). Regulations also called for grenadier, light infantry, and fusilier sergeants to carry carbines of pattern 1770, also with a .65-caliber bore size (Schnitzer and Troiani 2019:178,185). Numerous pistols carried by officers also used shot within this size range. It is unclear if the British .65-caliber Ferguson rifle used at Short Hills and Brandywine in 1777 was present at Crown Point, but this gun also used a standard carbine ball of .615 (Moss 2018).

At Fort Stanwix, lead balls ranging from .47 - .56 caliber are listed as likely used with American-made rifles, while also leaving open the possibility that some may have been made for use in pistols (Hanson and Hsu 1975:80). At the Crown Point site, only four lead shot in this size range were recovered. There is one at .54 in, one at .55 in, and one at .57 in, with one additional, slightly deformed ball that appears to be within this range. This size range has been listed in other studies as "Trade Musket, Not Military Issue" (Sterling 2010:26), or among standard French trade-gun sizes. However, numerous pistols carried by officers fit the size range as well (Fisher 1993:53; Huey 2016:69; Sivilich 2016:31).

Ten lead buckshot of various sizes were excavated, in no discernible distribution pattern. Among the smallest size, two of .26-in diameter were found in the west half of unit 42, while two of .28-in diameter were found in the north half of unit 20 and nearby in the east half of unit 12. In unit 12 was also found the largest size buckshot of .35-in caliber. The two remaining examples are of .30-in diameter from the west half of unit 11, and of .33-in diameter from unit 25. It was not uncommon for soldiers to use buckshot along with a larger musket ball in loading large-bore muskets for so-called "buck and ball," consisting of one musket ball along with three buckshot.

Lead Waste

Small melted drippings of lead indicate the manufacture of musket balls. A total of 10 pieces were found in units 19, 20, and 22. During an initial metal-detector survey of the area, more than 20 lead

drippings were found in a 1-ft square test unit in what became the north half of unit 7, which contains the southern half of the stone hearth with fire-altered clay. Unit 19 and the adjacent unit 20 did not contain the physical remains of the fireplace, but there were numerous bits of charcoal.

Iron Shot

The east half of unit 37 contained a .91-in caliber iron shot. Iron shot of this size are usually associated with some type of artillery projectile. Sivilich defines case shot as a tin can filled with iron balls, as opposed to canister shot as a tin can filled with lead balls. Grapeshot has a wooden base and spindle around which iron balls are stacked within a fabric bag wrapped with twine to hold it together (Sivilich 2016:93).

Gunflints

A total of 12 gunflints were found in the site. Two generalized clusters were apparent: units 12, 16, and 20 each contained one gunflint, and nearby unit 30 contained two. The gunflint from unit 12 was from level III while the other gunflints of this grouping were in level II. The second generalized cluster was from the southern excavated units 34, 37, 39, 41, and 43. Units 39 and 41 each contained two gunflints, with the remaining units each containing one. The gunflints were mixed stratigraphically, in level I (units 37 and 41), level II (unit 43), and level III (unit 39). The gunflint from the east half of unit 41 was a translucent honey color suggesting a French origin for the base material. The remaining gunflints varied in color from tan to dark gray suggesting an English source of stone. Study of the actual manufacturing techniques used for the gunflints continues.

Sling Swivels

Three sling swivels were excavated. From unit 25, level II, there is a single sling swivel of iron 2.25 in (60 mm) in size. The shape and size suggest a British Land Pattern musket. Two sling swivels unusually linked together were excavated in unit 12, level III. The two specimens are different sizes and measure 55 mm and 51 mm on the long end. The size range and shape also suggest British Land Pattern muskets (Hanson and Hsu 1975:64-66).

Clothing

Buttons

A total of 25 artifacts related to buttons were recovered in 12 different excavation units. One iron piece was found in level I of Unit 11, and three pieces representing only two buttons were found in level III of units 13 and 21. All the remaining buttons were found in level II in units 10, 11, 16, 19, 27, 30, 36, 39, 41, and 43. The description and analysis of all the buttons remain to be completed, and it is hoped details on typology, relative dates, and function will identify more clearly the occupants of the site.

In 1767 the British War Office ordered that regimental numbers were to be placed on buttons of officers and men of other ranks (Olsen 1963:552). The Royal Clothing Warrant of December 19, 1768, required “The number of each regiment to be on the buttons of the uniforms of the officers and men” (Calver and Bolton 1950:96-97). Of the 25 buttons excavated thus far, four have specific characteristics of special significance in the interpretation of this site (Figure 10).

A button marked IX representing the British 9th Regiment of foot was found in level II of the initial test unit which became the center north edge of unit 7. The 18-mm button is cast pewter with the Roman numerals IX surrounded by a broken circle and dots. Buttons of this size tend to suggest use on a waistcoat (Hanson and Hsu 1975:82; Hinks 1988:91). The 9th, or East Norfolk Regiment of foot, were with Burgoyne in 1777 as part of the English First Brigade with the 47th and 53rd regiments under Brigadier-General Henry Powell (Anonymous 1777; Baum 1777; Stone 1868:106-107). The 9th was also apparently with Carleton in 1776, but it seems they may have encamped on the east side of the lake near Hospital Creek and Chimney Point (Barker and Huey 2010:100).

A button marked XX, which represents the British 20th Regiment of foot (*The Two Tens*), was found in level II of unit 30. This 17-mm cast button retains the mold seam on the back and is of a size likely used on a waistcoat (Hanson and Hsu 1975:82; Hinks 1988:91). The 20th Regiment of foot were

with Carlton in 1776 “at Valcour Island” (Barker and Huey 2010:100). They were also with Burgoyne in 1777 at Crown Point as part of the English Second Brigade with the 21st and 62nd regiments under Brigadier-General James Hamilton (Anonymous 1777; Baum 1777; Stone 1868:106-107).

A third regimental button measuring roughly 17 mm in diameter was found in the east half of unit 17 in level II. The button is in poor fragmentary condition, but clearly was a numbered regimental button. The first numeral is clearly six, but the second numeral is fragmentary and appears to be a zero which would represent the British 60th Regiment of foot. The second number may actually be a two and represents the British 62nd Regiment of foot. The number is unclear, and x-ray photos may help uncover the true number. Parts of the 60th were at Crown Point at various times between 1759 and 1772 (Feister 1998:164). The 62nd were with Burgoyne in 1777 at Crown Point as part of the English Second Brigade with the 21st and 20th regiments, under Brigadier-General James Hamilton (Anonymous 1777; Baum 1777; Huey 1995:9; Stone 1868:106-107).

A seemingly rare button of small size, 13 mm in diameter, is made of a copper alloy with a hole drilled in the shank (Figure 11). The edge of the front is turned down. The front is decorated with the image of a moving horse with rider facing left and holding a sword, with the letters W:D to the left of the horse and CUM to the upper right of the horse (Figure 12). There is a loss of a small section along the bottom edge. The size suggests a sleeve button or cufflink. A similar complete example is recorded on the British Museum’s Portable Antiquities Scheme Website (finds.org.uk). W:D CUM is an abbreviation for Prince William Duke of Cumberland who is represented on the horse. The button was likely created to commemorate the Duke of Cumberland’s defeat of the Jacobites at the Battle of Culloden in 1746 (Erik Goldstein, Senior Curator of Mechanical Arts & Numismatics, The Colonial Williamsburg Foundation, personal communication 2017).

Figure 10. Regimental numbered buttons. The button marked IX is from the 9th Regiment of foot, and the button marked XX is from the 20th Regiment of foot. The fragmentary button may be from either the 60th or 62nd Regiment of foot. The sizes are consistent with waistcoat buttons.

Figure 11. Button commemorating Prince William Augustus Duke of Cumberland after conservation by Gary McGowan of Cultural Preservation & Restoration. The 13-mm size is consistent with a sleeve-button or cufflink.

Separate from the buttons, a large .75-in iron eye clothing fastener was excavated from level I in the west half of unit 35.

Silver Thread

A small section of silver thread, twisted and almost forming a ball, might be silver bullion from an epaulette (Figure 13). This section of silver thread was found while screening level II from the east half of unit 10 in an area about 9 in deep in a crevice in the limestone bedrock, along with some fragments of delft. The piece is too fragile to straighten out, but appears to form larger balls of rope approximately 7 mm thick.

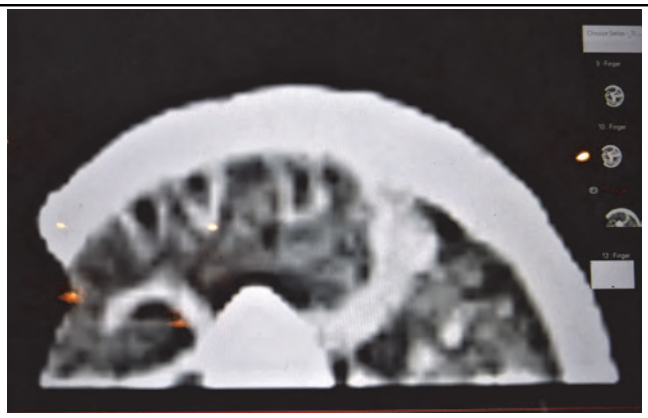

Figure 12. Duke of Cumberland button x-ray prior to conservation. X-ray imaging was performed at Denville Diagnostics Inc. (Image by Ashley Cerino and Amber E. Wood).

Figure 13. Silver thread or fragment of silver bullion from a fissure in the limestone of unit 10 (cat. #46).

Buckles

Three pieces of a fairly complete decorative brass shoe buckle were found in multiple locations (Figure 14). Within the initial test square on the north center edge of what would become unit 7, approximately half of the decorative frame was found in level II. The other half of the frame was found roughly 10 ft away in level II of unit 25. Also found in unit 25 was the steel tongue-pin-chape movable section of a shoe buckle which fits neatly within the two sections of frame when matched together. The frame measures 48.50 mm by 43.50 mm. The steel tongue has two tines, and one opposing spike is missing. A perfectly preserved brass tongue-pin-chape movable section in working condition was also found at the base of level II in the west half of unit 40. The chape measures 39 mm at its longest.

Three small single-tine buckles usually associated with utility straps were uncovered in separate units. All are deeply corroded iron. A 1-in square buckle was recovered from level III in the west half of unit 13. In unit 34, level II, a .75-in by .875-in buckle was excavated, and there was another measuring 1.25 in by 1.25 in from level III of unit 40.

Miscellaneous

An iron fish hook with barb was excavated from level I in the west half of unit 42.

Faunal remains

A total of 1,363 bone fragments were collected and are yet to be analyzed. For statistical purposes, all identifiable pieces as well as small fragments from .25 in and larger were all collected and bagged. Many of the smaller fragments were calcined bone pieces with their physical composition altered from cooking or burning. Faunal remains were found in all units except units 26, 29, and 30. Bone was found frequently within levels I, II, and III; level IV contained faunal remains in only the northeast quarter of unit 13. Most if not all of the bones seem to be mammal. There are a few cow or horse bones, but many seem to be from medium-size mammals such as sheep, goat, and pig. It is difficult to tell whether some of the smaller rodent-sized bones are from food sources or scavengers.

Figure 14. Three pieces of a decorative shoe buckle from unit 7 (left half of frame, cat. #182) and unit 25 (right half of frame and tongue-pin-chape, cat. #88).

The total of 1,363 bone fragments does not include a "bone bed" deposit of bones consisting of articulated bones as well as some not articulated. Further analysis may reveal butchering patterns and possibly the selections of meat for division amongst soldiers or officers. This bone deposit was excavated and removed complete with a plaster jacket from between unit 7 and unit 11, adjacent to the fireplace hearth feature.

Summary and Conclusions

Sometime shortly after August 24, 1759, Thomas Davies, a lieutenant in the Royal Regiment of Artillery, sat down with sketchbook in hand and recorded the massive British encampment on the newly captured peninsula of Crown Point. The initial drawing from the sketch, now in the collection of the Library and Archives Canada, provides the most compelling documentary evidence of the British occupation in the area of the current research excavations. Davies's *South View of Crown Point* depicts various types of dwellings built by the Rangers. The drawing by Davies depicts rows of bark-covered huts, wigwams, and various brush lean-to type structures along with a few log huts, in contrast with the rest of the sprawling encampment which shows standard issue tents used by most of the soldiers (Figure 15). Only a small number of standard issue tents are mixed in with the Rangers. Soldiers who chose to join the Rangers were required "not to take tents but to live in Huts in the same manner the Rangers do…" (Wooster 1759). By June 1760 the Rangers had moved their camp "on the east shore, opposite the fort" (Hough 1883:168) also known as Chimney Point. The excavations in 2015 uncovered what may be evidence of the previous Ranger camp of 1759 and 1760 (Huey and Miller 2015).

The Davies view in addition to maps of 1759 clearly shows the Rangers camped in the area which aligns with not only the previous 2015 excavation, but also the approximate location of the present excavation. A series of maps from 1776 as well as historical sources from 1776 and 1777, however, paint an alternative history which is supported by evidence from the current archaeological investigations.

Figure 15. Detail from Thomas Davies, "A South View of Crown Point" showing the British army at Crown Point during Amherst's campaign of 1759. The study area is likely within the Ranger's huts in the foreground. (photo by author, Library and Archives Canada, accession 1991-033-2).

The three numbered regimental buttons of the 9th, 20th, and 62nd regiments are clearly from after 1768. The British army under General Guy Carleton occupied Crown Point for a short while during the fall of 1776. The 9th Regiment was with Carleton in 1776 as was the 20th Regiment. It is unclear if the 62nd Regiment also landed at Crown Point in 1776. A map from 1776 shows Carleton's encampment and includes the 20th Regiment below the main fort, but the 9th Regiment is one of four which camped on the east side of the lake near Hospital Creek and Chimney Point. The 62nd Regiment is not listed on this map (Barker and Huey 2010:100). This argues against an association of the site with the Carleton occupation.

The following year in June 1777, however, the 9th, 20th, and 62nd regiments all participated in Burgoyne's ill-fated campaign to Saratoga, and all camped at Crown Point if only briefly. The army was composed of two wings, the left wing under Major-General Riedesel and the right wing under Major-General Phillips. The right wing of the army included two brigades of British soldiers. The First Brigade led by Brigadier-General Powell included the 47th, 53rd, and 9th regiments arranged from left to right. The 2nd Brigade led by Brigadier-General Hamilton included the 21st, 62nd, and 20th regiments arranged from left to right. (Baum's orderly book has the regimental lineup reversed.)

On June 25, Burgoyne's army began to arrive and encamp at Crown Point, while the fleet which included the Royal Regiment of Artillery watched from their anchorage on the lake (Rogers 1884:65). On June 26 "the army was distributed in the following manner: the two English brigades, under General Phillips, occupied the plain around the fort at Crown point" while "The artillery was distributed among the two wings" (Stone 1868:109). Artillery was to be "posted between the 20th Regiment and the ground mark'd out for the 62d Regiment near the old Redoubt" (Cubbison 2007:73). The 62nd Regiment was "… delayed in Canada" and did not arrive until days later on June 30 (Anonymous 1777), but the ground "mark'd" was likely near the Light Infantry Redoubt, with the 20th encamped to the right of the 62nd as per orders. As part of the First Brigade, the 9th would have presumably also camped on the plain south of the main British fort.

Burgoyne established his magazine on the east side of the lake at Chimney Point, and orders were given on June 30, for a detachment of officers and two hundred men "to remain at Chimney Point to guard the Magazines." This detachment was to be taken from the second brigades of each wing of the army (O'Callaghan 1860:18). This order could have caused some soldiers of the 20th and 62nd regiments to remain at Crown Point, as both regiments were part of the British Second Brigade. Leaving this detachment at Crown Point, the main army advanced on July 1 in two divisions to attack the Americans at Ticonderoga (Stone 1868:110).

Evidence from the excavations is consistent with the documentary sources, the most obvious being the numbered regimental buttons from regiments which were part of Burgoyne's right wing of the army whose encampment encompassed the current site area. This was a fast-moving campaign about which one

soldier noted "that the movement of the army will be too quick to admit a possibility of constructing ovens," and to not delay the progress of the army, on some occasions "The tents & baggage remain on board the bateaux" (Baum 1777). Baggage was kept to a minimum even for the officers, as one captain noted "His Excellency, General Burgoyne, directs that, without exception, no officer shall take with him any more baggage than he is in extreme need of" (Stone 1886:123). Requirement that the army be able to move fast and light perhaps explains the relative paucity of artifacts usually found at such sites.

Tent hardware such as two possible tent pole iron pins, a crudely carved wooden peg, and possible peg or stake stains within level III in unit 25 suggest a dwelling different from those expected of the Rangers encampment of 1759 - 1760. Although no creamware sherds typical of the late 1760s or the 1770s were recovered, the presence of common delftware at this site is not surprising, as large amounts were uncovered behind the nearby soldiers' barracks in the fort at Crown Point. Delftware is relatively common at many other sites of the colonial and Revolutionary War periods.

While the excavated .62-in musket balls could have been used with a large range of weaponry associated with that size, these artifacts may have special significance at the site. When the right wing of the army occupied the plain around the fort, the Royal Artillery were posted "on the Right Flank of the Army" as well as "in the Center of the Right Wing" (Rogers 1884:78). Placing the Artillery within the site area is significant because the Royal Regiment of Artillery carried light-weight carbines (Schnitzer 2016:76) which could have used the smaller caliber musket ball. Burgoyne's army also included one company of Braunschweig *jäger* riflemen who made up part of Breymann's Reserve Corps (Schnitzer 2016:72). German *jäger* rifles of the 1770s could vary in barrel caliber from .58 in to .67 in (Sivilich 2016:31; Barker and Huey 2012:8,10,15).

Although no fragments of light-weight creamware were recovered from the excavation, it is worth noting that of the small number of ceramics which were actually excavated, one small crack in the limestone bedrock contained polychrome fragments of delftware of a size which suggests tea service. A ball of silver thread or silver bullion was also found within this same small limestone fissure. The clothing for the 9th and 20th regiments called for officers to have silver lace (Lawson 1941:97). Officers of the 62nd Regiment wore gold lace. Small pistol-size lead shot as well as the presence of a wine glass also fits in with a material culture often associated with an officer. But more research at military sites is necessary before an artifact pattern typical of officers can be defined. Excavations at the barracks occupied by soldiers from 1759 - 1773 in the nearby British fort provide local evidence, as Lois Feister notes: "Archaeological excavations behind the Soldier's Barracks have revealed evidence of a material culture that was not only more complex than might be expected for soldiers stationed at a wilderness fort, but was of a quality that previously had been assumed to be associated with officers" (Feister 1984:123).

This hut site is likely associated with the Burgoyne campaign of 1777, but further interpretation of the cufflink or sleeve button is required. The Prince William Augustus Duke of Cumberland sleeve button was screened from the same unit and level as the 20th Regiment button. The Cumberland button was a commemorative button which carries little significance on its own. It tells us little about its owner besides the fact that he was probably a soldier who fought alongside "Sweet William" at the Battle of Culloden in 1746. The Duke of Cumberland was the youngest son of King George II, and for a short while he became popular due in part to his initial success on the battlefield. In 1754 when he called for the destruction of the French fort at Crown Point, he possessed formidable political influence (Anderson 2000:69). But his brutal treatment of the defeated Jacobites after Culloden in 1746 earned him the new nickname "Butcher Cumberland," and his prior popularity would soon wane after losses he sustained in 1757 at the Battle of Hastenbeck (Anderson 2000:177). He died in London in 1765 at the age of 44.

The significant question is why this cufflink was found with the 20th Regiment button at an encampment thirty years after the sleeve button was likely manufactured and relevant. A likely scenario links the possible 1759 Rogers' Rangers site excavated in 2015 nearby with the current site. The current location sits along a limestone ridge running like a road directly to "His Majesty's Fort at Crown Point." Repeated occupation of the same location is likely to have occurred. The Rangers who camped in 1759 on or near this spot could certainly have included soldiers who were still in possession of sleeve buttons commemorating "Butcher Cumberland." There were other soldiers such as Philip Skene and Allan Campbell who arrived at Crown Point in 1759 and owned land at Crown Point until the Revolution.

Philip Skene fought under the Duke of Cumberland at Culloden and afterwards at Fontenoy and elsewhere (Baldwin 1906:506). Allan Campbell was with "Butcher Cumberland" at Culloden, and later while at Crown Point in 1759 he served as brevet major, commanding the grenadiers and rangers (Westbrook 1998:50) in the same location as the right wing of Burgoyne's army 18 years later.

Much more archaeological and historical research will be necessary to fully investigate and identify the sites on the "plain around the fort at Crown Point." Protection, preservation, and wise management of these resources must be the goal, as ongoing research answers compelling questions concerning the history of Crown Point and continues to fill in the details missing from the documentary sources.

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THE SOCIAL IMPORTANCE OF FAUNAL REMAINS FROM FORT ORANGE

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Excavations undertaken by Paul Huey at Fort Orange, Albany NY, 1970 - 1971, recovered a multi-component faunal assemblage dating the early Dutch occupation through the British military occupation. Analysis revealed aspects of animal exploitation and procurement, livestock rearing, butchering, food preparation and consumption. The earlier components indicate a reliance on preserved meats such as hams and barrel beef. Most of the bone came from the Free Traders (1648 - 1664) and British garrison (1664 - 1676) occupations. Some deposits were associated with households and showed distinct consumption patterns, perhaps due to differences in wealth. Some deposits suggest dining between Dutch and Native Americans occurred within the fort. Other deposits associated with the Dutch and British army occupations offered insights into military fare. Overall, the faunal assemblage speaks to increasing self-sufficiency and agricultural stability within the greater community. Over time domesticated livestock were represented by an expanded range of age-at-deaths profiles indicating herds had achieved viability.

Introduction

A large faunal assemblage was recovered from the Fort Orange excavation directed by Paul Huey in 1970 and 1971. The assemblage was generated by different phases of occupation which included Dutch military and West India Company personnel, private traders, and households, and trading partners, namely Iroquois and Mahican people, as well as English military personnel and visitors to the fort. Careful analysis by Paul Huey resulted in identifying discrete deposits associated with phases of occupation and their occupants which made it possible to consider the faunal data at different social scales and their significance in terms of activities (Huey 1988, 1998). Fort Orange was a military fort first under the Dutch West India Company and later under the British, as well as a center of trade during the seventeenth century. During its existence, many commodities were traded between the Dutch and Native American people as well as the British, including livestock, meat, fish, fowl, and other animal products such as furs and skins. Faunal remains provide insights into trade relations as well as dietary traditions, resource exploitation, and local livestock management practices.

Fort Orange was the site of many important events involving the Dutch, other Europeans, Africans, and Native Americans. It was founded a few years after Henry Hudson's voyage up the Hudson River in 1609. Initial informal exchanges between the Dutch and Native Americans resulted in the development of a commercial interest by the Dutch West India Company (WIC) in the fur trade (De Laet in Jameson 1909:47). It further resulted in the establishment of a post in the remote region of what is today the city of Albany, New York. Formal trade with Native Americans began when the WIC built Fort Orange on the west bank of the Hudson River in 1624 (Sellers 2016). It became the first permanent Dutch structure in this area. Soon after, in 1629, Killaen van Rensselaer established the patroonship of Rensselaerswyck (Merwick 2008; Venema 2003:44-48). As a result, Fort Orange was enveloped by the patroonship which extended in all directions and was enlarged by purchasing lands from Native American groups residing in the area. The Patroon brought in colonists to settle, farm, and establish a community; however, things did not go as foreseen (Rink 1978). Colonists were more interested in trading for furs, and soon a community of houses emerged in the shadow of Fort Orange. Eventually, due to a series of conflicts among the WIC, the Patroon, and the emerging community, an independent village was established named Beverwyck in 1652 by Peter Stuyvesant (Venema 2003). By then, this area was a stable community composed of military personnel, free traders, businesses, farms, families, and local Native Americans (Bradley 2007). The character of the fort changed over time. Under the Dutch, it began as a West India Company military installation and trading post. Later it was occupied by free traders who built houses and other structures

within the fort. In 1664, the fort became British after the English takeover of New Netherland and was once occupied by the military.

Excavations uncovered several types of features, including foundations, pits, walkways, hearths, a bastion, the south moat, and an exterior fortification structure (Figure 1). The excavation investigated the eastern portion of the fort and located the south curtain wall, internal house walls, the path to the eastern gate, original ground surfaces, and alluvial deposits. Based on the range of artifacts recovered and the documentation, it was possible to date deposits and, in some cases, assign them to specific occupants. These assignments included pre-Contact Native Americans, a pre-Fort Orange Contact period, the WIC military occupation of 1624 - 1648, the independent trader occupation of 1648 - 1664, and the British military occupation of 1664 - 1676 (Bradley 2007).

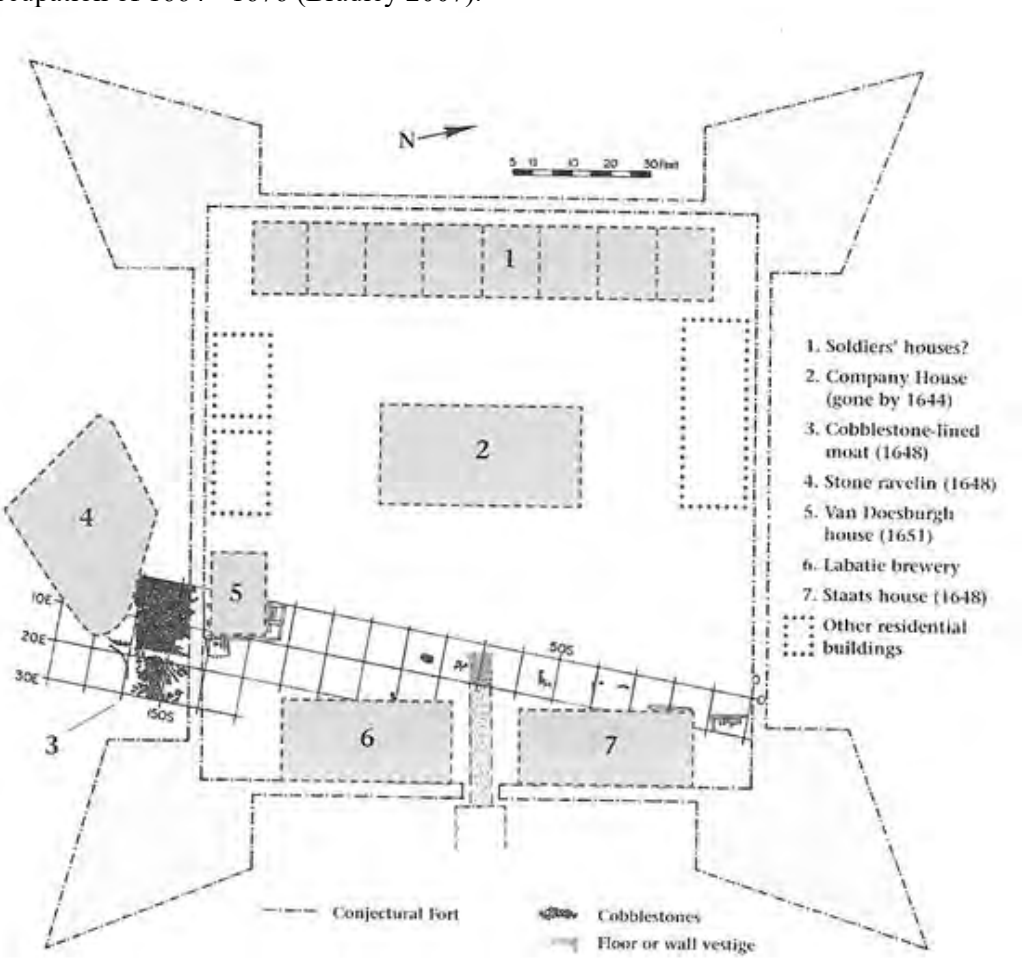

Figure 1. Plan of Fort Orange indicating excavation areas and identifications of specific occupants (Huey 1998).

The scale at which faunal deposits were interpreted was dependent on time period and location. In some instances, deposits were considered at the community level, in others at the occupant or household level. The initial fort occupation, 1624 - 1648, included soldiers and traders of the WIC, as well as support personnel, servants, and African slaves. A few structural remains were found, and some of the fill layers date to this period. In 1648, the West India Company invited traders to build houses within the fort. Each structure had to have one wall that reinforced the exterior curtain wall. The foundations of portions of three houses belonging to Hendrick Andriessen van Doesburgh, Abraham Staats, and Hans Vos were found. The Staats house was eventually owned by Johannes van Twiller and Jeremias van Rensselaer. Later it was occupied by Captain Backer of the British garrison. Van Doesburgh, Staats, and Vos arrived

in New Netherland on the same ship, *den Houttyn*, in 1642 (Huey 1988:53, 63, 83). It is an interesting fact that these three men traveled together and ended up building houses in the same area in the fort. The foundations of an earlier building were also found which were identified as the Labatie brewery built in 1647 (Huey 1988). It is now thought to have been a guardhouse. However, the deposits found in the area date to the time of Labatie and have been included in this study and assigned to his household.

The internal structure of the fort was dynamic, with new buildings added according to need (Huey 1988; Bradley 2007:62-63). Some of the public structures, such as the later courthouse and guardhouse, resulted in food refuse being dumped in the Staats cellar. Over several years, flood episodes caused major damage to the exterior of the fort and to some of the internal structures. These flood episodes, which are well documented through records and narratives, proved useful in interpreting layers of fill found in parts of the excavation area as they were visually well defined stratigraphically (Bradley 2007: De Vries 1655 in Jameson 1909; Van Rensselaer 1661 in Van Laer 1932:177). The final period of occupation was by the British Garrison from 1664 - 1676. The first commanding officer resided in the former Staats house along with his son and another boy. Sixty soldiers were housed at the fort during the first year. The fort was modified at this time by the construction of a new kitchen. However, the houses were eventually deemed uninhabitable, and the troops moved into the village (Huey 1988).

There are many aspects of daily life within the fort that are unknown. For instance, it is unknown how many people lived there, who butchered animals, who prepared the food, or if people ate communally or not. There must have always been a fort kitchen and mess hall because the fort always had a military presence. But who ate with whom remains unclear. Did the military, company servants, and slaves eat communally or separately? The fort commander and other officers of the WIC and the Patroon probably did not. Instead, they may have dined together or separately. Private individuals and families living within the fort may have prepared their own meals. After 1648 the private traders who built their homes in the fort most likely dined privately, perhaps with invited guests such as Native Americans with whom they traded. During the British occupation, the soldiers would have eaten communally, but the fort commander, other officers, and family members most likely dined separately from the men. Other questions concern how Fort Orange was provisioned. Was meat fresh or preserved, were local wildlife resources exploited and by whom, and how did procurement change over time as the local farms became increasingly stable? Some of these questions were answered by the faunal assemblages.

Zooarchaeological Context

It is easy for people to understand what faunal remains offer in terms of diet, meal preparation, and range of foods consumed. But it can be more difficult to comprehend the value of faunal remains as they contribute to understanding the complexity of social relations in the past. Faunal remains can inform about many other kinds of activities and relationships not only between people but also with the environment because of the social contexts within which they were generated. At a frontier location, the Dutch encountered not only new cultures but also different ideas of land ownership, fairness, and economics; they experienced a new environment, climate, and ecology, and they endured intense cultural isolation.

All animal remains found within archaeological deposits have their own story to tell. Until very recently, any meat purchase would have contained bones, and until the twentieth century garbage tended to accumulate in backyard areas. Bone deposits were generated through human activities which took place within specific cultural contexts. For example, a butcher is the person who cut meat into units that customers in urban areas bought. Depending on many factors including a consumer's budget, size of household, and social occasion for the purchase, a distinct set of bones or skeletal elements resulted from a decision. At the butcher's end, a limited range of elements was also generated, often the trimmed bits left over at the end of the day. The heads and feet might have been sold at the shop. Or, as sometimes happened with cattle, those body parts might have been left with the skin to be processed for other reasons. The horn was a raw material akin to plastic from which buttons, combs, and other small objects were made. The feet might be boiled down for making soap, or the oil could be extracted from the joints for use as a lubricant. The hides were split to make leather and suede. Every step of the way, different sets of bones were isolated and discarded waiting to be read.

Faunal remains are proxies for social interactions. Although social interactions cannot be directly observed, there are clues that make it possible to identify players and to consider the relationships between people based on the faunal refuse they generated. Faunal remains can reveal trade and exchange, identify available resources, address livestock rearing, inform about diet and food preparation, and other activities. Faunal remains can suggest social transformations and provide insights into subtle explanations not always recognized or given important meaning within historical narratives. In the case of Fort Orange, the kinds of animals reflected in the deposits include many species obtained through trade, especially fur-bearing mammals. Trade relations often involved eating (Pipes 2021). The communal nature of eating together creates an atmosphere what facilitates negotiation. Fort Orange revealed the presence of Native American people not only in the fort, but also in private houses through written accounts and artifacts they left behind including their pottery, smoking pipes, and wampum beads (Bradley 2007; Merwick 1980:65; Shorto 2005:267; Venema 2003:178). The presence of Native Americans reveals the importance of social interactions with Europeans.

Dutch diet is known through cookbooks, letters, diaries, paintings, and of course economic records. Archaeologists have studied the ceramics found on Dutch sites. Working with paintings, they have been able to address the kinds of foods made and served with specific types of vessels (Janowitz 1993). Dutch diet was not traditionally rich in meat. Instead, it was primarily based on dairy products, fruits, vegetables, and grains. When the Dutch arrived in New Netherland, they discovered many new plant and animal foods, including corn, beans, squash, deer, turkeys, and many birds and fish. They readily incorporated these foods into their dietary repertoire. Like all the New World colonies, they depended on a constant supply of everything from overseas, especially in the beginning. Agricultural stability and self-sufficiency were eventually achieved in the colonies lessening their dependency on Europe. The coastal trade also eased the stress people initially experienced. Food insecurity was a very real problem for everyone until then. In warm weather it was possible to hunt, fish, and gather wild foods. For Fort Orange and the neighboring town of Beverwyck, the hardest times of the year were winter and early spring. The Hudson River froze, which left them isolated and dependent on trade with Native Americans; and when it started to thaw, ice flows made sailing treacherous. By early spring, food stores ran out, and little plant-based food was growing other than greens. So, learning to incorporate the foods that Native Americans depended on was a good idea, as was establishing good social relationships. From the beginning, domesticated animals were imported to the colony and attempts made to increase and stabilize the herds. While Dutch cattle did not thrive in the New World, English breeds proved to be hardier (Bowling 1942:138; De Voe 1862:17). Dutch horses on the other hand did well. There was an active trade in livestock between the Dutch and English. The Fort Orange community therefore was complex, involving Native Americans, Dutch and other "Dutch" colonists who came from other cultures, British, and Enslaved people.

Overview of Faunal Deposits

The faunal assemblage was large, complex, and represented by a range of mammal, bird, fish, reptile, and amphibian species (Table 1). The results of the analysis were interpreted using the component designations created by Huey which identify temporal and occupational associations of the deposits. Faunal remains were recovered from an array of depositional contexts such as alluvial or flood events, pit features, house cellars, and sheet middens. Some faunal remains represent garbage which accumulated within the fort, while some was dumped outside in the south moat. The interpretation therefore varies in scale. Some phases yielded little bone which limited its value in terms of information about a specific location. However, since animal resources tend to be highly patterned culturally, temporally, and geographically, they can still provide broad information about a period and be useful for comparing distinct moments in time. Larger deposits associated with features such as pits and cellars could be associated with specific occupants, providing information at a more intense scale. Table 2 summarizes the phases of occupation and the volume of bone recovered from each. It presents two counts: the TNF, Total Number of Bone Fragments; and the MNU, the Minimum Number of Bone Units. The ratio of TNF to MNU reveals how fragmented a collection was. It shows that in the two earliest periods, DU I Pre-1609 and DU II Contact period 1609 - 1624, faunal remains were scarce. Larger volumes of bone were

TABLE 1: LIST OF IDENTIFIED TAXA

Class	Species	Latin Name
Bird	Chicken	*Gallus gallus*
	Turkey	*Meleagris gallopavo*
	Duck	*Anas sp.*
	Goose	*Anser sp.*
	Passenger Pigeon	*Ectopistes migratorius*
	Cardinal	*Richmondena cardinalis*
	Owl	*Strigiformes*
Mammal		
	Cat	*Felis domesticus*
	Dog	*Canis familiaris*
	Sheep	*Ovis aries*
	Goat	*Capra*
	Pig	*Sus domesticus*
	Cow	*Bos taurus*
	Mouse, sp.	*Mus*
	Rat	*Rattus*
	Brown Rat	*Rattus norweigicus*
	Eastern Grey Squirrel	*Sciurus caroliensis*
	Woodchuck	*Marmota monax*
	Beaver	*Castor canadensis*
	Rabbit	*Oryctolagus cuniculus*
	Raccoon	*Procyon lotor*
	Black Bear	*Ursus americanus*
	Mink	*Mustela vison*
	River Otter	*Lontra canadensis)*
	White-Tail Deer	*Odocoileus virginianus*
Fish		
	Salmon	*Salmo salar*
	Catfish, sp.	*Ictaluridae*
	Walleye Pike	*Stizostedion vitreum*
	Sturgeon, sp.	*Acipenseridae*
	Cod	*Gadus morhua*
	Striped Bass	*Morone Saxatilis*
	Smallmouth Bass	*Micropterus dolomieu*
Reptile		
	Snapping Turtle	*Chelydra serpentina*
Amphibian		
	Frog	*Anura*

generated after the fort was built in 1624, with the densest dating to DU IV 1648 - 1664 and DU V 1664 - 1676. Of course, it is worth noting that as time moved on, there were increasing numbers of people at the fort. What follows here is a short description of the deposits by phase of occupation (DU) beginning with DU II.

All deposits from DU II 1609 - 1624 are combined in Table 3. They serve as a point of comparison with the next three occupational phases. The earliest deposits date to the period when the Dutch were evaluating the prospects of trade relations with Native Americans in the area. Initial exchanges took place

TABLE 2: SETTLEMENT SUMMARY OF THE PHASES OF OCCUPATION BY DEPOSITIONAL UNIT (DU) AND ASSOCIATED CULTURE, AND VOLUME OF BONE BY TOTAL NUMBER OF BONE FRAGMENTS (TNF) AND MINIMUM NUMBER OF BONE UNITS (MNU)

Cultural Group	Time Period	DU	Time Range	Type of Occupation	Components	TNF	MNU
Native American	Woodland and Proto-Historic	I	Up to 1609	Hunter/Gatherers, possible Native American village	113	2	-
Dutch	Contact Period	II	1609-1624	Pre-Fort Orange. Early trading off boats. Independent Traders	100, 101, 111	87	18
	West India Company	III	1624-1648	West India Company Established trade with Native Americans.	83, 94, 96b, 96c, 98, 98a, 98b, 99	632	247
	Free Traders	IV	1648-1664	Construction of private houses inside the fort, the Labatie brewery	66a, 74, 77, 78, 79, 81, 82, 86, 87, 89, 90a, 91, 91a, 92, 96, 97, 97b	2174	819
English	English Garrison	V	1664-1676	English garrison	64, 65, 65a, 66, 67, 69, 69a, 70, 71, 72, 73, 84, 85	2021	855
	Post abandonment	VI	18th-19th century	Colonial and post-colonial	17, 18, 56, 63	477	238
Post Fort Occupation	Unassigned					2413	973

on boats which left no traces. Fort Nassau was built on Castle Island near the mouth of the Normans Kill, but was abandoned after a flood in 1617. The next attempt was Fort Orange which was built a short distance up the Hudson River, also on the west bank of the river. The site upon which it was built had some deposits predating the construction of the fort dating to this phase. Faunal deposits were recovered from three components. A recent radiocarbon study of the DU II components determined that these should have an end date of 1618, not 1624, and furthermore, that there was likely a structure standing on the site before Fort Orange was built (Manning *et al.* 2021). Most bone specimens from DU II were found in component 101, an alluvial soil, described as both prehistoric, proto-historic, and historic because of presence Native American and European artifacts. The faunal composition included domesticated mammals, wild goose, and deer. Domesticated mammals were represented mainly by meat cuts, stews, and processed cuts from the head. Butchered heads were common throughout all phases of occupation. They show signs of brain extraction and facial tissues and tongue removal, all of which were consumed in a variety of ways. Though offal is rarely consumed by modern Americans, such consumption is a very recent dietary shift. Deer on the other hand was mainly represented by head and foot elements, and a few stew meats. It was the most frequent of species. Though goose was not abundant in this phase, it was an important dietary component throughout all the occupations, along with duck and turkey.

Little architectural evidence was found associated with DU III 1624 - 1648. It seems all the internal structures were either removed or destroyed by flooding. The earliest occupational layers of Fort Orange were also ephemeral. Few deposits were found undisturbed. Only one pit contained significant faunal remains. Another deposit area near the eastern entrance of the fort consisted of sheet midden remains perhaps associated with a guard house. There were five additional components with bone besides these

TABLE 3: SUMMARY OF FAUNAL REMAINS BY OCCUPATIONS PHASE (DU) AND KEY DEPOSITS, BY TOTAL NUMBER OF FRAGMENTS (TNF) AND MINIMUM NUMBER OF UNITS (MNU)

Class/Species/Size-range Category	DU II 1609-1624		DU III 1624-1648				DU IV 1648-1664								DU V 1664-1676					
	All Components		Guard House		Pit		Labatie Brewery		Staats		Van Twiller		Van Doesburgh		Vos		Captain Backer		Courthouse	
	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU
Mammal																				
Black Bear	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-
Brown Rat	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Cat	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Cattle	2	2	9	9	5	1	53	36	6	3	1	1	59	47	-	-	2	2	260	161
Grey Squirrel	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Mink	-	-	1	1	1	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-
Mouse	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Pig	3	2	20	11	6	6	39	33	-	-	-	-	58	31	3	3	8	6	119	66
Raccoon	-	-	2	2	-	-	-	-	-	-	9	8	-	-	-	-	-	-	-	-
River Otter	-	-	-	-	-	-	8	3	-	-	-	-	-	-	-	-	-	-	-	-
Sheep	5	2	3	3	-	-	15	14	2	2	-	-	38	26	-	-	-	-	44	26
White tail deer	9	9	39	35	17	13	174	79	8	3	29	23	66	24	3	3	10	5	114	68
Woodchuck	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Small Mammal	1	-	3	3	3	3	1	1	-	-	-	-	12	11	-	-	-	-	12	6
Medium Mammal	59	2	97	9	69	-	152	10	33	4	27	6	241	14	41	2	7	2	475	24
Large mammal	3	-	13	2	-	-	46	2	3	-	20	3	60	2	4	1	23	-	75	3
Bird																				
Cardinal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Chicken	-	-	-	-	2	2	-	-	1	1	-	-	7	7	-	-	-	-	11	11
Duck	-	-	2	2	12	5	1	1	4	3	-	-	10	10	3	3	-	-	15	10
Goose	1	1	3	3	5	5	3	3	-	-	1	1	11	8	-	-	-	-	25	21
Owl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Pigeon	-	-	3	3	1	1	1	1	-	-	2	2	15	14	-	-	-	-	41	35
Turkey	-	-	1	1	6	6	35	7	-	-	-	-	1	1	-	-	-	-	16	5
Unidentified Bird	4	-	45	6	21	4	-	-	16	1	26	2	49		7	1	2	-	180	30
Fish																				
Catfish	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	3	3
Cod	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Salmon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2
Striped Bass	-	-	1	1	-	-			-	-	-	-	1	1	-	-	-	-	-	-
Sturgeon	-	-	-	-	1	1	3	2	-	-	-	-	2	1	-	-	-	-	-	-
Walleye Pike	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Unidentified Fish	-	-	11	11	36	23	41	29	6	5	13	3	119	95	3	3	1	1	261	221
Reptile																				
Unidentified Turtle	-	-	-	-	1	1	-	-	-	-	-	-	2	2	-	-	-	-	2	2
Amphibian																				
Frog	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	1	1
Total TNF/MNU	87	18	255	104	186	72	575	224	80	23	129	50	756	299	64	16	53	16	1666	702

two faunal deposits. These two deposits represent faunal refuse generated by the WIC personnel from 1624 - 1648, a time when Fort Orange was a military installation and trading post. The guard house sheet midden yielded a wide range of mammal and bird species. Some of these were commensal species, such as brown rat and cat. Others relate to the fur trade including mink and raccoon. And still others represent food remains including pig, sheep, cattle, and deer. All the birds were wild species available in the immediate vicinity of the fort. Fish were also indicated; sturgeon was the only identified species. The pit contained fewer species overall. Most were similar, except for chicken. Domesticated mammals were represented by processed waste and meat-bearing elements. Deer, which was the most abundant species, consisted of meat-bearing elements as well as head and foot elements. This suggests that deer was hunted and processed near the fort, as opposed to haunches of meat being brought to the fort.

In 1639 it became legal for everyone to trade with Native Americans (Bradley 2007:95). DU IV 1648 - 1664, was the period when free traders were allowed to build structures within the fort (Bradley 2007:64). In 1652 Peter Stuyvesant declared the area around the fort as independent from the patroonship of Rensselaerswyck, and it was named Beverwyck. Some of the traders who initially built houses within the fort subsequently built others in the town. The free traders were some of the wealthiest people in the colony. Excavations encountered a complex of architectural remains, features, flood layers, and sheet midden deposits dating to this occupational phase. The fortification wall area showed signs of repairs which were documented historically as having been ordered by Peter Stuyvesant after it was damaged by flooding. Based on historic records, it was possible to assign ownership of three houses to specific households: the houses of Staats/Van Twiller, Van Doesburgh, and Vos (Bradley 2007; Huey 1988). The artifacts and ecofacts found in association with these remains offer glimpses into more intimate activities as opposed to earlier depositional units which can be seen as broad reflections of fort activities. The volume of bone from each of the structures varied in size and diversity. The largest was the Van Doesburgh assemblage, while the Vos and Staats collections were the smallest (Table 3). Another large assemblage was recovered close to where the Labatie brewery was built. Regardless of size, they all share certain similarities. Except for the Vos deposit, which was limited to cattle, the other deposits yielded domesticated mammals as well as wild mammals including deer and other fur-bearers. Wild birds, such as goose, duck, turkey, and pigeon, were found in every house as well. All meat-bearing animals were represented by a mix of meat cuts, mainly stews and large roasts, and processed waste. Fur-bearers were dominated by cranial and foot elements.

From 1664 - 1676, DU V, Fort Orange was occupied by a British garrison after the Dutch colony of New Netherland was surrendered to the English. Fort Orange was once again a military post (Huey 1988). By this time, most of the houses within the fort at this point were in bad shape. Their owners had moved out having abandoned some of them to decay while using others for storage. The Staats/Van Twiller house was occupied for three years by Captain Backer from 1665 - 1668 when it burned down (Huey 1988). A small faunal deposit was recovered from the ash layer dating to the fire. The former Van Doesburgh house yielded a large faunal deposit, the origins of which are probably from the military mess hall. The bone refuse found within this structure is representative of military diet during this final period of fort occupation. Faunal remains were also recovered from the south moat area and the southeastern bastion but are not presented in Table 3. The main difference between this and earlier periods is the greater importance of beef in the diet. All the wild species consumed earlier by the Dutch were present, including deer. But beef, as well as pork, surge in volume. This likely was the result of barrel beef and pork.

Data Interpretation

The analysis of the faunal assemblage by depositional component revealed patterns and differences in the consumption of domesticated mammals and wildlife resources across time. The scale and nature of deposits highlighted some of these issues. Comparing the range of species and the types of refuse represented makes it possible to define more clearly some of the trends over time. The relative importance of major domesticated mammals and birds in comparison to wildlife resources reveals the great dependency everyone had on local resources over time. The age at which animals were slaughtered offers insights into livestock management and seasonal procurement strategies. And the kinds of meat cuts consumed offer glimpses into the types of meals prepared by private households and military kitchens.

Range of species by occupational phase

The number of classes and species varied across occupational phases (Table 3). This is potentially skewed due to differences in sample sizes. The earliest phases had the least diversity, whereas the last two phases had the same number of species but differed in class composition (Figure 2). DU II 1609 - 1624, Contact period was composed primarily of mammal species. This early period of occupation left faint traces. The volume of bone is small, and therefore the pattern observed must be considered with caution. According to historical records, trade was conducted from the boats, for the most part. The personnel manning the boats and the traders were dependent on their supplies which the data show included cattle, pig, and sheep. The meat from these species was likely preserved. There were several ways of preserving meat in the seventeenth century, including smoking, curing, brining, and pickling. The data show that beef, pork, and mutton were clearly supplemented by deer meat. Deer elements included cranial and foot elements suggesting it was hunted, the refuse representing butchering waste. Goose was also present. Because of the date of this assemblage, it would likely have been a wild species such as Canada goose. Geese used to be seasonal birds, migrating south in late fall, returning in spring. The faunal evidence from DU II does not reveal evidence of the fur-trade.

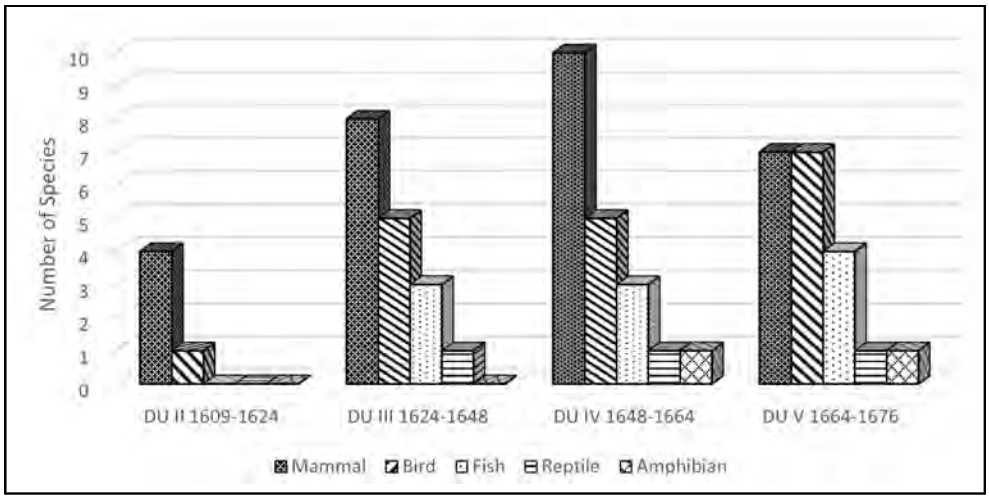

Figure 2. Comparison of the number of identified species by class across by occupational phase (DU).

The next phase of occupation, DU III 1624 - 1648, corresponds to the military occupation of Fort Orange. It yielded a larger and more diversified faunal assemblage in terms of classes and species than DU II. During this period, expeditions left the fort and went out to trade and negotiate agreements with local Native Americans. As a military trading post, food rations would have been provided to personnel according to their rank and status. It is typical in the military for those of higher rank to be better provided. Unlike the later English garrison occupation, early WIC soldiers may have been more cautious about hunting and fishing due to developing relations with Native Americans. Social tensions were high due to the establishment of the fort in an occupied land. There was always an anticipation of danger due to attacks by Native Americans on colonists and destruction of property and livestock. Deer were the most important source of meat for Native Americans. Hunting grounds were a protected resource in many Native American communities (Parmenter 2007). When Van den Bogaert (in Snow *et al.* 1996) went on his trek in December, he was invited to go on a turkey hunt, which suggests it was also a protected resource. Turkey can be eaten year-round and provides a lot of meat relative to its body size. Turkey was recovered in this as well as goose, duck, and pigeon. Chicken, an introduced domesticated bird, was also present. Passenger pigeon populations exploded in the mid-seventeenth century. Some speculate it is due to clearing of farmland on a greater scale. This species was also available year-round, whereas duck and goose were seasonally available. The presence of duck and geese year-round today is a recent

phenomenon. As with DU II, beef, pork and mutton were present, which shows that the dependency on domesticated meats was important. The increase in bird and fish species reveals an expansion in acquiring locally available foods. There were a few species represented which point to the growing involvement with the fur trade, such as mink and raccoon. One other domesticated species was a cat.

There is no doubt that meat from domesticated mammals was a critical dietary staple for the personnel residing at the fort. During the free traders period (1648 - 1664) private citizens were permitted to build houses in the fort. Labatie built a brewery, while Staats, Van Doesburgh and Vos built houses that they occupied intermittently, each had properties in other locations. The houses within the fort may have been occupied seasonally, from late spring and to early fall when trade was most active. During these times boats sailed up the Hudson bringing food, drink, and goods for the residents as well as for trade (Venema 2003).

There were differences in faunal compositions between the houses as well as other areas in and around the fort. DU IV is marked by a notable expansion in species diversity. This is likely due to increasing trade with Native Americans and access to wildlife resources within a certain distance of the fort. Not all the species listed in Table 3 would have been consumed. Brown rat was introduced the New World with the importation of food, livestock, and other commodities. As with DU III, there are low frequencies of fur-bearers in deposits pointing to trade with Native Americans. These species included black bear, squirrel, mink, and river otter. Wild bird species continued to be as diverse as in DU III while fish species overlapped somewhat. There was striped bass and sturgeon in both. However, catfish was present whereas in DU III smallmouth bass was present. Turtle was also common to both. A frog/toad was also present which suggests a warm weather interloper.

The British garrison assemblage differed from the earlier Dutch period in range of class and species. Though the deposits from it were as diverse as those of DU IV, there were fewer mammals and more birds and fish. As a military occupation, the men would have been supplied with rations which would have included meat. However, the men were allowed to hunt, fish, and bird to supplement their rations. It is apparent here that they did so.

Relative abundance of major mammal, bird and fish species

The relative dietary importance of a species is best understood in comparison with other significant contributors. The data from all phases of occupation show that the most important dietary contributors were cattle, pig, sheep, and deer. Collectively, fish and bird can be compared to these as well. Three trends occurred over the course the seventeenth century (Figure 2). First, the importance of deer diminished over time. This may be partly explained as due to over-exploitation and destruction of habitat in the immediate area of Fort Orange and Beverwyck. But there are other reasons which are linked to the second trend, which was a gradual increase in beef over time. Within a period of 30 years, there were improvements in agricultural practices by farmers and in the development of viable herds. Supply lines were also improved with lower Hudson River communities as well as trade with the English colonies. The Dutch consumption of beef was limited to the upper classes. It was considered the most expensive meat (Gijsbers and Koolmees 2001). During the British occupation, beef was preferred over all other meats, most likely because meat yields are higher than other large-bodied mammals.

The third trend was an increase in fish. Strange though it may seem to modern people, in the past fish and meat consumption were regulated by law (Fagan 2006). Meat and fish consumption were legislated by most European countries in the seventeenth century; certain days of the week were meat days and others, fish days. As urbanism increased in northern Europe and populations grew, there was not enough meat to feed the people. This was mitigated by making it law that fish were eaten only on certain days of the week. For the British, fish had to be eaten on each Wednesday, Friday, and Saturday (Sgroi 2003). Like beef and pork, preserved fish was common in colonial times. Herring was the number one fish export from the Netherlands (Unger 1980), It was salted, smoked, and pickled. Cod was the most important fish for the British, typically salted. Seventeenth century eyewitness accounts of New Netherland from Father Jogues, Domine Megapolensis, deVries, and Van der Donck describe the bounty of fish in New York State rivers, lakes, and ponds (Jameson 1909; Snow *et al.* 1996). Fish were available year-round, even in winter, and accounts make it clear that they were an important source of food. Smaller

fish such as perch, trout, and catfish were abundant and easily caught with hook and line. Although Native Americans used large fishing seines to catch schools of fish, it is somewhat surprising that the volume of fish remains were small. However, fish bone preservation may have been more severely impacted by cooking methods and waste disposal practices, as well as by loss of small elements in the excavation.

Livestock management

Livestock were imported to the Fort Orange area as soon as the patroonship of Rensselaerswyck was established. Initial stockbreeding practices were hampered by attacks of wolves and Native Americans, extreme environmental conditions, and lack of protection for animals. Nonetheless over time, livestock production stabilized. Some of the challenges in livestock management involve maintaining a good ratio of males to females, culling of old, sick, and injured individuals, and growing enough feed to over-winter herds. A prolific herd will afford the farmer an opportunity to kill younger animals. When a herd is not thriving, every animal is valuable and kept as meat-on-the-hoof. Each species has its own management issues.

The purpose of an animal varies by species, age, and sex. Dairy herds are disproportionally composed of females and a few males for reproduction. Dutch diet was heavily dependent on dairy products, so it is assumed most of the cattle were females. But the Dutch also used oxen to plow their fields. Oxen are castrated bulls. Paired oxen were traditionally kept. In a stable dairy herd, calves were culled by sex every spring. Males were removed, reducing the amount of cost and effort in their upbringing and maintenance, and thus providing fresh meat once a year. In the fall old, barren, injured, and sick individuals were culled first which once again provided fresh meat. Further consideration was given by farmers to the number of animals they could feed over winter. Pig management differed from cattle. Pigs are extremely intelligent and resourceful animals. It should be remembered that the landscape was wild and required clearing. The wood for fencing had to be split and erected. It was a lot of work to create a manageable farmland, where the movement of livestock could be controlled, and sufficient feed grain produced. As a result, livestock often roamed the landscape. In the colonies they were often allowed to roam on their own. The historic records are full of complaints made against their owners because of the damage they caused to property. They were generally rounded up in the fall and slaughtered. At that time there was fresh meat, but most of the carcass was made into a great variety of preserved foods using a variety of methods such as smoking, brining, salting, and pickling (Rose 1989). Sheep were difficult to establish in the New World. Sheep have a high death rate during the birthing even in modern times. Sheep provided many resources including wool, oil, milk, and meat. Until very recently mutton was more commonly eaten than lamb. Lambs are born in late winter, a harsh time of year in upstate New York. Any lamb that died would have been consumed which means it may be a seasonal indicator. It is not surprising that livestock management took decades to stabilize. Without a constant importation of animals, the Rensselaerswyck patroonship would have failed.

The most valuable data used to address livestock issues are age-at-death profiles. That information was available for some of the faunal data. The major difficulty lay in not knowing which of the specimens represent imported preserved meats and which represent locally raised animals. Nonetheless, an effort was made to evaluate age-at-death profiles for cattle, pig, and sheep by occupational phase. The first step involved calculating the minimum number of individuals by species for each occupational phase. The data presented here include all the deposits for each occupational phase, some of which were not included in Table 3.

When the Dutch first arrived in the Albany area, they carried with them naval stores of food which would have included barrel beef and pork and perhaps smoked meats as well. Table 4 summarizes age-at-death profiles by occupational phase and species. In the earliest phase (DU II), cattle and sheep were represented by adults, and pig by subadults. Cattle and sheep take longer than pigs to achieve full size. Since pigs are fully developed by the first year of life, they were traditionally slaughtered at that time which is why faunal assemblages tend to be dominated by subadults. This phase predates the construction of Fort Orange. The lack of variability in age groups is the best indicator that the three species were represented by preserved meats.

TABLE 4: AGE AT DEATH PROFILES BY OCCUPATIONAL PHASE FOR CATTLE, PIG AND SHEEP, BASED ON MINIMUM NUMBER OF INDIVIDUALS (MNI)

Taxa	Age Group	DU II 1609-1624		DU III 1624-1648		DU IV 1648-1664		DU V 1664-1676	
		MNI	Rel%	MNI	Rel%	MNI	Rel%	MNI	Rel%
Cattle									
	Neonate	-	-	-	-	-	-	-	-
	Juvenile	-	-	-	-	2	0.15	2	0.11
	Subadult	-	-	1	0.17	1	0.05	3	0.18
	Adult	1	1.00	5	0.83	10	0.8	12	0.71
	Senior	-	-	-	-	-	-	-	-
	Total MNI	*1*	*1.00*	*6*	*1.00*	*13*	*1.00*	*17*	*1.00*
Pig									
	Neonate	-	-	-	-	2	0.095	1	0.06
	Juvenile	-	-	1	0.13	4	0.14	3	0.175
	Subadult	2	1.00	7	0.87	13	0.67	10	0.59
	Adult	-	-	-	-	2	0.095	3	0.175
	Senior	-	-	-	-	-	-	-	-
	Total MNI	*2*	*1.00*	*8*	*1.00*	*21*	*1.00*	*17*	*1.00*
Sheep									
	Neonate	-	-	-	-	1	0.08	2	0.15
	Juvenile	-	-	-	-	2	0.17	2	0.15
	Subadult	-	-	-	-	4	0.33	1	0.08
	Adult	3	1	1	1	5	0.42	7	0.54
	Senior	-	-	-	-	-	-	1	0.08
	Total MNI	*3*	*1.00*	*1*	*1.00*	*12*	*1.00*	*13*	*1.00*

From 1624 - 1648, Fort Orange was occupied by the WIC (Bradley 2007; Venema 2003). Though a few farmers were brought in to supply the fort, it was not until 1629 that Rensselaerswyck was established. Immediately colonists were brought to the area and agricultural pursuits began. Age-at-death profiles show that there was a slight expansion in age-death-death profiles for cattle and pig, though both cattle were dominated by adults and pigs by subadults. Because Fort Orange was a military installation, the troops received allotments of preserved meats as part of rationing. But, with the establishment of farms, fresh meat would have been available though in limited quantities. By the time free traders were allowed to build houses in the fort, the local economy had become more stable, though still dependent on outside supplies. Not only were the herds more productive but trade with the British and other North Atlantic colonies resulted in importation of hardier livestock to the region (Bowling 1942:138; De Voe 1862:17). This is clearly reflected in a further expansion of age groups for all three species (Table 4). Neonates are the best indicators of fresh meat and of reproductive herds. Although the cattle did not reveal any neonates, there were juveniles and subadults. These may be indicative of investment in raising beef though it is also possible that these animals were victims of predators. Pigs were represented by most age groups, even adults. Perhaps these were individuals who escaped the fall round-up one year and caught the next. Sheep were represented by most age groups as well. Although adults were the dominant group, subadults were also well represented suggesting a shift in dietary preference to more tender meat.

The age-at-death profiles for the final occupational phase by the British are similar to the free traders period (1648 - 1664). Cattle and sheep were dominated by adults and pig by subadults. However, like the earlier period, most age groups were represented. Keeping in mind that by this time beef was the most prevalent type of meat, the expanded groups indicate that fresh meat was consumed frequently. But most of the beef, and likely pork, was probably preserved meat. As a military installation, the quartermaster would have made sure that meat was always available for the troops. It may be that fresh meat was reserved for officers.

Seasonal procurement

The seasonal nature of foods is something that modern people are losing sight of. In the past, milk was a seasonal food. A cow's milk production dries up without high quality feed. That is why converting milk into cheese, butter, yogurt, and other products was a way of preserving this precious resource. Dairy cows produce milk only if they give birth. A barren cow is of no value. Many of the wild species present at Fort Orange speak to seasonal availability. Some species such as ducks and geese were migrators. Others, such as small-bodied mammals, turtles, and amphibians are hibernators. And other species such as deer and turkey are best consumed at the end of summer into fall when they have higher body fat. Historical records reveal that Native Americans hunted fur-bearers in the summer and fall, bringing pelts to Fort Orange and Beverwyck in early winter (Merwick 2008:65; Venema 2003:183; Waterman and Noel 2013). The species that speak most clearly to seasonal procurement are duck, geese, and deer. There were other mammals such as mink, river otter, and beaver. However, they were represented by limited range of elements making it hard to know if they might have been skins. Duck and geese represent spring to late fall foods, while deer, though available year-round, were likely late summer to winter foods when they are at their fattest and healthiest. By spring deer are at their leanest which means they have little fat left and the meat is no good. The presence of deer in most deposits speaks to the importance of this source of meat, most especially once the river froze in winter and supplies were less reliable.

Regardless of occupational phase, deer was consistently well represented in comparison to domesticated mammals (Figure 3). In the earliest phases, the range of body parts included heads and feet which suggests that the Dutch killed them. But in the later phases, deer was more often represented by haunches of meat. This indicates that venison had become an important trade commodity. Deer meat became commodified. Fur-bearers were present in every occupational phase, but always in low frequencies. Most often they were represented by cranial and foot elements. This pattern suggests that pelts were brought in with heads and feet attached. Ducks, geese, pigeons, and turkeys were well represented in every occupational phase and in most deposits. Interestingly, there is an absence of these bird species in Captain Backer's refuse, though admittedly the sample was small.

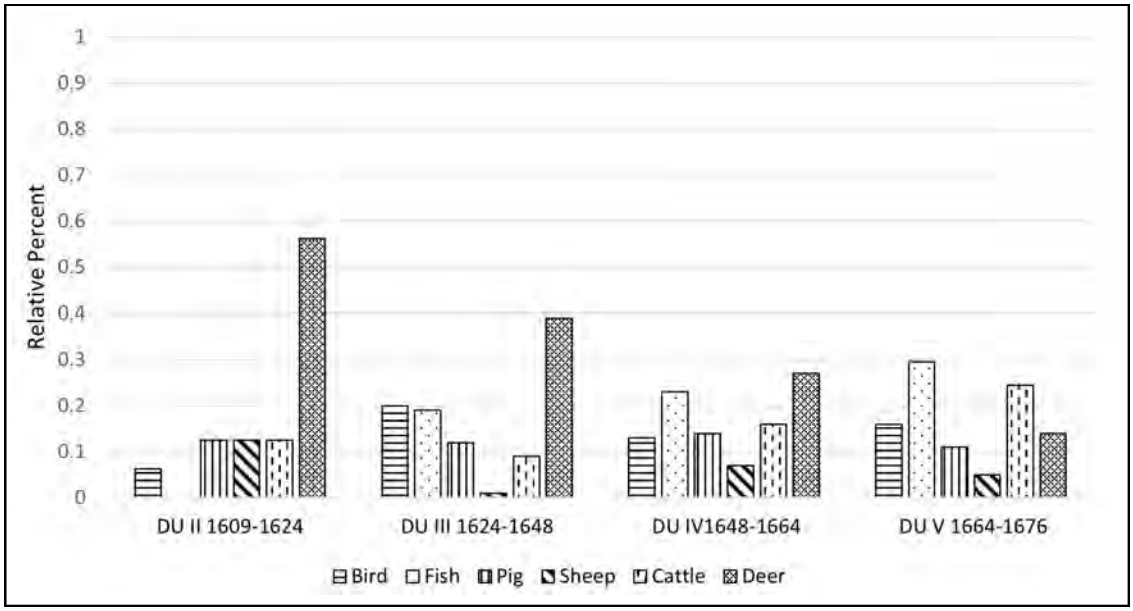

Figure 3. Comparison of the volume of bird and fish with pig, sheep, cattle and deer by occupational phase (DU).

Meal Preparation

The ways in which meat cuts are prepared offers a glimpse into the kinds of dishes prepared. In the past people ate most parts of animals. The poorest people in urban areas rarely ate meat, and when they did, it was predominately cheaper offal or organ meats. In general, the Dutch were not big meat eaters in the Netherlands. Breads, pancakes, cheeses, fruit, fish, and shellfish were commonly eaten, especially by those living along the coast and rivers. Genre paintings by artists such as Jan Steen record daily scenes involving food preparation, vendors, table settings, and eating (Barnes and Rose 2002; Chapman *et al.* 1996). Cookbooks also provide information about food preparation and the processing and preservation of meats (Rose 1998). Stewing was a main cooking method. While a well-equipped kitchen might have a wide range of cooking equipment, most people would have had limited utensils, pots, and pans. It is impossible to know what kind of set up existed within the fort. Military cooks may have focused on boiling, stewing, and roasting methods for feeding the soldiers. Trader households were wealthier than most people and may have had all the necessary equipment for making a wide range of foods. With the founding of Beverwyck came bakers who set up their shops and provided the community with bread and other treats (Venema 2003). In France, when I was a child, it was not uncommon for bakers to also bake meat pies for special customers. Perhaps it was the same in Beverwyck for those with meager kitchens.

The faunal deposits indicate that meat, fish, and fowl were important dietary components during all phases of occupation. Chickens appeared with the founding of the fort. They would have not only provided meat but, more importantly, eggs. Ducks and geese would have been seasonal foods. Fish and fowl may have been roasted, boiled, and stewed. Without greater samples, it is difficult to know how they were processed and consumed.

Meats from cattle, sheep, pig, and deer were recovered from all deposits and all phases of occupation (Table 5). The kinds of foods represented by skeletal elements varied by species and phase of occupation. The term ‘meat cut type’ includes trimming waste and discarded elements such as foot and antler. In this study, processing waste refers to cranial elements including skull, mandible, and teeth which were discarded after the facial tissues, brain, and tongue, also known as offal, were removed for making cured foods such as headcheese, smoked tongue, and other cold cuts. Trimming waste refers to foot elements including metapodia and phalanges often discarded while processing a haunch or leg into meat cuts. All these terms appear throughout this section and are used to classify and distinguish different kinds of foods and activities by occupational phase.

Table 5 summarizes meat cut types for large-bodied mammal species including cattle, pig, sheep, and deer. During the earliest phase, DU II, dating before Fort Orange (1609 - 1624), domesticated mammal remains most likely are from preserved meats. Beef and pork consist mainly of cuts that were fit for stewing and roasting. Brined meats are better suited for stewing, while smoked meats such as hams for eating cold. Deer remains were composed of a greater range of cut types, including processing cuts from the head and trimming waste from the foot. It appears that deer were processed not only for meat but also offal.

With the construction of the fort a military kitchen would have been built, the location, however, is unknown. The kitchen would have prepared meals for the soldiers and agents of the WIC, and perhaps the fort commander and other officers. During the DU III phase, there may not have been much difference in the foods prepared for soldiers and elite. As a military installation, fort provisions would have relied heavily on preserved meats. However, the patroonship began installing farmers in the region starting in 1629, and consequently fresh meat became available from then on. Table 5 shows that processed cuts from the head and feet were present to some degree for all four species. Age-at-death profiles (Table 4) indicate that live animals were already beginning to appear in the deposits, but that most domesticated mammal remains consisted of adults, likely coming from preserved meats. Therefore, the range of meats suggested was predominately stews from barrel meats, supplemented occasionally by fresh roasts and hams. Pig remains included lots of cranial elements suggesting cold cuts and possibly sausages were also consumed. Deer was represented by processed cuts, meats and trimming waste. Meat cuts, including stews and roasts, were most frequent. It appears that deer were hunted, probably within the immediate community, and processed for a range of foods including meat and offal.

TABLE 5: SUMMARY OF MEAT CUT TYPES FOR CATTLE, PIG, SHEEP, AND DEER BY OCCUPATIONAL PHASE (DU), BASED ON UNADJUSTED MINIMUM NUMBER OF UNITS

DU	Species	Processed Cut		Stew		Roast/ Ham		Trimming/ Discard		Total MNU	
		MNU	Rel%	MNU	Rel%	MNU	Rel%	MNU	Rel%	MNU	Rel%
II											
	Cattle	-	-	2	1.00	-	-	-	-	2	1.00
	Pig	1	.50	-	-	1	.50	-	-	2	1.00
	Sheep	-	-	1	.50	1	.50	-	-	2	1.00
	Deer	7	.78	-	-	1	.11	1	.11	9	1.00
	Total	*8*	*.53*	*3*	*.20*	*3*	*.20*	*1*	*.07*	*15*	*1.00*
III											
	Cattle	-	-	12	.63	6	.32	1	.05	19	1.00
	Pig	16	.62	1	.03	9	.35	-	-	26	1.00
	Sheep	1	.333	1	.333	1	.333	-	-	3	1.00
	Deer	22	.26	25	.29	26	.30	13	.15	86	1.00
	Total	*39*	*.29*	*39*	*.29*	*42*	*.31*	*14*	*.11*	*134*	*1.00*
IV											
	Cattle	12	.10	45	.39	42	.37	16	.14	115	1.00
	Pig	68	.67	15	.15	18	.18	-	-	101	1.00
	Sheep	8	.17	11	.23	17	.35	12	.25	48	1.00
	Deer	56	.29	51	.27	49	.25	37	.19	193	1.00
	Total	*144*	*.31*	*122*	*.27*	*126*	*.28*	*65*	*.14*	*457*	*1.00*
V											
	Cattle	11	.06	105	.54	74	.37	6	.03	196	1.00
	Pig	36	.40	24	.27	30	.33	-	-	90	1.00
	Sheep	7	.18	8	.21	11	.29	12	.32	38	1.00
	Deer	27	.24	31	.28	39	.35	15	.13	112	1.00
	Total	*81*	*.18*	*168*	*.36*	*154*	*.33*	*33*	*.07*	*463*	*1.00*

By 1648, when traders were allowed to build houses within the fort, it is likely that most of the meats indicated in Table 5 were obtained from live animals. There would still have been preserved meats but the traders, especially those with farms, would not have depended so heavily on them. Deer were the most abundant species for this phase. Although processed cuts and trimming waste were abundant, haunches of meat were being traded at the fort and used for making stews and roasts. Age-at-death profiles indicated that meats were obtained from animals of all ages (Table 4). Pig was the only species that was overly represented by cranial elements. All others were dominated by stews and roasts, heads and feet were present but less frequent. This pattern suggests carcasses were being processed for meats, offal, and other products such as fats and oils. It is likely that there were other reasons, such as producing glue, tallow, and soap, which can be made from animal remains.

By the last phase of occupation, a time when beef was the most important meat consumed by the British, stews and roasts rose in frequencies. This is the best evidence for communal dining which soldiers would have experienced. There were very few processed cuts or trimming waste. The same was true for the other three species. However, pig was once again represented by a high frequency of processed cuts, with sheep and deer to a lesser degree. Sheep was also represented by a high frequency of foot elements suggesting that their carcasses were reduced into meat units at the fort. Deer was less common by this time, but based on the distribution of processed waste, meat cuts, and trimming waste it appears that they were still being hunted in the area. It should be noted that when haunches of venison were brought to the fort, the feet were likely left for the cook to remove.

For all phases of occupation stews, roasts, and hams were the most abundant types of meat consumed (Figure 4). The seventeenth century frontier was a difficult place to live and required everyone to spend time and energy on living in an alien environment. These cuts of meat represent dishes that could be made ahead and left to cook all day. For wealthy households, a cook was likely occupied in not only making the food of the day, but also engaged in other kitchen activities, such as cleaning, gardening, preserving, and preparing foods for storage, like butter and cheese, while milking cows and sheep. Everyone's day was full, doing things that modern life no longer requires of us.

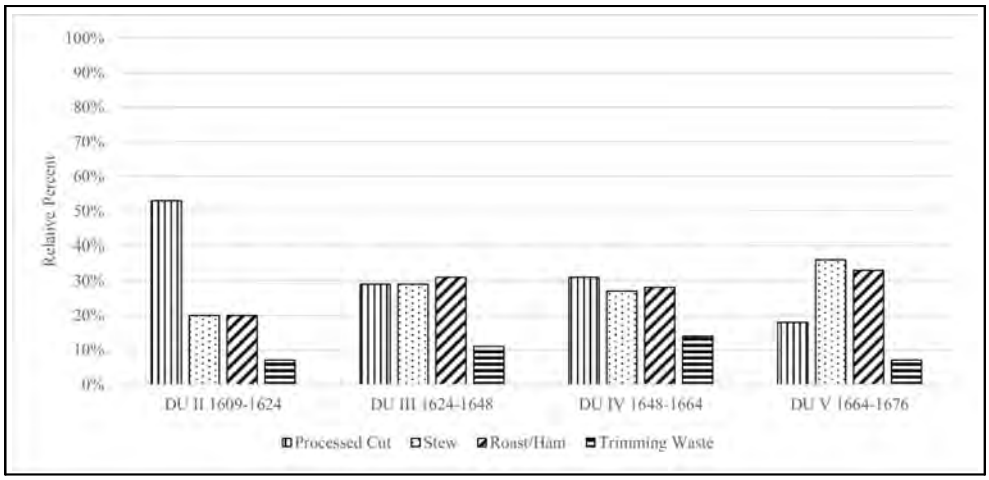

Figure 4. Relative frequencies of combined beef, pork, mutton and venison butcher cuts, based on unadjusted MNU by occupational phase (DU).

Summary of free traders household deposits

Jean Labatie was an important figure in the community for many years (Bradley 2007; Huey 1988, Venema 2003). He was a Frenchman, born in Lorraine, a gifted linguist, master carpenter, and able businessman. He served on the court at Fort Orange and at one time was the magistrate. He was married; his wife's name was Jilletje Claes, widow of Harman van den Bogaert. They built a house in Beverwyck and moved out of the fort, eventually selling the brewery in 1661. The faunal remains found near the Labatie brewery were abundant and highly diversified in terms of species (Table 3). There was venison, beef, pork, mutton, duck, goose, pigeon, turkey, and pike. Their diet was varied, but the meat cuts were generally of poor quality. They included beef stew meats from the short rib, neck, and chuck, hams from the fore shank, mutton shanks, and processed cuts from all three domesticated species. Venison, however, was represented by haunches from the fore and hindlimbs, along with a few cranial elements and feet. Besides food-related species, a few fur-bearers were indicated including black bear and river otter, which point to Labatie's involvement with the fur trade.

Hendrick Andriessen van Doesburgh and his wife Marietje Damen built inside the fort. Hendrick was successful businessman, a gunstock maker by profession, but he also operated sawmills and a distillery (Venema 2003:33, 190). He also owned a boat and bought a house in Manhattan. Marietje was also a successful businesswoman. Upon Hendrick's death in 1664, she married a third time and, as with Dutch law, controlled her own properties. Their faunal assemblage was diversified in terms of species though it did not yield clear evidence of involvement in fur trading. A few bones from squirrel and mouse were present, but they are potentially intrusive. Meat cuts were of higher quality than those of Labatie. There were mutton roasts from the loin and leg, hams from the fore and hindquarters, and several kinds of beef stews and roasts. Though processed waste was present for all three species they were significantly less frequent than meat cuts. Venison was dominated by haunches from the hindquarter. Processed and trimming waste were also present. They also had chicken, duck, goose, pigeon, turkey and three kinds of fish. Overall, their faunal assemblage was rich in diversity and quality of foods.

Abraham Staats and his wife Catrijn Jochems built a substantial house on the north side of the fort entrance, opposite Labatie's brewery (Bradley 2007). Catrijn was a businesswoman in her rig (Venema 2003:189). Staats built another house in Beverwyck in 1654 and added a small hut in which he engaged in successful trade with Native Americans. Staats was financially wealthy. In addition to other properties, he owned a farm. He sold his house in 1655 to Johannes van Twiller. Staats was a sloop captain by profession and owned his own boat. Van Twiller occupied the house from 1654 until 1657 when he handed the property over to Jeremias van Rensselaer. The house fell into disrepair and Jeremias was unable to use it. It was eventually occupied by Captain Bakker from 1662 until it burned in 1668.

The Staats faunal assemblage was unfortunately small (Table 3). Even so, it yielded evidence of involvement in the fur trade with the presence of a mink skull. Duck and chicken were present along with unidentified fish. Meat cuts included mutton shanks, and there were two beef roasts from the forequarter and a processed cut from the mandible. Deer consisted of a shank and processed cuts from the mandible. It is worth noting the absence of pig in this deposit. It was one of the only instances across the site. The Van Twiller assemblage was also small. Perhaps this is not very surprising given the sequence of occupations and the likelihood that the cellar was periodically cleaned out. There was a limited range of species. Identified bird and fish included goose, pigeon, and catfish. Deer was the most abundant species. There were several venison cuts from the fore and hind legs, a small amount of processed and trimming waste. Unlike the Staats sample, pig was present consisting mainly of processed waste and a trotter. One beef cut from the short rib was also present. Overall, the deposit represented high quality venison cuts and few other meats.

Hans Vos was a German who came to New Netherland in 1642. He worked as a servant of Adriaen van der Donck, the sheriff of Rensselaerswyck. He was the person who pursued Harman van den Bogaert who fled after being caught in a homosexual act. Van den Bogaert should be remembered with honor as he secured the first deal with the Iroquois in 1635 and laid the foundation for the fur trade. By 1649, Vos was serving as court messenger. Like many others he was also engaged in the fur trade. By 1657, as assistant sheriff, he accused others of selling alcohol to Native Americans, but instead was charged with the crime and sentenced (Huey 1989). Even though he was banished from Fort Orange for three years, in 1658 he was back and selling alcohol once again during the trading season (Venema 2003). The house he built in the fort seems to have been used mainly during the trading season. His main home was located in the Catskills. Unfortunately, there was only a small faunal assemblage from his house (Table 3). It was composed of small amounts of duck, pork stew meats and a butchered mandible, two deer haunches from the fore and hind leg, and unidentified fish. Though the collection was small, it was similar in having a mix of domesticated and wild species.

Conclusion

The Fort Orange faunal assemblage offers glimpses into a dynamic period of time when its occupants shifted in composition from military to private citizens and back again. The small deposits associated with most phases of occupation and the residents restricts what is known to that which was preserved archaeologically. Nonetheless, all the people who resided at the fort from 1624 - 1664 were very dependent on wild animals for food. Deer, duck, geese, and turkey were major contributors to their diets. Fish remains were poorly represented which may be an issue of preservation or perhaps waste disposal practices. They would have been an important dietary component as well. Over time, domesticated animals increased in dietary importance. That shift was made possible by the efforts of farmers and good trade relations. By the time the British arrived, local farms could provision the fort. But the faunal evidence suggests that barrel beef and pork were important fort provisions. Captain Backer moved into Beverwyck after his house burned in the fort. One can imagine his deep sigh of relief and likely engagement of a cook who bought provisions from local producers.

Acknowledgements

The Fort Orange faunal assemblage was transferred to the archaeology laboratory at Brockport College, SUNY, in 2005. Two zooarchaeology lab courses were conducted in the summers of 2005 and 2006. Students were taught the basic procedures of faunal identification and analysis. Their work was

supervised by the author. The zooarchaeology students processed approximately one third of the collection. The remaining two thirds was analyzed by the author. Paul Huey was instrumental in making it possible for the collection to be transferred to Brockport College. LuAnn Wurst offered the use of her lab facility at the college. I am grateful to everyone for their support and assistance with this project. I would also recognize Paul Huey, who has spent more time teaching me about the Dutch than anyone else, Meta Janowitz who has always guided and advised me in all matters of archaeology, and Sherene Baugher who urged me to submit an article to this special issue of The Bulletin honoring David Starbuck. David was instrumental in helping me publish previously to the journal and I am indebted to him for all his encouragement.

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formal peer review prior to being
accepted for publication

IN MEMORIAM

MARY ANN PALMER NIEMCZYCKI

Mary Ann was the daughter of the late William and Mary Palmer of Kingston, NY. She graduated from Kingston High School and attended college at the State University of New York at Buffalo where she majored in anthropology and graduated in 1966. In 1969 she received an Ed. M. in education from SUNY/Buffalo and taught in elementary schools in Buffalo 1967-75. She then enrolled in graduate school for anthropology, doing cultural resource management on the side and receiving an M.A. in 1977.

Professor Marian White of SUNY/Buffalo conducted research in the Cayuga area 1969-1971 but passed away in 1975 and did not have the opportunity to synthesize the data she and her students had collected. Mary Ann undertook the task, combining it with existing information on Seneca and Cayuga sites to produce a comprehensive picture of Seneca and Cayuga development. During this period, she became a Research Fellow at the RMSC and was awarded an Arthur C. Parker Fellowship by that institution. She also directed summer field schools 1982-1985 for the Gannet School which is associated with the Rochester Museum and Science Center.

She successfully defended her dissertation, *The Origin and Development of the Seneca and Cayuga Tribes of New York State,* in 1983 and it was published the following year as the Rochester Museum and Science Center's Research Record 17. In the Preface, she wrote:

> My final acknowledgement is to a class of individuals, the avocational archaeologists, who are responsible with view exceptions, for the wealth of archaeological data available for this investigation. Truly, this study would have been impossible without their efforts and concern for the preservation of the information and material they recovered.

Between 1983-85 she was a Visiting Assistant Professor at the State University of New York at Brockport. Carolyn Pierce remembers how Mary Ann encouraged females in the field. After Brockport, she accepted a tenure track position as Assistant Professor at Southeast Missouri State University in Cape Girardeau, but she found the position exploitative with a heavy teaching load and low salary, so she made the decision to leave. She then taught at Southern Illinois University Edwardsville for one year.

It was at SIU Edwardsville that she took graduate courses in marketing, receiving her Masters in Market Research and then became active in that field. In addition to her publications in archaeology which are listed below, she has several publications in marketing research. In 2007 she moved from Illinois back to Buffalo. While continuing to do marketing research she remained interested in archaeology and used her marketing expertise to design and administer a membership survey in 2010 for the NYSAA at no charge to the organization. Among the findings was that the membership preferred receiving a hard copy, rather than a digital copy of *The Bulletin.* The survey also found that sponsoring a local dig was a good way for NYSAA Chapters to attract new members. She was a long-time member of both the Frederick Houghton and Lewis Henry Morgan Chapters of the NYSAA.

In recent years, John Hart, former Director of the Anthropology Division at the New York State Museum, led an initiative to compare ceramics across Iroquoia. Mary Ann provided ceramic data to this project that she had accumulated for her dissertation. Mary Ann's archaeological data and other research material has been placed in the Marian E. White Museum, SUNY/Buffalo. Her legacy in archaeology will live on.

Surviving family members include her husband, Jay H. Gilpatrick, whom she married in 2012, two daughters: Mary and Sarah, four grandchildren, a great-grandchild, in-laws, nieces, and nephews. Also, see her obituary in the November 19 *Buffalo News*: https://lombardofuneralhome.com/tribute/details/14059/ Mary-Ann-Niemczycki/obituary.html.

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William Engelbrecht
Professor Emeritus, Buffalo State College

Thanks to Mary Ann's daughters Sarah and Mary, Dr. Kathleen Allen, Dr. Robert Hasenstab and Carolyn Pierce who also provided the photo of Mary Ann from the 1980s. Donations in Mary Ann's name may be made to the "Ovarian Cancer Project," PO Box 1002, Williamsville, NY 14231.

DR. DAVID R. STARBUCK
David lecturing at Roger's Island Visitor's Center, courtesy of Nia Bliss

Dr. David Starbuck passed away on Dec. 27, 2020, after a year-long battle with pancreatic cancer. He was 71. David was a native of Chestertown, NY, spending most of his life on the 1790s farm he grew up on. He attended Chestertown High School, graduating in 1967.

David knew from an early age he wanted to be an archaeologist. Inspired by finding Native American artifacts on his family's farm and fascinated by the story of Fort William Henry. He began college at St. Lawrence University, later transferring to the University of Rochester. There he majored in anthropology and graduated summa cum laude. During his summers off, he volunteered on his first guided field projects with Dr. Robert Funk and Dr. Marian White. He earned masters and doctorate degrees in anthropology at Yale University, graduating in 1975.

He conducted his first fieldwork in Mexico, but his focus was always on the colonial wars of northern New York's Hudson-Champlain Valley. His first "real job", as he often put it, was as a contract archaeologist working for a would-be developer of Roger's Island, birthplace of the famed Roger's Rangers. That work led him to a lifetime of study on the French and Indian and Revolutionary wars in northern New York. In addition to Roger's Island, David spent several seasons excavating at Fort William Henry, Fort Edward, Saratoga and sites around Lake George. He would become a world-renowned expert on colonial American military material culture.

David was a lecturer and assistant professor at Phillips Exeter Academy, Dartmouth College, University of Vermont, R.P.I., Boston University, Yale University, and most recently professor of anthropology at Plymouth State University in New Hampshire from 1992 to 2020. During that time, he taught thousands of students, often leading them on archaeology-themed travel tours of Mexico, Belize, Honduras, Guatemala, Peru, Bolivia, Egypt, Turkey, Greece, Italy, Sicily, Israel, Jordan, Cambodia, Australia, England, Ireland, and his ancestral homeland, Scotland. But he argued that his most satisfying

accomplishment is his exposure and training of hundreds of now-practicing students of archaeology through more than 70 field schools. One of David's legacies is the undergraduate and graduate students he mentored. Many have gone on to advanced degrees and to their own contributions in the field.

Nearly every summer, for his entire career, David led at least one archaeological field school. These might be through Plymouth State or SUNY Adirondack, often one for each institution. His field schools were open to students as well as to members of the community. People often became annual participants in these field campaigns. Over time this has created a corps of dedicated and skilled avocational archaeologists who continue to participate in field projects and support the study and protection of archaeological resources in their home communities. It was David's volunteers who came together to recover the Courtland Street Revolutionary War cemetery, disturbed by construction in early 2019.

His work led to countless publications -- enough to fill 37 pages of curriculum vita. His most memorable works, however, were books on his excavations and research on the Champlain Valley French and Indian War. He wrote not just for a professional audience, but more importantly for a popular audience that was not steeped in archaeological jargon. He took the time in several books to explain why archaeologists do the things they do, why they carefully excavated in square holes, and what could be learned from the smallest pieces of evidence. He sat and spoke for countless media interviews and lent his expertise to a number of cinematic and documentary endeavors.

David served on the Boards of Directors for many academic, professional and preservation organizations including the New York Archaeological Council, The Council for Northeast Historical Archaeology, Society for Industrial Archaeology, and Roger's Island Visitor's Center. He also served as an officer in the Society for Industrial Archaeology, Vermont Archaeological Society, Northern New England Chapter of the Society for Industrial Archeology and the New Hampshire Archaeological Society.

He served as Editor for several professional journals and newsletters including *The New Hampshire Archaeologist; IA, The Journal of the Society for Industrial Archeology; Society for Historical Archaeology Newsletter; Council for Northeast Historical Archaeology Newsletter; New Hampshire Historical Society Newsletter; The Vermont Archaeologist and The Vermont Archaeological Society Newsletter.* In addition, he served on the editorial boards of many more journals in history and archaeology.

He was a life-long member of NYSAA, and instrumental in forming the Adirondack Chapter in 1992, serving as its President since its charter. Most recently, David served as Editor of *The Bulletin, Journal of the New York State Archaeological Association.* He was elected a Fellow of NYSAA in 1995, in addition to being awarded The Achievement Award and the Theodore Whitney Commendation.

Upon David's diagnosis, he vowed to fight the disease the best he could, but more importantly, to "dig until the day [he] died." He organized the 2019 meetings of the Council for Northeast Historical Archaeology (CNEHA) in Lake George. He taught a field school in the summer of 2020 and continued to dig at Roger's Island into November of that year. One week after filling in the last of his units, David suffered a stroke that ended his writing and research. When he died, David was working on his autobiography which he titled *Indiana Starbuck: The Story of a 'Real' Archaeologist.* He was also in the process of transforming his boyhood farm into a local museum.

David was predeceased by his parents, Samuel and Frances Starbuck; and his brother James E. Starbuck. He leaves behind his many friends, students and colleagues that shared his passion. After a graveside service, he was laid to rest in his hometown of Chesterfield.

Timothy J. Abel and Charles E. Vandrei

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