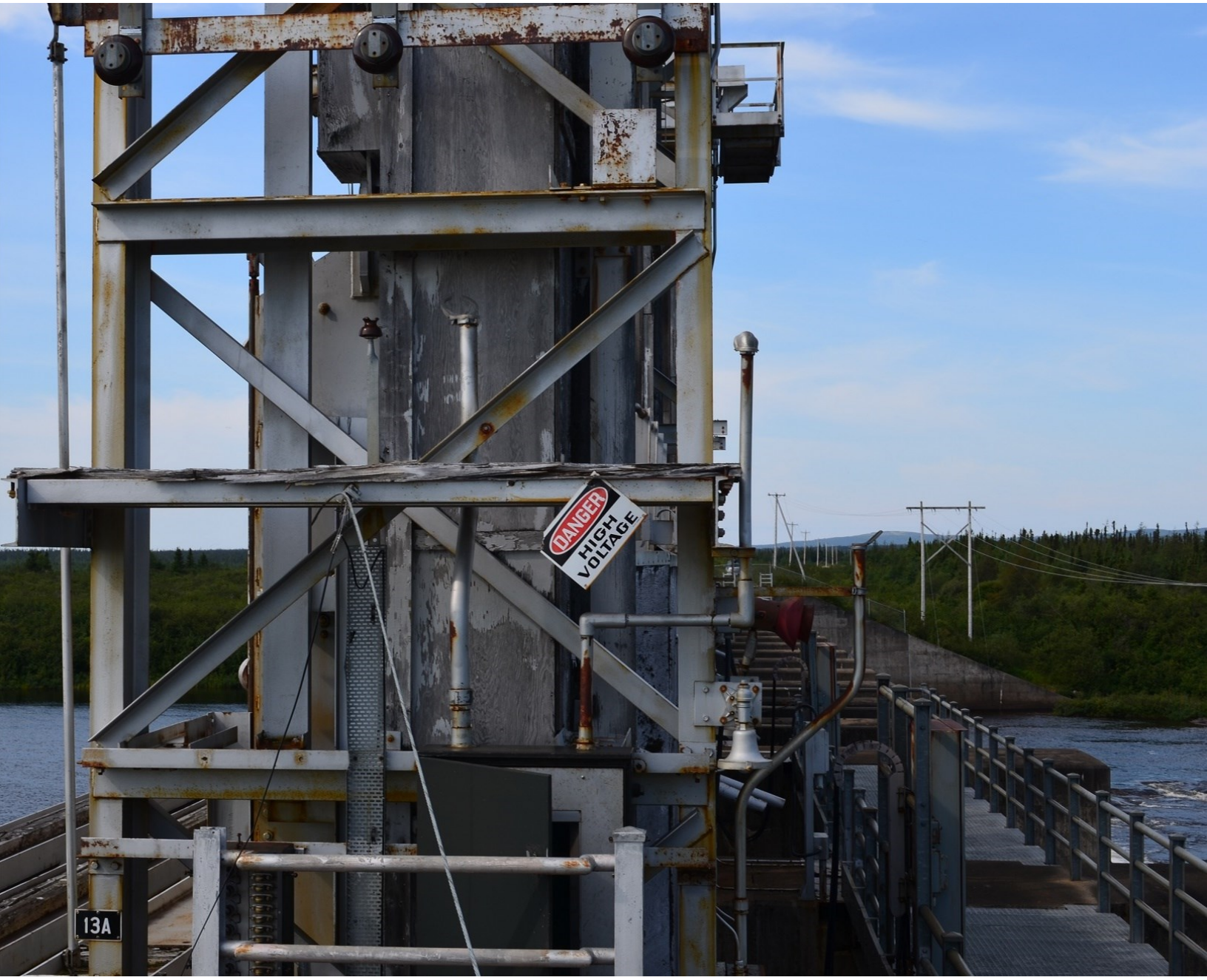


Provincial Archaeology Office Annual Review 2019

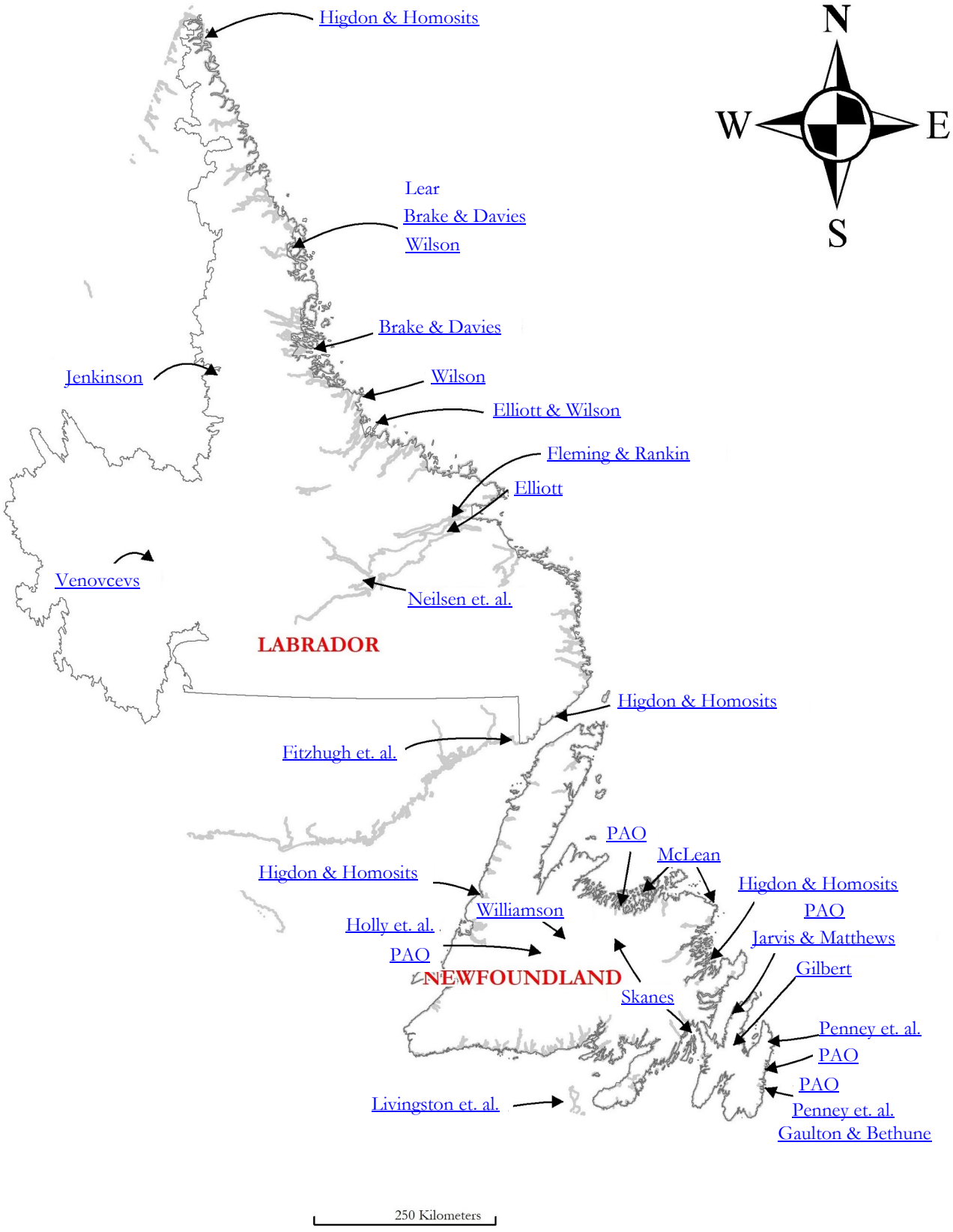
Provincial Archaeology Office
Department of Tourism, Culture, Industry and Innovation
Government of Newfoundland and Labrador
April 2020 Volume 18

Cover: Unruly Archaeology, spillway gate near Twin Falls, Labrador.
See Venovcevs this volume.

Stephen Hull
Delphina Mercer
Editors

Dedicated to Dr. James A. Tuck

ARCHAEOLOGY IN NEWFOUNDLAND AND LABRADOR 2019



INSIDE THIS ISSUE

CONTINUED

Nunatsiavut Archaeology Office Fieldwork 2019

Jamie Brake & Michelle Davies
Nunatsiavut Archaeology Office

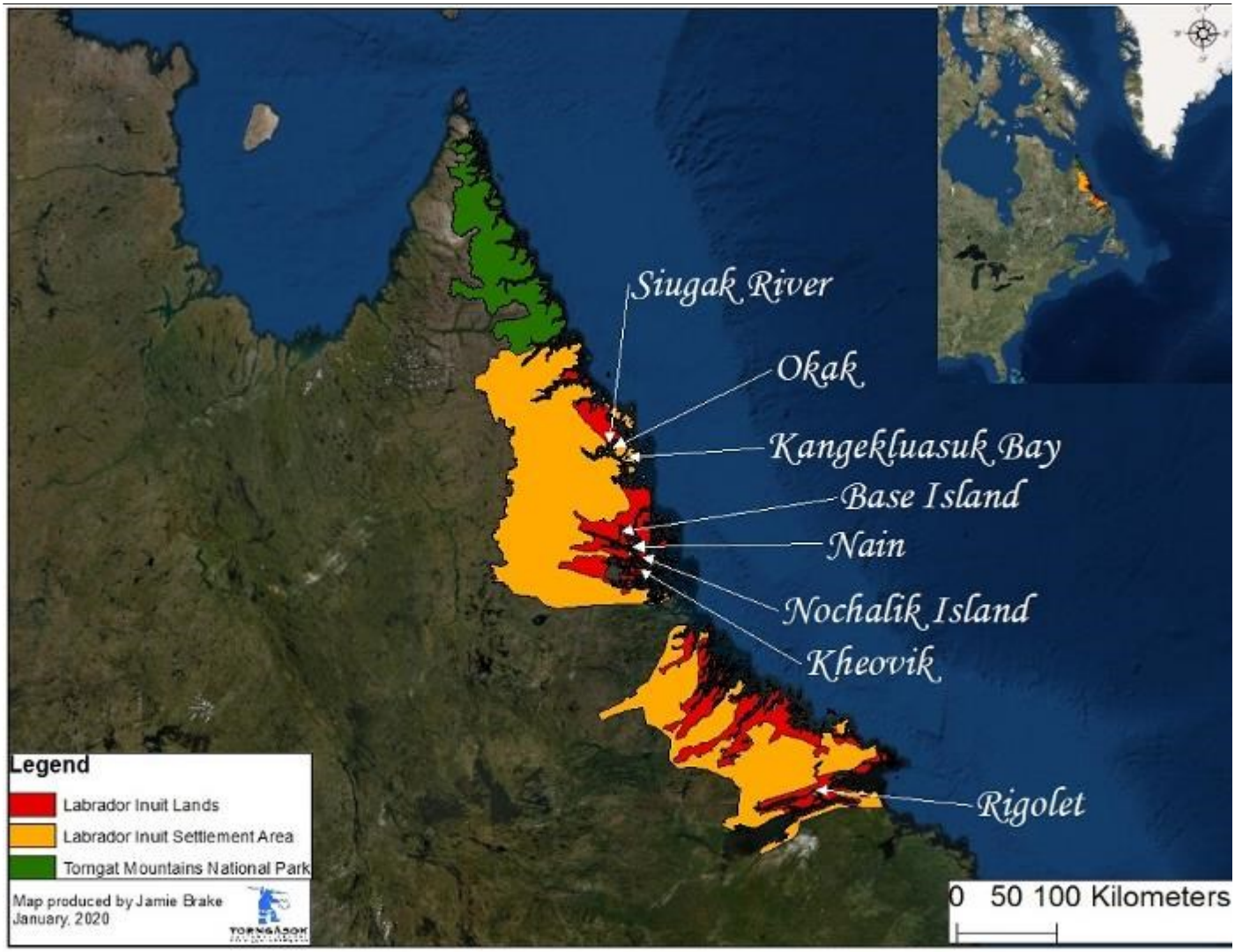


Figure 1: Map showing places mentioned in the text

Introduction

This year has seen a lot of changes for the Archaeology/Heritage Division. The most significant change was the departure of our own Jamie Brake after 11 years of service as Archaeologist with the Nunatsiavut Government to his new role with the PAO. Over the years Jamie has contributed enormously to our understanding of history and archaeology in the province with over 250 new and revisited sites under permits he held in the region. He has initiated several successful projects and events, including the annual Heritage Forum, the Rigolet Area Archaeological Survey Project with William Fitzhugh, the restoration of the 1927 Model-T convertible snowmobile, as well as the Labrador Kayak Revival Project with Noah Nochasak, research on the development of heritage policy and law in Nunatsiavut, among many others. Jamie's contributions have made a lasting impact to the region, and while we are sad to see him go, we look forward to

the collaborative opportunities that lay ahead in his new position.

Michelle Davies was promoted to Archaeologist, and Kyle Crotty to Archaeology Assistant. We are delighted to introduce Lena Onalik as the new Heritage Program Coordinator and we are very excited to see our office grow in the newly named Department of Language, Culture, and Tourism.

Among our most notable events of the year include the long-awaited opening of Illusuak, the new regional cultural centre, located in Nain, and the commemoration event of the 1918 Spanish Flu in Okak this past fall. Ongoing projects include the Placenames Project and the Hebron Family Archaeology Project, as well as field work conducted by the office and presented in detail in this year's review. Field work from the Nain region includes site visits to Satosoak (Base Island), Nochalik Island and Kheovik (Figure 1), as well as a special trip to the Okak region and the Okak Mission Site in particular. A concise discussion of the opening of Illusuak, and an overview of each our 2019 field projects are presented in the pages below.

Illusuak

The Department of Language, Culture and Tourism was immensely proud to open Nunatsiavut's new cultural centre, Illusuak, in November of 2019 (Figure 2). Archaeology/Heritage staff were busy this year working to select artifacts for the exhibit, arrange artifact loans, and finalize exhibit plans. One of the most significant aspects of this work was the development of archaeological reference guides for Blue Rhino, the Illusuak exhibit team. Staff prepared detailed and up-to-date documents with background archaeological information on all cultures which have occupied the coast of Labrador. This information was then parsed

Figure 2: Part of the exhibit space inside the Illusuak Cultural Centre (photo credit: Brenda Jararuse)

by the exhibit team to develop the current panels on display.

Additionally, staff selected and coordinated the transfer of artifacts from The Rooms to Nunatsiavut for display in the exhibit. We are extremely grateful for the hard work undertaken by Lori Temple and Rose Smart of the Rooms in facilitating this transfer, and for their attentive artifact installation in the exhibits. We are also extremely grateful to Miki Lee for her work and advice relating to conservation and maintenance of NG and Moravian Church owned material culture that is now on display in Illusuak. The office has responsibility for these artifacts and it will monitor display items in an ongoing way using condition reporting as part of this process.

The building was officially opened on November 21st with the cutting of a sealskin ribbon by Nunatsiavut President Johannes Lampe, Minister of Language, Culture and Tourism Jim Lyall, and Rigolet AngajukKak Charlotte Wolfrey. The permanent exhibit provides detailed information about the history and archaeology of the region, as well as contemporary events that hold special meaning to Labrador Inuit. The design and name of the building was inspired by the sod house, a traditional winter dwelling that is meant to evoke the feeling of a 'shared living room' for Labrador Inuit. Illusuak is now open to the public and is well worth a visit for those seeking to know more about the region and the people of Nunatsiavut!

Satosoak (Base Island) Background

Late in 2018 the Nunatsiavut Government commissioned a report by Dr. Hans Rollmann on a census conducted by Johan Ludwig Beck in the Nain area in 1776, as well as English translations of the earliest confessional conversations between Inuit and Moravian missionaries in the region which took place in the early 1780s (Rollmann 2019). The report includes a map drawn by Jens Haven in 1776 with Inuktitut place names and, in some cases, the locations of Inuit houses (Figure 3). Several of the settlements shown or referred to on this map have not yet been documented archaeologically, including Satosoak, which the NAO has had an interest in finding for the past few years (Rollmann 2019; Brake et. al 2018). One particularly important thing about this map is that it shows Satosoak as a completely different island than the Satosoak Island shown on modern maps. The island that bears this name today is quite large and is located about 10 kilometers south of Nain. When

Figure 3: Part of Jen's Haven's map of the Nain area from 1776 showing the location of Satosoak (Rollmann 2019)

Garth Taylor published his highly valuable monograph *Eskimo Settlements of the Early Contact Period* in 1974, Satosoak island was shown as the large island south of Nain (1974:103). However, according to Haven's 1776 map the Satosoak of the 18th century was north of Nain and is known today in English as Base Island. This English toponym appears on official mapping of the area at present, but the island also has an Inuktitut name today, which is *Satosoakulluk*, or 'Little Satosoak'. Based on this information it appears that any surviving remains of the Satosoak settlement will be found on the island commonly known as Base Island today rather than on the island currently known as Satosoak. For this reason our traditional first field trip of the season involved a visit to Base Island in early July.

Field Results

Fieldwork took place on the 5th of July and occurred on the northern and southeastern portions of Satosoakulluk. These locations were selected based on an examination of topographic data and satellite images, as well as on the characteristics of known traditional Inuit fall/winter settlements. Moravian descriptions of the distance between Nain and the Satosoak settlement were also used, which suggest that the northern part of Satosoak as a good potential candidate for the settlement site. Field methods involved surface inspection and limited testing. Our activities were documented with GPS units, digital cameras and field notes. Travel was facilitated by our office's freighter canoe.

Although we did not find the late 18th century fall/winter settlement we were looking for, we did record archaeological resources associated with historic Inuit use of the area at both parts of the island that we landed on.

On the southeast portion of the island we passed between two historic Inuit sites recorded by Brake ten years earlier, which, from a distance, appeared to be in the same condition as last observed. At a location that looked particularly promising on satellite imagery we found only an obviously natural depression and a completely exposed and cannibalized tent ring on a sand and gravel slope (HdCj-14). No cultural material was observed within or near the feature making it difficult to suggest an affiliation, though it is clear that the structure belongs to the historic period based on its low elevation.

On the northern tip of the island evidence of historic period Inuit activity was ubiquitous. We landed in a small cove on the west side of the most northerly promontory and immediately came upon at least six tent rings at this location (HdCj-10). Two of these features contained diagnostic u-shaped Inuit style hearths (Figure 4). The staves and hoops of a collapsed but well preserved wooden barrel were found next to one of the structures suggesting site use into the 20th century, though some of the features are probably older. About 700 meters to the east on a small point we recorded a single tent ring and a large cobble cache nearby at a very low elevation (HdCj-11). Another 450 meters further to the east we found another cluster of three tent rings and a cache, one with a diagnostic u-shaped hearth (HdCj -12).

On our way back to the boat we found one more cluster of tent rings and a stone marker on the very northern tip of the island (HdCj-13). One of the warm season dwellings contained a very large u-shaped hearth, and most of the stones used to build these features were heavily encrusted with black lichen and partially overgrown with moss. The position of the site, on the edge of a low cliff directly over the channel between Satosoakulluk and South Aullatsivik Island must have been selected for sea mammal hunting (Figure 5). The large u-shaped hearth was tested and revealed only charcoal. This site had an older appearance than the other three encountered that day.

Okak Background

A three day field expedition to Okak Bay was undertaken in early August in order to assess the location of a proposed tent camp for a commemorative event planned for early autumn at the Okak Mission site. The tent camp was meant to house a large group of people who intended to travel to the site to mark the hundred year anniversary of the closure of that community following the devastating impacts of the Spanish Flu pandemic on the settlement in 1918-19. Three new sites were recorded on north Okak Island during the trip and three additional sites were revisited, one on North Okak Island, one on South Okak Island, and one on the mainland near a cabin that we occupied during our stay. James Okkuatsiak and Richard Makko of Nain transported us and our equipment to Okak Bay in two speed boats.

Figure 4: Looking south at HdCj-10

Figure 5: Looking north at HdCj-14

Figure 6: Looking west towards the Okak Mission with an 18th century British cannon in the foreground

Field Results

On August 6th we travelled from Nain to Okak Bay and reached a cabin owned by the Andersen family at a highly picturesque location just to the south of Siugak River shortly before dark. That evening we had a quick look around on the exposed sand and gravel terraces in the vicinity of the cabin and found flakes of a variety of cherts (Ramah, grey and black) in sandy blowouts about 650 meters south of the cabin at the base of a bedrock knoll. We took a few photos and a GPS point at this location. After checking the NAO archaeological sites database we discovered that this is part of a cluster of sites originally recorded in 1974 & 75 by Steven Cox and revisited in 2005 by Ken Reynolds of the PAO (HjCm-04 site record).

Our priority on August 7th was to conduct the Okak tent camp assessment mentioned above, as this was our only full day for fieldwork. We reached the eastern end of the mission station (HjCl-10) by about 9:00 am and selected an area just to the north and east of 18th century English Armstrong-Frederick pattern cannon, associated with the earliest Moravian presence in the area, for the camp (Figure 6). Six test pits were excavated at this location, none of which produced cultural material. When this work was completed we descended through heavy brush to a lower terrace where we had observed standing headstones during our approach in boat. Closer inspection revealed three upright stones, as well as stone cobble grave outlines and a fence surrounding a small family plot. All three of the standing headstones in this cemetery are legible and dated to 1922, 1929 and 1931 - the years following the closure of the Okak settlement.

We completed documenting the 20th century cemetery by noon and walked along the shore to the remains of the mission station itself to meet our boat drivers at the end of the remnants of the community wharf for lunch. An increasing density of historic materials was seen along the active beach as we approached the former location of Inuit houses, with the highest visible concentration at the wharf itself. We ate a quick meal near the end of the old dock and surface collected a few artifacts from this structure and from the active beaches adjacent to it (Figure 7). A few particularly fine examples of a small range of ceramics were collected as well as a hand carved and drilled bone handle for a 'men's' knife. The foundations of the hospital, church, mission house and store buildings were visited and photographed, as were the remains of gardens and the historic cemetery at the western end of the settlement. Here we observed perfectly legible slate headstones laid flat in the Moravian tradition, with wooden burial outlines and wooden grave markers still preserved in some cases. Some of the stone markers dated to the late 18th century and early 19th century, while the still upright wooden markers, typically used for Inuit members of the community, retained no text but probably dated to the late 19th or early 20th centuries (Figure 8).

In late afternoon, having completed what we set out to do, and more, we left Okak and headed east to Moores Island Tickle, hoping to be able to navigate through the southern end of it to have a

Figure 7: The remains of the wharf at the Okak Mission

Figure 8: A wooden Inuit grave marker still standing in the historic cemetery at Okak

look at some promising areas on South Okak Island. Unfortunately the tide was too low to permit an exit through the far end of the tickle, but the situation did provide a hunting opportunity for our pilots, one of whom bagged a Canada goose in Woody Cove on the north side of the tickle before we headed north again towards the Andersen cabin. In calm waters just off of Kivalek we pursued seals and Brake had success with a Ringed seal which provided fresh meat for supper, for breakfast, a little for the larder, as well as a fine skin that was later stretched, scraped and dried by Andrew Andersen of Nain.

Early the next morning we packed our things, cleaned the cabin and prepared for the return trip to Nain. During a brisk walk near the cabin, Brake found and surface collected a black chert Pre-Dorset endblade next to a seat-sized boulder at the Siugak River site cluster (Figure 9 [HjCm-04]). We each wrote an entry in the cabin diary before boarding the speedboats and heading east towards the Okak Islands. Maggo and Okkuatsiak deposited Davies and Brake on the western side of Kivalek (HjCl-01) allowing for a walk across the site and a pick up from the eastern beach. This brief visit to the largest known traditional Inuit fall/winter village in Labrador was a powerful experience for us as servants of Labrador Inuit and students of Labrador history. Our activities included a walk-over, GPS use, photography and intense discussions and imaginings of what life at the site must have been like, current site condition and possibilities for future research.

Figure 9: Pre-Dorset endblade from HjCm-04

Not long before our trip to Okak Bay we had had an opportunity to meet with Dr. Peter Whitridge, Dr. Véronique Forbes and a number of graduate students who had spent time working at Kivalek and a couple of other sites in Okak Bay earlier in the field season. Whitridge and PhD student James Williamson talked about potential remains of Inuit winter dwellings in the next cove east of Okak Harbour which they saw from the boat when the sea was somewhat rough and they were unable to land. Masters student Sarah Wilson also indicated that she had observed stone markers there. We hoped to visit this location during our time in Okak Bay and we had an opportunity to do so just after leaving Kivalek on August 8th. Though we did not encounter sod houses during our survey of the eastern end of the cove, we did discover a well-defined cobble tent ring on a high raised sand and gravel beach terrace next to a stream (HjCl-16). A careful surface inspection revealed one Ramah chert flake on the surface within the feature.

Next we climbed the hill forming the eastern side of the cove where we recorded an upright stone pinnacle and a marker made of piled cobblestones (HjCl-15). Just above the active beach we found two boulder caches but no obvious dwelling features, though it is possible that architectural remains could eventually be found in the western part of the cove, where a black bear prevented us from having a good look.

Our final stop was in Kangekluasuk Bay on south Okak Island where Brake recorded an Inuit winter settlement in 2011 that he suspected to be a community known in early Labrador Moravian records as Itillik (HiCk-08). Two early historic maps, a lack of other known Inuit winter settlements on the island and the use of whalebone in the superstructure of one of the two sod houses at the site appear to confirm this suggestion. The maps show south Okak Island labelled as Itillik (Figure 10), which is the island that Kangekluasuk 1 is located on, Itillik was abandoned by the early 19th century, and large whales were rarely encountered in Okak bay after the beginning of the 19th century (Brake 2012). Fairly detailed census data from 1780 and 1781 tells us who lived at Itillik and the relationships between the 26 individuals who occupied the site at that time. This provides for the possibility of connecting an archaeological feature with particular

Indigenous individuals in an early contact context, which is a rare thing in North American archaeology, but not out of the ordinary in Labrador (see Fay 2016 for example).

During our 2019 visit we hoped that testing might provide additional information about the nature of occupation, and the dates of occupation of Kangekluasuk 1. We excavated two test pits in the southernmost of the two sod houses at the site, and one in the northernmost house (Figure 11). The first was placed in the entrance passage of the northern structure and it revealed a thick layer of dark, organic soil beneath the sod and over a layer of rocks. Numerous seal bones were recovered from this test unit, though the rocks at the base of the unit were difficult to get a view of because the test pit was continuously filling with water. After unsuccessful attempts to bail the unit out with a camping mug the test pit was backfilled and the southwestern corner (back of the house) of the southern dwelling was tested. This is where a large whalebone pokes through the surface along the rear wall of the structure. Our work exposed more of this large bone which filled much of the unit and obstructed our ability to dig to a degree. A third test pit was dug in the northwestern corner of the southern house at the back of the feature, which revealed alternating layers of grey sand and dark organic soil beneath the sod. However, this unit immediately filled with water so it was backfilled after the soil we had removed was carefully checked. No cultural material was recovered from this unit, although it should be noted that the circumstances prevented us from being able to complete its excavation. Before leaving we were able to map the site from the air using the office UAV.

Figure 10: Part of an 18th century Moravian chart showing the location of Itillik (Rollmann 2018)

Nochalik Island & Kheovik Background

A land use application for a warming hut on the west side of Nochalik Island that would form part of a newly proposed, regularly maintained snowmobile trail prompted an NAO site visit. The island, about 30 kilometers southeast of Nain, had been briefly visited by Bryan Hood in 2004 who recorded one site on the northeastern end of it and noted high archaeological potential on other parts of the island that he was unable to get to at the time (Hood 2004). This trip allowed us an opportunity to survey parts of

Figure 11: Davies at TP2 at HiCk-08

Kheovik, an island where Inuit individuals who figure prominently in early contact period historical records are known to have wintered in 1780-81 (Taylor 1974).

Field Results

The proposed location for the warming hut mentioned above was at a pair of parallel beaches forming the inside of a point in an 'hourglass' format on the west end of Nochalik Island. Davies, Brake and Heritage Program Coordinator Kyle Crotty visited the site on August 9th with Richard Maggo of Nain who provided transportation via speedboat. At the proposed warming hut location we recorded 14 tent rings, a box-shaped hearth or stove platform with square and wire nails in and next to it, a u-shaped hearth and three caches (Figure 12). Pieces of a largely disintegrated trap skiff were also found at this site which was designated Nochalik Island 2 (HcCi-17). A single well defined tent ring and a cache were recorded on the north side of a stream in the cove just to the northeast of the point (HcCi-18). We asked that the warming hut be moved 100 meters or so to the east to avoid impacting HcCi-17.

After leaving Nochalik Island we worked our way around Kheovik Island, about 10 kilometers to the southwest and made brief stops on its eastern, northern and western sides. Two partially buried tent rings were recorded at a low elevation on the east side (HbCi-08) prior to a revisit to an interesting possible Late Dorset site near the northern tip of the island (HbCi-05). We were able to relocate the axial feature that was originally found by William Fitzhugh in 1980, however it was raining steadily by this point

Figure 12: Archaeological features at HcCi-17

and the feature and a depression adjacent to it were flooded with fresh water which prevented us from testing. Photos and GPS waypoints were taken. Our final stop that day was on a low narrow isthmus on the west side of the island where the only archaeological feature encountered was a single, partially buried u-shaped hearth (HbCj-07).

Conclusion

While it has been another busy year for the Archaeology/Heritage division, the field work in the Nain and Okak regions this year was a wonderful opportunity to contribute to our understanding of the past in Nunatsiavut. The trip to Okak was particularly significant as opportunities to conduct surveys further north are relatively rare, and it was our office's contribution to the anticipated events during the commemoration of the 1918 Spanish Flu in Okak. While the commemoration event itself took place in Nain this past fall, the survey was still a success and has opened up some possibilities for future work in the area. We were all very proud with the opening of Illusuak and of the work that contributed to the permanent exhibit. It is our hope that it will continue to draw interest from both Labrador Inuit and visitors to the region. Finally, we look forward to hosting our annual Heritage Forum in Nain, which will take place in Illusuak in fall of 2020.

References

Brake, Jamie
2012 Nunatsiavut Government Fieldwork 2011. In Provincial Archaeology Office Review for 2011 Field Season.

Brake, Jamie, Michelle Davies, Kyle Crotty & Noah Nochasak
2019 Nunatsiavut Archaeology Office Fieldwork 2018. In Provincial Archaeology Office Review for 2018 Field Season.

Fay, Amelia
2016 2016 Understanding Inuit-European Contact along the Labrador Coast: A Case for Continuity. PhD, MUN.

Brake et al 2018

Hood, Bryan
2004 Archaeological Investigations in the Nain Region, 2004. Unpublished report on file at the Provincial Archaeology Office, Department of Tourism, Culture, Industry & Innovation, St. John's.

Rollmann, Hans
2019 A 1776 Nominal Census of the Nain Area of Johann Ludwig Beck and the Earliest Eighteenth-Century Speakings with Nain-area Inuit. Unpublished report on file at the Nunatsiavut Archaeology Office, Department of Language, Culture and Tourism, Nain.
2018 Three Moravian 18th-Century Censuses of the Okak Area by Jens Haven. Unpublished report on file at the Nunatsiavut Archaeology Office, Department of Language, Culture and Tourism, Nain.

Taylor, James Garth
1974 Labrador Eskimo Settlements of the Early Contact Period. National Museums of Canada Publications in Ethnology, No. 9, Ottawa.

Provincial Archaeology Office 2019

Jamie Brake, John Erwin, Stephen Hull & Delphina Mercer
Provincial Archaeology Office

A large part of the PAO's responsibility is to review and process land use referrals in the province to determine whether the area being applied for has known archaeological sites or has archaeological potential. For a complete breakdown of the numbers over the last ten years, see the 2019 Referrals table.

In 2019 the PAO reviewed and responded to 2216 Land Use Referrals

In addition to reviewing land use referrals, in 2019 PAO issued the following:

- 35 Archaeological permits - 18 Impact Assessment and 17 Research permits
- 1 Cultural Property Export permit
- 4 Palaeontological permits

The PAO also supported the archaeology in the province by awarding $30,000 via 12 graduate student grants and $50,000 across seven contracts for various archaeology related contracts and Directed Research.

Newfoundland and Labrador archaeology suffered a huge loss in 2019 with the passing of Dr. Jim Tuck (See Mills & Gaulton, this volume). In one way or another every archaeologist who ever worked here knew Jim or was certainly aware of his previous work here. Helen E. Devereux also passed away on April 1st, 2019. Helen's work in Newfoundland only lasted six seasons starting in the mid-1960s.

Helen started her archaeological work in 1964 working for six years for National Museums of Canada. This likely made her the first woman to direct an archaeological excavation in the Province. Based on this fieldwork she wrote several excellent reports and we also have a rough draft of her PhD thesis. From these we learned that her main goal was a definition of an archaeological identity for the Beothuk. Specifically she was looking at who the Beothuk were, where and when they originated. She planned to accomplish this by doing enough archaeology to compare those results to all the anthropological and historical data collected on the Beothuk by people like James P. Howley. What makes this all the more interesting is that at the time there were almost no positively identified Beothuk sites.

In an effort to meet those goals Helen did some excellent work on some very important Newfoundland archaeology sites. She found 23 important sites contributing to our understanding of the Indigenous history of the Island including:

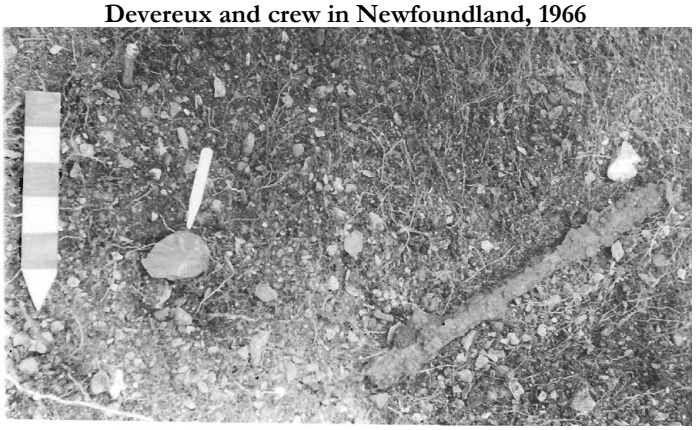
- the large Groswater & Dorset Pre-Inuit habitation site at Cape Ray;

2019 Referrals

Type of Land Use Applications	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Crown Land	1972	1559	2046	2178	1818	1774	1466	2542	1813	1605
Environmental Assessment	88	27	60	51	40	54	48	73	48	68
Mineral Exploration	224	214	288	213	301	285	339	355	354	371
Quarry	246	242	243	217	306	455	618	207	150	120
Aquaculture	14	7	10	10	7	8	1	1	23	4
ILUC	33	44	60	39	38	45	71	51	33	30
TCII Proposals	2	3	6	3	2	5	3	1	0	2
Roads & Water and Sewer Plans	20	33	20	21	35	13	9	36	29	16
Other Projects	31	20	17	15	10	10	8	7	2	0
Zoning Regulations (Service NL)	0	0	0	0	0	4	2	0	0	
Total	2630	2149	2750	2747	2557	2653	2565	3273	2452	2216

Table of Contents

Devereux and crew in Newfoundland, 1966



Stone tool and a piece of iron found in a Beothuk house pit at the Beaches by Devereux in the 1960s

Stone tool and a piece of iron found in a Beothuk house pit at Boyd's Cove by Pastore in the 1980s

- she was the first archaeologist to excavate at the Beaches which is a large multi-component precontact/historic Beothuk site;
- she tested and mapped numerous features at North Angle on the Exploits River, another large multi-component precontact/historic Beothuk site;
- she recorded several house pits at Pope's Point which she suspected were Beothuk. This is another large multi-cultural precontact/historic Beothuk site. In 1964 she excavated one of the house pits and described it as being 15 feet in diameter and one foot deep.
- Indian Point on Red Indian Lake was probably the last site that Helen excavated. She had a couple of field seasons here in 1969 and 1970 during which she mapped several features and excavated house pits.

By 1969 she was well on her way to understanding an archaeological identity of the Beothuk. In a report that year she laid out the typical characteristics that would be found at late historic Beothuk sites:

- total dependence upon iron as a replacement for stone tools
- modification of European iron tools
- clusters of house pits
- dependence upon caribou hunting

The she listed typical characteristics that would be found at early historic Beothuk sites such as:

- a partial dependence on tools made of European iron, you would still see some stone tools
- dependence on seal for at least part of the year
- still some stone tool use including small triangular stemmed or corner-notched points

In her 1970 report she listed several characteristics that identified the historic and precontact occupations. Amongst the precontact occupation characteristics she listed were the presence of:

- small, corner-notched, flaked chert projectiles
- small, stemmed, flaked chert projectiles or knives

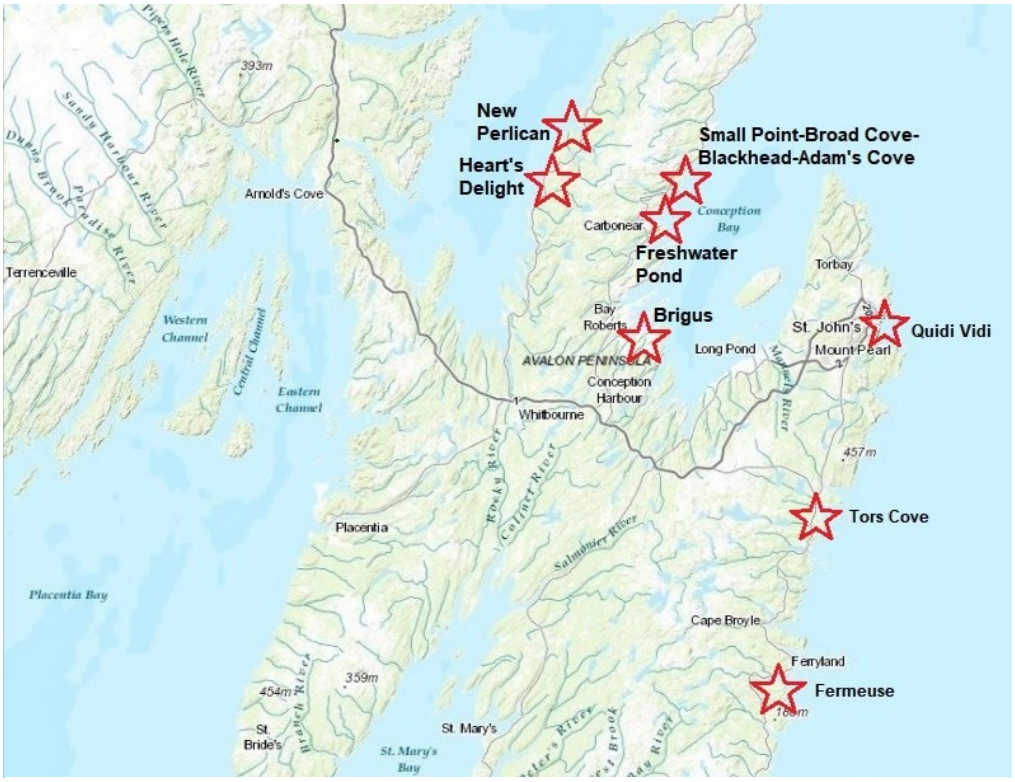
Anyone familiar with Beothuk ancestor archaeology will recognize the description of those points as being diagnostic of the Beothuk ancestors. Unfortunately, she didn't realize that these small points extend into the Precontact period. She didn't realize she had found the Beothuk ancestors. Today we know this Beothuk ancestor group as the Little Passage complex thanks to Gerald Penney who was the first to recognize them for what they were.

Today if you asked a group of archaeologists and historians who has played an important role in our understanding of the Beothuk they might not be

aware of Helen's contributions, but probably should be.

Surveys by the PAO (May 31 – August 8, 2019)

In support of the PAO's mandate to protect archaeological resources, archaeological surveys and preliminary assessments were conducted in the communities of Carbonear, Small Point-Adam's Cove-Blackhead-Broad Cove, Quidi Vidi, St. John's, Heart's Delight, New Perlican, Tors Cove, Fermeuse and Brigus.



PAO May-August survey areas

Carbonear, Freshwater Pond Trail

On May 31, 2019, the PAO undertook a site visit to Freshwater Pond in Carbonear under Permit 19.10 to determine the need for a Historic Resource Impact Assessment (HRIA) on lands where the Local Service District planned to construct a walking trail. Prior to conducting the field reconnaissance, a review of the aerial photography indicated that portions of the trail already existed along the southern and western portions of the pond. The site visit confirmed brush cutting (highlighted in yellow) and upgrades (highlighted in orange) had already taken place along the northeastern end of the pond.

Freshwater Pond Trail Location

Background

Archaeological research in Carbonear suggests that it was historically important as a place of defense, seasonal fishing and as a light station (Jacques Whitford Enviornment Limited 2004). From work conducted at the Civil Fort on Carbonear Island, Skanes (2010, 2012) concluded that it was a site of considerable promise, containing several episodes of civilian and British Military defense activities, as well as evidence of a seasonal fishery dating from at least as early as the 17th century (Skanes 2010:170). In more recent years, Carbonear has attracted interest as a possible site of a previously unknown late 15thC early 16thC colony established by Italian friar, Giovanni Antonio Carbonaro (who accompanied John Cabot on his second voyage in 1498 (see Penney 2011:6-7; Pope 2011:2-3). Much of what we know about the archaeology of this area is based upon Pope's three seasons of field investigations of early planter sites; 18th and 19th century agricultural development (see Pope 2011, 2013, 2016; Pope and Tapper 2013; Venovcevs 2016).

Archaeological Potential

To date, there are 26 known archaeological sites within a 5km radius of Freshwater Pond. All of these sites

are historic European occupations, and five are identified as 17th C sites. Of note are the 17th C sites of Clown's Cove 1 (CkAh-31) and Freshwater Escarpment (CkAh-28), both of which are situated about 1km from Freshwater Pond along the coast. Although the majority of archaeological resources are around the coastline, and there have been no reports of archaeological material near Freshwater Pond, Pope suggested that "interpretable features" might be identified in smaller adjacent communities where there has been less disturbance.

Results of Freshwater Pond Trail Survey

The investigation of Freshwater Pond was limited to a brief foot survey along the northern and eastern portions of the pond where there have already been trail improvements. This area is relatively flat, low-lying and marshy. Residential development, including recent construction activities are noted adjacent the northern side of the pond. Topography along the southern side of the pond rises steeply to the south, suggesting low archaeological potential. A gravel road situated immediately adjacent the south side of the pond also provides access to a cabin as well as what appears to be a former rock quarry cut into the hillside. In view of these observations, the archaeological potential is considered low.

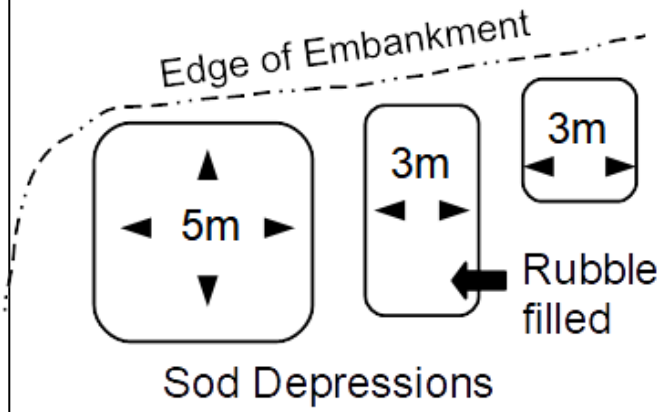
Pike's Head Cemetery and Root Cellars

The PAO visited the community of Small Point-Adam's Cove-Blackhead-Broad Cove on May 31, 2019 under Permit 19.10 to explore an unmarked historic graveyard and other sod and stone features reported by the landowner. During our visit to the property located at the end of Wharf Road Loop, we observed several sod depressions, a stone-lined pit and an unmarked graveyard. Using local nomenclature that identifies Pike's Road as providing access into this area, accordingly, the site was named Pikes Head 1, and designated ClAg-13.

Pike's Head 1 - Feature Locations

As no testing of these features was conducted, the original function of these depressions remains unknown. The rectangular shape suggests they are European in origin, and the semi-subterranean construction is consistent with outbuildings related to storage or cellaring activities associated with domestic use. An inspection of the embankment revealed the presence of ceramic shards of Pearlware dating to the late 18th – early 19thC. Although there is no definite association between the two, this date range is consistent with the features as noted.

Pike's Head Area 1 - Sod Depressions

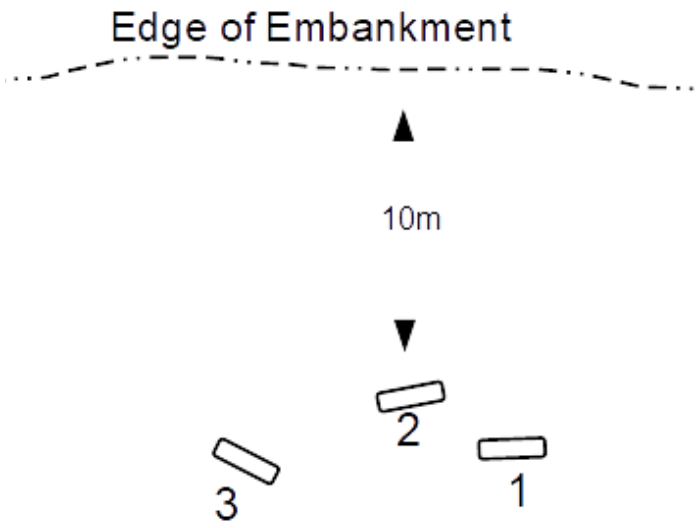


Pike's Head Area 2 – Cemetery

Area 2 consists of a small historic cemetery consisting of at least three graves as marked by three upright slate slabs found buried in the earth at about 10m from the edge of the embankment adjacent the sea. The relative locations and general orientation of the markers is illustrated below. A careful inspection of the surrounding area revealed at least two other rectangular-shaped stones located approximately five meters to the west of headstone #3.

Each of the three upright slabs measure less than 50cm in width and appear less than 10cm above the ground surface and is shown in the photograph below.

The use of simple stone grave markers is common in historic Newfoundland graves. Based upon the spatial distribution of the visible grave markers, it is estimated that the minimum area covered by the cemetery measures approximately 10m X 20m. The location of the nearest grave marker to the em-



bankment is about 10m. The lack of any evidence of burial material along the embankment suggests that the cemetery has not been impacted by shoreline erosion. Local informants who live in the area have indicated that the cemetery likely held up to 12 individuals, and that evidence of other grave markers, including an inscribed headstone, had been removed decades ago.

Pike's Head Area 3 – Stone-lined Root Cellar

The third feature identified at Pike's Head 1 is a large collapsed boulder-lined root cellar that measures approximately 4m X 3m in size, and is approximately 1.5m deep. The presence of a long shallow passage provides access to the feature from the shoreline. The bottom of the feature contains large boulders that have presumably collapsed from the walls after disuse.

Without testing, and due to the lack of any associated artifacts in the vicinity, neither the age or the use of the structure could be confirmed. Despite this, our preliminary inspection suggests that the size and shape of this

Pike's Head Grave Markers

Pike's Head Area 3 – Stone-lined Root Cellar

feature is generally consistent with that of a Newfoundland root cellar.

Quidi Vidi (South of Forest Road) Survey

In an overview of the history, cultural landscape and historic resource potential of Quidi Vidi, it is suggested that Quidi Vidi village as a whole should be viewed and managed as a strategic historic resource (Penney 2010:7) and that development proposals on lands not previously investigated should be subject to archaeological investigation. A recent development proposal for the purpose of a residential subdivision south of Forest Road and west of Maxwell Place prompted the PAO to undertake a preliminary assessment of the lands on June 4, 2019 under Permit 19.10 to determine if a HRIA would be necessary prior to development. The topography and vegetation of the lands generally slopes southward toward the lake and contains a woodlot in the eastern half of the property. A large marshy area, bisected by a stream is located in the western half of the property.

Previous Archaeology

Outside of the Village area and except for Penney's (2019) recent Archaeological monitoring of the Quidi Vidi boathouse/wharf reconstruction, there has been little archaeological investigation. There is, however, historic mapping of the south side of Quidi Vidi Lake that illustrates the presence of several farms from the late 18th century. Likewise, Forest Road is marked as the main road in 1807, as depicted by military engineer T.G.W. Eaststaff (see Penney 2010:12). As of 1807, the area south of Forest Road is largely farmland, with a single structure located at the eastern boundary of the proposed subdivision.

Survey Results for Quidi Vidi Subdivision

Despite the lack of documentation of historic land use in this area, the results of Penney's 2019 investigations suggest that not all historic activities were documented in this area, and that there may be some potential for historic resources. A foot survey of these lands revealed recent land use in the form of well-worn pathways, clearings, recent fire pits, and the deposition of automobile debris at a couple of locations. No previous land use or the presence of historic resources was detected, and as such, no further work is required.

Government House, St. John's

The PAO visited the Government House property to assess the state of the property where the old "Carriage House" once stood.

Survey Results

A brief survey of the site was undertaken by the PAO on June 4, 2019 under Permit 19.16 to determine if there were any substantive historic remains that might be easily identified from a preliminary assessment.

Proposed Subdivision Location

Location of Former Carriage House

The land is surrounded by paved driveways on all sides and topsoil was added to the western portion of the site where the building once stood. A visual examination of the surface of the site revealed a mix of historic materials, including brick fragments, bottle glass, ceramic shards and some kaolin pipe fragments. Two test pits, excavated by hand on the eastern side of the property where no fill had been added, demonstrated that the area is heavily disturbed, with no apparent in-situ archaeological remains that might have related to a previous use or occupation of the site.

Notwithstanding the obvious site disturbance resulting from the demolition of the building, and the lack of any near surface in-situ deposits, there remains some potential for as yet identified historic resources that might only be identified through a more thorough and deep testing of the site. In view of the historic nature of the grounds, it is recommended that the PAO be notified in advance, to conduct monitoring activities of any planned excavations, including geotechnical work.

Martin's Pond/Heart's Delight

There is a conspicuous lack of archaeological sites along the western shore of Trinity Bay for a distance of approximately 30 kilometers of coastline between Whiteway and Heart's Content. While a steep and inaccessible coastline may account for the lack of archaeological sites in the northern third of this area, there are a number of areas suitable for habitation as evidenced by the local communities of Cavendish, Islington and Heart's Delight. As such, a preliminary inspection of lands in the vicinity of the mouth of

Heart's Delight, Martin's Pond Location

Martins Pond was undertaken by the PAO on June 26, 2019 to determine whether an HRIA might be required for a proposal to expand the existing park facility.

Previous Archaeology

Evidence from Russell's Point and other sites such as Stock Cove and Dildo Island in Trinity Bay demonstrate a substantial Indigenous occupation that dates back 5000 years in this region. Given local informant

Testing on the Carriage House Grounds

Martin's Pond Shoreline

ATV Trail Showing
Thin Soils and Subsurface Adjacent Martin's Pond

accounts of an Indigenous site in Heart's Delight, as well as Crout's historic accounts of "some 14 housses of savages" seen "… 8 mylles from harts content" suggested that both Heart's Delight and Heart's Desire were promising candidates for this site (Gilbert 2011). Despite Bill Gilbert's efforts in 1998 and 2009 (see Gilbert 2009), no archaeological sites, Indigenous or otherwise, have been reported in Heart's Delight. Notwithstanding the negative results, there should be archaeological potential in this area for not only these historical accounts, but in consideration of the physical setting of this community. As a source of fresh water and the protected nature of the location around Martin's Pond, there is some archaeological potential for an historic occupation such as winter housing. On this basis, the PAO under took a brief survey, to follow-up on Gilbert's work.

Survey Results

A brief visual survey of Martin's Pond was conducted from the northwest side of the pond, where the survey began. It was noted that the shoreline was lined with large boulders that made access to the water difficult. Following an ATV trail for more than 500 meters around the pond, access was only possible at a few areas where there were recent clearings. Observations along the trail also demonstrated that the soils were thin and overlaid a boulder subsurface. Likewise, no evidence of any surface features relating to historic cultural activity were noted. As a result, it was concluded that there was low potential for historic resources in this area.

Backside Pond, Whiteway Bay

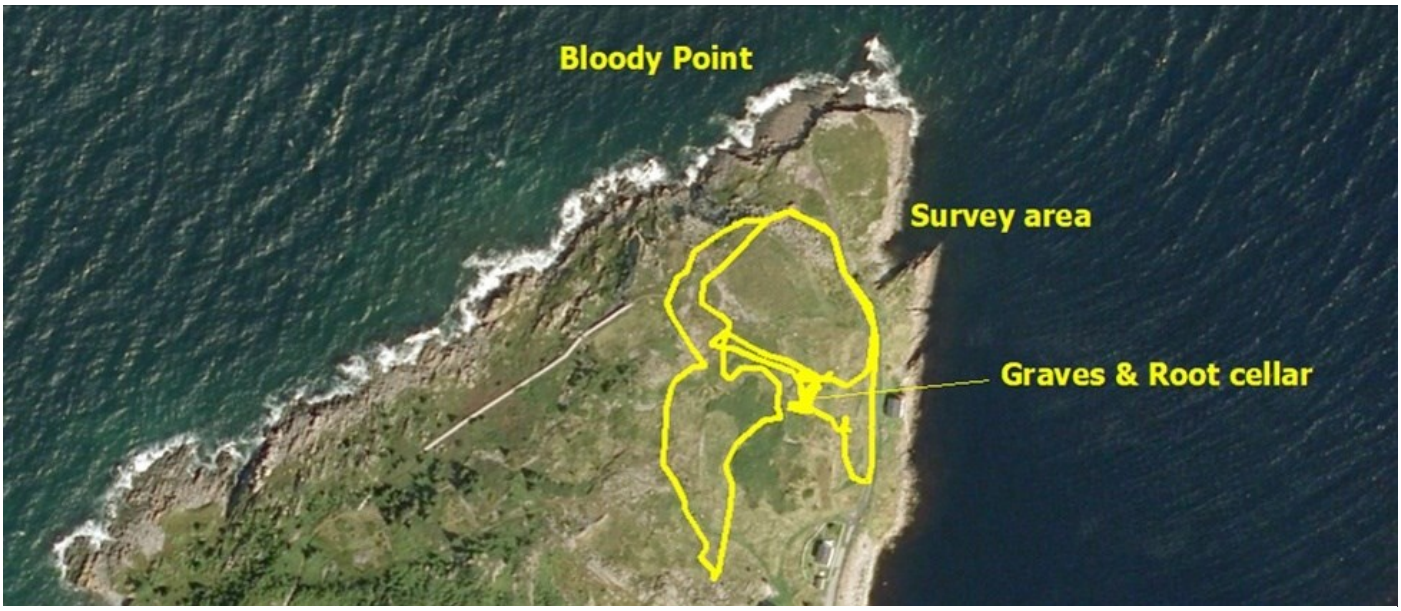
In April of 2019, Provincial Historic Sites Manager Scott Andrews contacted the PAO about a story told to him by an employee of the former Backside Pond Provincial Park. While cutting brush on a point along the brook that emptied from the pond, they came across a structure that resembled a circular house pit that they thought could have been Beothuk. Given that there is potential for pre-contact occupations in the area and that an early 19th century European structure was found in 2006 about 200 m to the south of the brook mouth, this report piqued our curiosity. During the PAO's June 26, 2019 trip to Trinity Bay, we made a brief visit to Backside Pond, where we met with the current owner Ed Singer, who was unaware of any possible house pits near the brook, but gave us permission to conduct our work.

Nearly one kilometer was walked along a former railroad bed and along the north side of the small brook where several pit-like depressions were observed. Unfortunately, all were either natural or related to the railroad and the existence of the possible house pit could not be confirmed.

Bloody Point, New Perlican

Bloody Point was a third location visited on June 26, 2019. Earlier in June, the PAO was contacted by In-

Survey Area of Backside Pond



Bloody Point Tracklog & the Location of the ClAi-12 Bloody Point 2 Site

Bloody Point Root Cellar (left) and Headstone (right)

tangible Cultural Heritage Development Officer Dale Jarvis of the Heritage Foundation, who was working with a local heritage group recording abandoned graves at Bloody Point, New Perlican. He informed the PAO of the presence of graves and possible interest of nearby house construction. With the chance of the graves being disturbed and the potential for other cultural features in the area, the PAO visited Bloody Point to conduct a preliminary survey of the area. The visual surface inspection of Bloody Point revealed cultural modification of the lands, including large cleared areas likely used as pasture fields, low fieldstone walls, and several root cellars. One such root cellar was extraordinarily large, and measured almost two meters deep and more than four meters across. Six grave markers were found near the large root cellar. Only one of the grave markers appeared to be a formal headstone, which was found lying face down, and could not be read. The other markers were just rough dressed fieldstones, which are regularly found in similar graveyards of this style and age. According to Jarvis, other headstones had been reported by the local heritage group, but that the inscriptions were not legible.

Fern Hill (ChAf-03) Tors Cove

An archaeological site designated Fern Hill (ChAf-03) was reported to the PAO by Memorial University students Elizabeth Cole and Francois Levasseur in the winter of 2018. Located west of the community of Tors Cove along a portion of the East Coast Trail, a number of ceramic fragments, two possible foundations, and a stone-lined pit were included in the description of their findings. The PAO visited the site

Fern Hill Root Cellar and Ceramics (Cole & Levasseur 2018)

on June 27, 2019 to confirm the site location. Following the GPS coordinates provided, the site was easily located and the cellar feature confirmed. No additional cultural material was found at the location on the trail where the specimens were originally reported. Photographs provided by the site informant depict 19th-20thC ceramic fragments are in keeping with the dry-laid stone-lined root cellar that is located adjacent to the location where the artifacts were recovered. The cellar, which measures approximately 3m X 5m contained branches and forest litter, but no evidence for cultural materials (see photo above provided by Cole & Levasseur 2018).

Tors Cove Site Location

Tors Cove Cemetery

The historic cemetery in Tors Cove (ChAf-01) first came to the attention of the PAO in 2006 when Mr. Gordon Power of Tors Cove contacted the Archaeology Unit at Memorial University with photos of what he believed to be human remains (Hull 2006).

While near Tors Cove, a visit to ChAf-01 was made to assess the continuing erosion of this historic cemetery, and to salvage any human remains that may have been exposed this spring. As is often the case, heavily weathered human remains were recovered from the eroding slope. Two long bones and two cranial fragments were collected and delivered to Dr. Vaughan Grimes of the Department of Archaeology, Memorial University.

Fermeuse Harbour (North Side)

A proposal to construct and operate a spool base on the north side of Fermeuse Harbour (see Location Plan below) is currently the subject of an Environmental Assessment review. As part of the review pro-

Tors Cove Cemetery Location

cess, the PAO conducted a foot survey of the subject lands to verify existing site locations and further assess archaeological potential. The survey resulted in the relocation of a number of sites and the discovery of previously unreported stone structures near the proposed access road, subsequently designated as North Side West Side 2 (CfAf-39). This preliminary survey suggests that additional sites are likely to be discovered and that further work will be required.

Background

As one of Newfoundland's oldest fishing stations, Fermeuse has attracted fishing fleets and seasonal settlers since the 16th and 17th centuries. Sir Francis Tanfield was said to have founded a colony in Fermeuse in 1623, and by 1651, a person named Amy Taylor referred to herself as an inhabitant of Fermeuse in a deposition that she made in Ferryland (Pope 2003:1). James Yonge, a Plymouth surgeon, also noted his activities caring for fishing crews in his journal of 1663. During the 17th and 18th centuries, Fermeuse is described as an established and stable community, and by 1675, a census list included seven planters at five plantations (Pope 2003:1). In 1732 there were 376 people fishing out of Fermeuse Harbour, and about 120 year-round inhabitants by 1752 – which included ten families and a number of winter-

Location of Proposed Spool Base

James Yonge Map, Fermeuse 1663

ing fishing servants (Penney 2015:14). The population of Fermeuse is 406 persons in 1836 and 713 in 1884 (Penney 2015:18).

Early Mapping of Fermeuse

Early mapping of the harbour provides some important clues as to the locations of potential archaeological sites. For example, James Yonge's 1663 map indicates three locations along the south side: Clowns Cove, Planters, and Vice Admirals Place. Along the northside: Northside Planters, Admirals Place and Clears Cove. Likewise, Jefferies' 1794 map further indicates a number of structures along the north side of the harbour between Admiral's Cove and Clears Cove (Penney 2015:14). An 1810-1812 chart of Fermeuse Harbour further notes Sheeps Head Cove and Vice Admiral's Cove along the southern shore; and Admirals Cove, cannon fortifications and Clears Cove along the northern shore (Penney 2015:15).

Previous Archaeological Research

The documented investigations of Fermeuse begin with the recovery of nine olive jars (dating from 1580 to 1780) found in Fermeuse Harbour by divers were the subject of analysis in a National Museum of Canada Bulletin, which noted that the "jars were not taken from a defined archaeological site" (Carter 1982:100) – but rather "…they appeared to be randomly distributed". Notwithstanding this assertion, Admiral's Cove and Kingman's Cove were identified in the study as the two locations from which these objects were taken.

The earliest recorded archaeological site investigation in Fermeuse Harbour was at Folly Point (CfAf-06) – a fortification (c. 1778-1820) consisting of two small gun batteries – briefly revisited in 1993 (Mills 1998). Following the undocumented diving activities in Fermeuse Harbour, an underwater survey in 1985, and test excavations the following year by the Newfoundland Marine Archaeological Society (NMAS) were conducted. From this work, two sites, CfAf-01 and CfAf-03 were recorded. Following this, Stopp's 1989 Stage 1 overview assessment of the marine service facility was the first recorded archaeological investigation on land in Fermeuse Harbour. As a result, the Marine Facility Services Site (CfAf-04) was registered. Despite the largely negative findings within the study area, Stopp noted that "virtually no in-depth historic research has been done of Fermeuse and its development from a seasonal to a permanent settlement" and that "…there is a very high probability of locating a historically significant site throughout Fermeuse Harbour" (Stopp 1989:17).

In 2002, Peter Pope conducted a survey around Fermeuse Bay and identified nine historic period sites and revisited one previously recorded site. Pope's archaeological investigations in Fermeuse consisted of walking surveys in search of visible features along with shovel testing.

In summary, Pope's investigations identified 17thC plantations at Kingman's and Clears Cove (as depicted on the 1663 Yonge map). However, the plantations Yonge depicted at Admiral's Cove, which he suggested might lay buried beneath the road (Pope 2003:3) were not found. Sites from the 17th to 19th centuries, including traces of a possible 16thC fishery

site, do however, merit further investigation. As such, Pope suggested that the Fermeuse Harbour has "great promise for a longitudinal study of European settlement of Newfoundland" (Pope 2003:4).

Archaeological Sites in Fermeuse Harbour. Source: Pope 2003:2

Sites Identified	Borden	Culture and Period
Clear Cove	CfAf-23	English 1650-1700 297 artifacts
Port Kirwan Graveyard	CfAf-24	English/Irish 1750-1900 feature recording only
Kingman's	CfAf-25	English 1650-1750 English/Irish 1800-1900 331 artifacts, 17-18th c. grafitti recorded
Blacksmith	CfAf-26	Irish 1800-1950 3 artifacts, early 19th c. grafitti recorded
Trix's Cove	CfAf-27	Irish 1800-1950 4 artifacts
Northside West	CfAf-28	English/Irish 1750-1900 30 artifacts
Riverhead	CfAf-29	English/Irish 1700-2000 81 artifacts
Northside East	CfAf-30	Irish 1800-1950 113 artifacts
Lumley's Cove	CfAf-31	English/Irish 1800-1950 7 artifacts

Archaeological Potential

In view of the extensive historic use and occupation of Fermeuse Harbour, the known archaeological sites, and the potential for further research, there is no doubt that there is high archaeological potential in the area of the proposed Spool Base project. The known "Northside" sites, namely: Northside West (CfAf-28) and Northside East (CfAf-30) are located within the project area, and both contain a number of standing stone foundations of houses and outbuildings with abandoned gardens. In his discussion and recommendations, Pope (2003:20) states that the 18th/19th-century occupation of Northside West "almost certainly represents early Irish settlement of the area and merits further research". Likewise, he further states that the 19th-century occupations of Northside East (CfAf-30) likely represents continued Irish settlement, and that the massive boulder and retaining wall at Area F is

Fermeuse Harbour Survey Tracklog

Section of Stone Wall at North Side West 2 (CfAf-39)

a "testimony to the hard work done by those who created this landscape".

Archaeological Survey Findings

On July 31, 2019, PAO visited the north side of Fermeuse Harbour and conducted a walking survey of the lands under Permit 19.21. The survey covered approximately 2.6km of shoreline and resulted in the relocation of a number of stone features at both North Side West (CfAf-28) and North Side East (CfAf-30) as well as the discovery of a new site, North Side West 2 (CfAf-39) located at the far western end of the survey area. While much of the survey took place within a few meters of the shoreline, the area was accessed through the North Side East site, where we observed several of the features described by Pope. Likewise, we explored a plateau area adjacent the shoreline near the North Side West site. The lower areas of the shoreline were largely devoid of any cultural materials, with most of the evidence for cultural activity found on terraces within about 50 meters of the water's edge at elevations of approximately 15 to 30 masl.

In proximity to both of the previously reported sites, numerous dry laid stone features, including at least one root cellar, bricks, cut nails, and a tin plate were observed. Additionally, recent disturbance was detected in the form of small hand dug holes (presumably the work of a metal detectorist), as discarded nails were found nearby these excavations. North Side West 2 (CfAf-39) is a historic site that is comparable to the other North Side sites, and consists of linear stone features, including a wall that is at least four to five courses high and approximately 10m in length.

Due to the height and dense nature of the vegetation, and the undulating topography, the full extent of the feature was difficult to observe. A closer examination, including subsurface testing and mapping of this area is required to determine the full extent of site.

Archaeology Survey,
Landfall (Kent Cottage) Brigus

In the spring of 2019, the Heritage Foundation of Newfoundland and Labrador (HFNL) contacted the PAO to determine if the Landfall property had been the subject of any archaeological investigations. A search of our records determined that no investigations had been undertaken, and as such, we conducted a preliminary survey of the property and the surrounding lands.

Physical Setting & Brief History

Landfall (Kent) Cottage is an historic picturesque property situated on a sloping terrace within the trees and rocky outcrops along the north side of Brigus Harbour. Originally constructed for the Pomeroy family around 1786, it is said that the cottage is situat-

Landfall (Kent) Cottage

ed on a former gun battery that served King George's War[1]. As one of the oldest structures in Brigus, the cottage has a long and storied past, including its refurbishment in 1914-15 by American artist Rockwell Kent. The cottage later served as a base for Albert Edward Harris' artistic endeavors in the early 1930s, but was abandoned after his death. In 1953 American artist, Bradley Jacob Folensbee Jr. purchased the cottage and consolidated the surrounding property. Today, the 11 acres of land and the cottage are preserved by the Landfall Trust[2], which offers residency to visual artists, writers, and as of 2018, musicians, as an inspiring setting to pursue their art.

Archaeological Survey Results

On August 8, 2019, and under Permit #19.21.01, the PAO met with HFNL Heritage Officer, Michael Philpott and two of the Foundation's summer students to undertake a preliminary archaeological assessment of Landfall and the surrounding lands. During this work, a number of dry-laid stone walls, steps, and foundations within the Landfall grounds were observed. In addition, a number of other stone features, foundations and remnants of a root cellar were located and recorded outside of the Landfall property. In addition to documenting these features, we were interested in determining if there was any physical evidence for the purported gun battery, or ancillary structures or middens that might be related to the previous occupations. Conducted as a judgmental walking survey, this work served as a preliminary reconnaissance to assess archaeological potential and to make recommendations for future investigations. Summaries of our observations and recommendations of the archaeological potential at Landfall are as follows: 1) Cottage Construction; 2) Stone Features; 3) Associated Midden Activity and 4) Military Fortification.

1. Cottage Construction

The original house was a "small Georgian-style structure with a chimney made out of brick-ballast from ships arriving from England."[3] It eventually was abandoned and then utilized as a barn until Rockwell Kent refurbished it in 1914-15.[4] While subsequent additions and reconstruction work has altered the size and character of the original building, Michael Philpott (pers. comm. 2019) noted that there is architectural evidence of the building's original configuration that can be seen throughout the building's interior construction. Additionally there are artistic renderings and archival photographs depicting the building at various times in the past, including Kent's own depiction of the cottage.[5]

In relation to cottage construction, a visual examination of the ground surface adjacent and under the cottage was undertaken. While there was no evidence of previous foundations or structural remains, archaeological testing could yield further evidence of the original construction and/or changes to the building in the way of builders' trenches or buried features that may have supported earlier construction. Likewise, if Landfall was the site of a military fortification, evidence relating to the construction or such use might be preserved. In either case, any future renovation work that would result in subsurface disturbance should become the subject of an archaeological investigation, or at least the monitoring of such activities by an archaeologist.

2. Stone Features

Besides the cottage itself, the most notable features at Landfall are the numerous stone walls that can be found in virtually every corner of the property. These

[1]Heritage Newfoundland and Labrador: https://www.heritage.nf.ca/articles/society/kent-cottage.php
[2]Landfall Trust: http://www.landfalltrust.org/
[3]Heritage Newfoundland and Labrador: https://www.heritage.nf.ca/articles/society/kent-cottage.php
[4]ibid
[5]"Newfoundland Home": http://www.landfalltrust.org/cottage.php

Rockwell Kent, Newfoundland Home, c.1914-15

Stone Retaining Wall, Landfall, Brigus

dry-laid stone structures appear to function as retaining walls that support the terraced grounds around the cottage. Other notable stone features include a mortar and stone drainage passage that directs a small stream adjacent the cottage, and a set of stairs that lead to a meadow below the cottage. While the presence of these features at Landfall is notable, stone constructions such as these are relatively commonplace in Brigus and other communities in the region.

The date(s) of construction of these features is largely unknown, but in view of the enormity of the undertaking, there have likely been a series of projects over time, rather than the result of a single event. From an archaeological perspective, it is difficult to say much about these features – other than to attempt to identify the location/s of the source materials, and to perhaps identify different construction techniques and periods of construction through stone type and size. While many of these features are now overgrown, there are historic photos of the property, such as the following undated photo from the Robert Bond Collection (COLL-237), which clearly illustrates a circular stone enclosure around the cottage, and a series of stone terraces in the foreground.

Landfall Stone Features

In demarcating the property, the stone wall that surrounds the cottage may have been part of an earlier defensive works related to the purported battery, or simply served as a boundary for the residential use of the property. The linear terrace features in the foreground of the Bond photo may have been the result of simple land clearing for terraced gardens.

The initial step in undertaking any analysis of these features, is a mapping project that could be undertaken with traditional surveying instrumentation, or with an Unmanned Aerial Vehicle (UAV) utilizing photogrammetry. A comparison of the results of such a mapping project to historic photographs could help unravel the time periods in which these features were constructed, and perhaps provide evidence for their function. Likewise, limited archaeological testing adjacent these features may yield some physical evidence for their use. There is also a strong liklihood that the potential source of stone is the rocky hillside north of the cottage, where numerous other stone features were noted. A broader reconnaissance of the surrounding lands could provide evidence of the material source and for rock collection activities.

3. Associated Midden Activity

The discovery of a midden at Landfall could provide evidence of the various occupations associated with Landfall. Based upon our cursory inspection, there was a notable lack of surface debris associated with Kent Cottage. This is likely due to maintenance ef-

Source: http://collections.mun.ca/cdm/ref/collection/rbond/id/250

forts by the Trust, which has removed surface evidence of the disposal habits of the previous residents. Despite the near immaculate condition of the ground surfaces adjacent the cottage, there is likely to be buried debris related to previous landuse by previous occupants. The area most likely to contain midden deposits is situated downslope immediately south of the cottage. As a potential "toss zone", this area may contain household or other debris related to construction, occupation and reconstruction activities associated with Kent Cottage or the purported gun battery. In view of this possibility, systematic shovel testing across this area may reveal evidence which might be correlated to individual periods of occupation.

4. Military Fortification

The historic value of Landfall is also referenced in relation to a military fortification that was said to exist in the mid 18thC during King George's War.[6] While major reconstruction of British fortifications were "hastily begun when war with France was renewed in 1743" during "King George's War" (1743-48), no military action occurred in Newfoundland.[7] Although nearby harbour fortifications (e.g. Cupids and Carbonear Island) attest to the need for defensive works, no primary documentary evidence was found to support claims for an 18thC British military fortification in Brigus. Since the planning, construction and maintenance of such military fortifications were routinely documented, it seems unlikely that Landfall was the location of a British gun battery. Likewise, it can be argued that Landfall is not particularly well-situated for a military battery, insofar as it is unprotected from attack from the hills above, and that there are more forward facing locations such as Gallows Cove Point and/or Great Head that offer better protection.

Notwithstanding the lack of evidence for a military-based defense, the local place names "Battery Head" and "Battery Road" do suggest that some fortification was located along the north side of Brigus Harbour. While yet to be be confirmed, lands nearest the top of Battery Road, locally known as "Brigus Battery"[8] may well be the location of a civilian fortification. While this location may not have been as defensively well-positioned, such a location, nearer the community, could have been quickly activated as required by residents living nearby (pers. comm. Bill Gilbert 2019).

Conclusion

As one of the oldest documented structures in Brigus, there is good archaeological potential on the Landfall (Kent) Cottage property and the surrounding area. In particular, the areas under or immediately adjacent

Source: https://www.flickr.com/photos/deanspic/6544654761/

[6] https://www.heritage.nf.ca/articles/society/kent-cottage.php and https://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=2273

[7] https://www.therooms.ca/a-century-of-armed-conflict-in-newfoundland

[8] https://www.realtor.ca/real-estate/20093879/vacant-land-0-battery-road-brigus

Better Situated Gun Battery Positions

the cottage, which may provide evidence of earlier construction, is potentially informative. Likewise, the stone walls and other surface features, while likely less revealing, could be documented for both their heritage significance and potential interpretive value. While the location of the gun battery remains unclear, archaeological surveys in the form of test pitting at both Landfall and selected areas of the harbour may reveal evidence for such fortifications.

Surveys by the PAO:

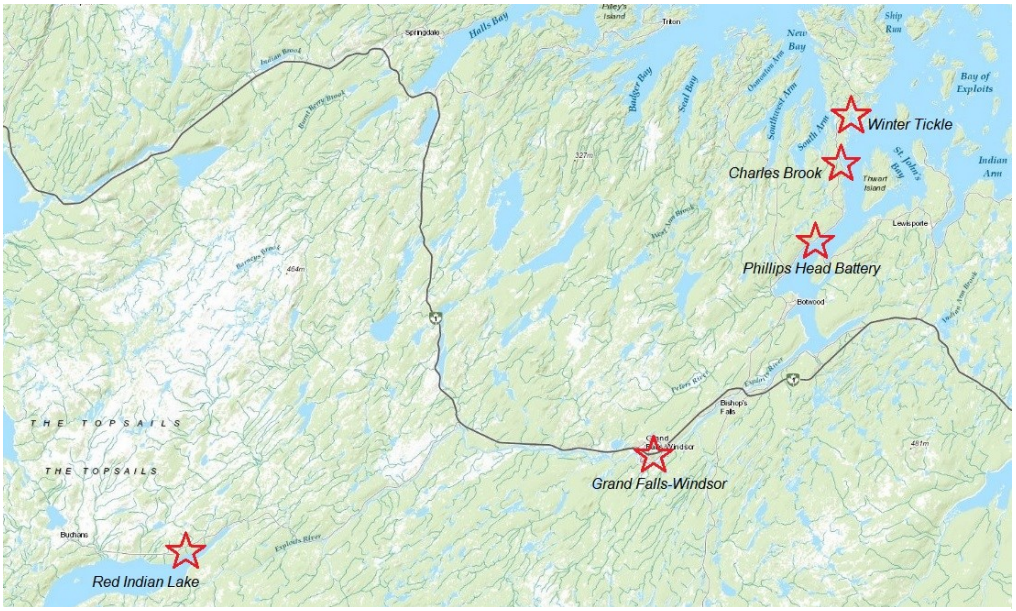
September 16 – 20th, 2019 - Permit 19.24

The PAO conducted survey work in the communities of Charles Brook, Grand Falls, and along the north side of Red Indian Lake (RIL), west of Millertown. Conducted under permit 19.24, these investigations are summarized as follows.

Charles Brook Cemetery

Our September work commenced in the former community of Charles Brook, where we undertook preliminary foot surveys in an attempt to identify the location of a former United Church cemetery, to revisit previously recorded sites, and to determine future research potential in the area.

A report received by the PAO in January of 2019 of an abandoned United Church cemetery in the town of Charles Brook triggered our work in the community this past summer. The cemetery, which had no visible signs of grave markers or other surface evidence, likely, contained 20 to 30 graves according to a review of church records by a local resident of Charles Brook. As current practice, the PAO designates abandoned cemeteries as archaeological sites to protect them under the *Historic Resources Act*. Follow-



September Survey Areas

ing this report, the PAO designated the cemetery as DiAt-17 and arranged to conduct a site visit in the fall of 2019 in an attempt to confirm the cemetery's location and to document any above ground physical evidence.

Arriving in Charles Brook on the morning of September 17, 2019, we undertook a brief walking survey of the property. The area is accessible by foot from a narrow lane that is located a few meters west of the main road. Bordered by a rocky outcrop to the south and a small stream to the north, the land is uneven, heavily covered in forest litter, and overgrown with alders and wild rose bushes.

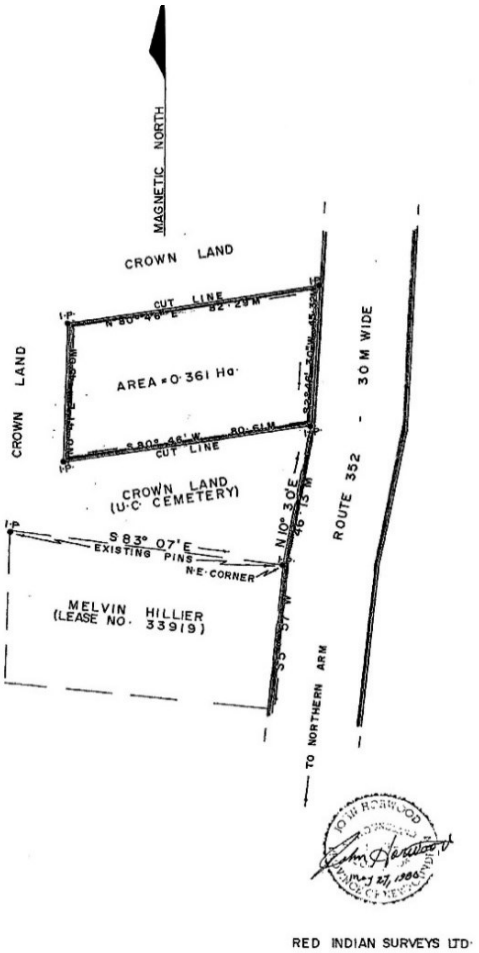
Our survey was limited to a surface inspection that did not involve the removal of forest litter or low-lying vegetation. Notwithstanding this limitation, we looked for features such as fencing, grave markers and rectangular shaped depressions and mounds, which sometimes are associated with unmarked cemeteries. In view of the supporting documentation, our inability to identify surficial evidence was likely due to the overgrown state of the area.

Charles Brook General Survey

A former lumbering community located in the Bay of Exploits, Charles Brook is believed to be an area frequented by the Beothuk. As Cartwright's 1773 map suggests, there was likely a small Beothuk encampment consisting of two or three houses for salmon fishing (Marshall 1996:65). An attack on a Beothuk family at Charles Brook Pond in 1791 was said to have resulted in the shooting of a man, the wounding of a boy and the capture of a girl, known as Oubee (Marshall 1996:100-101).

Despite the historic records, and archaeological testing by Schwarz in the early 1990s and visits by the PAO in the early 2000s, archaeological evidence for the Beothuk has been limited to the recovery of a few trade beads. Our survey work in 2019 was limited to condition reporting of previously recorded sites and a brief reconnaissance of a portion of Charles Brook and Charles Brook Pond. This work consisted of foot surveys: i) Westward to Charles Brook Pond, ii) Westward from the Main Road along

Survey Plan United Church Cemetery, Charles Brook



Charles Brook Survey Track Log

Charles Brook to a pool area, and iii) Eastward to the mouth of Charles Brook and the headland.

Charles Brook Pond

Following a cut-line through the forest westward from the newly reported cemetery site (DiAt-17), we observed the shoreline of a small cove on the east side of Charles Brook Pond. The shoreline, lined with boulders seemed free from any recent erosion or cultural disturbance.

The land adjacent the shoreline was relatively flat and accessible from the water which appeared to have some potential for historic resources and worthy of limited testing. Although unconfirmed, local oral history suggests a lumber mill was located near this area. A brief walk to a high point on a nearby rocky outcrop provided views of both Charles Brook to the north and the pond to the south. There were no signs of the former mill in either direction.

Charles Brook (Westward)

Doubling back from Charles Brook Pond, we headed back to the main road and made our way up to Charles Brook, and then west along the brook until we came to a deep pool that contained reddish brown clay deposits. Adjacent to the pool there is a relatively level area with a shallow depression that may be evidence of a former fishing station. Disturbed by historic use, as evidenced by recent debris, charcoal and campfires, the archaeological potential for in-situ historic resources seems remote.

Charles Brook (Eastward)

From the main road we walked eastward to Charles Brook and the headland, where we revisited two previously reported sites: Charles Brook 1 (DiAt-04) a small Dorset site, and Charles Brook 3 (DiAt-06) a depression, previously identified as a possible Beothuk house pit and named as Charles Brook 2. We also visited with Cathy and Frank Purchase who recounted their local family history that dated back to the 1850s and their son's discovery of trade beads in the harbour (see Schwarz 1994:5-6).

Charles Brook 3 (DiAt-06) - Historic Root Cellar

Our subsequent foot survey relocated DiAt-06, a depression originally identified by Reynolds as a possible Beothuk house pit is a feature (1+ meters in depth) cut into the side of a hill. It, however, more closely resembles a historic root cellar than a Beothuk house pit. The site has also been renamed Charles Brook 3, to avoid confusion with DiAt-11, a site found in 1994 by Schwarz and originally named "Charles Brook 2". Walking out to the mouth of mouth of Charles Brook, we noted a great deal of disturbance and the addition of gravel fill along the way. A careful surface examination of the headland and the eroding shoreline near Charles Brook 1 (DiAt -04) failed to reveal any traces of this site.

Winter Tickle Site Revisit

In 1999, the Winter Tickle 1 (DiAt-05) site was recorded when lands were cleared for cabin development. Identified as a multi-component site containing evidence for Maritime Archaic and Groswater, Winter Tickle 1 was revisited in 2000 by the PAO when it was determined that a significant portion of the site remained intact. Test pitting further revealed the presence of Dorset and Little Passage cultures. In

Charles Brook Pond

Charles Brook

Charles Brook 3 (DiAt-06) - Historic Root Cellar

2012, the PAO revisited the site (Reynolds et al 2013:154-155) as part of an assessment related to a proposed cabin development adjacent the site on the opposite side of the access road. Testing demonstrated that DiAt-05 extended to this location. It was noted that the area was very wet which may have been the result of the construction of the cabin access road which cuts through the site and altered drainage.

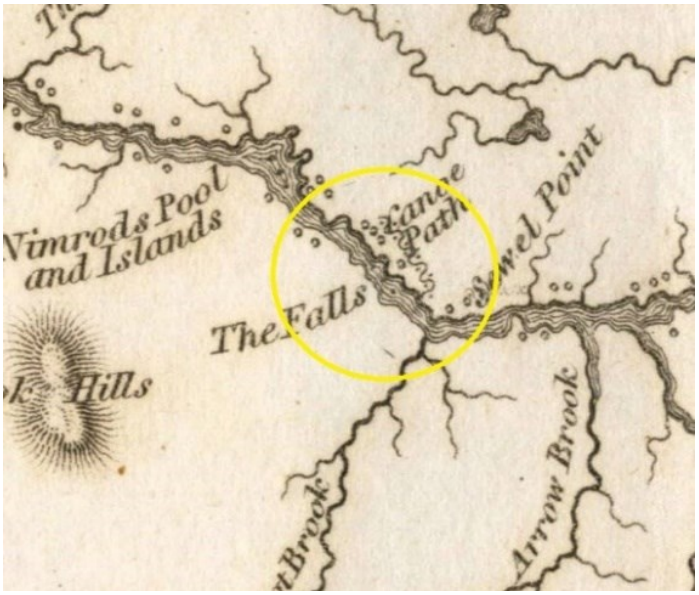
Upon our revisit to Winter Tickle 1 in 2019, we observed a dramatic alteration to the area previously developed for the cabin. The redeveloped lands were buried under about one metre of fill. Additionally, a gravel access road that extends from the property out into the water had been constructed. While we may never know if the redevelopment of the property further disturbed any remaining in-situ deposits, the capping of the site effectively has closed off any further investigation without substantive mechanical excavation.

Grand Falls (South Side) Survey

Situated below the falls and south of the Town of Grand Falls-Windsor, there are numerous paths that

Winter Tickle 1 (DiAt-05) in 2012

Winter Tickle 1 (DiAt-05) in 2019



Cartwright 1786 – Excerpt Grand Falls

extend through an undeveloped woodlot that lead down to the river to popular Salmon fishing spots. As a known natural resource, it is likely that in the past, this part of the river was also fished. In view of this resource, and the fact that the adjacent lands are undeveloped, the PAO undertook a preliminary foot survey to determine if an archaeological assessment would be required for future development in this area. Although there were no previously recorded sites along the south side of the river in this vicinity, the limited amount of professional survey raised the possibility that historic resources had so far eluded local collectors.

Cartwright's 1768 journey to "Lieutenant's Lake" brought his party past Grand Falls, where he noted a canoe path along the north side of the river, as well as a number of Beothuk housepits. Cartwright believed that "this was the spot where the Indians stopped in their passage to the sea coast to repair and fit their canoes for their summer hunting" (Howley 1915:41-42). Despite much activity along the north side of the river, no signs of Indigenous occupation were noted by the other half of his party who made their way along the southern side of the river. Cartwright's mapping is consistent Buchan's 1811 map, which only shows the "path" around the falls along the north side of the river.

Since the 1960s, much of the archaeology of the Exploits has focused on five clusters of Beothuk sites originally defined by Don Locke. Subsequent work conducted by Devereux and LeBlanc during the late 1960s and early 1970s helped define the archaeological signature of the Beothuk. Later surveys by Pastore, Thomson and McLean substantiated many of Locke's claims and further defined the Beothuk material culture and its pre-contact predecessor, the Little Passage Complex as defined by Gerald Penney. In 1992, Schwarz undertook a 275-kilometer survey of the Exploits Basin resulting in the discovery and relocation of over 50 archaeological sites. Since 2010, the PAO has funded Directed Research projects focusing on the relocation of Beothuk sites, house pits and related features. This work has confirmed that while many of these historic resources have been lost to rising water levels on Red Indian Lake and development along the Exploits River, almost half of the previously recorded sites are intact.

Survey Results

In total, we walked over eight kilometers of trails from the road to the river and found there to be little archaeological potential in view of the sloping and steep topography. Nearest the water's edge, the shoreline was often inaccessible, except in areas where we used ropes rigged by fly-fishers to gain access to the river.

The pathways through the woods are heavily used, providing easy and direct access from the road. As the forest cover was relatively thin, there was good access through the forest, which allowed for easy examination of tree falls – though none of these produced any cultural material. Despite the importance of the salmon run at this location on the river, we concluded that the archaeological potential of this area was low due to the high steep slopes adjacent the river. Furthermore, extensive development, disturbance and negative results from previous surveys along

PAO Track Log

the north side of the river in this area, also suggest that there is low remaining potential along the opposite side of the river at this location.

North Shore of the Eastern End of Red Indian Lake

Red Indian Lake has long been of interest to historians and archaeologists, not to mention relic hunters. In addition to historic records and maps (e.g. Cartwright 1768, 1773, Buchans 1820; Cormack 1856), Shanawdithit's sketches, as reproduced in Howley (1915), have long played an important role in our knowledge of the Beothuk land use and historic events in this region, and more particularly on Red Indian Lake.

Of relevance to the following discussion are the notations on Shanawdithit's sketches I and II relating to the "Taking of Mary March" and "Mary March's Cemetery" – both of which appear to be identified between Warford's Brook and Andersen Point. Despites all efforts to-date, there have been no significant historic resources related to the Beothuk in this area.

Past Research

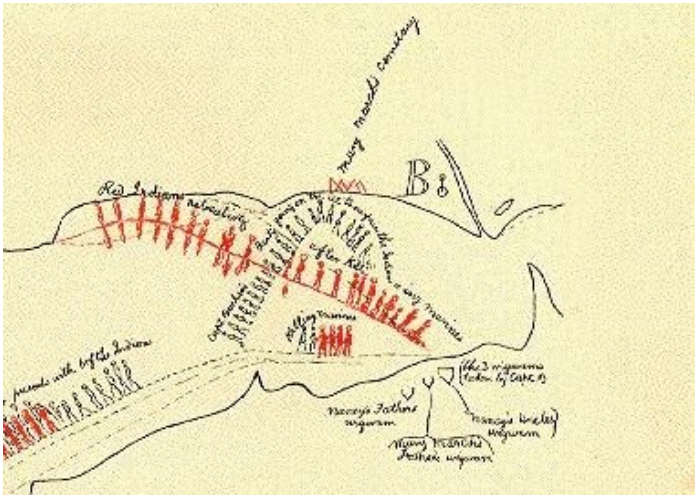
In 1914, Ethnologist Frank Speck made a brief visit to Red Indian Lake and Exploits River, "in the hope of resurrecting some traditional or material traces" of the existence of the Beothuk. His descriptions and photographic evidence of his expedition suggested that he was able to locate, without difficulty, "several interesting campsites" containing "noteworthy features" including pits "either circular or quadrilateral in form" containing fireplaces, chert and flint chips occur, interspersed with metal fragments, quantities of animal bones and pieces of caribou antler (Speck 1922:21). Most notably, Speck reported visiting "Red Indian Point" located "several miles south of Millertown at the point of land near where Mary March Brook flows into the Lake" where he observed at least seven wigwam-pits, purportedly the "headquarters of the Red Indians a hundred years or so ago" (Speck 1922:22).

Over two decades later, Diamond Jenness reported after his 1927 visit that "the old camping-places of the Indians on Red Indian Lake were either submerged when the Anglo-Newfoundland Development Company raised the level of the lake a few years ago to secure power for its pulp and paper mill, or are concealed beneath the forests that have sprung up since the extermination of the Beothuk one hundred years ago" (Jenness 1929:36).

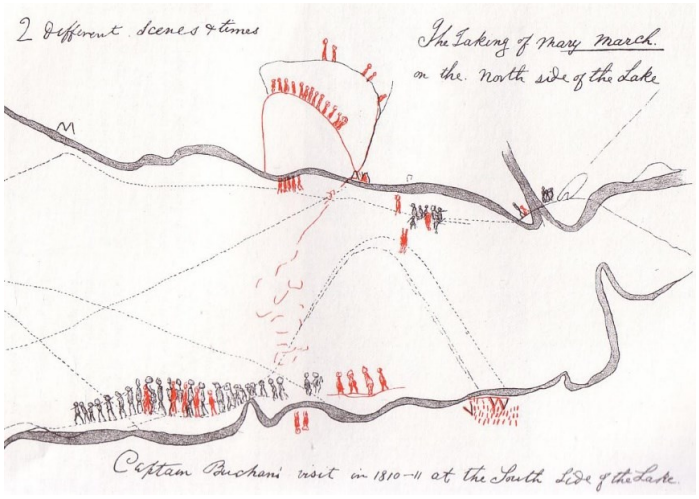
On July 17, 1964, J. Garth Taylor attempted to relocate that site that Speck had documented in 1922 and reported that: "Only a gravel shoal remains to remind the observer of what was formerly an important Beothuk campsite. Nothing suggestive of former occupation could be found, either on the exposed portion of the shoal, or in the seven test-pits dug along the top of the bank which was once the base of the Point" Taylor 1964:4).

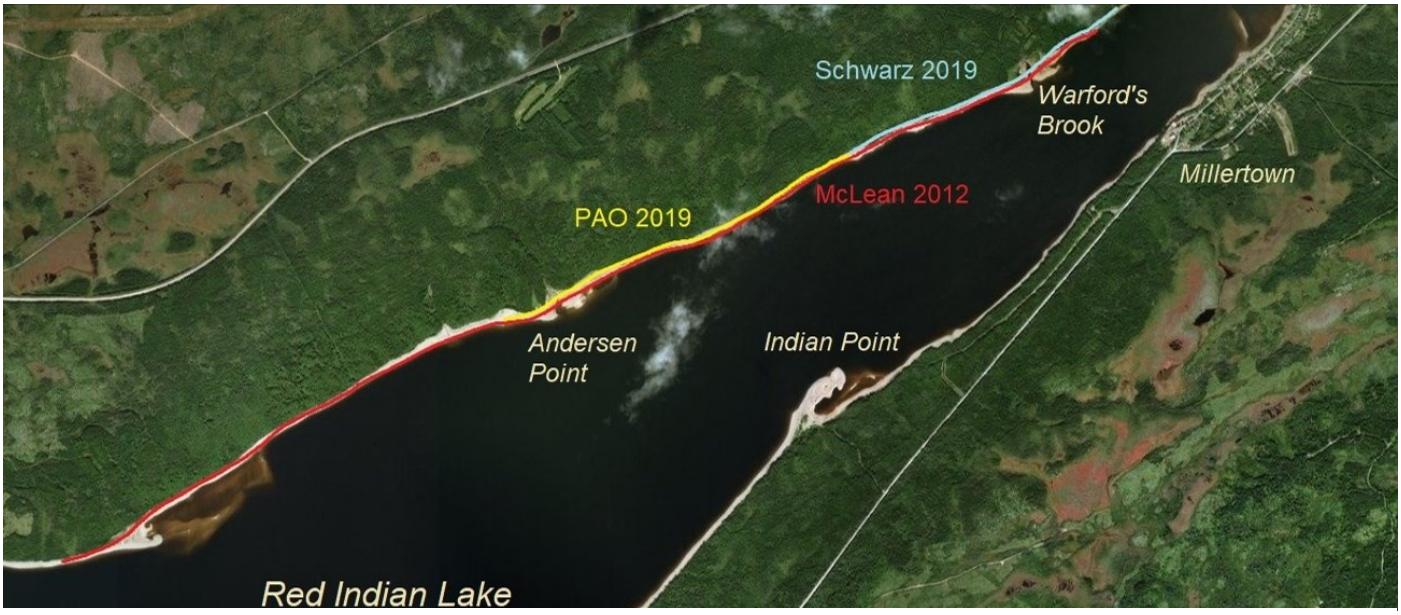
Somewhat surprisingly, the rediscovery of the Indian Point Site by Devereux a few years later, suggests that reports of the site's destruction were premature, or that Taylor had overlooked the site, or that the Speck's "Red Indian Point" was another site alto-

Excerpt from Shanawdithit's Sketch I "Mary March's Cemetery"



Excerpt from Shanawdithit's Sketch II "The Taking of Mary March on the North side of the Lake"





Surveys North Shore of the Eastern End of Red Indian Lake

gether. These contradictory reports of the locations of Beothuk encampments on Red Indian Lake have yet to be fully resolved. This issue is further confused by the application of site names in the archaeological inventory, and by personal viewpoints (A. Taylor 2019:8). Notwithstanding this uncertainty, Devereux stated that disturbance at the "Indian Point" site "seemed minimal until very recently", until Don Locke, an artifact collector from Grand Falls, dug over the site during the early 1960s, before reporting it to Devereux in August of 1968.

Despite the damage done to the site by Locke, Devereux assessed the site in 1969, and then conducted an excavation in 1970 from which she concluded that: "the components at Indian Point represent a cultural continuum in which the stone age Beothuk underwent some degree of transition toward an incipient iron age technology" (Devereux 1970:70). Devereux's important work included radiocarbon dating, site mapping and the first detailed drawing of a Beothuk house pit. Unfortunately, the site would suffer further damage from continued looting, the use of the small lagoon at the north end of the point to tie up boats and the construction of an access road that cut across the site as reported by Marshall during her 1978 survey (Marshall 1978: 4-7). Marshall's 1978 survey of the eastern end of Red Indian Lake also included a survey of the area around Warford's Brook, and the shores of Red Indian Lake west-southwest of Warford's Brook, which were un-

Areas of Interest Investigated at Andersen Point

successful in finding any evidence for a Beothuk occupation.

During the 1980s, as part of a multi-year Beothuk Project, Callum Thomson, with the assistance of Don Locke, relocated of a number of Beothuk sites presumed lost to erosion. Thomson's work during the 1982 field season was successful in relocating forty of the ninety or so Beothuk house pits recorded by Locke, as well as the discovery of five previously unreported features (Thomson 1982:35). Thomson's site descriptions and mapping remain some of the best information we have for the many of these sites. Unfortunately, Devereux's Indian Point site would suffer further destruction as the Red Indian Lake Development Association authorized a bulldozer, as part of its plans for site development, to level the portions of the site that had previously contained the remaining cultural deposits of the site (Thomson 1982:12).

In view of the destruction of sites from both natural and cultural processes, it had become widely accepted that there was little undisturbed evidence left of the Beothuk occupation, particularly on Red Indian Lake. Other than some limited survey work by Jane and Callum Thomson during the early 1980s, there had been little substantive archaeological survey work on Red Indian Lake until Schwarz conducted a Historic Resource Impact Assessment in 1994 for Abitibi-Price to cut pulpwood along the southern shore of the lake (see Schwarz 1994).

Interest in the eastern end of the lake renewed in 2007, when Kevin McAleese and local resident Albert (Bert) Taylor started work at Andersen Point (see McAleese 2011, 2013). Likewise, Ken Reynolds of the PAO initiated a multi-year Directed Research program to explore the remaining archaeological potential of the Beothuk occupation of the Exploits Valley, including Red Indian Lake. Following successes in relocating a number of sites along the Exploits River (e.g. McLean 2010, 2013a), the PAO commissioned an archaeological survey of a 6.2km section of the north shore of Red Indian Lake, east of Warford's Brook to a location just west of Miller's Point. The 6.2km survey examined 23 locations on dry sections of the lower bank along the entire length of the study area, and included Andersen Point. Based upon the survey's negative results, Mclean concluded that shoreline erosion had destroyed any historic resources that may have been located along the shore in this area (McLean 2013b:9-10).

In 2016, the PAO sponsored further survey of Red Indian Lake, this time on the south shoreline, which resulted in the discovery of a previously unreported and undisturbed Beothuk house pit (see McLean 2016). The unexpected discovery of a late Beothuk house pit (situated well back into the woods at the time of its occupation) renewed hopes that evidence for other Beothuk sites may yet still be discovered. In light of this, the PAO sponsored another survey near Warford's Brook (Schwarz 2019) to search for any remaining traces of the Beothuk. Although this survey failed to find any significant historic resources, the PAO continued the survey in September to Andersen Point, where targeted testing was undertaken.

2019 Survey Results

As indicated by the yellow line on the foregoing map, the PAO began a foot survey of the northern shoreline of Red Indian Lake between the westernmost limit of Schwarz's survey westward just past Andersen Point. This work employed both a metal detector and shovel testing and targeted the area at Andersen Point. Conducted with the assistance of local Millertown resident Albert Taylor, who led Kevin McAleese in 2007 to investigate the archaeological potential of a possible Beothuk house pit at Andersen Point, our follow-up in 2019 was to reassess the feature, and to assess the historic resource potential of the area.

Of the five areas investigated, only one area (Area 5) contained cultural material of any significance. The largely negative result is likely due to the massive physical alterations of shoreline that resulted from fluctuating lake levels and erosional and depositional processes.

Area 1 – Depression
(Formerly Andersen Point Housepit)

Area 1 is located approximately 300m west of the stream at Andersen Point. Originally reported to the PAO in the late 1990s by Albert Taylor, and visited by Ken Reynolds, this was a deep oval depression found filled with rotting pulpwood. Despite the lack of any surficial evidence of cultural materials or features, the depression's location was enough to merit further investigation. Later reported as a possible Beothuk house pit by McAleese (see McAleese 2011), subsequent investigations failed to document any cultural evidence consistent with Beothuk material culture or architecture, or otherwise. Following a review

of the evidence in 2016, the PAO deleted the site from the Provincial Archaeology Database, concluding that it was a natural feature. Our follow-up in 2019 was to reassess the feature in view of subsequent work undertaken by McAleese (see this volume), and to further survey the surrounding area for historic resource potential.

Subsequent to removing the plastic coverings that protected the ground surface, we conducted a visual inspection of the depression for any evidence of architectural features. The deep depression contained no recognizable architectural features or evidence for cultural modification, nor any bone refuse, fire-cracked rock, or charcoal associated with Beothuk structures. Moreover, the southern "wall" of the feature is a relatively recent deposition of sands and gravels due to shoreline erosion and deposition. As such, the feature's original configuration more closely resembled a gully, and as such, it was concluded that natural forces created this feature, and others like, it in the vicinity.

Area 2 – Shallow Depression 1

The second area examined was a shallow depression situated in a level partial clearing located approximately 60m east of Area 1 in a stand of trees. Situated along the western side of a dried-up streambed, the feature would have been situated at least 100m into the woods prior to erosion. This location is consistent with late Beothuk encampments that tended to be less exposed to European eyes. Upon the initial visual inspection, this feature was more in keeping with the size and depth of Beothuk housepit (than the depression at Area 1), however, like area 1, no features were outwardly apparent.

Upon closer examination, we cleared some of the deadfall and low-lying bushes to expose an oval depression that had a depth of about 30 to 50 cm, and an area of approximately 6m X 8m. The feature and the immediate area was tested with a metal detector, with no positive results. Finally, two test pits within the feature were excavated with shovel and trowel to sterile. The spongy peaty ground surface gave way to subsoil. No evidence of any cultural materials such as charcoal or bone (normally associated with a Beothuk house pit) was found. As such, no additional work was undertaken at Area 2.

Area 3 – Circular Rock Formation

The third area investigated is a small rock formation originally documented by Taylor (2007:17). It measures approximately 1 to 2 meters in diameter and consists of five or six rocks roughly aligned in a circle. The feature is situated in a linear depression north of the sand and gravel bar that has been deposited by lake erosion and flooding along the lakeshore.

Looking like a possible external hearth, an examination of the ground surface was conducted,

Area 1—Depression

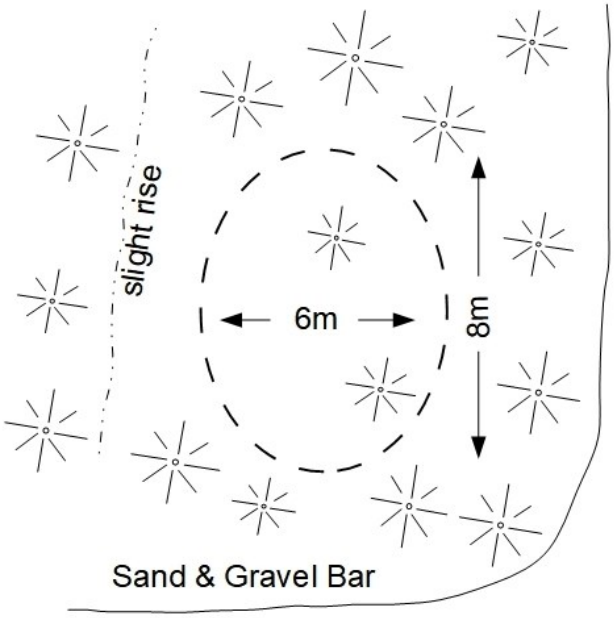
Source: Adapted from photo provided by Albert Taylor

Area 3 – Circular Rock Formation

followed by a brief metal detection survey that focused in and around the feature covering an area of approximately 3m X 3m. A single metallic object (a 20th C wire nail) was recovered in a single test pit located just north of the feature. No further evidence of any cultural activity was noted, and as such, no further work was conducted.

Area 4 – Shallow Depression 2

A second shallow depression located about midway between a former (blocked) streambed and the current active stream was examined as a possible Beothuk house pit. This area would have been located well over 200 meters from the original shoreline between two active streams. As with Area 2, its location may have been consistent with late Beothuk encampments. Now situated near the eroding embankment, this area of interest consisted of a shallow depression within an area that had the appearance of a clearing. Subsequent to both metal detection and test pitting, we noted no evidence of any cultural materials.



Area 5 – Beach Find

The fifth area of interest was a spot find that lay partially buried nearest the water's edge and approximately 100m from the vegetated edge of the lake. This object, which usually lay beneath the surface of the lake was noted in this vicinity in previous years by Taylor (pers. comm. 2019) and was tentatively identified as a late 19th / early 20thC sled runner fashioned from wood and iron that was typically used during logging operations, and perhaps from a nearby logging camp site. The historic photo below, illustrates a sled fitted with such a runner in the vicinity of Millertown during the period.

A brief surface inspection of the surrounding area revealed no other fragments, although a horseshoe, previously reported by Albert Taylor in the vi-

Partially Buried Sled Runner

Millertown (1900) Lumber supplies for the camps Source: www.virtualmuseum.ca

cinity, supports this interpretation of nearby logging operations. However, with the drastic fluctuations in lake levels, we could not be sure that the provenance of this object was secure, whether it was deposited from elsewhere along the lakeshore. Accordingly, the object was documented, but not collected.

Discussion of Findings at Andersen Point

The general area of Andersen Point does figure prominently in Shanawdithit's sketch maps of Red Indian Lake. Situated near both the place of Demasduit's capture and encampment/burial site, Andersen Point was likely a notable geographic location on Red Indian Lake. However, as repeated testing along the north side of the Lake has demonstrated, the damage caused by the fluctuating water levels and the eroding shoreline has resulted in irreparable loss to any historic resources that were located here. Of note are not only the processes that scoured the lake's edges, but also the natural formation processes resulting in new formations along the shoreline. In the case of Andersen Brook, and likely other watercourses that empty into the lake, depositional processes have resulted in the formation of changing shorelines as well as the choking off former watercourses. The result, as is

Sand and Gravel Bar along the Current Shoreline at Andersen Point

demonstrated in our survey of Andersen Point, and previously documented by A. Taylor (2015:22-23) is the creation of a sand and gravel bar that have blocked drainage, and created depressions, which once were gullies that opened onto the original shoreline.

Despite the negative findings during the 2019 survey work, the continuation of the shoreline surveys of Red Indian Lake are warranted in view of the discovery of Sabbath Point. As such, the PAO will continue to support Directed Research in this region, as well as regularly review land use proposals, to protect both known and potential archaeological resources. Finally, it is noted that further archaeological investigation at Andersen Point is also merited, as our work in 2019 was confined to a single day and our efforts were targeted to specific areas of interest.

References

Carter, John
1982 Spanish Olive Jars from Fermeuse Harbour, Newfoudland. In *Ceramics in Canada*. Ed. D. Newlands. Special Issue of the Material History Bulletin, National Museum of Canada 16, pp.99-108.
Devereux, H.
1970 *A Preliminary Report on the Indian Point Site, Newfoundland A Stratified Beothuk Site*. Unpublished Report on file at the PAO, St. John's
Gilbert, B.
2009 *A Report on a Survey Conducted at Selected Locations on the Bay de Verde Peninsula Between November 4 and November 20, 1998 (Permit Number 98:39)*. Unpublished Report on file at the PAO.
2011 *A Report of an Archaeological Survey Conducted on Baxter Crocker's Property in Heart's Delight May 29, 2009 (Permit Number 09:13)*. Unpublished Report on file at the PAO.
Howley, J.P.
1915 *The Beothucks or Red Indians*, Cambridge University Press.
Hull, Stephen
2006 *Tors Cove Cemetery*. Unpublished Report on file at the PAO.
JWEL
2004 *Carbonear Island Archival Research Project*. Unpublished Report on file at the PAO, St. John's
Jenness, D.
1929 Notes on the Beothuk Indians of Newfoundland. *Annual Report of the National Museum of Canada. Bulletin 56*, pp. 36-39.
Marshall, I.
1996 *A History and Ethnography of the Beothuk*, McGill-Queen's University Press.
McAleese, K.
2011 *Red Indian Lake Survey – Interim Report (2008) – July 14/2011 Draft*. On file at the PAO, St. John's.
2013 *Red Indian Lake Survey Final Report 07.31*. On file at the PAO, St. John's
McLean, L.
2010 *An Archaeological Survey of the Exploits River around Noel Paul's Brook*. Report on file at the PAO.
2013a *An Archaeological re-Assessment of Nimrod's Pool*. Report on file at the PAO, St. John's.
2013b *An Archaeological Survey of the Northeast Shore of Red Indian Lake, Newfoundland*. Report on file at the PAO, St. John's.
2016 *Preliminary Report for an Archaeological Survey of Sabbath Point, Indian Point (DeBd-01) and Junes Cove (DeBd-03), Red Indian Lake*. Report on file at the PAO, St. John's.
Penney, G.
2010 *Quidi Vidi: a historic landscape*. Unpublished Report on File at the PAO.
2011 *Carbonear Bay: Historic Resources Potential*. Unpublished Report on File at the PAO.

2015 *Rumley Cove, Fermeuse Historic Resources Impact Assessment. Archaeological Investigation Permit #15.21.* Report on File at the PAO.
2019 *Quidi Vidi Lake Park (North side) Redevelopment Project (CjAe-168) Archaeological Monitoring, 2018*. Unpublished report submitted to the Provincial Archaeology Office.
Pope, Peter
2003 *Fermeuse Area Survey, 2002. Final Report for Archaeology Office Province of Newfoundland and Labrador August 2003*. Report on File at the PAO.
2011 *The Archaeology of Historic Carbonear, 2011 Survey, Preliminary Report*. Unpublished report submitted to the Provincial Archaeology Office.
2016 *The Archaeology of Historic Carbonear, 2011-2013, Final Report*. Unpublished Report on file at the PAO, St. John's.
Reynolds, K., Mercer, D. and S. Hull
2013 Provincial Archaeology Office 2012 in *Provincial Archaeology Office 2012 Archaeology Review*, pp.143-159.
Schwarz, F.
1994 *The Exploits Valley Archaeological Project – A Report on the 1994 Field Season*. Report on file at the PAO, St. John's.
2019 *Archaeological Survey of the North Shore of Red Indian Lake in the Vicinity of Warford's Brook*. Report on file at the PAO, St. John's.
Skanes, R.
2010 "Carbonear Island Research Project", *Provincial Archaeology Office 2010 Archaeology Review,* vol. 9, 166-171.
2012 "Carbonear Island Archaeological Research Project: Summary of 2011 Fieldwork",
Provincial Archaeology Office 2011 Archaeology Review, vol. 10, 156-165.
2019 *Final Report Stage 1 Historic Resources Assessment Embree, Notre Dame Bay Newfoundland and Labrador*. Unpublished Report on file at the PAO, St. John's.
Speck, F.G.
1922 "Beothuk and Micmac" *In Indian Notes and Monographs, A Series of Publications relating to the American Aborigines*, Ed. F.W. Hodge. New York Museum of the American Indian Heye Foundation.
Stopp, M.P. Consulting
1989 Stage 1 Overview Assessment of Marine Service Facility, Fermeuse (Borden No. CfAf-04). On file at the PAO, St. John's.
Taylor, A.W.
2007 *Red Indian Lake Site Survey*. Unpublished Report on File at the PAO.
2015 Preliminary Historical interpretation of Andersen Point (Pierre Hansen Logging Camp). Unpublished report on file at the PAO, St. John's.
2019 *The Great Lake Heritage Project*. Report on file at the PAO, St. John's.
Taylor, J. G.
1964 *An Archaeological Survey of Red Indian Lake and the Exploits River, Newfoundland*. Report on file, Provincial Archaeology Office, St. John's.
Thomson, C
1982 *An Archaeological Survey of the Exploits River from Red Indian Lake to grand Falls May 29 – June 19, 1982*. Unpublished Report on file at the PAO, St. John's.
Venovcevs, Anatolijs
2016 *Farming Carbonear Archaeological Evidence of Agriculture Activity*. Unpublished Report on file with the PAO, St. John's.

Retirement of Martha Drake & a history of the Provincial Archeology Office

Jamie Brake & Gerry Osmond
Government of Newfoundland and Labrador

Thank You Martha

Gerry Osmond, Director of Arts and Heritage

Martha Drake retired from her position as Provincial Archaeologist for Newfoundland and Labrador on June 30th, 2019 after a distinguished career which lasted nearly three decades. I had the absolute pleasure of working with Martha since 2009, first as a Divisional colleague and in the past three and half years as her Director. We clicked right away and had many deep philosophical conversations. I think she appreciated the fact I had a degree in archaeology and despite never actually working as an archaeologist she always treated me like I was one of them. Martha taught me so much about the field of archaeology over the past ten years. She also taught me to have the commitment to do things right and the conviction to stand up for what you believe in – I've rarely seen anyone who could stand her ground as well as Martha. She exemplified the old adage of 'doing what you love and loving what you do'. Working at the PAO was truly a labour of love for Martha and it showed every day on the job. I am extremely fortunate to have worked with her and to celebrate the retirement from her dream job. Thank you Martha for your many contributions to Newfoundland and Labrador archaeology, for inspiring us to always seek and discover new information, for making our workplace a better place, for the wonderful opportunity to work with you every day, and for the honour of calling you a friend. Enjoy your retirement!

In June 2019, Martha and I worked on one final project together – finding a new Provincial Archaeologist. Jamie Brake, who had been the Government Archaeologist with the Nunatsiavut Government, was chosen to replace her. Although Jamie has big shoes to fill, he is more than up to the challenge. The fact he worked closely with Martha for the past decade and was in many ways one of her protégés, is a symbolic passing of the torch.

Martha Drake & the PAO

Jamie Brake, Provincial Archaeologist

Martha Drake was the second person to hold the position of Provincial Archaeologist, though the genealogy of the role and of government management of historic resources can be traced back more than one hundred years to Alexander Murray, James P. Howley

PAO staff in 2013 on the day they were awarded the Public Service Award of Excellence, left-right, Stephen Hull, Delphina Mercer, Martha Drake & Ken Reynolds.

and the first Newfoundland Museum (Anton 1996; Maunder 1991). Martha's contributions to archaeology in this province are enormous, and to understand her important accomplishments one must first have a general sense of the context of government archaeology in this particular place at the time that she first entered the scene.

Martha was initially hired by the government's Historic Resources Division in January of 1990 on a contract involving a "…preliminary assessment of past archaeological activity in the province" (Drake 1990:1). She was working under the direction of Linda Jefferson, the first official Provincial Archaeologist for Newfoundland and Labrador.[1] By 1990 the Provincial Government had employed a series of professional archaeologists over a twenty year period, Memorial University had several archaeology faculty members working within the Department of Anthropology, students had been enrolled in archaeology graduate programs for a couple of decades and consulting archaeologists had been active doing assessment and mitigation work for about ten years.[2] The Government had initiated and/or funded a number of significant research projects since the 1970s and had published an annual report series on archaeological activity in the province between 1980 and 1989. However, the early 1990s was a time of fiscal austerity and funds were now unavailable for the report series or large scale government initiated field research (Anton 1996:7). Some significant data management issues had also developed, which had major implications for the province's ability to effectively manage historic resources.

Martha produced a report on the 30th of March 1990 on her work up to that point which paints a vivid picture of the state of archaeological resource management at the time. The main objectives outlined in that first contract are informative and were listed as follows: "1) establishment of a bibliography of archaeological reference documents for the province; 2) a concise summary of past archaeological activities organized by geographic location; 3) systematic cross referencing of past archaeological activity by archaeologist and geographic location; and 4) systematic plotting of archaeological survey routes and illustration of survey methods on 1:50,000 scale site inventory topographic maps" (Drake 1990:1). Martha made tremendous progress in relation to each of these large goals, and the results of even this initial work have become part of her legacy. The bibliography she started in 1990, for example, can be viewed to this day on the PAO website. It continues to grow and the reference list itself is currently more than 200 pages in length.

In addition to addressing the main objectives of her first contract, Martha also identified a number of serious challenges for the Historic Resources Division at the time. One of those was that "…a great deal of the source material is so disorganized that it is virtually inaccessible… such disorganization limits the value of the documents for a serious researcher" (Drake 1990:6). Another major issue she recognized had to do with the archaeological sites inventory itself. In those days the sites database consisted of an incomplete index card catalogue, each card containing basic information on an individual site. The index cards were "…often times so incomplete or inaccurate in their information, that they are almost useless…" (1990:6). She provided a number of specific examples to highlight how serious these problems had become that involve things like multiple Borden numbers for a single site, multiple sites sharing a single Borden number, and wildly inaccurate site locations. She describes a situation in which a consultant had been required by contract to visit a particular site on an island in northeastern Newfoundland, however, the site in question was not on an island at all and was in fact kilometers outside of the study area. Martha recognized and pointed out that these issues represented a major impediment to "… responsible and informed resource management and protection…" (Drake 1990:9). These issues were not the fault of anyone working with, or formerly working with the Historic Resources Division, but were simply the compounded result of decades without dedicated government staff having responsibility for

[1] Previous Newfoundland Museum Curators had occasionally used the title Provincial Archaeologist in an 'honorary' sense as they performed this role in addition to their regular duties (Sproull-Thomson 1981; 1985).

[2] Assessment and mitigation related work goes at least as far back as the late 1960s (see Tuck 1976 for example), however, that work was being done by university faculty members or government officials rather than by consultants. Gerald Penney was the first independent archaeological consultant to operate in this province (Penney 1978).

archaeological data management.

At the end of her very first report for government Martha made a series of recommendations that are astonishing to read today due to their prophetic and visionary nature. All of her basic recommendations relating to things like continuing to update the bibliography that she established, 'computerizing' the sites inventory, organizing the library and making it accessible, developing a systematic approach to data collection, entry and management have been realized. One of the most interesting recommendations is that "…a program of directed research should be initiated by the Historic Resources Division. Directed research could be used to prioritize areas in need of archaeological attention and help to clear up the gaps and/or discrepancies which exist in our current data base" (1990:10). She goes on to provide a list of criteria that should be used to guide such a program, including things like "natural factors which may threaten the integrity of archaeological resources. For example, coastal submergence or erosion". Sixteen years later the directed research program was raised again by PAO staff member Ken Reynolds, and this time it was established and has been used to address research gaps ever since. One of the directed research projects currently underway in 2020 is helping build our understanding of the impacts of climate change on the province's historic resources, including the impacts of intensified coastal erosion.

Martha continued working with the department through a series of related contracts between 1990 and 1993, and by the fall of 1992 Linda Jefferson, the Provincial Archaeologist, had moved into a different position with a different Government department[3]. Martha applied to fill the vacant position and was hired in early 1993. With her new responsibilities for regulating archaeological activity and managing historic resources she was no longer able to devote all of her time to the tasks she had been previously working on for the Department. It was at this time that significant changes began to be made within the office that ultimately resulted in its evolution from a one person affair to a specialized unit.

One of Martha's greatest legacies, is the development of the office under her leadership. In fact, even the term 'PAO' is tied to her tenure – it was first officially used by Martha in late June of 1999.[4] Within a year or so of becoming Provincial Archaeologist she had been able to hire additional staff members: Mary Scott and Marianne Stopp had started working with the office to provide support with processing a dramatically increasing number of land use applications, particularly for mineral exploration. Ken Reynolds was brought in in 1995 to help with a major repatriation request made by Labrador Inuit, and John Erwin was hired that fall to continue addressing the issues with the archaeological sites inventory and he created the first digital database at that time. In the spring of 1996 John moved to Calgary to pursue PhD studies and his position was filled by Elaine Anton, and by 1998 Mary had moved on. Delphina Mercer was hired in 1996 after Stopp took leave from the PAO. In 1998 Elaine accepted a position with the Provincial Museum and Stephen Hull took over as archaeological data manager for the PAO that same year. For about eighteen years the same four people (Martha, Ken, Delph and Stephen) staffed the office until Ken Reynolds' passing in December 2016. In January of 2017 John Erwin was hired as a Research Archaeologist to support policy work and the Directed Research Program. For more than twenty years the PAO established by Martha has been a nationwide model of excellence in archaeological resource management.

Another one of Martha's major contributions relates to land use application referrals. Although the Historic Resources Act of 1985 included provisions for impact assessment and mitigation, mechanisms to allow for routine review of proposals for development from an archaeological perspective had not yet been developed. Early in her career Martha worked with other government agencies to inform them about the importance of referring applications for development to her office as a critical component of the historic resource management process. Her efforts were highly successful and the PAO currently reviews an average of more than 2500 referrals per year and regularly requires assessment when the level

[3]Jefferson had also made some important contributions by this time, including work towards the development of the *Archaeological Investigation Permit Regulations* under the *Historic Resources Act* that were originally passed by Government in 1991.

[4]Using office records Delphina Mercer was able to determine that the term was first used between June 28th and June 30th, 1999.

of archaeological potential warrants it. At least 1000 archaeological sites have been found, protected and documented as a direct result. This has arguably done more for historic resource preservation than anything else in the province's history. Archaeological heritage management in the context of developments at any scale, including major developments like the Voisey's Bay Nickel Mine and the Lower Churchill Hydroelectric project, became typical business for Martha and the PAO.

Throughout her career Martha maintained excellent working relationships with Indigenous groups in the province. Her role required her involvement in land claims negotiations and her thoughtful and careful approach to this task ensured that archaeological sites and artifacts were always respectfully considered. She helped ensure that Indigenous groups planned for necessary human resource capacity for managing heritage in the context of land claims and self-governance. The support she provided has helped Indigenous groups successfully work towards and achieve the ability to responsibly manage historic resources in their traditional homelands. The Labrador Inuit Land Claims Agreement, for example, has an entire chapter devoted to archaeology and provides the basis for a constitutionally protected heritage management regime. The Nunatsiavut Government has had its own archaeology office for the past 13 years as a direct result. Labrador Innu have a comparable chapter in the Labrador Innu Land Claims Agreement-in-Principle and will soon be managing their own historic resources as well.

The accomplishments of the PAO, which became what it is today under Martha's leadership, were

PAO Staff escorting Martha out the door on her last day of work in June of 2019.
Left – right, John Erwin, Martha Drake, Delphina Mercer & Stephen Hull

formally recognized through the Government of Newfoundland and Labrador's Public Service Award of Excellence in 2013. The nomination document for this award is filled with well-deserved statements of praise such as the following quote from former Director of Heritage Jerry Dick:

"In her nearly 20 years as PA, Martha Drake has molded a very effective team with a varied and complementary set of skills… [they] have been particularly creative and effective in their mandate to protect and promote the province's archaeological and paleontological resources…Frequently acknowledged to be amongst the most professional and accessible archaeology offices in the country, the PAO is widely recognized as providing outstanding work in cultural resource management, regulation of archaeological activities, education, generating public interest in archaeology, and making information and data accessible…" (Dick 2013:4-8);

Assistant Deputy Minister of Indigenous Affairs Aubrey Gover wrote the following about the PAO's relationship with Indigenous groups:

"The reputation of the PAO with the Aboriginal organizations in the Province has been and is excellent… Such a reputation is not easily gained… especially on such a culturally sensitive matter. It is only gained over a long period by devotion and demonstration of the values of service excellence, relationship building, leadership and innovation" (Gover 2013:27);

And Dr. Lisa Rankin, Professor of Archaeology at Memorial University had this to say:

"I have dealt with many other archaeology and heritage offices across the country… since the mid 1990's when I began working in the archaeological field, and the staff in Newfoundland are without a doubt the most professional and accessible that I have encountered" (Rankin 2013:15).

Martha Drake has played an extremely important role in the history of archaeology in Newfoundland and Labrador and her legacy will provide future generations with the means to continue exploring and learning about the history of this wonderful place for years to come. The people of the province have benefitted greatly from her many years of dedicated service and Martha certainly deserves recognition, gratitude and celebration.

References

Anton, Elaine
1996 The History of Archaeology in Newfoundland. Unpublished Essay for Memorial University's History of Archaeology Course, on file at the Provincial Archaeology Office, St. John's.

Dick, Jerry
2013 Summary of Achievements of the Provincial Archaeology Office (PAO) and Their Value. In *Official Nomination of the Provincial Archaeology Office, Heritage Division, Department of Tourism, Culture and Recreation.* Unpublished document on file at the Provincial Archaeology Office, St. John's.

Drake, Martha
1990 Preliminary Results of an In-House Assessment of Past Archaeological Activity in Newfoundland and Labrador. Unpublished Report on file at the Provincial Archaeology Office, St. John's.

Gover, Aubrey
2013 Letter of Support. In Official Nomination of the Provincial Archaeology Office, Heritage Division, Department of Tourism, Culture and Recreation. Unpublished document on file at the Provincial Archaeology Office, St. John's.

Maunder, John
1991 The Newfoundland Museum: Origins and Development. Electronic document, available at: https://www.therooms.ca/the-newfoundland-museum-origin-and-development.

Penney, Gerald
1978 An Archaeological Survey of the North Side of Trinity Bay, from Cape Bonavista to the Isthmus of Avalon (Frenchman's Island; Stock Cove; Claytids; Fox Island). Unpublished report on file at the Provincial Archaeology Office, St. John's.

Rankin, Lisa
2013 Letter of Support. In Official Nomination of the Provincial Archaeology Office, Heritage Division, Department of Tourism, Culture and Recreation. Unpublished document on file at the Provincial Archaeology Office, St. John's.

Sproull-Thomson, Jane
1985 Correspondence regarding proposed cottage development at Road Runner Lake and Indian Arm Pond. Unpublished document on file at the Provincial Archaeology Office, St. John's.

1981 Introduction. In *Archaeology in Newfoundland and Labrador 1980, Annual Report No. 1*. Edited by Jane Sproull Thomson and Bernard Ransom. Historic Resources Division, Government of Newfoundland and Labrador, pp. 1-4.

Tuck, James
1976 *Ancient People of Port au Choix: The Excavation of an Archaic Indian Cemetery in Newfoundland.* Institute of Social and Economic Research, Memorial University of Newfoundland. Newfoundland Social and Economic Studies No. 17.

Labrador Inuit Whale Use 2019: Excavations at Eskimo Island 3 (GaBp-03)

Deirdre Elliott
Memorial University of Newfoundland

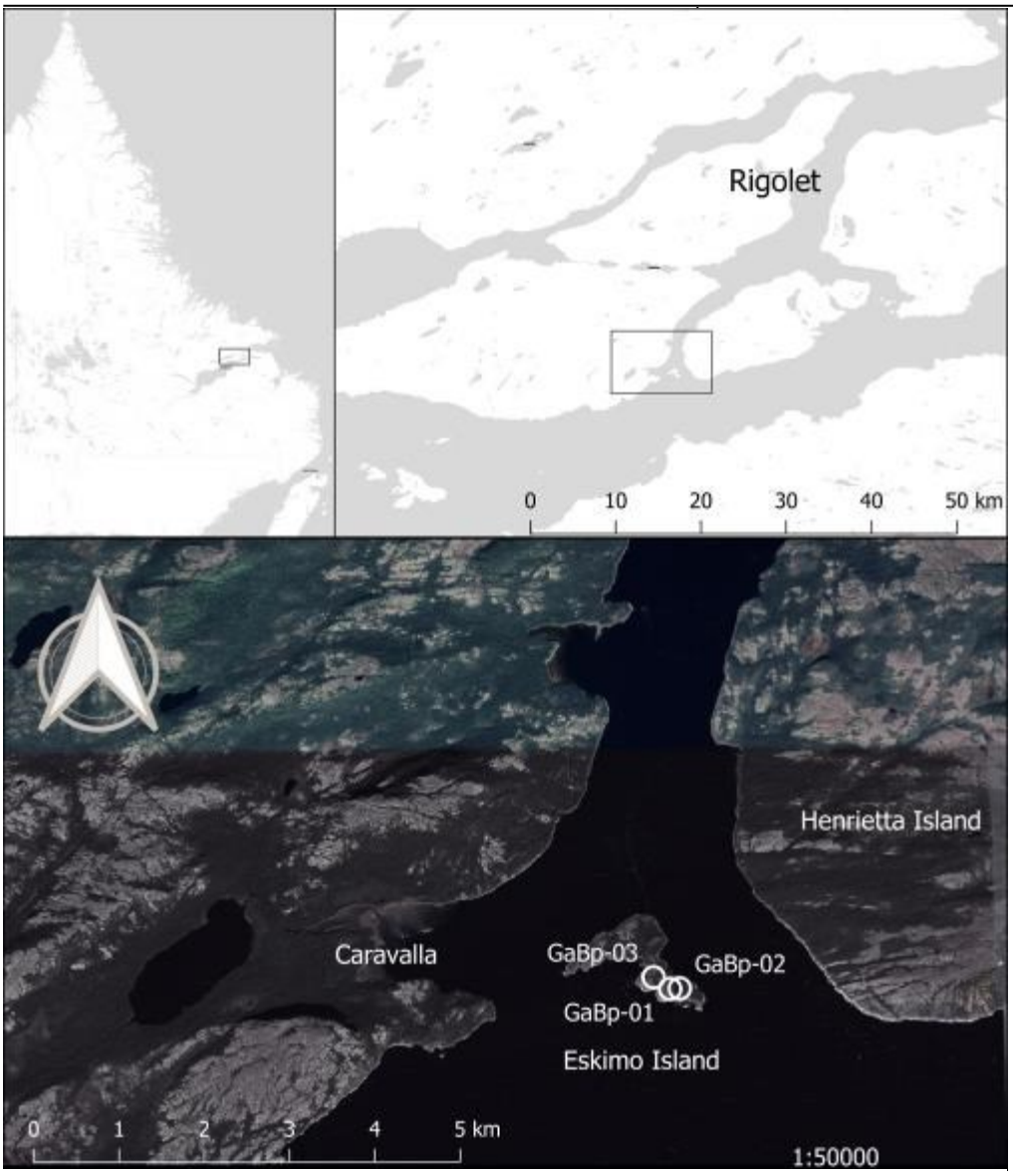


Figure 1: Map of Eskimo Island sod house site locations

My 2019 fieldwork was a continued exploration of the archaeological expressions of Labrador Inuit whale use – and it was hampered by persistent rainy and foggy weather (#Fogust, anyone?). Though I had to cancel parts of my planned field season due to road washouts and multi-week plane groundings, 2019 was nonetheless incredibly fruitful and enlightening. In July and August, I undertook a small excavation in House 2 at the site of Eskimo Island 3 (GaBp-03), near Rigolet, Nunatsiavut (Figure 1). This site was chosen because of the longstanding view that Eskimo Island was a satellite home to Inuit from further north coming south to trade whale products for European ones, and of the three clusters of Inuit sod houses on the island, Eskimo Island 3 is the earliest, dating to the late 16th-17th centuries, about which comparatively little is known this far south (Kaplan 1983). Houses 1 and 4 at the site were excavated by Richard Jordan in 1973 and 1975, and found to date to the 17th century, during a period of indirect contact or perhaps sporadic trade between Inuit and Europeans to the south. House 2 (of four or five) had not been excavated previously, though test pits placed outside of the house yielded an earlier house floor and artifacts dated to the late 16th or early 17th century, as well as baleen (Fitzhugh 1972: 280; Jordan 1974; Kaplan 1983). House 2 additionally had some anomalies in its reported architecture that indicated it may have been a transitional-type house between a single-family house and the communal houses typically dated to the 18th century (Rankin 2015:101). This transition is another

period in Labrador history about which little is known, due in this case to the relative dearth of structures dating to that period, but which has been associated in some way with availability of whales and trade in whale products since the 1970s (Jordan 1978; Kaplan 1983; Kaplan and Woollett 2000; Richling 1993; Schledermann 1972; Taylor 1976).

After holding a community presentation and discussion about the planned fieldwork, Alison Harris and I travelled to the island and set up camp. After surveying the site to locate the houses and previous tests and excavations, we partially cleared House 2 of its thick covering of Labrador tea, and set up a datum and small excavation grid. Over the course of the next six cold, wet weeks, I, with a rotating cast of Alison Harris, Corey Hutchings, and Jeff Speller as field crew, excavated five units in the southwest corner of the large semi-subterranean house, at the junction of the house and the entrance tunnel. Frozen ground was encountered at ~35cm below surface in all units, though whether this was a localized patch of permafrost or a result of the exceptionally long winter and cold summer is unclear. In any case, excavation proceeded slowly, but revealed successive layers of house collapse in the form of culture-bearing roof and wall sods (presumably harvested from an earlier house), structural timbers, and a semi-localized area of charred structural wood and fat, suggesting the house had collapsed in place following an accidental fire (Figure 2). A polystyrene coffee cup was encountered ~15cm below the surface in one unit, below the "modern sod" but atop a thick and continuous layer of Labrador tea leaves overlying the archaeological sod, perhaps hinting at the archaeological activity at the site in the 1970s.

Figure 2: Excavation area, showing layer of wood from collapse of house superstructure, and charred logs forming the bench along the west wall of the house interior (photo credit: Corey Hutchings 2019)

Recovered artifacts included "raw" and reworked coarse red earthenware (much of which is identifiable as the roof tiles common at Basque whaling sites), numerous modified and unmodified wrought iron nails, flat and bottle glass fragments, a very small number of glass beads (some tentatively identified as late 16th century), one musket ball (possibly intrusive), one fragment of worked slate, and numerous soapstone vessel fragments and whole

vessels - including one miniature kudlik with a kill hole and a drilled pattern on the underside, made of a beige soapstone similar to that found at sites much further north (Figure 3). While bone preservation was poor (despite the frozen ground), preservation of organic material was exceptional, and we were able to recover large quantities of wood, hide and leather, fur and feathers, and (for me, the highlight of the season) baleen, including baleen strips that had been used to lash roof timbers together. Interestingly, while the surface architecture of the house (which measures 12m along the back wall, 5-8m from front to back, with a 10m long entrance tunnel and sleeping platforms/benches along 3 sides) is virtually indistinguishable from true communal houses of the 18th century, recovered artifacts suggest an early 17th century occupation, with nothing to indicate direct, or at least regular, trade with European groups to the south. Radiocarbon dating of wood and terrestrial mammal bone may resolve the dating of this occupation. The use of baleen in house construction, but the lack of whale bone generally, suggests that baleen was transported to the site from elsewhere, and that the house was constructed by Inuit accustomed to using whale products for such a purpose.

Figure 3: Sample of intriguing artifacts from 2019 excavations at Eskimo Island 3 House 2. Clockwise from top left: beige soapstone miniature kudlik, Basque tile fragment, light blue glass bead, robin's egg blue glass bead (very friable – the only one of possibly several to have survived intact), bowtie-shaped worked red earthenware.

Meaningful discussion of the identities and broader lifeways of all of the occupants of the exceptionally large house is difficult due to the small scale of the excavation. However, preliminary interpretations of the architecture and recovered artifacts suggest that the house was likely occupied by Inuit with experience living in the core whaling areas of Labrador, but also in the well-treed areas further south, as indicated by the extensive use of wood both in the house superstructure and in the floor and benches. This interpretation is consistent with Kaplan's 1983 dissertation, in which she posits that the early houses at Eskimo Island represent relatively short-term (one or two winters) occupation by Inuit from the Hopedale region on regular trade journeys to southern Labrador (Kaplan 1983). This is also consistent with the records of the Moravian missionaries at Nain, who reported that "Two boatloads of [Inuit] from Arvertok arrived at Nain in 1780, and stayed for a five-day visit. Before returning south they told the missionaries that they had spent the past three years in the Hamilton Inlet area. The winter before that had been spent on an island near the Inlet, and in the spring they had visited Europeans in Sandwich Bay" (Taylor 1974: 8).

Due to the limited scope of excavations and the preliminary nature of this analysis, it is only possible at this point to say that the Inuit who lived in this house had travelled both to the north (Hopedale or further, likely where baleen was acquired) and south of Hamilton Inlet (likely in the vicinity of Red Bay, where the items of European origin were acquired). This conclusion is not a new one, but it has important implications for how archaeologists interpret economy and identity in the past, as notions of place-

based identity and regional economic rounds (common conceptual frameworks in the archaeology of the Inuit past) may not be applicable for Inuit who held a hyper-mobile lifestyle. Finally, this excavation has contributed to the broader goals of the project by revealing some of the ways in which whales and whaling articulate with Inuit life in the past, by connecting people with different places, and with each other.

Acknowledgements

Thanks go to Laura Kelvin for coining "Fogust", to Alison Harris and Corey Hutchings for being willing volunteer field hands, and to Jeff Speller for being a willing impromptu field hand in a remote location - and for back-filling to boot! Thanks to Pete Whitridge and Lisa Rankin for their continued support in this ambitious project, and to Lisa again for the remote logistical support when the weather challenged all our best efforts. Thanks to Jamie Brake (then at the NAO), the Rigolet Inuit Community Government, and the community of Rigolet for all their interest and support in the project. Extra special thanks to Fred Shiwak and his unfailing resolve (and supernatural ability) to deliver and retrieve us safely from our field camp in even the hairiest of weather.

References

Fitzhugh, William W.
1972 Environmental Archeology and Cultural Systems in Hamilton Inlet, Labrador: A Survey of the Central Labrador Coast from 3000 B.C. to the Present. Smithsonian Contributions to Anthropology 16. Washington: Smithsonian Institution Press.

Jordan, Richard H.
1974 Preliminary Report on Archeological Investigations of the Labrador Eskimo in Hamilton Inlet in 1973. Man in the Northeast 8: 77-89.
1978 Archaeological Investigations of the Hamilton Inlet Labrador Eskimo: Social and Economic Responses to European Contact. Arctic Anthropology 15(2): 175-185.

Kaplan, Susan
1983 Economic and Social Change in Labrador Neo-Eskimo Culture. Unpublished PhD Dissertation. Bryn Mawr College.

Kaplan, Susan and Jim Woollett
2000 Challenges and Choices: Exploring the Interplay of Climate, History and Culture on Canada's Labrador Coast. Arctic, Antarctic and Alpine Research 32(2):351-359.

Rankin, Lisa K.
2015 Identity Markers: Interpreting Sod-house Occupation in Sandwich Bay, Labrador. Études/Inuit/Studies 39(1): 91-116.

Richling, B.
1993 Labrador's "Communal House Phase" Reconsidered. Arctic Anthropology 30(1): 67-78.

Schledermann, Peter
1972 The Thule Tradition in Northern Labrador. Unpublished MA thesis. Memorial University of Newfoundland.

Taylor, J. Garth
1974 Labrador Eskimo Settlements of the Early Contact Period. Publications in Ethnology 9. Ottawa: National Museum of Canada.
1976 The Inuit Middleman in the Labrador Baleen Trade. Paper presented at the 75th annual meeting of the American Anthropological Association, November 17-20, 1976.

Archaeological UAV surveys of Hopedale winter landscapes

Deirdre Elliott & Sarah Wilson
Memorial University of Newfoundland

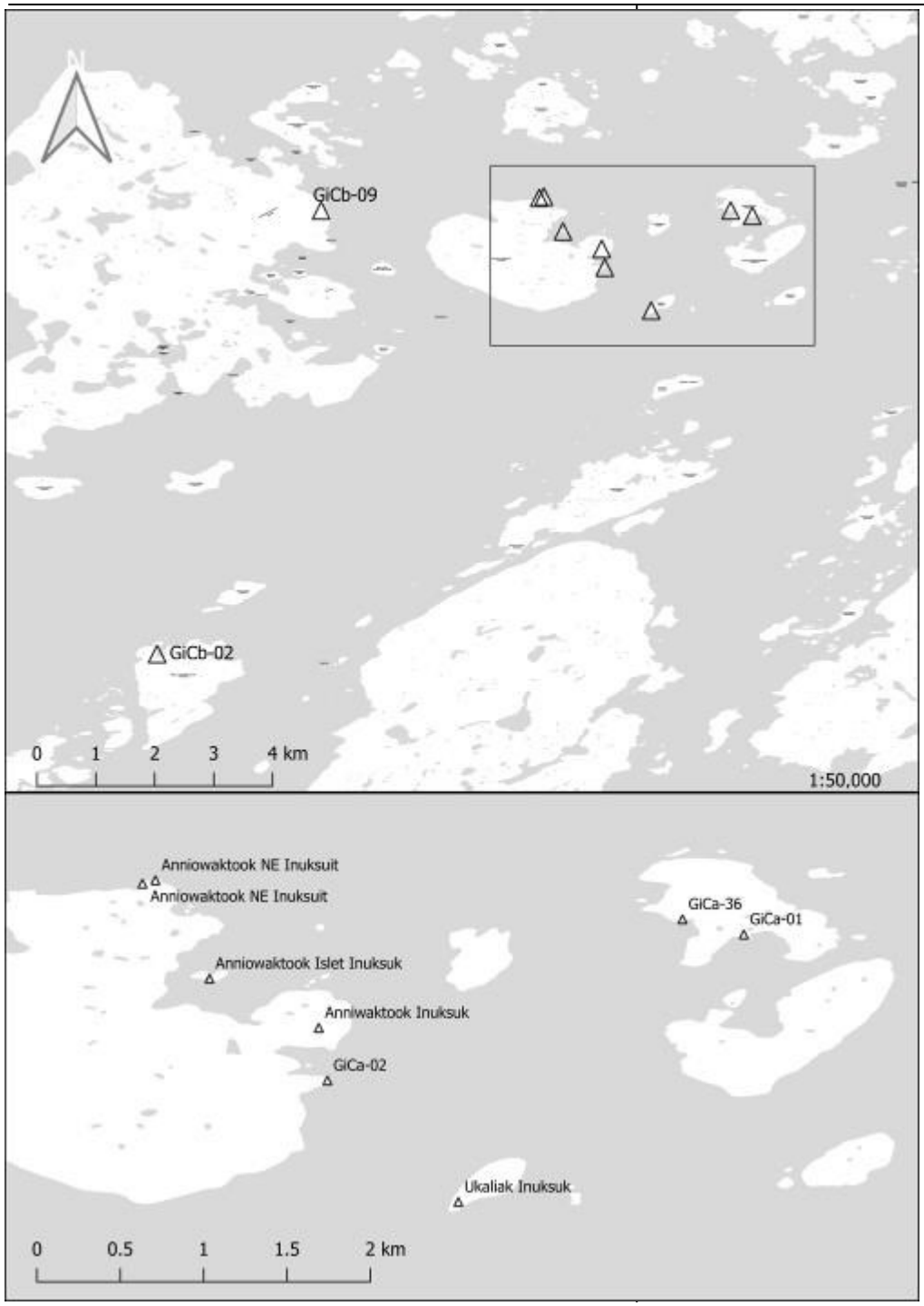


Figure 1: Map of survey region and sites visited

This winter fieldwork project was a joint venture between graduate students Sarah Wilson and Deirdre Elliott. Elliott's research seeks to better understand the roles whales played in Labrador Inuit life in the past, and the Hopedale ("place of whales") region had been a focus of two previous summer field seasons. Wilson seeks to gain a deeper understanding of past landscapes, land use, navigation, and conceptions and creations of places in the Hopedale and Okak regions. An important aspect of this is how places formed part of life in the winter - something archaeologists rarely experience first-hand, as our excavation season is restricted to the summer months. The main objective of this project was therefore to visit archaeological sites to understand land use patterns and record landscape details in winter - the season in which some of the sites would have been originally occupied. This included re-visiting Inuit winter sod house sites and inuksuit that may have been used as travel aids or place markers, to record winter landscape natural and cultural features through conventional pho-

Table of Contents

tography, videos, and aerial UAV (drone) photography, and by producing high resolution 3D models.

Several different inuksuk features were identified for revisits by Wilson from previous Site Record Forms (some recorded by Elliott in surveys in 2018). These features were all near winter sites, making them good candidates for winter surveys. Eldred Allen of Bird's Eye Inc. was hired by Wilson to collect aerial imagery in conjunction with Elliott's winter revisits of winter sod house sites. Of the 14 features identified by Wilson, eight sites (nine inuksuit) were visited by Elliott, Allen, and Hopedale community member Trevor Broomfield over the course of three days in late March, and Allen collected photogrammetric drone imagery of seven different inuksuit (Figure 1). This is a successful outcome given the harsh winter conditions during the scheduled surveys. Each of the nine inuksuit visited were well visible on the winter landscape (as were several more that were deemed inaccessible by skidoo), indicating their potential usefulness as place markers and navigational aids in winter seasons.

On March 30th, Elliott accompanied Hopedale community members Nicholas and Valerie Flowers on a visit to the Inuit winter sod house Iglosuatulligarsuk (GiCb-02), previously visited and tested by Elliott and Nicholas Flowers in the summer of 2018. This enlightening trip revealed easy winter travel routes over snow and ice that had not been obvious during our summer survey, giving easy access to inland resource areas, and a sheltered, warm location for winter houses that in the summer had been unbearably infested with flies. Elliott and Flowers presented the results of this experience at the Inuit Studies Conference in Montreal in October 2019.

Wilson has since processed Allen's images into 3D models, digital elevation models (DEMs), and orthomosaics using Agisoft Metashape. Given the size of the area surveyed, Allen opted to use a spiral flight pattern to collect overlapping imagery (Figure 2). The results are detailed elevation representations of the inuksuit and nearby surrounding areas. In some cases, footprints in the snow are visible in the DEMs. The colorized DEMs are the easiest way to identify individual rocks and formations on the landscape (Figure 3). Additionally, Allen provided images of the landscape to provide Wilson with more context given that she was not able to join Allen and Elliott in the field. These methods provide a more solid grounding for archaeological interpretations of past land use throughout the year, as well as contributing to the discussion of how these enduring traces of the past play into Inuit interactions with and perceptions of the land and of places in the present. Through this, archaeology can speak not only to this importance of cultural sites, but of broader cultural landscapes that are themselves worthy of protection for the roles they play in collective memory and traditional ties to lands and places.

Acknowledgements

This project was made possible through the support of the Hopedale Inuit Community and Nunatsiavut Governments, and through the help and support of many individuals. Thanks go especially to Angajuk-Kâk Marjorie Flowers, Valerie Flowers, Reuben

Figure 2: Ukaliak/Ellen Island Inuksuk, view to the south, with Eldred Allen's drone in the background

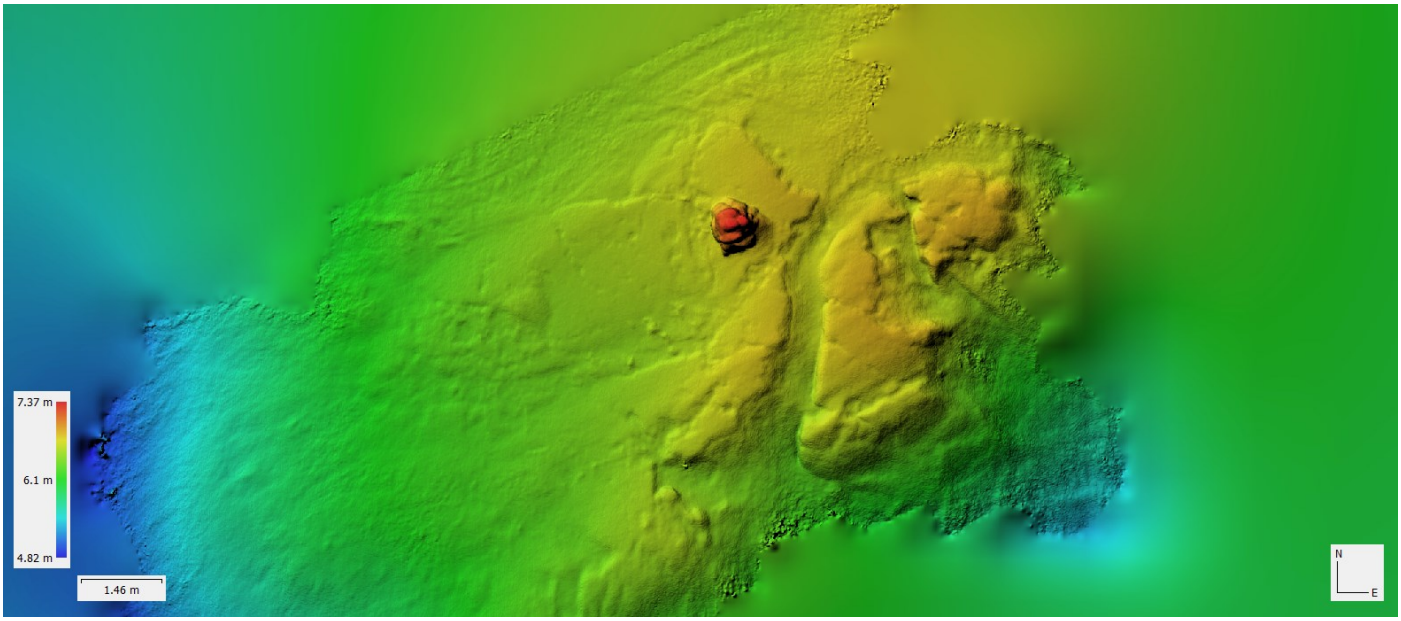


Figure 3: Ukaliak/Ellen Island Inuksuk DEM

Flowers, Nicholas Flowers, Trevor Broomfield, Eldred Allen, Sarah and Harry Jensen, Shirley Broomfield, Andrea Flowers, Ian Winters, the Moravian Mission, and Jamie Brake and the Nunatsiavut Archaeology Office, and our supervisors Lisa Rankin and Pete Whitridge. Funding for this project was granted by the J.R. Smallwood Foundation, the Northern Scientific Training Program, and the Tradition and Transition research partnership.

Kettle Head and the Inuit of Grand Isle: Basques, Boulder Pits, and Excavations on the Quebec Lower North Shore

William W. Fitzhugh, Michael Mlyniec, Igor Chechushkov & Brad Loewen
Smithsonian Institution and University of Montreal

Introduction

The Smithsonian Arctic Studies Center continued surveys and excavation work on the Quebec Lower North Shore (QLNS) in 2019 with special attention to Inuit, Basque, and boulder pit sites in the Bonne Esperance Municipality (Salmon Bay and St. Paul River), Belles Amours Peninsula, and Brador. Earlier research had identified Inuit sod house dwellings at Brador, Belles Amours, Jacques Cartier Bay, and Petit Mécatina, and an historically-known Inuit winter site in Ha! Ha! Bay east of La Tabatière remains to be discovered archaeologically. Strangely, the only QLNS area where a large 17/18th Inuit winter settlement has been missing is the St. Paul River/Salmon Bay region in the center of the LNS Inuit settlement distribution, the coast's richest ecological zone. Why Inuit avoided this area has been a mystery. Every season as we passed through its protected waterways, we expected to find the large grass-covered mounds of one or more Inuit winter villages; but this never happened. Instead, what finally emerged is a single Inuit tent foundation and a partially-constructed sod house on the north shore of St. Paul River's Grand Isle. By investigating these structures we picked up the trail Charles Martijn had left from the early 1970s when he began hunting for the elusive LNS Inuit, and finally, in 2019, we had a break-through that begins to fill out the story of the St. Paul Inuit.

What could be the reason for their avoidance of this bountiful region? Samuel Robertson, a long-term LNS resident, provides a clue in his 1843 report to the Historical Society of Quebec, who describes oral history of a battle on Esquimaux Island at the center of the St. Paul archipelago. Here, according to Robertson, the Inuit constructed a fort protected by a ditch and a turf wall a half-mile around, and battled with "Mountaineers" (Innu) aided by the French and were "either totally extirpated or expelled", leaving as many as 1000 dead. "After their expulsion from the Gulf Shores, they occasionally made predatory excursions against the French—coming into the Straits early in the Spring in skin-boats—burning fishing rooms, boats etc., killing the guardians or making them fly. Twice they assaulted Bradore during the time of the Courtmanches [early 1700s]; in one of which they lost four hundred men; indeed, they continued this warfare until three years before the conquest [1759]; when, after destroying several fishing stands along the Straits, they were repulsed by some sealing crews, at Pennoyer River" (Robertson 1843: 45-46).

Although the numbers and scale of hostilities have been questioned (Martijn 1980: 109), there is little doubt that a substantial level of conflict existed on the LNS owing to the appearance of Inuit after the Basque decline in the late 1500s and establishment of Inuit settlements in former LNS Innu territory. Archaeological surveys have revealed no evidence of earthworks. Local residents have no reports of Inuit grave cairns or burials other than the instance reported below. Our surveys have found only a single cairn burial, presumably Inuit. Only one recovery is known: during Charles Martijn's surveys in St. Paul, he reported a mandible and partial skeleton of an Inuit male found by Leonard Thomas, a local fisherman. The remains came from an impromptu grave in a pre-existing pit-house in a boulder beach high above Kettle Head on the northeast side of Grand Isle. Martijn visited the site with Thomas in 1972 and reported grave goods including an iron rod (probably a harpoon foreshaft), a small piece of iron pointed at both ends, a whale bone snow-knife, a bone scraper-or knife-handle, and rolls of birch-bark among boulders near the grave (Martijn 1974:123). One of our goals for 2019 was to prepare a detailed map of the Kettle Head site and search for evidence of other graves or artifacts. Unfortunately, the site had been

Table of Contents

partly excavated by Thomas and has since seen further depredations, leaving only a few pit houses and cache pits intact.

This year our team included students from Dartmouth and Notre Dame colleges, and underwater archaeologists from University of Montreal. In addition to conducting excavations at the Hart Chalet Inuit site in Brador, we intended to excavate the Grand Isle 2 winter house, search for the missing Ha! Ha! Bay site, and conduct underwater reconnaissance for Basque sites and shipwrecks.

The Sites

Belles Amours Pithouses (EiBi-24)

Throughout the subarctic coasts of Labrador and the Quebec Lower North Shore one finds boulder beaches whose surfaces have remained unvegetated since their postglacial emergence from the sea. Relics of higher sea levels and open coasts where wave action did not permit fine sediment accumulation, these boulder beaches were attractive places for people to build meat or egg caches, shelters, and dwellings (Stopp 1994). With a minimum of effort, boulders could be removed to create a semi-underground floor, raise walls, or bury a food cache. Boulder beaches can be found at all elevations, from the modern shoreline to the upper marine limit. The highest and most exposed generally are composed of boulders too large to move, while those at lower elevations tend to have smaller, more manageable rocks. Cultural features usually occur from intermediate elevations to the modern shoreline; the higher elevation features can be attributed to Maritime Archaic culture ca. 8000-3500 BP. Excavation of high elevation boulder pits and dwellings in Nain and Groswater Bay produced Maritime Archaic artifacts, while a boulder structure 3-4m above sea level at Gaumont Harbor (Gros Mécatina-3 L4, EiBr-16) near Tabatière contained Groswater Paleoeskimo implements associated with a hearth. In this case, the hearth seemed to have been built inside a pre-existing Maritime Archaic longhouse (Fitzhugh 2006a), many of which have been identified, and several excavated, in Labrador and the QLNS. Usually they display as a linear string of shallow depressions 10-20 cm below the surrounding boulder beach surface. The interior consists of 'rooms' having a central hearth separated from other rooms by low boulder partitions (Fitzhugh 2006b). Many of these longhouses have small conical cache pits outside the wall adjacent to the dwelling units.

Figure 1: Belles Amours, House 2, one of several intact boulder structures at EiBi-24 (photo: W. Fitzhugh)

The Belles Amours boulder beach structures were first inspected and provisionally mapped by René Levèsque (1968; Fitzhugh and Phaneuf 1914: 131-158, see map on p. 159). Levèsque plotted two large sub-rectangular features that had multi-tiered walls, a level interior cobble floor, and small cache pits outside their walls. The rest of the boulder field held 17 small circular pits or piles that are probably meat caches. Our team spent two days mapping the site (see the 2019 field report for details). The site is ca. 4-5 m.a.s.l. on the northeast side of the peninsula between the shore and a pond and includes two clusters of features. The two larger features in the southern group have level floors and

tiered walls and are unquestionably houses (Figure 1). Little more can be said until excavations are conducted in 2020. However, it is clear that there are two settlement or functional components: (1) occupations in two adjacent oval or sub-rectangular pit-dwellings that are architecturally similar representing use by a single cultural group probably at the same time. The occupation post-dates Maritime Archaic and probably occurred between 3000-1000 B.P. (2) The remaining features are widely-scattered cache pits (opened) or mounds (closed) in two locations and may result from different cultural groups at different times during the past few thousand years. 2020 field research will include a program to map boulder sites along the LNS between Blanc Sablon and St. Paul River to determine elevation, extent, types of cultural features, functions, age, and cultural affiliation.

Grand Isle 1 (Kettle Head, EiBk-3)

Grand Isle-1, called Kettle Head by Martijn (1974), is located on a rocky ridge approximately 35 meters above sea-level on the northeast corner of Grand Isle (Figure 2). The boulder-field originated as a surf-pounded beach and is approximately 20 meters (E-W) by 30 meters (N-S) in extent. Of the ten structures identified, several could be considered pit-houses because of their large size and external cache pits. The site has undergone significant damage from looting, weather, boulder removal, and recent construction of an inukshuk at the northern edge of the

Figure 2: Grand Isle-1 (Kettle Head) boulder pit site (EiBk-3), damaged by local looting, viewed to north with a recent Inuksuk construction (photo: W. Fitzhugh)

Figure 3: Grand Isle-2, L1 (EiKk-54)
Inuit qarmat tent-house excavation in 2018. Central area was excavated in 2017 (photo: W. Fitzhugh)

site. Nevertheless, ten archaeological features were identifiable and were recorded with confidence.

Of these ten features, six (4, 5, 6, 7, 8, and 9) can be considered pit-houses. Each has a total area of at least 7.50m² and an associated cache pit attached to the southeast or southwest outside wall. All structures had walls 0.50-0.60m thick, the thickness of most of the boulders in the beach. Structures 5 and 8 demonstrate unique construction: two large depressions connected by a shared wall. Though similar to the other pit-houses, Structures 1 and 2 lack associated features and have smaller internal areas. These structures could represent larger storage caches than the features associated with the pit-houses, or they may be for smaller groups or temporary single-person bivouacs. These structures are close to each other and are located at the southernmost part of the site, away from the primary cluster of houses. Structure 3 and the Tri-Pit Feature represent pits too small for habitation. Structure 4 was excavated down to bedrock without recovery of any cultural material. The high site elevation and similarity to documented boulder pit sites make it likely this site is of Maritime Archaic origin. The discovery of Inuit skeletal remains and historic period Inuit artifacts in one of these structures was an intrusive event that utilized an existing pit for an improvised grave.

Grand Isle 2 (L1; EiBk-54)

This site, presenting as a rectangular structure with low sod walls, was discovered in 2016 and excavated in 2017 and 2018 (Figure 3). It lies in the center of an eroding beach terrace where Leonard Thomas' family used to find chert flakes and arrowheads. Martijn recorded the area as EiBk-4 but did not recognize

Figure 4: Grand Isle-2, L2 (EiBk-54) Inuit winter house excavation with entry passage at lower left and snow block north wall to right (photo: W. Fitzhugh)

the shoreside house foundation (L1) or the pit-house (L2) fifty meters away on a higher beach line. Excavation showed the L1 foundation to be a 4x8m Inuit qarmat, a dwelling type used during the fall before moving into a more substantial pit-house. By 2016 the front (north) side of the house had already been taken by the sea, and what remained was a central floor area between two slightly raised benches at each end. Chert flakes and small bits of rusted iron initially suggested the site was an Innu (Indian) contact period structure, but full excavation revealed the chert was from the extensive pre-contact Innu occupation found throughout the terrace front, while the iron was part of a 16-17th century Inuit dwelling containing Basque contact materials including roof tiles, iron spikes and nails, European ceramics, and other goods. A group of aligned conifer poles lying across part of the floor may have been part of a collapsed wall or roof.

Grand Isle 2, L2, (EiBk-54)

Excavating this partially constructed, semi-subterranean sod house was our major excavation in St. Paul this summer (Figure 4). Work in 2018 had uncovered a paved semi-subterranean entrance tunnel leading to an entry ramp instead of the cold trap slab and stone door framing seen in most Labrador Inuit winter houses of this era. A makeshift iron hammer, Basque tiles, iron spikes, stoneware, and earthenware mirrored finds from other 16-17th century LNS Inuit winter villages. Our 2019 excavations opened the full interior of the dwelling, revealing it was excavated into the beach deposits and levelled up to create the floor. A scattering of conifer planks and nails revealed a wooden floor that included two large oak planks (4cmx43cmx6.5m) that must have been obtained from a shipwreck. The rear (uphill) part of the house was dug a meter deep into the rising beach and contained a sleeping bench on which we found the burned and collapsed remains of a stacked conifer log wall. A multi-layered sod wall extended along the

Figure 5: Soapstone pot fragment mended with an iron nail from Grand Isle-2, L2 (photo: W. Fitzhugh)

west side of the house but disappeared, leaving no trace of a wall on the north side of the dwelling, where floor planking and nails also were absent. The house seems not to have had a north wall, or only a skin or temporary shed-like structure—an odd feature since this would have exposed the occupants to northern winds and storms. Finds like those from other Inuit dwellings along the LNS included fragments of soapstone cooking pots (Figure 5), an oil lamp made from a roof tile, iron rods fashioned into harpoon fore-shafts or spears, whale bone sled runners, iron nails and knife fragments, glass, and European earthenware. Other than the abundance of nails and tile fragments, however, there were relatively few other types of European materials, and no glass beads or clay pipes.

Bonne Esperance 1-4 (EiBk-55, 56, 60, 61)

In previous seasons we explored the southwestern shore of Bonne Espérance Island where William Whiteley established a large cod-fishing station in the mid-1800s. With his invention of the cod trap, the industry grew into a huge shore-based economy that paralleled an equally large 'stationer' schooner fishing fleet that operated out of St. Paul and the surrounding region every summer. Below the remains of the Whiteley shore facilities we found 16-17th century Basque tiles and ceramics dating to the 18-19th centuries. BE-1 (EiBk-55) is the site at the Whiteley station pier, and offshore our University of Montreal divers found a layer of codfish bones. Future testing will probably reveal Basque finds both on land and underwater. At the smaller BE-2 (EiBk-56) site several hundred meters north of BE-1 we again found Basque tiles below later European deposits. BE-2 lacks the industrial scale debris of BE-1, and we expect future work to reveal a Basque try-works. This pattern became clearer when the divers found Basque tiles and ballast rock underwater further to the north along the "Bony Narrows" at BE-3 and 4 (EiBk-60, 61), and adjacent to these sites on land were small try-works and Basque cultural and domestic materials including tiles, animal bones, baleen, and pits or seeds from preserved foods (Figure 6). Each of these sites is situated on a sheltered shore with access for chaloupa boats. The Grand Isle Inuit sites with their Basque material culture and shipwreck

Figure 6: Bonne Esperance-4 (EiBk-61) Basque try-works and domestic site, view to north (photo: W. Fitzhugh)

Figure 7: Excavations at House 1 (EiBh-47), Hart Chalet Inuit winter site at Brador, view south (photo: W. Fitzhugh)

planks are only a short distance away across a sheltered harbor.

Hart Chalet (EiBh-47)

Our final excavation continued the multi-year investigation of the Hart Chalet Inuit winter settlement near the mouth of the Brador River. This summer included excavation of a 2x2m unit in the House 2 midden and two units in the interior. As in the other Hart Chalet houses and at other Inuit sites on the LNS, we found the midden filled with caribou bone, a small amount of seal and other game, and in instances of better preservation, fish and bird bone. Unusual finds from House 2 included an illegible silver coin similar to one found earlier in House 2 identified as French dating to 1632-34. We also recovered stoneware, nails and iron knife and ulu fragments, a lead musket ball, bottle glass, thin copper bands (bracelet?), a bead, a clay pipe stem, a whale bone sled runner, and pieces of two large flat (French?) bricks similar to ones found in House-3. A large mound in the center of H2 turned out to be a post-occupation dump of caribou bone and hearth rocks. Two midden units outside the west wall of House 1 produced decorative materials including beads, and copper and lead strip ornaments, as well as iron points, harpoons, spear points, stoneware, and nails (Figures 7, 8). Earlier excavations here had recovered a whale bone sled runner, iron points, and a ground stone bead. House 2 appears to have been used after it's abandoned as a dump for hearth midden, suggesting that the three Hart Chalet houses may not have been occupied simultaneously.

The Inuit of Grand Isle:
Archaeology Meets History

In addition to Robertson's report relating to events a century earlier, we learn something from Louis Joliet's diary of his voyage along the Quebec and southern Labrador coast in 1694. Joliet met at "Mekattina" (probably Gros Mecatina) a 70-year old Innu chief named Missinabano, who told him Inuit

Figure 8: Artifacts from Hart Chalet (EiBh-47), House 1, Unit 6N4W (photo: A. Hill)

had wintered here in "wooden houses covered with mud…In the autumn they store up seals…and [in winter] they hunt caribou." The Innu found "four Eskimo here last spring and defeated them…the other fled, for they have no firearms, although they are expert bowmen" (Joliet, in Delanglez 1948:213). We learn more about southern Inuit from Marcel de Brouague, who provided annual reports of the Courtemanche trading establishment in Brador in the early decades of the 18th century. In 1730, he reported an attack by Innu and French on an Inuit dwelling at "Mecatina" in which adults were killed and an Inuit woman and child were taken to Quebec City. On the other side of the ledger are numerous reports by European authorities about Inuit attacks on British and French vessels and shore stations in southern Labra-

dor and the Strait of Belle Isle. Throughout much of the early and mid-18th century, hostilities between Inuit, Innu, and Europeans took a toll on all parties, making the security of commercial activities uncertain at best.

Robertson's report provides the only account of Inuit activities in St. Paul. The scale of hostilities here seems to have quite large. There are no firm dates for the Esquimaux Island battle, but it probably took place during the early period of Inuit settlement on the LNS in the early 17th century. And here we return to our recent excavations.

The unusual absence of a large Inuit winter village in St. Paul is probably instructive. One reason might be because Europeans were already established seasonally in St. Paul, lured there by its rich fisheries and harbors. Since Inuit did not begin to populate it until after 1600, the LNS was open to Basque whaling, cod-fishing, and trade with the Innu, using St. Paul as a base for operations. Small-scale Basque tryworks at Five Leagues and the stations on Bonne Espérance would have been attractive to the Inuit. The larger Basque I component at the Hare Harbor site on Petit Mécatina near Harrington Harbor documents a more substantial late 16th C. Basque whaling and fishing station. It's 17/18th C. and its Basque II component has contemporary Basque and Inuit occupations.

Inuit finds from Grand Isle may be understood as a consequence of prior European claims to the St. Paul region. At least in one instance, Inuit did attempt to establish a settlement here, certainly not at the scale suggested in the Robertson report, but at least at the scale of a single household. Arriving in summer, a family camped on the north shore of Grand Isle. Already acquainted with Basques, they had iron nails and tools, roof tiles, and a few European ceramics, but no firearms, and they still depended on their traditional soapstone lamps and cooking pots and sea mammal hunting technology. As summer passed, they began building a semi-subterranean winter dwelling nearby, excavating the pit, constructing a stone-paved entry tunnel, planking the floor, and making a sod wall on the west side.

As winter set in, one task remained: to roof the structure and finish enclosing the side of the house. While excavating, the mystery of the missing wall hung over us until we realized it was never built—at least not the usual wall of sod, stone, and timber. Instead, running out of time and material and with the ground beginning to freeze, our family must have constructed a wall of snow, in the manner of an igloo. Thus protected, the family settled down for winter, enjoying meals of boiled and roasted caribou whose bones they dumped in the external hearth and around the outside of the dwelling. Broken fragments showed their cooking pots were mended with iron nails.

It does not seem that this pioneer family lived in their half-built house for more than a few months of that first year. A proper sod foundation wall and north wall was never completed, and relatively few artifacts were found on the floor other than nails, two harpoon fore-shafts, a whale bone sled runner, and soapstone and earthenware fragments. Sometime later in the winter or early spring, the house burned. Patches of charcoal were present on the floor, and the rear wall was reduced to a pile of charred logs.

Interpreting archaeological evidence can always be tricky, and sometimes, given its ambiguity, we may err on the side of the dramatic, especially when shreds of evidence lean in one particular direction. In the case of the St. Paul Inuit, we know that a small Inuit group built and lived in a qarmat at a well-known sealing place on the north shore of Grand Isle. They started constructing a traditional Inuit winter dwelling nearby but did not complete it before winter set in, and so finished its north side with snow blocks. After living there for some months the house burned. A fire of this magnitude, consuming its log and sod walls, would not likely have been accidental. Considering the social and cultural context of the LNS in the late 16th and 17th centuries, it seems likely they were attacked, trapped in their house, as noted in accounts of Innu attacks elsewhere on the LNS between 1690 and 1728. In our case, the absence of glass beads, clay pipes, and Normandy stoneware common in 17/18th century LNS Inuit sites point toward a late 16th or early 17th century date for the Grand Isle sites.

The final piece of evidence pointing toward a Grand Isle tragedy comes from Leonard Thomas' discovery of Inuit skeletal remains and grave goods in one of the Kettle Head pit-houses high on a hill a few hundred meters south of the Grand Isle 2 Inuit dwellings. The bones had been scattered, but Medric

Thomas, one of Thomas' sons, recalls most of one skeleton was lying on a flat slab covered by boulders. By the time Martijn visited the site in 1972, only a few bones remained, among them a mandible that was later examined and identified as Inuit. Near the grave were an iron harpoon shaft similar to ones found in the Grand Isle 2 winter house, a bone handled knife, and rolls of birchbark. Could this individual have been the family head and master of the short-lived Grand Isle settlement? We can never know for certain, but the threads of archaeological and historical evidence make it a plausible scenario as Inuit began to explore the new southern frontier and became entangled with its previous inhabitants—the Innu—and new European guardians.

Other results from 2019 were not so dramatic. For the first time, we have detailed maps of two of the hundreds of boulder beach sites known throughout the coast. Grand Isle 1 (Kettle Head) has been damaged extensively by local diggers, and our excavation of one of the intact features was unproductive. On the other hand, the Belles Amours pithouses are promising. Finally, our underwater surveys revealed two new Basque sites with ballast dumps and roof tiles and the adjacent shoreside tryworks and domestic sites contain abundant artifacts, fauna, and botanical remains. Located only a kilometer from Grand Isle, future work on these sites may reveal the source of Basque materials obtained by the Grand Isle Inuit.

Acknowledgments

As in previous years our 2019 fieldwork was made possible by our Pitsiulak captain, Perry Colbourne, and by generous support and hospitality from Louise Colbourne, Boyce Roberts, Florence Hart, Eileen Schofield, and Garland Nadeau, Whiteley Museum, and Municipality of Bonne Esperance, and permits from several Quebec government ministries. Our Smithsonian crew included Michael Mlyniec and Igor Chuchushkov, assisted by students Ava Hill, Calista Almer, and Noémi Toroczkai. The University of Montreal divers supervised by Brad Loewen and Erik Phaneuf included Sarai Barriero Arguelles, Marianne Dorais, and Emilie Teasdale. Funding was provided by Smithsonian, University of Montreal, and private sources.

References

Delanglez, Jean

1948 *Life and Voyages of Louis Joliet (1645-1700)*. Chicago: Institute of Jesuit History.

Martijn, Charles A.

1974 Archaeological Research on the Lower St. Lawrence North Shore, Quebec. In Archaeological Salvage Projects 1972. William Byrne, ed., pp. 112-130. *Mercury Series. Archaeological Survey of Canada Paper 15*. Ottawa: National Museum of Man.

Robertson, Samuel

1843 Notes on the Coast of Labrador. *Transactions of the Literary and Historical Society of Quebec* 4(1):27-53.

Stopp, Marianne

1994 Cultural Utility of the Cobble Beach Formation in Coastal Newfoundland and Labrador. *Northeastern Anthropology* 48:69-89.

Excavations at Double Mer Point, Nunatsiavut 2019

Robyn Fleming & Lisa Rankin
Memorial University of Newfoundland

Figure 1: Double Mer Point Excavations as modelled by Bird's Eye Inc.

During the summer of 2019 we returned to the Double Mer Point site in Rigolet to undertake an eight-week excavation focusing on midden removal. This marked the seventh consecutive season of excavation under the direction of Lisa Rankin of Memorial University. An eight-member crew including Robyn Fleming (field director), Ashley Cameron, Zhemin Liew, Jeff Speller and Allan Wolfrum, all of Memorial University, arrived in Rigolet on the 1st of July where they were joined by two students from Rigolet, Brittney Palliser and Ocean Pottle-Shiwak. In August, Elsa Simms, also of Memorial University, joined the crew following a month of research in Nain. Since a grid had been placed on the midden in a previous season, excavation began immediately, but was frequently delayed due to very poor weather on the Labrador coast throughout the summer. A total of 14 1x1m midden units were excavated to sterile, 11 associated with House 1 and three associated with House 3 (Figure 1). The units were excavated in 5cm levels and ranged in depth from 30cm-65cm outside of House 1, and 40cm-90cm outside of House 3. This does not indicate that the House 3 midden is deeper, simply that the deepest units from the House 1 midden were excavated in previous seasons. However, there were important differences between units associated with the two houses in that fewer faunal remains and artifacts were recovered from units associated with the House 3 midden.

In total, 2,274 artifacts were recovered. These artifacts have been catalogued and the information is currently being put into a digital database. The collection consists primarily of trade beads as well as nails, ceramics (creamware, pearlware, coarse earthenware, English redware, Spanish olive jar and tin-glazed

Figure 2: Composite scraper

earthenware), glass (window and bottle fragments), mica, gun and ballast flint, lithics, pipe fragments, brick, Basque roofing tile, leather, lead shot, worked bone, unidentified iron fragments and knotted baleen. Two items recovered during the 2019 excavation are of particular interest as they are rare composite finds: a scraper with a bone handle and iron blade; and a harpoon socket piece of bone with an iron rivet (Figure 2 and 3). Many faunal remains were collected and are currently being dried and cleaned before being sent to Lindsay Swinarton for analysis. As in previous years, preliminary field analysis indicates the remains are predominately seal followed by dog and bear.

In early August, Eldred Allen of Bird's Eye Inc. completed a drone survey of the Double Mer Point site, producing images and an orthomosaic of the site and a short 3D video, all of which will be used for visualization and presentation purposes and which will hopefully aid the community of Rigolet to present the site to visitors.

Due to the inclement weather and size of the midden area associated with site occupation, excavation of the midden areas was not completed in 2019. However, an eight-week field season is scheduled to take place in 2020 and will undoubtedly reveal new information regarding Inuit life at Double Mer Point.

As always, we are indebted to the Rigolet community for their wonderful support. We would particularly like to recognize the assistance of Fred Shiwak, for getting us back and forth to the site each day and Todd Pottle for providing us with accommodation.

Figure 3: Harpoon socket piece

Archaeology at Ferryland 2019

Barry Gaulton & Eileen Bethune
Memorial University of Newfoundland

Figure 1: Aerial photograph of Feature 217. Note the three hearth/furnace features along the west side of the building (Photo credit: James Williamson)

The 2019 field season was overshadowed by the loss of a dear friend and mentor, Dr. James A. Tuck. Jim first became interested in Ferryland's past in the late 1960s following conversations with local resident Arch Williams. Arch was convinced that the remains of George Calvert's 1621 colony was buried underneath the gardens and houses lining Ferryland's sheltered inner harbour or Pool. His assertion proved correct. In the mid-1980s, Jim and a small crew of MUN undergraduate students conducted limited excavations around the Pool as part of the Archaeology Unit's Field School (1984, 1986). The discovery of substantial 17th-century stone features and associated artifact-rich deposits was beyond anything that Jim anticipated; he reluctantly backfilled the site until a time when funding became available to conduct a more thorough, multi-year excavation (Tuck 1985, 1989, 1993). Six years later, in 1992, archaeology began anew thanks to a federal-provincial funding agreement. Jim directed these excavations, serving in this capacity up to and beyond his retirement from Memorial University in 2005. Throughout 28 years of ongoing excavations at Ferryland, Jim's passion for and commitment to this archaeological site — and to the people of Ferryland — never diminished. His legacy and influence will be felt for decades to come.

With a sombre start to the 2019 season, the field and laboratory crews at Ferryland continued our investigation of a 1620s-era masonry structure (Feature 217, Area D) located outside the original parameters of the 4 acre fortified settlement; a previously unknown structure for which Jim and I had been in continued email contact over the last few years. The ideas and theories presented below are therefore as much Jim's as mine. In conjunction with these excavations, we also excavated a 1x3 metre unit (in Area B) inside the settlement to expose an additional seg-

Table of Contents

ment of the 1620s cobblestone street (Feature 56). This operation coincided with field and laboratory research conducted by MA student Eileen Bethune during summer 2019, and whose preliminary fieldwork is outlined in this report.

Upon completion of what is now our third season of excavation on Feature 217 in Area D, we can state with confidence that the clay-bonded stone structure was built sometime in the early 1620s, occupied into the 1630s and whose principal/initial purpose involved one or more industrial activities. This industrial theory is based on several key observations. First, the building is positioned 30 metres outside the original fortified village, whereas all other known structures from the 1620s, both domestic and work-related, are located inside the fortifications. Such a placement seems illogical from a defensive standpoint considering that there was ample space inside the 4 acre settlement; however, given the presence of several interior hearth/furnace features, this structure may have been purposefully isolated from the rest of the colony in case of accidental fire.

Second, the architectural features of this building are anomalous by comparison with the domestic structures we've found at Ferryland, suggesting a non-domestic function. For example, of the six or more dwellings we've uncovered (inside the village) over the last 28 field seasons, all are rectangular in plan, floored in wood and contain a single hearth for heating and cooking. By comparison, Feature 217 is a perfect square (Figure 1), measuring 6.4m (21ft) on a side (exterior dimensions) with a simple dirt floor, a disproportionately large 1.21m (4ft) wide doorway, and three hearth or furnace features, all of which are set into the west wall of the building. In the center of the west wall is a .91m by 1.52m (3ft by 5ft) cobblestoned hearth likely used as the primary heat source, and immediately north is the base of a roughly circular furnace 1.06m (3½ft) in diameter. At the southwest end of the building is an oddly-shaped alcove-like feature .91m wide by .76m deep (3ft by 2 ½ft) in which fires were also set, as evidenced by a thick lens of fire-reddened clay and sand, as well as charred rock, coal and brick fragments (Figure 2).

Figure 2: Feature 217d: alcove in the southwest corner of the building

Within such a small 4.87m by 4.87m (16ft by 16ft) interior space, three activities requiring heat and fuel is curious indeed. Furthermore, the incorporation of these features as part of the original construction demonstrates that this was a purpose-built structure rather than a domestic building whose use was later modified due to changing circumstances.

Finally, the associated by-products recovered from inside and outside this building point to one or more proto-industrial activities — or in the very least, attempts or 'trials' to assess their viability. These by-products include many hundreds of pieces of partially-melted, sandy, greenish, glassy material; as well as waste products resembling clinker, often associated with the burning of coal as a fuel. Bearing in mind that this building's associated midden deposits, particularly along its eastern side, have not been fully excavated, several possibilities present themselves, two of which I will briefly discuss.

Figure 3: Artifact collage showing pewter tops from case bottles (top left), ceramic bottle (top right), base of clear glass phial (bottom left) and glassware rim or base (bottom right) associated with the occupation of Feature 217

One involves attempts at making glass. Historical records state that glassmaking was among the industries to be attempted at Newfoundland's first English colony in Cupids in 1610, and that English colonists at Jamestown in Virginia had earlier experimented with a 'trial of glass' in 1608 and again in 1620. Interestingly, George Calvert was an investor in the Virginia Company and was no doubt aware of these early attempts at glassmaking. The discovery of small drips (or trails) of glass inside this building at Ferryland, as well as patches of fine golden sand and several crucible fragments lend support to this idea.

These same crucible fragments, combined with the presence of ceramic bottles, several pewter-topped case bottles and caps, clear and green glass phials, as well as fragments of other specialized glassware, give rise to another possibility: that this structure may have served as an alchemist's laboratory (Figure 3). The multiple hearth features, various waste products, and the range of (potential) chemical equipment may suggest that this was once the laboratory of an alchemist. Admittedly, this interpretation may change or be strengthened following the 2020 field season.

Regardless of the building's original function(s), the duration of occupation was certainly short lived, as evidenced by a small but tightly-datable collection of clay tobacco pipes manufactured in London, Bristol and Devon (Figure 4). Other datable objects include a Charles I bale seal fragment (Figure 5). Built sometime in the 1620s and occupied into the 1630s, it is possible that this structure's demise was ultimately associated with the end products (or lack thereof) produced within; and/or that its demolition was the result of the extensive re-organization and re-fortification of Ferryland by Sir David Kirke starting in 1638.

It was the Kirke family, including Lady Sara and her sons George, David (II), Phillip and Jarvis, who found ways to make the Ferryland colony profit-

Figure 4: Assortment of clay pipe bowls and makers' marks from Feature 217

able, in part thanks to the existing infrastructure built and paid for by Sir George Calvert, the first Lord Baltimore. Evidence for this prosperity has been amply demonstrated in the archaeological record. The 2019 excavations in Area B provide further confirmation in the form of a domestic midden believed to be associated with members of the Kirke family (Gaulton and Hawkins 2013, 2014; Gaulton and Casimiro 2015). Prodigious amounts of decorated tin-glazed earthenware, sgraffito-decorated slipware, relief-moulded clay tobacco pipes, brass upholstery tacks, and items of personal adornment are among the notable finds from 2019. Below this midden is the remains of Ferryland's early cobblestone street, first envisioned by Governor Wynne in 1622 "that the whole may be made a prettie streete" and believed to have been completed before George Calvert's visit in 1627 (Wynne 1622, in Whitbourne 1623).

Eileen Bethune's Research

Ferryland's main street stands out in comparison to other contemporaneous examples in the New World, as it is among the earliest evidence for a paved road in colonial North America. Archaeology demonstrates that Ferryland's cobblestone street runs the entire length of the original fortified settlement, some 121m (400ft) long by 4m (13ft) wide (Gaulton and Tuck 2003:190; Gaulton 2006:33; Miller 2013). It contains an estimated 75,000 stones (Gaulton 2006:51).

Following the completion of the laboratory component of my MA research, I conducted a reconnaissance survey of the shorelines and beaches within proximity of the Pool searching for suitable raw material sources (sand and cobblestones) used in the construction of Ferryland's paved street. In conjunction with the survey I excavated a single 50cm by 50cm test pit at each end (east and west; Area F and B respectively) of Ferryland's cobblestone street. The purpose of these test pits was to determine: 1) how the street was constructed, including the thickness and grain size of the underlying sand bedding and how the cobblestones were set into this bedding; 2) if there are any differences between the construction methods and materials used on either side of this 121metre long paved feature (Figure 6).

The results demonstrate that the stones used on the east end of the settlement are different than the stones used on the west end, and come from different beaches. The former was constructed with stones from the eastern shoreline nearest to that end of the settlement. These stones were tightly packed, with the majority of each stone embedded in the sand and placed so that there was a flat surface to walk up-

Figure 5: Charles I lead bale seal fragment

Figure 6: Test pit below Feature 56 (cobblestone street), Area F

on. By comparison, the stones from the west end were less tightly packed and less of each stone was set into the sand bedding. Additionally, the stones on this end of the street were rounder and harder to walk on, originating from a different but nearby beach to the west. Based on the sand samples I collected, this western beach alone supplied the sand bedding for the entire street. Differences in the construction on either end of the street, combined with the artifact analysis, led to an initial theory that the eastern end of the street was paved first as it was the centre of domestic activity, while sometime later paving continued westward towards the other end of the settlement where the forge (and possibly other structures) were located.

The theory was further tested by excavating below the sand bedding under the street in an effort to find evidence of earlier cultural deposits. However, the test pits on the east and west ends of the street failed to reveal earlier 17th-century material. The absence of slag from the nearby forge in the western test pit is also significant as the forge was one of the earliest Calvert-era buildings constructed at Ferryland, completed in early summer of 1622 (Wynne 1622, in Whitbourne 1623). Thus, it appears that there was no appreciable length of time between the construction and operation of the forge and the laying of the cobblestone street. The lack of artifacts under the cobblestones at the western end of the street therefore supports an alternative theory: that the paved street was an early construction completed in its entirety within a relatively short time period.

In addition to my independent fieldwork, excavations of the overlying 17th-century midden in Area B exposed an additional 3 metres of the southern edge of the street towards the western end of the colony (Figure 7). The southern edge of the pavement clearly shows evidence of a continuous wooden

Figure 7: Area B excavation showing newly-exposed section of Feature 56 (foreground) and previously-excavated segments of the same (background).

curb set so as to encase and contain the sand bedding (and subsequent cobblestones). The curb itself was supported by a series of posts, 8cm in diameter set 1.21m (4ft) apart, as revealed by several preserved post molds.

Based on the above evidence and the previous excavation of the cobblestone street in the 1990s, a sequence of construction for the street can be suggested. Starting with the placement of a wooden curb, set 4m (13ft) apart, the addition of 17.8cm (7in) of sand bedding was added between the curbs along the entire length of the street. From there, a possible two or more 'stone layers' — a profession involving the laying of stones for a building or any form of paving — worked to pave the street using stones acquired on both shorelines in proximity to each end of the street, thus explaining the difference in construction style and raw material identified at the eastern and western portions of the street.

Acknowledgments

We would like to thank the PAO and the JR Smallwood Foundation for generously providing funding to facilitate Eileen Bethune's MA research. James Williamson (PhD Candidate, MUN) and Peter Whitridge (Professor and Head, Department of Archaeology, MUN) also deserve thanks for photographing Feature 217 using a drone, as seen in Figure 1. Williamson later produced a detailed map using the same imagery. Finally, a big thanks to volunteer crewmember Melissa McDonald who spent several weeks assisting in the field and laboratory.

References

Gaulton, B. 2006. The Archaeology of Gentry Life in Seventeenth-Century Ferryland. Unpublished PhD dissertation. Department of Anthropology, Memorial University of Newfoundland.

Gaulton, B. and Casimiro. T. 2015. Custom-made ceramics, transatlantic business partnerships and entrepreneurial spirit in early modern Newfoundland: an examination of the SK vessels from Ferryland. International Journal of Historical Archaeology 19 (1): 1-20.

Gaulton, B. and Hawkins, C. 2014. Archaeology at Ferryland, Newfoundland 2013. Provincial Archaeology Office 2013 Archaeology Review. Stephen Hull and Delphina Mercer eds. Department of Tourism Culture and Recreation. Volume 12:50-55.

Gaulton, B. and Hawkins, C. 2015. Archaeology at Ferryland, Newfoundland 2014. Provincial Archaeology Office 2014 Archaeology Review. Stephen Hull and Delphina Mercer eds. Department of Tourism Culture and Recreation. Volume 13:54-59.

Gaulton, B. and Tuck, J. 2003. Archaeology at Ferryland 1621-1696. In Avalon Chronicles 8: The English in America 1497-1696, edited by James A. Tuck and Barry Gaulton, pp. 187-224. The Colony of Avalon Foundation.

Miller, A. 2013. Avalon and Maryland: A Comparative Historical Archaeology of the Seventeenth-Century New World Provinces of the Lords Baltimore (1621-1644). Unpublished PhD dissertation. Department of Anthropology, Memorial University of Newfoundland.

Tuck, J. 1985. Looking for the Colony of Avalon. Archaeology in Newfoundland and Labrador 1984, edited by J.S. Thompson and C. Thomson, pp. 378-397. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

Tuck, J. 1989. Excavations at Ferryland Newfoundland – 1986. Archaeology in Newfoundland and Labrador 1986, edited by J.S. Thompson and C. Thomson, pp. 296-307. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

Tuck J. 1993. Archaeology at Ferryland, Newfoundland. Newfoundland and Labrador Studies 9(2): 294-310.

Wynne, E. 1622. A Letter to George Calvert dated 28 July 1622, in Whitbourne R., 1623. A Discourse and Discovery of New-Found-Land. Felix Kingston, London.

A Report on Archaeological work conducted at Dildo Pond 1 (CjAj-11) between September 4 & November 15, 2019

William Gilbert
Baccalieu Trail Heritage Corporation

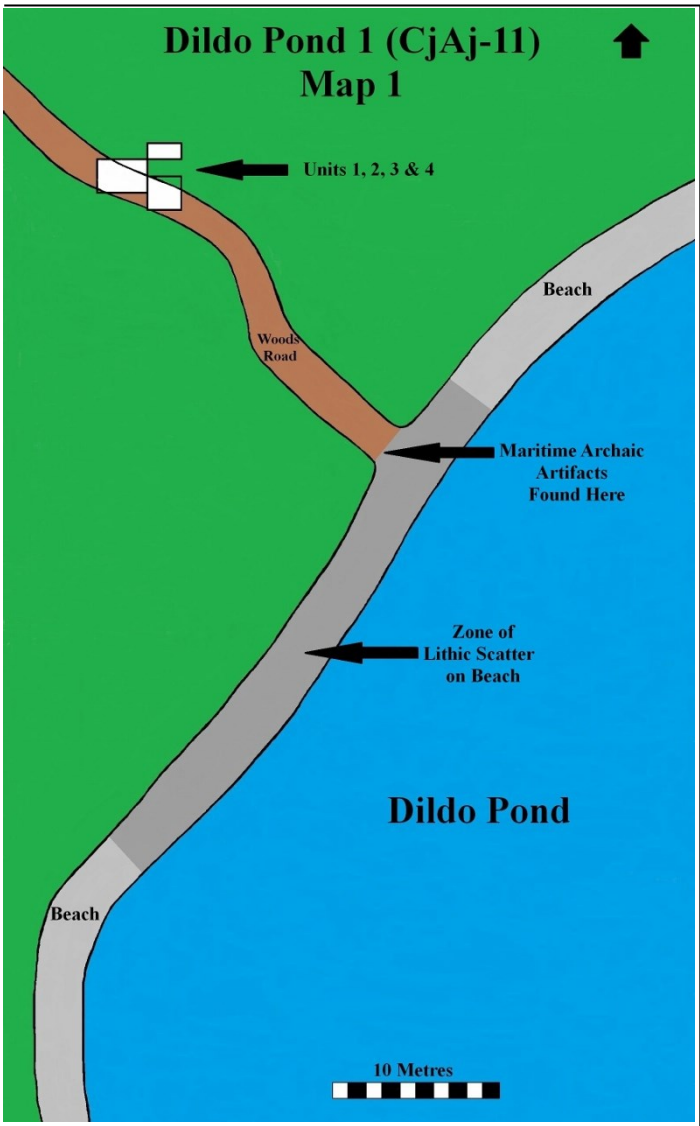


Figure 1: Dildo Pond 1, Map 1

The Dildo Pond 1 site (CjAj-11) is located on the northwest side of Dildo Pond about 800m southeast of the bottom of Dildo Arm and about 2km north of the Little Passage/Beothuk camp at Russell's Point. It was discovered in the fall of 2017 during a Stage 1 Historic Resources Overview Assessment of the area, when a scatter of lithic material was found extending along a section of beach for about 40m (Figure 1). While one or two of the items recovered from the beach at that time may be of Pre-Inuit origin, the majority appeared to be Recent Indigenous and to range in date from between about AD 800 and AD 1650. An old woods road, still used by ATVs, runs down to the beach where this material was found. During a return visit on January 27, 2018, the distal end of a Maritime Archaic stone gouge was discovered where the woods road meets the beach. A second Maritime Archaic artifact, possibly the proximal end of a ground-stone axe, was found in almost the same location during another visit on August 9, 2018 (Gilbert 2017, 2018).

On October 24, 2018 the Baccalieu Trail Heritage Corporation's archaeological crew visited Dildo Pond 1 to do some testing and take readings for a site map. During this visit we discovered a number of purple rhyolite artifacts, including a triangular biface, and flakes in the woods road about 22m northwest of the beach. A 40cm x 40cm test pit (TP1) dug in this part of the road produced a fragment of what appears to be another purple rhyolite triangular biface and a number of purple rhyolite flakes (Figure 2). Deeper down we found some patinated flakes that may be Dorset in origin. Two other test pits established in the road farther to the southeast (TP2 & TP3) were sterile.

Fearing the deposits in the woods road might be damaged or destroyed, we returned to Dildo Pond 1 on November 9, established a 2m x 2m unit (Unit 1) in the section of road that produced the lithics, and dug it down to sterile. Not surprisingly, more purple rhyolite flakes were uncovered but we also found a considerable amount of Little Passage/Beothuk material including two end scrapers, the proximal end of a third end scraper, a side scraper, a thinning flake, and a stone awl. A number of red ochre nodules also were recovered, and a red ochre stain (ochre mixed with

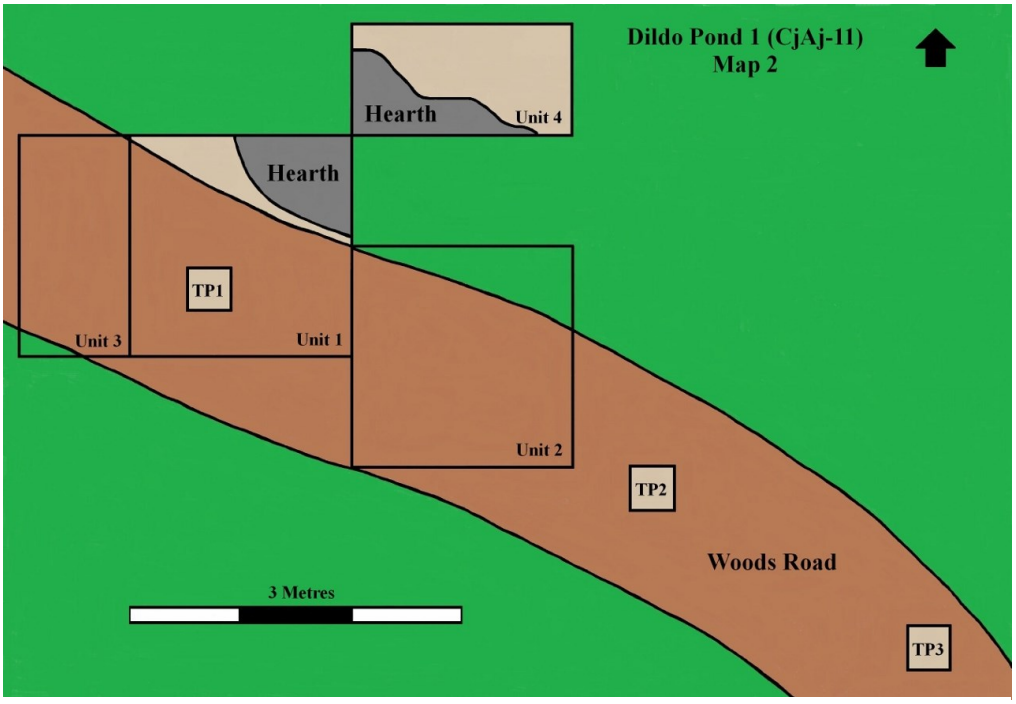


Figure 2: Dildo Pond 1, Map 2

grease) was exposed in the northwest quadrant of the unit. In the southwest quadrant, near the bottom of the unit, we found a large, patinated uniface that may be Maritime Archaic. While most of Unit 1 was located in the road, the northeast corner extended beyond the road and into the bank. When we dug in this area, we uncovered part of a Recent Period hearth containing charcoal and calcined bone.

During 2019 we visited Dildo Pond 1 five times. On September 4 BTHC crew member Heather Burry and I visited the site to take readings for a site map. After the readings had been taken and Heather had left, I sat down where the woods road opens up on to the beach to write some notes and noticed something wedged between two rocks. Upon picking it up, I was surprised to discover it was an almost complete Maritime Archaic spear point dating to sometime between roughly 2500 BC and 1500 BC (Figure 3). On September 28 I returned to the site with a group from the Newfoundland and Labrador Archaeology Society. During this visit we found several flakes in the woods road just west of Unit 1. Nineteen days later, on October 17, I returned to the site with the BTHC archaeology crew and excavated two more units in the woods road: Unit 2, a 2m x 2m unit immediately east of the southern half of Unit 1, and Unit 3, a 1m x 2m unit immediately west of Unit 1. These units did not produce a great deal of cultural material, although we did recover a number of flakes close to the hearth in the northwest quadrant of Unit 2 and in the northern half of Unit 3. While we cannot say for certain, the paucity of cultural material in these two units at least partially may be due to the disturbance caused by ATV traffic.

The hearth we discovered in 2018 is located on the edge of a slope: the ground dropping gradually

Figure 3: Maritime Archaic point found at Dildo Pond 1, September 4, 2019

Figure 4: Uncovering the Recent Indigenous hearth in Unit 4

away towards the south and west. However, immediately to the north and east, the ground is fairly level. On November 14, I returned to the site and cleared away the brush blocking our access to this area. The next day, November 15, I returned with the crew and we established and dug a 1m x 2m unit (Unit 4) in the cleared area, 1m north of Unit 2, to determine how far the hearth extended in that direction. More of the hearth was uncovered in the south and west of Unit 4 and it clearly extends farther to the northwest and southeast (Figures 2 & 4). While we cannot say for certain at this point, this may be a linear hearth. The section of Unit 4 that extended northeast of the hearth produced another purple rhyolite biface (Figure 5), a patinated, blue chert uniface, a blue chert flake tool that may have been used as an awl, and a number of flakes. To date no attempt has been made to dig into the hearth. Instead, once exposed and photographed, those sections of the hearth uncovered in Units 1 and 4 were covered in sheet plastic and backfilled. The excavated areas north of the woods road, where the hearth is located, were also covered in branches and other deadwood to provide a further layer of protection.

The bottom of Trinity Bay has been attracting aboriginal people for thousands of years. Maritime Archaic sites have been discovered at Anderson's Cove, 8km north of Dildo Pond 1, and Collier Bay, 14km to the northwest. At Dildo Island, 6.5km northwest of the site, excavations have uncovered evidence of a Groswater Pre-Inuit presence and a substantial Dorset Pre-Inuit occupation. Historical research and archaeological excavations indicate a Recent Indigenous presence in the area dating to possibly as early as AD 600: a Recent Period spear point found at South Dildo, just 800m northwest of Dildo Pond 1, about 20 years ago may date to that period. Henry Crout reported seeing a Beothuk camp on Dildo Island in July 1613 and excavations have uncovered not only a Beothuk camp there but other Recent Indigenous sites dating back to as early as AD 800. Both John Guy and Henry Crout reported seeing Be-

othuk camps at South Dildo and Russell's Point on Dildo Pond in October 1612. And excavations at Russell's Point indicate it was a fall and winter base camp used by the Beothuk and their ancestors from about AD 1000 to AD 1650 (Rutherford & Gilbert, 1992; Quinn 1979; Cell 1982; Gilbert 1990, 1992, 2002, 2006, 2011, 2017).

The Dildo Pond 1 site has the potential to add significantly to our understanding of this millennia-long story. Our initial assumption about the site's role in the seasonal round of the region's aboriginal peoples still seems sound. Located at the terminus of the shortest route between the bottom of Dildo Arm and Dildo Pond, the site is ideally situated for monitoring the resources of both areas, and for launching trips farther south along the pond and into the interior of the Avalon Peninsula. The present-day woods road follows the surest route to the site, running as it does between hills rising to the north and wet ground to the south, and this almost certainly is the same route followed by aboriginal people for well over three thousand years. While the beach farther south is rugged and boulder strewn, the trail opens up onto a wide stretch of gravel beach, perfect for launching canoes and other small boats. A level terrace, averaging about 7m wide, runs north from the terminus of the trail, between the bank above the beach and the hills farther west, for over 40m.

Although it covers quite a broad time span, the spear point found at Dildo Pond 1 in 2019 indicates that Archaic People were visiting the site by at least 1500 BC and probably for many years before. As mentioned elsewhere (Gilbert 2018), the purple rhyolite artifacts found at the site are almost identical to the Cow Head Complex material, dating to circa AD 800, found on Dildo Island and there can be little doubt these same people were visiting Dildo Pond 1. The later Recent Period material found at Dildo Pond 1 is typical of the Little Passage/Beothuk material recovered at Russell's Point and it seems clear Dildo Pond 1 played a role in the seasonal round of these people as well.

The site's beach must have been a major activity area, where vessels were launched, hauled up, and possibly repaired. Since there are no obvious signs of erosion in the bank beyond it, this probably explains why so many artifacts are being found on the beach. However, the discovery of the hearth indicates that the site was more than just a staging ground for trips farther south. Given that both Cow Head and Little Passage/Beothuk artifacts have been found in association with the hearth, we cannot say at this time which of those two groups was responsible for its construction and use. However, the presence of calcined bone in the hearth confirms that the people who used it sometimes camped and cooked there. Indeed, given the thousands of years the site was in use, it is likely there are other hearths still to discover. The presence of scrapers and awls amongst the Little Passage/Beothuk material also indicates that these people were processing hides and possibly making and/or repairing clothing at the site. We plan to return to Dildo Pond 1 in 2020 to conduct further excavations.

Figure 5: Purple rhyolite biface found northeast of the hearth in Unit 4

References

Quinn, David B. (editor with Alison M. Quinn and Susan Hillier)
1979, Newfoundland *from Fishery to Colony. Northwest Passages Searches*. Vol 4 of *New American World: A Documentary History of North America to 1612*. New York: Arno Press and Hector Bye.
Cell, Gillian
1982, *Newfoundland Discovered: English Attempts at Colonisation 1610 – 1630*. London: The Hakluyt Society.
Gilbert, William
1990, "'Divers Places': The Beothuk Indians and John Guy's Voyage into Trinity Bay in 1612", *Newfoundland Studies* Vol VI, No 2, Fall 1990.
1992 "'great good Done': Beothuk/European Relations in Trinity Bay, 1612 to 1622". *Newfoundland Quarterly* 87(3): 2-10.
2002, Russel's Point: A Little Passage/Beothuk Site at the Bottom of Trinity Bay, MA Thesis, Memorial University of Newfoundland.
2006, "A Report on the on the Archaeological Excavations Conducted on the Recent Indian Site at Dildo Island during 2004." On file Provincial Archaeology Office. St. John's, NL.
2011, "A Report on the Excavations Conducted at Anderson's Cove, Trinity Bay Between September 23rd and October 11th, 1996". On file Provincial Archaeology Office. St. John's, NL.
2017, "Stage 1 Historic Resources Overview Assessment Report: the North Side of Dildo Pond, Blaketown, Trinity Bay". On file Provincial Archaeology Office. St. John's, NL.
2018, "Excavations at the Cupids Cove Plantation Provincial Historic Site and Survey Work at Dildo Pond, 2017" in *Provincial Archaeology Office Annual Review, 2017*, pp. 127-130.
Rutherford, Doug and Bill Gilbert,
1992 "An Archaeological Reconnaissance of Dildo Arm and Collier Bay". On file Provincial Archaeology Office. St. John's, NL.

Excavations at the Cupids Cove Plantation Provincial Historic Site (CjAh-13), 2019

William Gilbert
Baccalieu Trail Heritage Corporation

Figure 1: Uncovering the post hole at the northwest corner of the enclosure

In 2019 the Cupids Cove Plantation Provincial Historic Site opened to visitors on May 18 and closed on October 11. During this time a total of 3768 people visited the site. At the end of the season our crew stayed on for one week after the site closed to secure things for the winter. Excavations at the site began on June 12 and continued for thirteen weeks until September 13. Our work on 2019 focused on the north and west of the terrace where the original 1610 enclosure once stood.

Excavations conducted south of the inner defensive wall in 2008 had uncovered part of what appeared to be a large circular post hole three feet (91.4cm) south of the west end of the wall. Twelve feet (3.66m) to the east, a circular post hole, 16 inches (40.6 cm) wide, was uncovered three feet south of the wall. Prior to 2019 we had avoided extending the excavation farther to the south of the northwest corner of the wall because the footing for a 19th century building is located there. However, in 2019 we opened a small unit extending south for just 40cm to the edge of that footing. This confirmed the feature was indeed a large, circular post hole. Located 35cm below the level of the 19th century footing, it was 19 ¾ inches (50cm) in diameter (Figure 1). It seemed likely these post holes had been dug to hold two of the posts from the north wall of the original wooden

Table of Contents

Figure 2: Looking east along the Inner Defensive Wall.
Crew members are removing the baulk to expose the third posthole.

palisade erected in 1610, and the spacing suggested an interval between posts of 12 feet.

With this in mind, we ran a measuring tape east from the centre of the westernmost post hole and across the centre of the one farther east for 36 feet (10.97m). This area had been excavated in 2008 and we assumed it had been taken down to sterile. However, when we had another look (and another scrape), we found a third circular post hole. It was a little farther east than we had expected, 37 feet (11.28m) instead of 36 feet, but, like the one farther west, it also was 16 inches wide and 3 feet south of the inner defensive wall. Given this, it seemed likely we would find another post hole halfway between the second and third. When we looked we initially found no trace of a post hole in this area. A 17th century ditch, we believe to be the drainage ditch for the forge's slack tub, runs southwest to northeast here and, at first, we thought the ditch might have destroyed the post hole. However, a 40cm wide baulk, established when the area was first excavated, ran south from the inner defensive wall just to the east of the ditch. It took us four days to remove part of this baulk but, once we had, we uncovered a forth circular post hole 25 feet east of our westernmost post (Figure 2). Like the one to the east and the one to the

west, it also was 16 inches wide and 3 feet south of the inner defensive wall. While we can't say for certain, it seemed likely the drainage ditch was dug before the palisade was erected and this post was positioned a foot farther to the east to avoid it.

We now had a clear pattern: a line of large, circular post holes running at 12 feet to 13 feet intervals, parallel to and three feet south of the inner defensive wall. If these holes had held the posts for the north wall of the enclosure, then this pattern probably continued farther east. Unfortunately, if the colonists had dug more post holes in that direction, it was clear that one would be inaccessible and several others had been destroyed by later activity. If there was a post hole 12 feet to the east of our easternmost post, it was sealed beneath a flagstone surface, built sometime in the middle of the 17th century and we would have to dismantle part of that feature to get at it. To the east of the flagstones is the roughly 20 feet (6.1m) wide, seven foot (2.13m) deep pit dug early in the 19th century to accommodate the cellar of the original Spracklin house and this would have taken out several more post holes. Obviously, if other post holes in this line had been dug and had survived, they were to be found beyond the Spracklin cellar pit in the northeast corner of the site.

In his letter dated 16 May, 1611, John Guy tells us that the enclosure his men erected over the winter of 1610-1611 was "one hundred and twenty foot long and ninety foot broad" (Quinn 1979: 148). Assuming the westernmost of the post holes we had uncovered marked the northwest corner of the enclosure and the other three followed the line of the original north wall, we ran a measuring tape east from the centre of that post hole and across the centres of the other three for 120 feet (36.58m) and established a 2m x 2m unit (Operation 136) around that point. We reasoned that, if our calculations were correct, Operation 136 should reveal another large, circular post hole marking the northeast corner of the enclosure.

Aerial photographs from the 1940s and 1950s show that much of this part of the site was once heavily cultivated, with plough lines extending from the area just west of the house now owned by Rodney Norman, south up the hill towards Cupids Pond. According to Roger Norman, although the land has been in the Norman family since the 1830s, Henry Taylor, who lived farther to the east, had a turnip garden here in the mid-20th century. Judging from the extent of the plough lines, it must have been a substantial garden. In most cases, ploughing will disturb a layer of soil extending below surface for a depth of about 8 inches (20.3cm) and this proved to be the case in Operation 136. As expected, the plough zone extended down for an average depth of 20cm and, while it didn't produce a lot of cultural material, and most of what it did produce consisted of small fragments of various types of refined earthenware, we did find a few 17th century artifacts, including several

Figure 3: The trench extending north into Operation 136

pieces of 17th century coarse earthenware, one case bottle fragment, and several clay pipe stem fragments with 8/64 bore diameters. Below the plough zone there was a cultural deposit, averaging 17cm thick, that produced a higher proportion of 17th century material, including a large base fragment from a 17th century storage jar and a pipe bowl fragment dating to the early 17th century, but there was no discrete 17th century layer. Instead the deposits were mixed all the way down to the sterile subsoil. We found no evidence of a post hole but what we did find may prove even more significant. Extending north into Operation 136 for about 1.40m was a 1 foot (30cm) wide trench dug into the subsoil (Figure 3). The trench ends almost exactly where we had expected to find the post hole but with one slight difference: the distance from the western edge of our westernmost post hole to the eastern edge of the trench is 119 feet (36.27m) rather than the 120 feet reported by Guy.

When we first uncovered the trench in Operation 136, we thought it might extend farther north beyond the boundaries of that operation. To determine if this was the case, we established a second 2m x 2m unit (Operation 137) immediately north of and adjoining Operation 136. Although we later realized the trench did not extend that far north, excavations in Operation 137 still proved rewarding. Not surprisingly, like Operation 136, Operation 137 had a plough zone extending down to an average depth below surface of 20cm. However, unlike the operation to the south, the cultural deposits below the plough zone in Operation 137 produced exclusively 17th century material. Artifacts recovered to date include 2 blue trade beads; fragments of 17th century window glass and case bottle glass; and a number of sherds of coarse earthenware, including Border ware, North Devon ware, West Somerset ware and Werra Slipware (Figure 4). While most of the eastern half of Operation 137 was taken down to sterile in 2019, the cultural deposits in the western half of the operation extend farther down.

Seventeenth-century palisade construction usually took one of two forms: post-and-rail, or slot-trench. In post-and-rail construction posts were set in the ground at regular intervals and rails were run horizontally between them to create a frame. Large palings, or "pales" were then attached vertically to the frame to form a solid wall. In slot-trench construc-

Figure 4: Some of the artifacts recovered from Operations 136 & 137

tion, the wall was formed by placing circular or split timbers vertically side-by-side in a narrow trench, perhaps two to three feet deep. The timbers were held in place by soil packed around them in the trench. In some cases the wall was reinforced by buttressing posts placed at regular intervals inside the wall with horizontal rails running between them. Documentary evidence suggests that the palisade erected at Ferryland in 1622 was post-and-rail, while archaeological excavations have revealed that the colonists at Jamestown erected a slot-trench palisade around their plantation in 1607 (Noël Hume 1979: 221-223 &235; Cell 1982: 197; Kelso 2006: 55-56). It now seems a combination of both techniques may have been used at Cupids Cove. The regularly placed post holes running from west to east along the northern edge of the enclosure are clear evidence of post-and-rail construction in that area. It is likely the standard interval here was 12 feet and that, as mentioned above, the third post was positioned a foot farther east to avoid the drainage trench for the slack tub. An interval of 12 feet would make sense for a 120 feet long wall, dividing it into ten twelve-foot-long sections. While more excavations are required along the western side of the enclosure, the two post holes found there so far, and the absence of a trench, suggest post-and-rail construction in that area well. To date only a 1.40 m long section of trench has been uncovered at the northeast corner of the enclosure but, if the trench continues farther south, it will provide strong evidence for slot-trench construction along the enclosure's eastern wall.

In his 16 May, 1611 letter, John Guy makes it clear that the colony's earliest defense works were wooden. However, we also know that, largely as a result of the threat posed by piracy, Guy undertook a major upgrade of the defenses in 1612. It probably was at this time that the stone defense works uncovered at the site, including the inner defensive wall, were erected (Quinn 1979: 148; Gilbert 2012: 8). Dismantling the wooden defensive wall prior to erecting the stone wall would have left the colony open to attack while construction was underway. Hardly a wise move, especially when a pirate raid was a real possibility: far safer to erect the stone wall in front of the wooden wall and remove the latter once the former had been completed. The evidence in the ground indicates this probably is what happened at Cupids Cove. The three foot gap between the walls would have provided sufficient room for the masons and their crews to work on the stone wall while leaving the wooden palisade in place in case it was needed to defend the colony.

Archaeological work will continue at the Cupids Cove Plantation PHS in 2020. Among other things, we plan to extend our excavations south of Operation 136 to see if the trench continues in that direction and west of Operation 136 in an attempt to uncover more post holes or other evidence of the north wall of the palisade.

References

Cell, Gillian, 1982. *Newfoundland Discovered: English Attempts at Colonisation, 1610-1630*. London: the Hakluyt Society.

Gilbert, William, 2012. "The Baccalieu Trail Archaeology Project, April 2011 – March 2012". On file Provincial Archaeology Office. St. John's, NL.

Kelso, William M., 2006. *Jamestown, The Buried Truth*. Charlottesville and London: University of Virginia Press.

Noël Hume, Ivor, 1982. *Martin's Hundred: The Discovery of a Lost Colonial Virginia*. New York: Dell Publishing Company.

Quinn, David B. (editor with Alison M. Quinn and Susan Hillier) 1979. *Newfoundland from Fishery to Colony. Northwest Passages Searches*. Vol 4 of *New American World: A Documentary History of North America to 1612*. New York: Arno Press and Hector Bye.

Parks Canada 2019 Archaeological Field Activities

John Higdon & Marissa Homosits
Terrestrial Archaeology, Parks Canada

Introduction

In 2019, Parks Canada's Atlantic Terrestrial Archaeology Office conducted Archaeological Impact Assessments (AIAs) and other fieldwork throughout many of Newfoundland and Labrador National Parks and National Historic Sites to ensure that cultural resources were not negatively impacted by proposed visitor experience and infrastructure related project activities. While not an extensive account of all Parks Canada field activities conducted within the province, this article highlights some of the fieldwork conducted in:

- Torngat Mountains National Park
- Red Bay National Historic Site
- Terra Nova National Park
- Gros Morne National Park

Use of Drones (UAVs/UAVs) in National Parks and National Historic Sites

Since a drone or UAS (2019 Aerial Systems) was used during the course of fieldwork, it is worth noting that all Parks Canada places, including both national parks and national historic sites are "no drone zones" for recreation use, as they pose risks to wildlife and visitors. With this, all non-recreation drone usage, even by Parks Canada staff, require permission from the Field Unit Superintendent associated with the site/park, as well as confirmation that the drone operator meets Transport Canada's requirements. When conducting scientific research, you must also identify the desire to fly a drone in your Research and Collection Permit application (Parks Canada 2019b).

See https://www.pc.gc.ca/en/voyage-travel/regles-rules/drones for more information.

Torngat Mountains National Park

Located in northern Labrador, Torngat Mountains National Park became a park reserve in 2005, with the implementation of the Labrador Inuit Land Claims Agreement and officially obtained national park status with the ratification of the Nunavik Inuit Land Claims Agreement in 2008 (Figure 1). From the Inuktitut word Torngait, meaning "place of the spirits," this area has been home to Inuit and their predecessors for thousands of years. This rich cultural heritage is reflected in oral and written histories, as well as by the 424 known archaeological sites documented throughout the park. Archaeological impact assessments were conducted to ensure that these resources are protected for Nunatsiavut and Nunavik beneficiaries, as well as visitors, for generations to come.

The main project undertaken in July and August 2019 was the continuation of a multi-year archaeological assessment associated with the creation of a intershelter dome and hiking route network. The

Figure 1: Areas of Interest within Torngat Mountains National Park

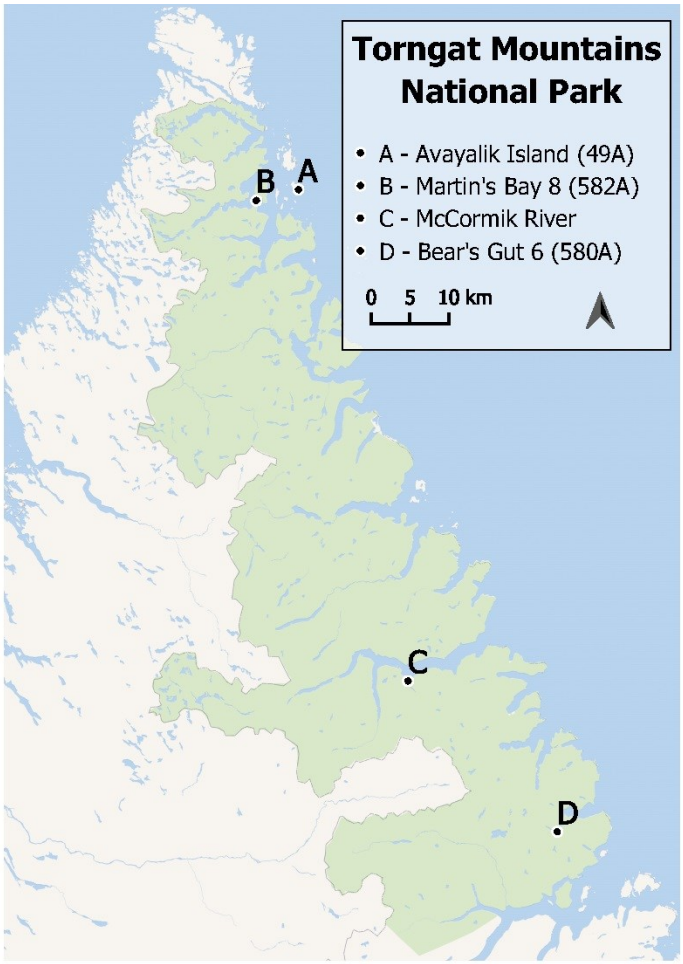


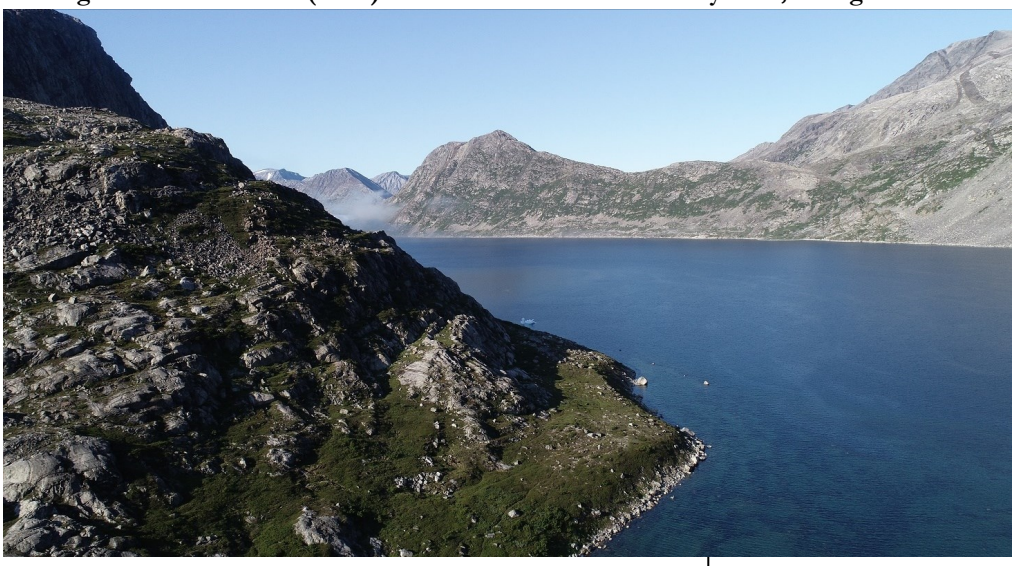
Table of Contents

discovery and return of a serpent side plate, and a quick site visit to Avayalik Island 1 (49A) will also be discussed.

Intershelter Domes and Hiking Route Assessment (Bear's Gut)

In an effort to open up the interior of the Park to visitors and communicate the Inuit story on Inuit homeland, Torngat Mountains National Park (TMNP) is in the process of developing a new visitor offer. This includes the placement of eight bear-proof Intershelter Domes at regular intervals approximately a day-hike apart along routes between Saglek Fiord and Ramah Bay to create a "hut to hut" style hiking experience. Visitors will either trek between domes or stay for multiple days at one location and undertake day hikes. Hiking routes between camp locations range from 10 to 15 km, for a total of ~80 km.

Figure 2: Bear's Gut 6 (580A). Eastern extent of 2019 Survey Area, facing northeast



A desk-based Archaeological Overview Assessment (AOA) was conducted to evaluate potential impacts that this visitor experience offer may have on known archaeological sites and areas of archaeological potential. It determined that an archaeological impact assessment of the dome and boat landing areas would be highest priority, as these areas would see the highest concentration of visitor activity, especially since the boat landing areas would most likely overlap with areas that people brought their boats ashore in the past (Higdon 2018). While assessing the hiking routes is important, due to time and budgetary constraints, areas associated with known sites and areas of high archaeological potential were the focus of the 2019 field season

Assessment of the dome locations began in 2016 and continued in 2017, with the intention that the domes could be installed, as soon as possible. Additional survey was required in 2018, following the relocation of some domes and realignment of hiking routes (Higdon 2017, Higdon 2017, Higdon and Weatherbee 2018. Hutchings 2019). As part of his 2018 assessment, Hutchings conducted an initial survey of the Bear's Gut hiking route, recording numerous flake scatters, tent rings, caches and temporary shelters or caches beneath large boulders and other features. "Due to the number and density of features," it quickly became evident that additional survey would be needed adequately document the nature and extent of the site (Hutchings 2019). The 2019 fieldwork focused primarily on the Bear's Gut hiking route and associated boat landing areas.

580A Bear's Gut 6

Situated 30km northwest of the Torngat Mountains Base Camp, the Bear's Gut assessment area is located at the southern extent of the inlet known as Bear's Gut (Figures 1 - 4). While Inuit and Pre-Inuit sites have been documented along the northern extent of Bear's Gut, as part of the 1970s Torngat Archaeology Project and other research projects, no archaeological sites were previously documented for the southern extent of the inlet (Fitzhugh et al. 1979:9, Kaplan 1983:608-618). The new site was assigned Parks Canada provenience number 580A, Bears Gut 6. Higdon was accompanied in the field by FSWEP (Federal Student Work Experience Program) Student, Megan MacKinnon, Nunatsiavut Group of Companies Bear Monitors, Herman and Ryan Merkeratsuk, and Parks Canada Resource Management Technician, Jacko Merkeratsuk.

Survey began with a brief helicopter survey of the area to relocate the area Hutchings surveyed in 2018, gauge the extent of the cultural resources and

Figure 3: Bear's Gut 6 (580A). Boat Landing Area and Trail
Figure 4: Bear's Gut 6 (580A). Western extent of 2019 survey area, facing west.
Note caribou trails extending from bottom centre of image, across lightly vegetated and often exposed gravel patches and onward toward the gravel/rocky point of the land which overlooks the water

Figure 5: Bear's Gut 6 (580A). Black bear overlooking cache built along bedrock outcrop, facing northwest

bears in the area. Terrestrial survey began with the systematic survey of the proposed boat landing areas at the eastern extent of the site. As with other surveys of this nature, we walked transects of the area, flagging cultural features with pin flags, so that we could go back and systematically record them at the end of the day with photos, field notes and geospatial data. Geospatial and feature data were recorded using a Juniper Geode (GNSS) and Rugged Tablet with Android OS. Freeware app SW Maps was used to record feature information via the use of point, line and polygon shapefiles. A DJI Phantom 4 Drone was used to capture additional aerial images and to aid in the creation of a site map.

The system of flagging cultural features and recording them later in the day had to be adjusted, as some of the initial flags that we set in the morning ended up being prayed upon by a black bear. It was probably the same one that visited us while we were recording a cache that had been built between two large boulder outcrops (Figure 5).

The survey extended from the boat landing areas to the east, along the northern bank of the river, along a large flat grassy area interspersed with archaeological features and multiple over-lapping caribou trails. Over 70 distinct archaeological features were recorded in this area, including caches or shelters built against boulders, tent rings, lithic scatters, hunting blinds, rock alignments or rock, as well as two potential shallow sod house depressions (Figures 6 to 9). While the bulk of the lithic scatters were Ramah chert flakes, a few worked artifacts were also recorded during the course of the survey (Figures 10 and 11). No artifacts were collected during the course of this fieldwork.

A map and visitor experience plan will be developed to ensure that cultural resources are not negatively impacted by visitors hiking throughout the area. This plan may include areas of interest that allow visitors for view and learn about cultural resources from a safe distance.

While recording the boulder features along one of the gravel terraces, Nunatsiavut Government Bear Guard and beneficiary, Ryan Merkeratsuk, noted how hunters could have easily hidden behind the boulders to surprise caribou as they made their way along the caribou trail and up over the edge of the terrace (Figure 12).

Figure 6: Bear's Gut 6 (580A). Tent ring, facing south

Figure 7: Bear's Gut 6 (580A). Ring of stones built against boulder, facing southeast

Figure 8. Bear's Gut 6 (580A). Flakes and flake scatters eroding out of caribou path, facing east

Figure 9: Bear's Gut 6 (580A). Close up of flake scatter

Figure 10: Bear's Gut 6 (580A).
Black chert biface preform found along gravel terrace

Figure 11: Bear's Gut 6 (580A).
Base fragment of stemmed Ramah chert endblade

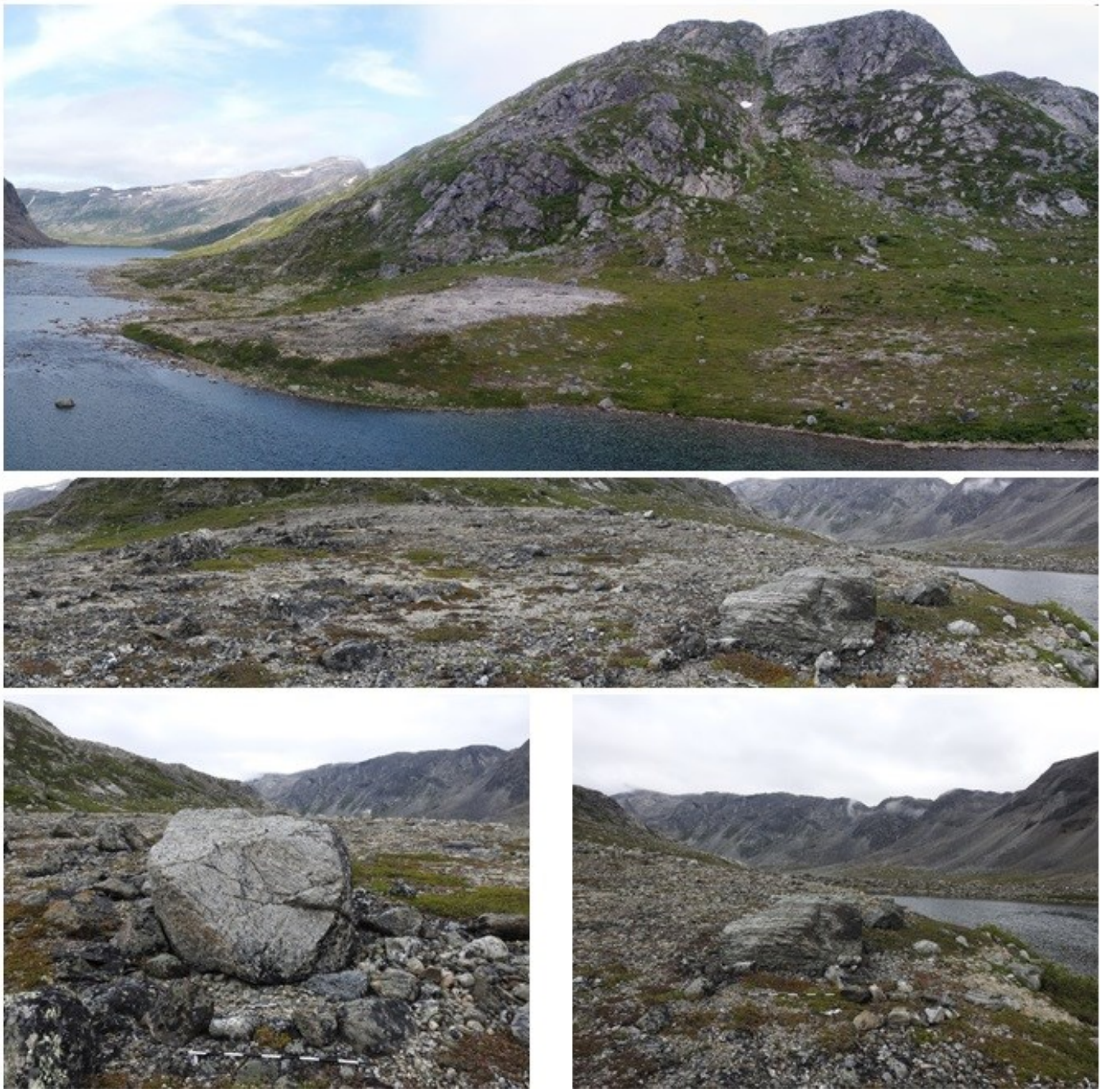


Figure 12: Bear's Gut 6 (580A). Top: gravel terrace with cultural features along western extent of image, caribou trails and flake scatters to the east, facing northwest; Middle: view of gravel terrace showing and placement of two boulder features, facing northeast; Bottom Left: Boulder with single tier ring of stone, facing east; bottom right: boulder with single tier ring of stone, facing east

Discovery and Return of Serpent Side Plate

During our stay at the kANGIDLUASUk Torngat Mountains Base Camp and Research Station (https://thetorngats.com/) located in St. John's Harbour (Saglek Bay), we were serendipitously visited by a Vincent Fauteux, a sailor from Quebec, who had first contacted Parks Canada back in 2016 about a brass object that he had picked up while hiking in northern Labrador in 2000).

He indicated that he picked up the brass object while on route from Nachvak Fiord's Ivitak Cove to the summit of Mount Caubvik (also known as

Figure 13: View from terrace overlooking McCormik River, Ivitak Cove and Nachvak Fiord

Mont D'Iberville in Quebec). The brass object was picked up while fetching water along the McCormik River and had remained in his possession ever since (Figures 13 & 14). After having undertaken some research on his own, he reached out to Parks Canada for assistance in identifying the artifact. While discussing the nature and possible origin of the artifact, he was reminded that it is illegal to remove artifacts from known or previously undocumented archaeological sites, as per National Parks General Regulations (SOR/78-213, Section 14(1)). With this, he apologized for taking the object and indicated that he would return the artifact to the Inuit of Labrador, in person. True to his word, after many years of preparations, he sailed back to the Torngat Mountains National Park in early August 2019 to return the artifact.

Preliminary research suggests that this brass object is a serpent side plate from a 19th century/ early 20th century musket, often referred to as a "Northwest Gun" (Hanson 1955, 1966) (Figure 15). This is significant, as muskets with serpent side plates were commonly brought to North America by the Hudson's Bay Company for trade with local Indigenous groups. Gooding notes that developing a stylistic time-table for serpent patterns is problematic, as there are too many variables in 250 years, too many similarities in shape which could be altered during hand finishing, and that many of the side plates may

Figure 14: 19th century/Early 20th century serpent side plate from McCormik River. Missing tail portion of serpent and right most screw hole

Figure 15: Complete serpent side plate highlighting placement on rifle, mounting crews and additional details (Worthpoint 2020)

have been produced by a single brass foundry (2003: 72-73). Unlike the barrel, lock plate or butt plate of muskets made at that time, the side plates of this type did not commonly have clearly identifiable maker's marks. A plate in Hanson 1955's 'The Northwest Gun' includes an image of a similar looking side plate with the caption "Very late type serpent plate on Hollis percussion gun, 1880 period" (1955: 71, Plate XVB).

While the context in which this artifact has been found is lost, this reporting and eventual return of this artifact helps to tell the story of interactions between the Inuit and Hudson's Bay Company in the area. There are numerous Thule/Inuit habitation sites along the shorelines of Nachvak Fiord, within 3 to 10 kilometers of the McCormik River, as well as the Nachvak Hudson's Bay Post which was in operation between 1868 to 1906 (Figure 16).

A nearly complete musket with a seemingly identical side plate was found outside of Kangiqsualujjuaq (George River) in 1987 (George 2007, Schubert 2013: 12). Based on maker's mark on the lock portion of the rifle, a Nunatsiaq News article indicated that the rifle dated from the late 1800s and that it could correspond with the presence of HBC's Fort George River Post, which was in operation from 1876 to 1915 (George 2007). While the 130km distance between George River and Nachvak Fiord may seem far today, oral history and archaeological evi-

Figure 16: Nachvak Hudson Bay Post (180A, IgCx-02) in foreground, middle-left; Ivatak Cove and McCormik River/Ivatak Cove, background, top-right. Facing east (Higdon 2004)

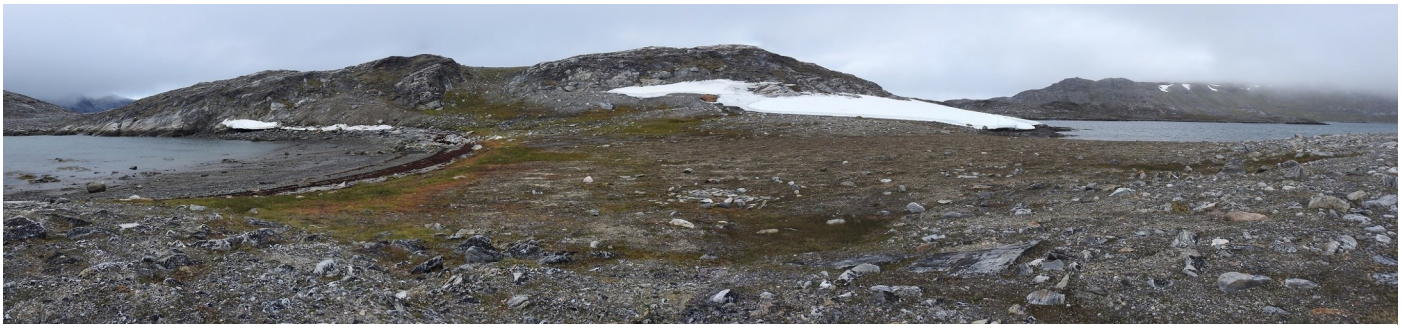


Figure 17: Martin's Bay 8 (582A). Narrow isthmus with multiple Inuit tent rings, facing west

**Figure 18: Martin's Bay 8 (582A).
Inuit tent ring with paved area, facing north**

dence suggest an Inuit and potentially Pre-Inuit (Dorset) travel route between George River, along the Koroc River, to Palmer River, to Nackvak Fiord's Tallek Arm (Loring 1979) A journey of approximately 160 km.

Avayalik Island 1 (49A - JaDb-10) Site Visit

Avayalik Island 1 (49A) is located 30km from the northern tip of Labrador/Torngat Mountains National Park. 49A is a major Pre-Inuit site with structures and frozen middens that have excellent organic preservation (Fitzhugh et al. 1979: 16). Small Late Dorset semi-subterranean rectangular structures were found within which was a cobble and slab axial feature without hearth or lamp supports and with cleared lateral areas interpreted as sleeping platforms (Renouf 2003). It was first tested/excavated in 1978 by Richard Jordan and team as part of the Smithsonian's Torngat Archaeological Project (Fitzhugh et al. 1979:16-17, Fitzhugh 1980). Subsequent visits to the site suggest that the site may be impacted by coastal erosion and permafrost thaw.

The purpose of the site visit was to determine if any additional artifacts had eroded out of the banks since Kaplan et. al.'s visit in 2016 (2017) and to use a drone to create a detailed site map, to help with the cultural resource management of the area.

While on route to the site we soon found out a thick blanket of fog had encased much of the shoreline and nearby islands in our survey area. Rather than turning back immediately, we opted to land on a small point of land within Martin's Bay to wait and see if the fog would lift. Having landed in an area known for its Pre-Inuit and Thule/Inuit habitation sites and 1943 German Weather Station Kurt from World War II (Martin's Bay 7 [64A – JaDb-07], Douglas 1982, Kaplan 1983, Fitzhugh et et. 1977), we, not surprisingly, came across a previously undocumented Inuit campsite. A quick survey of the area

**Figure 19: Avayalik Island 1 (49A).
Dorset structure excavated by Richard Jordan and team located in middle of the image, facing east**

revealed a series of tent rings on a low-lying narrow isthmus with bedrock outcrops to the east and west (Figure 17). One tent ring included a paved area for a stove (Figure 18), while another included nylon rope and plywood fragments, suggesting a more recent occupation. Documented as Martin's Bay 8 (582A), additional survey is needed to determine the nature and extent of the site.

After a quick lunch, our pilot, observed that the weather had cleared up enough for a safe landing on the island. We then flew to the island, relocated the site and installed some Ground Control points to aid with the mapping of the site. In the end, we had less than an hour on site, before the fog started to return. Such as we were not able to map the site and survey the area, as planned, but were able to get some useful imagery to help plan future fieldwork and the cultural resource management of the site (Figure 19).

Red Bay National Historic Site (9A)

Red Bay National Historic Site (NHS), located on the Labrador side of the Strait of Belle Isle, commemorates the largest known 16th century Basque whaling station in North America. "These resources are found on the mainland shore of Red Bay Harbour, on Saddle Island at the mouth of the harbour, and underwater. The range of cultural resources is broad, consisting of sunken vessels associated with cultural material, terrestrial sites such as tryworks, where whale blubber was processed, a cemetery, cooperage stations, structural remains, and ballast piles that may be the remains of wharves" (Stopp 2013). According to Tuck (2015) ""Try' is an obsolete English verb that means "to render or purify". The word "tryworks" was used by New England whalers until well into the last century to describe the furnaces aboard the ship in which whale blubber was rendered." (2015:3)

While not the reason for designation, it is important to reiterate that the Red Bay area has been occupied up to 9000 years, including occupations from the Archaic to 19th century European fishermen, whose descendants still occupy the small village today (Tuck 2005: 34).

The objectives for the 2019 Red Bay NHS fieldwork were as follows:

1. Urine Diversion Toilet Archaeological Impact Assessment,
2. Coastal Erosion and Visitor Experience Site Survey,
3. UAS (Unmanned Aerial System) or Drone Survey of the Island.

We arrived in Red Bay during a fierce September wind. Adverse conditions on the south coast of Labrador meant a three-day weather hold in St. Barbe, as high seas made the Strait of Belle Isle impassible by

Figure 20: Red Bay NHS (9A).
Aerial view of wharf, shed and urine diversion toilet archaeological impact assessment area, facing east.

Figure 21: Red Bay NHS (9A12). Surveying assessment area with Juniper Geode GNSS and tablet

ferry. Though we were eventually able to cross the strait, the short motorboat voyage from the Red Bay NHS visitor center wharf to Saddle Island would not be possible for another two days after our arrival. We were told that it was a similar northerly gale that sank the San Juan. Red Bay NHS's Cindy Gibbons and Phil Bridle welcomed us to the site and eagerly shared what it was all about.

Urine Diverting Toilet

Archaeological Impact Assessment

A low impact, urine diversion toilet was requested to improve visitor comfort and potentially increase visitation to the island, while at the same time providing minimal impact to the site. A urine diversion toilet essentially separates the urine from the solid waste. Urine trickles out while solid waste is removed, as needed.

With help from site staff, a location was chosen directly behind the south wall of the extant Coast Guard building, 15 meters south of the main wharf (Figures 20 and 21). This location was chosen by site management in an effort to hide the 3x5 m toilet structure from Saddle Island's north shore viewscape. Two alternate locations were located to the west, in the event that the area behind the Coast Guard building was deemed unsuitable for the installation of the toilet. The main goal of the assessment was to find a suitable location, close to the wharf, which would not disturb the network of 16th century Basque features and any other archaeological resources located along the north shore of the island.

Previous archaeological testing was completed by Parks Canada archaeologist Jenneth Curtis, north of the proposed toilet location, on the seaward side of the former coast guard building. These excavations confirmed the presence of a Basque tryworks (EkBc-65), and noted the feature remained seemingly undisturbed by the construction of the building (Curtis 2009). Other examples of tryworks on Saddle Island measure over 12 metres in length, with some comprised of up to six fireboxes (Tuck 2005). In many instances, previous excavations have revealed multiple rows of fireboxes with initial fireboxes constructed as close as possible to the shoreline for easy access. Intense heat and repeated use eventually deteriorated the stone used to build the fireboxes, thus leading to the construction of additional fireboxes to the south.

With that in mind, the potential for the feature to extend beneath the proposed toilet location was significant. The extent of construction-related disturbance on the south side of the coast guard building however, was unknown.

Two 50cm x 50cm test units (9A12A & 9A12B) were excavated to the south of the former coast guard building/shed, revealing a layer of densely rooted sod (Lot 1), followed by a layer of dark brown soil containing fire-cracked rock and crusty burnt fat deposits (Lot 2). Test Pit A revealed a glass Pepsi bottle fragment in Lot 1 and orange/red Basque tile fragments amongst the fire-cracked rock in Lot 2. Excavation continued to determine the extent of the fire-cracked rock. No additional artifacts or cultural features were observed.

Figure 22: Red Bay NHS (9A). Test Unit 9A12B highlighting Basque tile in situ among fire cracked rock

Figure 23: Red Bay NHS (9A). Aerial view of eastern extent of Saddle Island with Area C Tryworks in foreground, half-sunken French ship, the Bernier, and cemetery and other feature in the distance, facing east

Test Pit 9A12B was excavated to determine the extent and confirm the presence of the tryworks feature. No artifacts were recovered from Lot 1. In addition to the fire-cracked rock and charred fat, Lot 2 contained a single wrought iron nail, fragments of Basque Roofing tile and a bone fragment that has yet to be analysed (Figure 22). This pattern of fire-cracked rock and fat deposits, intermixed with Basque artifacts is consistent with previous excavations of known tryworks on Saddle Island. With enough in-situ evidence to confirm the presence of a Basque feature, excavation stopped at ~20cm and the units lined with geotextile and preserved for future research. The feature may represent a line of fireboxes to the south of the fireboxes/tryworks noted by Curtis in 2009.

With the initial area deemed to be unsuitable for construction, the two alternate locations were test pitted. The terrain was boggy and the test pits yielded no evidence of tryworks or other cultural features or artifacts, except for coal fragments, likely related to the 19th century occupation of the island by local families. Pending an environmental assessment, a toilet could be built in either of the alternate locations.

Coastal Erosion and Visitor Experience

Site Survey

Since it was our first trip to Red Bay as Park Canada archaeologists, we took the opportunity to accompany acting park staff to discuss the nature of the site, issues related to coastal erosion, as well as potential visitor experience and research opportunities. While weather-related delays prevents us from conducting a systematic assessment of how the site is being actively impacted by coastal erosion, we were able to visit three key areas, including Saddle Island's Area A, Area C and Cemetery (Figures 23 and 24).

A Juniper Geode GNSS unit with Rugged Android Tablet and Freeware app SWMaps was used to capture point, line and polygon data associated with features throughout the island. This included the re-

Figure 24: Red Bay NHS (9A). Aerial view of Area C Tryworks

cording of the shoreline of "Area C," along the northeast coast of the island. The area is associated with the tryworks excavated by Memorial University in the late 70s/early 80s. Despite regular monitoring and interventions, including the addition of sand bags and sod to the structure, natural erosion continues to undercut the shoreline in this area. Parks Canada is currently undertaking a study to determine how to protect the resource/mitigate the impacts caused by coastal erosion.

The Juniper Geode was also used to measure the approximate extent of the unexcavated tryworks at Area A to inform the potential remote sensing of the area. For instance, results from a GPR and Electromagnetic survey of a known unexcavated tryworks could be compared to previously excavated tryworks. Depending on the results, this information could then be used to help interpret remote sensing of previously tested/suspected tryworks.

UAS (Unmanned Aerial System) or Drone Survey of Saddle Island

A DJI Phantom 4 was used to help in the creation of a high definition map of Saddle Island and its cultural resources, trails, buildings, etc. While such a map would ultimately help with natural and cultural resource management, and visitor experience decisions, the survey didn't go as planned. Initial survey of the island was stymied by the arrival of a Coast Guard helicopter and their use of a drone to conduct a condition assessment of Coast Guard buildings still in operation on the island. As per Transport Canada regulations, we grounded our drone immediately upon seeing the helicopter and went to speak with the Coast Guard folks. We were not able to continue with the survey, as the wind had picked up by the

Figure 25: Areas of interest within Terra Nova National Park

time the helicopter left. While they admitted that their visit to the island was unplanned, the arrival of the helicopter and concurrent drone survey underscores the need for better communication about use of airspace and a discussion about use of drones within Parks Canada's National Parks and National Historic Sites.

Only on the island for a few days, we were able to capture some images of the survey areas, areas being impacted by coastal erosion and the cemetery area, before the wind became too strong to operate the drone safely (Figures 23 & 24).

Terra Nova National Park

Terra Nova National Park (TNNP) is situated on the northern coast of the island of Newfoundland and has a cultural history stretching back more than 5000 years. Thirty-two archaeological sites have been documented within the park limits. They represent Maritime Archaic, Pre-Inuit, Recent Indigenous occupations, as well as more recent European operations, including numerous 20th century forestry/sawmill related sites. While these sites are predominately located along the coast, recent surveys have shown there are also numerous forestry related sites in the interior of the park, along its rivers and ponds, such as cribbing along rivers and corduroy roads embedded in the bog along well traversed logging paths (Curtis 2010, Higdon 2017).

In May 2019, three archaeological impact assessments were conducted within the park, they include:

1. Restoring Forest Health Project (Focusing Specifically on Park Harbour Hill Complex Prescribed Burn Units)
2. Coastal Erosion Monitoring and Test Excavations at 31A (Chandler's Reach 2) (DdAk-11)
3. Terra Nova National Park Utility Systems Recapitalization Project

Restoring Forest Health Project (Focusing Specifically on Park Harbour Hill Complex Prescribed Burn Units)

"Parks Canada directives (Directive 2.4.4) and policy (National Fire Management Strategy) encourage restoring the ecological role of fire through the application of prescribed fire where appropriate" (Parks Canada 2016: 1). With this, Terra Nova National Park

Figure 26: Test pitting at southern extent of prescribed burn area, facing east

Figure 27: Prescribed Burn Unit test pit with charcoal layer

has created a plan and procedures document outlining the prescribed burn of numerous zones throughout the park. This involves the use of fire-guard lines with sprinklers and/or natural water bodies to ensure that specific areas are burnt by trained Parks Canada staff in a controlled manner. "The primary objective of the prescribed burns is to create a "suitable seedbed for black spruce seedlings" (Parks Canada 2016:9) by reducing the depth of organic matter to a depth of 0-5cm throughout 80% of the burn areas (Parks Canada 2016:7). It is this burning and removal of organic matter which has the greatest potential impact on cultural resources (Higdon 2016:2).

The prescribed burn area assessed during the 2019 field season encompassed a large area along the southern portion of Park Harbour, extending inland along the shores and rivers of Spruce Pond, Park Harbour Pond and Rattle Pond. Previous prescribed burn assessments conducted revealed that locations along the watercourses to the east and west of the prescribed burn unit have been used as part of the 20th/21st century forestry industry, including cribbing at Rattle Pond Brook (411A) and a corduroy road embedded in the bog at Spruce Pond 1 (450A) (Curtis 2010, Higdon 2017). These sites may be part of a larger logging-related network of sites, as they are located along a series of ponds and rivers which eventually empty into the ocean adjacent to the former 20th century Park Harbour Sawmill site (29A).

Based out of a cabin at Park Harbour, surveys were conducted on foot and by canoe to help determine areas of archaeological potential. Proposed guard lines along the outlines of the prescribed burn units, shorelines, rivers, islands and other well-drained areas of archaeological potential were assessed and in some instances test pitted. No cultural resources or artifacts were observed during the course of the survey and test pitting. Lenses of charcoal were observed in test pits throughout the prescribed burn area, but these may be related to natural forest fire events (Figures 25 and 26).

Coastal Erosion Monitoring and Test Excavations at 31A (Chandler's Reach 2 - DdAk-11)

31A Chandler's Reach 2 (DdAk-11) is located within Chandler's Reach, Bonavista Bay, in a cove on the south shore of the southernmost island in the Over Islands Group (Figure 25). The site was initially recorded in 1979, during Parks Canada commissioned survey of the park. At this time, Memorial University's Dr. James Tuck, noted that the site extended "close to 50m along the eroding bank along a south-facing beach on the southern most of the Olford Islands [Over Islands]" (Tuck 1979:45) (Figure 28). He noted material washing from a narrow band between the poorly developed humus and underlying gravel subsoil, and that it was "1m above sea level, but [was] probably washed by heavy seas" (1979:45). Testing behind the site produced little material more than 1 to 2 meters behind the eroding bank. He concluded that the site appeared to be "virtually completely eroded." Two artifacts (midsection of a straight-based biface, and a notched flake) and 32 flakes of various cherts, and a single small spall of quartz crystal were

Figure 28: Chandler's Reach 2 (31A). Southern beach, facing east

Figure 29: Chandler's Reach 2 (31A). Artifacts from Curtis' 2009 coastal survey. Biface 31A1A2-3, Endblade 31A1A2-1, notched knife 31A1A2-2

Figure 30: 31A Chandler's Reach: Southern shoreline. Note eroding bank and undercutting of vegetation

recovered from the face of the bank. The size and nature of the assemblage meant that it was impossible to determine the cultural affiliation of the tools.

As part of a Coastal Erosion monitoring program, Parks Canada archaeologist, Jenneth Curtis visited the site in 2007, 2009 and 2011. In 2009, she indicated that "based on artifacts observed in the eroding shoreline this site stretches from the middle of the south shore all the way around the [eastern] end of the island - a distance of more than 100 m" (Curtis 2009) (Figure 28). Artifacts found in 2009 included a Dorset Pre-Inuit endblade and knife and a pointed biface possibly attributable to the Cow Head Complex" (Curtis 2010:8) (Figure 29). In 2011, she noted "extensive erosion evident along the southern shore with cultural material exposed over a length of 200m." Curtis went on to recommend test excavations to determine the nature and extent of the site.

As part of a multi-year coastal erosion monitoring and testing strategy, a terrestrial survey and systematic test excavations were undertaken in 2019 to help determine the nature and extent of the site, and to determine how much of the site remained. Survey started by walking transects of the beach with staff from the park. While not all present at the same time, these included: Resource Management Officer, Rod Cox; Visitor Safety and/or Fire Operations Coordinator, Barbara Linehan; Fire Crew Leader Robert Richards; and two Resource Conservation summer students. Artifacts were flagged along the beach and eroding banks edges to help determine artifact distribution and to pinpoint areas of highest archaeological potential. Test pits were excavated in the high potential areas to help determine the extent of the site.

The 2019 survey revealed additional lithic scatters throughout the southern and eastern beaches (Figures 28, 29 and 30), including various colours of rhyolite and chert flakes, biface fragments and biface preforms (31A1A4-1) (Figure 31). Test pits excavated 1 to 2 meters behind the southern eroding bank revealed a ground slate fragment (31A2B2-1) found in a grey-brown sandy gravel layer at a depth of 37cm below surface. Unifacially worked on the narrow edge and bifacially worked on two sides a groove running the length of the artifact may have been used to sharpen bone or other media (Corey Hutchings, pers. comm. 2020). Other artifacts include a linear flake and a thick lens of chert and rhyolite flakes.

While the test pits inland from the eroding bank along the eastern beach contained few flakes, a single in situ Pre-Inuit endblade (31A2G1-1) with a concave base (Figure 31), similar to the one found by Curtis in 2009 (Figure 29) was found in a mixed black organic gravel layer at a depth of 20cm. While survey and testing of 31A revealed a site that is larger and more complex than anticipated, the large quantity of artifacts found along the southern and eastern beaches indicate that much of the site has been lost due to coastal erosion.

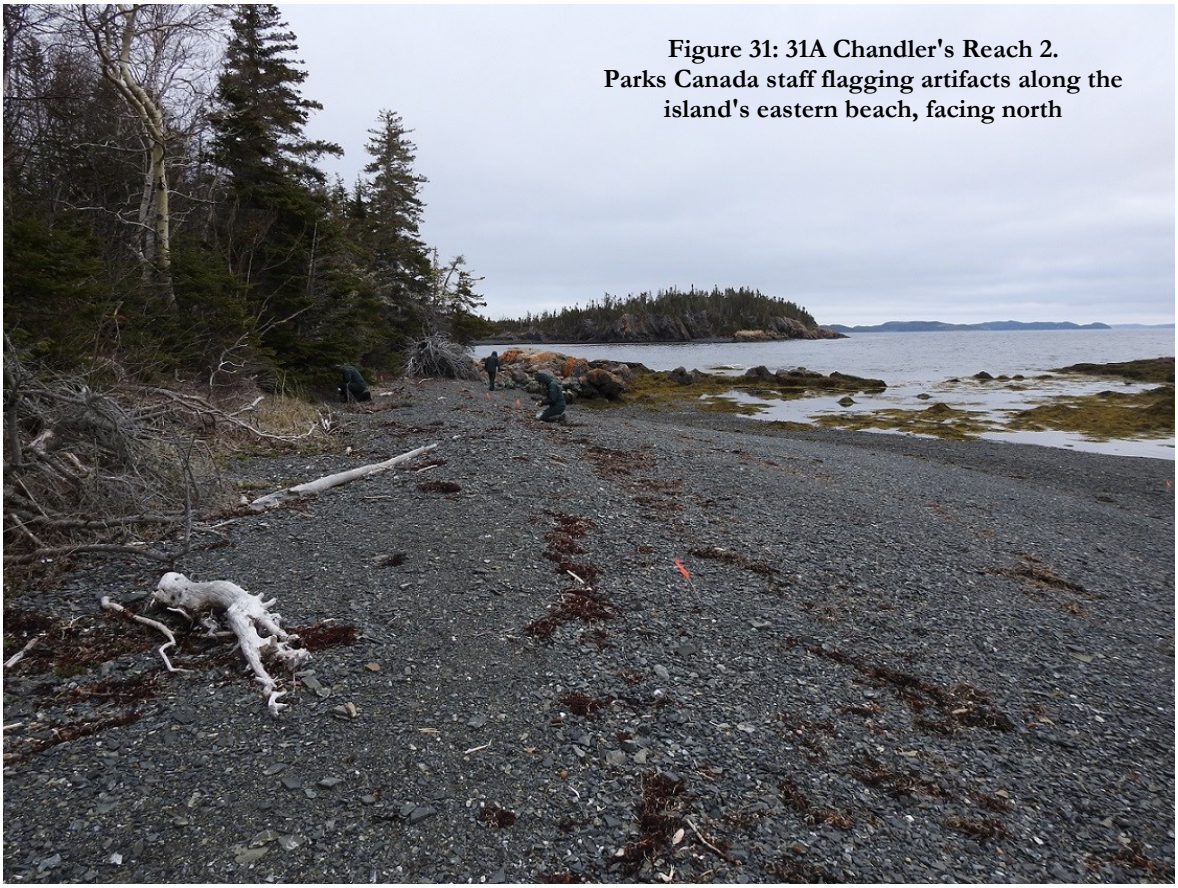


Figure 31: 31A Chandler's Reach 2. Parks Canada staff flagging artifacts along the island's eastern beach, facing north

Figure 32: 31A Chandler's Reach 2. 2019 Artifacts. Biface preform (31A1A4-1), Dorset endblade with concave base (31A2G1-1) and a ground slate tool with incised line (31A2B2-1)

Figure 33 : Test pitting along Newman Sound Day Use Area

Terra Nova National Park
Utility Systems Recapitalization Project

The Terra Nova National Park Utility Systems Recapitalization project involved improvements to water and electrical infrastructure throughout the park, including locations at Newman Sound Campgrounds, Malady Head Campground, as well as associated administration infrastructure (Figure 25). The bulk of the work was intentionally planned to occur within previously disturbed trenches and/or within the footprints of existing roadways to limit impacts on the parks cultural and natural resources. A desk-based archaeological overview assessment was conducted to determine potential impacts to known and previously unknown archaeological/cultural resources.

Fieldwork consisted of site visits to determine if test pitting was required, as well as test pitting areas of archaeological potential. The areas of highest archaeological potential were those adjacent to the water, including locations along the Newman Sound Day Use Area (Figure 25) and along the portion of the Malady Head Campground that is situated along the shores of Beach Cove. Aside from a few fragments of recent ceramic, blue glass and translucent Coke bottle glass, from the test pits in Newman Sound Day Use Area, no cultural material was found during the course of the work. As a result of the assessment, it was determined that planned utility upgrades could continue as planned.

Gros Morne National Park

Gros Morne National Park is located on the west coast of Newfoundland (Figure 34) and has a cultural history stretching back more than 5000 years. Gros Morne National Park Reserve was established in 1973, as part of a Federal-Provincial Agreement (Parks Canada 2019a:2) and officially became a National Park in October 2000 (Bourdages and Craig 2000). There are ten known archaeological sites located within the park boundaries and 29 within a 5km radius of the park. These include archaeological sites at Cow Head and along the beach at Shallow Bay. The known sites are primarily located along low-lying coastal areas. These sites show evidence of prehistoric (Pre-Inuit) and historic occupations, including numerous 19th century related sites containing building foundations, a shipwreck and a cemetery (Krol and Tuck 1985, Krol 1986, Stopp 1990, Stopp 1989, Renouf 1992, Tuck 1972 & Tuck 1982).

While most archaeological sites in Newfoundland are coastal, it is important to note that adjoining interior areas would have also been utilized to access inland fish resources and caribou herds (Renouf 1992:2). Like Terra Nova National Park, the use of the interior could also be extended to include trapping and hunting by indigenous and non-indigenous people, as well as small-scale logging for personal use and large-scale logging to support the lumber industry in the area.

2019 Some of the fieldwork projects included:

1. Gros Morne National Park Mountain Biking Trail Development
2. Lomond River 1 (578A) Archaeological Survey

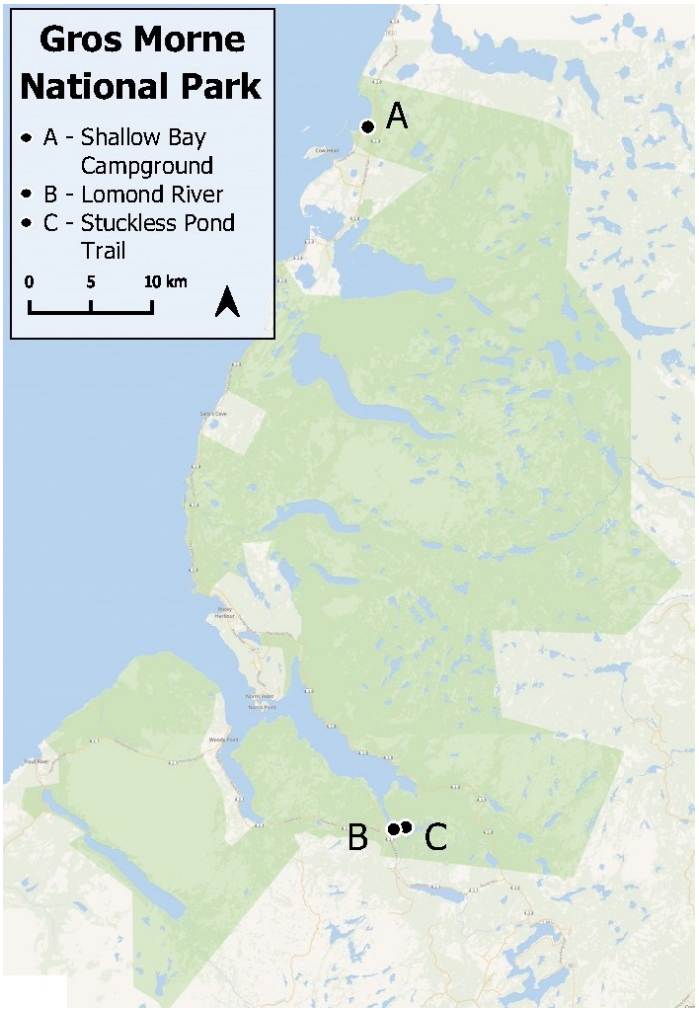


Figure 34: Areas of interest within Gros Morne National Park

3. Shallow Bay Campground Upgrades to Semi-Serviced Site.

Gros Morne National Park Mountain Biking Trail Development

The proposed biking trail development includes upgrades to the Stuckless Pond Trail (Figure 34), located at the southeastern extent of the park, and tentatively the installation of a bike-friendly route from Stuckless Pond, northward along the Southeast Hills to a visitor lookout located along Highway 430 (Figures 34 – 36). While assessment of the hill top route revealed no cultural resources, the survey of the proposed adjustments to the Stuckless Pond trail revealed trails along numerous cleared areas and former logging roads (Figure 36 and 37), as well as artifacts that may have been associated with the early 20th century logging of the area. These included: barrels, cast iron door or machine parts, and iron sled runner (Figures 38, 39 and 40). All artifacts were left in situ with the hope that this rich part of the park's history can be eventually incorporated into the Stuckless Pond visitor experience. While changes to the trail should have minimal impact on these cultural resources, additional survey is needed to determine the extent and nature cultural resources in this area.

Lomond River 1 (578A)

Archaeological Survey

In 2017, Gros Morne NP Partnering and Engagement Officer and avid salmon angler, Danny Major, contacted the Parks Canada Terrestrial Office to indicate that he found some Ramah Chert artifacts along the shore of the Lomond River (Figure 41). Higdon and Major went to the find location in June 2019 to relocate and potentially determine the extent of the site. While much of the site appears to have been impacted by extreme weather and flooding, the 2019 survey of the eroding coast revealed a single Ramah Chert flake (Figures 42 and 43) and a large iron spike on the beach, potentially related to cribbing used to channel logs for the logging industry in the area (Figure 44 and 45). Two test pits were excavated to sterile, but no artifacts were found. The site has been recorded in the Parks Canada database as Lomond

Figure 35: View of Bonne Bay from proposed Southeast Hills Trail, facing west

Figure 36: Clearing along northwest portion of Stuckless Pond Trail. Probably associated with former logging industry, facing southeast

Figure 37: Example of former abandoned logging road along northern extent of Stuckless Pond Trail

Figure 38: Cast iron piece of stove or machinery

River 1 (578A) Additional survey and test pitting is required to determine the nature and extent of the site and whether or not there are other sites in the area.

Shallow Bay Campground
Upgrades to Semi-Serviced Site

The Shallow Bay campground buildings within Gros Morne NP are all over 30 years old and require infrastructure investment, including the upgrading of campsite amenities to add to the visitor experience offer for the area (Figures 34 and 46). Proposed upgrades to the Shallow Bay Campground that are of concern to terrestrial archaeology include the excavation of trenches associated with the installation of water and electric utilities.

A desk-based archaeological assessment determined that the project area has some archaeological potential because of its proximity to the old community of Bells Downes and Cow Head, 1.0km and 3.0km respectively (Tinker et al. 1976). There are also known Pre-Inuit sites located at Cow Head within 3.4 km to the southwest and along a river that feeds into Shallow Bay, approximately 1.6km to the northeast. The project area is also located within 125m of the current Shallow Bay beach.

The area was surveyed with drone and Juniper Geode GNSS. Based on field survey and assessment, six test pits were excavated along the underground utilities trench situated between camp sites and an additional test pit was excavated at the location of the proposed electrical building to determine the nature of the mound of rock and soil in that location. The areas along the roadways and within the camp site areas themselves were not tested, as they were deemed to be previously disturbed or of low archaeological potential.

Figure 39: Iron sled runner embedded in the ground

Figure 40: Midden of barrels, barrel hoops, Coke bottles and other debris

Figure 41: Lomond River 1 (578A). Artifacts observed by D. Major. Biface is approximately 10cm, flake approximately 5cm

Figure 42: Lomond River 1 (578A). Single chert flake found on beach, noted with orange flag

Figure 43: Lomond River 1 (578A). Ramah chert flake found on beach beneath fallen trees (578A1-1)

Figure 44: Lomond River 1 (578A). Cobble and sand beach with large iron spike

Figure 45: Lomond River 1 (578A). Large iron spike found on beach

Figure 46: Aerial View of Shallow Bay Campground Assessment Area

Aside from a single recent 10" wire nail found in Test Pit 80A81E, no cultural material was found during the course of the excavations. Survey and test pitting suggest that the mound found in the trees along the eastern extent of the project area appears to be gravel and rock associated with the clearing and construction of the initial roadway.

While additional areas throughout the park were visited/assessed to determine archaeological potential, no additional testing occurred during the 2019 field season.

Acknowledgements

This work was made possible with the support from the Western Newfoundland and Labrador and Eastern Newfoundland and Labrador Field Units; Parks Canada staff from the individual national parks and historic sites; the kANGIDLUASOk Torngat Mountains Base Camp and Research Station and a host of other individuals and institutions. Thanks also to Archaeological Field Technician (FSWEP) and Memorial University undergraduate student, Megan MacKinnon, for assisting with preparations for fieldwork and specifically with fieldwork in Torngats Mountains National Park.

References

Bourdages, Jean-Luc and Craig, John

2000 Bill C-27: Canada National Parks Act. Parliament of Canada. Electronic document, https:www.parl.ca/Content/Bills/362/Government/C-27/C-27_1/C-271.pdf, accessed November 13, 2019.

Curtis, Jenneth

2009 Report on Testing of Coast Guard Building Site (EkBc-65), Red Bay, Labrador. On file with Parks Canada, Dartmouth, NS.

2010 Final Report Archaeological Assessments for Terra Nova National Park Activities (TNP-2009-2572). On file with Parks Canada Agency, Dartmouth, NS.

Douglas, Alec
1982 The Nazi Weather Station in Labrador. Canadian Geographic, Vol. 101, No. 6., p.42-47. Electronic Document.https://www.canadiangeographic.ca/sites/cgcorp/files/images/web_articles/blog/nazi.pdf

Fitzhugh, William
1980 Preliminary Report on the Torngat Archaeological Project. Arctic, Vol. 33, No. 3:585-606.

Fitzhugh, W., R. Jordan and S. Cox
1977 Torngat Archaeological Project, 1977 Field Season Summary Report. On file with Provincial Archaeology Office. Government of Newfoundland and Labrador.

Fitzhugh, W., R.H. Jordan, S.L. Cox, C. Nagle & S.A. Kaplan
1979 Report to the Newfoundland Museum on the Torngat Archaeological Project 1978 Field Season. On file with Provincial Archaeology Office. Government of Newfoundland and Labrador.

George, Jane
2007 Unravelling the puzzling past of a treasured relic of the fur trade: Mystery of the serpentine musket. Nunatsiaq News. Electronic Document. https://nunatsiaq.com/stories/article/Unravelling_the_puzzling_past_of_a_treasured_relic_of_the_fur_trade/ accessed January 21, 2020.

Gooding, Sidney James
2003 Trade Guns of the Hudson's Bay Company 1670-1970. Museum Restoration Service. Alexandria Bay, N.Y

Hanson, Charles E. Jr.
1955 The Northwest Gun. Nebraska State Historica Society, Publications in Anthropology. Number Two. Lincoln, Nebraska.
1966 Indian Trade Guns. American Society of Arms Collectors Bulletin 14, 18-23. Electronic Document. https://americansocietyofarmscollectors.org/wp-content/uploads/2019/06/1966-B14-Indian-Trade-Guns.pdf. Accessed January 20th, 2020.

Krol, Carol F. And Tuck, James A.
1985 Palaeo-Eskimo Occupations at Broom Point, Gros Morne National Park, Newfoundland. St. John's: Memorial University of Newfoundland. On file with Parks Canada Agency, Dartmouth, NS.

Krol, Carol.
1986 Middle Dorset Settlement-Subsistence Patterns in Western Newfoundland: A View from Broom Point. Unpublished Master's Thesis, Department of Anthropology. St John's: Memorial University of Newfoundland.

Higdon, John
2018 Archaeological Overview Assessment for Installation and Operation of Intershelter Domes/Hiking Routes, Torngat Mountains National Park. On file with Parks Canada, Dartmouth, NS.
2017 Archaeology in Terra Nova National Park. In Provincial Archaeology Office 2016 Archaeology Review. Volume 15. Government of Newfoundland and Labrador. Electronic Document https://www.tcii.gov.nl.ca/pao/newsletters/pdf/Vol%2015%20-%202016.pdf. Accessed January 21, 2020.

Higdon and Weatherbee
2018 Archaeology in the Torngats Mountains National Park and the Ramah Bay Mission Site (231A). In Provincial Archaeology Office 2017 Archaeology Review. Volume 16. Government of Newfoundland and Labrador. Electronic Document. https://www.tcii.gov.nl.ca/pao/newsletters/pdf/Vol%2016%20-%202017.pdf. Accessed January 21, 2020.

Hutchings, Corey
2019 Torngat Mountains National Park Archaeology 2018: Assessment for Installation and Operation of Intershelter Domes/Hiking Routes. In Provincial Archaeology Office 2018 Archaeology Review. Volume 17. Government of Newfoundland and Labrador. Electronic Document. https://www.tcii.gov.nl.ca/pao/newsletters/pdf/Vol17-2018.pdf Accessed January 21, 2020.

Kaplan, Susan

1983 Economic and Social Change in Labrador Neo-Eskimo Culture. Doctoral Dissertation, Department of Anthropology, Bryn Mawr College.

Kaplan, Susan, Jamie Brake, Moira McCaffrey

2017 Interim Report on the 2016 Assessment of Avayalik-1 and Other Sites on Avayalik Island. Parks Canada Research Permit Number: TMNP-2016-22216. On file with Parks Canada, Dartmouth, NS.

Loring, Stephen

1979 A Report on an Archaeological Survey of the Palmer and Korok River Valleys for the Torngat Archaeological Project, 3 August - 3 September 1978. On file at the Provincial Archaeology Office, St. John's.

National Parks General Regulations

2020 National Parks General Regulations (SOR/78-213). Electronic document. https://laws-lois.justice.gc.ca/PDF/SOR-78-213.pdf accessed January 20, 2019.Published by the Minister of Justice.

Parks Canada

2019a Gros Morne National Park Management Plan. Electronic Document, https://pcacdn.azureedge.net/-/media/pn-np/nl/grosmorne/pdf/gros-morne-management-plan-2019.pdf?la=en&modified=20190816132837&hash=4DC22D355FF97648235557E0AE02930A2D4A6A05, accessed November 13, 2019. On file with Gros Morne National Park, Parks Canada, Rocky Harbour, NL.

2019b Use of Drones at Parks Canada Places. Parks Canada Agency. Electronic Document. https://www.pc.gc.ca/en/voyage-travel/regles-rules/drones, accessed January 20, 2020.

2018 Request for CRIA. Torngat Mountains National Park – Installation and operation of Intershelter Domes/Hiking Routes. On file with Parks Canada, Dartmouth, NS.

2016 Park Harbour Hill Complex (Half Mile Pond Unit 'D') Prescribed Fire Plan. On file at Terra Nova National Park Field Unit, Parks Canada, Glovertown, NL.

Renouf, M. A. P.

2003 A Review of Palaeoeskimo dwelling structures in Newfoundland and Labrador. Études/Inuit/Studies, 27(1-2):375-416.

1992 Archaeological Survey Results Western Brook Pond Tour Boat Facility Project, Gros Morne National Park. On file with Parks Canada Agency, Dartmouth, NS.

Schubert, Phillip

2013 Verify the Existence of the Bronze Helmet and Other Artefacts Found by Inuit on the North Shore of Quebec. Progress Report, Revision 2, September 16, 2013. http://www.rcgs.org/programs/research_grants/reports/2012_Schubert.pdf. Accessed January 21, 2020.

Stopp, Marianne P.

1990 Archaeological Testing at Mill Cove and Trout River, Gros Morne National Park, Report on file with Parks Canada, Dartmouth, NS.

1989 Sandy Cove Cemetery, Gros Morne Park. St. John's: M.P. Stopp Consulting. Report on file with Parks Canada, Dartmouth, NS.

Tinker, D., Stewart, H., Purdy, M.

1976 Documentation of the Graveyards within the Boundaries of Gros Morne National Park. Report on file with Parks Canada, Rocky Harbour, NL.

Tuck, James A

2005 Archaeology at Red Bay, Labrador 1978 – 1992. Report prepared for Red Bay National Historic Site. On file with Parks Canada, Red Bay, NL and Dartmouth, NS.

1982 1982 Excavations at Broom Point, a Palaeo-Eskimo site in Gros Morne National Park. St. John's: Memorial University of Newfoundland.

1972 Archaeological Survey of Gros Morne Park, Newfoundland. Report on file with Parks Canada, Dartmouth, NS.

Worthpoint

2020 HUDSON BAY COMPANY BRITISH TRADE RIFLE. Electronic Document. https://www.worthpoint.com/worthopedia/hudson-bay-company-british-trade-rifle. Accessed January 15th, 2020.

Continuing Excavations at Sabbath Point (DeBd-08), Red Indian Lake, Newfoundland

Donald H. Holly Jr.[1], Christopher Wolff[2], James Williamson[3], Amanda Samuels[4], Dana Yakabowskas[5] & Madeline Illenberg[6]
Eastern Illinois University[1], University at Albany, SUNY[2, 4, 5, 6], Memorial University of Newfoundland[3]

Introduction

The Sabbath Point site (DeBd-08) consists of a single, large, hexagonal-shaped Beothuk housepit. The housepit is remarkable in many respects: for its large size and uncommon design; for having (so far) escaped destruction from logging and flooding; for seemingly not being embedded within a large cluster of other housepits; for yielding abundant and well-preserved faunal remains and a few extraordinary iron artifacts; for dating to a pivotal moment in Beothuk history; and for remaining undiscovered for so long.

The housepit is located about four kilometers northeast along the shore from where Red Indian Lake joins the Exploit's River. The famous Indian Point site is just a few hundred meters farther to the east, and modern Millertown, three kilometers beyond that. "Sabbath Point" proper is a point of land where John Cartwright rested after six days of arduous travel up the Exploits River in 1768 (Howley 1915: 43). On account of his rough sketch and incomplete knowledge of the Lake, it is not exactly clear where this was (Figure 1). McLean (2017: 27-30), who named the site, thinks Cartwright took his sabbath near the location of the site, and that the "square" house Cartwright observed in the vicinity might be the housepit itself. But the narrative (see Howley 1915: 43) suggests that Sabbath Point should be closer to where a traveler ascending the Exploits River and pressed for time would first arrive at Red Indian Lake—and that is several kilometers west of the site (see also nlarchaeology 2016). What is clear is that this entire area, stretching east toward Millertown, was important to the Beothuk. Cartwright mentions the ruins of an old camp and more recently inhabited mamateeks and an aforementioned square structure in the vicinity (Howley 1915: 44) and later observers would note many more such features in the general area—to say nothing of the historical significance of this part of the lake in the later history of the Beothuk (see Howley 1915; Marshall 1996). Accordingly, the entire swath of lakeshore from the Exploits to the eastern end of Red Indian Lake must have been rich in archaeological remains before industrial logging and flooding of the lake took their toll on these deposits. For some indication of what was lost,

Figure 1: Portion of John Cartwright's 1768 map of Red Indian Lake, courtesy of the PAO

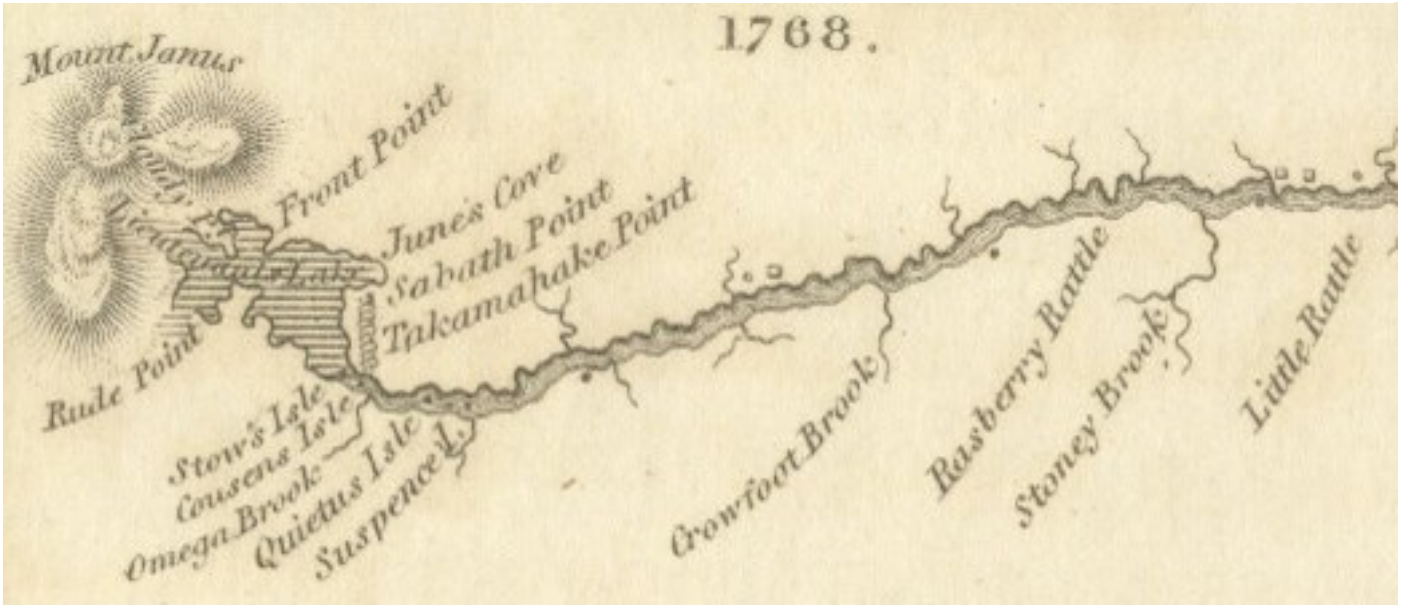


Table of Contents

T.G.B. Lloyd (1876) counted 21 housepits at Indian Point, where today only a few remain (McLean 2017: 13).

Previous Work

The Sabbath Point housepit was discovered by Don Pelley in November of 2016 (McLean 2016, 2017) as part of a broader, multi-year reconnaissance program initiated by the PAO aimed at assessing the condition of previously identified Beothuk housepits in the Exploits Valley (McLean 2015). It was a good thing it was discovered when it was, as the housepit is in imminent danger of being lost to lakeshore erosion. In just the few years since its discovery more than three meters of the lakeshore adjacent to the housepit has washed away (Erwin and Hull 2018: 67-68; McLean 2018a: 5; Schwarz and Hutchings 2019: 224), and this past summer we noticed that the lake water is now undercutting the bank which buttresses the north wall of the house. The housepit could start slumping into the lake in as little as two years (Wolff and Holly 2019).

Recognizing that the housepit was in eminent danger of being destroyed motivated the PAO to move quickly to document the housepit and initiate archaeological investigations at the site. In June of 2017, PAO archaeologists visited Sabbath Point and conducted a metal detector survey, which yielded an extraordinary iron deer spear (Erwin and Hull 2018). Later that fall they returned and produced a high-resolution digital map of the housepit with the aid of an Unmanned Aerial Vehicle (UAV); it was the first aerial map of a forested archaeological site in the province (Erwin 2017; Erwin et al. 2018). The PAO then enlisted Black Spruce Heritage Services (BSHS) to conduct excavations at the site.

Figure 2: Excavations at Sabbath Point

The work by BSHS, conducted in July of 2018, was centered inside the northern perimeter wall that faces the lakeshore and is most threatened by erosion. The excavation of ten 1m x 1m units in this area exposed part of the wall, mound and floor features, two postmolds set into the interior edge of the exterior wall, and six decaying logs, that were left in

situ out of concern that they might be architectural features (Schwarz 2018; Schwarz and Hutchings 2019); these logs are now suspected to be the result of natural tree-fall (McLean 2018a: 9). The excavation yielded fire cracked rock, and abundant unburned (n = 534) and calcined (n = 151) caribou bone, but few artifacts. One of the latter included an exquisitely rare triangular-shaped iron projectile point cut from sheet metal. It bears a striking resemblance to the end-blade affixed to a seal-hunting harpoon drawn by Shanawdithit (see Howley 1915: sketch VIII). Three pale creamware rim-sherds, which likely date to the late 18th-early 19th century, a possible whetstone, two amorphous iron concretions and what may be a strike-a-light were also found (Schwarz 2018; Schwarz and Hutchings 2019:230).

Later that fall, Laurie McLean and two field assistants returned to Sabbath Point for a week of additional work at the site (see McLean 2018a, 2018b). They began by clearing some twenty trees from the housepit area out of concern that a natural tree fall event could uproot *insitu* deposits and damage the feature (Schwarz 2018: 51). They then set a 2m by 5m excavation grid extending west from the southwest corner of BSHS' earlier investigations, encompassing a portion of the housepit interior, the perimeter wall, and a small area outside of the housepit. These excavations exposed interior mound and trench-like features, an oxidized clay deposit, a cluster of stones, and a dense deposit of bone and charcoal that was heaped on top of the perimeter wall.

As with the BSHS excavation, McLean's crew encountered fire cracked rock and copious amounts of unburned (n = 283) and burned (n = 340) faunal remains, most of which appear to be caribou. The variety of skeletal elements in the faunal assemblage suggested to McLean (2018b: 5) that caribou had been butchered on site and probably killed nearby. One might easily imagine that the aforementioned deer spear was enlisted in some of these hunts, and that an iron projectile point preform that McLean (2018a: 19) unearthed in a house floor depression was intended for others. In addition to the preform, McLean's crew also found a fragment of a wrought iron nail, and what were determined to be hammerstones, abraders, retouched flakes, and a small assemblage of lithic debitage.

Methods

Investigations by the PAO, BSHS, and McLean's crew did nothing to diminish the original excitement over the discovery of the housepit. Indeed, their recovery of a few spectacular iron-artifacts and abundant and well-preserved faunal material, along with the identification of some curious architectural features, and artifacts indicating that the housepit dates the turn of the 19th century—a crucial period in Beothuk history—only added to its significance. At the same time, each investigator distressingly noted how the lakeshore continued to creep closer to the housepit. There was also worry that looters would soon discover and disturb the site (McLean 2017: 42; Schwarz 2018: 51). With these concerns in mind, and an interest in stimulating academic interest in the site (see Schwarz 2018), the PAO reached out to Christopher Wolff (University at Albany) to see if he would be interested in continuing excavations at Sabbath Point in 2019; he was, and a six person crew consisting of Don Holly (Eastern Illinois University), and four students from University at Albany and Memorial University were assembled, and plans were made for a week of excavations.

Our crew arrived at the site on June 23rd, to find it mostly devoid of trees and low lying-vegetation, thanks to McLean's (2018b) earlier tree-clearing. It was easy to delimit the extent of previous excavations, since McLean's units were still open—likely because they thought they had not reached sterile deposits (see McLean 2018a: 40)—and the backfilled corners of Black Spruce Heritage's units were also visible on account of the soil settling toward the center of the excavation. Tracing these edges, and using the permanent datum sunk by BSHS, we re-established a grid on the site and set a rectangular block of ten 1m x 1m units immediately south of, and contiguous with, the BSHS excavations. In doing so we were able to extend a 50 cm baulk that the BSHS had established south across our excavation so that future excavators can profile the entire housepit (Schwarz 2018: 11-12). Extending our excavation in this direction also allowed us to sample the central hearth feature and a portion of the western platform or bench feature (Figure 2).

Our excavations followed standard protocol: excavation with hand trowels, screening of all dirt through ¼" mesh screen, point provenience of for-

mal artifacts and large faunal remains with a total station and quad provenience for everything else (e.g. FCR, faunal remains). We also collected a bulk soil sample from the southwest corner from every level in every unit. These samples will be screened through a nested column of finer meshes to examine the soil profile and recover any artifacts less than a ¼" in size. In addition, we recorded the location of formal artifacts and features and the surface of each stratum with our total station, hand-drawn maps, and photographs, the latter of which were stitched together with the Agisoft Metashape program and QGIS to create a three-dimensional model of the excavation. We also used a UAV to document the excavation and track lakeshore erosion.

We identified three strata in the course of excavation. These largely dovetailed with the strata the BSHS team observed (Schwarz 2018: 14), with the exception that we delineated a substratum of level 1. Level 1 proper consisted of a thin and discontinuous layer of gravelly dark-grey soil, rich roots and decaying wood, immediately below the forest litter. In some places, this level yielded significant amounts of faunal material. Beneath this, we identified another level (1B) that was more compact and darker in color, and less gravelly in texture, but richer in terms of faunal material. Level 2 was an easily identifiable pebbly stratum of orange-brown sand that was largely devoid of cultural material—the exception to this being places where bioturbation (i.e. tree-fall) and cultural activity (i.e. trampling and excavation) occurred.

Features

The earliest observed Beothuk houses—mamateeks—were described as conical in shape and small, with bark, skins, and later, sails, draped over a set of inward-leaning supporting poles that were joined above a central hearth (Cell 1982: 71). These structures are a challenge to identify in the archaeological record of the early historic period (see Gaulton 2001: 32; Gilbert 2002: 126), and given the near-invisibility of Beothuk dwellings in the later-prehistoric period (see Holly et al. 2015), we can surmise that something akin to them were used in antiquity too. Later in the 17th century (see McLean 1994, 2015), however, the Beothuk also started making pithouses. These were made by excavating a house floor in the location where a mamateek would be erected and using the back-dirt to create a perimeter wall. Beothuk pithouses take a variety of shapes (circular, oval, hexagonal, octagonal) and incorporate different design features (platforms, sleeping hollows, raised hearths), and some can be quite large (Marshall 1996: 353-360; McLean 2017). In addition, some observers mention square and rectangular shaped structures that may have also been dwellings, although some were clearly used for food storage (Howley 1915: 69; Marshall 1996: 355).

The Sabbath Point housepit is hexagonal in shape, and, measuring approximately 14m by 18m, is very large; indeed, it is the largest housepit measured on the island (40m^2) in terms of floor space (McLean 2016: 5, 2017: 33). The housepit's design also makes it unusual. It closely resembles a housepit excavated by Devereux (1970) at the B5 locality at the nearby Indian Point site (Figure 3). That housepit featured a wide platform or bench that ran along the perimeter wall, some internal depressions that may have functioned as sleeping hollows, and an elevated central hearth. The Sabbath Point housepit shares many of these same features.

Devereux (1970: 17) tentatively identified a doorway in the north corner of the B5 locality structure. It is not obvious where the Sabbath Point doorway was situated (Schwarz 2018: 50). McLean (2018a: 4) tentatively suggests two possible doorways: one in the northwest wall and one in the southeast wall. A northwest doorway would put it in close proximity to a peculiar wall/mound feature—not evident at the B5 locality—that extends inward from the perimeter wall toward the interior of the structure. The function of this feature is unknown, but it might have offered some insulation from entranceway drafts, served to internally divide the house, or represent a later architectural repurposing of the housepit (McLean 2017; Schwarz 2018: 47). Pastore (1986: 221) identified a somewhat similar feature at the northern entranceway to Housepit 4 at Boyd's Cove (Figure 4), which he interpreted as a windbreak.

A platform feature runs along a portion of the inside of the perimeter wall of the Sabbath Point housepit. It sits about 15 cm below the perimeter wall and is about a meter wide along the northeast wall but tapers off sharply to the east and west. Platform features have been documented at a few housepits from the interior of the island (McLean 2018a: 4), including the B5 locality at Indian Point (Devereux

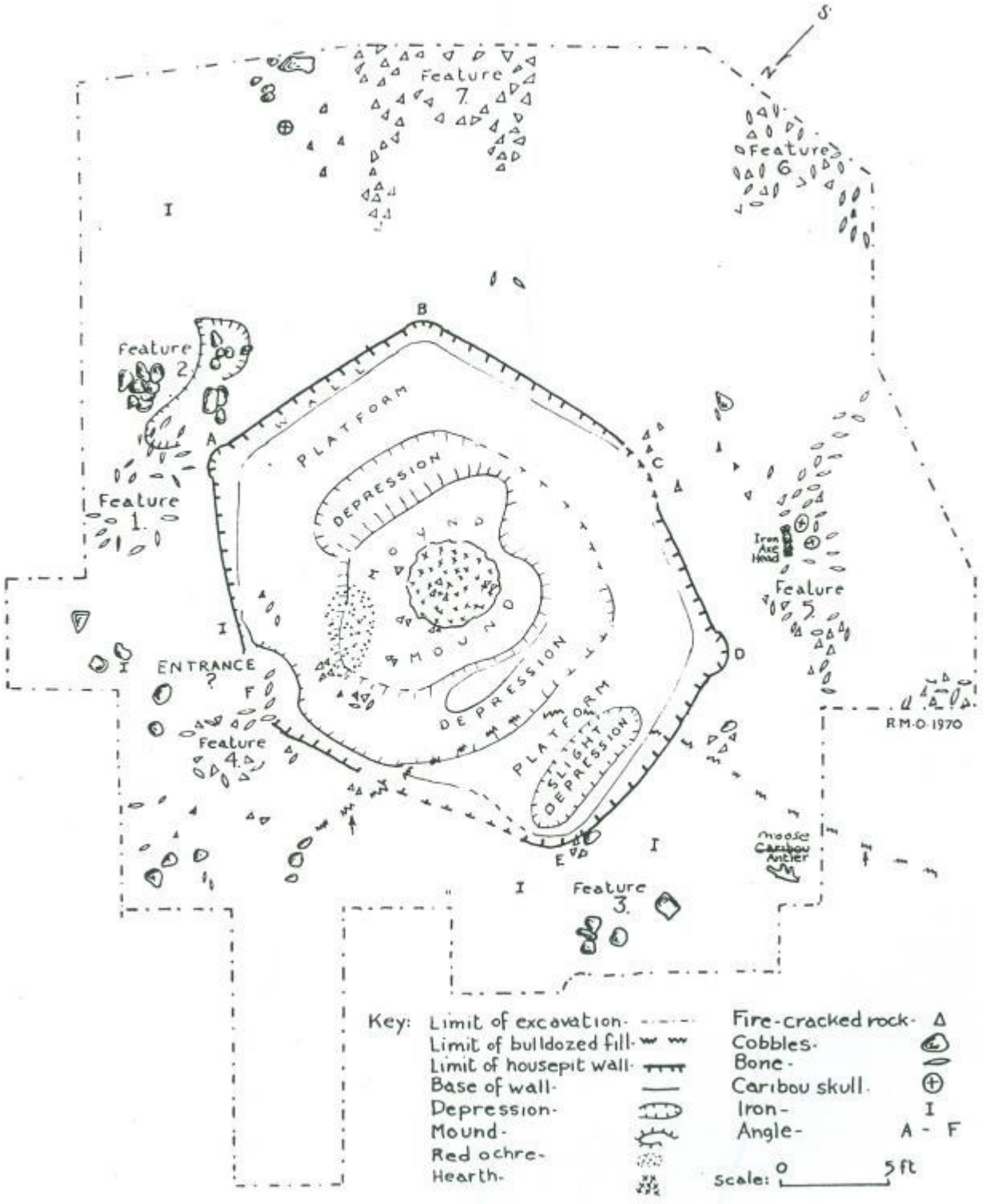


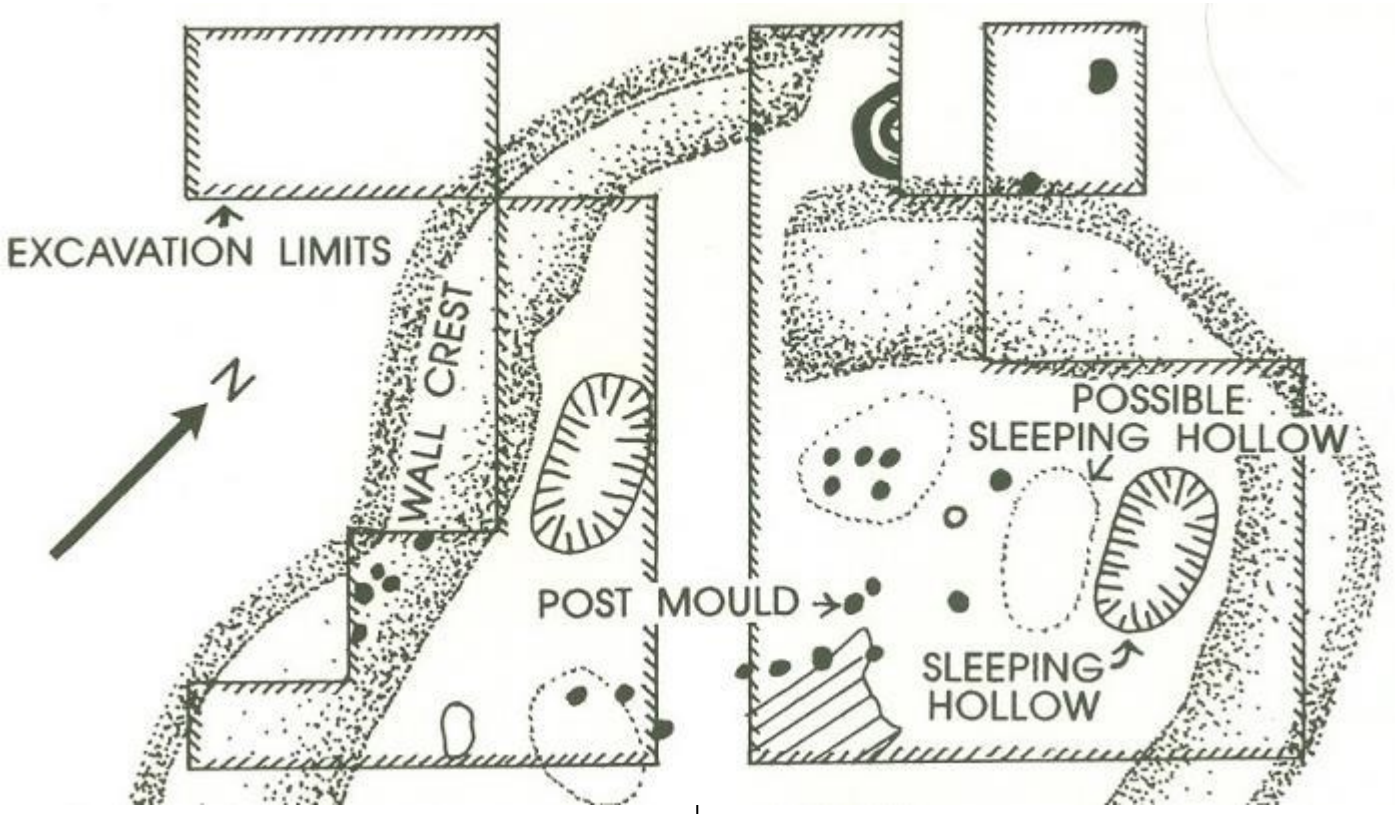
Figure 3: B5 locality housepit, Indian Point (Devereux 1970: figure 5)

1970:17), but are not well-understood. At Indian Point, the platform extended about a meter out from the perimeter wall, except at the doorway, where it was not evident. On the west wall of the B5 locality, where the platform was the widest, Devereux documented a long shallow depression (1970: 17), which could suggest that the platform was used as a sleeping area (McLean 2018a: 4). The BSHS excavations at Sabbath Point identified two postholes on the platform near the foot of the northern perimeter wall (Schwarz 2018: 31-32), which may mark supports for the superstructure. Pastore (1986: 220) identified numerous postholes along the crest of the perimeter wall of house four at Boyd's Cove, which plausibly served a similar purpose. If these supports brought the walls of the roof down to the back-end of the platform, there might not have been enough room for sleeping on it. Accordingly, the Sabbath Point platform may have been used for storage too, especially in places where the platform was not very wide.

The Beothuk excavated the floor of the Sabbath Point housepit to a depth of approximately 30 cm below the ground surface and used the excavated deposits to build the platform and perimeter wall. Stones that were on the forest floor appear to have been incorporated into these features (see McLean 2018a: 31). It also seems that the Beothuk dug along some of the exterior wall of the housepit (McLean 2018a: 32; see also Lloyd 1876: 223; Pastore 1986: 220), perhaps to add more soil to the perimeter wall and help with drainage. The housepit floor itself is rather level, although there is some sloping toward the southern wall; this is particularly clear on the UAV-generated digital map produced by Erwin et al (2018: 58) (Figure 5). Perhaps this is where the doorway was. Plausibly, heavy foot traffic and the sweeping of refuse out of an entranceway could have worked to depress the floor in this area (see Pastore 1986: 211). This would also put the doorway directly across from the platform feature, which might make sense if it was used for sleeping.

An elevated, approximately 3m wide hearth feature is situated in the center of the housepit. It seems to be the result of both pillaring the feature by excavating the floor around it and the dumping of household refuse on it (Schwarz 2018: 49). As with

Figure 4: North door, House 4 at Boyd's Cove (Pastore 1992: 42)



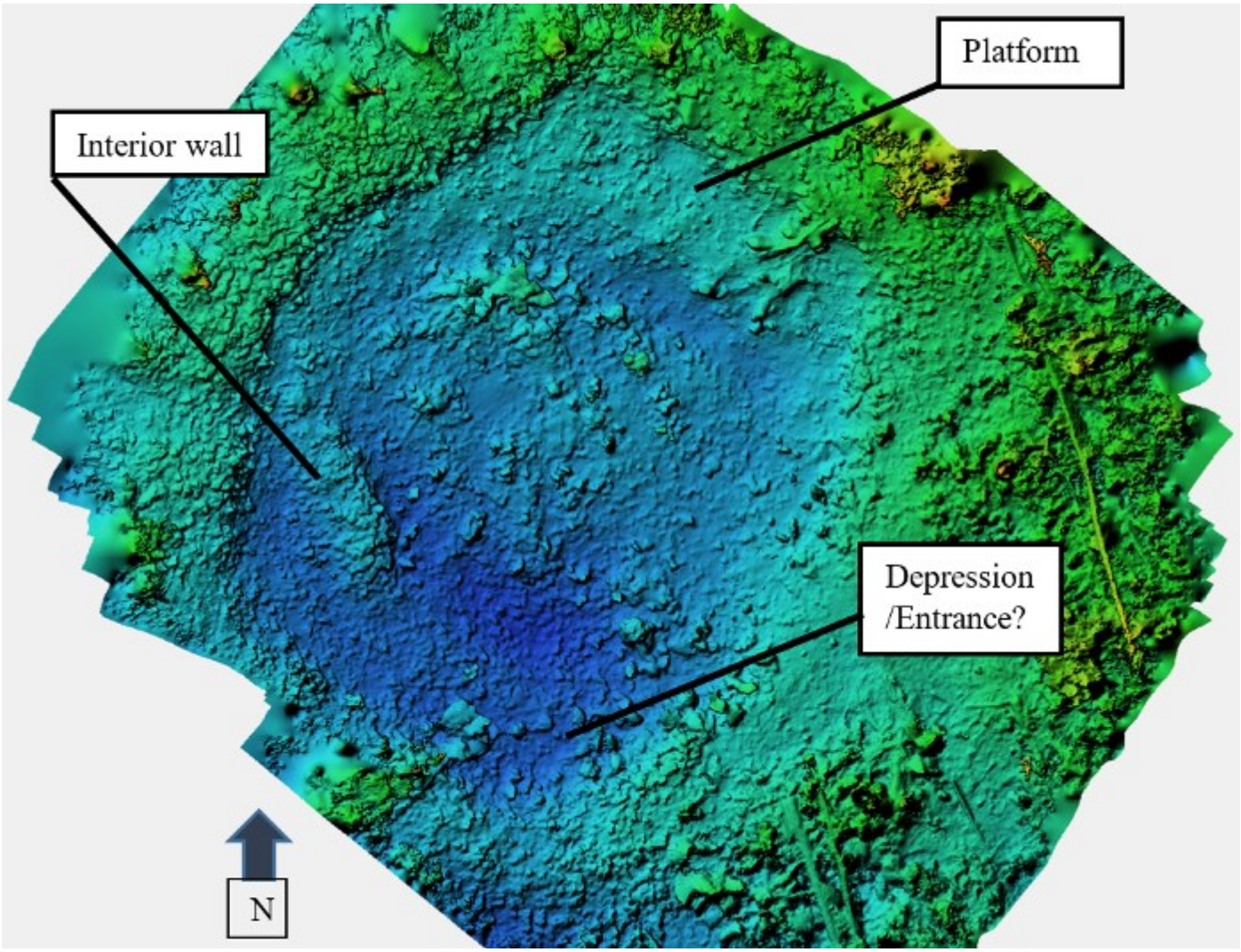


Figure 5: False color elevation image of the Sabbath Point housepit, courtesy of John Erwin (see Erwin 2017; Erwin et al. 2018), with key features identified

earlier excavations (Schwarz 2018: 26-27), we encountered an abundance of calcined and unburned bone and FCR here, along with pockets of charcoal and ash.

Artifacts and faunal material

More than a hundred test pits (McLean 2017), a metal detector survey (Erwin and Hull 2018), and two previous excavations (McLean 2018a; Schwarz 2018) at Sabbath Point have yielded only a small number of artifacts. Our 2019 excavations added a little more to this. This past summer we recovered just three thin, cylindrical iron fragments and a larger iron object. All of the iron was found in our westernmost units and is associated with the housepit's platform feature.

The larger iron object, which is broken, is likely from an animal trap. The break on this piece occurs at a point where there was a hole in the object, suggesting that it might have been broken here on purpose, although to what purpose is not clear; but with its one perforated point and small size the object could have been worn as a pendant (Figure 6). Two of the iron fragments were found together, and one of them struck us in the field as a plausible projectile point manufactured from an iron nail. On closer inspection, later confirmed by x-ray analysis (Figure 7), however, it became evident that this object's "projectile point" shape was merely the result of oxidation. In addition, the cylindrical iron objects appear to be too narrow to have been iron nails and are more likely clipped or bent fishhooks.

There is very little evidence of a lithic industry at Sabbath Point. We found no stone tools or debitage in 2019. The BSHS crew recovered only a "possible" whetstone in 2018, and were surprised to

Figure 6: "Pendant-like" iron object

find no chipped stone tools or debitage (Schwarz 2018: 36-37). McLean (2018a: 28, 48, 2018b: 5-6) reported debitage, retouched flakes, hammerstones, and abraders, but he also noted that the majority of the flakes he found might actually be spalls from heated cobbles, that the three abraders were only "slightly used," and that other objects were water-worn. Wolff has examined these items and is unconvinced that they are cultural, with the exception of those that are FCR.

The current lack of evidence for lithic production at Sabbath Point implies a couple of things: 1) if the housepit was erected on the grounds of a former caribou processing site, as Schwarz (2018: 25) speculates on account of the presence of unburned faunal material in the perimeter-walls, then the former location was not used very long ago; 2) the housepit was likely occupied in the latter half of the 18th century, maybe even at the turn of the 19th century. Such a late date is consistent with the dearth of stone tools at the site (see McLean 2018a: 8) and is supported by the presence of the aforementioned pale creamware rim-sherds, which were popular between the 1760s and the 1820s (Schwarz and Hutchings 2019: 230).

But a late date does not explain why so few iron and other historic-period artifacts have been found at the site. Iron and other period objects are abundant at Boyd's Cove, in Notre Dame Bay, and are rather common at interior Beothuk sites too (McLean 1994). The wealth of iron at Boyd's Cove has been attributed to the site's close proximity to European fishing stages (Pastore 1989: 66), and with this in mind we might suspect that the Beothuk might have had a more difficult time obtaining iron if camped on the shores of Red Indian Lake. It is probably no coincidence that animal trap parts and axes are common at interior Beothuk sites (see McLean 1990: 173). The few iron artifacts at Sabbath Point could also reflect the relatively small number of people that were camped here when compared to those that lived at Boyd's Cove and in the large housepit clusters along the Exploits and elsewhere on the lake. A single family or two are unlikely to generate a lot of material. Indeed, the B5 locality housepit at Indian Point did not yield many historic artifacts either (see Devereux 1970: 18, 30). It is also possible that these housepits were not occupied (or reoccupied) for very long.

Another possibility is that the site was once richer in artifacts, but that they were taken from the housepit "shortly" after its abandonment. The Mi'kmaq camped on or near many Beothuk sites, including Indian Point (Speck 1922: 23-34), and were said to frequently dig in Beothuk housepits for iron (Speck 1922: 21-24). We also know that settlers (Howley 1915: 326-328; Kirwin et al. 1997: 279; Lloyd 1876) did the same, if for different reasons. Something important to consider here is the likelihood that the Sabbath Point housepit might have been in fairly-good shape well into the 1800s, especially if it had been occupied near the beginning of the century. Frank Speck (1922: 48) was told a story of a Mi'kmaw hunter who once found a Beothuk mamateek, intact and complete with caribou skins, as if frozen in time. Traces of Beothuk caribou fences, likewise, could still be found in early 20th century (Dugmore 1913: 9-10; Lloyd 1876: 224; Speck 1922: 19-20). The implication of this is that there might

Figure 7: Iron point and xray

very well have been a mamateek still standing at Sabbath Point to draw people's attention at a time when there was a lot of interest in the fate of the Beothuk; and also, that people would not have had to necessarily dig there to find artifacts. This could explain why there are no signs of disturbance at the site as well.

Faunal remains are abundant at Sabbath Point are faunal remains. Previous work (McLean 2018a; Schwarz 2018) yielded some 1300 pieces of unburned and calcined bone, and our excavations this past summer added considerably more material to the collective assemblage. Our excavations in and around the central hearth feature, especially, produced a great deal of faunal material. Analysis of these remains, along with the faunal collections from the BSHS and McLean excavations, is currently underway. Initial observations suggest caribou dominate the assemblages (McLean 2018a: 38-39; Schwarz and Hutchings 2019), but that small game, and perhaps bird, are also present (Wolff and Holly 2019).

The late date of occupation at Sabbath Point makes the study of this faunal data especially critical. Stewart's (1973) analysis of the Wigwam Brook faunal assemblage, which indicated that the Beothuk may have been living at the site throughout the year—or at least well into the spring—was the first to document a shift in Beothuk subsistence patterns in the later historic period. This shift is now well-supported by settlement data (Holly 2008; Rowley-Conwy 1990) and the bioarchaeological record (Harris et al. 2019). What is missing, however, is a careful reassessment of the zooarchaeological evidence for this. This is important, in light of the idea that the Beothuk may have found it increasingly difficult to live on the coast in the later part of the 18th century (Pastore 1993: 265). Some recent work indicates that the Beothuk responded to periods of resource stress in antiquity by broadening their diet and hunting caribou beyond the optimal fall-winter window (Holly et al. 2018), but analyses of this sort has not been done with later period faunal assemblages. The faunal record from Sabbath Point offers the unique opportunity to do this—to assess Beothuk subsistence stress during the critical late 18th-early 19th century period—and this work is now underway.

Conclusions (future work)

We hope to return to Sabbath Point in the summer of 2020. Our planned work there, and ongoing analysis, aims to accomplish a number of things.

1) We want to document and better understand Beothuk household architecture. Surprisingly, there has been relatively little attention to this issue from an archaeological perspective (Erwin et al. 2018), which probably reflects a long tradition of relying on the ethnohistoric record for information about the Beothuk. The problem with this approach is that it works to reify Beothuk culture and history in antiquity (see Holly and Erwin 2009: 67). And yet, the six-sided mamateeks at Sabbath Point and Indian Point

do not appear to have ethnohistoric parallels. There are also some unusual architectural features in some housepits, such as platforms, internal mounds/walls, and external trenches, which seem to be missing from historical descriptions of Beothuk houses. What is sorely needed is a broad analysis of Beothuk architecture (see McLean 2015, 2017) that is based on a detailed, on-the-ground accounting, of archaeological features.

2) Schwarz (2018: 23-25) has suggested that the Sabbath Point housepit might have been built on the remains of a caribou kill site or processing area. This interpretation is based on the presence of unburned bone in the perimeter walls, and the lack of evidence for lenses in these walls—which might indicate episodes of rejuvenation/floor cleaning (*cf.* McLean 2018b: 9). Related to this is evidence for the casual disposal and incorporation of faunal remains in the house features (Schwarz 2018: 42), which would seem to run counter to the structured disposal of bone in the ethnographic record of the region (Holly 2019). These interpretations, which have implications for our understanding of the Beothuk built environment and even ideology, need to be further assessed.

3) Beothuk sites in the interior occur in clusters, which presumably reflect the repeated use of specific places for intercepting caribou (see Schwarz 1992); many consist of large numbers of housepits in close proximity to one another. Smaller sites and single housepits are not unknown, but they are less common and may represent different subsistence (see Holly et al. 2018) or social strategies. In this context, the connection between the Sabbath Point housepit and the large cluster of housepits at nearby Indian Point needs to be closely examined. Are we looking at a contemporaneous occupation with an associated "isolated" housepit? Or seasonal or subsistence variation in settlement patterns? Or maybe a Beothuk response to their dire situation at the turn of the 19th century?

4) We want to increase the sample size of the faunal assemblage at Sabbath Point. As already discussed, this assemblage is vital to understanding late 18th-early 19th century Beothuk subsistence strategies. To date, only a couple of faunal assemblages which may date to this period have been carefully studied, and none since the early 1970s (Stewart 1971, 1973). Analysis of one of these collections led to the influential interpretation that the Beothuk had been largely cut-off from the coast (Le Blanc 1973; Pastore 1993: 265). The Sabbath Point assemblage gives us the rare opportunity to revisit this important issue, and otherwise examine Beothuk subsistence strategies at a critical point in their history.

5) Finally, in light of all of the above, we want to salvage the site. Given that every archaeologist that has visited Sabbath Point has noted with alarm how the shoreline has continued to encroach on the housepit, it is not hard to imagine that the site could wash away within a few years.

Acknowledgements

We would like to thank our field crew, the PAO, John Erwin and Elaine Anton, Fred Schwarz and Corey Hutchings, Laurie McLean, and Albert Taylor for their advice, help, and support on this project.

References

Cell, Gillian T. (ed)
1982 *Newfoundland Discovered: English Attempts at Colonisation, 1610-1630*. The Hakluyt Society, London.

Devereux, Helen
1970 A Preliminary Report on the Indian Point site, Newfoundland: a stratified Beothuck site. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.

Dugmore, A.A. Radclyffe
1913 *The Romance of the Newfoundland Caribou*. J.B. Lippincott Co., Philadelphia.

Erwin, John
2017 Sabbath Point (DeBd-08) Unmanned Aerial Vehicle (UAV) Mapping Project Report on Provincial Archaeology Office Activities under Permit #17.38. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.

Erwin, John and Stephen Hull

2018 Provincial Archaeology Office 2017 Field Activities. *Provincial Archaeology Office 2017 Archaeology Review* 16: 61-92.
Erwin, John., Amanda Crompton, and Marc Bolli
2018 Sabbath Point (DeBd-08) Unmanned Aerial Vehicle (UAV) Mapping Project. *Provincial Archaeology Office 2017 Archaeology Review* 16: 54-60.
Gaulton, Rick
2001 An Early Historic Beothuk Occupation at Ferryland, Newfoundland. *Avalon Chronicles* 6: 19-55.
Gilbert, G. William
2002 Russell's Point (CjA-1): A Little Passage/Beothuk site at the Bottom of Trinity Bay. MA thesis, Department of Anthropology, Memorial University of Newfoundland.
Harris, Alison J.T., Ana T. Duggan, Stephanie Marciniak, Ingeborg Marshall, Benjamin T. Fuller, John Southon, Hendrik N. Poinar, and Vaughan Grimes
2019 Dorset Pre-Inuit and Beothuk foodways in Newfoundland, ca. AD 500-1829. *PLoS ONE* 14(1): e0210187.
Holly, Donald H. Jr.
2008 Social Aspects and Implications of "Running to the Hills": The Case of the Beothuk Indians of Newfoundland. *Journal of Island and Coastal Archaeology* 3(2): 170-190.
Holly, Donald H. Jr.
2019 Toward a Social Archaeology of Food for Hunters and Gatherers in Marginal Environments: a Case Study from the Eastern Subarctic of North America. *Journal of Archaeological Method and Theory* 26(4): 1439-1469.
Holly, Donald H. Jr. and John C. Erwin
2009 Terra Incognita, Still: Archaeological Investigations in the Interior of the Island of Newfoundland. *Archaeology of Eastern North America* 37: 65-84.
Holly, Donald H. Jr., Christopher B. Wolff, and John C. Erwin
2015 Before and After the Fire: Archaeological Investigations at a Little Passage/Beothuk Encampment in Trinity Bay, Newfoundland. *Canadian Journal of Archaeology* 39(1): 1-30.
Holly, Donald H. Jr., Paul Prince and John C. Erwin
2018 Bay Year Economics at Birchy Lake. *Journal of Anthropological Research* 74(2): 201-231.
Howley, James P.
1915 *The Beothucks or Red Indians: the Aboriginal Inhabitants of Newfoundland*. Cambridge University Press, Cambridge.
Kirwin, William J., G. M. Story, and Patrick A O'Flaherty (eds.)
1997 *Reminiscences of J.P. Howley: Selected Years*. Champlain Society, Toronto.
Le Blanc, Raymond J.
1973 The Wigwam Brook Site and the Historic Beothuk Indians. MA thesis, Department of Anthropology, Memorial University of Newfoundland.
Lloyd, T.G.B.
1876 A further account of the Beothucs of Newfoundland. *Journal of the Anthropological Institute of Great Britain and Ireland* 5:222-230.
Marshall, Ingeborg
1996 *A History and Ethnography of the Beothuk*. McGill-Queens University Press, Montreal.
McLean, Laurie
1990 Beothuk Iron—Evidence for European Trade? *Newfoundland Studies* 6(2): 168-176.
1994 Back to the Beaches: New Data Pertaining to the Early Beothuk in Newfoundland. *Northeast Anthropology* 47 (spring): 71-86.
2015 Observations concerning Beothuk Housepits. Paper presented at the 48th annual meeting of the Canadian Archaeological Association, St. John's, Newfoundland.

2016 A Preliminary Report of an Archaeological Survey of the Sabbath Point Area, South shoreline of Red Indian Lake. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
2017 An Archaeological Survey of the Sabbath Point Area, Red Indian Lake: Final Report. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
2018a Partial Excavation of a Beothuk Housepit at Sabbath Point (DeBd-08) Red Indian Lake. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
2018b Salvage Excavation of a Beothuk Housepit at Sabbath Point (DeBd-08), Red Indian Lake: Phase 2. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
nlarchaeology
2016 Beyond Indian Point: History and Archaeology of the Northeast Arm of Red Indian Lake, Part 3. *Inside Newfoundland and Labrador Archaeology* (blog), January 25, 2016. https://nlarchaeology.wordpress.com/2016/01/25/beyond-indian-point-history-and-archaeology-of-the-northeast-arm-of-red-indian-lake-part-3/, accessed December 27, 2019.
Pastore, Ralph T.
1986 Excavations at Boyd's Cove: the 1986 Field Season. In *Archaeology in Newfoundland and Labrador 1985*, edited by Jane S. Thomson and Callum Thomson, pp. 218-232. The Newfoundland Museum, St. John's.
1989 The Collapse of the Beothuk World. *Acadiensis* 19(1): 52-71.
1992 *Shanawdithit's People*. Atlantic Archaeology Ltd., St. John's.
1993 Archaeology, History, and the Beothuks. *Newfoundland Studies* 9(2): 260-278.
Rowley-Conwy, Peter.
1990 Settlement Patterns of the Beothuk Indians of Newfoundland: a View from Away. *Canadian Journal of Archaeology* 14: 13-32.
Schwarz, Fred
1992 Archaeological Investigations in the Exploits Basin. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
2018 Archaeological Excavations at Sabbath Point (DeBd-08), July 2018, Red Indian Lake, Newfoundland. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
Schwarz, Fred and Corey Hutchings
2019 Archaeological Excavations at Sabbath Point (DeBd-08), July 2018, Red Indian Lake, Newfoundland. *Provincial Archaeology Office 2018 Archaeology Review* 17: 224-231.
Speck, Frank G.
1922 *Beothuk and Micmac*. Indian Notes and Monographs, 22. Museum of the American Indian, Heye Foundation, New York.
Stewart, Frances L.
1971 Faunal Analysis of the Indian Point Site, Red Indian Lake. Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.
1973 Faunal Remains from the Wigwam Brook Site (DfAw-1) of Newfoundland. *Bulletin of the Canadian Archaeological Association* 5: 91-112.
Wolff, Christopher B. and Donald H. Holly Jr.
2019 Interim Research Report for Permit 19.14, Sabbath Point Site (DeBd-08). Unpublished report on file at the Provincial Archaeology Office, Government of Newfoundland and Labrador, St. John's.

St. Mark's Anglican Cemetery, New Perlican

Dale Jarvis & Eileen Matthews
ICH Development Officer, Heritage NL & Heritage New Perlican

Preliminary grass cutting 2012. Photo credit: Lisa Wilson

St. Mark's Anglican Cemetery is located at Scott's Hill, also once known as Church Hill, in New Perlican, Trinity Bay, NL. This grassy plot of land overlooks the ocean and contains many grave markers. Of the markers that have been uncovered and documented, most record death dates from the mid to late 1800s. Names recorded on extant grave markers include members of the Bickford, Hobbs, Howell, Merchant, Mitchell, Northover, Pittman, Pitts, Seward, Swansborough and Warren families.

While all the inscribed stones date from the 19th century, the majority of markers in the burial grounds are of unmarked fieldstone. These stones may represent earlier burials, though further research is needed.

New Perlican was established as a small fishing base by the mid-1600s, making it one of the oldest fishing stations in Trinity Bay. As early as 1620, Thomas Rowley, who was then living at Cupers Cove (Cupids), wrote of his plans to settle "near Harts Content...att New Pernecan." Archaeologist William (Bill) Gilbert has conducted several seasons of excavations in the community at what is known at the Hefford Plantation (Borden Site Number ClAi-4). Gilbert (2007:104) writes that the Plantation "was first settled by William Hefford and his family in 1675 and appears to have been occupied continually since that time." This plantation is "thought to be the oldest in Canada that is still inhabited by the descendants of the first settlers" (Matthews 24).

By 1677 William Hefford had built a "dwelling house [and] nine store rooms and lodging houses" at New Perlican, and excavations in 2003 uncovered a William III ha'penny minted sometime between 1695 and 1698 and a seventeenth-century padlock (Gilbert 2004:16). Work the following year recovered a Spanish American silver one real coin manufactured in Potosi in what is now Bolivia, dated to circa 1653 (Gilbert 2005:18). Selections of these artifacts are on loan from the Baccalieu Trail Heritage Corporation to Heritage New Perlican and can be seen during open hours at the Town of New Perlican office.

Much of the recovered archaeological material shows links back to Devon, England, and a num-

Community members examine stones 2012. Photo credit: Lisa Wilson

ber of the early inhabitants may have had connection to the Church of England, though there was no formal church in the community during its first phase of settlement. Hatton and Harvey (465) note:

> It was not till 1703 that any organised effort was made on the part of the Church of England to supply the spiritual wants of its adherents, who, in considerable numbers, were settled on the shores of the island. The Society for the Propagation of the Gospel in Foreign Parts was established in 1701, and their attention was at once directed to Newfoundland. At that time there was but one Protestant - clergyman in the island—a Mr. Jackson, who was in St. John's. The society adopted him as its missionary, and gave him a salary of 50 pounds. per annum. The efforts of the society were gradually extended year after year, and more missionaries were sent as the population increased. Conception, Trinity, and Bonavista bays were the seats of the early missions of the Church of England. Churches were built in St. John's, Harbour Grace, Carbonear, Old and New Perlican.

Hatton and Harvey do not reference the date of a possible 18th-century church in New Perlican, but it was clearly a site of Anglican outreach at that time. John Langtry, Rector of St. Luke's, Toronto, and Prolocutor of the Provincial Synod of Canada, noted the following:

> In 1765, the Rev. James Balfour was appointed missionary at Trinity Bay, with the out-harbours of Old and New Perlican and Bonavista. After nine years labour here, he was removed to the more important station of Harbour Grace, the population of which he reports as consisting of 4462 Protestants and 1306 Roman Catholics, the number of communicants at almost 200. He was succeeded in the mission of Trinity Bay by the Rev. John Clinch, who laboured there for many years.

Balfour, apparently, was somewhat unimpressed with New Perlican, and complained that its families were "in a state of war with each other." New Perlican fared better in his estimation than nearby Scylly Cove (Winterton) which he described as "a most barbarous and lawless place" (qtd in Hancock 135).

New Perlican contains a few private or family burial sites, including the Jane Condon grave site, dating to circa 1816. The grave is located in a meadow at the end of Gut Road in Vitter's Cove. As of 2018, the meadow belonged to Betty Callahan Simmons — a direct descendant of Cornelius Callahan, who was among the first settlers to the Vitter's Cove area. The grave seems to be the only one in this location, although there are some small, seemingly cut stones protruding from the ground in the area of the Condon headstone, which may indicate other burials. Jane Condon's headstone indicates that she was born in 1758 and died in 1816.

As documented in "Edie's Book: Thoughts, Memories & Folklore from Trinity Bay, Newfoundland," written by Edith Burrage in 2003, the stone then read "Sacred to the memory of Jane, wife of John Condon, who departed this life June 22, 1816 age 58 years." It also contained a verse which read "Death can't disjoin, whom Christ hath joined in love, From life to death, and death to life above. In

Heaven a happier place frail things despise, Live well to gain in future life the prize." John Condon and his wife would have been among the early settlers to New Perlican. Local oral tradition maintains that John Condon lost most of his family, moved away, and never came back.

Remnant of broken headstone 2012. Photo credit: Lisa Wilson

In 1827, Bishop John Inglis (the son of Charles Inglis, the first Anglican bishop in North America) came from Halifax to St. John's by ship. The bishop covered 3000 miles in his travels, visiting Conception Bay, Trinity Bay and Notre Dame Bay, and along the way meeting Shanawdithit, the last of the Beothuk (Origin 5).

While in Trinity Bay, the Bishop of Nova Scotia visited New Perlican on June 19, 1827. The church was at that point unfinished, so it remained unconsecrated, but Inglis confirmed 54 people living in the area. No burial ground was noted, though Inglis did consecrate the church and burying ground in nearby Heart's Content the following day (Scott 789). Later, Bishop Inglis wrote, "Tuesday, June 19th, I landed at nine in (New Perlican) where a numerous congregation of whom 54 were confirmed and addressed. I urged the people to complete their church all the materials for which were collected."

Work on the church was either complete or had progressed enough for the building to be consecrated by 1832. An 1877 "List of missions of the Church of England in Newfoundland and Labrador" notes that "The first church at New Perlican was dedicated to St. Mark, in 1832" (JJC 12). The exact location of this first St. Mark's is yet unknown, though it is presumed to be somewhere near the cemetery. According to local oral tradition, "The first Anglican church in New Perlican was built on a hill in 1834 and was named St. Marks. This church suffered a minor fire when a flanker from the chimney landed on the shingles and started a fire. The fire was soon controlled and the church was repaired" (Penney).

The oldest intact dated headstone in St. Mark's cemetery itself is from circa 1835. It marks the grave of Elizabeth Mitchell, born 1811, who died 12 December 1835. Another headstone may date to 1800, but this cannot be determined for certain, as the date has worn off. The names on that stone are Martha Pittman, wife of Charles, and her infant son William.

St. Mark's was active throughout the 1840s and '50s, and an inscription contained in a bible in the present Anglican Church reads "Presented to the Church of St. Mark, New Perlican by Rev. T.F.H. Bridger, M.A., Ecclesiastical Commissary and Dean of Avalon, September 17th, 1842." The Morning Courier newspaper reports that during the Legislative Council debate on an Education Bill, held Monday May 9th, 1853, that the Hon. W. Thomas in his speech noted 205 Episcopalians and 23 Wesleyans (possibly children?) living in New Perlican (Legislative 1).

The 1877 list of missions lists one consecrated cemetery for New Perlican, and a second St. Mark's church, this one built in 1863 (JJC 13). The map of the diocese included in that report notes that the parish at New Perlican served two settlements at that time.

By the late 1800s, local newspapers were carrying notices of deaths and burials at the cemetery. As an example, the Harbor Grace Standard noted on 1 August, 1874:

> Died.—At New Perlican, on Thursday, July 16th, Mr. Albert Pitman, aged 60 years The deceased was a much respected native and resident of New Perlican, who, after a

> lingering illness, born with a peaceful and tranquil mind, has departed from among us, leaving a deeply attached and bereaved wife and family, many sorrowing relatives, and a large circle of regretting friends to mourn their loss. The deceased, being also a late esteemed member of the Society of United Fishermen of Heart's Content, they, on Sunday, July 19, ult., assembled to the number of about 160 (many being absent at the fisheries) and walked to New Perlican, when, after listening to an appropriate discourse from the worthy Chaplain, the remains of the lately deceased brother were moved to their final resting place. The brethren of the order present, before retiring, gave their last token of respect— viz, Fishermen's honors.

One of the burials in the cemetery is that of Edward Bickford, born 1830. Bickford was apparently a teacher in the community, as the Journal of the House of Assembly of Newfoundland (98) notes: "FRIDAY, 10th April, 1885. The following petitions were severally presented, received — and read: — By Mr. Boyd, From the inhabitants of New Perlican, on the subject of an annuity to Edward Bickford, an old and deserving Schoolmaster." Sadly, the schoolmaster died 6 June, 1885, so any annuity he received was only shortly enjoyed.

By the 1880s, both the cemetery and church were insufficient for the community, with the old church being in need of extensive repairs (see Rowe). Again, according to local oral tradition, "St. Mark's Anglican church was destroyed by a fire in 1886. The third Anglican, St. Augustine's Anglican church, was started on January 1, 1886" (Penney).

The new church was consecrated 29 June, 1886. The Evening Telegram (Lord 4) for July 7th of that year reported:

> Midway between Heart's Content and New Perlican there is a turn in the road, from which many of the visitors obtained their first view of the building. The scene which presented itself, no doubt, astonished them. There, where only a few months ago stood nothing but brushwood and the stunted fir and spruce, could be seen a handsome church, with nave and chancel, tower and spire, complete. Before it the still, clear water of New Perlican pond was reflecting its grateful form, whilst beyond it lay the waters of the harbour. But it was not until the visitors reached the brow of a hill in New Perlican itself that the church could be properly seen by them. Then, indeed, not only the thoroughly church-like appearance of the building, but also its fine, open situation became at once visible. Built about three hundred yards from the main road, and approached by a good broad road near by—the free labor of the people—its position is seen to be most excellent. As the visitor leaves the main road for the church he passes beneath a lichgate, bearing the inscription, "Holiness to the Lord," put there to remind him of the reverence due to the place where it has vouchsafed the Lord to place His name.

First St. Augustine's Church prior to fire early 1900s courtesy Heritage New Perlican

Site in 2012 photo by Dale Jarvis

With the new church came a new cemetery, located on Beaver Pond Road. The Diocesan Magazine for April, 1892 announced the new cemetery thusly:

> A new cemetery has long been felt to be a pressing need here, but till lately we have never succeeded in finding a suitable place. We have, however, at length been successful, having purchased from Mr. John Luther a piece of ground admirably adapted for that sacred purpose. A short time ago a Committee was formed to draw up rules, which were subsequently adopted at a general meeting. On Monday, March 14, a large number of men assembled to begin the work of clearing. A special service, consisting of psalms, prayers, the doxology and benediction was said on the ground. It is hoped that the work so well begun may be brought to a successful termination, and that ere long a neat cemetery may be solemnly set apart by the act of Consecration.

As a side note, the first Methodist graveyard was established in the community around the same time. A 1925 History of Methodism (Johnson 290) reports:

> The first church in New Perlican was opened in the year 1893 and is now used as a day school. The present church was opened in 1914. Before Methodism had any church or graveyard in this place, a corpse was carried on horseback to Carbonear, fifteen miles distant, for burial.

After the 1890s, the old St. Mark's Cemetery fell into disuse, and by 2012, the cemetery found itself at threat from neglect and encroaching ATV trails. Folklorist Lisa Wilson met with some members of Heritage New Perlican in November 2012 for a preliminary walk-through, and then helped organize a clean-up project for 22 June 2013. Before the clean-up, it was believed that some previously unrecorded headstones could have been hidden throughout the site. Several community members turned up to help with the removal of the tall grass and shrubbery that had been obscuring a cluster of headstones. In a few hours, 13 headstones were revealed, most of which were from the mid-19th century. Encouraged by this work, St. Mark's Anglican Cemetery, New Perlican, was designated as a Municipal Heritage Site by the Town of New Perlican Regular Council Meeting Motion #2013-062 July 13, 2013.

In October 2018, a group of Memorial University archaeology graduate and undergraduates, with folklore, sociology, history, business, and anthropology students travelled to New Perlican as a collaboration between the Heritage Foundation of Newfoundland and Labrador, Memorial University of Newfoundland, and Heritage New Perlican. Students and community volunteers continued with the clearing and removal of brush, while a smaller group of archaeology students started at the lower end of the site

Site cleanup and mapping with archaeology students 2012 photo HeritageNL

to map the stones, under the direction of archaeologist Dr. Shannon Lewis-Simpson.

By the end of the afternoon the recording team had mapped out less than a quarter of the site as a whole, but had managed to record the locations of 58 gravestones. This included three stones carved from local slate, with inscriptions. Archaeologist Robyn Lacy blogged about the event, writing,

> Made from local stones, there grave markers were likely either carved in a nearby community to New Perlican. Records showed that there were slate cutters from Wales in Newfoundland dating back centuries, brought over to work the slate that the British were already aware was present on the island. It makes sense that a gravestone carving culture would spring up from that, and I'm not surprised to see these samples at the site! My favourite is the little red stone that reads 'S W' in uneven, capital letters. In addition to these, there were several headstones carved by A. Smith, a gravestone carver from St. John's who was the first to import marble from New England for gravestones in the early 1800s, and MacKim, another carver from St. John's who also worked with imported marble and limestone (Lacy 2017a).

Lacy, along with Dr. Shannon Lewis-Simpson and Ian Petty, returned to the site later in October, to continue with the mapping project. That second day of mapping brought the total of mapped stones to 135, with the lower third of the site completed (Lacy 2017b).

Volunteers with Heritage New Perlican have compiled a list of existing and potential burials for the site, based on extant tombstone inscriptions and parish burial records. Approximately 59 named individuals have been identified for the cemetery, which represents only about 44% of the stones mapped to date. Clearly the number of burials in the cemetery is much higher than what is presented in the Heritage New Perlican list, and additional mapping and recording is needed to fill in gaps in the data.

References

Burrage, Edith. Edie's Book: Thoughts, Memories & Folklore from Trinity Bay, Newfoundland. A Bailey Book, 2003.

Died. Harbor Grace Standard, 1874-08-01 p3.
http://collections.mun.ca/cdm/compoundobject/collection/hgstandard/id/2877/rec/16

Gilbert, William. Baccalieu Trail Archaeology Project, 2003: Summary of 2003 Fieldwork. Provincial Archaeology Office Newsletter, Volume 2, Issue 1, January 2004.

Gilbert, William. Baccalieu Trail Archaeology 2005. Provincial Archaeology Office Newsletter, Volume 4, February 2006.

Gilbert, William. Baccalieu Trail Archaeology, 2007. Provincial Archaeology Office 2007 Archaeology Review. Volume 6, February 2008.

Handcock, W Gordon. So longe as there comes noe women: origins of English settlement in Newfoundland. St. John's: Breakwater, 1989.

Hatton, Joseph and Harvey, Moses. Newfoundland: The oldest British Colony. London: Chapman and Hall, 1883.
http://collections.mun.ca/cdm/compoundobject/collection/cns2/id/89957/rec/2

J.J.C. List of missions of the Church of England in Newfoundland and Labrador, with a tabular statement of the number of inhabitants, members of the Church of England, clergy, licensed lay readers, churches, school chapels, cemeteries, and the approximate extent of each mission, to accompany a map of the diocese. 1877.
http://collections.mun.ca/cdm/compoundobject/collection/cns_tools/id/17570/rec/1

Johnson, David W. History of Methodism in Eastern British America, including Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and Bermuda : From the beginning till the consummation of union with the Presbyterian and Congregational Churches in 1925. Sackville: Tribune Printing Company, c1925.
http://collections.mun.ca/cdm/compoundobject/collection/cns2/id/7667/rec/1

Journal of the House of Assembly of Newfoundland. St. John's, 1885.
http://collections.mun.ca/cdm/compoundobject/collection/cns_tools/id/151861/rec/2

Lacy, Robyn. "Community Mortuary Archaeology & Folklore – New Perlican, Newfoundland." www.spadeandthegrave.com. Web posted 1 October 2017.

Lacy, Robyn. "New Perlican: Blank Gravestones & Mapping." www.spadeandthegrave.com. Web posted 18 October 2017.

Langtry, John. History of the Church in Eastern Canada and Newfoundland. London, Brighton and New York: Society for Promoting Christian Knowledge, 1892.
http://anglicanhistory.org/canada/langtry_history1892/04.html

"Legislative Council debate on The Education Bill." Morning Courier, 1853-05-18, p1.
http://collections.mun.ca/cdm/compoundobject/collection/morncourier/id/3770/rec/5

The Lord Bishop of Newfoundland at Heart's Content. Evening Telegram (St. John's, N.L.), 1886-07-07, p4.
http://collections.mun.ca/cdm/compoundobject/collection/telegram18/id/31539/rec/1

Matthews, Eileen. "Harnessing Heritage." From Sealskin to Science Fiction: Taking Tradition into the Twenty-First Century. Katherine Harvey and Dale Jarvis, eds. St. John's: Heritage Foundation of NL, 2018, p 24-26.

Penney, Doris. Email document "NEWPEARL CHURCHES from Doris Penney" -- personal communication from Eileen Matthews, 8 November 2018.

The Origin and Growth of the Anglican Church in Newfoundland and Labrador (Adapted from Bishop Peddle's Book, The Church Lads' Brigade in Newfoundland: A People's Story, Flanker Press, 2016). https://anglicanenl.net/home/wp-content/uploads/2017/06/History-of-Church-for-Website.pdf

Rowe, Melvin. I Have Touched the Greatest Ship. Town Crier Publishing Company Limited, 1976.

Rowley, Thomas. "Thomas Rowley to Sir Percival Willoughby from Cupids, fall or winter 1619/1620" from Baccalieudigs.ca

Scott, William et al, eds. Christian Remembrancer. Vol 9. Jan-Dec 1827. London: CJ Rivington.

'In the shadow of a great absence' Tshikapisk archaeological research in a period of vanished caribou at two Tshiashinnu caribou ambush sites, Kamestastin 2019

Anthony Jenkinson
Tshikapisk Foundation

Figure 1: View from Mistanuk terrace south west towards Tshikapisk Camp, June 2019

Tshikapisk archaeological research activities in 2019 were confined to further investigation of two sites at the lake out-flow narrows, Shak Selma (GlCs-22) and Mistanuk Mistamunik (GlCs-08.) In the spring of the year, while conditions permitted, further work was done at the "quartz pit" component of Shak Selma. As the Shak Selma site (GlCs-22) is located on the southern side of Kamestastin lake outflow and the Tshikapisk camp across the outlet is on the northern side, the usual practise has been to concentrate early work on the south side before ice conditions deteriorate, impeding or preventing access across the narrows. Once spring ice conditions close access to the southern shore, work shifts to the north side sites which are accessible overland.

Tshikapisk activities at Kamestastin in 2019 were conducted over a longer period than has been usual in recent years and involved three separate stints. The first of these took place between May and July, the second in August and the third over a four week period between September and October. The first of these three periods brought my family and I to Kamestastin for a longer than usual spring stay; the second was an unexpected summer return in the company of an RCMP group of divers who were

Table of Contents

temporarily headquartered at the Kamestastin east end Tshikapisk camp. The latter team were engaged in a recovery mission after the tragic loss of a Beaver aircraft with 7 souls aboard following the catastrophic crash of the small aircraft into the waters of the main lake; the third was a joint Smithsonian/Tshikapisk/ Innu Nation research exercise in support of the proposed nomination of Kamestastin as a national historic site. Archaeological research occurred during all three stays though the opportunity for sustained research effort was much less over the August period when Tshikapisk was hosting the RCMP contingent.

Shak Selma GlCs-22

In 2012 seven one meter square units were excavated at the Shak Selma site. The excavation revealed a combustion feature in association with several finished tools of quartz, quartz debris, dark grey chert flakes and several flakes of the smoky glass -like material. Completely absent was any trace of Ramah Chert.

In the spring of 2017 a small core of white quartz was noted protruding through the surface. The core lay close to the south western limits of the 2012 Shak Selma excavation though it was not collected at that time. A year later in the spring of 2018 the site was re-visited and the decision made to extend the 2102 excavation by opening the one square meter unit in which the core was lying. A more detailed account of the subsequent excavation carried out in 2018 is available in Volume 17 of the PAO's Annual Review series (pages 147 to 156) but I will give a very brief overview here. The first unit opened in 2018 was the one in which the quartz core had been noted partly protruding through the surface. Excavation of the new unit came down on a small combustion feature set upon a low mound of sand and accompanied by generous quantities of broken white quartz. As the excavation proceeded a "ramp" strewn with white quartz debris came into view. It led downwards in a westerly direction and continued through the limits of the cultural layer into what was otherwise sterile material beneath the occupation floor. The ramp quickly led into a small pit which contained abundant broken white quartz, several broken tools of the same material, much sparser amounts of opaque grey chert and flakes of completely transparent purple tinted glass. The latter purple glass may be of meteoritic impact origin and is currently being analyzed at the Department of Earth Sciences at MUN by Dr Derek Wilton. Some small stains of red ocher and charcoal fragments were also present in the pit. The excavation was suspended at a depth below datum of 129cm and backfilled. Two wood charcoal samples were collected, one from near the bottom of the pit as excavated in 2018 and one from the flank of the small mounded combustion feature adjacent to it. These two charcoal samples returned identical AMS dates of c 7300 to 7400 calibrated years BP, (Beta 522800 and Beta 522801) seeming to show that both dated features were created in the course of the same, probably ritual, event and (for the moment) making the Shak Selma site the oldest occupation at Kamestastin for which we have a radiocarbon date. It is noteworthy that the calcined bone which produced the AMS dates from Area A at GlCs-08 across the Kamestastin outflow narrows (Beta - 522802 Mistanuk N6W8 2017: 6981 - 6797 cal BP, Beta - 500135 GlCs08N3W7CB (7033 - 6910 cal BP) (7157 - 7093 cal BP) (7088 - 7040 cal BP), was in immediate association with assemblages very heavily dominated by Ramah chert, poor in quartz and entirely lacking the opaque grey cherts and the purple tinted glass which distinguished the Shak Selma assemblage. For whatever reason the only slightly older (by 3 to 4 centuries) occupation at Shak Selma is markedly divergent in lithic preferences (or at least lithic type use) from those at the occupations in Area A at GlCs-08. Even with regard to white quartz, present at both GlCs-22 and GlCs-08 Area A, the quantity of quartz has become drastically reduced by the time the Area A occupations occurred, perhaps to levels consistent with quartz's role becoming largely confined to use as strike-a-lights. It should be noted however that there are other sites at Kamestastin with slightly younger dates than those from GlCs-08 Area A where white quartz continues to heavily dominate the assemblages. What the significance of this is, it is difficult to say. Perhaps different Innu ancestral groups had slightly different lithic preferences or access to the toolstone which came to overshadow all others, Ramah Chert, may have been episodic or uneven during this early period. In this context it is worth mentioning that further west in the Kaniapiskau region and other western parts of the Innu/Iyu territory widespread quartz use persisted into the much more recent pre-contact period.

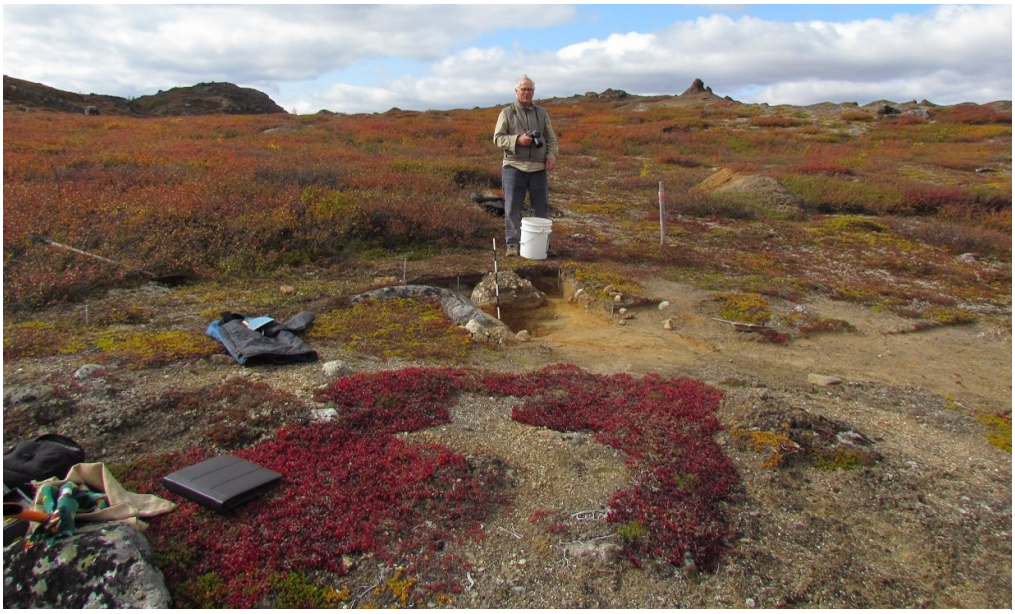


Figure 2: Stephen Loring standing behind Shak Selma quartz pit feature at GlCs-22, Kamestastin, October 2019

In the spring of 2019 we returned to the Shak Selma site (GlCs-22) and, in an effort to better define the dimensions of the quartz pit, we excavated down from the surrounding large rocks and beneath the small rock piles close to the lip of the pit as excavated in 2018. The hoped for clear pit outline proved elusive but the pit contained enough quartz that we were able to infer its rough outlines from where the quartz debris stopped and culturally sterile surrounding material began.

At 132 cm below datum the distal portion of a finely made miniature projectile point of grey chert was noted. This tiny point had possible ocher staining on the downward facing side. It lay amongst quartz debris and a little way to the north of it was a small hammerstone. Bringing the excavation only a little deeper we came upon a modest sized roughly circular stone. It was topped with several smaller pieces of rock and surrounded by a few white quartz fragments and a number of small flakes of grey chert. It was at this point that we chose to again close the excavation and back fill. Ice conditions in the lake outlet narrows had now deteriorated making crossing problematic.

Exactly what to make of this pit feature at the Shak Selma site (GlCs-22) is difficult to say with assurance but it does appear to bear witness to a ritual event in which fire and red ocher, deposited broken tools and debitage of both quartz, grey chert and natural glass of possible meteoritic impact origin, all played roles. Further to speculation in which I indulged in the PAO Review submission covering 2018 research, the event which produced the pit feature may evidence religious attitudes not only to hunting and the human relationship with animals and their guardian forces but also to the rock types which produced the weapons and tools with which those animals were taken and processed. The ritual event documented at GlCs-08 Area A where large quantities of small Ramah chert micro-debitage had been deposited over

Figure 3: Rock lying at base of the Shak Selma quartz pit with white quartz fragments and grey chert flakes, October 2019

Figure 4: Shak Selma site (GlCs-22) with quartz pit feature just below centerfield, June 2019

a small combustion feature and then heavily "anointed" with red ocher may echo the apparently ritual treatment of quartz at the older (by about 300 years) Shak Selma quartz pit feature at GlCs-22.

GlCs-8 Mistanuk

Mistamunik Area A

In 2017 two features in Area A of the Mistanuk site were partially excavated. The most southerly positioned feature was discovered after a single small test pit fortuitously came down on fire cracked rock, flakes of Ramah chert and calcined bone. Subsequently four one meter by one meter units were opened subsequently and revealed a mass of small re-sharpening flakes lying in profuse red ocher. Almost all of these flakes were deeply stained with ocher. In 2018 two bifaces of Ramah were noted emerging from the small combustion feature at the center of this ocher covered deposit of Ramah flakes. On the northern margin of Area A where the overburden was much shallower, rocks from a combustion feature actually protruded through the surface signalling a separate occupation but one whose assemblage was again dominated by Ramah chert. In 2018 a test pitting exercise was conducted over the entire space occupied by GlCs-8 and thus over all of Areas A and B. A total of seventy five 20 cm by 20 cm test pits (set at 2 meter intervals) were dug to sterile and of these 39 were positive for lithics.

In the course of the 2019 fall segment of Kamestastin archaeological work the four square meter excavation, which in 2017 revealed the ocher Ramah flake feature, was extended with two extra meter square units, N3W6 and N3W5. The first of these easterly extension units N3W6 contained an

Figure 5: Bipoints from Areas A and B at GlCs-8.
L-R Bipoint from south end of Namanakapeu, Area B and two small projectile points from Area A about one meter from red ocher and Ramah feature

Figure 6: GlCs-8 Mistanuk Site Area B, Namanakapeu Component, October 2019

oblong rock, charcoal, calcined bone, abundant red ocher, many small mostly ocher stained Ramah flakes, most of which were ocher stained, a biface fragment of Ramah and a small complete projectile point with a bi-pointed appearance. The blunter thicker proximal section of the latter bi-point is actually a sloping shouldered stem. Additionally two large slate flakes and a pumice stone abrader lying in the next unit east, bear witness to ground stone tool maintenance. The cultural material concentrated in the western quads of this first new eastern unit is evidently associated with that material from its immediate neighbour to the west excavated in 2017. The part of N3W6's western quads which contains the rock, calcined bone, charcoal and red ocher is designated Feature 3-1.

Following excavation of N3W6 a further unit (N3W5) was opened to its immediate east, the two fall 2019 units producing a new one by two meter opened area running east from the 2017 excavation. N3W5 hosted two features. Feature 3-2 straddles the interface between these two new eastern units and consists of a small cluster of rocks sitting on ocher stained ground in the company of numerous small flakes of Ramah, a large chunk of white quartz, a single flake of black chert and three biface fragments of Ramah. A separate feature (designated Feature 3-3) straddles the east wall of N3W5 and consists of a thick deposit of red ocher lying in a shallow depression which occupies part of the unit's NE quad and appears in the profile in its eastern wall.

Area B

Namanakapeu Component

In 2019 a 6 meter by 5 meter area was excavated in Area B. The excavation took place principally over a 12 week period and was partly guided by the results of the previous year's test pitting at GlCs-08 . We are referring to the occupation revealed by the new excavation as the Namanakapeu Component. The excavation revealed what looks to be a well delineated occupation defined not only by the spread of debitage and tools but by profuse deposits of calcined bone and attendant patches of ocher stained ground. Finally the rocks present almost all correspond well with the debitage spreads, the bone deposits and red ocher. These rocks were present as paired medium sized boulders sometimes attended by a third much more modestly sized rock. The apparently anthropogenically placed rocks and cultural materials are aligned

Figure 7: Excavation of Namanakapeu northern units, large pit just below centerfield. A large black projectile point lay beside the small boulder left of centerfield in a deeply buried humic layer, GlCs-8 October 2019

obliquely across the excavation area running roughly SW to NE and the occupation area is nestled in the lee of the backing moraine in its present configuration. Downwash from the moraine has altered the surface of the eastern slope of this moraine and partially covered a section of the western part of the Namanakapeu Component. At the time of the occupation represented at the Namanakapeu Component the east slope of the moraine which backs it may have looked somewhat different from how it appears today. Some of the rocks in the north western units lie at a level distinctly above the rest of the occupation floor, and are atop material which has come from the moraine above. These are therefore regarded as tumble down rocks and not anthropogenic placements.

Namanakapeu Component features

Features at Namanakapeu included a mounded hearth or other combustion feature flanked by cemented sand and heavy deposits of calcined bone fragments. The remains of less well-defined combustion events and a large pit at the northern end of the area excavated in 2019 were also present. Other calcined bone deposits lay throughout the area roughly described by the rocks. The latter are presently being interpreted as cultural placements possibly related to a hypothesized structure covering the area within. This ground is also heavily and extensively coloured by swaths and patches of red ocher. The ocher is almost always in close attendance with the calcined bone concentrations. In some cases the calcined bone was deposited in small pits and found in association with charcoal. One of the most well-defined examples was discovered not far from the rim of the large pit referenced above. The profile of this small pit where bone fragments had been deposited showed clearly in the north wall of one of the northern units. At its base was a flake of Ramah chert, charcoal and a dab of red ocher. The much larger and deeper feature was surrounded by other deposits of calcined bone fragments which are very likely the product of bone grease production ac-

Figure 8: **13 cm long projectile point of "black chert" from northwest corner of Namanakapeu excavation, October 2019**

tivities. The configuration of the calcined bone fragments and the fact that the large pit itself contained very little bone led to speculation that it may have been where bone mash from crushed caribou long bone epipyhses was boiled for oil extraction. In this case the large pit would have been lined with some impermeable material and heated seething stones used to boil the bone mash and water. If contemporary Innu practise can be used as ethnographic analogy, the bone mash and water would be allowed to cool or cooled by adding snow. The bone grease would then have been scooped from the water surface and collected in a container for mixing with marrow chunks prior to final setting.

Should the rocks at this component actually be what they resemble, structural placements perhaps playing a role in reinforcing supporting poles holding up a roof, the largest feature at Namanakapeu may actually be represented by the hypothesized structure described by these rocks. Together it is possible that they describe the occupation area and a posited dwelling over it; they may have served to reinforce the supports for the hypothesized dwelling. Whatever their purpose, they do seem to have been positioned by people rather than by natural forces. The local matrix is sand and gravel. Rocks of the size of those around the perimeter of the area in which are concentrated the debitage scatters, tools, red ocher and bone fragment deposits, are otherwise rare.

Namanakapeu Component assemblage (to date)

In the stage of excavation as it exists at the end of the 2019 season the assemblage at the Namanakapeu Component is very heavily dominated by Ramah Chert (7854 flakes, fragments and tools.) Ramah is followed by white quartz (446,) slate (192,) "Black Chert" (6,) red quartzite (5,) and Mugford chert (4.) There were 68 pieces in the "other" category of unidentified or 'not identified with certainty' lithics. Amongst the latter was at least one piece of what may be Mistashini quartzite (a biface fragment) and many other flakes of dark green toolstone of unknown provenance. The size of the white quartz pieces ranged from sizable chunks to micro debitage. Considering that the small quartz fragments were often concentrated in charcoal deposits, the latter small debris probably results mainly, although not necessarily exclusively, from use of larger quartz pieces as strike-a-lights for fire starting.

At the Namanakapeu Component the vast majority of tools and tool fragments were of Ramah Chert, though in this category quartz and a material we are provisionally calling "black chert" were also represented, the latter albeit only in very small quantities. Given the camp location astride a choke point where important caribou migration paths converge at a water crossing (and in the spring a lake crossing over ice) Namanakapeu is undoubtedly a camp at which caribou hunting was a primary focus. In light of this it is unsurprising that the artefact categories which dominate are projectile points and other biface fragments which may be either from knives or lance tips.

The largest, and in appearance the most striking, artefact in this projectile point category was however fashioned not from Ramah Chert but from a high quality black material which on some flake scars exhibits a glossy almost glass like sheen. The black projectile point is intact and lanceolate in shape with slightly sloping shoulders and a shortish stem. It was found lying at the northwestern corner of the 2019 excavation on the excavated slope of the moraine which backs the site. The projectile point lay in an area where very little other cultural material occurred. In his "Towards an Archaeology of the Nain region, Labrador" Bryan Hood provides an illustration of an almost identical point surface collected by a Smithsonian crew from Area 1 at Nukasusutok 5. However

Figure 9: Linear flakes of "black chert" from GlCs-8 Area B Namanakapeu component

this latter point is of Ramah chert. (Hood, Page 156, plate 98 a.) It is perhaps relevant to point out that "black chert" figures quite prominently in the Nukasusutok 5 assemblages and, inter alia, is present there in the form of linear flakes. Linear flakes also feature amongst the Namanakapeu artefacts where they too are produced from "black chert." At Nukasusutok 5 Area 2 B, Hood reports that fully ten percent of the tools were of black chert.

Although no intact ground stone tools have yet been found at Namanakapeu, judging by the slate debitage and the number of abraders a ground stone industry was also active. Some of the Namanakapeu slate fragments exhibit ground facets.

Lithic sources and Kamestastin origins

There has been speculation that some of the "black chert" at Namanakapeu and some of the fine glass at Shak Selma (GlCs-22) may be of meteoritic impact origin. Around 36 million years ago the Kamestastin crater was formed by a meteor penetrating the earth's atmosphere and slamming into the late Eocene landscape. The heat and pressure created by the collision would have liquefied the impacted rocks and in some cases turned high silica material to glass. The prominent headland which dominates the scenery at Kamestastin's west end is what remains of an inner rim of "splashed liquefied rock". Several years ago members of the Pukue family reported fragments of black glassy material atop the headland. Some of the pieces were pebble sized but others were small cobbles. Samples of this black glassy material were later collected by Stephen Loring. Dr Derek Wilton of MUN's Department of Earth Sciences has previously collaborated with Stephen Loring in provenance analysis of a fluted point found on relict shores of Lake Champlain. It appeared (implausibly to some) to be of Ramah Chert.

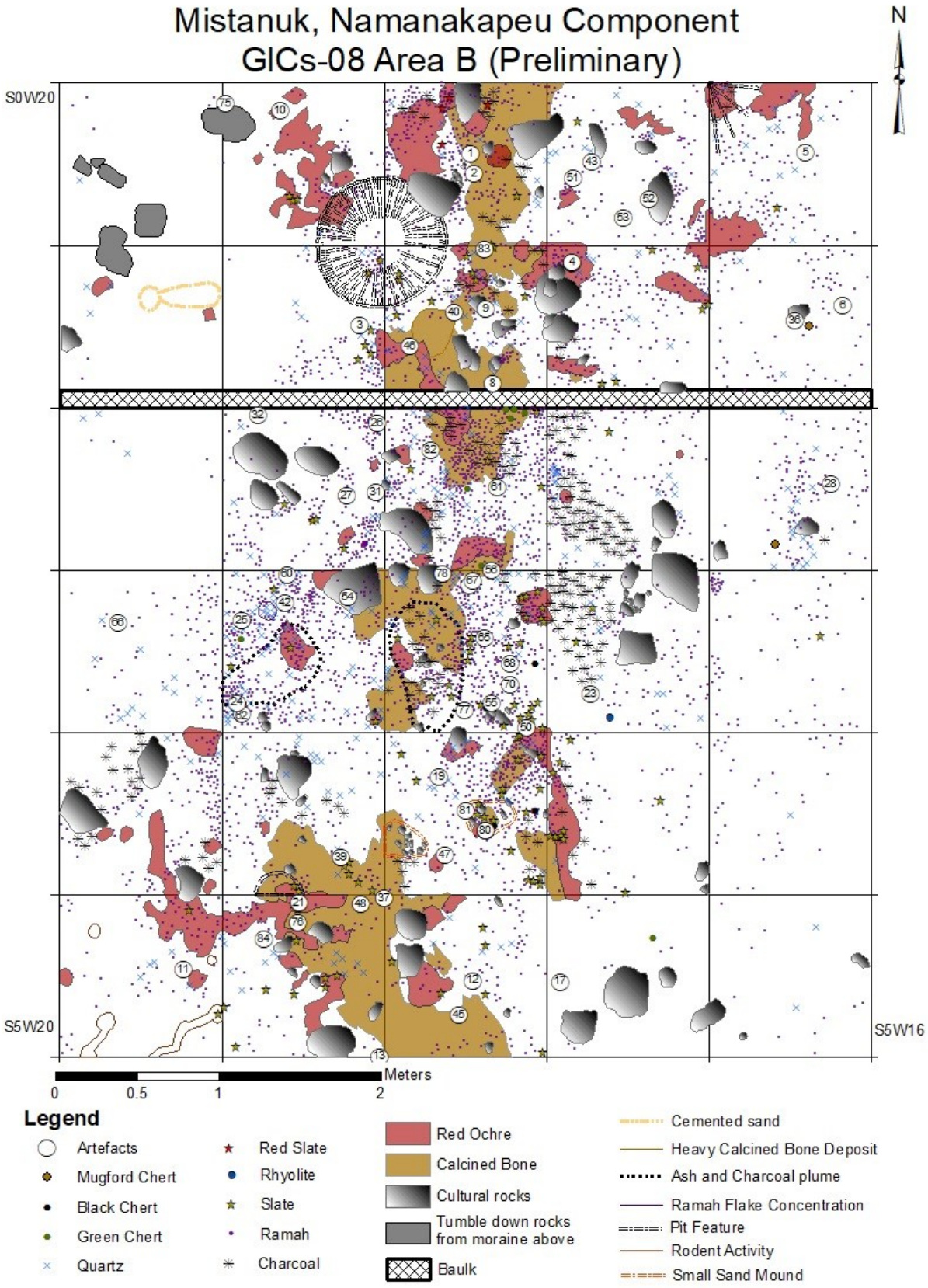


Figure 10: Site diagram of GlCs-8, Area B, Namanakapeu component as of October 30th 2019 (credit - Chelsee Arbour, PhD candidate, MUN Department of Archaeology)

Key for Figure 10: Site diagram of GlCs-8, Area B, Namanakapeu component on previous page.

Artefacts* include: 1: Ramah biface medial fragment; 2: Ramah biface stem fragment; 3: Ramah biface distal fragment; 4: Ramah biface distal fragment; 5: Ramah biface preform; 6: Ramah biface; 8: Ramah biface distal fragment; 9: Quartz biface distal fragment; 10: Uniface fragment; 11: Ramah biface distal fragment; 12: Ramah biface medial fragment; 13:Biface distal fragment; 17: Ramah biface; 19: Quartz projectile point; 21: Black Chert (Meteorite Impact Melt?) tool fragment; 22: Ramah biface medial fragment; 23: Ramah biface proximal fragment; 24: Quartz utilized flake; 25: Ramah biface base; 26: Ramah biface; 27: Ramah stem base; 28: Ramah biface medial fragment; 31: Ramah biface medial fragment; 32: Ramah biface edge fragment; 36: Pumice abrader; 37: Abrader; 39: Slate celt fragment; 40: Ramah biface medial fragment; 42: Quartz scraper; 43: Hammerstone or worn abrader?; 45: Quartz biface distal fragment; 46: Mistassini Quartzite (?) biface fragment; 47: Ramah scraper fragment; 48: Ramah biface proximal fragment; 50: Ramah biface edge fragment; 51: Ramah biface distal fragment; 52: Ramah biface distal fragment; 53: Ramah biface distal fragment; 54: Ramah biface stem fragment; 55: Ramah biface edge fragment; 56: Quartz biface fragment; 60: Quartz biface distal fragment; 61: Ramah biface distal fragment; 62: Ramah biface distal fragment; 64: Red Ochre nodule; 65: Ramah lanceolate projectile distal point fragment; 66: Ramah biface medial fragment; 67: Ramah biface medial fragment; 68: Ramah biface distal fragment; 70: Ramah biface edge fragment; 75: Black Chert (Material of possible meteorite impact origin?) lanceolate stemmed point; 76: Black Chert (Material of possible meteorite impact origin?) linear flake; 79: Black Chert (Material of possible meteorite impact origin?) linear flake; 77: Black Chert (Material of possible meteorite impact origin?) linear flake; 78: Black Chert (Material of possible meteorite impact origin?) linear flake; 80: Black Chert (Material of possible meteorite impact origin?) unifacial stem fragment; 81: Black Chert (Material of possible meteorite impact origin?) linear flake; 82: Quartz biface edge fragment; 83: Ramah biface distal fragment; 84: Small biface fragment. *Note: Missing artefact numbers refer to Area A (not displayed). ArcGIS Release 10.6.1. Redlands: CA

Figure11: Mistanuk Mistamunik Site GlCs-8 with Namanakapeu component (in Area B) to right of image and Area A to left and in the background, Kamestastin, July 2019

Using Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) Wilton and Loring showed that there was a very high probability that the fluted point in question was actually of Ramah chert. In part utilizing signatures of lithic types previously obtained during work on identifying the source material for the Lake Champlain fluted point and using the same LA-ICP-MS techniques Derek Wilton is presently engaged in seeking to explore the lithic sources for some of the material at the Namanakapeu and Shak Selma sites including possible Mistashini Quartzite objects, archaeological materials of fine purple tinted glass and debitage and tools which may be produced from the same black glassy material collected from atop Kamestastin hill.

Ecofacts and faunal analysis

Namanakapeu has produced the largest volumes of calcined bone from any of the extant excavations at Kamestastin and though the fragmentary nature of the bone (most of which appears to be crushed bone from bone grease extraction activity) would challenge the most skilled faunal analysts, analysis of the faunal assemblages from Namanakapeu is underway in the experienced hands of Art Spiess. The hope is that the generous quantities of bone recovered will increase the chances of the faunal analysis enriching our understanding of the occupation and lifeways of the Innu ancestors who left the remains at Namanakapeu. Screening of most of the calcined bone was done in the field by wet screening through 1/16th inch mesh.

Where does the Namanakapeu Component fit in the Kamestastin sequence?

Analysis of the materials and features at Namanakapeu is still very much in the preliminary stages and it is possible that further excavation may add to or otherwise modify the impressions that this site has so far generated. In February 2020 calcined bone samples from four different locations at the Namanakapeu Component of GlCs-08 were sent out for AMS bone carbonate dating. Three of the returned dates on calcined bone collected in October of 2019 place the Area B Namanakapeu Component temporally in the company of the already dated features at the slightly lower elevation Area A of GlCs-

08. Calcined bone samples from the latter two lower elevation features in Area A were submitted for dating in July of 2018 and April of 2019 and returned calibrated dates between 7157 and 6797 BP. Three of the new calcined bone samples from the Namanakapeu Component submitted for dating in February of this year returned calibrated dates which span the period 7163 to 6793 BP making the occupation represented there coeval with the dated features from Area A. One bone sample from Namanakapaeu produced a slightly younger date range of 6670 to 6503 cal BP. Measured radiocarbon ages on all the submitted bone samples were +/- 30 years.

In the "Other Kamestastin Notes" category

Periodically ice push occurs during break up in the lake outflow, churning up beach gravels and sand below the Tshikapisk camp. After one such event in the late spring of 2019 an unexpected find on the beach below the camp was an English gunflint for a flint lock musket. It raises questions as to how long the use of flintlocks continued in this region, whether or not the Mushuau Innuts were using these weapons and from where they were obtained.

Acknowledgements

Thanks to the following individuals who gave encouragement, logistical and other sorts of support, (or were just there to help when it was needed) to research at Kamestastin in 2019: Jodie Ashini, Ben Apatet Andrew, Napes Ashini, Sebastien and Manite Piwas, Penute and Kastin Pukue, Staff Sergeant Pat Dornan (RCMP), Chelsee Arbour, Scott Neilsen, Greg Pastitshi, Richard Nuna, Gerry Pasteen, Stephen Hull (PAO), Jamie Brake (PAO), Moira Macaffrey among others to whom I apologize for not having listed them individually.

References

Fitzhugh, W. 1978 Maritime Archaic Cultures of the Central and Northern Labrador Coast. Arctic Anthropology 15(2):61-95. Fitzhugh, W. 2006 Settlement, Social and Ceremonial Change in the Labrador Maritime Archaic. In The Maritime Archaic of the Far Northeast w 156 (eds.) D. Sanger and M.A.P Renouf. Pp 47–82. University of Maine Press, Orono.

Hoffmann, C. 2004 "Symbols in Stone" (part 2): Quartz ceremonial items from the Little League site, Middleborough Maine. Bulletin of the Massachusetts Archaeological Society, 65 (2): 63-71.

Hood, Bryan C., 1955 – Towards an archaeology of the Nain Region, Labrador/ Bryan C. Hood; edited by William W.Fitzhugh

Jenkinson, Anthony 2016 "Tshikapisk Activities in 2016: Two Tshiash Innu (Archaic) Occupations in Sheshatshit and Kamestastin and some other items of interest." in Provincial Archaeology Office 2016 Archaeology Review (Volume 15.)

Jenkinson, Anthony 2017 "Between the Mountains and the Sea: Tshikapisk Archaeology in Nitassinan 2017" in Provincial Archaeology Office 2017 Archaeology Review (Volume 16.)

Jenkinson, Anthony 2018 " Hunters and Holy Stone: Tshikapisk work at Kamestastin in the spring of 2018" in Provincial Archaeology Office 2018 Archaeology Review (Volume 17.)

Keddy, Josh. (2015): "LABRADOR ARCHAIC LITHICS A STUDY IN METRICS AND MATERIALS." In Occasional papers in North Eastern Archaeology" (No. 20)

Loring, Stephen 2017 "To the uttermost ends of the earth…Ramah chert in time and space." In, Ramah Chert: a Lithic Odyssey, edited by Jenneth E. Curtis and Pierre M. Desrosiers. Avataq Cultural Institute: Inukjuak, Quebec. Pp. 169-219

Somcynsky, Pablo 1991, Fouille sur le site EbCx-64 à Mingan., Conseil Attikamek Montagnais, Pablo - 1991 (Rapport V00)

Wolff, Christopher 2008 A Study of the Evolution of Maritime Archaic Households in Northern Labrador PhD Dissertation.

Ground Penetrating Radar (GPR) of "God's Acre" in Nain, Labrador

Maria Lear
Memorial University of Newfoundland

Figure 1: Site location of Nain Moravian cemetery HdCk-46 with the survey area framed (Google Earth, 2019)

In 1771, Moravian missionaries established a Christian mission station in Nain with this graveyard being the oldest Christian graveyard in all of Labrador. The term "God's Acre" comes from the German Gottesacker (Field of God) and is the traditional name given to cemeteries of the Moravian faith (Rollman, n.d.) This cemetery is the burial location for a number of people connected to the rich history of Nain as well as to the Moravian Church. The Nain Cemetery Revitalization Project, 2019 was initiated by the Nain Inuit Community Government (NICG) in conjunction with a request from a Chief Church Elder of the Moravian Church and residents of the local community. Specifically, the intention was to document and record the Nain Moravian cemetery in terms of unidentified graves (from missing or displaced headstones) using Ground Penetrating Radar (GPR). The research project received financial support from Tradition and Transition – a research partnership between Memorial University and the Nunatsiavut Government (NG) as well as from Inuit Pathways. The aim of this geophysical work was to benefit the community in terms of engaging Elders, involving local youth and celebrating the strong history, traditions and culture of the area.

Brief Overview

A Ground Penetrating Radar (GPR) survey of the Moravian cemetery, Nain was completed during July 2-19, 2019. It was suspected that there were a number of unknown/unmarked graves existing within the boundaries of the cemetery. The presence of several identifiable headstones, the greater dimension of the site and the physical topography suggested that there were more burial plots than had been identified. The full extent of the current cemetery is quite large and has an L-shape configuration. Upon arrival in Nain, a site visit was completed with Nunatsiavut Government representatives from the Nunatsiavut Archaeology Office (NAO) to assess the cemetery in terms of GPR suitability and to devise a survey plan. Due to the significant overgrowth and limited time, it was decided to focus completely on the oldest part of the cemetery – a roughly square-shaped area located along Middle Path Road that measured approximately 35m x 30m as highlighted in Figure 1.

Methodology

As this portion of the Moravian cemetery had not been used for some time, the area was very overgrown with extremely thick vegetation, tall standing trees, bushes and high grass (Figure 2).

Figure 2: Pre-clearance of Nain Moravian cemetery focus area

Table of Contents

Figure 3: Mid-clearance of high vegetation & trees

The nature of the dense overgrowth made it very difficult to walk through the graveyard and nearly impossible to see surface headstones or any indication that this area was indeed a cemetery (had it not already been a known location.) Therefore, the first task of fieldwork was to physically remove as much of the heavy vegetation as possible and reduce the amount of standing brush to allow clear passage of both people and survey tools. In order for the most accurate use of the GPR equipment, full site clearance of the vegetation was necessary in preparation for the planned survey. The GPR antenna is required to run over the ground/slide along the surface in order to allow proper radio signal penetration, therefore the vegetation had to be made as flat as possible. The clearance also allowed the recording of all visible headstones within the focus area. The significant clearance was accomplished over 4 days using a variety of gardening tools (chainsaw, long clippers/root cutters, hand-clippers and rakes) manually removing the standing trees, large bushes, thick brush and trimming the grass to achieve a relatively uniform surface for survey (Figures 3-5)

A number of grids were placed within the focus area to achieve the greatest extent of meterage included in the overall GPR survey. In total, five grids (A-E) were established (Figure 6).

The grids varied in size but all included transects spaced at 0.25m to allow full coverage along both the X & Y axis (Figure 7). The antenna chosen for the cemetery survey was a 500MHz antenna belonging to the Noggin© SmartTow GPR system. This antenna frequency records a depth of radio signal penetration typical of historic burials as well as providing good data resolution and target identification. Each grid

Figure 4: Post-clearance of high vegetation & trees

Figure 5: 2019 fieldcrew clearing & preparing the area for GPR survey
(L-R: Shawn Soloman, Maria Lear (author), Elsa Simms & Samuel Tuglavina)

Figure 6: Total station map showing full cemetery perimeter and locations of grids, headstones & remaining tree stumps (map prepared by Peter Ramsden)

Figure 7: A grid prepared for GPR survey with measuring tape & transect lines spaced 0.25m

was surveyed individually with 2 people (a student and author/GPR operator (Figure 8). In addition to the GPR survey operator, additional people are required to assist in the grid survey by constantly moving the individual 0.25m transect strings and monitoring the axis tape-measurement to ensure accuracy and maximize survey efficiency. Digital photos and daily site notes were also recorded as supplementary information to accompany each grid within the overall GPR cemetery survey. As expected, the size of this GPR survey created a significant amount of data which is still being processed in the post-fieldwork phase. Full analysis of the data will be completed with the corresponding GPR software currently housed in the Archaeology Department, MUN.

Surface Survey

The cemetery surface itself was somewhat undulating and irregular in topography, even after the significant vegetation removal and clean-up. This is common of unused and overgrown cemeteries with frequent occurrence of grassy ruts, depressions and possible sunken graves underfoot. There are also some remaining tree stumps dotted around the surface as well as significant root systems both on and just under the surface. All of these immediate site details are significant to note when approaching a GPR survey as there can be variables that interact with the system during the survey, inhibit smooth data collection or maximum depth penetration.

A total of 24 headstones were recorded. They were photographed, transcribed and a map of the

Figure 8: GPR survey in process

Figure 9: A line of headstones

gravemarkers, noting their location was completed. The headstones are laid flat, which is of the Moravian tradition and most are uniform in size and shape with some being easily identified from inscription. Others were less legible due to weathering and subsequent text erosion. For the most part, the headstones are placed in semi-linear fashion with the top of the headstone pointed towards the west (Figure 9). This is indicative of an east-west alignment (burial facing east) which is typical of Christian burials.

Of interesting note, are headstone clusters that seemed to respect the Moravian tradition of the 'choir system' – that is the division of people to be buried together in the same groups of how they would have been most associated while living within the church family lifestyle (Fries, 1973) Generally, the separation is that of married women and widows; married men and widowers; single women and female children and single men and male children (Rollmann, n.d., Figure 10)

There are a few reasons suggested for the presence of unmarked graves: some burials may not have had permanent stone headstones and instead may have been marked by wood; headstones may have migrated over the years from their original placement due to seasonal freezing/thawing; human activity in cleaning or maintaining the cemetery since its inception may have contributed to the movement of markers, or some graves may have been left intentionally unmarked. The large size of the fenced area indicates that perhaps more unmarked burials are present in other areas of the graveyard. It is with this in mind that the GPR survey of the area could give indication of possible additional burials in locations where headstones did not exist.

Ground Penetrating Radar (GPR) Results

The results from the geophysical survey provided much data for analysis and interpretation – nearly 500 individual transect lines were collected. For consistency, each grid was downloaded, analysed and processed using the same post-processing procedure available from the affiliated software. Results varied from the individual grids but there are noted trends across the site that lead to the suggestion of possible

Figure 10: A cluster of 4 female youth headstones in Grid B

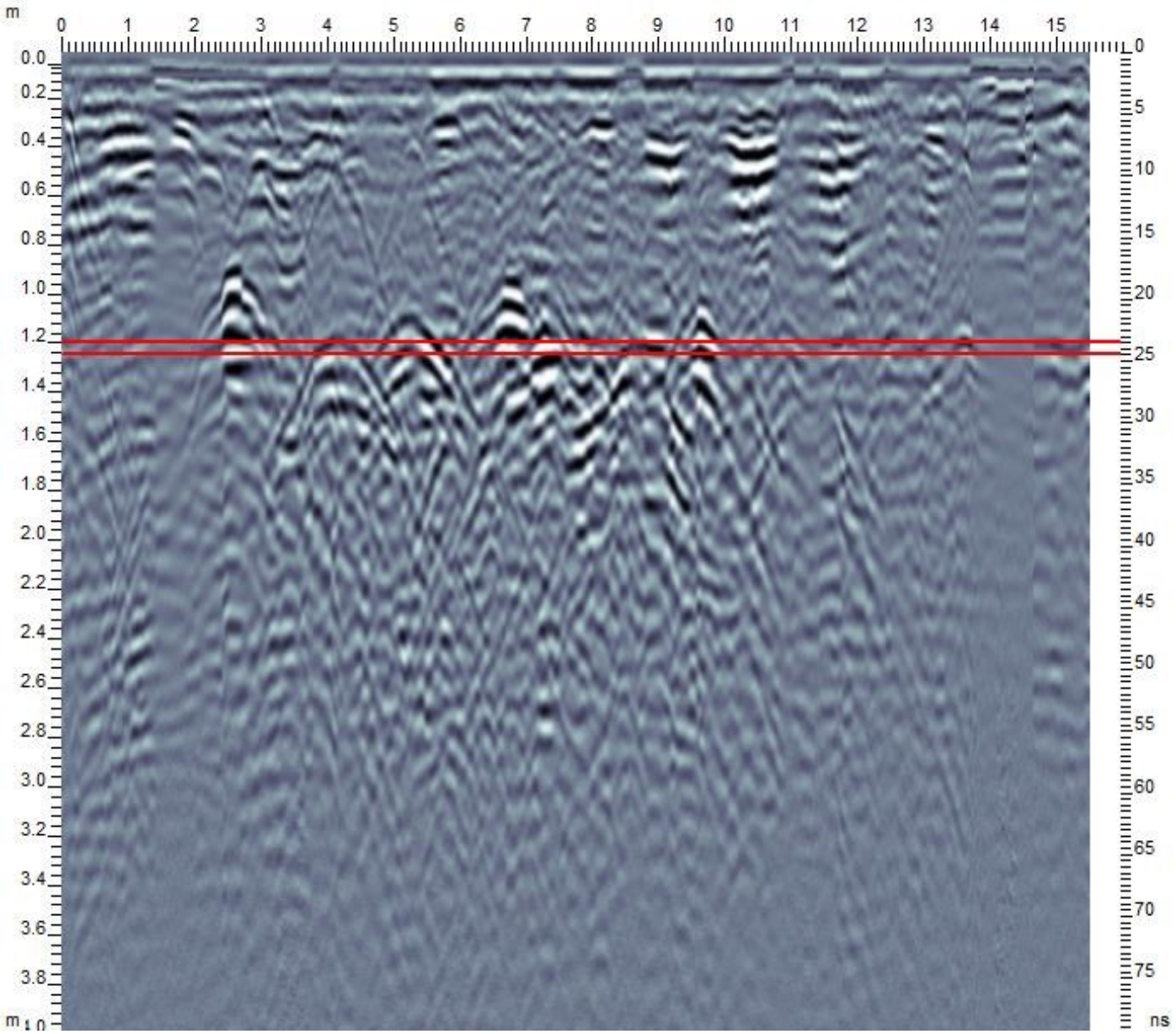


Figure 11: Reflection profile XLine 33 in Grid C

unmarked graves. For the majority of grids, inhumation indicators appear at approximately the 0.90-1.20m depth and generally equi-spaced.

The GPR data is displayed both as a section view of each individual transect line (reflection profile) and as an overall, birds-eye map at a particular depth (amplitude slice.) The reflection profile is a black & white visual construct as the antenna moves along the surface. The antenna emits radio waves down through the soil and information is reflected back to the machine giving an observable picture of matrix contrasts. If the antenna passes over a linear (or sub-linear) object or a soil difference at a right angle, the reflection created will be that of a hyperbola. Figure 11 is a reflection profile of a transect line in Grid C, located at 8.25m along the Y-axis, highlighted by a red line (XLine 33). The hyperbolas depicted are contrasts that the antenna recorded at approximately 0.90-1.20m in depth range and may represent the location of unmarked burials. The corresponding amplitude slice of this data shows the thin, red transect line (XLine 33) bisecting a number of red/yellow oblong-shaped images (Figure 12.)

Summary

The 2019 geophysical survey of the oldest section of the Nain Moravian cemetery proved a successful un-

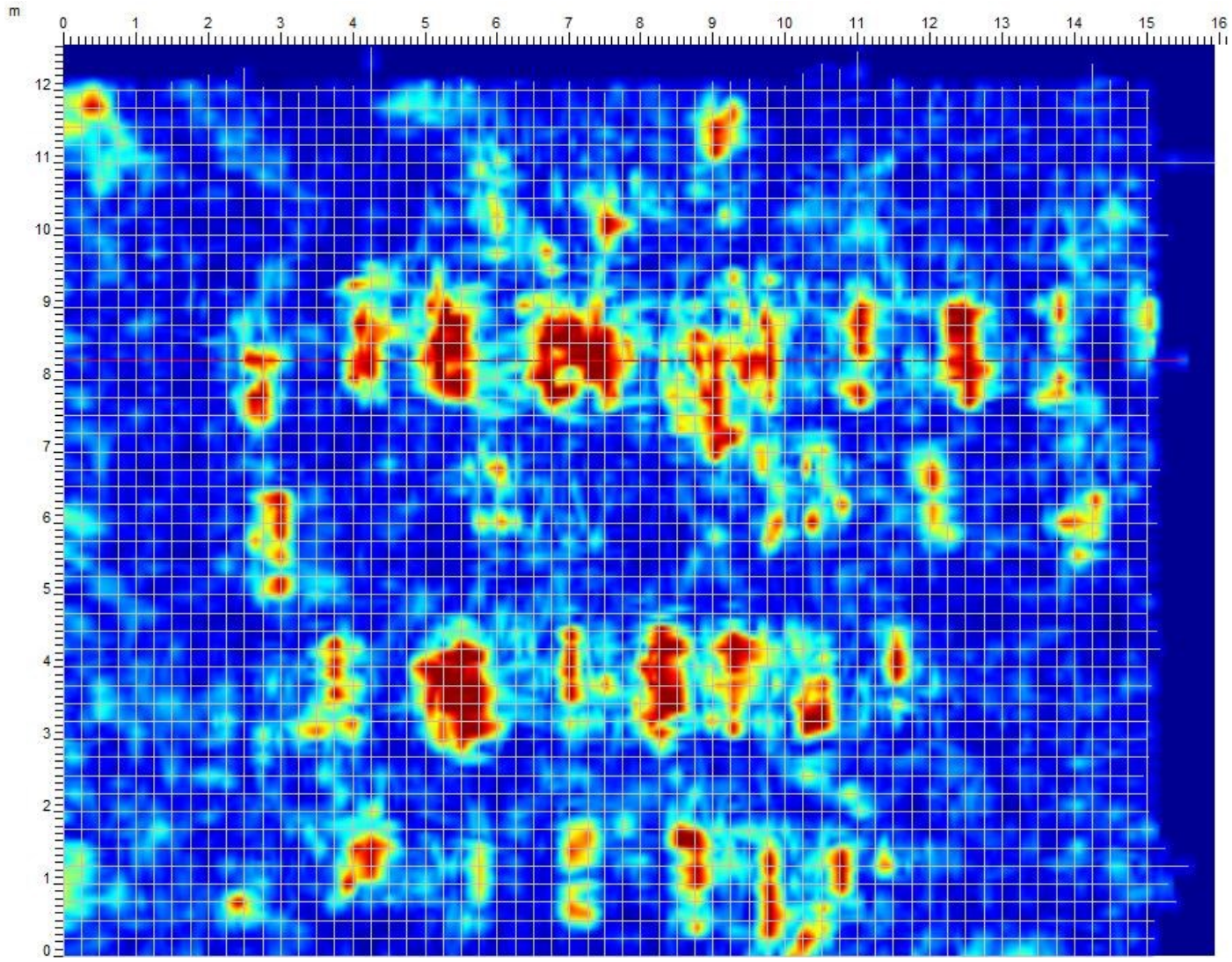


Figure 12: Amplitude slice of Grid C showing red XLine 33 transect bisecting possible graves at a depth of approximately 1.20-1.25m

dertaking with a large amount of GPR data collected during the two and half week period. The cemetery was surveyed as was allowable and the maximum amount of grids created. Initial analysis of the GPR data indicate a number of possible unmarked graves present throughout the boundaries of the cemetery. As with all geophysical investigation, making a precise location marker can be difficult and this is particularly true when dealing with buried, human remains. Site topography, target size, soil composition, external variables and lessening contrasts from the buried remains themselves as they continue to decompose can have a significant effect on the certainty of locating inhumations. However, the information gathered from this fieldwork, both from the desktop research and the geophysical survey does provide a vast array of data from which to make suggestions and offer ideas. Post-processing analysis is currently ongoing in the Archaeology Department, MUN and a full report will be submitted as per permit regulations.

Acknowledgements

This fieldwork would not have been possible without the hard work of the 2019 fieldcrew: Elsa Simms, Shawn Soloman and Samuel Tuglavina as well as additional clearcutting help provided by local resident Joshua Jack. Appreciation must be given to the Tradition & Transition research partnership (specifically Dr. Lisa Rankin, Dr. Hans Rollmann and Andrea Quigley) as well as to Inuit Pathways (NG). The fieldwork was also supported within the town by Johannes Lampe, President of Nunatsiavut; former Chief Church Elder, Simon Kohlmeister; Nain AngajukKât

Julius (Joe) Dicker & others within the local NICG office. Thanks to Jamie Brake, Michelle Davies and Kyle Crotty of the Nunatsiavut Archaeology Office (NAO) as well as to the Nunatsiavut Government Research Advisory Committee (NGRAC). Community outreach was aided by several radio broadcasts by the OKâlaKatiget Society. Space to host two community meetings was provided by the NAO as well as translation services by Katie Winters (NICG)

References

Fries, A. 1973. Customs and Practices of The Moravian Church. Winston-Salem, N.C: Board of Christian Education and Evangelism

Rollmann, H. n.d. Unpublished notes regarding the Nain Moravian cemetery.

Archaeology at Anse à Bertrand, Saint-Pierre et Miquelon 2019

Meghann Livingston, Catherine Losier & Mallory Champagne
Memorial University of Newfoundland

Figure 1: Field Director, Catherine Losier, closely monitoring the backhoe removing sod and emptying out Sector 5 which was excavated during the previous season

The small French islands of Saint-Pierre et Miquelon (SPM) are situated just 25 kilometres off Newfoundland's Burin Peninsula. Made up of three main islands, this archipelago is the last remaining part of colonial *Nouvelle-France* to remain under French governance today. This unique bit of history prompted Dr. Losier to establish a long-term archaeological research project there, which aims to better understand SPM's role within the region's historic salt cod fishery, as well as its place within the trade networks that operated throughout the French Atlantic World between the 17th-19th centuries. The 2019 field season marked the third year of excavations at the project's study area, Anse à Bertrand, which is located on the south-eastern edge of the Saint-Pierre harbour.

Prior to the establishment of any permanent settlements, the islands were seasonally occupied by a number of different groups, both Indigenous and European (Leblanc 2008). By 1536, when Jacques Cartier stopped by the archipelago on his way back to France, he found Basque and Breton fishing crews were already making good use of its shores (Ribault 1968). Saint-Pierre's naturally sheltered harbour paired with the archipelago's overall proximity to rich fishing grounds made SPM an ideal location for shore-based activities associated with the migratory fishery. Permanent residents were established on the islands by 1670 and French colonists continued to settle there until the beginning of the 18th century when the Treaty of Utrecht (1713) made Newfoundland and SPM strictly British territory (La Morandière 1962-66). Newfoundland's French Shore was established to support France's migratory fishery, and most of the permanent residents at Plaisance (Placentia, NL) and SPM were sent to the French fishing colony, Ile Royale (Cape Breton, NS) where they helped establish its new capital, Louisbourg (La Morandière 1962-66). France went on to lose Ile Royale with the end of the Seven Years War and was retroceded SPM in its place with the Treaty of Paris in 1763. This settlement did not last long however, and possession of the islands proceeded to pass back and forth between French and British empires several more times until 1815.

Though SPM has previously been studied by historians, its tumultuous history did result in a serious shortage of surviving archival materials, especially those pertaining to years prior to 1815. Without many relevant historical documents, many questions remained unanswered. Archaeological investigations therefore present a unique opportunity to begin addressing some of the questions relating to SPM's early colonial past and its initial period of French permanent settlement. As well, archaeology acts as a means to uncover the material past associated with SPM's 19th and 20th century history. This material culture creates an interesting portrait of the past when analyzed in conjunction to the well-known 19th and 20th

Table of Contents

century written record. In addition to the project's overarching objective of helping to fill in gaps identified within SPM's historiography, the 2019 field season had three specific research goals: 1) to locate and document the extent of the potential stage feature identified in the NW corner of Sector 5 (excavated in 2018), 2) to locate and document the extent of the potential stone feature originally uncovered in *Sondage* 2 (excavated in 2017), and 3) to locate and document the extent of the *saline* feature identified in the SW corner of Sector 5.

Figure 2: Jess Munkittrick, Adam Van De Spiegle, Aubrey O'Toole, Mallory Champagne, and Jon LeDrew digging in the 2019 excavation area, Sectors 7 and 8

While the project's 2017 and 2018 excavations each took place under one of Memorial University's Department of Archaeology Field Schools, Anse à Bertrand's 2019 excavations were tackled by a smaller but experienced field crew. Under the direction of Dr. Catherine Losier, Mallory Champagne, Meghann Livingston, Jess Munkittrick, Aubrey O'Toole, Jon LeDrew, and Adam Van De Spiegle undertook 4 weeks of formal excavations. The 2019 excavation area was divided into 2 sectors (7 and 8) which were located directly next to the previous year's Sector 5. The adjacent Sectors 7 and 8 each spanned 5m x 4m and extended the western border of the team's 2018 excavation area. The western border of Sector 8 stopped just 1m away from the eastern border of *Sondage 2* which had been excavated during the team's first field season in 2017. From the first year of excavations onward, it was evident the team had uncovered 3 distinct archaeological contexts at the site: one associated with its 17th-18th century occupations, one with its 19th century occupations, and one with its 20th century occupations. Together, these contexts represent over 300 years of more or less continual seasonal use, beginning around 1670 and carrying on until the site's abandonment in the late 1970's.

On the oldest known map of Saint-Pierre, Anse à Bertrand is depicted with two fishing rooms with *graves* (large areas of cobble and stone built up for drying cod on), some of which are still visible on the site's surface today (*Plan du port et de la colonie de l'isle de St Pierre, 1680-1700*). According to this map, the rooms belong to a "M. de Bellorme," who became Governor of Saint Pierre in 1693, and a "M. de la Hoguerie" (Ribault 1968). Accompanying these structures is a chapel and small fort. Although the islands shift from seasonal European use towards permanent settlement in the late 17th century, it was initially unclear whether or not the team had uncovered evidence of permanent settlement at Anse à Bertrand. In fact, following the 2017 and 2018 seasons, it was hypothesized that despite the presence of a small town within Saint-Pierre's inner harbour, the late 17th -18th century context at Anse à Bertrand actually represented a migratory fishery. The hypothesis was strongly supported by the fact the early material culture at the site bears striking resemblance to archaeological finds on the Petit Nord Project (Pope 2008). The objects are associated with a working environment, and within the ceramics, emphasis is placed on storage with only a few vessels being used for food preparation and/or cooking. Further archival research revealed that at least one of the two known individuals occupying Anse à Bertrand in the late 17th century was actually a *habitant-pêcheur* or "resident fishermen" who would occupy this coastal fishing site from about May-October and then retreat inland (to the interior of Fortune Bay, NL) each winter (Brouillan 1694). Bellorme was however employing

seasonal migratory fishing crews, which perhaps nicely explains Anse à Bertrand's late 17th-18th century assemblage and proves the team's hypothesis of early seasonal use of the site (Thibodeau, 1962).

Anse à Bertrand's 2018 excavations revealed a peculiar stone feature centered around a large flat rock that extended into the natural soil (Figure 3). This rock was surrounded by a thick black silty layer with a high artifact concentration throughout, and a linear arrangement of smaller rocks which seemed to be intentionally positioned around it. The working hypothesis for this feature is that it marks the terrestrial end of the fishing stage, which could have been built over top of the large rock, using it as a foundation. The first goal of the 2019 season was to locate and document the extent of this feature. To the team's surprise, the 2019 excavations revealed that all of what remained of this feature had already been excavated the previous year. Instead, the new late 17th -18th century context revealed even more puzzling rock features. What is known, is that the 2019 excavation area revealed at least six postholes, which together could represent the remains of a structure adjacent to the stage, such as a small cabin or shed, much like the ones documented in 19th century photographs on Newfoundland's French Shore (namely those of Paul-Émile Miot, 1857-1861). Interesting late 17th-18th century finds included a number of different French ceramics (e.g., Saintonge, faïence, Norman stonewares, and Breton coarse earthernware), many more smoking pipe fragments, and even a small cannonball.

Thanks to historical maps, it is known that Anse à Bertrand becomes the property of other *habitants-pêcheurs* (e.g., Bertrand, Philibert, and Dalair) in the late 18th century (*Plan de la partie du port et emplacement de la ville de St Pierre et Miquelon*, 1783). According to local historians, however, SPM's 19th century fishery is characterized by *négociants*, who were traders of cod that owned and operated large properties and establishments primarily located along the harbour's southside (Claireaux 2013). Sometime after French settlers' final return to the islands in 1816, it seems *négociants* also come to settle at Anse à Bertrand or *La Pointe* in general. Thanks to additional digging at the local archives, the team recently learned the name of one of these *négociants,* Thomazeau, who obtained a property at "the Pointe" in 1834 (Claireaux 2013).

The second goal of the 2019 season was to investigate a large 19th century rock feature first located in one of the trenches (*Sondage 2*) during the team's 2017 field season. At the time, the feature spanned over the entire 5m x 2m trench, making it difficult to gather much insight. It had been suggested by locals that this feature could be the remains of an old *grave,* however, due to the compaction of rocks and the feature's overall proximity to the shoreline, it was agreed this seemed unlikely. With a little more digging in 2019, the team was able to confirm this feature was not a *grave* but rather, the foundational remains of a 19th century structure (Figure 6). This building is potentially associated with the *negociants'* occupations at Anse à Bertrand. Notable 19th century artefacts un-

Figure 3: A 3D model of the site's 18th century context (with 19th and 20th century features left intact wherever possible). The 18th century features are outlined in red. The features within the 2017 and 2018 excavation area are hypothesized to mark the terrestrial end of a fishing stage while the features uncovered during 2019 may represent the remains of a nearby structure. Opaque red indicates the presence of postholes

Figure 4: Saintonge coarse earthenware rim sherds uncovered from the site's rich 18th century context

Figure 5: A 3D model of the site's 19th century context excavated during Summer 2019. The archaeological feature outlined in blue marks the foundation of a 19th century structure. The blue dotted line denotes the presence of wooden blanks within this feature

Figure 6: Field Director, Catherine Losier, standing by as the 19th century building feature is thoroughly documented

Figure 7: The remains of a cast iron stove uncovered in the site's 19th-20th century context. According to a local informant, this stove was likely made by the Richmond Stove Company. The company (est. 1851) was one of the United States' largest stove manufacturers from approximately 1871-1920's.

covered in 2019 included many colourful and decorated whitewares, a number of different glass bottles types, and even a small ceramic "frozen Charlie" doll.

The 20th century context and final type of fishery observed in the ongoing investigations at Anse à Bertrand is associated with the *petits-pêcheurs,* who made up SPM's small-scale family inshore fishery. According to locals, these independent fishing families would spend their winters in town and then move out to smaller neighbourhoods like this for the duration of each fishing season, thus continuing the centuries-old tradition of seasonal use of the site. In the 2017 and 2018 excavations, the team uncovered a flat and almost circular rock feature which seemed to mark the base of something (perhaps a *cabestan* which would have been used by *petits-pêcheurs* to haul up dories loaded down with cod at the end of the day). Another rock feature identified in 2018 was the foundation of a 20th century *saline,* essentially a shed used to store the family's fishing gear. As previously noted, the third and final goal of the 2019 season was to locate and document the extent of this *saline* feature. This last round of excavations revealed the structure had been approximately 3m in width (Figure 8). Interesting 20th century finds included shotgun shells, many different patterns and pieces of linoleum, and even some "old school" Lego bricks.

Overall, the later 19th and 20th century contexts represent a more "settled" nature in the site's occupations. Though occupants were still living at Anse à Bertrand on a seasonal basis, during the 19th and 20th century, they became based on the archipelago permanently and could therefore access other

Figure 8: A 3D model of the site's 20th century context with archaeological features outlined in green. The features to the west in the 2017 and 2018 excavations are hypothesized to be the base of an older style *cabestan* and a small stone wall. The feature in the middle of the excavation area marks the foundation of a 20th century *saline.* The green dotted line shows what appears to have been the limit of the *saline* itself.

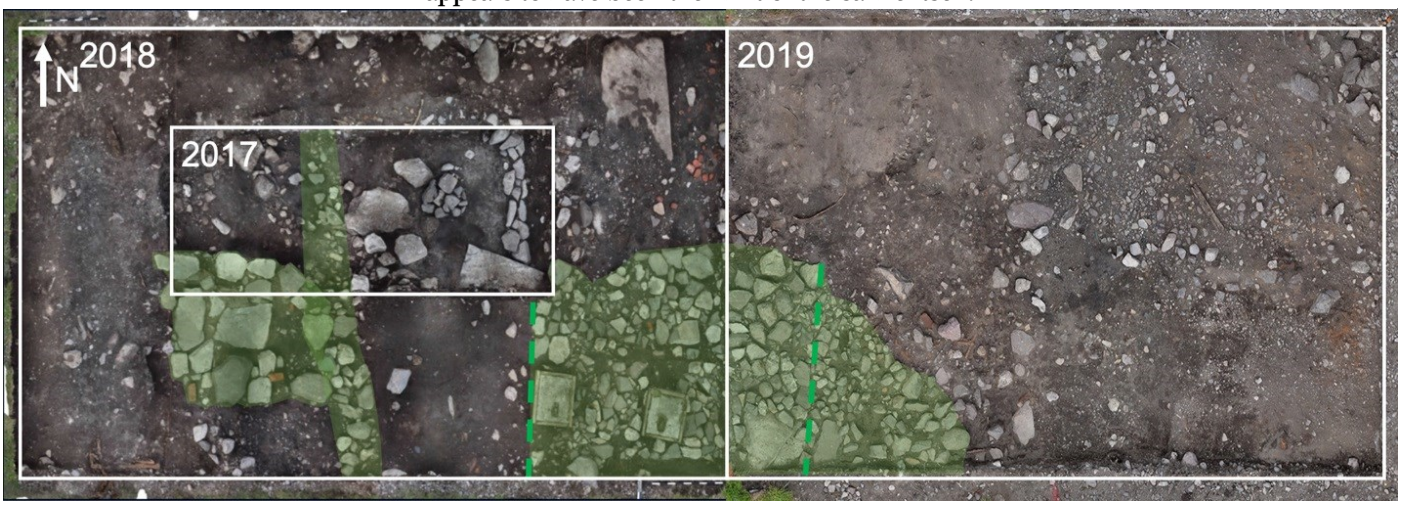


Figure 9: A 1930's Scotch whisky bottle base uncovered in the site's 20th century context, and reminiscent of the archipelago's role as a transhipment point for illegal alcohol during Prohibition.

types of materials and/or objects more easily. Over time, the team no longer observes just the work and occupations of fishermen but can also see evidence of activities and daily lives of entire fishing families. The 19th and 20th century contexts show not only there more people were present at the site, but also now women and children. The 2019 excavations really helped refine the team's understanding of the overall life history and changing fishing practices carried out at the site through time. Catherine, Mallory, and Meghann are very excited to be bringing back the MUN Archaeology Field School for their upcoming 2020 season. Entering the new decade, they are also looking forward to helping commemorate the islands' rich history of smuggling and the 100th anniversary of the Prohibition Era (1920-1933) with their friends and community partners in SPM.

References

Brouillan, Jacques-Francois de Monbeton de

1694 Letter to the Minister, Archives Nationales de France, Colonies, C11C/2, ff. 19-21.

Claireaux, Thérèse

2013 Grèves et Etablissements de pèche du port de St Pierre – Iles Saint-Pierre et Miquelon. http://www.cheznoo.net/tclaireaux (accessed January 2017).

La Morandière, Charles de

1962-66 *Histoire de la pêche française de la morue dans l'Amérique septentrionale*. G. P. Maisonneuve et Larose, Paris.

Plan de la partie du port et emplacement de la ville de St Pierre et Miquelon

1783Bibliothèque nationale de France, département Cartes et plans, GE SH 18 PF 130 DIV 6 P 13 D, Gallica.

Leblanc, Sylvie

2008 Middle Dorset Variability and Regional Cultural Traditions: a Case Study from Newfoundland and Saint-Pierre et Miquelon, PhD Dissertation, Department of Anthropology, University of Alberta, Edmonton

Plan du port et de la colonie de l'isle de St Pierre

1680-1700 Bibliothèque nationale de France, département Cartes et plans, GE SH 18 PF 130 DIV 6 P 2, Gallica.

Pope, Peter E.

2008 The Archaeology of France's Migratory Fishery on Newfoundland Petit Nord, In *Rêves d'Amériques: Regard sur l'archéologie de la Nouvelle France*, edited by Christian Roy and Hélène Côté, pp. 38-54. Archéologiques, Collection Hors Série 2, Quebec City.

Ribault, Jean-Yves

1968 *Les îles Saint-Pierre et Miquelon. La vie dans l'archipel sous l'Ancien Régime*. Édition du Bicentenaire [2016 re print], Association Célébration 2016, Saint-Pierre et Miquelon.

Thibodeau, Fernand-D.

1962 Recensement de Terre-Neuve 1687 a 1704. Memoires de la societe genealogique canadienne-frangaise 13(12): 244-251.

Archaeobotany at Andersen Point, Red Indian Lake

Kevin McAleese
Independent Researcher

Introduction

In fall 2018 the PAO sanctioned analysis of a lithic item recovered on what appeared to be a "cobble floor" in the housepit-like feature at Andersen Point, Red Indian Lake. The whitish substance adhering to the lithic item was noteworthy (Figures 1-4) as it resembled melted, hardened animal fat. Given possible further identification, a study of the material "residue" was undertaken. If identifiable, it might provide information on local resource use and on cultural activity in general.

Soil samples were earlier collected via test excavation from within the Feature as part of a general archaeobotanical study. That soils study is ongoing, and this new item with residue was included. This Report summarizes the residue analysis undertaken and the provisional results (Appendix 1)

Figure 1: Residue sample - top

Feature study: history

The housepit-like Feature at Andersen Point has been reported on in previous PAO Annual Reports (McAleese 2018, 2017, 2016; Figure 5). The Feature resembles a housepit, but other than a hammerstone and a piece of worked wood, diagnostic artifacts have not been recovered. Therefore the potential Feature has required very careful interpretation.

The coated lithic fragment with residue was located in Test Unit 4 in the Feature's southwest quadrant (Figure 6). Standard troweling/brushing of a patch of pebbly/rocky matrix on what appeared to be an occupation floor, had removed a thin coating of greasy silt. Careful close-up photography of the excavation identified the coated item (Figure 6).

It was excavated, then packed and stored it in a cool field location, followed by

Figure 2: Residue sample – close up (Mag. x 10)

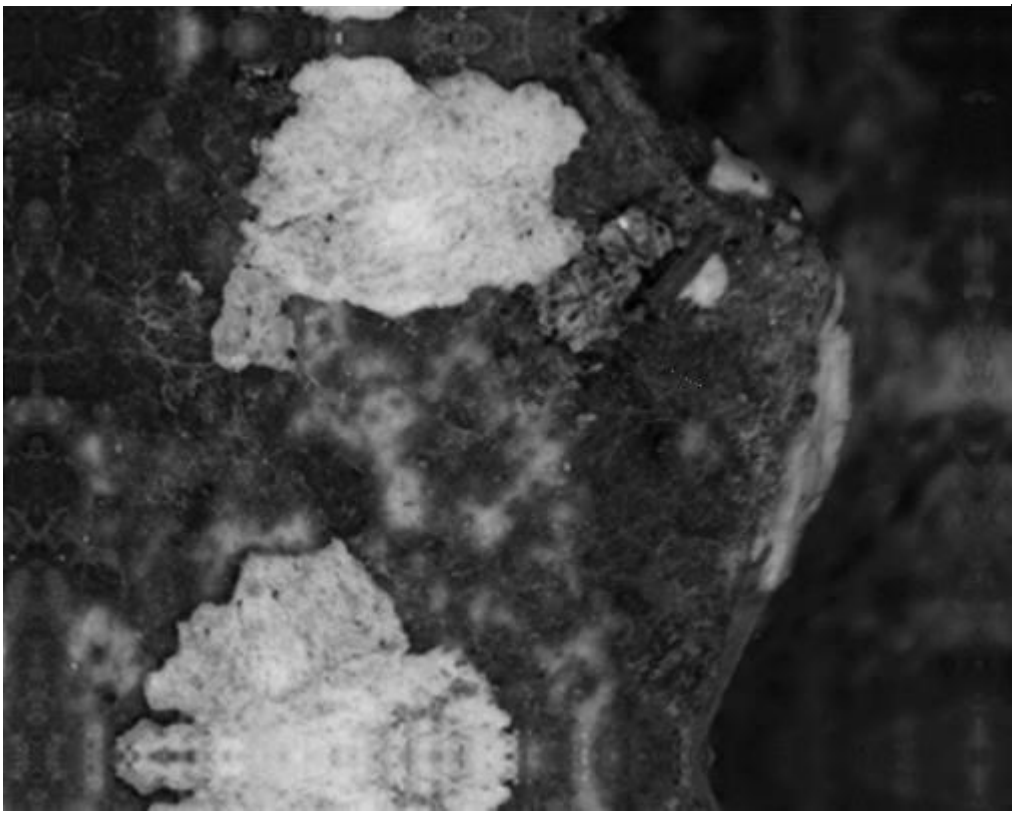


Table of Contents

Figure 3: Residue sample - bottom

later refrigeration. The lithic item was transferred in St. John's to a cool temperature Lab environment. Following consultation with the Office of the Provincial Archaeologist it was transferred to the MUN Ocean Sciences Centre (OSC) Lab in Logy Bay, where chemical analysis took place (Appendix 1).

Study purpose

The piece appeared useful for archaeobotanical research. Assuming the Feature was once used for cultural activity, then identifying the "residue," an "ecofact," of sorts, made its study as a possible plant food/medicine worthwhile. Numerous archaeobotanical studies have revealed dietary or medicinal plant use by Indigenous people in northeast America (Arnason et. a. 1981). Some of these have included Beothuk materials recovered from hearths or occupation floors (Pastore 1992; Deal 1995; Marshall 1996; Morry & Howard 2015).

Basic research questions posed for the residue were: can the residue chemistry be identified? is it an actual byproduct of a cultural process? was it deposited following a plant preparation process? is it part of hearth debris? is it associated with preparation gear for cultural use (i.e. food preparation).

Analytic Methodology

To determine the residue' chemistry, Ocean Sciences Centre/Memorial University of Newfoundland (OSC/MUN) staff analysed it by standard methods used in gas chromatography, with compound specific stable isotopes using " isotope ratio mass spectrometry" (IRMS) (Parrish, pers. comm. 2018; Libes 2009).

A lipid extraction in solvent was first done and then lipid classes were measured by thin-layer chromatography with flame ionization detection. The extract from that solution was further subjected to gas chromatography with flame ionization detection for the individual fatty acids. The derivatives were then analysed using IRMS methodology, and elemental analyses (carbon, nitrogen and hydrogen) were also conducted, with useful results.

Particles of lipids were located in very small amounts (Parrish, pers. com 2019). The lipid classes recovered included the storage class triacylglycerol; select fatty acids were also noted.

The stable isotope data also indicated that a (C3) (Libes 2009) terrestrial plant was the source for

Figure 4: Residue sample – close up (Mag. x 10)

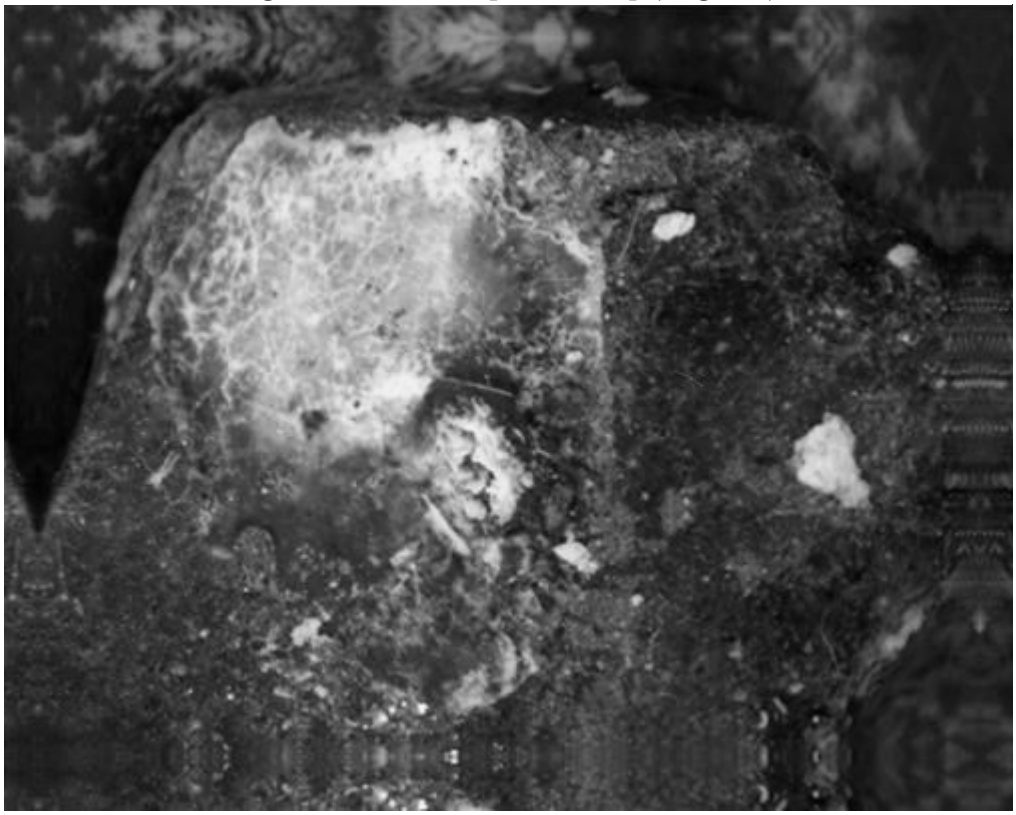


Figure 5: Residue sample Test Unit excavation

Carbon in the residue, and the low protein value identified in the stable isotope data for the residue's Nitrogen also indicated a terrestrial plant source (Parrish, pers. comm. 2019).

All are further described in an Excel file available for study upon request (see References).

Discussion - general

The residue was identified as the remains of a terrestrial plant oil, possibly originating from a member of the plant family *Cruciferae* (Parrish 2018 pers. comm.). Plants comprising the Order *Cruciferae* are now generally designated as members of the flowering plant Order *Brassicales*, a botanical nomenclature change in common use for about the last twenty years. *Brassicales* plants are numerous and found world-wide (Dobells 1986; Maunder 2019).

The Order includes cabbages and capers, as well as mignonette, mustard, broccoli, turnips, cresses and nasturtiums. *Brassicales* includes 17 families, 398 genera, and 4,450 species (Berry 2019). They grow in a variety of environments, but the *Brassicales* cresses or watercress, with their edible leaves and pungent taste, prefer damp conditions.

The Order is very distinct anatomically, characterized by four petaled flowers. Many Brassicales plants are also quite distinct ultrastructurally, chemically, as well as being recognizable easily in molecular comparisons. In fact the smell and taste of the plants in *Brassicales* result from the presence of glucosinolates—sulfur-containing compounds that are also known as mustard oils (Berry 2019).

Also noteworthy with the residue chemistry is the nutritional value of polyunsaturated fatty acids (i.e. linoleic and linolenic). They are readily absorbed by humans (Parrish 2020 pers. comm.), so as chemi-

Figure 6: Residue sample in situ (circle)

cal content they add substance to human diet, and therefore are important to human health.

Historic plant use

In both ancient and historic times hundreds of plants have been used by eastern Canadian Indigenous people for dietary and medicinal purposes (Arnason et. al. 1981). Valuable vitamins and essential nutritional elements are usually present in these plants (i.e. poly-unsaturated fatty acids).

Charred seeds of *Brassicales* have been recovered at a variety of ancient archaeological sites in the northeast North America (Arnason et.al. 1981), in contexts which suggest they were utilized by Indigenous people (Jacobsen, et. al. 1988). In particular there is a long history of Mustard seed (*Brassicales*) use by Indigenous people in eastern Canada prior to European contact (Jacobsen et.al. 1988).

Here in Newfoundland and Labrador, scientific knowledge of Beothuk plant use is increasing (Pastore 1992; Marshall 1996), based on a small amount of archaeological evidence (Deal 1995; Butt 1995; Howard & Morry 2015; Devereux 1970). Dietary and medicinal use of plants by the Mi'kmaq is better known (Howley 1915), especially for mainland Canada Mi'kmaq.

For example Mustard plant family species were used by Mi'kmaq people in historic times to treat Tuberculosis *[Brassica hirta* ("white Mustard")] as well as cold, cough, grippe and smallpox [*Brassica napus L* ("wild turnip") (Jacobsen et. al. 1988).

Use of *Brassicales* plants by Europeans is also well known, with many grown commercially and some figuring highly in European dietary history. In this regard it is noteworthy that *Brassica* seeds were found at Ferryland in various historic components dating to c. A.D. 1620- 1700 (Bain and Prevost 2010:21-35). So Europeans at Ferryland may have been using *Brassica* plants for dietary or medicinal purposes.

Discussion – specific

The isotopic signature for plant seed oil is comprised of a chemical mix of triacylglycerols and carbon 18 polyunsaturated fatty acids, linoleic and linolenic acids (Appendix 2).

Together these constitute the plant-based oil, though analysis did not identify the actual species. The chemical composition suggested a "Mustard "plant from the Order *Brassicales*

The residue chemistry contained nearly all of the constituents for a "Mustard" plant designation, but it did lack a fatty acid - commonly called *eurcic* (Parrish, pers. comm. 2019). That would usually be present in a complete Mustard plant designation.

To speculate, its absence might be the result of oxidation of some of the residue. If oxidation did occur then preservation of the residue chemistry could be compromised (Parrish, pers. comm.2020). But given the relative polyunsaturated fatty acid "integrity" of the residue, it appears to have been effectively "buried" by subsequent environmental infilling of the Feature, which prevented oxidation.

Archaeology

Radio carbon dating of the Andersen Point Feature resulted in the identification of two possible use periods: A.D. 1690-1730 and A.D. 1810-1920; both calibrated at 95% probability (McAleese 2018; 2017). The "upper" cobble-rich strata generally corresponds to the later period. Given the provenience of the residue coated lithic item in the upper cobble matrix strata, then the lithic item was likely in situ A.D. 1810-1920.

The lithic item appears too fragile to be part of a cooking tool or cooking vessel, based on its small size and uniform shape (Figures 1-4). But it's apparent in situ provenience suggests the residue was deposited on the lithic as part of an unknown cultural activity.

Direct processing of a plant, possibly a "Mustard" plant, may have led to residue deposition. It is unlikely that indirect processing of other plant parts could result in a similar chemical matrix. Currently it is the only notable botanical item recovered from the Feature, though not all the soil samples have been fully analysed.

In terms of local botany, the Andersen Point Feature is relatively close to the Andersen Brook mouth/lakeshore, a quite damp location. Some "Cress" plants from Order Brassicales favour those damp conditions. But the Feature area was not surveyed for Cress plants, and admittedly "Cress" and/or other Mustard plants growing in the general vicinity could have been brought to the Feature for later processing.

Conclusions - Recommendations

Although a definite plant species identification of the residue was not achieved, it is the remains of seed oil. That oil likely originated from a plant in the Order *Brassicales*. Archaeological evidence to explain the residue deposition is very slim, though general plant processing for dietary and/or medicinal is a possible activity/behavior, though not currently demonstrated.

Charred plant seeds, often from hearths, have been identified via archaeobotanical analysis at Newfoundland and Labrador sites, but seed oil residue is unusual and its identification quite challenging.

These unusual results here are comparable, in terms of archaeological science, to the surprising ones Deal obtained with a residue study on a Palaeoeskimo soapstone vessel piece and a slate knife fragment (Deal 1990:8-10). Freshwater fish residue chemistry was recovered on the artifacts, not seal residue evidence as was expected, given the Port aux Choix 2 long standing interpretation as a seal hunting loci. Deal speculated that the artifact fish residues may have been absorbed from their depositional context. But nonetheless the residue analysis on those artifacts provided an unusual result, just as the IRMS analysis of the Andersen Point Feature has.

Despite this valuable scientific result, the analysis offers only minimal interpretive ability regarding the Feature's function/cultural affiliation. Future research at Andersen Point, or at any site with hearths, should include close examination of small stones in, and/or near hearths as well as occupation floors. Residue visible on the stones may reflect plant processing activity, and therefore provide an opportunity for archaeobotanical study.

Acknowledgements

For Permits and sanction for this research and advice on same, I thank staff at the Office of the Provincial Archaeologist (Gov't of NL.). I thank Dr. Chris Parrish Ocean Sciences Lab (OSC) and Research Laboratory Coordinator, Jeanette Wells and staff for their very crucial chemistry analysis of the residue. For specific archaeobotanical advice I thank Dr. Michael

Deal (retired), Archaeology Department, Memorial University of Newfoundland/Labrador. For general archaeobotanical advice I thank Dr. Veronique Forbes, Archaeology Department, Memorial University of Newfoundland/Labrador. For microphotography I thank Dr. Doug Boyce, Associate Curator of Palaeontology, the Rooms Provincial Museum. For excellent Artifact and stratigraphic photography I thank Mr. Albert Taylor. For general botanical advice I thank J. Maunder, Curator Emeritus - Natural History, the Provincial Museum, and N. Djan -Chekar, Collections Manager - Natural History, the Rooms Provincial Museum.

Appendix 1

The shard was weighed before any analysis was started. Shard weight before scraping – 2.9064 g.

Using a lipid cleaned spatula, the white material was gently scraped off the shard onto a piece of aluminium foil that had been muffled at 450C for 8 hours.

Amount scrapped off – 0.0198 g. Shard weight after scrapping – 2.8829 g.

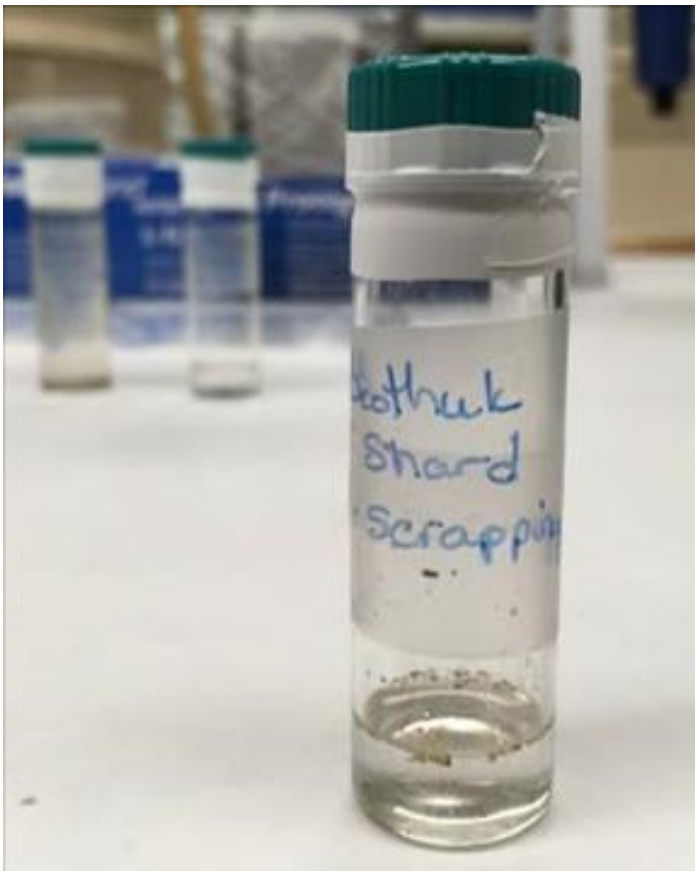
The white was carefully scrapped off, but some black flecks were present as well.

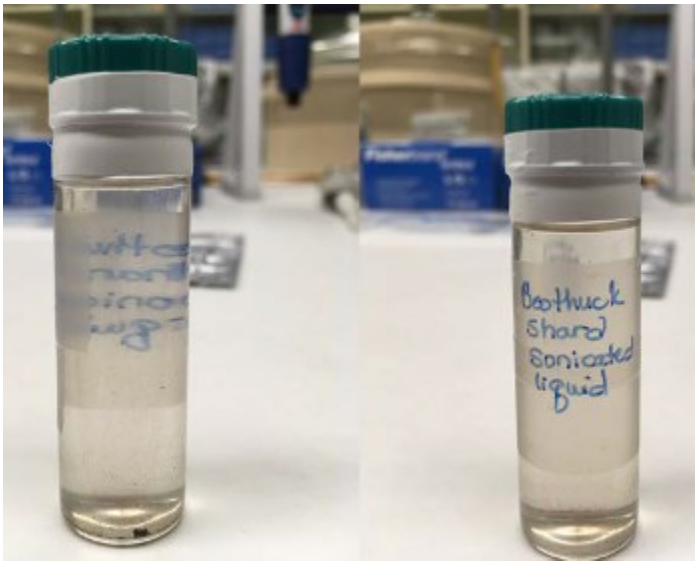
After as much of the white was removed as possible the shard was sonicated for 15 minutes in ~6 ml of $CHCl_3$ and ~3 ml of MeOH. The resulting liquid was collected into a 15 ml vial. Both the shard and beaker rinsed 3x with $CHCl_3$ when transferred.

The resulting extract was capped with nitrogen and Teflon taped and placed at -20C. There were some of the 0.0198g that was scrapped off the shard, 0.0115 g was measured into muffled foil for bulk isotope analysis. This foil was placed into a plastic bag and the bag was filled with nitrogen.

The remaining white material (0.0081 g) was weighed in to a 15 ml vial for lipid analysis. Added ~2ml of CHCl3, nitrogen and Teflon tape.

After sonicating, the shard was weighed again, but the weight was greater then the initial weight and





it wouldn't stabilize as it keep decreasing. The shard was then left in the fume hood for 2.5hour to evaporate off any chloroform that penetrated the material, before it was weighed again. The shard weight after sonication and drying was 2.8697 g.

While it is hard to tell in the pictures, the white stain left on the shard after scraping did not dissolve during the sonication process.

References

(Author's Note: a dense Excel data file (Appendix 2) is available for study upon request, (kevinmcls5@gmail.com) and/or upon request to the PAO).

Arnason, Thor, R.J. Hebda & T. Johns
1981 Use of plants for food and medicine by Native peoples of eastern Canada. Canadian Journal of Botany 59: 2189-2325

Butt , Aaron A.
1995 (Dec. 15) Palaeoethnobotany of the Beothuk Peoples of Newfoundland A Review of Current Information. Dept. of Anthro. MUN, Honours Thesis

Bain, Allison & Marie-Annick Prévost
2010 "Environmental Archaeology and Landscape Transformation at the Seventeenth-Century Ferryland Site, Newfoundland" Historical Archaeology - September 2010, Volume 44, Issue 3, pp 21–35.

Berry, Paul E.
2019 Plant Order Brassicales, Electronic Document https://www.britannica.com/plant/Brassicaceae November 01_2019

Deal, Michael
2000 "Seed Samples Collected at the Russell's Point Site." Pers. Comm. 2016 & MUN Anthropology 4151 - Palaeobotany Research Papers, Newfoundland Reports. Electronic Document.
1990 "Exploratory Analyses of Food Residues from Prehistoric Pottery and Other Artifacts from Eastern Canada." SAS Bulletin.

Devereux, Helen E.
1970 "A Preliminary Report on the Indian Point Site, Newfoundland (DeBd-1)." Report on file, Provincial Archaeology Office, St. John's.

Dobells, I.N. (Ed.)
1986 Magic & Medicine of Plants, Reader's Digest. Various locations, U.S.A.

Howard, Leslie and Alicia Morry
2015 (December 10) "Fuel for Life: A Palaeoethnobotanical Analysis of a Beothuk Hearth from Ferryland, Newfoundland." MUN Archaeology 4114 Dr. Michael Deal Electronic Document.

Howley, James P.
1915 *The Beothucks or Red Indians*. University Press, Cambridge.

Jacobson, H. A., J. B. Petersen, and D. E. Putnam.
1988 Evidence of Pre-Columbian *Brassica* in the northeastern United States. *Rhodora* 90(864):355-362.

Libes, S.M.
2009 An Introduction to Marine Biogeochemistry, 2nd Edition, Academic Press, numerous locations.

Marshall, Ingeborg
1996 *A History and Ethnography of the Beothuk*. McGill-Queens, Montreal & Kingston

McAleese, Kevin
2017, 2016, 2015, 2014 DeBd-07 Field Work Reports on File, Provincial Archaeology Office, Confederation Building, West Block. St. John's. NL A1B 4J6

Maunder, John
2019 Brassicaceae: Mustard Family - A Digital Flora of Newfoundland and Labrador Vascular Plants. Electronic Document http://digitalnaturalhistory.com/flora_brassicaceae_index.htm November 02_2019

Pastore, R.T.
1992 Shanawdithit's People: the Archaeology of the Beothuks. Atlantic Archaeology Press. Memorial University, St. John's.

Summary of Archaeological Research in 2019

Laurie McLean
Archaeological Consultant

Plate 1: Cape Island Hiking Trail passing through eroding dunes near the southern end of Cape Cove. Note eroded dune containing a new section of Cape Freels-6 (DhAi-14)

Introduction

Consulting archaeologist Laurie McLean performed an archaeological impact assessment of portions of the Cape Island Hiking Trail and conducted an archaeological survey of part of New World Island's western shoreline during 2019. These projects are summarized below.

An Archaeological Assessment of Portions of the Cape Island Hiking Trail: 19.28 (Figure 1)

The Cape Island Hiking Trail is an 11.4 kilometre loop that extends southwards from the community of Cape Freels South through Cape Cove to the resettled community of Cape Island. The trail then continues southwest along part of the Pinchard's Bight shoreline before veering north to return to Cape Freels South. This route passes over peat meadows, wetlands, exposed bedrock, sandy beach, grass-covered sand dunes, grass-covered beach and eroding dunes. Ten archaeological sites identified within the trail area prior to this assessment represent 4.5 millennia of First Nations occupations. Thirteen radiocarbon dates between 1045 ± 90 BP and 4540 ± 135 BP (S-869, NMC-665) were obtained from excavations conducted in the 1970s. This research targeted 29 archaeological features, including 25 hearths, at Cape Cove Beach-1, 2, 3 (DhAi-5, 6, 7) and another 34 components and features at Cape Freels-1, 2, 3 (DhAi -1, 2, 3) (Austin 1980:19; Carignan 1977:30-59). Human occupation at Cape Freels may have started before the Maritime Archaic, however, as a Paleoindian projectile point reportedly was found there, although the location of this discovery is unknown.

The trail directly impacts some of these sites and provides easy access to those it does not intersect. The trail is maintained by the town of New-Wes -Valley which plans to upgrade infrastructure at five locations along the route. Newfoundland and Labrador's PAO advised the town that an archaeological assessment of these sections was required in advance of performing the repairs/modifications. The author undertook this assessment during October 1-3, 2019.

Results of the Assessment (Figure 2)

The 2019 assessment of five parts of the hiking trail focussed on the exterior borders of the gravel road bed, wooden boardwalks and one bridge that are present throughout the study areas (Figure 2). Surface areas were checked for possible features and test pits were excavated. Features were not discernible and excavation of 118 test pits did not produce cultural material, indicating that further construction in these areas will not jeopardize archaeological resources. Artifacts and eroding black peat/humus were observed, however, at five locations that occur along the hiking trail that passes through dunes north of the five target areas. These five sites include three previously identified localities and two new discoveries. A graveyard

Table of Contents

Figure 2: Wooden boardwalk comprising Test Area 2 in the archaeological assessment of the Cape Island Hiking Trail

associated with the resettled historic village of Cape Island was listed as a third new archaeological site.

A single patinated rhyolite flake was found on the surface of Cape Freels-1 (DhAi-01), one of the re-visited sites. Maritime Archaic, Palaeo-Inuit, Recent Indian and historic settler occupations were previously reported here (Carignan 1977:43) (Site Record Form). Bird bone and eroding peat/humus were found on the surface at Cape Cove-3 (DhAi-07), another previously reported site. Dorset Palaeo-Inuit and Recent Indian material, including Cow Head, Beaches and Little Passage artifacts, were recovered during excavations here (Austin 1980:68, 169; Site Record Form). Fire-cracked rocks, calcined bone, shell fragments and 37 flakes were recovered in 2019 at Cape Freels-6 (DhAi-14), the third previously documented site (Figures 1, 3).

ATV traffic has worn a 1.5 metre-deep trench into the top of a four metre high dune at this site, exposing a 9 x 1.7 metre (15.3 m^2) patch of cultural black humus/peat. Numerous black levels are visible in the trench profiles, starting at 28 centimetres below the surface, indicating that a number of humus/peat strata are contained within this dune, or that the disturbance has distorted the stratigraphy. Nonetheless, this feature and the originally identified portion of Cape Freels-6 (DhAi-14), which occurs 36 metres to the northwest, warrant immediate salvage excavation. This need is especially pressing, considering past erosion and ongoing deterioration of archaeological resources at Cape Freels. (Figure 3)

Two new sites were assigned for surface discoveries that were located significant distances, 58 to 129 metres, from extant sites. Cape Cove-5 (DhAi-16) consists of two surface deposits separated by 32 metres. Area 1 produced three fire-cracked rocks, six flakes of patinated rhyolite and two small biface portions, made on black chert, from a ground level blowout adjacent to the trail (Figure 4). Area 2 produced fire-cracked rocks, two cores and 16 flakes from the north face of a four metre high dune. Six of the flakes

Figure 3: Eroding/disturbed culture layer; Cape Freels-6 (DhAi-14)

Figure 4: Artifacts found on the surface of a blow-out, comprising part of Cape Cove-5 (DhAi-16)

are made from European ballast flint, signifying the presence of a Beothuk component (Figure 5).

Cape Cove-6 (DhAi-17), another new site, had fire-cracked rocks and stone artifacts present on the north side of an eroding dune. Patinated rhyolite flakes, including a large primary example, were the most common items. A rhyolite biface fragment and two small Ramah chert flakes were also recovered. The Cape Island Graveyard (DhAi-18) occurs near the hiking trail's southwest corner. This is one of two cemeteries associated with the village of Cape Island which was resettled in 1952 and 1953 (Newfoundland Journal of Commerce, April, 1953:39; Free Press Weekly (Prairie Farmer), April 16, 1952; Free Press Weekly (Prairie Farmer), March 4, 1953). Twenty headstones, dating from the 1920s until 1959, were counted.

Figure 5: Ballast flint flakes found on the side of a sand dune at Cape Cove-6 (DhAi-17)

Conclusions

Although this assessment did not identify cultural material in five sections of the Cape Island Hiking Trail designated for repair, stone artifacts and associated cultural material were found on the surface of three previously identified sites as well as two new localities. Given the ongoing erosion and human disturbance occurring at Cape Freels, the latter's archaeological sites should be closely monitored. The ease of access to these sites and the potential to obtain new information pertaining to the long term human occupancy of this area would justify combining a program of public interpretation with archaeological research, including salvage excavations, at Cape Freels.

An Archaeological Survey of New World Island's Coastline between Morton's Cove to Summerford Arm: 19.23, 19.23.01

The author, under contract to Newfoundland and Labrador's PAO, conducted a survey along part of New World Island's western shoreline during September 13-20, 2019. The study area was accessed via a speedboat, utilizing a local driver, for seven days and one day was invested in a pedestrian survey of locations adjacent to the community of Cottlesville. Two sites previously identified within the Study Area include the Spirit Cove (Beothuk) Burial (DiAr-03) and Little Bridgeport (DjAr-01), a mixed Paleo-Inuit/ Newfoundland Settler locality. These sites were revisited, resulting in a rhyolite uniface and a chipped quartzite lintel stone being collected at the former burial site. Chert flakes and cores, associated with a

chert vein in bedrock, were identified at Little Bridgeport (DjAr-01), representing a small briefly used quarry. Nineteenth-century settler artifacts were present in two test pits and on the surface. Exposed portions of an historic road were found at the base of the harbour.

Fourteen new archaeological sites were identified during the survey. Eight of these produced non-diagnostic lithic items representing Precontact and/or early Beothuk occupations. Two small sites identified by single incomplete European objects resulted from Newfoundland settler or Beothuk activity and two Newfoundland settler localities were identified. A number of cobble beach depressions, similar to small Beothuk housepits, found 112 metres from the former burial constitute another new site, although cultural material has not been identified associated with the depressions. One Dorset Paleo-Inuit site was represented by a chert tip flute spall. The identification of these new sites represents important information about long term occupancy of Notre Dame Bay, specifically the exposed outer coast of New World Island. Movement via canoes through this coastal environment would have been challenging compared to negotiating the sheltered shorelines of Dildo Run and the inner Bay of Exploits. The evidence for precontact and Beothuk activity along New World Island's exposed coast raises questions pertaining to specific activities pursued in this region and the duration of specific occupations there.

Western New World Island may have provided a convenient stopover for excursions to and from the scattered islands to the west where precontact sites and Beothuk burials are documented. The survey results indicate that chert procurement was also an important activity at some of the New World Island sites. This includes the chert vein and associated artifacts that were identified at Little Bridgeport (DjAr-01), a previously identified site, but more substantial quarry evidence was discovered at Puzzle Harbour which occurs 2.7 kilometres to the south. A worked outcrop of bedded grey/green chert was identified at Puzzle Harbour Head (DjAr-15) which is a tiny harbour opening directly into Notre Dame Bay from New World Island (Figures 6, 7). Primary flakes and cores were found on the surface at the foot of the bedrock outcrop (Figure 8). Small flakes recovered from test pits dug in a compact meadow 10 to 12 metres away from the outcrop showed that people also finished, or repaired tools during a brief stopover in this cove. The majority of these small flakes consist of non-local stone, although a few may be patinated examples of the local grey/green chert.

Figure 6: Distribution of Puzzle Harbour and Puzzle Harbour Head sites.
KEY: F-FLAKE; L-LITHICS; M-ROCK MOUND; O-CHERT OUTCROP

Figure 7: Worked chert outcrop at Puzzle Harbour Head (DjAr-15)

Four additional primary lithic workshops were identified within Puzzle Harbour. Puzzle Harbour Northwest (DjAr-13) is located 150 metres overland from Puzzle Harbour Head (DjAr-15), but is also accessible by marine travel (Figure 6). Puzzle Harbour North (DjAr-12) and the Puzzle Harbour Workshop (DjAr-14) occur further along the inlet's north coast, while Puzzle Harbour East (DjAr-11) is located at the bottom of Puzzle Harbour. Cores and flakes, including retouched examples, were found on the surface of all four sites, but lithic artifacts were also recovered from test pits at three of them (Figure 9). Test pits were not dug at Puzzle Harbour East which contains numerous artifacts on its cobble beach surface and in the tidal zone, but its inner portion is flooded. Puzzle Harbour Northwest (DjAr-13), Puzzle Harbour North (DjAr-12) and the Puzzle Harbour Workshop (DjAr-14) all have eroding banks which, in association with artifacts occurring on their beach surfaces, indicates the loss of significant portions of these sites. A 15.3 m^2 section of bank has detached from the main bank at the Puzzle Harbour Workshop (DjAr-14) and continues to erode. Eleven stone artifacts protruding through the surface of this muddy sod were collected. (Figure 9)

Lithic raw material appears to have been chipped into portable sizes at these reduction stations. Two thick biface thinning flakes from the Puzzle Harbour Workshop (DjAr-14) indicate large bifaces were produced here, likely for export to other sites where tools would be manufactured. Raw material may have been sourced at the Puzzle Harbour Head (DjAr-15) outcrop, but may have also been procured within Puzzle Harbour. Puzzle Harbour's northern and eastern shorelines incorporate pillow lava and inter-pillow chert, meaning that additional outcrops, or possibly random cobbles on beach surfaces, may have provided raw material to flintknappers. Further excavations at the Puzzle Harbour sites as well as Little Bridgeport (DjAr-01) are needed to derive the range of colour and grain variations for these chert sources. The latter are part of the Chanceport Slice, which is a geological sub-division of Newfoundland's Dunnage Zone (Currie and Williams

Figure 8: Primary core found at the surface at Puzzle Harbour Head (DjAr-15)

Figure 9: Retouched primary flake from the Puzzle Harbour Workshop (DjAr-14)

1995). These data could be combined with a geochemical profile for the material as a means of charting the distribution of this chert. Other sources of Chanceport chert were previously identified at Bridger Cove (DjAq-13) and the Chanceport site (DjAq-27) on New World Island's eastern coast (Site Record Forms). Research addressing the importance of Chanceport chert should examine the distribution of material from the four acknowledged sources, as well as any additional outcrops discovered in the future.

Twenty-two eroding locations, attributable to rising sea level, were observed among the 100 areas examined in the survey. There are eight eroding archaeological sites, including two that produced single items by trowelling deteriorating banks. Test pits dug at these two sites were sterile, suggesting that the localities are destroyed. This high incidence of erosion is similar to that observed in prior archaeological surveys of Dildo Run which recorded 115 eroding locations and a survey of South Samson Island, immediately west of New World Island, which contained 14 eroding areas (McLean 2013a:26; 2013b:21; 2013c:26; 2015:26; 2017b:39). A program of archaeological monitoring, including salvage excavations at actively eroding sites, is advisable for this area. This extended research would provide the opportunity to pursue answers to a variety of questions. For example, the function of five large mounds of boulders, between 1.4 and 4.9 metres in diameter and 0.35 to 1.1 metres high, identified during the survey remains unanswered (Figure 10). While these features may have resulted from historic settlers clearing land for subsistence agriculture, they are sufficiently large to accommodate human burials. As such, they are provocative potential research subjects. (Figure 10)

Figure 10: Boulder mound (4.9 x 4.3 x 1.1 metres), found in the northeast corner of Luke's Arm

References

Austin, Shaun
1980 Cape Cove Beach (DhAi-5, 6, 7), Newfoundland: Prehistoric Cultures. Master's Thesis, Memorial University. St. John's.
Carignan, Paul
1977 Beothuk Archaeology in Bonavista Bay. National Museum of Man Mercury Series, No. 69. Ottawa.
Currie, K.L. and Williams, H. Geology,
1995 Comfort Cove-Newstead, Newfoundland. Geological Survey of Canada, Open File 3161.
Free Press Weekly (Prairie Farmer)
1953 Volume 73, No. 8. March 4
Free Press Weekly (Prairie Farmer)
1952 April 16.
McLean, Laurie
2008 Archaeological Survey of Trinity Bay, Bonavista Bay. Report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
2013a An Archaeological Survey of the Western Entrance to Dildo Run, Notre Dame Bay. Unpublished report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
2013b An Archaeological Survey of Southwestern Dildo Run, Notre Dame Bay. Unpublished report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
2013c An Archaeological Survey of South Samson Island, Notre Dame Bay, Newfoundland. Unpublished report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and innovation; Government of Newfoundland and Labrador. St. John's.
2015 An Archaeological Survey of Northeastern Dildo Run, Notre Dame Bay: Permit No. 14.43. Unpublished report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
2017b An Archaeological Survey of Northeastern Dildo Run, Notre Dame Bay, Newfoundland. Permit No. 16.32. Unpublished report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
2019a An Archaeological Assessment of Portions of the Cape Island Hiking Trail. Final Report for Permit 19.28. Report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
2019b An Archaeological Survey of New World Island's West Coast From Valley Pond to Summerford Arm: Permits 19.23, 19.23.01. Unpublished report on file, Provincial Archaeology Office, Department of Tourism, Culture, Industry and Innovation; Government of Newfoundland and Labrador. St. John's.
Newfoundland Journal of Commerce
1953 April.

James Alexander Tuck

Stephen Mills
Barry Gaulton

Jim Tuck 1940-2019

James Alexander Tuck, best known as Jim, was born on June 28, 1940 in the small town of Tonawanda, near Buffalo in upstate New York. As a young boy he developed a keen interest in all things old which he maintained throughout his life. He also had a deep interest in botany which he studied for his undergraduate degree, graduating in 1962. Jim tried his hand at teaching grade school on Martha's Vineyard, Massachusetts before going back to Syracuse University to focus on archaeology.

His first connection to Newfoundland and Labrador came in 1967 when several unusual human graves were unearthed at Port aux Choix during the construction of a movie theatre. Provincial authorities recognized a need for an archaeologist to investigate these graves so a call went out to the National Museum in Ottawa. Discussions with Dr. Bill Ritchie, New York State Archaeologist, whom Jim had worked and studied under, resulted in a personal invitation to Jim Tuck by Premier Joey Smallwood to come to Newfoundland, investigate the Port aux Choix discoveries, and start up an archaeology program at Memorial University in St. John's. Jim had just completed his PhD on Onondaga Iroquois cultural development from Syracuse University and was a rising scholar in Iroquoian archaeology in his home state of New York. It was this province's good fortune that Jim accepted Joey's offer as he quickly moved to St. John's in 1967 with his wife Lynn and their two young sons, Jim and Mike. Within several years Jim and Lynn had two Newfoundland-born daughters, Robin and Laura.

Never being one to waste time, Jim and his crewmembers, including Dr. Ritchie, investigated the cemeteries at Port aux Choix where Jim proved that the people interred there were part of the Archaic First Nation's tradition that spread from New England to northern Labrador. Further investigations in southern Labrador, with his Memorial University colleague Dr. Robert McGhee, and later in Saglek Bay helped Jim piece together the early human history of Newfoundland and Labrador, resulting in the 1976 landmark publication *Newfoundland and Labrador Prehistory*. Previous to this Jim published three books on some of the provinces earliest peoples: *The Archaeology of Saglek Bay, Labrador: Archaic and Palaeo-Eskimo Occupations (*1975*)*; *An Archaic Sequence from the Strait of Belle Isle, Labrador* (1975*,* with Robert McGhee); and *Ancient People of Port au Choix* (1976).

Jim's early career saw him make defining contributions to the Indigenous history in the province, going back at least 8,000 years or more. In addition to his work at Port aux Choix, Jim and Bob McGhee and some of his MUN graduate students, including Priscilla Renouf and Marcie Madden, uncovered the world's oldest known burial mound at L'Anse Amour in southern Labrador. In the same region, Jim and Bob revisited previously discovered sites and made new discoveries that indicated the Strait of Belle Isle contained some of the earliest evidence of humans in eastern Canada.

In the late 1970s Jim began to explore the

province's early European occupations when he surveyed sixteenth-century Basque whaling sites in Red Bay Labrador. Red Bay turned out to be of tremendous international importance. As Jim called it, Red Bay was where the Industrial Revolution began in the New World. Evidence of Basque whalers turning whale blubber into incredibly valuable oil was present on Saddle Island and elsewhere in the harbour and neighbouring coves and bays. At Red Bay Jim and his crews also uncovered evidence of a rich human history from circa 9,000 years ago to modern times. The Saddle Island West site is the only known "contact" site in Labrador from the sixteenth century where Indigenous groups, likely Beothuk, actually visited European sites.

As the Red Bay investigations were winding down, Jim delved deeply into the early colonial and industrial history at Ferryland. Two field schools in the mid-1980s began the search for remnants of the 1621 English colony of Avalon, the results of which formed the impetus for larger scale investigations beginning in 1992. Taking lessons from his experiences working with archaeology students and local residents in Red Bay, Jim recognized the value of collaborative, community-based archaeology, and of the potential benefits that it may bring to rural areas of the province. Ferryland residents were therefore employed in all aspects of the project starting with field and laboratory positions, and later – as the site and its importance gained momentum – expanding into further opportunities as tour guides, heritage interpreters and retail staff. Jim was among the first academics in Canada to genuinely understand that archaeology is as much about the people and communities we work in as it is about the past. Now in its 28th consecutive field season, the Ferryland archaeology project is but one of Jim's many enduring legacies.

Jim's technical expertise was a source of amazement for those he worked with, frequently manifesting itself when dealing with the unique challenges associated with the excavation and interpretation of archaeological sites. From the small ponds in Red Bay to the foreshore of Ferryland, Jim was able to plan and then assemble an impressive array of useful tools and instruments from suction dredges to sediment separators to flotation tanks. His recognition of the need for collaboration with experts in other fields was another of Jim's strengths, regularly working with historians, folklorists, parasitologists, entomologists and numismatists. Furthermore, Jim was the first archaeologist to bring archaeological conservators into the field and this proved essential for the care of organic artifacts from the clothing remains of the Basque whalers at Red Bay to the preserved oak barrels forming the early waterfront at Ferryland and accurate reproduction of masonry features such as the sixteenth-century whale oil rendering ovens from Red Bay.

Jim's contributions to archaeology went well

beyond the shores of his newly adopted province. He conducted surveys on Anticosti Island, Quebec in 1971 with famed American archaeologist Alfred Kidder II and investigated the sixteenth-century exploits by Sir Martin Frobisher on Kodlunarn Island in Frobisher Bay with Robert McGhee and Luke Pilon in the early 1990s. Jim frequently gave lectures on his Newfoundland and Labrador work throughout Canada, the United States, Mexico, Greece, Italy, the Netherlands and Egypt.

One of the things that stands out the most when we think of Jim Tuck and his archaeological legacy in Newfoundland and Labrador is his work ethic. Jim was an exceptionally hard worker who loved what he did. No job was too big or small for Jim to take on, and he would always lead by example. From building wharves and repairing sewer lines in Red Bay, to meticulously constructing scale models of tryworks and staved beer steins or making reproduction seventeenth-century furniture, Jim used his creativity to benefit us all. Jim was a modest man and was quick to share the stage with his colleagues and students by co-authoring numerous publications and conference presentations. His books, reports and articles were always well written and easy to comprehend; a skill that is unfortunately still lost on many scholars of Jim's stature. Jim Tuck's lasting legacy lives on with his family and the many students who have gone on to research and teach archaeology throughout Canada, the United States and in countries around the world.

Community Archaeology and Cultural Resource Management in Sheshatshiu & Upper Lake Melville, Labrador – 2019

Scott Neilsen, Ashley Baker, Robynn Hoskins, Kaylene Newsom, & Margie Ward
Memorial University of Newfoundland

Figure 1: Map showing location of North West River, Otter Creek and Sheshatshiu, in Upper Lake Melville, Newfoundland and Labrador

Land-based research and learning undertaken as part of the 2019 Memorial University Department of Archaeology-Labrador Institute field school took place between July 1st and August 2nd, 2019, under archaeological permit 19.09. Land-based studies and research took place in Sheshatshiu, North West River and Otter Creek (refer to Figure 1), while laboratory analysis, and reporting were undertaken at the Laboratory for Applied Archaeological Research and Community Heritage (LARCH), located at the Labrador Institute Research Station in North West River. The 2019 team included students Ashley Baker, Kaylene Newsome, and Robynn Hoskins, whom all received credit for two courses at Memorial, as well as research assistant Margie Ward (refer to Figure 2); with additional support and research assistance provided by LARCH summer staff - Jay Andrew and Wesley Blake.

The land-based learning activities took place at two locations in Sheshatshiu, in North West River, and at Otter Creek in Happy Valley-Goose Bay. Activities at each location focused on different aspects of archaeological research and were considered to be sub-projects within the field school. Sub-project 1 continued with the excavation of Area 15 at archaeological site FjCa-51, which was started by the 2018 field school. Sub-project 2 took place at Otter Creek, where the students recorded and mapped a known historic gravesite using non-invasive techniques. Sub-project 3 took place at two locations, including a private housing lot being developed in North West River and at one of three locations being considered for

Table of Contents

a new cemetery in Sheshatshiu. Shovel test-pits were dug at both of these locations.

Sub-project 1 focused on the continued excavation of Area 15, at archaeological site FjCa-51 (refer to Figure 3). This is a large and significant archaeological site located in the community of Sheshatshiu, which has been undergoing excavation in advance of infrastructure development since 2009. Excavation at Area15 began in 2018, and included the excavation of six 1m² units in a checkerboard pattern within a 5x5 m² excavation grid (refer to Figure 4). The 2018 results indicated that there was a feature present in the southwest corner of the Area 15 grid and that there were stone artifacts present in the same area, and also at the northern limit of the 5x5 m² grid. In 2019 the 5m² grid was extended an additional 3m south, towards the road, to create a 5m x 8m excavation grid. The excavation in 2019 completed the excavation units that were started in 2018, and also excavated an additional 24 1m² units within excavation Area 15 (refer to Figure 5).

The 2019 excavation concentrated around the feature located in the southwest portion of Area 15. This feature was identified in a single unit in 2018, but was not excavated. In 2019 the excavation units surrounding and including the feature were excavated, and revealed a feature consisting of charcoal, cobbles, fire-cracked-rock, and a few small fragments of animal bone (refer to Figure 6), in association with stone tools and debitage. The feature itself is similar to other features excavated at FjCa-51 and is near a boulder that may have been used as a seat or working platform, in association with the feature (a similar situation was recorded at Area 7, 50m to the east of Area 15). As with most locations at FjCa-51, the artifacts are dominated by stone debitage, left over from the making and/or repair of stone tools. Compared to locations in Area14 the amount of debitage present here is low, and for the most part the specimens are small.

Stone tools were also recovered in association with the feature in Area15. This included two chert bifacial specimens (refer to Figure 7), a ground stone gouge (refer to Figure 8), and utilized flakes. The larger of the two bifacial specimens is incomplete, and consists of a single fracture extending across the specimen between the lateral margins. Whether or not this was a notched specimen is not clear. The second chert biface is small, and may have been discarded because it had become too difficult to sharpen or too small to be useful. While somewhat smaller than many of the other notched bifacial specimens recovered at FjCa-51, the overall style of the specimen is similar to notched stone tools recovered nearby (e.g. Area 11, approximately 50m to the east). These two bifacial artifacts fit comfortably within the current radiocarbon range for FjCa-51, which covers approximately 400 years between ca. 3200 to 2800 years before present.

Figure 2: photo showing 2019 crewmembers, left to right is Scott Neilsen, Ashley Baker, Kaylene Newsome, and Margie Ward

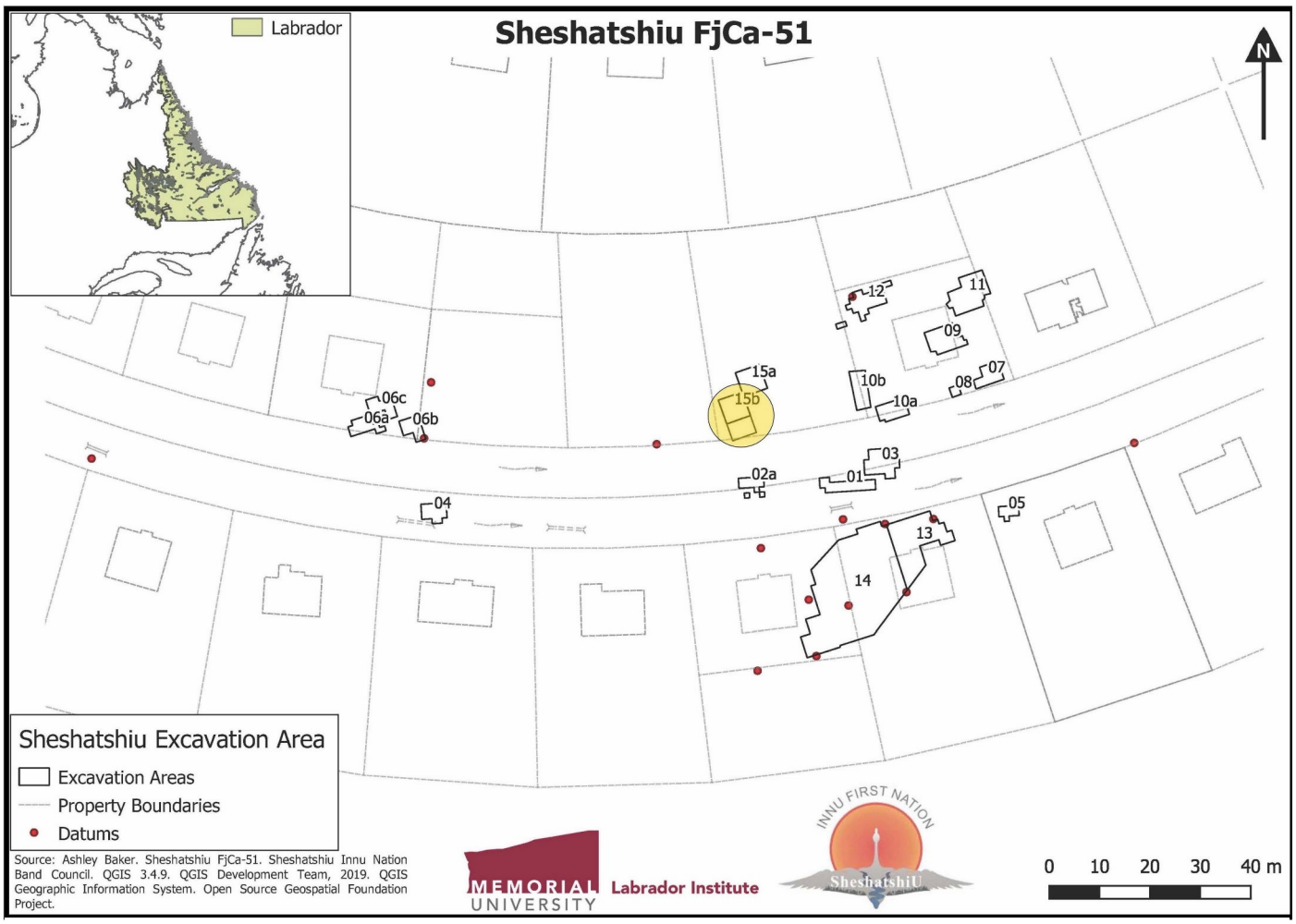


Figure 3: Map showing location of Area 15, FjCa-51, in Sheshatshiu, Labrador

Figure 4: Photo showing progress at excavation Area 15, FjCa-51 at the beginning of the 2019 field school

Figure 5: Photo showing progress at excavation Area 15, FjCa-51 at the end of the 2019 field school

Figure 6: Photo of combustion feature in Area 15, FjCa-51, before the feature was excavated

Figure 7: Photo of chert bifacial specimens recovered in association with the combustion feature in Area 15, FjCa-51, Sheshatshiu, Labrador.

The ground stone gouge recovered in association with the combustion feature in Area 15 was a surprise (refer to Figure 8). This tool class is reportedly absent from archaeological sites that date within the known radiocarbon sequence for FjCa-51, and this absence is often cited as one of the lines of evidence for First Nation cultural discontinuity in Newfoundland and Labrador, between what archaeologists have named the Archaic/Early period and the Intermediate period, and who Innu refer to as tshiashinnu, or ancestors. The style of the gouge fits within what William Fitzhugh and James Tuck have described for the end of the Archaic/Early period, and the archaeological cultures that they have defined within this, including the Late Labrador Maritime Archaic Tradition (aka the Northern Branch Maritime Archaic) and the Newfoundland Maritime Archaic Tradition (aka the Southern Branch Maritime Archaic Tradition), as represented by archaeological features and artifacts recovered from cemeteries at Rattlers Bight in Groswater Bay, Labrador and Port au Choix on the Northern Peninsula of Newfoundland. Notably, radiocarbon dates published for these two locations are slightly older than those obtained for FjCa-51 to date.

To be clear the ground stone gouge recovered from Area 15, FjCa-51 was not in a cemetery or a burial context; and it does raise some significant questions for consideration. The specimen was recovered at the western edge of the feature concentration mentioned above, and was buried beneath the base of the feature (refer to Figure 9). And, while it is in good condition, there is some indication that it was utilized prior to being buried (refer to Figure 10). As can be seen in Figure 9, the gouge was recovered from a small hole, not much bigger than the object itself, and in direct association with two quartzite pebbles (refer to Figure 11) – one on either side of the specimen. Quartzite does appear in the glacial till underlying the archaeological components at FjCa-51, but the occurrence of two pebbles in direct association with the ground stone gouge and the small hole from which it was recovered cannot be a coincidence. Our initial impressions are that this object was deliberately placed in this location, with the two small quartzite pebbles, and that this event was contemporaneous with the use of the associated feature that covered it. Assuming for now that this is the case, the impetuous for such and action requires further consideration.

Some initial questions are – What is the gouge made from and what was it used for? Why are the

Figure 8: Photo showing ground stone gouge recovered in association with the combustion feature in Area 15, FjCa-51, Sheshatshiu, Labrador.

Figure 9: Photo of ground stone gouge as it was fond, in Area 15, FjCa-51, Sheshatshiu, Labrador. Note quartz (white) cobbles on both sides of specimen

Figure 10: Photo showing lip of gouge from Area 15, FjCa-51 under magnification

Figure 11: Photo showing two quartz pebbles recovered from Area 15, FjCa-51, in association with the gouge pictures in images 9&10

Figure 12: Photo showing 2019 crewmembers at work in Area 15, FjCa-51

quartzite pebbles buried with the gouge? Are the people who buried the gouge with the pebbles the same people that made and used it? If yes, how will this impact archaeologists' explanation of the transition from the Archaic/Early period to the Intermediate period in Labrador? If no, where did the people who buried it get it, and why did they bury it in a hole along side this combustion feature? These and other questions will be addressed with future research on the specimen, in Area 15, and at FjCa-51. Towards this end, charcoal samples were collected from the combustion feature in Area 15, and in association with the gouge and quartzite pebbles, and are currently being prepared for dating. This will help to confirm or discount the assumed contemporaneity of the feature and the burying event. The presence of the two quartzite pebbles also requires further consideration – quartzite is used for making tools during the Intermediate period, and is well represented in the artifact assemblage from FjCa-51 (although not much quartzite debitage has been recovered in Area 15 to date – and it was virtually absent from Area 7, referenced above). Quartzite is present in cobble form in the glacial till in Sheshatshiu, and at FjCa-51 and its presence is considered to be one of the benefits of inhabiting this location. Furthermore, quartzite also has unique properties such as triboluminescence, and may be important for reasons beyond its use for making stone tools. The inclusion of quartzite pebbles in a potentially deliberate act of artifact burying appears important.

Other activities undertaken by the 2019 field school at FjCa-51 included documenting soil profiles and excavation unit characteristics (refer to Figure 12), collecting soil samples, and establishing additional grid corner points, with the help of Courtney Dunn, the GIS technician for the Town of Happy Valley-Goose Bay (refer to Figure 13). These new points will be used to expand the current Area 15 grid to the north and east in summer 2020.

Sub-project 2 was undertaken at the request of the Newfoundland and Labrador PAO, and included locating and documenting a historic gravesite at Otter Creek, within the town of Happy Valley-Goose Bay (refer to Figure 1). Otter Creek is known to be the location where people first settled in the early 1940s when construction of the American military base began, and people moved into the region to avail of paid work. This initial settlement was short-lived, and civilians were required to move further away from the base infrastructure, and settled on Birch Island and the north bank of the Mishta-shipu (Grand/Churchill River) as a result (Brenan 2018). At Otter Creek today there is a monument in a large grassed area commemorating the settlement, but

Figure 13: Photo showing field school students and Courtney Dunn using dGPS to establish additional grid corner points

there is no indication of where people actually lived (refer to Figure 14).

Before visiting Otter Creek to locate the reported gravesite, discussions with community members in North West River indicated that there was a marked trail leading to the grave, and that the gravesite itself was outlined in small cobbles and included a small cross. Upon arriving at the location a quick pedestrian survey identified the reported trail and the gravesite, which is approximately 120m south of the Otter Creek monument and 15m east of Route 520 – the main highway between Happy Valley-Goose Bay and Sheshatshiu-North West River (refer to Figure 15). Once the gravesite was located the field school crew conducted a pedestrian survey of the surrounding area, and recorded points to create a survey map of the gravesite in relation to the road and monument. Photographs and field notes were also recorded, and an archaeological survey form and site record form were completed and submitted to the NL PAO – giving the gravesite the Borden number FiCc-01.

The gravesite measures approximately 1m x 2m, is marked by an outline of small cobbles, and a small wooden cross (refer to Figure 16). The small plaque on the cross includes the inscription "Baby Michelin", and the date 1943. Local informants indicate that this marked grave includes an infant burial, and that there may be other burials in the Otter Creek area. We have also learned that a resident of North West River has maintained this gravesite in the past and knows the history associated with it. We are currently in the process of arranging an interview with this individual to further document the history and to inquire about the reports of additional gravesites in the area. The pedestrian survey undertaken between the known gravesite and the Otter Creek monument did not identify any additional gravesites, or any visible remains of former structures (some metal debris was observed in the woods near the edge of the clearing associated with the monument, but cannot be clearly dated or associated with the Otter Creek settlement at this point in time). It was noted that the terrain on either side of Otter Creek is minimally disturbed, and that the topographic and environmental features present are repre-

Figure 14: Photo showing location and setting of the Otter Creek monument

Figure 15: Map showing location of gravesite at Otter Creek, and surroundings

Figure 16: Photo showing Otter Creek gravesite (FiCc-01)

Figure 17: Photo showing topographic and environmental characteristics at Otter Creek, Happy Valley-Goose Bay, NL

sentative of locations with an elevated potential for the presence of archaeological resources (such as paleoshorelines, terraces, and a watercourse) (Figure 17).

Based on these findings, including the observed archaeological potential and the known and potential gravesites, the 2019 field school crew concluded that further archaeological work should be undertaken here in advance of any new ground disturbing activities outside the areas which are already undergoing soil remediation associated with contamination from nearby CFB Goose Bay, or the current home, cabin, and commercial developments that can be seen near the shore of Lake Melville, east of the Otter Creek watercourse (refer to Figure 15).

Sub-project 3 included two days of pedestrian survey and shovel testing at a location in Sheshatshiu, and another in North West River. The objective in both cases was to conduct a preliminary assessment of each location's archaeological potential. The assessment in Sheshatshiu occurred at the southeastern limit of the reserve, where the boundary extends between Lake Melville and the road to North West Point (refer to Figure 18). This work was undertaken at the request of the SIFN band manager, to aid in the community's search for a new cemetery location,

Figure 18: Map showing location of Sheshatshiu shovel testing

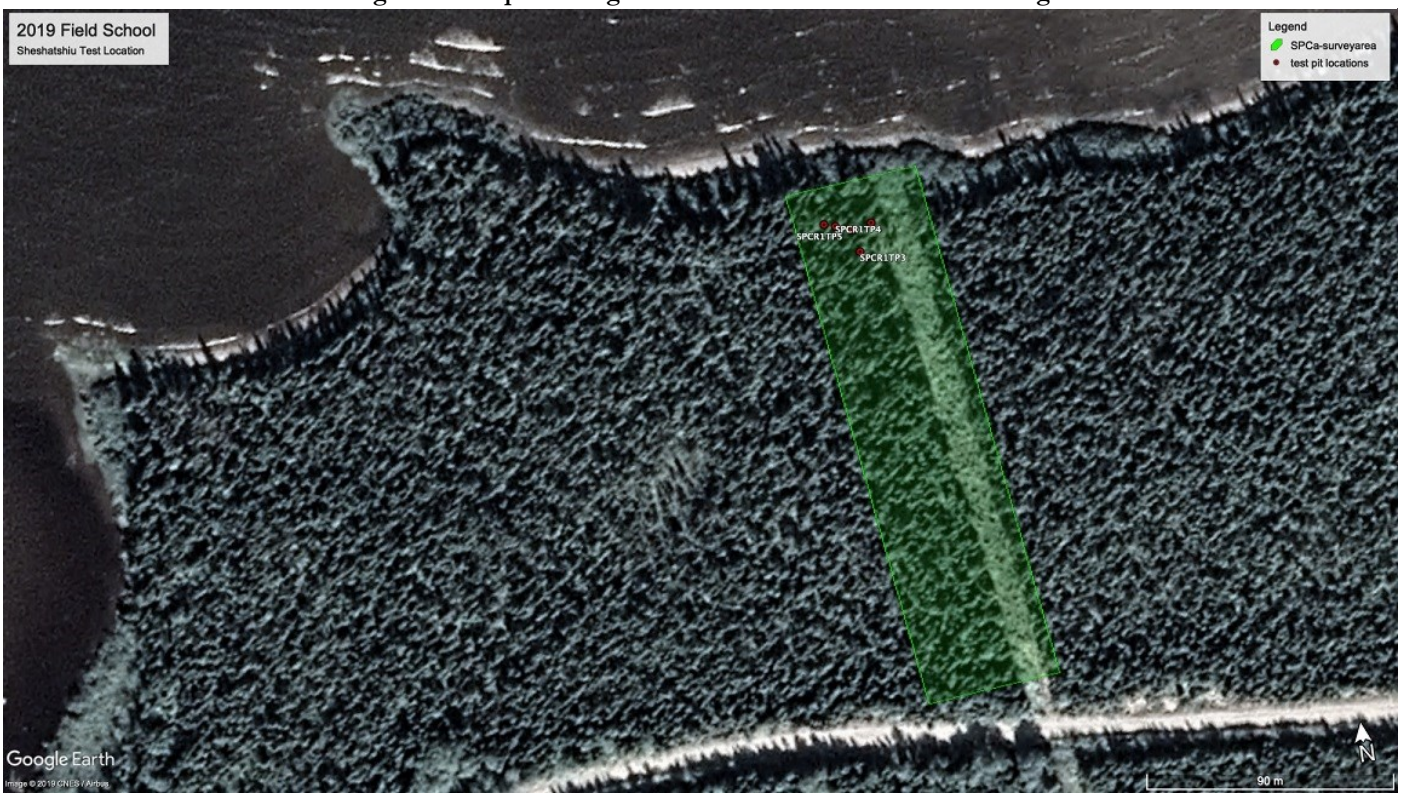


Figure 19: Photo showing environmental characteristics in this testing location

and was a high priority due to the current cemetery being unable to expand further because of surrounding infrastructure. Furthermore, a recent predictive modelling report commissioned by the NLPAO rated this as "high potential" for the presence of archaeological resources (see Schwarz 2019).

Upon arriving at the location where the reserve boundary crosses the road to North West Point, which is indicated by a cut-line through the woods, the field school crew hiked to the shoreline of Lake Melville carrying screens, shovels and other required equipment. The terrain observed included a significant decrease in elevation between the roadway and the current shoreline of Lake Melville, with the overall slope being broken by a series of palaeoshorelines and terraces that passed east to west through the area, and gradually curved to the south, forming the boundary of what was an island in the distant past. As a preliminary step in judging the potential of the location a single row of test pits (n=5) were excavated along the edge of one palaeoshoreline, elevated approximately 15m asl (refer to Figure 19). Each test pit measured 50 cm^2 and was excavated to sterile soil. No archaeological features or artifacts were identified during this testing or during the pedestrian survey. Other than the cut-line marking the reserve boundary, some garbage along the edge of the roadway, and the road itself there were no visible signs of human activity at this location. Having said that, the investigations were limited; plus, the presence of palaeoshorelines and associated terraces, and their location adjacent to what was once a water channel separating this location from archaeological site FjCa-51 and other sites in that vicinity, confirmed that this location has an elevated potential for the recovery of archaeological resources (as reported by Schwarz 2019), and should undergo further investigation prior to any ground disturbing activities occurring here. Since the completion of this preliminary assessment SIFN has decided to establish their new cemetery in another location within the community – which has been classified as low potential in the predictive modelling report produced by Schwarz in 2019, and therefore will not require archaeological investigation in advance ground disturbing activities.

The preliminary assessment undertaken in North West River occurred east of Airstrip Road and north of the North West River cemetery (refer to Figure 20) and was undertaken at the request of the NLPAO. The general area includes previous disturbance from the clearing and grubbing of a right-of-way along the northern limit of the North West River cemetery, running east to west between the Town water tower and Airstrip Road, and from the very

Figure 20: Map showing location of preliminary assessment undertaken in North West River

recent clearing and grubbing of two housing lots bordering the property under investigation. The impetuous for this investigation is based on the topography of the site, which includes ancient shorelines and associated terraces that pass north to south through the property. Notably, these ancient shorelines are extensions of those which overlook the watercourse from which the town of North West River takes its name, and upon which William Fitzhugh identified numerous archaeological sites spanning the last 3500 years, in the late 1960s (see Fitzhugh 1972).

Upon arriving at the location the field school crew conducted a pedestrian survey of the housing lot in question, as well as the two recently grubbed adjacent housing lots (which at the time were mistakenly assumed to be part of the same property). The visual survey of these two adjacent lots resulted in the recovery two red quartzite specimens (refer to Figure 21), which include attributes that are known to result from the process of making stone tools – i.e. flake scars and striking platform. Furthermore, red quartzite is common on archaeological sites associated with the same palaeoshorelines elsewhere in North West River, and in nearby Sheshatshiu. Given the disturbed context, and that no other archaeological artifacts or features were observed at this location, the origin of these specimens could not be determined, although the location has been recorded as an isolate find, with Borden number FjCa-78.

Figure 21: Photo showing red quartzite specimens identified in a disturbed context in North West River (FjCa-78)

Figure 22: Photo showing shovel test areas in North West River

The pedestrian survey of the adjacent cleared, but un-grubbed property (refer to Figure 22) did not identify any significant historic resources, although signs of recent human activity in the form of a trail, garbage, and burn areas were noted. Given the recognized archaeological potential of the landform and the lack of obvious disturbance (limited) shovel testing was also undertaken. Test pits were dug in two rows (n=16), along the edge of two of the more prominent terraces passing through the property. Test pits in each row were spaced 4m apart, and measured 50cm^2. No archaeological resources were recovered during the pedestrian survey or (limited) shovel testing of this property. However, with the known sites further north and south of this location, and the recovery of two red quartzite specimens from the adjacent property, the field school crew concluded that these terraces have an elevated potential for the presence of archaeological resources, and recommend that any additional housing projects, or other developments which also have the potential to disturb terraces associated with paleoshorelines in North West River (and elsewhere in Upper Lake Melville) undergo archaeological assessment in advance of ground disturbing activities.

In summary, the 2019 Department of Archaeology and Labrador Institute field school was a success. Participants in the field school had the opportunity to participate in aspects of archaeological fieldwork and lab work, including pedestrian survey, shovel testing, excavation, mapping, photography, artifact cataloguing, reporting, etc. Furthermore, the participants also had the opportunity to learn about the archaeological and cultural history of the Innu, Inuit and settlers in Upper Lake Melville, and about their present life. The preliminary survey and testing undertaken in association with the proposed cemetery location in Sheshatshiu and the housing lot in North West River have concluded these investigations, and no additional work is planned at either location. Excavation at FjCa-51, however, will continue with the Labrador Institute field school in summer 2020. The 2019 investigations in Area 15, including the recovery of a ground stone gouge, and the recording of a new site in North West River, have advanced an understanding of the region's archaeological history and have raised important questions for future consideration.

Acknowledgements

The 2019 field school once again relied on the good will of community members to deliver a rewarding educational experience. Our success in 2019 relied on support from: Margie Ward, Bryn Wood and NunatuKavut, Chelsee Arbour, Courtney Dunn and the Town of Happy Valley-Goose Bay, Chief Hart, Greg Pastishi and the SIFN band council, Jodie Ashini and the Innu Nation, Jay Andrew, Wesley Blake, Stephen Hull and staff at the PAO, Ken Powell, Kyle Krotty and the Nunatsiavut Government, and staff at Memorial University's Labrador Institute, Department of Archaeology and Faculty of Humanities and Social Sciences – Tshinashkumitin, Nakummek, Merci, Thank you!

References

Brenan, Julia. 2019. Archaeology and Memories on Birch Island. Master's Thesis, Memorial University: St. John's.

Schwarz, Fred. 2019. Shesahthsiu Archaeology Review, Sheshathsiu, Labrador. Prepared for the Provincial Archaeology Office, Government of Newfoundland and Labrador: St. John's.

2019 Archaeological Activities – Gerald Penney Associates Limited

Gerald Penney, Blair Temple & Robert Cuff
Gerald Penney Associates Limited

In 2019 GPA conducted archaeological investigations under eight Provincial permits and two Parks Canada permits.

Water Street Infrastructure Improvement St. John's, Phase 2 (permit #19.01) [Figure1]

Between 1 April and 30 June 2019, GPA conducted archaeological monitoring of Phase 2 of the Water Street Infrastructure Improvement (WSII) project, a multi-year construction/excavation project scheduled for completion in 2022. WSII involves the installation of a new storm sewer system in the downtown, as well as the replacement of some sanitary piping, manholes and water mains, culminating in the slip-lining of existing pipes. Phase 2/2019 excavations continued along Water Street east from Bishops Cove/ Adelaide Street to the intersection of Water Street and Ayres Cove/McBrides Hill. The most extensive excavations were for the installation of new services at the Becks Cove/George Street intersection, while there was very little excavation required from Becks Cove east to Ayres Cove. Five new archaeological sites were recorded [CjAe-170, 171, 172,173 and CjAe -176], and three previously designated sites further documented.

Figure 1: Human teeth from CjAe-173 [Water Street 17], east of Becks Cove

While archaeological finds were many and varied, most can be discussed under three themes: drainage and sanitation; fires; and the development of Becks Cove. While some 17th/18th century material was identified at the Becks Cove intersection, this area also had a great many sanitation/drainage features and was hence much disturbed. Fire evidence, as throughout much of the downtown, was found at all sites – from artifact-laden deposits and fire horizons to structural features reflective of the re-routing and widening of Water Street after fires.

The find which drew the most public interest was a cache of 70+ human teeth immediately east of Becks Cove [CjAe-173, Water Street 17]. This site also included extensive early-to-mid-19th century fire deposits (1819 and the Great Fire of 1846), as well as post-1846 roadwork, 19th century wooden drains, and possible traces of a little known fire of 1779.

The previously recorded site with the earliest finds [CjAe-112, Becks Cove – GPA 2009] consisted of deeply buried deposits relating to 17th/18th century fishing activity, underlying extensive 19th century fill, most of which was judged to be related to clean-up after fires.

JAG Hotel expansion, St. John's (permit #19.02) [Figure 2]

In March 2019 GPA monitored demolition of a building at civic # 426-428 Water Street, the former John Howard Society building. Although it was one of the oldest standing structures in a city where much of the downtown core was razed in the Great Fire of

Table of Contents

Figure 2: Removal of the east wall of #426/428 Water Street (formerly the John Howard Society building), with the pre-existing JAG Hotel visible at top. Two double-flue brick chimneys, incorporated into the stone wall, are indicated by red lines

1892, it was not a designated Heritage Building, its roofline and façade having been extensively altered in the 20th century. Much of the monitoring effort was directed towards recording structural details during demolition in order to inform future investigations in the downtown. We did not locate any artifacts which could be confidently dated to mid-19th century and/or earlier occupations, suggesting that the site was excavated down to sterile soil during its construction, shortly after the Great Fire of 1846.

Sheshatshui, Labrador Finance Building Pre-excavation Site Preparation (permit #19.05) [Figure 3]

On 17 May 2019 our lead field archaeologist Blair Temple monitored the removal of ground cover for a proposed Sheshatshui Innu First Nation Finance Building. The mouth of North West River where it empties into Lake Melville/Hamilton Inlet was a regular seasonal gathering place of the Innu in historic times. Portions of the community of Sheshatshui are located near ancient shorelines at 25-30 m above present sea level and have been occupied by pre-contact Indigenous peoples for more than 3000 years. At approximately 45 m asl, the Band Council offices and the 2019 Project Area are the most elevated areas in the community. No pre-1970 artifacts were located during field investigation.

Figure 3: Innu camp at Sheshatshui, c. 1951, at a clearing near the old Revillion Freres post, then being used as a chapel (at top, right). Projected pre-contact occupations at North West River/Sheshatshui were likely large seasonal beach camps, although changes in water level means that pre-contact shorelines are now some distance inland (Adelaide Leitch photo, GPA collection)

Veterans Square Realignment Project (permit #19.19) [Figure 4]

From 13 June to 9 August 2019, GPA conducted archaeological monitoring of excavations related to a traffic realignment near Gower Street United Church, part of a larger Street Rehabilitation Program. The project is multi-faceted, involving: (1) the realignment

Figure 4: Removal of a concrete retaining wall on the east side of Gower Street United Church

of the Veterans Square/Sergeants' Memorial area, including the removal of the western end of Bond Street (Veterans Square) and the removal of the length of crosswalk at the top of Church Hill, through the expansion of adjacent sidewalks and traffic islands; (2) the removal and replacement of a concrete retaining wall on the east side of Gower Street Church (i.e., retaining Church Hill); and (3) the replacement of a stone sewer running down Cathedral Street, from Queens Road to Gower Street, and installation of a storm catch basin and pipe at the bottom of Garrison Hill.

Excavations related to the retaining wall removal and sewer replacement were monitored archaeologically, and two archaeological sites were recorded:

CjAe-174 (Church Hill North) - Excavations to remove and replace a concrete retaining wall exposed extensive disturbance related to that wall's construction, sometime during the early-to mid-20th century. Evidence of a possible structure destroyed in the 1892 fire was identified, as were small traces of early 19th century occupation, though these were sparse and generally from disturbed contexts.

CjAe-175 (Cathedral Street North) – Excavation along Cathedral Street exposed a c. 74 m length of a large (0.8 m × c. 1.0 m), functioning stone sewer, possibly part of a documented sewer completed in 1865 running from Garrison Hill to Jobs Cove. Evidence of post-1846 or -1855 fire road work and widening was also recorded. Excavations associated with the realignment of Veterans Square were confined to curb installation, new asphalt and tree and shrubbery excavations, and were too shallow to warrant investigation.

Riverhead, Bay Bulls (permit #19.29) [Figure 5]

Riverhead, Bay Bulls [ChAe-15] is demonstrated from historic cartography to have been occupied during the 17th century, with clear indications of structures on a

Figure 5: Test pits along the south end of a strip of land between Lower Road and the beach at Riverhead, Bay Bulls. The Bay Bulls Municipal Building is on the horizon at centre, left.

Figure 6: A portion of the stone platform/ structural feature at Steel Point, Fermeuse [CfAf-37]

map produced by Captain Henry Southwood in 1675 or 1677. GPA conducted a field investigation of a privately-owned plot of land on the west side of Riverhead on 8 and 9 October 2019, and encountered 17th/18th century deposits roughly coincident with Southwood's mapping.

Fermeuse Marine Base (permit #19.30) [Figure 6]

On 22 and 23 October 2019 we conducted a Stage 2 Historic Resources Impact Assessment of two archaeological sites which will potentially be impacted by a marine base development at Fermeuse: CfAf-36 [Lawes Point -1] and CfAf-37 [Steel Point 1]. These sites were recorded by GPA during a 2015 Stage 1 Historic Resources Overview Assessment.

Testing at CfAf-36 (Lawes Point) produced limited cultural material, including small quantities of fragmentary ceramics and window glass. One interesting find was a partial clay tobacco pipe bowl, decorated with an anchor and a ship. The finds are consistent with our 2015 interpretation that Lawes Point is a later 19th century/early 20th century occupation.

Testing at CfAf-37 (Steel Point) occurred in two separate areas. The western portion (in the vicinity of a previously observed stone platform and stone structural (?) feature) and a substantial retaining wall feature in the east. Although no artifacts were recovered in association with these features in 2015, a small number were found in 2019, again from a later 19th century/early 20th century occupation. The stone retaining wall appears to be the terminus of a road or path along Steel Point, while the stone platform may be remnant of a storage structure.

Temperance Street Residential Development (permit #19.32) [Figure 7]

On 13 November 2019, we monitored the excavation of eight geotechnical test pits at the site of a proposed residential development on the east side of Temper-

Figure 7: Temperance Street c. 1968, Study Area [CjAe-177, Temperance Street 2] outlined in red. The dark, two-story building within the outlined area is # 36 Temperance Street, a partial foundation of which was encountered in 2019. The light-coloured/lower building within the Study Area is Drover's planing mill.

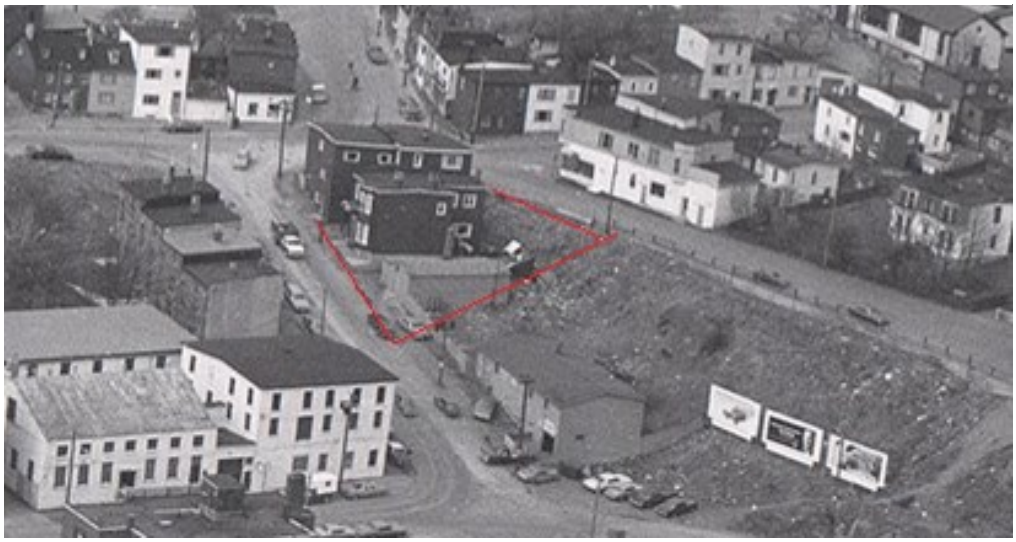


Figure 8: Sugar Loaf Cove (DcAi-41) and Jigging Hole (DcAi-40). Added red lines approximate the position of proposed access roads

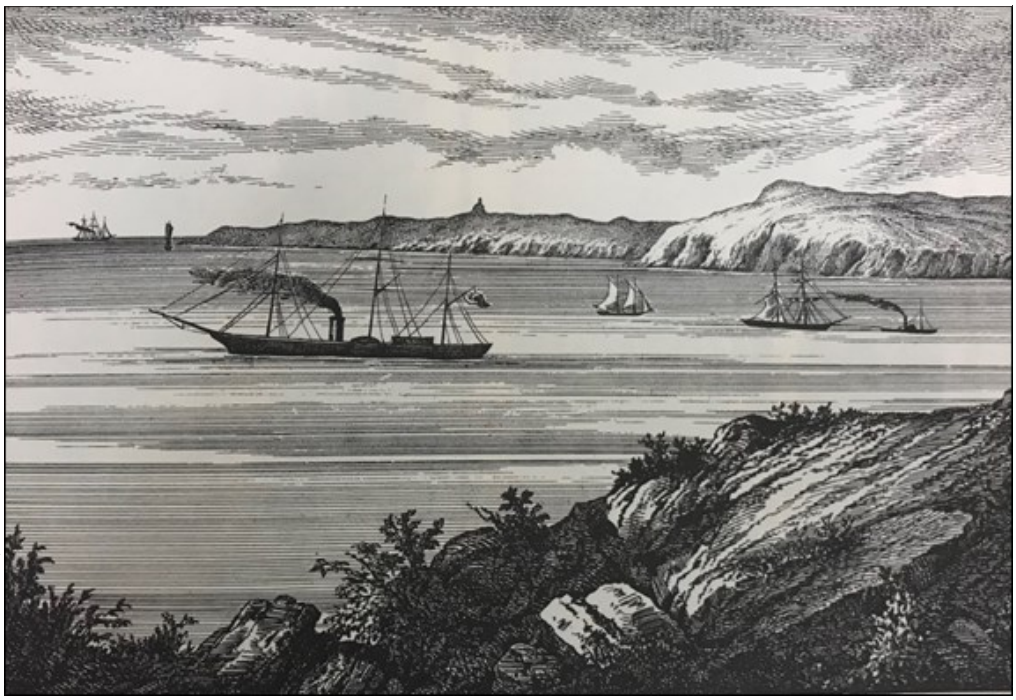
ance Street. Excavation exposed primarily 20th century infill strata in all test pits. A portion of mortared (?) stone foundation was exposed in one test pit, likely remnant of a house, # 36 Temperance Street, which was built shortly after the Great Fire of 1892 and razed within the last 20 years. Another test pit contained small quantities of 19th century ceramics within a possible secondary stratum. In general, most stratigraphy was 20th century and/or disturbed.

Jigging Hole, Trinity Bay (permit #19.33) [Figure 8]

On 14-15 November 2019 we investigated two coves west of Dunfield, Trinity Bay – collectively known as Jigging Hole. Of the total area of four related Crown Lands applications, approximately 2.8 acres (in two distinct parcels) showed evidence of having been cleared for subsistence gardening and as pasture/silage. While fragmentary artifactual evidence consistent with a 19th century domestic occupation was encountered in nine of 55 test pits, no structural evidence of dwellings or outbuildings was recorded during testing.

A church record from in Trinity in 1808 records the death of an 88-year-old man who lived in Jigging Hole making it the earliest documentary evidence of the occupation of Jigging Hole. It strongly suggesting that Jigging Hole was occupied at least seasonally before that. The earliest recorded birth at Jigging Hole is from 1827, while the last documented resident is a 75/80 year-old widow enumerated in the 1901 census, who is presumed to be Honor [Brown] Moore, born in Trinity in 1826. Church records, voters' lists and the Newfoundland Census indicate occupation by three generations and never as many as

Figure 9: "Cape Spear and Freshwater Bay," by W.F. Rennie, in 1877 – viewed from Fort Amherst (after de Volpi 1972)



10 people at one time – family names Adams, Moore, Spencer and Tett/Tait. The more westerly of the two coves of Jigging Hole was given the fieldname "Sugar Loaf Cove," after a prominent hill to the northwest. Finds at both locations were limited, but sufficient historic resources were identified to register each as an archaeological site: Jigging Hole (DcAi-40) and Sugar Loaf Cove (DcAi-41).

Cape Spear
(Parks Canada permit #CS-2018-30737)
[Figure 9]

In October 2018 GPA was engaged to provide archaeological monitoring and recording during excavations at Cape Spear National Historic Site of Canada, specifically in relation to drainage improvements around the 1835 Lighthouse. This work was postponed due to weather, until spring 2019, while in January 2019 Parks Canada informed that additional infrastructure improvements were planned, requiring archaeological monitoring. These included:

-the construction of a new Entry Pavilion structure near an existing washroom structure;
-the creation of a septic field north of an existing septic tank near the washroom structure;
-a structural expansion of the Visitors Centre (a previously-refurbished 1952 senior light keeper's residence); and
-the installation of a sanitary sewer system between the Entry Pavilion and Visitors Centre.

While the landscape of the National Historic Site shows many signs of having been transformed by generations of the light-keeping Cantwell family, there have also been three episodes of transformation using mechanical equipment: the construction of Fort Cape Spear (1941-42); dismantling the military buildings associated with the Fort in 1945; and transportation upgrades to improve visitor experiences and access (1979-83). A natural lack of soil cover at Cape Spear meant that there was little distinct stratigraphy. Hence, archaeological findings in 2019 were sparse, being primarily fragmentary artifacts from the World War II-era.

Signal Hill
(Parks Canada permit #SH-2019-34597)

This project was ongoing in December 2019, and will be reported on next year.

2019 Archaeological Activities

Roy Skanes
Sikumiut Environmental Management & Independent Consultant

Figure 1: Project Area at Haystack Harbour, Long Island, Placentia Bay, NL

In 2019, Roy Skanes completed two projects under permits issued by the PAO. The first was undertaken in association with Sikumiut Environmental Management (SEM) and involved providing archaeological monitoring during filming of the historic Haystack Rock Inscriptions located near the former community of Haystack, Placentia Bay. The second project involved completion of a Stage 1 Historic Resources Impact Assessment of 88 proposed Cottage Lots on New Bay Pond situated approximately 17 km north of the community of Grand Falls-Windsor in Central Newfoundland. Summaries of each project are provided below.

Archaeological Monitoring - Haystack Rock Inscriptions

In June 2019, a crew from Committee Films of Eden Prairie, Minnesota, traveled to St. John's to film the inscriptions at Haystack Rock located near the former community of Haystack at the northeast end of Long Island, Placentia Bay. Haystack Rock is an archaeological site registered with the PAO as CjAm-04. People have long been aware of the inscriptions on the rockface and over the years they have been interpreted in several different ways. While some suspect they derive from British or French mariners who visited or resided in the area in the nineteenth century or earlier, others have concluded that they are far more ancient and date to a time prior to the sustained European presence in northeastern North America that began circa AD 1500 (see:https://nlarchaeology.wordpress.com/2014/02/14/graffiti-part-two/).

The film footage to be shot by Committee Films would be used for the TV series America Un-

Figure 2: Haystack Rock Inscriptions (CjAm-04)

earthed produced in the USA for the Travel Channel. In the episode, which was scheduled to first air in July 2019 (the author of this Report has not yet seen the episode), the film host Scott Wolter would examine and discuss his interpretation of Haystack Rock based on the types of characters used in the inscription and the arrangement of them he observed. As a forensic geologist, Mr. Wolter would also undertake a visual geological analysis using a field lens to determine the type of rock and highlight any weathering that may have occurred along the edges of the inscriptions to allow him to propose a potential date-range for when they were produced (Figures 1 and 2).

Committee Films was in communication with the PAO prior to travelling to NL and was given approval to film at the stone, which is completely covered in seaweed and approximately 1 m below sea level at high tide. They were informed by the PAO that in order to conduct their work they would be required to have an archaeologist from the province on-site to monitor the activities and ensure that the inscriptions were not interfered with in any adverse manner. The archaeological monitoring of the filming was conducted on June 06, 2019, under the PAO Archaeological Investigation Permit 19.05 issued to Archaeologist Roy Skanes of SEM of St. John's, NL. It is worth noting that the role of the Archaeologist for this project was strictly monitoring, thus no detailed analysis or research and interpretation of the inscriptions were included as part of the permit requirements. Nevertheless, some potentially significant background information on the site is provided below.

Site Location (CjAm-04)

The inscriptions on Haystack Rock are etched into a roughly horizontal-positioned, kelp-covered stone

Figure 3: Southeast View Toward CjAm-04 (note high water line and lack of beach)

Figure 4: Location of Rock Inscriptions at CjAm-04 (northeast view)

slab that is situated at the far end of a slight indentation in the shoreline not sufficiently pronounced to be considered a cove. Because of the configuration of the shoreline and the steeply sloped adjacent outcrops, it is unlikely that this specific section of ocean-front was ever used in the past for wharfing and/or for construction of any other fisheries or shipping-related infrastructure (Figure 3).

Regarding the inscriptions themselves - which are essentially a form of graffiti, which is usually meant to be seen rather than hidden — why they were made at such an out-of-the-way location on rock that is submerged below water for a large part of the day is perplexing. There is, of course, the possibility that the etchings were made at a time when the rockface was at sea level or higher, and it gradually became submerged due to the relative sea level / land changes that have been ongoing in this part of the province for the past several thousand years. A study of this process within Placentia Bay suggests that the shoreline of the nearby community of Placentia (and presumably that of Long Island as well) is currently, and has been for some time, settling relative to sea level at a rate of approximately 2 mm per year (or 20 cm a century) (personal communication: Melanie Irving & Jenifer Organ, Geological Survey of NL). Given that the rock face at Haystack is now approximately 1 m below sea level at high tide (i.e., 1000 mm), if the inscriptions were made on rock that was more-or-less at sea level at that time, a submergence rate of approximately 2 mm a year could suggest an age of say between 400 and 500 years old. However, it must be acknowledged that it has not been confirmed where in relation to sea level the rock face was at the time when the inscriptions were made or whether they were purposefully situated on material that would be submerged periodically. Additionally, and potentially equally importantly, it is worth considering that the inscriptions were made on a rock face that was formerly part of the adjacent bedrock cliff that eventually became disarticulated due to frost and/or other erosional factors and toppled from a higher elevation, face-up into the intertidal zone where it now sits. Certainly, the surface of the adjacent outcrop appears very fragmented and is of a type that could be prone to spalling and fracturing. However, confirming if the inscriptions are in fact on bedrock or on a massive segment of disarticulated material could not be completed during the few hours spent at the site in June 2019 (Figures 4 and 5).

In summary, and without having viewed the TV episode of America Unearthed, it appears from online information published by Mr. Wolter that his interpretation of Haystack Rock is that the inscriptions on Long Island in Placentia Bay are identical to symbols carved into a rock face inside Wemyss Cave, Scotland - apparently by Christian Monks who could have been medieval Knights Templar. Due to their persecution in Europe after AD 1307, these "fugitive Templars" were "…waiting for the opportunity to

Figure 5: Scott Wolter Examining the Haystack Rock Inscriptions (note height of highwater)

escape to North America." Mr. Wolter's interpretation goes on to assert that "…the identical carvings [showing up] on two separate continents…" confirms that those made on the rock face at Haystack also derive from medieval Knights Templar who journeyed to Newfoundland "… circa 1400…" and most likely had visited "…many times before that" (summarized from: http://scottwolteranswers.blogspot.com/2019/07/america-unearthed-season-4-episode-10.html).

As no in-depth research into the inscriptions at Haystack has been completed by the PAO or the Archaeologist tasked solely with monitoring the filming project, a comprehensive and potentially alternate interpretation of the site cannot be provided by the author of this article. However, it is probably sufficient to say that the conclusions regarding the cultural context and age of the inscriptions proposed by Mr. Wolter and summarized in his online blog are, for obvious reasons, improbable.

New Bay Pond

Stage 1 Historic Resources Impact Assessment

The Department of Fisheries and Land Resources, Agriculture and Lands Branch is proposing to open for use by the public 88 recreational Cottage Lots on New Bay Pond situated approximately 17 km north of the community of Grand Falls-Windsor in Central Newfoundland (Figures 6 and 7). Each Lot will measure 45 m x 90 m, and the Project will also involve construction of approximately 4.25 km of associated

Figure 6: New Bay Pond Project Area (online image)

Figure 7: New Bay Pond and Adjacent Waterbodies and Communities (Google Earth image)

access roads and use of terrain relatively close to the shoreline. The land reserve / buffer-zone along which 60 of the 88 Lots will be situated is 15 m wide. In accordance with provincial legislation for all developments close to waterbodies, the 15 m-wide section of shoreline (that is, the zone where the potential for archaeological remains might be highest) is usually restricted from any wood harvesting or clearing, or from any construction involving ground disturbance. Regarding 28 of the 88 Cottage Lots, 14 will be situated at least 40 m back from the water's edge, and 14 will be approximately 90 m back. All access roads will be at least 90 m from the shoreline.

A key historic source reviewed in preparation for the Stage 1 Assessment field survey that confirms some degree of land-use and occupancy at and near New Bay Pond in the early-nineteenth century by Indigenous people (e.g., Beothuk Indians and/or Mi'kmaq) and likely by people of European decent, is a map of the region compiled by Captain David Buchan in 1820. Buchan's trips into the interior of the island were undertaken at a time when the Beothuk population was known to be low and in threat of vanishing completely. His efforts, and those of others, were seen by some as essential last-ditch attempts "to open a [friendly] communication with the Native [Beothuk] Indians" to help forestall the possible extinction of this cultural group. Despite these considerable undertakings, the death of Shanawdithit at St. John's in 1829 marked the last person of her culture known to have lived in insular Newfoundland (Marshall 1996).

The map compiled by Buchan in 1820 includes the routes of his various treks throughout the Newfoundland interior north of the Exploits River and southeast of Badger Bay, as well as the evidence for a contemporary and potentially earlier human presence he observed. On the waterbody he lists as Great New Bay Pond he shows the locations of two Furrier's Tilts situated at the north and northeast ends (Figure 8). Regarding the most northerly of these Tilts, the Buchan map shows that it was situated on or near a point of land at a location where the pond narrowed and where, in the mid-twentieth century, a large earth and stone causeway with a centrally-positioned culvert was constructed to provide vehicle and worker access to timber lots on the east side of the waterbody. The infilling of the channel that clearly took place at that time seems to have incorporated a small island situated in the channel that is no

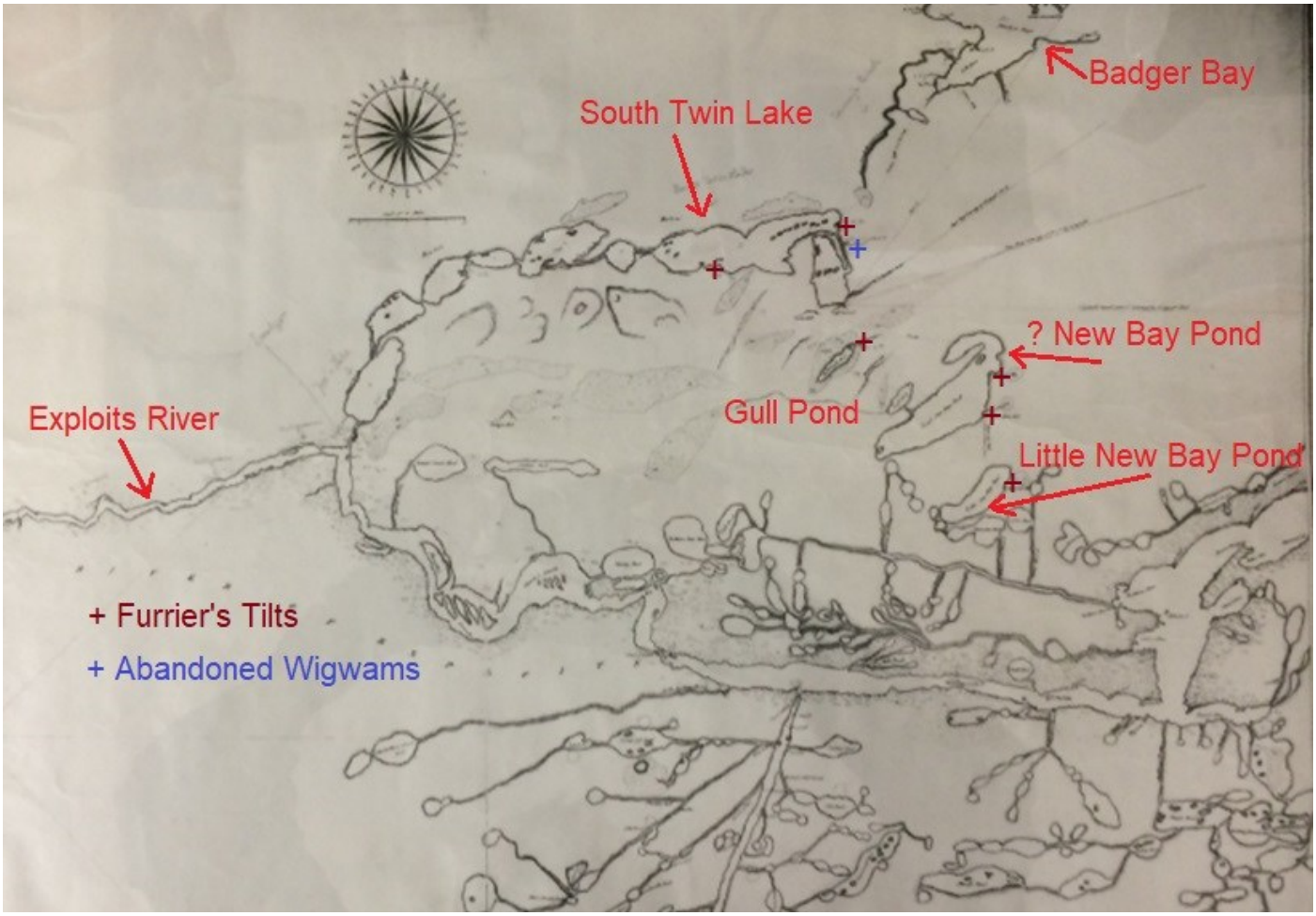


Figure 8: Part of Buchan's 1820 map showing the sites he recorded on Little New Bay Pond, Great New Bay Pond, Gull Pond and South Twin Lake.

longer apparent. Almost certainly, evidence of this Tilt and any other usage of this section of shoreline, at what was clearly a constriction in the pond that may have been an attractive location for temporary human settlement dating back to the Precontact Period, would have been destroyed by construction and ongoing maintenance of the causeway, and by any other more recent ground-disturbing work completed for cottage development. No locations on the pond within the current Project Area, including the one described above, are highlighted as sites of nineteenth century land-use by the Buchan map.

Though also outside the current Project Area and therefore not investigated as part of the current Stage 1 Assessment, the Tilt shown by Buchan further south on New Bay Pond may have been situated on either the bank of a small brook that flowed out of the waterbody (not shown) or, more likely, somewhere near the outflow of the waterway sometimes referred to as Mill River (D. Mercer: personal communication) that runs northeast from New Bay Pond to the coastal community of Port Leamington situated at the bottom of Badger Bay (also not shown). It is possible that this waterway had been used by Indigenous people as a travel route to the interior from coastal areas long before the 1800s and by Euro-Newfoundlanders at that time. Thus, the location where the Tilt is shown may well be an area of archaeological potential that could contain evidence of not only nineteenth-century trapping, as suggested by Buchan's map, but also of usage by Indigenous people long before the 1820s and up to that time. Because New Bay Pond was probably not dammed to any extent in the past for logging purposes (B. Marsh: personal communication), any archaeological sites situated around its shoreline and close to the outflow into Mill River likely escaped extensive disturbance or destruction due to water and/or ice scouring and ero-

sion as is typically the case with waterbodies and waterways that have been dammed over a long period of time (e.g. the Exploits River and Red Indian Lake).

In addition to the above, the Tilt and Wigwam locations highlighted on the Buchan map for the east and south shorelines of South Twin Lake situated to the north of New Bay Pond also warrant detailed archaeological investigation. While Buchan seems to have concluded that the remains of the two "Abandoned Wigwams" were of Beothuk origin, and they may well have been, they seem to be positioned on the shoreline of a small inflowing brook situated some distance south of the pond and on the east side of another small waterbody separated from the brook by what appears to be a wooded area (see Figure 8). Consequently, the site recorded by Buchan would appear to be a potentially good location for trapping small furbearing animals – an activity that was apparently not taken up to any extent by the Beothuk (Pastore 1978, 1987, 1992) – rather than being a prime location for a Beothuk encampment. Thus, the Wigwams recorded on the map could have been attributable to a Mi'kmaq usage of the area, and any distinction between Beothuk and Mi'kmaq campsites (potentially one that was in an advanced state of dilapidation and likely snow-covered) may not have been apparent to Buchan or his associates. According to information contained in Marshall (1996), in the early nineteenth century Mi'kmaq were very familiar with Central Newfoundland in the vicinity of New Bay Pond and South Twin Lake, and it seems reasonable to conclude that there should be sites resulting from this documented presence scattered throughout the region. Thus, only a detailed investigation of the shoreline around South Twin Lake and the terrain adjacent to the small brooks that flow in and out of it will shed light on this and any other potential sites. If the site of the Wigwams is found and the structures do prove to be Beothuk rather than Mi'kmaq, it seems likely that they would date to the latter period of their use of the interior of Newfoundland circa the early nineteenth century and could be the same "large camp" apparently reported to William Cormack by a Mi'kmaq in the 1820s (Marshall 1996, page156). Clearly, it would be of value to search for and investigate if found all the sites listed by Buchan for South Twin Lake on his 1820 map to establish (if possible) their cultural origin and the time period represented. It is worth noting, though, that because South Twin Lake has been dammed at its western end on several occasions for logging purposes (B. Marsh: personal communication), fluctuating water levels and ice in the lake may have disturbed or destroyed any evidence of past human settlement that may have been present along the shoreline and near any of the waterways that feed or empty from it.

Other background research completed as part of the Stage 1 Assessment involving a review of aerial photography, showed that large sections of terrain surrounding New Bay Pond, both inland and down to the waterline, had undergone substantial development for logging purposes throughout the 1970s and up until the 1990s. It is clear from the imagery that the nature and broad extent of these works, which involved the construction of numerous large and small access roads for moving heavy equipment to and from woodlots and for extracting felled timber, would have caused considerable ground disturbance within the Project Area that could have resulted in significant impacts to any in situ historic resources present.

Regarding the field survey for the Stage 1 Impact Assessment, though all the proposed access road corridors were visually investigated and, in some cases shovel-tested, and test pits were excavated at several shoreline and near-shoreline locations where the likelihood for encountering archaeological materials might be at its highest, no zones with heightened historic resources potential were identified, and the probability that any exist within proposed cottages lots, appears low. This finding is likely due to the topographic and/or hydrographic features and conditions common along the shoreline of New Bay Pond in the areas investigated, which includes a notable lack of beaches and suitable locations for landing and deploying small craft, and the prevalence of wet, sloped and/or boulder-strewn ground near the water that would likely have been as unattractive for settlement in winter or summer by any of the cultural groups or individuals who may have used the area during the Precontact and/or Historic Periods. In addition to the above, several individuals spoken with as part of the Stage 1 Assessment had no knowledge of any artifacts or sites of significance having been found at or close to either of the development areas. As a result of these findings, other than the sugges-

tion in the reporting on the work that a Contingency Plan be developed by the Proponent and provided to site workers and cottage owners, outlining procedures to follow in the event of an inadvertent discovery of any historic resources during construction or use of the land, no mitigation measures for further study involving Stage 2 Assessment were recommended.

References

Marshall, I. 1996. *A History and Ethnography of the Beothuk*. McGill-Queen's University Press, Montreal, QC and Kingston, Ont., Canada.

Pastore, R.T. 1978. *Newfoundland Micmacs: A History of their Traditional Life*. Newfoundland Historical Society Pamphlet 4, St. John's.

Pastore, R.T. 1987. *Fishermen, Furriers, and Beothuks: The Economy of Extinction*. Man in the Northeast, 33:47-62.

Pastore, R.T. 1992. *Shanawdithit's People: The Archaeology of the Beothuks.* Atlantic Archaeology, St. John's.

Personal Communications

Bryan Marsh Originally from Grand Falls-Windsor but now resides in St. John's and works for the provincial government of NL. Has conducted considerable research into the history of logging in Central Newfoundland and has a website on the subject: https://anglonewfoundlanddevelopmentcompany.wordpress.com/

David Mercer Resides in Grand Falls-Windsor and works throughout the area as a hunting and fishing guide.

2019 Report on The Rooms Provincial Museum Division's Archaeology and Ethnology Collection

Lori Temple
The Rooms Provincial Museum Division

Illusuak Cultural Centre in Nain

Work continued to progress throughout 2019 with use of our EMu collections management software as we continued to update catalogue records, verify artifact locations, inventory collections and add photographs. This software has greatly improved our ability to manage our collections data.

In March, we partnered with Memorial University's Archaeology 4153 Lithic Analysis class under the instruction of Tim Rast as the Provincial Museum Division's archaeological collections were used by 14 students as part of their coursework.

Rooms staff members Lori Temple and Rose Smart travelled to Nain in October to install artifacts on loan for the opening of Illusuak Cultural Centre.

The Rooms continues to support community museums around the province by loaning artifacts to them through our summer loans program, as well as supporting exhibitions both in and out of the country.

Intern Rachael Moores of Georgian College spent a portion of her 13 - week internship working to inventory, rehouse and photograph many of the items in the Ethnology Collection.

Statistics for Archaeology & Ethnology unit in 2019 include:

- 82 requests received for information, loans, research visits, tours and photograph use.
- 46 different researchers used the archaeology collections and lab space. This included undergraduate, MA and PhD students from MUN and universities across Canada and the United States. The lab space was also used by Indigenous artists from this province and other parts of Canada.
- Over 20 museums throughout the province displayed archaeology artifacts from our collections through our Community Loans program. As well, our artifacts are on loan to the Canadian Museum of History, the National Gallery of Canada, and several Parks Canada locations.
- Archaeology artifacts were transferred to The Rooms via the PAO through 17 submissions from archaeologists representing over 34,995 artifacts and samples from 88 sites.
- 3 volunteers provided 64 hours of their time helping with various collection projects.

Artifacts installed at the Illusuak Cultural Centre

Anyone wishing to access our collections for research can contact Lori Temple, Collections Manager for Archaeology & Ethnology at (709) 757-8076 or by email at LoriTemple@therooms.ca

Lori Temple and Rose Smart preparing the Illusuak Cultural Centre artifacts for display

Twin Falls – Labrador's Unruly Industrial Heritage

Anatolijs Venovcevs
UiT: The Arctic University of Norway

Figure 1: Location of Twin Falls within Labrador (map by the author)

The term "Labrador heritage" often conjures up images of Inuit sod houses, Euro-Newfoundlander fishing rooms, trappers' tilts, and Innu camps. The region's Indigenous inhabitants – the Innu, the Inuit, and the Southern Inuit – along with the settler population left a rich archaeological legacy that one does not have to look further than this compendium or other PAO Annual Reviews to see. However, the last 79 years – arguably starting with the arrival of the first construction crews to the soon-to-be military base of Goose Bay in October 1941 (Barrett 2017:61) – also left Labrador with a modern, military and industrial heritage that radically transformed society, geography, economy, and identity of the region. These aspects have become codified in treaties, agreements, policies, and laws of all four groups residing in the region.

More pertinent to archaeology – these aspects have been codified in the things themselves that archaeology, as the discipline of things (Olsen et al. 2012), is well positioned to engage with. These things take many forms but include military and industrial settlements of Happy Valley-Goose Bay, Churchill Falls, Labrador City and Wabush in addition to the other 18 (give or take) communities in the region that are given form and structure through the buildings, streets, and utilities that comprise them now in the twenty-first century. They also include the hundreds of kilometres of roads, railways, and landing strips that connect everything. They include gravel pits, mines, and hydroelectric dams that terraform fast stretches of the region. They also include abandoned buildings, toxic soil and water contaminants, and landfills that linger into perpetuity.

This mass of accumulating and at times unwanted things is what Bjørnar Olsen and Þóra Pétursdóttir called "unruly heritage" (2016). The proliferation of things that transform, modify, and escape the realm of human control and challenges the traditional role of archaeology and heritage within the Anthropocene. Rather than focus archaeological attention to the few, select, valued sites of positive social remembrance and group identity, the mass of modern things diverts this attention to a past that is accumulating, involuntary, and not always reducible to easily digestible narratives.

Geographic and Historic Background

Twin Falls, Labrador represents one such site (Figure 1). Located on the Unknown River, a tributary of the Churchill River (also known as the Grand River or Mishta-shipu), 34 kilometres west of Churchill Falls,

Table of Contents

Twin Falls is where the twentieth century damming of central Labrador began.

While explorers hypothesized about the feasibility of using central Labrador for hydroelectricity since the nineteenth century, it was not until the construction of the Quebec North Shore and Labrador (QNS&L) Railway that the project became a possibility. The railroad and the entire campaign of industrializing the interior of Labrador originated in 1945 with the so-called "iron ore dilemma" in the United States which prognosticated the eventual depletion of high grade iron ore reserves that the country needed to fuel its economy and to fight its wars (Thistle and Langston 2016:270-271). More iron was needed and one solution was to offer large tracks on the Labrador Peninsula for cheap speculation and development by private companies (Thistle 2016:107-110; Thistle and Langston 2016:274).

The construction of the 360-mile (580-kilometer) QNS&L Railway from the fishing village of Sept-Iles, Quebec to the newly built iron-mining town of Schefferville lasted between 1950 and 1954 and opened up vast stretches of the interior for exploitation by the province of Newfoundland and Labrador. This exploitation took the form of the Carol Lake (Labrador City) and Wabush iron mines. However, such development needed a source of power. To address this, the British Newfoundland Corporation Limited (BRINCO) commissioned McNamara Construction to build a hydroelectric dam on the Unknown River (Water Power 1963; McNews 1960). One of the several things that made this project remarkable was that Twin Falls was built without proper information of icing and flooding conditions on the Unknown River. To compensate, the infrastructure was built to withstand a hypothetical 100-year-flood thus making the construction very durable and robust (Water Power 1963:10-11).

To get to the project site, people and equipment had to arrive to the railway siding at Esker, at mile 286 (460 kilometres) on QNS&L and then travel 125 miles (200 kilometres) over a bumpy construction road to reach the destination (Cockerill 1971; McNews 1960:10). The construction started in 1959 with the plan to build two 13.5 foot (4.1 metre) penstocks to draw water from a flooded reservoir above to power two 60,000-horsepower turbines (Water Power 1963:10). The first two generators came online in 1962 and three additional generators were installed by 1968 bringing the total generating capacity of the plant to 300,000 horsepower (The Newfoundland Journal of Commerce 1968). Twin Falls is thus the second out of four hydroelectric dams in Labrador. Menihek, built to supply the mines in Schefferville in 1954, was the first and still operates in a reduced capacity under the auspices of Hydro Québec (Hydro Québec 2006).

What makes Twin Falls unique from a social perspective was that it employed a large contingent of local Labradorian labour to build and operate the project (Cockerill 1971; McLean 1989; Budgell 2013; Baikie 2008, 2011). The reason for this was the desire to create a stable working community in contrast to the extremely high turnover rates experienced in places like Labrador City, Wabush, and on the QNS&L Railroad. Most of the workers came to Twin Falls from North West River though recruitment also took place in Hopedale, Happy Valley, and Cartwright. The settler population was also well represented at Twin Falls with over 200 people coming to the construction site from Newfoundland, Nova Scotia, Quebec, and Europe (Cockerill 1971; McNews 1960:9, 16). Most famous of the settler population was John Hickey, the future MHA for Upper Lake Melville and a member of the provincial cabinet, who spent his early years at Twin Falls (McLean 1989:12).

Most of the construction workers were housed on the south side of the power plant at a camp called Till Hill which started in 1960 (McNews 1960:10; McLean 1989:6). Starting in 1962, six duplexes and two single houses were constructed for permanent staff to run the hydroelectric operations (Baikie 2008:20; McLean 1989:8). In addition to the residences, the community contained a school, recreation centre, water tower, grocery store, and clinic (McLean 1989:6-10; Baikie 2011:41).

In addition to the community, Twin Falls contained a float plane base (Harlands Landing), a landing strip, a garage, a power station, five sluice penstocks to power the turbines, a control station for the water intake with gates, a bridge adjacent to the control station, a spillway, five rock and earth fill dams, and the beginning of the transmission line that ran 115 miles (185 kilometres) to Labrador City and Wabush (Water Power 1963; Cockerill 1971). The

Figure 2: Community centre in North West River, originally built at Twin Falls (photo by the author)

dam reservoir flooded an area of approximately 11 square kilometres.

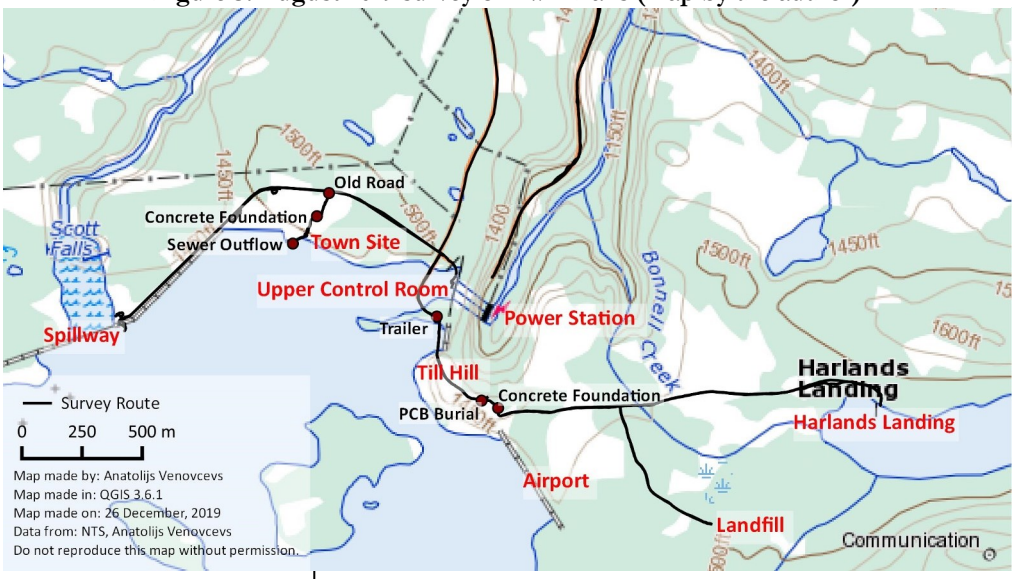
Production of electricity at Twin Falls only lasted for 10 years. While it was originally planned that Twin Falls will run concurrently with Churchill Falls, a single generator in the latter was equivalent to all five generators in the former. In total, Twin Falls generated 300,000 horsepower compared to 7,000,000 at Churchill Falls (The Newfoundland Journal of Commerce 1968; Smith 1975). Power was rerouted through Churchill Falls and the community was dissolved in 1972 with most of the workers being transferred to the new dam (McLean 1989:11-12; Baikie 2008:23; Budgell 2013:63). Two of the homes were moved to Labrador City while some of the rest were relocated to Churchill Falls where they can still be seen today along Ossokmanuan Street.

The community centre from Twin Falls was disassembled and moved to North West River, 375 kilometres away (Figure 2). Bunkhouses and most other buildings were demolished in order to return the area to a "natural" condition. However, all of the material associated with the dam was left in case the need for it arose again.

Fieldwork and Observed Remains

To assess the current condition of Twin Falls for its heritage value, the author visited the site in August 2019 under the PAO Permit number 19.20 along with the assistance of Jordan Brown, Jennifer Stratton, Tony LaFrance, and Matthew White. Fieldwork was limited to photography and GPS recording (Figure 3). Buildings and structures were approached only when they were not being guarded by a locked door or gate.

Figure 3: August 2019 survey of Twin Falls (map by the author)



The industrial machinery at Twin Falls was still in place. The doors to the upper control station were open and thus these were explored. All of the equipment – switchboards, fuse boxes, emergency diesel generators – was still there (Figures 4 and 5). However, the intake gates for the penstocks were welded shut with the bars from the former bridge, which was disassembled (Figure 6). A dike was built

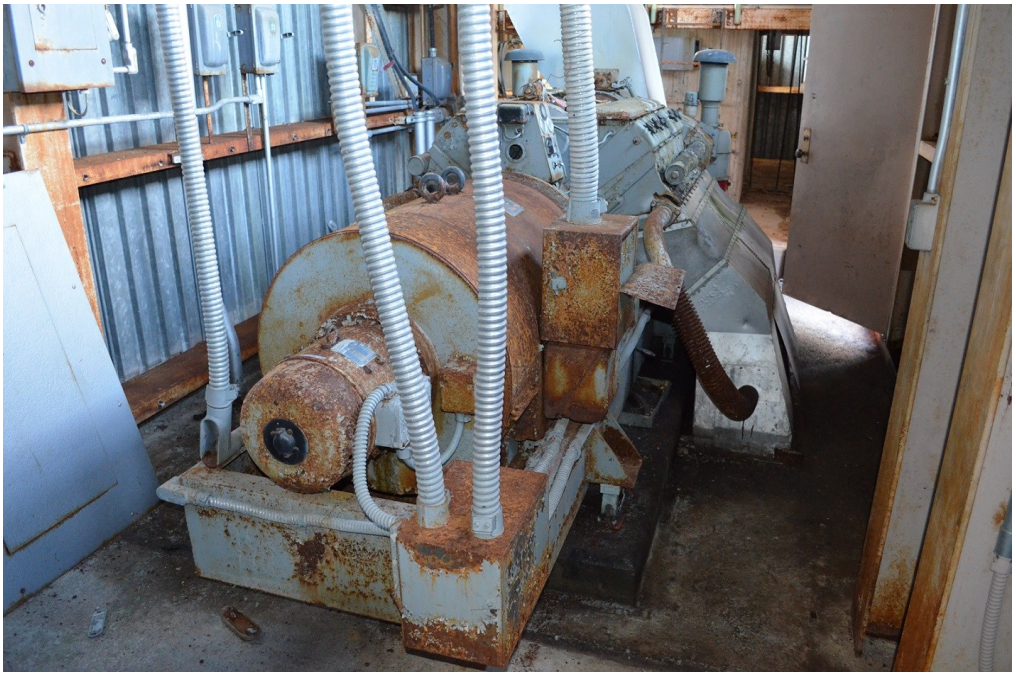


Figure 4: Diesel emergency generator inside the upper control room at Twin Falls (photo by the author)

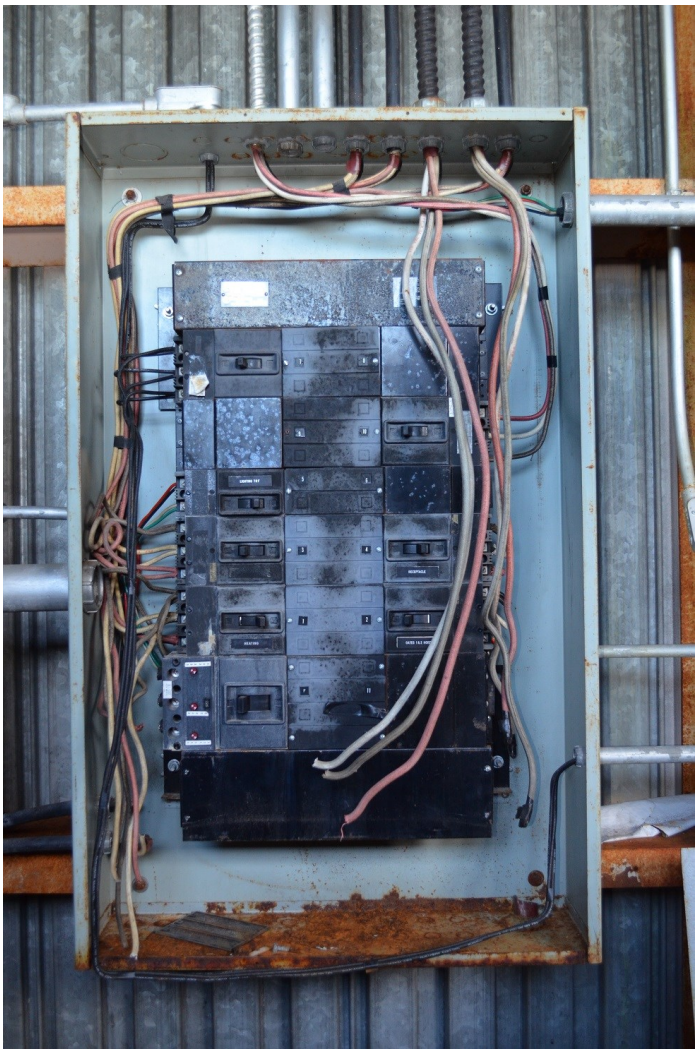


Figure 5: Fuse box inside the upper control room at Twin Falls (photo by the author)

Figure 6: Twin Falls upper control room looking south. Control room buildings on the left. On the right, removed bridge support beams that prevent the intake gates from being raised. The remains of the concrete base on the bridge are on the far right (photo by the author)

Figure 7: High voltage sign falling down on the spillway gate. The power is rerouted on the right to dams on the Churchill Falls network (photo by the author)

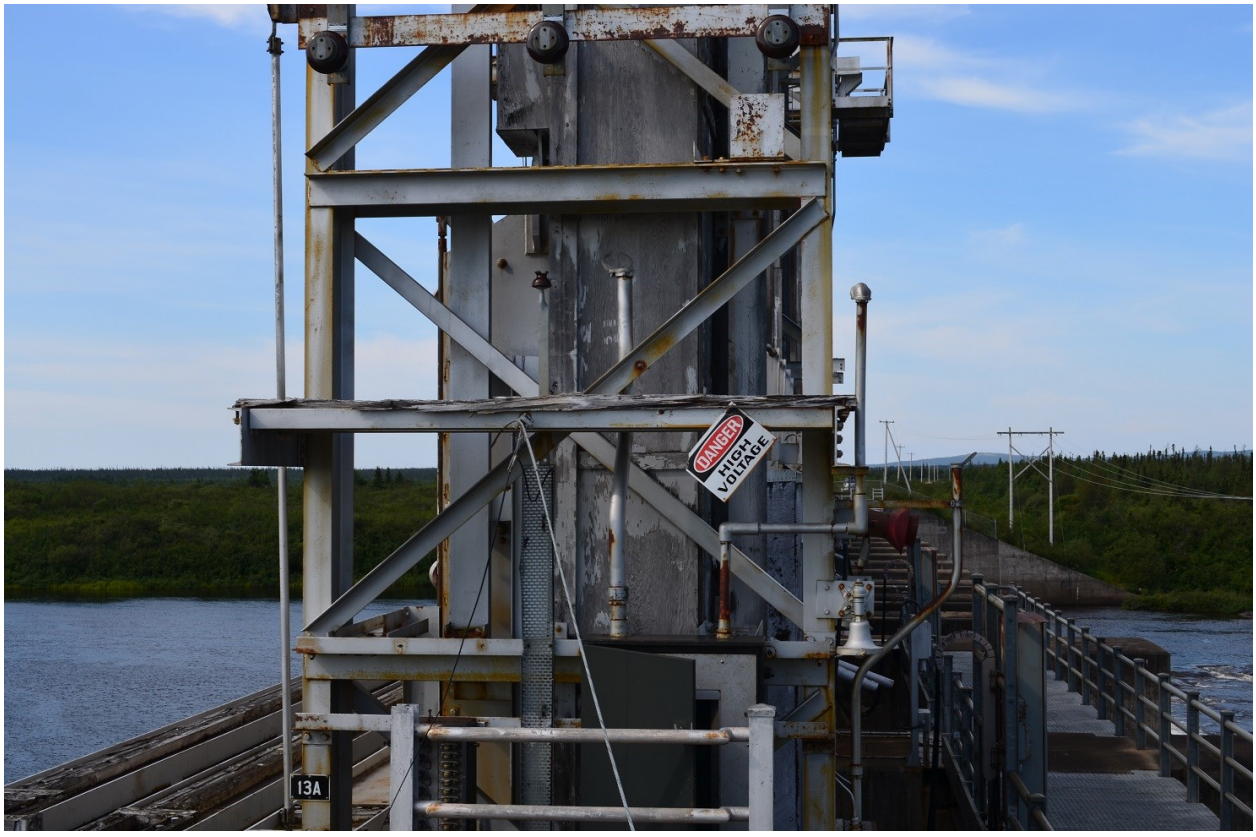


Figure 8: Spillway at dam #2 looking north.
The gates are now permanently raised and cannot be lowered (photo by the author)

in front of the water intake to further prevent the power station from being used.

At dam number 2, the gates of the spillway were permanently raised and, despite the high voltage sign (Figures 6 and 7), it lacked power. The reservoir area no longer holds water and alders have revegetated the land. The power station was the only structure that had electricity and could not be approached because of a fence and locked gate guarding the perimeter. According to Jordan Brown, who has been inside the building before, all of the equipment from the original construction is still inside. Thus, Twin Falls represents a snapshot of hydroelectric technology in the province in the 1960s.

Contrary to BRINCO's best wishes to restore the site to a "natural" state and the imaginary of some of its former residents who claim that there is "nothing left" of Twin Falls (McLean 1989:12; Baikie 2011:43), quite a bit of the former community remains. As archaeologists know, it is really hard to completely erase traces of past presences. While, thick alders made it difficult to attain a full inventory of the surviving visible remains, the site visit did identify a relict roadway north of the control station that led to a large concrete foundation slab with an approximately 50 cm concrete foundation wall that ran around the perimeter (Figure 9). The building had electrical and water connections at one point based on the visible hook-ups. Further investigations in the area identified the concrete remains of a sewer outflow station that had a wooden superstructure that was burnt during the abandonment process (Figure 10 and 11).

Figure 9: Concrete foundation, town site (photo by the author)

The presence of the sewer outflow station along with the observed remains of buried utilities north and

Figure 10: Sewer outflow station, looking up from where the sewer would have come out into the reservoir (photo by the author)

Figure 11: Detail on some of the remains of the outflow superstructure – charcoal, piping, nails, wires, and melted glass remains (photo by the author)

Figure 12: Partially exposed wire in the vicinity of Till Hill (photo by the author)

south of the upper control station (Figure 12) indicate that the site contains large amounts of derelict infrastructure remains. These disconnected infrastructures, termed "urks", represent major heritage objects that have yet to be significantly explored. The word "urk" is short of "urkopplad" the Swedish word for "disconnected" and is an abbreviation term often found in old infrastructure maps denoting discarded system parts (Wallsten 2015).

South of the control station, in the former location of the Till Hill camp, also contained the remains of a large concrete foundation and evidence of buried utilities. The floatplane dock at Harlands Landing was partially disassembled though the beams from the dock were stacked right next to it (Figure 13). The landfill was also visited but it contained few visible artefacts.

Figure 13: Stacked and decaying logs from the float plane base at Harlands Landing (photo by the author)

One type of heritage that could only be indirectly observed is the legacy of toxic contamination of Twin Falls. This heritage was seen in the polychlorinated biphenyls (PCBs) burial spot and monitoring wells near the former location of the Till Hill camp (Figure 14). It was also displayed prominently on the signs on the gate leading to the power plant that strongly advised against fishing in the area in English, French, Innu-Aimun, and Inuktitut due to the high levels of PCBs in the fish (Figure 15).

Evidence of continual human utilization of the space was visible in the material culture. This was represented by a pull-tab can near the spillway (Figure 16). The pull tab was introduced in 1962 and was popular until the mid-1970s when it was phased out in favour of "stay-with-the-can" openers known today (Maxwell 1993:105, 109). This falls in line with dates Twin Falls operated as a power station and the can may have been deposited during this period. Not far from where the pull-tab can was found, another can was identified. This one was a Pepsi can from Star Wars Episode I – released in 1999 (Figure 17).

The area also contained one boarded-up trailer (Figure 18) and, according to Jordan Brown, the area provides a popular access spot for hunting and fishing indicating that the human use of Twin Falls has not discontinued but rather changed forms.

Finally, in light of the new material turn – a theoretical perspective that draws inspiration from neo-materialist philosophy to emphasize symmetrical agency amongst humans and non-humans (see Olsen 2010 for just one example), it is important to pay attention to what Twin Falls is for plants, animals, and things, instead of just humans. During the visit a great deal of bear poop was observed and bears have been reported frequently in the area during the summer of 2019 (Figure 19). In addition, mosquitos and other bugs were quite plentiful. While this is not surprising for Labrador, the presence of many alders in the rewilding areas within the former community and the reservoir adds to their numbers. The large presence of insects creates a fertile habitat for their predators –

Figure 14: PCB monitoring wells near Till Hill (photo by the author)

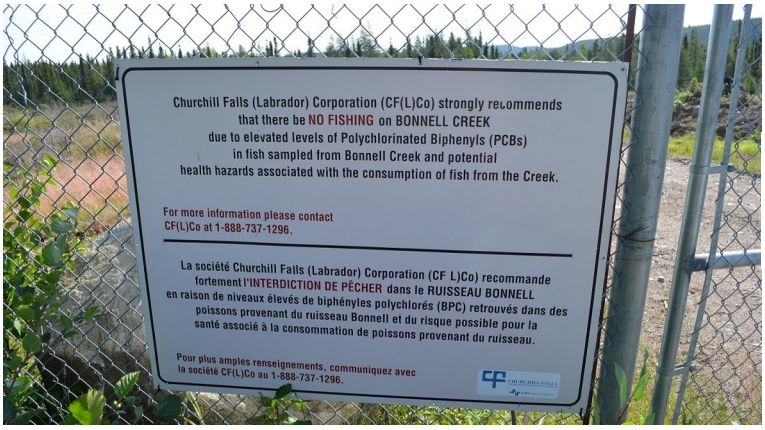


Figure 15: PCB warning sign on the road to the power plant (photo by the author)

Figure 16: Pull-tab can near the spillway (photo by the author)

Figure 17: Star Wars Episode I can near the spillway (photo by the author)

Figure 18: Trailer near Till Hill (photo by Jennifer Stratton)

Figure 19: Fairly fresh bear poop in front of the Twin Falls power station (photo by the author)

Figure 20: Twin Falls power plant (photo by the author)

bats – who regularly take refuge in the partially maintained power plant. In fact, Nalcor employees have occasionally needed to clear them out of the building before any work could be done since the accumulation of bat guano becomes dangerous to human health (Figure 20). Thus, a new and unique ecosystem is formed outside of human will or intention within an abandoned human-built environment.

Conclusions

In a sense, the things observed at Twin Falls echo what has previously been noted on other recently abandoned sites – a state of suspended animation or "offline-ness" where people have walked away and left all the things behind waiting for a future that would never come (Andreassen, Bjerck, and Olsen 2010; Olsen and Pétursdóttir 2014). At the same time, the purposeful redundancy instilled into the facility through the welding shut of the intake gates, blocking of the intake through a dyke, and disconnecting power from the spillway is something new. While the dam operators did not want the dam to be destroyed, they did not want to have it be used either. This mothballing effect is something that has not yet been fully explored in the archaeological literature and requires further study. A site revisit is planned for the future – ideally, before vegetation comes in to facilitate better visibility. A drone survey of the area would also be very useful.

However, from these preliminary results it can be argued that Twin Falls is one of the province's preeminent industrial sites. It is where the province's industrialization of the Labrador interior began and it is the direct predecessor to the communities of Labrador City, Wabush, and Churchill Falls. Thus, it has significant historical, technological, social, and cultural value to the province and should be recognized for that fact. Meaningfully engaging with this hydroelectric heritage in the province will put it in line with the work done in places like the United Kingdom, Norway, and many other countries (Kuban, Güven, and Pretelli 2019; Marshall 2014; Bjørsvik, Nynäs, and Faugli 2013).

At the same time, the legacy of Twin Falls is not necessarily positive. While it has enabled certain species to thrive within its human-altered environment, it also left a legacy of PCB pollution and landscape alteration in its midst. This toxic heritage creates a form of lived-with past that coalesces humans,

plants, and animals into a community of shared interests, dangers, and uncertainties that perpetuates into the future (Haeden 2017:28-29). In essence, Twin Falls is a created and abandoned sacrifice zone made in the name of developing Labrador's iron and hydrological resources (Lerner 2010).

As mentioned previously, Twin Falls is also the location where the damming of the Churchill/Grand/Mishta-shipu River began. It is the direct predecessor of Churchill Falls and, by extension, Muskrat Falls. Both projects have controversial legacies of debt, pollution, displacement, and erasure of heritage and traditions that are current and lived with today. If the Gull Island project ever starts, Twin Falls will have yet another progeny.

The role that Twin Falls played in this narrative is not readily discussed for some obvious reasons – it is too small, too distant, and too ephemeral, especially when compared to Churchill Falls that replaced it. The fact that Twin Falls was designed into quick obsolescence is an important point in itself. This radicalized obsolescence is a defining feature of the contemporary world, which turns things into ruins almost as soon as they are built in an accelerated cycle of creation and destruction (González-Ruibal 2008, 2019:34, 136-137). Thus, the site can be framed as a form of "dark" heritage – a focal point for industrial colonization of Labrador.

However, the point here is not to pass judgement on whether the legacy of Twin Falls is somehow "good" or "bad". Twin Falls as unruly heritage lies outside of any normative ethics that can make that distinction. Rather, Twin Falls *is* heritage regardless of one's own wishes, values, or desires. It is a place that built modern Labrador along with its towns, mines, roads, dams, gravel pits, hydroelectric corridors, and far-flung cabins that dot its access roads. It still plays a role in the landscape either through creating a microenvironment for human and non-human interaction or through its reverberations that are felt within the province's hydro politics today. Twin Falls is an involuntary heritage that, beyond good or bad, simply is (for an expanded discussion on (in)voluntary heritage see Olsen and Vinogradova 2019). This perspective, in turn, strengthens the archaeological discipline by expanding how and where archaeologists can engage with present day issues via their study of things.

Acknowledgements

This project is funded by the Research Council of Norway. The author would like to thank his supervisor, Bjørnar Olsen, for his support and feedback. This fieldwork would not be possible without the assistance of the participants Jordan Brown, Jennifer Stratton, Tony LaFrance, and Matthew White. Finally, Aimee Chaulk of Them Days Inc., Morgon Mills of the Labrador Institute Library, and Colleen Field of the Centre for Newfoundland Studies deserve gratitude for their assistance in procuring the background literature on Twin Falls.

References

Andreassen, E., H. B. Bjerck, and B. Olsen
2010 *Persistent Memories: Pyramiden - a Soviet Mining Town in the High Arctic*. Trondheim: Tapir Academic Press.
Baikie, K.
2008 "Lots to Do in Twin Falls." *Them Days* 32(2):20-23.
Baikie, K.
2011 "Katie's Stories." *Them Days* 35(3):41-44.
Barrett, R.
2017 "Early Days of Goose Bay." *Inside Labrador*.
Bjørsvik, E., H. Nynäs, and P. E. Faugli
2013 *Kulturminner i Norsk Kraftproduksjon*: Norges Vassdrags- og Energidirektorat.
Budgell, D.
2013 "It Was a Good Way to Live." *Them Days* 37(1):58-65.
Cockerill, A. W.
1971 "Hydro-Power Development in Labrador." *North Magazine*.
González-Ruibal, A.
2019 *An Archaeology of the Contemporary Era*. London and New York: Routledge.
González-Ruibal, A.

2008 "Time to Destroy." *Current Anthropology* 49(2):247-279. doi: 10.1086/526099.
Haeden, S.
2017 "Toxic Landscapes: Excavating a Polluted World." *Archaeological Review from Cambridge* 32(2):25-37.
Hydro Québec
2006 Project de Prise en Charge de L'Alimentation Électrique De La Région de Schefferville. edited by Hydro Québec: Hydro Québec.
Kuban, N., İ. T. Güven, and M. Pretelli
2019 "Management of 20th Century Hydroelectric Plants as Industrial Heritage." The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Limassol, Cyprus.
Lerner, S.
2010 *Sacrifice Zones*. Cambridge: MIT Press.
Marshall, W.
2014 Micro-Hydroelectric Power and the Historic Environment. Edited by English Heritage. Online.
Maxwell, D.B.S.
1993 "Beer Cans: A Guide for the Archaeologist." *Historical Archaeology* 27(1):95-113.
McLean, M.
1989 "Twin Falls." *Them Days* 15(2):5-25.
McNews
1960 "McNamara Newfoundland Makes Good Progress on Initial Portion of Remote Labrador Job." *McNews*, 8-16.
Olsen, B.
2010 *In Defense of Things: Archaeology and the Ontology of Objects*. Lanham, Md.: AltaMira Press.
Olsen, B. and Þ. Pétursdóttir
2014 "Sarnes Internat: Archaeological Aesthetics." *Journal of Contemporary Archaeology* 1(1):57-72. doi: 10.1558/jca.v1i1.57.
Olsen, B. and Þ. Pétursdóttir
2016 "Unruly Heritage Tracing Legacies in the Anthropocene." *Arkæologisk Forum* 35:38-45.
Olsen, B., M. Shanks, T. Webmoor, and C. Witmore
2012 *Archaeology: The Discipline of Things*. Berkeley: University of California Press.
Olsen, B. and S. Vinogradova'
2019 "(In)significantly Soviet: The Heritage of Teriberka." *International Journal of Heritage Studies*:1-18. doi: 10.1080/13527258.2019.1620831.
Smith, P.
1975 *Brinco: The Story of Churchill Falls*. Toronto: McClelland and Stewart.
The Newfoundland Journal of Commerce
1968 "Twin Falls Hydro-Electric Power Development has Reached a Generating Capacity of 300,000 HP." *The Newfoundland Journal of Commerce*, October 1968, 35.
Thistle, J.
2016 "Forgoing Full Value? Iron Ore Mining in Newfoundland and Labrador, 1954–2014." *The Extractive Industries and Society* 3(1):103-116. doi: 10.1016/j.exis.2015.12.006.
Thistle, J. and N. Langston
2016 "Entangled Histories: Iron Ore Mining in Canada and the United States." *The Extractive Industries and Society* 3(2):269-277. doi: 10.1016/j.exis.2015.06.003.
Wallsten, B.
2015 "The Urk World: Hibernating Infrastructures & the Quest for Urban Mining " PhD Article Based, Department of Management and Engineering, Linköping University.
Water Power
1963 "Twin Falls Scheme." *Water Power*, January 1963, 8-13.

Photogrammetric Surveys in the Exploits River Valley

James Williamson
Memorial University of Newfoundland

Figure 1: A house-pit in the Red Indian Falls 1 site

In 2018 and 2019, I undertook four surveys of Beothuk house-pits in the Exploits River Valley (ERV) to prepare 3D models of house-pits in the context of my PhD project "Discovering Beothuk House-pits in the Exploits River Valley". During these surveys I recorded 31 of the 72 known Beothuk house-pits (*Table No. 1*). As these features have been previously discussed in excavation reports this piece will focus on the image-based modelling method employed when surveying Red Indian Falls (RIF) sites 1, 2, 4, and 5 to illustrate the issue.

The goal of this program of research is to prepare 3D models of house-pits to statistically analyze their shape and to understand social changes among the Beothuk in the ERV during the eighteenth century. The 3D models are prepared using image based modelling, or photogrammetric methods. This involves taking overlapping photos of an object from angles and distances, which are then referenced against each other (also referred to as aligning the photos), and then used to reconstruct the object in the photos (Remondino 2014). This review will discuss the preliminary stages of producing 3D models of horizontal features.

Research Context

Scholarly research into the Beothuk has a strong historical legacy in studies by Speck (1922) and Howley (1915), focusing on ethnohistoric research. This was continued by Marshall (1996) and these volumes have summarized the documentary evidence about the Beothuk. Archaeological examination of these features begins with the work of amateur archaeolo-

Table 1: Features surveyed in the ERV during this program of research

BORDEN	NAME	House-pits	Type
DfAw-04	Aspen Island I	3	UAV
DfAw-05	Aspen Island II	3	UAV
DfAw-02	Beaver Island	1	Camera, UAV
DfAw-03	Boom Island	3	UAV
DeBc-02	Glade Site	1	UAV
DeBb-05	Little Brook	2	UAV
DeBb-01	Noel Paul's Brook 1	1	UAV, Overflight
DfBb-03	Red Indian Falls 1	3	UAV
DfBb-04	Red Indian Falls 2	4	UAV
DfBb-06	Red Indian Falls 4	3	UAV
DfBb-01	Red Indian Falls 5	3	UAV
DeBd-08	Sabbath Point	1	Camera, UAV
DfAw-07	South Exploits	9	Overflight Only
DfBa-02	Two Mile Island 1	9	Overflight, Camera
DfBa-03	Two Mile Island 2	1	Overflight, Camera
DfBa-15	Two Mile Island cultural depression (#3)	1	Overflight, Camera
DfBa-16	Two Mile Island cultural depression (#5)	1	Camera, Overflight

Table of Contents

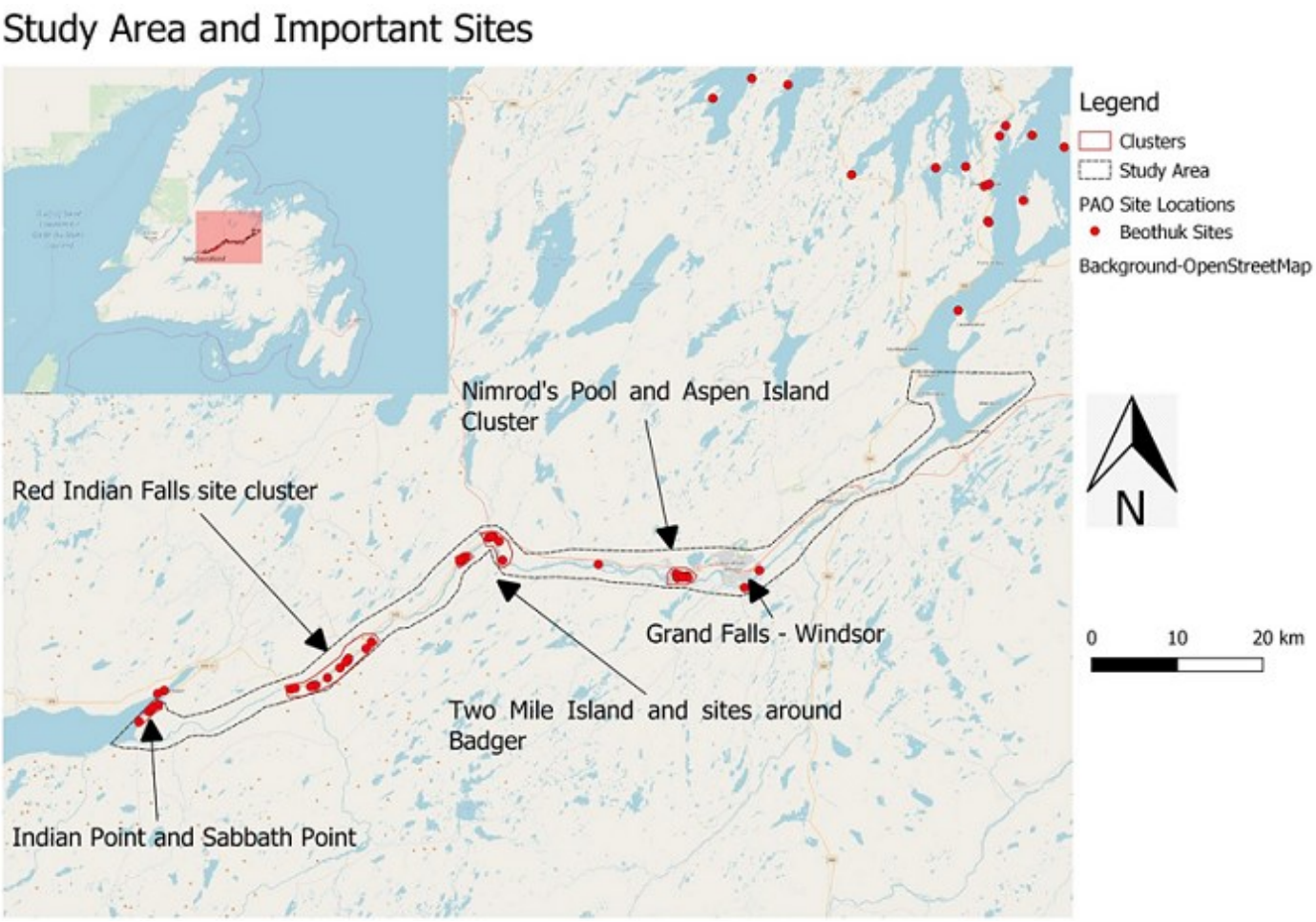


Figure 2: The location of house-pits in the ERV

gist Don Locke (N.D.), who recorded 159 house-pits in the ERV. Having previously performed unauthorized excavations, his fieldnotes denote the rough provenance of the artefacts he dug up, as well as site locations. Locke discussed the fact that sites containing house-pits were clustered in different areas throughout the ERV which corresponded to areas around caribou movements. This view was taken further, to argue that there was a causal relationship between the decline of the caribou herds and the disappearance of the Beothuk (Rowley-Conwy 1990).

The effect of the unauthorized excavation can also be seen on specific sites such as Red Indian Falls 5, where two of the three pentangular house-pits are deformed (which can be observed in the eastern part of the most northerly house-pit in Figure 3). Locke's (N.D.) site inventory also includes features which are either now missing or were not house-pits. Directed research carried out by McLean and Schwarz has led to an inventory of seventy-two known sites (including features which have been removed such as Indian Point) (Erwin et al. 2017).

Locke's field notes were used to plan the next two pieces of fieldwork in this area, at Indian Point (Devereux 1970) and Wigwam Brook (Le Blanc 1973). Indian Point is located on Red Indian Lake, under the current memorial area. This site included several house-pits. The hexagonal house-pit at this site was completely excavated, and showed several important architectural features. Indian Point was stratified with Little Passage and Maritime Archaic sites underneath it.

At Wigwam Brook several features were excavated, including a pentagonal house-pit (Leblanc 1973). These showed the post-contact nature of these features, through the presence of European goods.

The most recent surveys were carried out primarily by McLean and Schwarz. These were funded by the PAO and the Exploits Valley Tourism Association (McLean 2018; Schwarz 1992, 199). The RIF

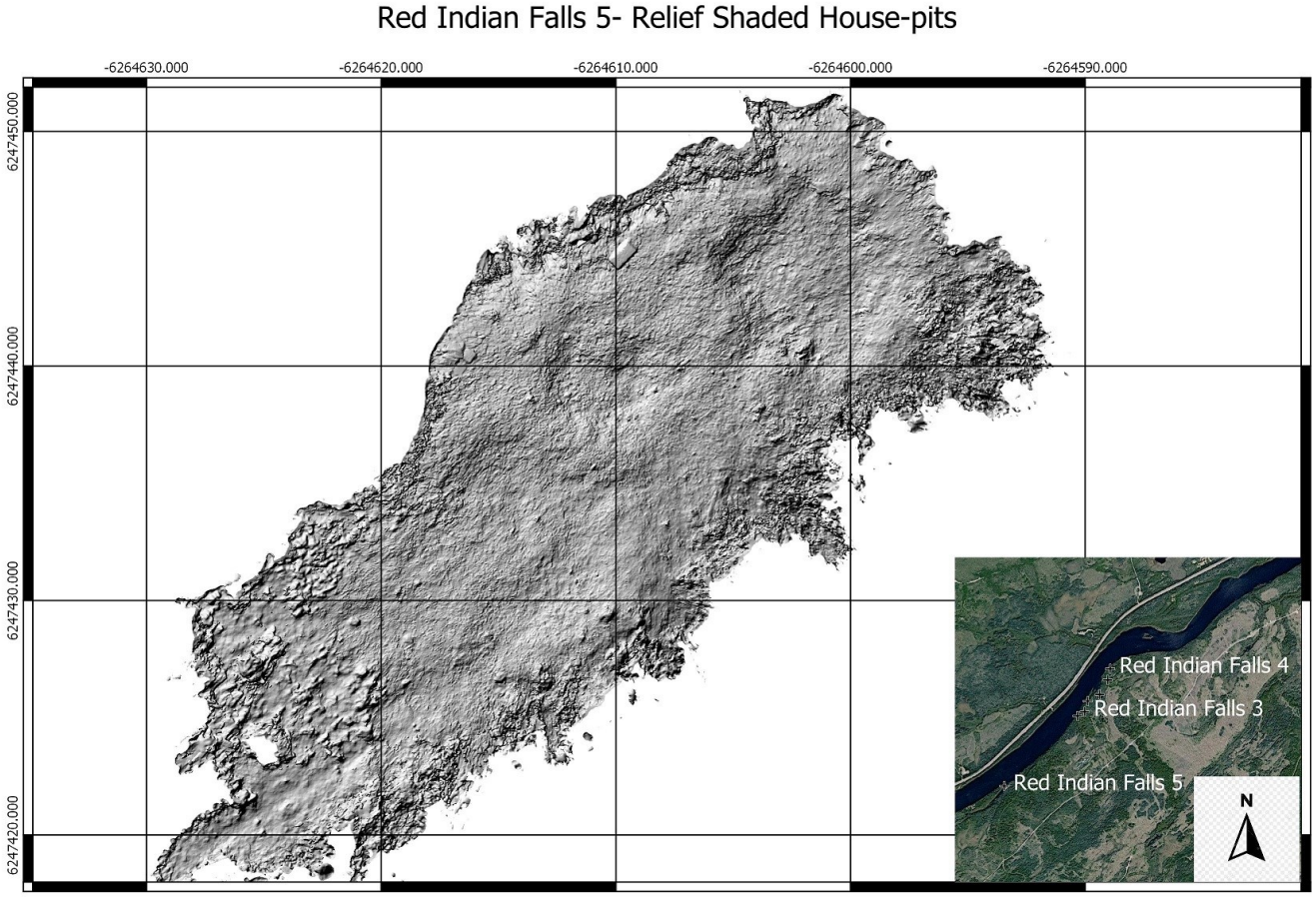


Figure 3: House-pits at RIF 5

sites were surveyed in 2011, and show examples of both lower and upper terrace features (Schwarz 2011; McLean 2011). The features at RIF 2 and 4 include some of the larger house-pits, while RIF 1 and 5 are smaller or mid-sized (McLean 2017).

Features Examined

The RIF area is several kilometers to the south of the town of Badger and includes five different groups of features that were first recorded by Locke (ND), and then by both McLean (2011) and Schwarz (2011). This group of features was described as the most important cluster of house-pits between Badger and Red Indian Lake (Locke N.D.). The sites are however spread out over five kilometers. There are widely spaced sites to the immediate south of this, but there were no features discovered to the north of these features (McLean 2015).

The features are broken down into five different groups, named as RIF 1 through RIF 5 (As seen in figure 4). All of these sites contain at least three recorded house-pits, although, not all can be easily found. The different features each contain different shapes of features.

RIF 1 is a lower terrace site (beside the river rather than upslope), which contains three house-pits. The house-pits are within seven meters of each other and there are no obvious attendant features. The house-pits are flooded every few years by the river (Pelley 2018), which may have caused deterioration leading to their shallow and oval appearance.

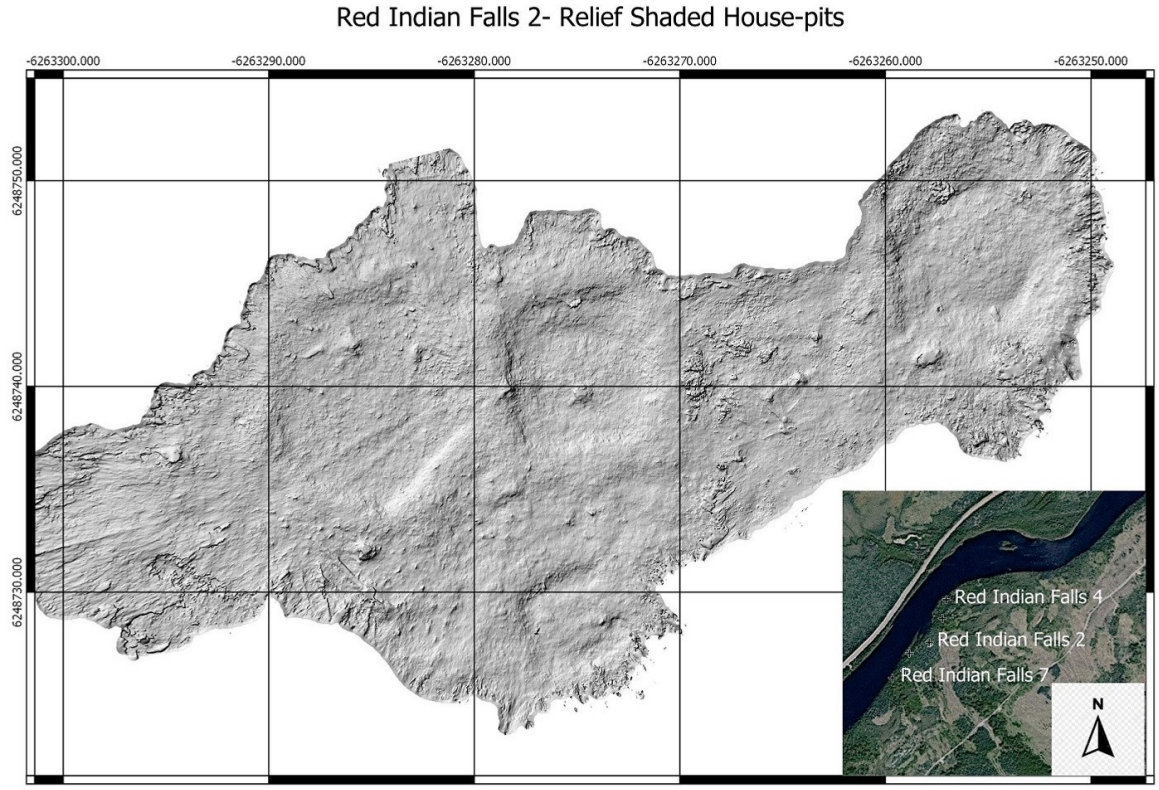
RIF 4 is a set of three house-pits set on the lower terrace of the river. These features are also ill-defined, although this is likely an effect of flooding and taphonomy.

RIF 2 is an upper terrace site which includes three pentagonal house-pits, and two square features, which are most likely storage houses. The features are clearly defined.

RIF 5 is a lower terrace site on a spit of land around a small bay. The site includes three house-pits, which appear to have been excavated, as they are deformed on their eastern corners. When compared

Figure 4: Feature locations in the RIF area

Figure 5: House-pits at RIF 2



with RIF 2, the difference in the definition of their edges is visible. While the RIF 5 House-pits (Figure 3) are roughly pentagonal, those at RIF 2 (Figure 5) have clearly defined edges.

Methodology

This survey is part of a project to examine the location of house-pits, their morphology, and the situation with regards to the Exploits River. Therefore, the accuracy of the 3D models prepared is important. The 3D models will be produced through image-based modelling (which can also be called photogrammetry in normal use), photographs must be acquired and then processed to extract 3D information. The photographs will be processed using an image-based modelling algorithm. The most used programs (Micmac ENSG, VisualSFM, and Metashape) follow a similar workflow for producing models. They produce a "sparse cloud" of reference points between photos, then a "dense cloud" which reconstructs the feature, and finally the Dense Cloud is sampled, and the resulting points are joined up as a 3D model made up of triangular faces which show an estimation of the actual object in a virtual space (the computer) (Rupnik, Daakir, and Pierrot Deseilligny 2017; Agisoft LLC 2018). In this review, all data was processed in Agisoft Metashape, which has been described as the most accurate software for this purpose (Probst, Gatziolis, and Strigul 2018) and also as having the advantage of reducing algorithmic errors (Jaud et al. 2016). Literature on photogrammetry often fails to discuss the acquisition of photographs for preparing 3D models. The growing popularity of photogrammetric recording also means that testing its efficacy in different situations and discovering which methods are the most useful.

Prior surveys had recorded feature locations using handheld GPS, and these GPS points were used to extract features from the landscape (Hull 2018), which allowed the author to visit these sites. The sites were then surveyed using a drone and a handheld camera. The drone was flown under the canopy to survey specific features, and the camera was used to prepare models of these features.

The images for the photogrammetric method were gathered using a method based on the Sabbath Point house-pit recording technique involving an Unmanned Aerial Vehicle flown at extremely low altitude (between 2-30m from ground level)(Erwin, Crompton, and Bolli 2018).

The models that have been produced so far are currently being analyzed to produce the best possible 3D models. As there is a great deal of vegetation, these can be considered to be sub-optimal conditions for photogrammetry (Probst, Gatziolis, and Strigul 2018). While the use of photogrammetry is effective in open spaces where photos can be taken from different angles, in larger enclosed areas, this is not possible. As a result of this, a discussion of the photogrammetric methods employed based on the number of photos aligned (with comparable tie points), will be used to test the difference between drone-based photography and handheld camera-based photography. The metric to measure the difference in accuracy between these methods will be the precentage of photos aligned, which effectively describes the level of coverage of the model. This will be preferred over a measure of difference between the models, as it allows an earlier indication of success/failure.

The photogrammetric method was carried out using two different techniques: drone and camera based. The first method was to use a camera and take photos following the wall of the house-pit both on the inside and outside. This followed a variation on the suggested acquisition method described by the Agisoft manual (Agisoft LLC 2018). This was complemented by oblique photos which were taken in order to allow for more tie points between photographs. While oblique photographs have a smaller comparative area of focus, they allow the whole area to be covered. The photographs were taken using a handheld Samsung WB36F camera, which has been used to successfully prepare photogrammetric models.

The drone photography followed a similar pattern, with photographs taken at different heights, and following the model as though it were on a plane. Photographs were taken by turning the drone inside the house-pit and facing the house-pit from a height. This allowed photographs from different heights to replace oblique photographs. This reduced the amount of warping in areas of the photo depicting features.

The number of photos taken between the different methods also differed, and in cases where the

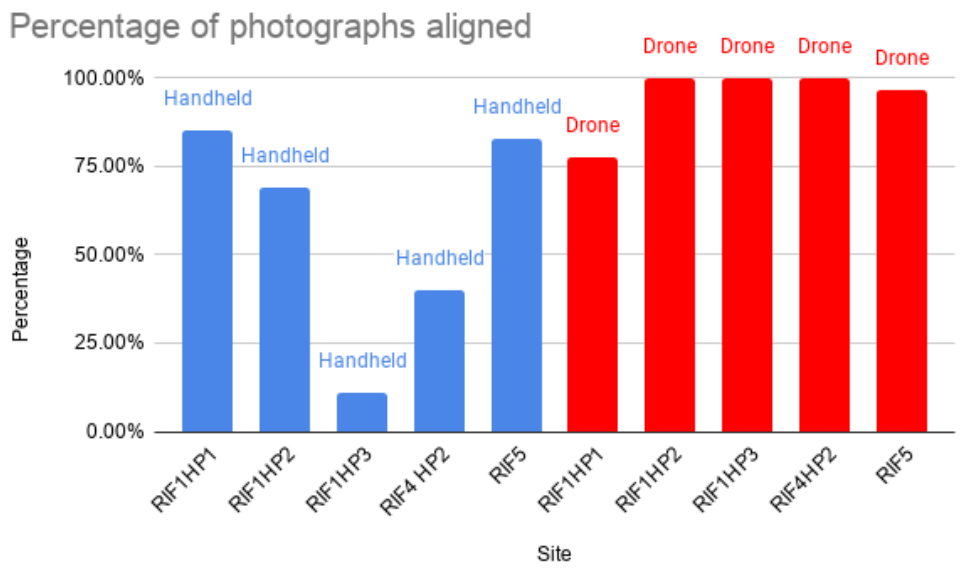


Figure 6: Percentage of photos aligned at each site

house-pit was enclosed on all sides, the amount of space to move about was curtailed, and walking over the feature to take more would have led to a greater level of deformation of the feature. Therefore, fewer photos were taken using the handheld camera, although the acquisition method still conformed to Agisoft method (Agisoft LLC 2018). Using a drone, an unconstrained number of photographs, as it was possible to take photographs from different heights.

Repeated photogrammetry at Red Indian Falls shows that drone-based photogrammetry produces better 3D models, as the number of photos aligning is almost always greater. The average accuracy of these models was 58% for the handheld photography and 95% for the drone-based photography. While there are outliers, this suggests that difficulties in producing image-based models of horizontal features using traditional photography preclude the use of this method. This means that traditional photography should not be used to prepare image based models of house-pits, and has implications for 3D recording of other horizontal features.

Conclusion

The goals of this study are to investigate the location and morphology of Beothuk house-pits in the ERV. Studying the morphology of the house-pits requires that the sites are recorded accurately, and this study suggests that a drone-based method can be used moving forwards. The next steps will be to continue to process data, and to work through issues with preparing 3D models, in order to prepare a catalogue of these features.

Acknowledgements

I gratefully acknowledge the support provided by ISER, the Smallwood Foundation and the PAO. I am also grateful for help from Francois P. Levasseur, Laurie McLean, the PAO, Don Pelley, and my supervisors: Dr Rankin and Dr Whitridge.

References

Agisoft LLC. 2018. "Agisoft PhotoScan User Manual."

Devereux, Helen. 1970. "A Preliminary Report on the Indian Point Site, a Stratified Beothuk Site." Archaeological Report. St John's: Provincial Archaeology Office, Newfoundland and Labrador.

Erwin, John, Amanda Crompton, and Marc Bolli. 2018. "Sabbath Point (DeBd-08) Unmanned Aerial Vehicle (UAV) Mapping Project." Archaeological Report. Annual Archaeology Review 2017. St John's: Provincial Archaeology Office, Newfoundland and Labrador.

Erwin, John, Stephen Hull, Laurie McLean, and Lisa Rankin. 2017. Discussion.

Howley, James P. 1915. *The Beothucks or Red Indians: The Aboriginal Inhabitants of Newfoundland*. Toronto: Coles Publishing Company.

Hull, Stephen. 2018. "Provincial Archaeology Site Database." St John's: Provincial Archaeology Office.

Jaud, Marion, Sophie Passot, Rejanne Le Bivic, Christophe Delacourt, Phillippe Grandjean, and Nicolas Le Dantec. 2016. "Assessing the Accuracy of High Resolution Digital Surface Models Computed by PhotoScan and MicMac in Sub-Optimal Survey Conditions." *Remote Sensing* 8 (465).

Leblanc, Raymond. 1973. "The Wigwam Brook Site and the Historic Beothuk Indians." M.A. Thesis, Un-

published, St John's: Memorial University Newfoundland.
Locke, Don. N.D. "Field Notes." St John's: Provincial Archaeology Office, Newfoundland and Labrador.
Marshall, Ingeborg. 1996. *A History and Ethnography of the Beothuk*. London: McGill-Queens University Press.
McLean, Laurie. 2011. "An Archaeological Assessment of Red Indian Falls, Beothuk Archaeological Sites." Unpublished report on file. St John's: Provincial Archaeology Office, Newfoundland and Labrador.
———. 2015. "An Archaeological Survey of the Area Around the Red Indian Falls North Portage, Exploits River." Archaeological Report 14:50. St John's: Provincial Archaeology Office, Newfoundland and Labrador.
———. 2017. "Summary of Archaeological Research Performed by Laurie McLean/Consulting Archaeologist in 2016." Archaeological Report. Annual Archaeology Review 2016. St John's: Provincial Archaeology Office, Newfoundland and Labrador.
———. 2018. "Partial Excavation of a Beothuk Housepit at Sabbath Point (DeBd-08), Red Indian Lake." Unpublished report on file. St John's: Provincial Archaeology Office, Newfoundland and Labrador.
Pelley, Donald. 2018. Meeting Prior to fieldwork.
Probst, Alexandra, Demetrios Gatziolis, and Nikolay Strigul. 2018. "Intercomparison of Photogrammetry Software for Three Dimensional Vegetation Modelling." *Royal Society Open Science* 172192 (5): 1–18.
Remondino, F. 2014. "Photogrammetry- Basic Theory." In *3D Recording and Modelling in Archaeology and Cultural Heritage*, edited by Fabio Remondino and Stefano Campana, 63–72. British Archaeological Reports International Series 2598. Oxford: Archaeopress.
Rowley-Conwy, Peter. 1990. "Settlement Patterns of the Beothuk Indians of Newfoundlan: A View from Away." *Canadian Journal of Archaeology* 14.
Rupnik, Ewelina, Mehdi Daakir, and Marc Pierrot Deseilligny. 2017. "MicMac – a Free, Open-Source Solution for Photogrammetry." *Open Geospatial Data, Software and Standards* 2 (1): 14. https://doi.org/10.1186/s40965-017-0027-2.
Schwarz, Fred. 1992. "Archaeological Investigations in the Exploits Basin." Archaeological Report 92.06. St John's: Provincial Archaeology Office, Newfoundland and Labrador.
———. 2011. "Archaeological Monitoring of Brushcutting Activities at Six Beothuk Archaeological Sites Along the Exploits River." Archaeological Report 11.26. St John's: Provincial Archaeology Office, Newfoundland and Labrador.
Speck, Frank G. 1922. *Beothuk and Micmac*. New York: Museum of the American Indian, Heye Foundation.

2019 Northern Labrador Archaeological Survey: A Landscape-Based Survey on Inuksuit

Sarah Wilson
Memorial University of Newfoundland

Ground and aerial surveys were conducted under permit NG19.04 issued by the Nunatsiavut Government along the coast of Northern Labrador during the 2019 field season at several different sites to map the location of inuksuit on the landscape. The research is a component of my MA project at Memorial University of Newfoundland in St. John's. The focus of the research is to survey for inuksuit on the landscape to gain a better understanding of past methods of navigation and the experience of Inuit on the land. An additional focus is to test the effectiveness and usefulness of using unmanned aerial vehicles to collect imagery to create high-resolution digital elevation models (DEMs) in archaeological contexts. A review of past site record forms was conducted prior to conducting fieldwork to determine known inuksuit locations and to plan more detailed recordings of these features. Inuksuit, the plural of inuksuk, for this research are understood to be human-made rock stacks that function in a variety of ways including navigational markers, place markers, hunting blinds, memorials, and spiritual markers (Hallendy 2000, 2009; Larkham and Brake 2011; MacDonald 1998; Whitridge 2004). The inuksuit recorded in these surveys include a diverse mixture of forms including large hive-shaped cairns, and single standing pinnacles.

While many archaeological field seasons focus on a particular site or excavation, fieldwork for this research focuses on cultural landscapes and on non-invasive data collection techniques in addition to seasonal variations on the landscape. Through funds awarded through the J.R. Smallwood Foundation, Eldred Allen of Inuk-owned company Bird's Eye Inc. was contracted to collect winter aerial imagery of several inuksuit around Hopedale under permit NG 19.01 held by Deirdre Elliot. The inuksuit chosen for this winter survey were situated near winter sites. Elliot and Allen reported that all the inuksuit they were able to reach were easily visible on the landscape surrounded by snow and ice.

Methodology

For the summer aerial surveys, a Mavic 2 Pro drone with built-in Hasselblad camera was used to collect photogrammetric imagery. The drone is fitted with a 35mm lens that collects high resolution photos with an effective pixel count of 20 million (DJI 2018). The takeoff weight of the Mavic 2 Pro is 907g and is easily compactable into a small carrying case. A hard, waterproof case was used to carry the drone, 5 batteries, the flight controller, and charging equipment during surveys. Each battery lasts about 30 minutes, however this is affected by the flight speed, and environmental factors such as wind and temperature. Furthermore, it is strongly discouraged to use the full life of a battery during flight. The drone was controlled by an Android phone running either the DJI Go 4.0 app, or the DH Basic app. The DH Basic app was used to conduct photogrammetric flight plans which consist of overlapping images from a designated altitude. The app allows the user to preset the flight altitude, amount of overlap, and flight pattern. These images are later stitched together in a 3D modeling program, such as Agisoft Metashape or Pix4D, to create 3D models, digital elevation models, and orthomosaics.

For each feature, notes about plant cover and the general appearance of each inuksuk were recorded, along with a location point taken with a Garmin GPSMap64S. If time and weather permitted, photogrammetric imagery of the area was collected. All features were photographed, except for burials to respect individuals' resting places. Surveying goals varied by location based on how much was already known from previous archaeological surveys in the area. For instance, Coffin Island has two known areas of clustered pinnacles that were the focus of the sur-

Carlson, Winters, Whitridge and Wilson pause for a drone photo on Skull Island. Photo credit: Sarah Wilson

vey, and on the island Inutsutok we tried to map as much as possible on the island in the time available.

Assigning chronometric dates to the construction of inuksuit poses a challenge for many reasons. Methods available like lichenometry are limited and present their own methodological problems (Osborn et al. 2015). Contextually it is hard to associate a date with the construction of an inuksuk, and not the age of the rock or length of rock exposure. For some archaeological features, an archaeologist can estimate dates by associating the structure with dates collected from other archaeological layers containing charcoal, organics, or a tephra layer.

Survey Areas

This field season was divided into two segments. The first segment was based around Okak Island with a crew of seven people including myself, Dr. Peter Whitridge, Dr. Veronique Forbes, fellow MA candidate Ivan Carlson, boat driver and bear guard Alfred Winters, and field assistants Stephen Denniston and James Williamson. The last segment was based out of Hopedale where I was graciously hosted by the late-Elder, Andrea Flowers. Community-based research being conducted by Dr. Laura Kelvin of Memorial University of Newfoundland under the Agvituk Archaeology Project (AAP) overlapped with this research.

The surveys focused around three specific locations in northern Labrador: Coffin Island, Green Island, and an island referred to as "Inutsutok". Inutsutok translates from Inuktitut to "the place where the inuksuit are" (Nicholas Flowers, personal communication, 2019). It was found that Inutsutok is recorded as "Pillar Island" on many recent topographic maps (Brice-Bennett 1977; Hamilton 1996; Surveys and Mapping Branch, Department of Mines and Technical Surveys 1965), a suitable translation. The cluster of inuksuit, or pinnacles, on Coffin Island, took a full day of mapping and recording. Other locations' surveys, such as Green Island and Inutsutok, covered a much larger area to record inuksuit and other features and required more time.

While waiting for supplies and gear to arrive in Nain, a walking survey of the western portion of Skull Island was conducted. On Skull Island, six inuksuit were recorded, and I was able to practice using the drone to create a 3D model of the large circular stone features near the beach. The following day, on

Inuksuit, or pinnacles, on Coffin Island. Photo credit: Sarah Wilson

July 13th we departed Nain by speedboat to Nutak to stay for the duration of the Okak area fieldwork. On July 14th, surveys for Carlson's paleoecological survey were conducted at Kivalekh, and the following days consisted of surveys at Coffin Island and Green Island.

Coffin Island, also recorded as 'Ukusiksalik' (Brice-Bennett 1977: 57), according to previous site record forms (Curtis 2006), has two areas with large clusters of inuksuit. In one day we were able to document 69 pinnacles on one area of the island using handheld cameras and a GPS. After the fog cleared, Williamson and I each flew photogrammetric drone flights to create DEMs of the surveyed area. In September, I was able to create a 3D model of these flights. While some but not all pinnacles are visible, the more prominent features are, and the resulting DEM is more detailed than any imagery or maps available through Google Earth. We noted how the pinnacles were propped up either by leaning on a ledge, wedged into a crack, or supported by a base of rocks. None of the pinnacles seemed to be pointing in any particular direction, and there was a fair amount of fallen or broken pinnacles. At first glance, it appears that natural erosion and freeze-thaw processes are the causes of these disturbances. Over the next few months, I will continue conducting spatial analyses of these features, along with analyses on spatial patterns of the inuksuit and the relation to other features on the landscape.

The following day we conducted a walking survey of Green Island, or 'Ighlokhsoaktalik' (Brice-Bennett 1977: 56). A few known pinnacles had been recorded in the area (Cloutier-Gelinas and Merkuratsuk 2009). A transect along a ridge running northwest to southeast resulted in 32 features recorded. This includes 4 caches, a possible burial, and 27 inuksuit. The weather allowed for a small UAV flight over a series of pinnacles near the southern shore before low clouds rolled in. Several inuksuit comprised of small stacks of rocks were found across the area surveyed, including some very large inuksuit at the top of a hill near a historic settlement. The UAV capture was to document a cluster of pinnacles that are different from those found on Coffin Island. The Green Island pinnacles ran up from the coast in pairs towards higher parts of the island. The inuksuit were hard to spot from the hillside above, however during

Inuksuit on Green Island. Photo credit: Sarah Wilson

winter conditions that could change. One function of inuksuit is to mark dangerous or safe routes (Larkham and Brake 2011). The area on Green Island featured a wide crack that made the land more difficult to navigate, but not particularly dangerous. While leaving Green Island via boat, more inuksuit were spotted on small islands and rocks nearby. A longer survey in the area would be beneficial to an understanding of the region's landscape. Around Hopedale, I was accompanied by youth in the community who were hired through the Agvituk Archaeology Project (AAP): Denver Edmunds, Mackenzie Frieda, and Claire Igloliorte as well as Dr. Laura Kelvin and Kevin Gully. After spending some time in Hopedale waiting for fog to clear, Edmunds, Frieda, Gully, boat driver/bear guard Zeke Lucy, and I, travelled to Multa Island and Shoal Tickle by speedboat. An inuksuk at Shoal Tickle had previously been discussed by Larkham and Brake (2011). In a walking survey on Multa Island, ten inuksuit were documented, along with a large 2- to 3-metre in diameter round stone structure, and possible burial. At Shoal Tickle, we recorded five tent rings, a possible burial, three caches, and a small inuksuk on a large boulder near the tidal zone. On the return trip, we recorded a few features along the shore of the mainland near the community of Hopedale including another burial, and

Inuksuk on Multa Island. Photo credit: Sarah Wilson

Inuksuk on Inutsutok. Photo credit: Mackenzie Frieda

in a different area two pinnacle-shaped inuksuit near the tidal zone.

Some of the work carried out by AAP included interviewing Hopedale community members about their knowledge of inuksuit. Through these interviews the location of Inutsutok was confirmed for a survey. Kelvin, Frieda, Igloliorte, and I traveled to Inutsutok (Pillar Island) by speed boat as soon as the weather permitted. Our boat drivers and bear guards were Shaun Gear and Phillip Abel. After a full day of walking the island, we recorded and photographed nineteen inuksuit scattered across the small island, along with a boat rack comprised of four small rock piles, a few metal stove fragments, a jigger, burial, and tent rings. Video footage was also collected at Multa Island and Inutsutok to include in a video about inuksuit. This video "Inuksuit in Nunatsiavut" is available on YouTube (Agvituk Archaeology 2019).

Mackenzie Frieda and a possible boat rack on Inutsutok. Photo credit: Claire Igloliorte

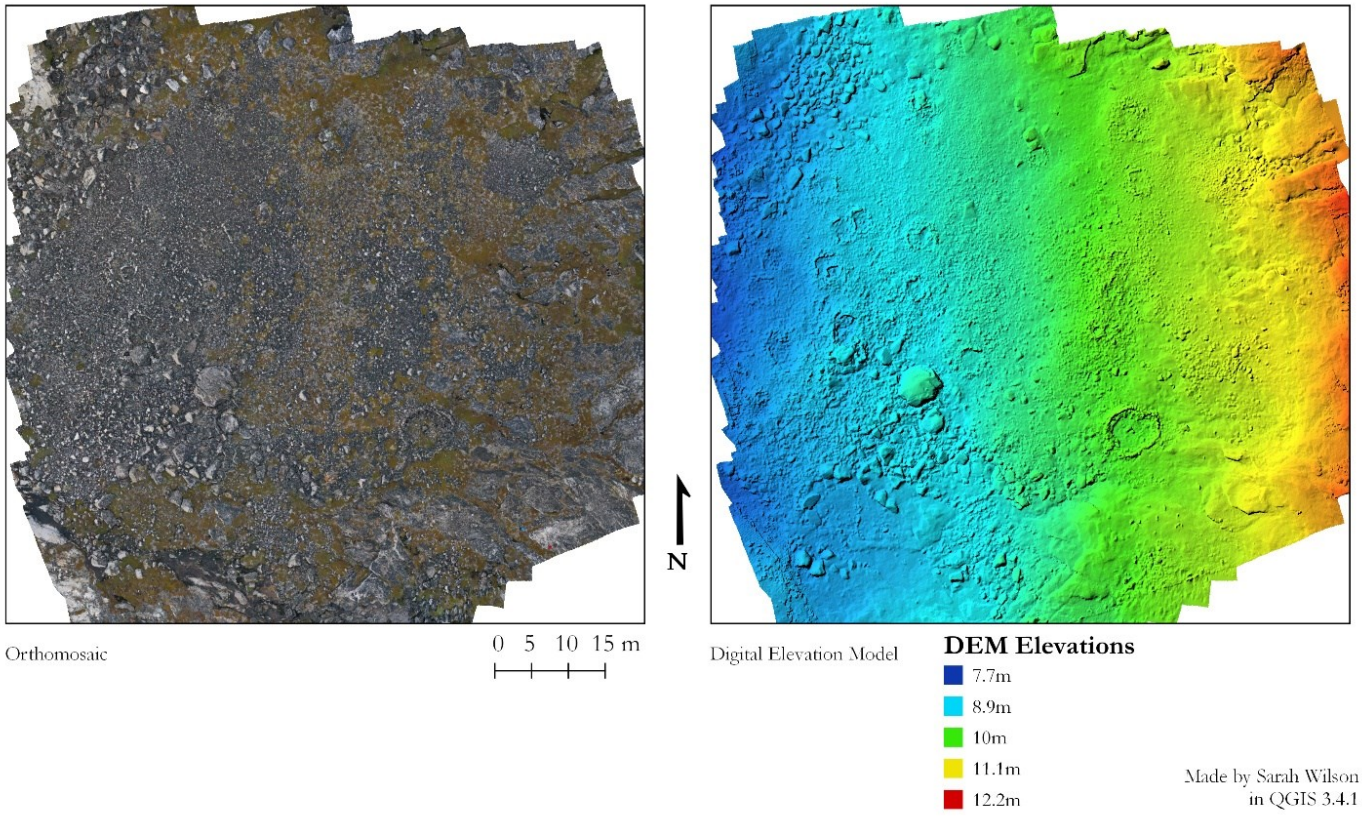
Inuksuk on Inutsutok. Photo credit: Laura Kelvin

Preliminary Findings

Data analysis will continue throughout the spring along with writing a full report of the findings in my thesis. Interpretations of the inuksuit data will be based on documented traditional knowledge along with spatial analyses including least cost path and circuit theory and looking at the relationship of inuksuit to other features including archaeological sites, celestial markers, and landforms. Least cost path and circuit theory are two applications in a geographic information that allows the user to weigh costs (such as slope) to determine the most 'cost effective' path from one place to another (Herzog 2013; Howey 2011). The seasonality of inuksuit as features is an interesting topic since many inuksuit were hard to spot on the landscape in the summer. While logistically difficult, more winter landscape surveys could be an exciting and significant addition to the archaeological record in Newfoundland and Labrador.

Digital elevation models constructed with this data show very detailed representations of the landscape. Individual rocks, cracks in the bedrock, and even footprints in the snow are visible in these mod-

Kelvin, Wilson, Igloliorte, and Frieda on Inusutok. Photo credit: Laura Kelvin



Example of DEM comparison with orthomosaic on Skull Island. On the left you can see smaller structures and a large boulder, with the largest structure on the lower right. Models made by Sarah Wilson using Agisoft Metashape and QGIS

els. One difficulty with these models is that their accuracy is higher than the GPS data points collected. In areas such as Coffin Island, not all inuksuit are visible in the DEM, and with GPS points having an accuracy of 5 metres it is hard to place them accurately on the DEM. Orthomosaics can help place inuksuit somewhat, but that defeats the purpose of using a DEM. At this point, DEMs are most useful in documenting small features that are already known to be on the landscape. If trying to maximize an area surveyed by only using aerial footage, many features may be missed or wrongly identified. In some cases, such as Skull Island, the DEMs are effective in exhibiting 3D features that may be obscured to the human eye. Large stone features that have been surveyed before (Fitzhugh 1981) are surrounded by similarly colored rocks and are difficult to spot from ground level. The resulting DEM from photogrammetric drone imagery accentuates small changes in topography making stone structures more visible.

While more analysis will be conducted on inuksuit and the landscape, it appears that the Green Island set of pinnacles are used for navigation and/or place marking. These were previously recorded during the 2008 field season along with other features on the island (Cloutier-Gelinas and Merkuratsuk 2009). Combined with new features recorded this season, and given their linear relation and small stature, they seem consistent with descriptions about inuksuit marking routes in Larkham and Brake (2011). "There would be one rock stuck straight up and two on the sides holding the rock up. These would be found on each side of the road or trail, and if they were matching it meant that this was a safe road" (Larkham and Brake 2011: 36). The inuksuit are frequently in pairs of two which seems significant to communicating something about the landscape. The inuksuit on Green Island sound like descriptions of caribou hunting lines where "deer would pass between the lines of stones, and the hunters hidden behind them would lance them" (Larkham and Brake 2011:14), but these do not seem large enough to hide behind. It is entirely possible that the features have a more spiritual meaning, but local traditional knowledge suggesting that has not yet been found.

Large inuksuit on Inutsutok. Photo credit Laura Kelvin

The island of Inutsutok has several different types of inuksuit and it is likely that they span a wide range of time. The three largest inuksuit on the eastern side of the island are likely made for fishing schooners as mentioned in Hamilton (1996: 24). They are very large, different in construction from other inuksuit, and would be visible at a distance to ships coming from the east.

A significant amount of information on inuksuit was recorded by Norman Hallendy (2000; 2009) after he spent several decades in the Baffin Island region. Hallendy illustrates how "inuksuit were the material forms of oral tradition" (2000: 23) and act as a method of communication. For a more local perspective on inuksuit, Larkham and Brake (2011) has been a valuable resource, along with the interviews and video that the Agvituk Archaeology Project completed this summer.

Technical Challenges

While a successful field season, this fieldwork still presented challenges. Most of the challenges were related to weather and boat travel, where weather or tides prevented travel to different sites, or where weather interrupted safe UAV flights. August 2019 was a particularly foggy one along the coast of Labrador preventing commercial flights and safe boat travel, and on clear days the wind was often too strong for the Mavic 2 Pro to fly safely. Overall, the Mavic 2 Pro was easy to fly, and the sensors on it were useful in notifying the pilot if the conditions were too cold or too windy to fly. The DH Basic app for Android was difficult to use but was the best option available for designing and flying overlapping flights for photogrammetric imagery.

Future Work

Further analysis on the inuksuit documented in Summer 2019 will be conducted through Spring 2020 and will be presented in my MA thesis. The vast landscape in Northern Labrador offers the opportunity for many more landscape-based archaeological studies. It is hoped that this research will start a discussion on protecting cultural landscapes, rather than just sites.

Acknowledgements & Project Support

I would like to thank the Institute for Social and Economic Research, the PAO, the Tradition and Transition partnership, and the J.R. Smallwood Foundation for funding this research. I would also like to thank the Nunatsiavut Government for permitting this fieldwork and for their help in planning these surveys. I am extremely grateful to my supervisors Dr. Peter Whitridge and Dr. Lisa Rankin for their guidance as well as Eldred Allen, Dr. Laura Kelvin, the Flowers, Alfred Winters, Stephen Denniston, Richard Maggo,

Shawn Solomon, Denver Edmunds, Claire Igloliorte, Mackenzie Frieda, Zeke Lucy, Shaun Gear, Phillip Abel, Harry and Sarah Jensen, Ian Winters, and many others who have assisted in this research.

References

Agvituk Archaeology
2019 *Inuksuit in Nunatsiavut*. YouTube, 25 August 2019. https://youtu.be/kuCpW6p24tk
Brice-Bennett, Carol
1977 *Our Footprints are Everywhere*. Labrador Inuit Association. Nain, Labrador.
Cloutier-Gelinas, Maryse and Iky Merkuratsuk
2009 Footsteps, Landscape and Memory: 2008 Fieldwork at Green Island 6, Labrador. In *Provincial Archaeology Office 2008 Archaeology Review*, Volume 7, edited by Stephen Hull and Delphina Mercer. Department of Tourism, Culture and Recreation: Newfoundland and Labrador, pp. 16-20.
Curtis, Jenneth
2006 Newfoundland and Labrador Archaeological Site Record Form. Unpublished Record on File with the Provincial Archaeology Office.
DJI
2018 Mavic 2 Pro/Zoom User Manual v1.4.
Fitzhugh, William
1981 Smithsonian Archaeological Surveys Central and Northern Labrador, 1980. In *Archaeology in Newfoundland and Labrador Annual Report,* No. 1. Edited by Jane Sproull-Thomson and Bernard Ransom. Historic Resources Division: Government of Newfoundland and Labrador, pp. 26-47.
Hallendy, Norman
2000 *Inuksuit: Silent Messengers of the Arctic*. London, England: British Museum Press.
2009 *Tukiliit: An Introduction to Inuksuit and Other Stone Figures of the North*. Douglas and McIntyre.
Hamilton, William Baillie
1996 *Place Names of Atlantic Canada*. Toronto, Canada: University of Toronto Press.
Herzog, Irmela
2013 The Potential and Limits of Optimal Path Analysis. In *Computational Approaches to Archaeological Spaces*, edited by Andrew Bevan and Mark Lake, pp. 179-212. Left Coast Press, Inc., Walnut Creek, California.
Howey, Meghan C.L.
2011 Multiple pathways across past landscapes: circuit theory as a complementary geospatial method to least cost path for modeling past movement. *Journal of Archaeological Science* 38(10):2523-2535.
Larkham, Jillian and Jamie Brake
2011 Documenting Traditional Knowledge Relating to Labrador Inuksuit and Other Stone Markers. Unpublished Report on File at the Torngâsok Cultural Centre.
MacDonald, John
1998 *The Arctic Sky: Inuit Astronomy, Star Lore, and Legend*. Royal Ontario Museum, Toronto, Ontario and the Nunavut Research Institute, Iqaluit, NWT.
Osborn, Gerald, Daniel McCarthy, Aline LaBrie, and Randall Burke
2015 Lichenometric Dating: Science or Pseudo-Science? *Quaternary Research* 83:1-12.
Surveys and Mapping Branch, Department of Mines and Technical Surveys
1965 Makkovik, Newfoundland, Canada 13-O. Edition 1. 1:250,000. Ottawa, Department of Mines and Technical Surveys.
Whitridge, Peter
2004 Landscapes, Houses, Bodies, Things: "Place" and the Archaeology of Inuit Imaginaries. *Journal of Archaeological Method and Theory* 11(2):213-250.

PUBLICATIONS & THESIS FOR 2019

Brenan, Julia
2019 *Archaeology And Memories On Birch Island*. MA, MUN.

Fitzhugh, William
2019 Paradise Gained, Lost, and Regained: Pulse Migration and the Inuit Archaeology of the Quebec Lower North Shore. *Arctic Anthropology*, Vol. 56, No. 1, pp. 52–76

Girard, Catherine
2019 Innu Painted Caribou-Skin Coats, and Other Tales of Elusiveness. *Journal18: a journal of eighteenth-century art and culture.*

Harris, Alison J. T. et. al.
2019 Dorset Pre-Inuit and Beothuk foodways in Newfoundland, ca. AD 500-1829. *Plos One* https://doi.org/10.1371/journal.pone.0210187

Holly, Donald H. Jr.
2019 Toward a Social Archaeology of Food for Hunters and Gatherers in Marginal Environments: a Case Study from the Eastern Subarctic of North America. *Journal of Archaeological Method and Theory* vol 26, pages1439–1469

Jankunis, Vincent E.
2019 *Divided but Together: Variation in 18th-Century Labrador Inuit Housing as seen in House 3 at Double Mer Point (GbBo-2)*. MA, MUN.

Jones-Doyle, Annique
2019 *Maritime Consumption on Newfoundland's Petit Nord: Material Expressions of Identity on the Champ Paya Fishing Station, 1504-1904*. MA, MUN

Petty, Ian C.
2019 *"As Elegant as They are Novel": Exploring Consumption Patterns of Eighteenth-Century Ceramics from Newfoundland and the Northeast.* MA, MUN

Williams, Duncan
2019 *'A Large House on The Downs': Household Archaeology and Middle-Class Gentility in Early 19th-Century Ferryland, Newfoundland*. MA, MUN

Wolff, Christopher B., and Donald H. Holly, Jr.
2019 Sea Ice, Seals, and Settlement: On Climate and Culture in Newfoundland and Labrador. In *Human-Environmental Dynamics and the Archaeology of the Atlantic Coast of North America*, p.16-43. Edited by Leslie Reeder-Myers, John A. Turck, and Torben Rick, University of Florida Press.

Wolff, Christopher B., Donald H. Holly, Jr., John C. Erwin, Tatiana Nomokonova, and Lindsay Swinarton
2019 The Stock Cove Site: A Large Dorset Seal-Hunting Encampment on the Coast of Southeastern Newfoundland. *Arctic Anthropology* 56(1):77-95.

Wolfrum, Allan
2019 *Archaeo-geophysical survey on the Ushpitun landform, Happy Valley-Goose Bay, Labrador.* MA, MUN.

On this page I usually try to compile a list of 2019 publications including any MUN archaeology thesis that were produced. When I began this document in January I had no idea how different our world would be today. As a result, I don't have access to my most recent list of publications and theses, so if you sent me something to include and it's not on this page I apologize.

If you have any comments or suggestions for the next Archaeology Review please contact Stephen Hull.

PROVINCIAL ARCHAEOLOGY OFFICE

Department of Tourism, Culture, Industry and Innovation

St. John's, NL
A1B 4J6
http://www.tcii.gov.nl.ca/index.html

Jamie Brake
Provincial Archaeologist
(709) 729-2462
JamieBrake@gov.nl.ca

John Erwin
Archaeologist
(709) 729-5581
johnrrwin@gov.nl.ca

Delphina Mercer
Archaeologist
(709) 729-4142
dhmercer@gov.nl.ca

Stephen Hull
Archaeologist
(709) 729-0493
shull@gov.nl.ca