

The Gateways Project 2006

Land and Underwater Excavations at Hare Harbor

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St. Lawrence Gateways Project: 2006 Field Report

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I can't thank enough the host of shore-side faces that made our time not only possible, but enjoyable too. Those most directly involved include Louise Colbourne, Boyce Roberts, Gina and Adrian Noordhof, Christine Vatcher and Wilson Evans, Helen Morency and Miles Evans, Paul and Cynthia Rowsell, Mark and Kieth Rowsell, and the staff of the Harrington Harbor Fish Co-op. The Department of Anthropology and the National Museum of Natural History as well as the Scientific Diving Office of Michael Lang and Laurie Penland helped make divers out of me and Christie, and gave us the chance to test the Canadian waters. I also want to thank our dedicated intern, Joan Hobbs for transforming our fieldnotes into digital illustrations, Christie Leece for assembling the report, and Gilles Samson for helping make the 2006 project possible.



Fig. 1.1: from L to R: Perry Colbourne, Christie Leece, Frédéric Simard, Erik Phanneuf, Esther Perman, and William Fitzhugh.

1-Strategies of Intervention

The gateways project utilizes a variety of archaeological methods during different phases of the project: investigation and research to find new sites, preliminary area surveys, systematic excavation, and the production of an archaeological report.

Investigation: During the 2006 summer season we spent three weeks in the field doing archaeological research in the Hare Harbor/Petit Mecatina area. Given the focus of the underwater deposit at this site, we had very limited time for survey.

Evaluation and Mapping: On the shore site, the same evaluation and mapping techniques were employed as in previous years. The grid was expanded from the 2005 season and individual 1m squares were measured and plotted on a map. As the excavation of the square began, notes on the soil, cultural deposits, and notable features were measured and drawn in the map. Depths of these features were also measured. Several balks were mapped as well to identify the stratigraphy of the soil. The artifacts recovered were given temporary field numbers for identification and were recorded as to location and depth recovered. If portions of a structure were visible, they were mapped in relation to the grid as well.

Systematic Excavation: For a site which requires a full scale excavation, such as Hare Harbor-1 (EdBt-3), we establish a grid of coordinates based on a datum point with a recorded height asl and latitude/longitude. The grid is divided into one meter squares which are added to the previous year's grid to as to maintain accurate recordings and maps. Artifacts uncovered are numbered in the field so as to be able to trace in field notes. Significant artifacts are photographed in situ, and immediately after removal, and drawn in field notes. Photographs and maps of the structural aspects are also made. Excavation and testing this summer was focused on expanding an area that appears to be a blacksmith shop that was begun in 2005. Upon completion, the area excavated in 2006, area 3 North was backfilled to maintain the structural integrity of the site as area 3 is part of the natural drainage system for the overall site.

Systematic Underwater Survey: For the Hare Harbor-1 site (EdBt-3) four divers were brought in to more carefully map the submerged area closest to the shore of the site. The depth of and slope of the area was recorded using a depth gages on dive computers, and a map of features was made using a triangulation from the previously placed line. A line extension was also made to make triangulation more precise given the steep grade of the site area. A dredge was used to dig test pits at systematic intervals along the N-S base line. Each of these test pits resulted in a sample of artifacts (mostly cut wood and fish bones) that were kept submerged in salt water until they could be cared for in the lab.

Processing and Analysis: All of the artifacts collected were catalogued in the field and photographed, then packaged to be delivered to an archaeological laboratory of the Ministère de la Culture du Québec for cleaning, preservation, and cataloguing by Anja Herzog at the Center of Conservation. All field notes and details of activities are kept with the records of the excavation in previous seasons. Photographs, illustrations, maps and field notes appear in this report.

2 - Project Narrative

2.1 - Introduction

In 2005 the Gateways Project pursued the goals of earlier excavations at the Hare Harbor Basque site at the southern end of Mécatina Peninsula and initiated a new phase of work with test excavations at the underwater site discovered here in 2003. Unlike previous years, very little time was available for surveys or excavations at other sites in our project area between Harrington Harbor and Blanc Sablon. Our 2005 field report (Fitzhugh, Chrétien, Phaneuf, and Sharp 2005) appeared in December and outlined suggestions for future work at the land and marine sites. As the field season approached, these plans had to be curtailed to fit a reduced budget and a field crew of seven: Perry Colbourne (*Pitsiulak* skipper), William Fitzhugh, Christie Leece, Esther Perman (a junior at Dartmouth College), diver-archaeologists Erik Phaneuf and Frédéric Simard, and photographer Will Richard. Phaneuf and Simard, re-joining the project from last year, represented the University of Montreal, which is assisting our underwater excavation. The principal goals of the 2006 season were to begin excavating the ‘blacksmith’ structure located in 2005 at the land site and to refine the underwater map and excavate a test trench in preparation for a more intensive three-year marine archaeology project at Hare Harbor and in the southern Mécatina region in 2007-9.

As in previous years our field preparations in Newfoundland were hampered by the late transfer of Smithsonian funds to Newfoundland for Perry’s Colbourne’s salary, with the result that our annual upkeep on the *Pitsiulak* could not be done; nor were the glitches in the new automatic pilot installed last year repaired in time for our departure. Fortunately all critical systems were functioning, and the exterior work, other than repainting the boom and mast which we did in the few days we had in Lushes Bight, could be postponed until 2007.

Two days after arriving in Newfoundland we launched *Pitsiulak* from the Triton Marine Center and took her down to Lushes Bight, Perry’s home village. For the next two days we loaded gear we had stored over the winter and did whatever maintenance we could, given the rainy weather. During this time, the Lushes Bight folks were hauling boats for repairs on a slipway next to Elmo Parson’s place while next to the dock



Fig. 2.1: Getting the Pitsiulak in the water for the summer.

another group was building a wharf – setting the timbers and filling the cribs with rocks collected from around the shore by skiff. Here, if you need a dock, you build it yourself; no one has such jobs contracted, and everyone builds their own houses as well, often from lumber they have cut and sawed themselves on Long Island. Some people are still building their own boats also. There is still plenty of ingenuity left here, despite the forces that continue to drive people from their villages to seasonal jobs, mostly in Ontario and Alberta. Many return to Lushes Bight and Long Island to build small places to retire into with their pensions. This may be the saving factor that keeps Long Island and its population of about 250 intact, battling the forces of centralization and the rising price of gas and the five minute ferry that connects Long Island to the mainland and its wage jobs and the supermarket, bank, doctors, and other essential services. Nevertheless, people continue to live here because they love the freedom of an independent life. Still, the increasing flow of visitors returning each summer like migrating geese to the town’s annual home-coming festival, Long Island Day, tells the story of an economy that has shifted from a family-based fishery in outport villages to a corporate fishery based in a decreasing number of regional centers.

A crucial feature of our preparation was securing an air compressor and dive tanks that we could take to Quebec. Both were extremely difficult to come by since this was the peak diving season, when many people working off the island return home to dive for recreation or to obtain fresh seafood. After failing to find a compressor through dive shops in St. John’s, we were fortunate to discover in Gander, about three hours east of Lushes Bight, an outfit named “Dive Masters,” run by Robert and Kelly Linfield, which could supply us with tanks, weight belts, and a 5.1 cfm (cubic foot per minute) capacity compressor and filtration unit. Robert and his son, Christopher, a student at Memorial University’s naval architecture school, agreed to drive the gear to Lushes Bight on the morning of 28 July, but when they arrived we discovered our generator, which was rated for 220 volt capability, had lost it somewhere during the past ten years – probably due to lack of use and corroded brushes. So after a nice visit to a corner of Newfoundland Robert had never visited before, he had to drive back to Gander with all the machinery and install a gas-engine on the compressor chassis. Later that day we drove to Gander and spent a couple hours



Fig 2.2: Robert Linfield coaches Perry, Christie, and Bill in the mechanics of the compressor.

at his shop getting checked out on the equipment, which fills dive tanks to 3000 psi in about eleven minutes. Before leaving Gander we stopped to visit the memorial to the victims of the December 11, 1985 ? flight that iced up and crashed upon take-off at 5:30am, killing 257? air troopers of the US 82ndst Airbourne Division returning home from peace-keeping duty in Bosnia. The crash site is south of the runway in a beautiful wooded area between the air field and Gander Lake. Not a single person survived. The photos of the heavily burned wreckage were so gruesome they were never

released to the public. Today a bronze statue of a soldier holding hands with a young Bosnian girl and boy stands as a poignant reminder of the losses suffered during this humanitarian mission. Visitors to the site have created their own memorials by constructing small stone crosses of pebbles in the brushy clearing.

One of the other issues this summer was the high cost of diesel fuel and gasoline. We refueled *Pitsiulak* before launching, taking on 1201 liters of diesel from Western

Petroleum for \$1,387.82 Canadian, about \$1.15 a liter, or about \$4.60 an imperial gallon. Twenty-five gallons of outboard gas cost about \$100. At this rate, fuel for the voyage to Harrington Harbor and back to Newfoundland, and operations in the site area, will cost \$3000. The impact of the new price regime is having a major ripple effect throughout Newfoundland, which is seeing fewer seasonal tourists, who have become a crucial part of the province's economy. But perhaps the most serious impact is on fishermen and boat owners who have seen their costs sky-rocket at the same time that fish prices have fallen and quotas have restricted the catch. Cod and lobster prices in particular were low. We encountered this complaint everywhere we went along the coast. People like Boyce Roberts of Quirpon who have lived as fishermen their entire lives are talking about re-training as truck drivers and are looking for other ways to support themselves.



Fig 2.3: A foggy day in Fleur De Lys afforded a quick visit to the soapstone quarry and MUN archaeologists.

29 July Lushes Bight to Fleur de Lys A scuzzy day, with rain showers and an easterly wind. Although conditions were not ideal, by the time we finished packing the boat we decided to leave anyway. We've had lots of ambivalent departures in the past: being sorry we left some harbors in poor weather, but more often we've found sea conditions better than anticipated from shore. Such was the case this time, and as we proceeded north to Cape St. John, the wind died back and the seas diminished to long swells that came rolling in off the North Atlantic, fueled by some big storm far off land. This trip there were no orcas or whales around the Cape, not even porpoises. The sky continued to lighten to the west, and we considered making a run for Englee, crossing the mouth of White Bay – the wind tunnel of this part of Newfoundland – but took the more cautious route of heading for Fleur de Lys at the northeastern end of the Bay Verte Peninsula, the last harbor before crossing White Bay. This had the added advantage of allowing us to visit the Dorset soapstone quarry and see if John Erwin's team from Memorial University was still in residence, excavating sites in Coachman's Cove just south of Fleur De Lys. We were lucky to find them at their residence/research center located at the town museum, cleaning up their notes before returning to St. John's the next day. Elaine Anton – John's wife and curator of the Provincial archaeological collections – was there also, so we had a lively time hearing

about their excavation results, which included their first bone artifacts to come from Coachman's Cove – a small concave-based harpoon head with a single line hole. It's an early Dorset style and probably dates to an earlier occupation than they have found to date, something also suggested by the stratigraphy, for the piece was found in shelly beach sand (hence the unusual preservation) below the rest of the Middle Dorset material. Back at the boat, Will had prepared the first of several meals based on the carton of baked beans he had brought up from Georgetown, Maine, along with his usual cache of wine, a harvest of black trumpet mushrooms that had appeared in a prodigious crop this year owing to the hot and wet climate. The night was clear and still, the only noise being the sound of the stream cascading into the harbor and a few boom boxes broadcasting from various corners of the small, nearly land-locked harbor.

30 July Fleur de Lys to Quirpon The morning brought fair weather but moderate southwest winds, putting us crosswise to the seas for the hour it took to reach the west shore of White Bay, where we found a lee under the high hills of the Great Northern Peninsula. Thereafter, the steaming was calm and fascinating as we had a close view of the sea caves and the marvelous geological stratigraphy that is exposed along this precipitous shore for miles and miles. Dolphins periodically rushed to play about our bow, and we spotted quite a few humpback whales. By mid-afternoon we reached Hare Bay, where we were exposed to the westerly wind, now blowing 20-25 knots. Not a boat was sighted all day until we reached Quirpon Harbor. We had alerted Boyce Roberts of Quirpon about our schedule, and he appeared at dockside five minutes after our arrival urging us to clean up and come over to his place for dinner. Afterwards he took Esther and Christie "moose-spotting" – an environmental treat of early morning and evening in northern Newfoundland, which has the highest density of moose, probably, of any place in the world. They saw three or four in an hour, but it's not uncommon to spot 20-30 in an hour's drive between here and St. Anthony. The evening ended with a visit to Skipper Hot's Lounge, where Boyce had arranged for Esther, our new crew member who had not been initiated into the traditions of Newfoundland fishing culture, to be "screeched in". The ordeal involves dressing up in oilskins in front of a raucous beery crowd and submitting yourself to eating a dried capelin, 'lassie' (molasses) bread, repeating Newfie tongue-twisters, downing a shot of



Fig 2.4: Esther and Christie look tentatively at the dried capelin while Bill dives right on in at Skipper Hots, Quirpon.

screech (Newfoundland's infamous rum), and kissing a codfish. Although we were already initiated, Christie and I were drafted to undergo the trial a second time as moral support for Esther – all to the cat-calls of the lounge clientele.

During supper Will had showed Boyce the mock-up copy of the book he has been preparing on his travels during the past six years from

Maine to Greenland. He is still working on the title, which may be something like “Journeys in the Far Northeast: Maine to Greenland”. There were several shots of Boyce’s place, which is called “Robert’s Rooms” (“rooms” being an old Newfie term for a fishing premises). Will has developed the book around several themes: the declining cod fishery, climatic warming and changes in the environment, the growth of adventure tourism



Fig. 2.5: A few of the Viking ladies at L’Anse aux Meadows.

and the extension of the International Appalachian Trail to the northern tip of Newfoundland, cross-border contacts – all of which are presented in a photographic panorama of characters and experiences drawn from his travels in what he sees as an integrated environmental, historical, and cultural region whose identity has been obscured by distance, national boundaries, and lack of knowledge. The photographs are gorgeous and carry his message well.

31 July **Quirpon** In the morning strong southwest winds were blowing, so with the loan of Boyce’s car we visited the L’Anse aux Meadows Viking site and spent a couple hours wandering about the Parks Canada site reconstruction and museum, where there were quite a few visitors. Bonnie Hines and Wade Hillier were still working as re-enactors at the sod house complex. Wade also sings and tells stories at the Norseman Restaurant nearby and has put out a CD of this favorite numbers. Bonnie wondered if we had been in touch with Scott Burden, a former Parks employee who had found artifacts in White Bay that he thought were Viking; I had followed up with Scott last fall and got a copy of his report, finding the material of probable 17-18th C. French origin. We also stopped in at Norstead, the reconstructed Viking ‘trading center’ located in a small cove east of the Viking site, where Will photographed *Snorri*, the Viking ship built in Maine for Hodding Carter’s re-enactment voyage from Greenland to L’Anse aux Meadows in the summer of 2000, for his book. While he did so we sharpened our axe-throwing skills and chatted with the staff, who confirmed the summer’s visitation lull. All attribute the drop to the steep rise in fuel prices, which has deterred driving visitors, although the bus and ship market has remained strong.

While visiting L’Anse aux Meadows, we lunched at The Norseman, a fine restaurant operated by Gina Nordhoff and her husband Adrian, finding their food as wonderful as always and the restaurant full of interesting people from many places in the Eastern U.S. and Canada. The big surprise was to discover Gina pregnant and expecting in October. She has a great selection of Newfoundland and Labrador art for sale in her gallery and has recently purchased a house and booked her first bed and breakfast guests.

After a few hours of visiting and clothes-washing at Boyce’s, and picking bakeapples – a bonus of our visit since this proved to be the last place in Newfoundland or Quebec where these little delights had not gone by – we discovered the wind had dropped, so we left immediately for Cook Harbor, two hours to the northwest. This turned out to be a good move as it put us virtually at

Cape Norman and the entrance to the Strait of Belle Isle, where we could assess the weather and prospects for crossing the Straits at first light in the morning, when sea conditions are almost always more favorable than later in the day. At first we found Cook Harbor unrecognizable from previous years due to construction of a new dock, but we found a quiet berth and got a few hours' sleep.

1 August Cook's Harbor to Tabatière Dawn was colorful and calm, and we decided we could safely make the crossing to Labrador, which we did to the tunes of Wade Hillier's sonorous Newfoundland airs. The bird life was abundant – particularly the gannets, which seem more numerous than before, but we saw few signs of whales, and no orcas. However, there were a few small boats out fishing, taking advantage of the first day of the new federal recreational fishery program that allows every fisherman five fish per person (or fifteen per boat) per day using baited hooks and lures (but prohibits the lethal jigger, the traditional codfish lure which wounds more fish than it catches), and limits sinker weights to 4 ounces. While the program allows subsistence fishing which has been denied by the ban of the past decade, the sinker limit is problematic for fishing in the open sea or near capes and deep-water shores. Here strong currents and seas require heavier tackle, and these conditions are found everywhere in northern Newfoundland, the Straits, and the Gulf. The rules provide an opportunity for recreational and subsistence fishing that will have a minimal impact on the recovering codfish stock, which in many areas of northern Newfoundland and the Gulf, seems to be coming back strongly.

Turning west after Blanc Sablon we had to buck the southwest wind and seas for four hours before entering the Grande Rigolette at St. Augustine Channel. The transition from the Gulf and its closely-spaced chop to the quiet, almost lacustrine environment of the rigolette (French for a protected passage with strong tides and 'rattles') and inner island runs was welcome, and its tight passages resembled the central Labrador coast with its rocky islands with tiny coves and inlets and its patchwork of trees and shrubs in protected valleys and declivities. Occasionally we would see a small boat ashore and the profile of a person stooping to pick berries against a hilltop skyline – the last bakeapples of the season, as it turned out. By the time we emerged from the rigolette the wind had dropped out completely and we had a calm steam into Tabatière, where we tied up at the fish plant, whose stinky discharge from shrimp offal was as offensive as it had been in previous years. This summer they were operating at full tilt, taking in shrimp from boats working offshore in the Gulf, and steaming, shelling, and freezing the product, which was being shipped out to Port Saunders, Nfld. Like the cod fishery, the Gulf shrimp stock is currently supporting a strong fishery, at least in this region.

2 August Tabatière to Harrington Harbor After a breakfast of bacon and eggs at the fish plant cafeteria, we left for Harrington with the wind and seas from the southeast. We arrived in Harrington at 5pm, finding the dock full of fishing boats and the plant working overtime. They also had some good fishing, which began in May and will run, at least for cod and turbot, through the end of August. The large numbers of cod that began to be taken last summer have continued to increase, and quotas have risen to provide fishing by 8-10 boats. Although hard on plant personnel who have worked four months with only a few days off, no one is complaining about the full employment and its benefits for the community. This is a big change from two years ago, when the plant shut down at the end of July, limiting our supply of fresh fish, hot showers, ice for our food and beer coolers, and fresh water. Thankfully, this year would be different.

Reaching Harrington, we took stock of our fuel and found we had burned 1200 liters of diesel in the 34 hours underway (using approximately 9 gallons per hour) and had about 1400 liters remaining. Theoretically, we could return to Lushes Bight with the fuel remaining; but of course we had work to do in the meantime. Our engine oil consumption has been rising and now is at one liter per 100 liters of fuel, one liter every three hours. Since we don't see smoke in the exhaust, we suspect a leak in the engine's base pan, which would not be unusual for an engine now nearly twenty years old.

Our friends in Harrington were all well. Paul and Cynthia Rowsell, and Mark Rowsell, who operate CMR Sales were in the midst of preparing a celebration for 150 friends and relatives honoring Paul's and Mark's father's and mother's (Clarence and Mary Rowsell) 50 wedding anniversary, only a few days away. Wilson and Christine Evans were preparing for a week's cruise to St. Augustine with Alexandra and Sarah, but Wilson had time to explain how to operate the pump and underwater dredge we were renting from him. We also found Wilson's mother, Amy Evans, in chipper form, and Helen and Miles and their son Jake doing well. Everyone had the same story we'd heard in Newfoundland about the strange weather this year – a mild winter with no post-Christmas deep-freeze, and a spring that came six weeks earlier than usual. Nevertheless, the spring harp seal hunt had been good.

This year more relatives have returned to Harrington for summer reunions than in previous years. Typical are the Rowsell family, now living in the Boston area, whose husband married a woman from that area who had come to Harrington as summer help for Bob Bryan's faith and social service-based Quebec-Labrador Foundation. This brought home the long-standing impact of the QLF activities here on the LNS. We also heard that Bob Bryan had been at his home in Harrington in July and still comes for a few weeks in the winter.

3 August Harrington to Hare Harbor We left Harrington in mid-afternoon for Hare Harbor. There was still a big southwest sea on. After anchoring we reconnoitered the site and found it in good shape. Grass was growing high and had replaced the local ferns and marshy vegetation in areas where we had excavated previously, and the bog area we dug last year had a good start at re-vegetation. We laid out a grid north of the bog where we had found large amounts of charcoal, iron, and paving stones, suggesting the possibility of a second structure at the site, possibly a blacksmith shop. This area was also quite boggy from run-off from the cliff above. After we cut the vegetation we could see possible wall mounds along the west and south side, on either side of the pavement stones. We staked out nine 2-meter squares and planned to start digging in the morning.



Fig. 2.6: Picturesque Harrington.

4-5 August **Hare Harbor** As soon as we began removing sod it became obvious that we were in the middle of a structure with a paved floor. Within a few hours the relative absence of nails, ceramics, and domestic debris and the abundance of charcoal and rusted iron lumps began to confirm our blacksmith shop hypothesis. After two days, we had cleared a trench through the middle of the structure, but water was beginning to accumulate which could not be drained until we cleared the entire structure. So we opened a second 2x2 meter trench to the west of the first. By the afternoon of the 5th it began to rain again and the trenches filled, so we decided to return to Harrington and await the arrival of Erik Phaneuf and Frédéric Simard, who were flying in from Bay Comeau (Erik) and Montreal (Frédéric) on Sunday. When we arrived we found the Rowsell anniversary party in full swing, and it continued with speeches and dancing until the early morning hours when some of the fishermen had to return to their boats for the morning haul.

6 August **Harrington** Wilson was one of the early departures, but he had left his pump and dredge for us outside his shed. We moved the gear to the boat and paid a visit to Fay Babbitt, the head nurse at the nursing center from whom Erik had arranged to borrow a 600 liter tank of oxygen in case we had a diving emergency. Fay also gave us contact numbers for the LNS emergency medical service. If we had trouble we were only 90 minutes from Harrington and would be met at the pier by a trained EMT team. In that interval first aid, stabilization, and administration of oxygen would be the measures taken. Fortunately everyone on the crew this year has had some EMT training, including Esther, who received instruction as a leader of the Dartmouth College ski patrol.

Erik and Frédéric arrived on schedule about 3:30 and immediately determined that we needed to add a length of flexible pipe on the working end of Wilson's dredge. Mark Rowsell helped us find some plastic drain pipe that would do the trick, and we were able to close the drain perforations with rubber bands borrowed from the fish plant. After figuring out a system to attach the pipe to Wilson's apparatus, getting last minute food supplies, and a loan of DVD movies from Mark, we headed for Mécatina, arriving about 7:30 to find the harbor calm and skies clear.

7-9 August **Hare Harbor** Wind came up during the night, forcing us to postpone our plan for an early dive on the site. We also had one further crucial detail to complete: obtaining permission from Mike Lang, the Smithsonian Diving Officer, for the project. Normally these arrangements are made weeks in advance, but with our Mongolia project in June and Frédéric's departure for underwater excavations in France, it was difficult to assemble the documents needed for Mike and his assistant, Laurie Penland, to review our application. This required certificates of dive training, equipment, and oxygen instruction; personal dive records; and an overall dive plan. What used to be a fairly casual approach to scientific diving in former years at the Smithsonian has become highly structured as a result of the usual legal and liability constraints for an activity with substantial risk to individuals and institutions. We had got most of this together before the trip, but some of Erik's and Frédéric's records were missing until they were able to fax it in just as they left home. Mike was able to review the documentation this morning, and he and Laurie decided we had a qualified team and a good plan, so that Erik and Frédéric could be signed on as 'Smithsonian divers' and our work could begin. Thanks to our satellite phone, we had an answer immediately and were in the water within an hour.

The first day we did two dives, one in the morning and another in the afternoon. It was wonderful

to see the underwater site for the first time, first-hand, even though the visibility was not very good. The recent rain has flushed grass, leaves, and tannin-brown fresh water into the harbor, where it has spread out in a coffee-colored layer on the surface. After getting our weights sorted out (which for me required adding a bunch of iron tools to my belt), we spent about thirty minutes getting an overview of the whole site, which is quite large



Fig 2.7: Fitzhugh, Phaneuf, Leece, and Simard suited up and ready to sink.

– about 50x100 meters. Last summer Erik and Fred put in an east-west baseline forty meters long at the base of the ballast stone piles, at 40-foot depth. Most of the ballast rock was in distinct linear piles running upslope in a north-south direction between 20-40 meters depth. Many of the rocks in the piles are blocks of tan-colored limestone peppered with small holes. This material is not local to the Lower North Shore and must have been imported from Europe. The size of some of these dumps is impressive, 10-15 meters long and 6-8 meters across, piled up 1-3 meters above the bottom. They must have been tossed from fairly large ships, and the fact that there are eight major piles suggests that the site may have been used by that many vessels at least once. Other striking features one notices immediately on the bottom are large numbers of roof tiles, mostly broken into small pieces; a large worked timber; and a number of whale bones including vertebrae and small limb bones. These materials are scattered up and down the 30-degree slope from about 15 feet to 40 feet and below this, on a slope of about 20 degrees. After a few days the wind shifted into the southwest and cleared the brown fresh water layer from the harbor, giving us visibility of 10-20 meters of the site at one time.

Will Richard recorded our comings and goings, and the finds as they emerged. There was nothing quite as exciting as the bottles and jugs we found exposed on the bottom last year; this year we were primarily engaged in mapping and digging test pits to check for depth of deposit, stratigraphy, and small finds. But a few ceramic vessel fragments were also found on the surface, thanks to Frédéric's eagle eye.

In his first test of the dredge Erik discovered that it did not have enough sucking power and would have to be modified. To be an effective it had to have enough pull so the operator can fan or excavate sediment a foot or two away from the pipe opening and have the detritus cloud pulled in, otherwise the excavation becomes a cloud of mud and visibility goes to zero. By positioning the dredge outflow down-stream you should be able to work in clear water and inspect the materials as they are exposed and before they are sucked away. The flexible pipe we added allowed the operator to move the working end around the excavation area without repositioning the whole dredge apparatus each time. But when we tested it, we found the six-foot



Fig. 2.8: Erik working away at a test pit with the dredge.

hose reduced the suction too much, and so we cut it in half, with better results.

As the excavation proceeded we realized that our problem was not so much the design of the dredge as the depth of the water. Wilson told us he had no trouble dredging up large amounts of gravel, but our experience showed the dredge barely sucked at all at 55 feet. Reflecting on the physics of the situation, we soon realized, as with most things underwater, it was a matter of pressure. As water depth increases, pump pressure drops from its surface strength by one atmosphere (14.7 psi) for every 30 feet of water; at 30 feet depth a pump like Wilson's rated at 50 psi puts out only 35 psi,

and at 60 feet, only 20 psi. Obviously, we would need a better design and probably a stronger pump for work at these depths. Fortunately, most of the deposit seems to be between 20-50 feet.

Over the course of the next few days the results of the underwater excavations accumulated. Erik's test pit A at 55 feet produced very little: one fish vertebra and some wood in a dark muck matrix. Results improved as we moved ten meters upslope, where TP 2 produced more fishbones and wood, as well as tiles, a small ceramic vessel fragment, and small wood barrel wedges used for tightening the hoops. TP 3 produced many fish bones, a bone from a young seal, barrel hoops and wedges, charcoal, and huge amounts of axe-cut woodworking debris. TP 4 had a sandy deposit with only a few fishbones, tiles, and wood. Rather than relying only on visual capture as materials were excavated, we started collecting bulk samples, which we screened in fine mesh on board. This gave us some idea of what might be lost to the dredge, which turned out to be mostly small fish vertebrae and bones. We also could inspect the wood for technique, cut-marks, and species determination. Almost everything seemed to be from fast-growing conifers, dominated by spruce and fir (identified from its bark), but probably also some larch. Very little hardwood debris was noted.

One of the surprises was the large amount of wood-working detritus, the relative absence of finished artifacts (other than hoops, wedges, and tiles), and the large number of fish bones. In this respect our finds closely mirror those from Robert Grenier's work at Red Bay. Detritus from squaring timbers was a major activity at that site and seems to have been the major activity at Mécatina. But why it should be such a dominant component of the sediment has never been understood. Building shore installations and possibly docks should be considered, as well, possibly, as boat-building and lumber production, given the resources of the region. Nor is it clear how wood and charcoal enters the sediment, since it should float away. The same goes for tiles, which are present in both large and small fragments. Used as ballast in Basque ships, tiles would have suffered breakage during transit from Europe and would have been discarded overboard when new cargo was taken aboard. Fish presumably were caught for the crew's food and as personal profit from the voyage, and by the 17th C. may have become an important commercial product of Basque voyages to this region. Study of the species represented and the

types of cuts made and elements discarded can provide answers to many questions concerning fish processing. The presence of large amounts of charcoal parallels its abundance in the land site. It will be interesting to see if the species representation is similar between the land and marine deposit.

The other major type of data is the ballast piles which we plan to investigate by mapping their precise size, volume, and location, and determining the types and sizes of rocks present. This may tell us how many vessels used the site at one time, where they were ballasted, and how long the site was used.

10 August Hare Harbor to Harrington We returned to Harrington in the evening to be ready for Will Richard's departure from Chevery early the next morning. It was Thursday and the *Nordik Express*, the coastal steamer, was due in at 11 pm, and all the pier slots were taken except the half-berth at the boat ramp, not a good berth for us in more than a light breeze. Fortunately the predicted blow did not occur, although it rained most of the night. We made some laundry runs and calls home. Although stormy weather moved in, we were not too conscious of the changing conditions because my inquiry at the fish plant about lobsters had produced four huge brutes for our goodbye (and birthday) dinner for Will. I had not seen such large lobsters since working at Willard Nickerson's market in Chatham, Massachusetts, in the late 1950s – these guys were 5 and 6 pounders, and they tasted perfectly wonderful! Even Perry was excited to deal with them, as it has been illegal to take lobsters this size in Newfoundland for many years. That evening seven of us ate 20 pounds of lobsters (at \$6/pound) while Paul Ransom sat at the top of the companionway ladder watching us wallow in lobsters like pigs in a mud-hole. The only thing we could convince Paul to eat ("No boys, I had my lobster dinner last week!") was a piece of the blueberry cake made from Esther's afternoon gathering while we were diving.

11 August Hare Harbor Will got off on time at 6:30 in the water taxi, which is under new management and free of charge. Also aboard was the relief skipper of the *Nordik*, who had been on for two weeks replacing the regular caption, on vacation. The relief skipper (name??) was a wooden boat fanatic who lives in New Brunswick and once while visiting the Smithsonian met Howard Chapelle, the SI's curator of small boats who wrote the famous book, "Bark and Skin Boats of North America", with xxx Adney.

While we were having breakfast Gaetan Talbot, a Laval-trained anthropologist who teaches at the secondary school in Sept-Isles, dropped by to say hello. He had



Fig 2.9: Erik and Perry with the world's biggest lobsters.

just returned from a kayak trip from Harrington to Mouton Bay with Andrew Rowsell, who was back in Harrington on vacation from his fisheries job in Ottawa. Gaetan has a background in archaeology and at one time catalogued Rene Levesque's collection from the trade site he excavated in Sept-Isles. He was eager to come out with us to Mecatina to see the Basque site, but because he had a flight out the next day and had no way back to Harrington, he had to cancel. Although we only had a few minutes to talk, he was interested in helping us to arrange some contact with the Sept-Isle museum and its director and archaeology curator, who is a Maritime Archaic specialist. We agreed to keep in touch, and I asked him to stop by and say hello to Kieth Rowsell at the Harrington school, which we have been hoping might join our project in a training program for local students.

After scrounging up some iron bars to use for underwater grid stakes, collecting laundry and checking the email, we got underway and managed to get a bit of diving in during the afternoon. Erik was back at the dredge; Frédéric was doing video overviews of the site; and Christie and I extended the baseline and began measuring the size of the ballast piles by triangulating their location. Last's years map, done in just a week, proved quite accurate, and with only a few adjustments we were moving toward a very good representation of the site, with east-west baselines. At the close of the dive there was a bit of excitement in the dive boat, with Perry warning us to move upwind away from the speedboat. Although we did not realize it at the time, the dredge pump had caught fire while Perry was re-fueling it with a jerry can that turned out to have a pin-hole leak that squirted onto the hot muffler, and the gas had ignited, setting the engine and stern area of the boat afire. Perry had thrown the flaming can as far away downwind as possible and put out the fire in the boat just as we surfaced. Fortunately the cold water doused the firey can so we did not surface in a flaming sea! Other events of the day included the loss of Erik's digital camera over the side into the water. Even with divers aboard there was not any use to try and retrieve it. I made my longest dive yet at the site – 39 minutes! Not much compared to Erik's regular dives of 50 minutes or more at 55 feet. I seem to have a double handicap: large lungs and not enough training in 'managing air.' We completed the day with a short dig at the land site and a supper of baked turbot, with two mussels retrieved from the depths shared among a crew of six. These were not the normal mussels you find around the shore or in shops, but gigantic ones 4-5 inches long. Erik had discovered that many of the mussels found on the silty bottom (rather than attached to rocks) had attached themselves to archaeological pieces like tile, worked wood, and other objects we were collecting with elaborate dredging procedures. This suggested a different type of archaeological procedure with strong gastronomic overtones: just dive to collect mussels and let them do the specimen gathering. They seem quite proficient as amateurs; one Erik found had a more than a dozen specimens gripped in its filaments.

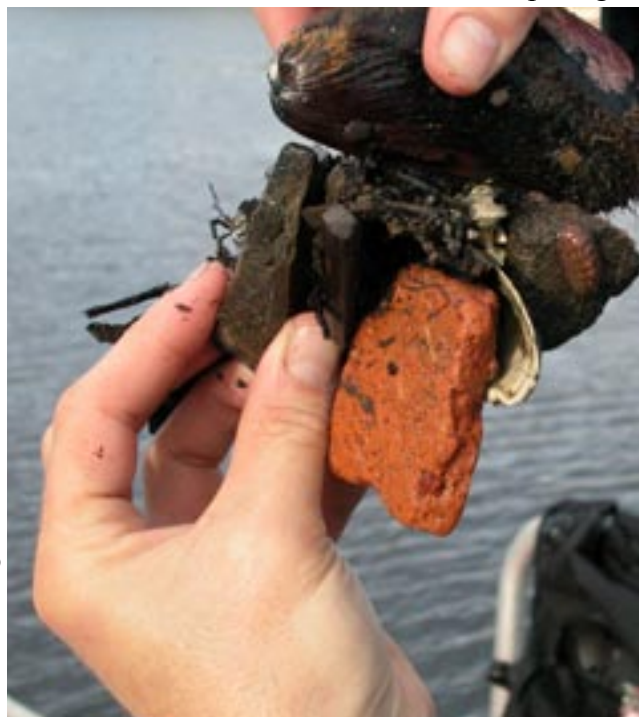


Fig 2.10: Lazy man's archaeology-mussels do all the work.

12 August **Hare Harbor** Not a great day for weather – it rained with a northeasterly wind all day. I’ve never seen so much rain and cloudy weather in my six years on the LNS, and this seems to be the general consensus along the coast. If we were not diving the progress on land would be miniscule because of the weather. Under these conditions you get much wetter digging on land than diving. I dove in the morning and spent the afternoon cutting alders up the slope above the excavation so we could see if we had any structures or furnaces up against the hill. When cleared, there were two stone piles that looked interesting to investigate, but we probably won’t be able to get to these until next year. Christie and Frédéric put in a new baseline, and Erik finished TP1 and began TP2, which contained quite a few fish bones, mostly vertebrae but also some wood and one small ceramic fragment. Just before dusk Wilson and his family chugged up, returning from their holiday in St. Augustine, and tied up for an hour. Their visit brightened up the end of a rainy day. Christie showed some of her Mongolia pictures, which Allie and Sarah especially were interested in. After they had left we had a fine chicken casserole à la Erik.

13 August **Hare Harbor** Rainy again, with southwesterly showers off and on all day. We all dove morning and afternoon, working on fixing the locations and sizes of the ballast piles while Erik and Fred took turns at the dredge in TP3, which began to produce LOTS of fishbones in a distinct stratigraphic level above the wood. We are starting to get a pattern here: heavy woodworking activities with lots of timber squaring, followed by major fish processing activity. Later, after dinner, we ‘saved’ *Private Ryan* for a couple of hours, but with attenuating audience as people start dropping off about 9:30. The early evening ‘crash’ syndrome is a new one for the Pits. Diving takes a major toll on energy – not just the diving itself, but all the associated activities: getting in and out of the dry suit; motoring to the site; final dressing into weight belts, fins, mitts, BCs, and pre-dive checks; 40-55 minutes underwater in 42-46°F water with all sorts of trials, stresses, and COLD; returning to the boat and undressing, re-filling tanks, washing and sorting finds; adding data to the base map and writing notes – all this in addition to the other shipboard requirements of cooking, washing up, diaries, etc. For a max of two hours work per day on the bottom, where everything is super-slow, difficult to accomplish, potentially dangerous, and expensive, you could have excavated a couple square meters on land in relative comfort (except in the rain!) and with decidedly low-tech procedures. Nevertheless, when finds start coming in that are never found on land, you realize there is no substitute for the effort and expense, especially in the Subarctic where underwater preservation is excellent and on land is almost non-existent.

14 August **Hare Harbor** Finally a nice sunny day with a warm westerly breeze. However, I have had a problem developing with my left ear, which has become sore and might be infected – ‘diver’s ear’ it’s called. *First Aid Afloat* describes it as a common complaint of aquaphiles, and a major flaw in *Homo sapiens* physiology. Infections easily get started in the inner or outer ear and need immediate medical attention. I used to have them frequently as a kid in Cape Cod, swimming much of the time. So I decided to lay off diving for a couple days and work on land with Esther, who has been ‘going solo’ on the ‘blacksmith shop’ for the past few days. We had good progress on both sites. Mapping is moving forward, and Erik got started in TP5, working his way up the slope. Finally, the southwest wind has cleared out the brown fresh water in the harbor and underwater visibility is excellent. Perry made a pork roast dinner with potatoes and carrots. With the evening warm, Christie could not resist donning her dry suit one more time to jump overboard and visit the ‘sparkles’ – the fluorescent plankton that are abundant at the surface this time of year.

15 August **Hare Harbor** We're back in the 'smoky sou'wester' mode again, with a day of strong winds, misty rain, and about a mile visibility. But we got off to a good start in the morning with the appearance of a young grey seal in the harbor, trying to impress us with his snorting, kicking up his flippers, and generally acting up – at a good safe distance from the boat. For almost an hour he/she amused us during breakfast. My sore ear kept me out of the water again, but Esther and I continued to make finds on land, and underwater Erik's TP 4 continued to produce huge amounts of fishbone, another seal bone, and some bird bones. This will be an excellent sample for osteological study, and we can anticipate a very good project on fishbone analysis after a larger excavation next year. The same might be said of the wood. While the finished artifacts are not too exciting yet, the debris would make an interesting project. Quite a bit of the TP material has been cut with an axe that has a big nick in it, so you can even recognize an individual worker's axe in the production debris, as least until it is re-sharpened. We had planned to make a run in to Harrington this evening but had to cancel it due to the continued heavy wind. Everyone was happy to stay, and my earache fortunately did not demand it. The bottom mapping is nearly done now, and on land Esther found a piece of glazed faience ceramic with blue painted bands and a floral or geometric motif, and some pieces of an iron pot that probably go with the iron loop handle I found yesterday. I spent an hour cutting alders along the east side of the site, mostly to make room for more back-dirt here, but also to give us some breathing room, since I think we are going to have to expand the excavation here a few meters, but not until next year, as we only have three full work days left.

16 August **Hare Harbor to Harrington** The strong southwest wind died back during the early morning hours, only to start puffing up again, with fog, by 9am. We decided we had to go to town anyway, and got in without much trouble at 10:30, in a heavy fog that lifted by noon. I visited the medical center and Fay gave my left ear a check, pronouncing it clogged tight with wax but not infected. A great relief after reading the high-powered medical attention needed for inner or outer ear infections. All I needed was some ear drops to dissolve the wax and ibuprofen to reduce the inflammation. The gurgling I had been hearing was probably water caught behind the wax. It's nice having a friendly town dispensary at your service! We did our other chores in a couple hours and ended up at Christine Evans eating a fine fish chowder she cooked up for us. Allie leaves for school in Quebec City in two days, so she was a bit wistful, and Sarah a bit over-excited, maybe compensating for the imminent loss of her older sister for the next eight months. Wilson was still off at St. Mary Islands trying to catch the fox that has found it's way out there, 'against regulations' on this bird sanctuary. After showers, laundry and lightning email checks we were on our way out again at three, arriving at the site with enough time for one more dive and work at the land site. Eric made a breakthrough at TP4, finding half of a decorated wood bowl and a small rectangular grindstone like the ones we've



Fig. 2.11: One of Esther's big finds—a huge iron spike.



Fig. 2.12: Unusual collection of Dorset finds in the middle of the historical cultural material.

been finding at the land site. Ashore, Esther and I found a huge iron staple and a bright blue seed bead, the first bead of the season and the first one from the upper site. Dinner was fried cod and scallops by Perry.

17 August **Hare Harbor** Today was the finest weather we've had since leaving Newfoundland. Light winds, sunny skies, and sometimes really hot. It was a pleasure to be working outside, even with a few bugs just to make sure

you didn't take your shirt off. Esther and I finished excavating down to the base level of the trench along the east side of our upper structure, finding a plank and pole flooring at right angles to the burned planks and timbers we had found along the north and south wall. Most of the wood in the floor is made of poles laid side-by-side, but a few seem to be planks, and some are parts of crushed barrels. We'll touch it up in the morning and photograph it. At the southeast corner of the structure the flooring becomes charred, and we have found similar charring at the southwest corner. Last year Lena found a heavy charcoal deposit in her squares in what we now know is the middle of the south wall, so it seems like this whole side of the structure was burned. Esther also found a 25 cm strip of birch bark that had centimeter-sized holes punched in it. We photographed the piece but could not recover it intact.

The big find of the day was half of a miniature Dorset soapstone lamp which came from some rocks in the northeast corner of the structure, in the middle of the Basque deposit. It was shaped like a small Middle Dorset pot, and was broken in half (an old break) and had charred blubber stains on the base. Like the Dorset harpoon point and the flake of Ramah chert found yesterday, it's hard to imagine how this small vessel got into a Basque site – not only found at the site but being part of the Basque level. The easiest explanation is that there is a Middle Dorset site somewhere nearby that the Basques mined for sod or peat and some Dorset pieces came in with the sod. But this does not explain why no other flakes came also. The other peculiar aspect of the vessel is that miniatures are principally Late (not Middle) Dorset period types. Late Dorset culture is not found south of Nain, Labrador; and Middle Dorset does not have miniatures [check], and so far no Middle Dorset sites have been found west of St. Paul River on the LNS. There is a Groswater Dorset site present at the Hare Harbor 1 site, but this culture does not have miniature vessels. Finally, it does not seem likely that a Basque sailor collected this vessel from a Dorset site somewhere in central or northern Labrador and brought it here, particularly a broken vessel. More work on finding a duplicate of this vessel in good Dorset context is needed. In the meantime the mystery of the Dorset and Inuit finds at Hare Harbor stir the imagination but have no easy explanations.

The divers also had a good day, getting the grid nearly completely strung up with orange cord and numbering the stone piles. Frédéric used the excellent visibility to get more video coverage, and Erik got to the bottom of TP4, and worked out the stratigraphy, which Frederic also filmed. Frédéric also found a large mass of iron partly buried in one of the stone ballast piles. Perhaps it's an anchor, or a mooring pad.

We discovered that we forgot to buy gasoline in town yesterday and figured that the couple of gallons we have left will only run our compressor and dredge through tomorrow afternoon, leaving us a day short. I called Wilson and found him home and willing to get us 5 gallons when he comes to Cross Harbor early Saturday morning. The divers picked up a mess of mussels on their way up this afternoon. We had them for dinner with a tuna casserole Christie cooked up.

18 August **Hare Harbor** There was not a breath of wind this morning until about 10, and after that only a gradually building southwest breeze – just what we needed to finish mapping and photographing the land site. I got a good series of photos of the squares and features in Structure 2, especially the ‘pole pavement’ running north-south in the eastern squares, outside the slab pavement. Some of this covering included a few short pieces of plank or barrel staves, but most looked like roughly-trimmed sticks or poles about 3-5 cm in diameter, placed side-by-side on the underlying sterile peat. This covering runs perpendicular to the charred timbers that are oriented east-west along the north and south boundary of the paved area. It would appear that the purpose of the pole pavement was to provide a relatively dry work surface east of the stone pavement. However, since we have not excavated most of Structure 2 to sterile soil, and since the pole pavement underlies most of the flat paving slabs, at least in the 22 East squares, it is possible that this pavement underlies the central part of the structure and may have been one of its earliest constructions, with paving slabs added at a later stage during its construction or use. This can be determined next year when we excavate below the slabs.

Erik, Christie, and Frédéric continued their mapping and test pitting, completing TP6 and making the final additions to the map, which is about as accurate as we can make it now, given the steep slope and lack of true ground control which we would have to do by using floating bottles at grid control points and ballast piles. Frédéric found another grapnel on the west side of Stone Pile 3. The evening meal was spaghetti by Erik, after which Perry took the girls out for a spin in the zodiac, on a flat mirror-like sea that merged the reflected stars with the sparkles of bioluminescence in the water.

It was unusual this season that no visitors stopped by the site. Generally we have a few groups from either Harrington, Tête à la Baleine or its summer place on Providence Island, whose residents can see our boat lights at night and come by, often on a Sunday, to see what we’re up to. This year no one has come from Harrington, and while several people said they had intended to drop by, no one found the time, generally because of the heavy flow of family visitors during the mid-summer period. We did have one small outboard that came across the bay from Providence and into the harbor while we were digging, and we watching them come to the Pitsiulak and assumed they had come aboard and were having a grand time with Frédéric and Erik, fellow French-speakers. However in the evening we asked how the visit went and discovered no one was aboard or had seen the boat. The crew was ashore picking berries and fetching fresh water for rinsing artifacts, and they swear there was no boat and that they were right by the shore and could not have missed an outboard, especially the one we had seen, with three elderly people wearing orange life jackets. The mystery remains unsolved, and contentious: each group is convinced the other group is nuts.

20 August **Hare Harbor to Harrington** Yesterday we figured we would have enough gas to finish dredging this morning, and so we cancelled our rendezvous with Wilson at Cross Harbor. It turned out we almost met him anyway, because he and his friends hiked across the peninsula

to the top of the hill right above our site and looked down into the harbor, where they saw the Pits and heard the pump motor banging away; but they could not see us because we were beneath the brow of the hill. They continued on their hike up toward the tip of the peninsula, where they spent the night and then returned to Cross Harbor and back to town early Sunday morning. Our morning dive was successful, the last that Erik and Frédéric could make before their 24-hour 'no dive period' before their airplane flight on Sunday. Erik finished TP7, finding the deposit had the same sequence of stratigraphic levels, but here they were very thin and the deposit was full of rocks



Fig. 2.13: Esther admires the site's ability to fill up with water in mere minutes.

washed out from the shore. Frédéric did some more filming, and Perry cut off Erik's dredge at 55 minutes, as promised, to keep him from pushing his air beyond reasonable bounds. (He can be long-winded both above and below water – a desirable trait in both media when not overdone!). Christie joined Esther and me on shore to complete the site map and prepare profiles for the west, north, and east sides of the 6x6 meter block we had excavated. The weather was not very cooperative, with squalls of rain every half hour, but we got it done, and after lunch we returned and tarped the excavation and laid sods on top to keep the tarp in place and protect the floor over the winter.

At 3:30 we left Hare Harbor with some nostalgia, confident that some good work had been accomplished in just under three weeks at both land and marine sites, and with a clear notion of what needed to be done next year. We hope that during the winter we can arrange collaboration with the Sept Isles Museum and Harrington town authorities so we can include some student training and assist the Harrington Heritage Association in publicizing the results.

Back in Harrington we had a deluxe end-of-season dinner prepared by Christine Vatcher and said goodbyes to our friends in town. I had a chat with Keith Rowsell about the plans to work with the school and Heritage Society and discovered that our former partner, Yves Chrétien, had put in a proposal to the Quebec Government last October to support the project, but it misfired for lack of coordination with the village. Keith is willing to try again, this time possibly in association with Sept Isles. Passing the store, I found Paul Rowsell at the register and made a final purchase. As I was short of cash and Paul Rowsell was short of time, we agreed I would pay our bill with CNR Sales after I got home.

Talking with Keith I heard some very disturbing news about plans for Petit Mécatina. A couple years ago a commission was established to look into creation of a Provincial Park along the Lower North Shore. Hearings were held in many villages and a report is due soon. When I got to Harrington this summer I learned that instead of a large park stretching along the coast, it seemed Petit Mécatina was likely to be designated because there had been little enthusiasm from LNS residents for a park with a larger footprint, principally because people are wary of foreclosing

control, traditional use rights, or future benefits from mineral or other developments. What at first sounded like a grand plan to protect a major area seems to have boiled down to a tiny segment. In itself, this might not be so bad, as the archaeological resources of PM have been highlighted by our work, and we might find interest in further research, publication, and site interpretation and reconstruction. It was very surprising, therefore, to hear from Kieth, that PM has been proposed as a nuclear dump site by the Council of Mayors of the LNS. It's hard to believe that the Government could be entertaining proposals for a provincial park based on scenic, cultural, and biological values at the same time it was considering the area for a nuclear dump, only ten miles from two villages and located in one of the best fishing grounds of the northern Gulf.

20 August Harrington to Tabatière Erik and Frédéric packed up last night and were up and moving their gear to the pier by 7am. There had been some confusion about their plane departure, which had originally been set for 11:30 so they could enjoy a leisurely exit. Nice try, but Lloyd Jones, Lab Air manager at the Chevery Airport, got a message to us that they had been shifted to the early plane at 9am, requiring a water taxi ride from Harrington at 8. The reason seems to be the rush of children flying off to schools out of their communities and the end of summer holidays and visitations. They got off in good style, with their dive gear doubling their baggage allowances, even with Erik wearing his 30-pound weight belt around his waist. With their departure, *Pitsiulak* immediately began to look and sound empty, and we quickly finished our departure chores, delivered the dredge gear and pump back to Wilson, who had not yet returned from his trek across Mecatina. We got a few groceries from Ransom's store and pulled out into a beautifully calm and sunny Gulf. Most everyone else in Harrington had gone off to their beach cottages and locations along the shore north of Chevery, one of the last being Wilson, who hailed us by radio as he passed us returning from Mécatina.

Our weather held throughout the day, and we had a pleasant break exploring a site Christine's father, Phil Vatcher, had reported on the island across the tickle from Bullé Harbor, just east of Mutton Bay. We had surveyed the latter before but never visited the side of the island facing the tickle. Phil had reported stone foundations and seal bones, and the site turned out to be a 19/20th c. seal factory. We made a sketch map of the site and its stone foundation, which was built into



Fig. 2.14: A bag sits on one of the constructed walls of the seal factory at Bullé Harbor.

the ledges above the landing beach in the narrow part of the tickle. One structure was nearly square, about 7x7 meters and had a large hearth pile inside the north wall. The other adjoined this structure to the east and was a few feet lower in elevation. Both had dry fieldstone walls which along the rear (south) wall utilized the natural ledge outcrop for the building's wall. I dug three small test pits and found window glass, brick, nails, and seal bones in all, confirming that this site is almost certainly a seal factory, perhaps belonging to a rival of M. Bullé. The entire hillside along this

part of the tickle is covered with luxuriant growth of grass, cow parsnip, and raspberries, and is essentially a large midden. We hunted along the shore for signs of Basque tiles (which we had found previously on the north side of the tickle) and other early artifact types but found none.

We tied up at the ‘stinky’ Tabatière fish plant for the night and arranged to purchase diesel fuel. We were down to something like 800-1000 liters in the tanks. After a supper of hamburgers and pizza at the fish plant cafeteria, we took on 1000 liters of diesel at \$1.20 per liter, for \$1200, from Paul Willcott, a lively fellow who is quite knowledgeable about Gros Mecatina Island and volunteered to show us around next year. I hope we can do that, as we have never surveyed the southern part of the island.

21 August Tabatière to Quirpon Today was another one of those rare days on the water when everything you hoped for seemed to come true. We needed an early start to get across the Straits, and rose before sunrise, before the kayakers who were camped nearby, and were on the water heading out to sea by sunrise. The weather was absolutely flat calm, without a breath of wind. Rather than taking our usual route inside the islands and through the Grande Rigolette to St. Augustine, we took the outside route to save miles and time required for the inner island passage, beautiful though it is, weaving among the shoals and narrow channels. The sun rose like a huge orange ball, flashing on the horizon like a siamese twin, and then as separate siblings growing increasingly farther apart, as siblings do. Esther put her cinnamon buns into the oven and soon we had their aroma filling the pilothouse. It was going to be a long day, but it was beginning the right way to get home quickly, and safely.

Esther, Christie, and I initially took the front row seats in the zodiac, nested among the coils of rope and ‘balloons’ (boat bumpers), first reading, then chatting, and as the sun rose higher, the girls’ pants started rolling up, and then jackets were peeled off and shirtsleeves appeared. The speedboat took this all in also, bobbing about on its towline like a young puppy on a leash, scampering first one way, then the next like it was chasing gulls. I had tied it to ride on the front edge of the second stern wave, tipping slightly down the crest so that it almost surfed the incline on its own steam, reducing drag and saving us time and fuel. Tied too long and you would be pulling it up the wave, costing us a knot or more in speed and putting a strain on the braided nylon towline that made it sing like a bass fiddle when plucked. Sometime you did this on purpose, like when you have a following sea that starts the boat careening down the wave at your stern ahead of the towline, and then veering off, broaching. Then comes the horrible wait for the inevitable snap of the shackle as the line lightens instantly, stretches several feet, quivers, and throws off the water it had absorbed during the downhill surge, and the heavy boat gets yanked around into tow position again. In the old days before we improved the towing attachments, we used to yank the tow bolts out and break the bow stems out of some old wooden boats. So when you’re traveling and conditions change leading to a runaway speedboat, you can delay the problem either by letting her out on more line, pulling uphill against the wave, or if the seas get larger, you have only one choice left – to slow the Pits and haul the boat up close, tying her eight to ten feet from the starboard side of the stern, pulling her up the first wave. Even then she cuts back and forth and can careen about, even on a short leash. Once, when this happened on one of our trips between Harrington and Mécatina, I lassoed the speedboat prow and tied a second line to the port cleat, and this helped steady her. But when the following seas are too high, you have to quit and either slow down or change course into the seas, or you lose your boat or injure people or gear. One old Labrador skipper told me of being caught without any of

the above solutions, until a huge wave threw his boat right up on top of his cabin, whereupon he tied it down, settling the issue nicely! But many more have lost their boats and motors towing in a storm, sometimes having to cut them loose on purpose to save a crash that might cripple the larger boat.

So with all these problems, why tow in the first place? Principally, because we need a large boat to move our crew and gear to and from our shore sites, and the size zodiac we'd need would be too big to keep on our cabin deck. As it is, we have a four-man zodiac that fits on the deck and serves as a second shore craft and spare lifeboat. One time we did have to put our big speedboat on the roof, when we were crossing Hudson Strait from Labrador to Baffin Island and were afraid we might lose her in the whirlpools and heavy seas that often occur in those waters. We got her up okay, hanging several feet over the stern, with the winch and boom, but the weight almost pushed the mast down through the pilothouse roof, and she made us so top-heavy that we rolled badly. Fortunately we had calm conditions, and on the return trip several years later, we chose to take our chances and towed, uneventfully.

This trip there were none of these problems, and the boat towed lightly behind. As we got closer to the Straits we began seeing groups of humpback whales, first a few, and then groups of 6-8. Many were feeding, lolling on the surface for 5-10 minutes and then raising their tails simultaneously and descending. Then all would be quite for a few minutes, until a whale would erupt into the air, breaching with head and flippers streaming water, and crashing back into the water; and then another would breach, and another. This behavior used to be thought to be play, but now it's known to be a specialized communal feeding behavior: a group of whales locate and corral a school of capelin or other small feed by swimming around the school while releasing air which rises to the surface in a wall of bubbles, containing the school in a whale-sized tube through which other whales lunge open-mouthed to the surface through the now-concentrated fish. The sea was so calm that at one point we could see three or four groups of humpbacks feeding in this manner. Although we did not count them, we must have seen 100-150 whales during a four-hour period west of Blanc Sablon. I suppose many more were present in the vicinity out of view. Whether these numbers are related to the improved cod fishery and the capelin that support it, I don't know; but humpbacks are certainly more numerous than we have noticed for many years.

Noon saw us off Blanc Sablon, with the seas still glossy and slick, with just little ripples as puffs of wind blew this way and that. It seemed too good to last, and we were careful not to remark much on it, for fear of it ending. But it didn't, and as we crossed the Straits the calm held. We found quite a few small boats out fishing, and passed 3-4 draggers off the Newfoundland coast. The new fishery law has brought out quite a few individual and small-time fishermen. One man who passed us in a small outboard triumphantly held up a large cod to show off his catch. During the ban of the past few years if you met someone on the water, no one ever boasted with fish like this.

I spent most of the day working on field notes, making a list of finds, and annotating photos. The girls read and snoozed in the zodiac 'lounge' until the sun set in the same red blaze we had seen in the morning – only now there was a light breeze to mask its reflection in the water. Cars could be seen paralleling our course up the coast, and soon the Cape Norman Light appeared. Past Cook's Harbor, as dusk descended, the atmosphere grew fuzzy and a cloud cap appeared over the

top of Quirpon Island (called 'Island of Demons' in the advertising sign we found at the Quirpon dock where tourists embark for the luxury Cape Bauld Lighthouse B&B). Soon we could clearly make out the lights of L'Anse aux Meadows, but there was no sign of the Cape Bauld Light, which was by this time shrouded in the fog cloud that had descended within a hundred feet of the sea; and through this thin slice of visibility we slid quietly into Quirpon Harbor and its familiar wharf. The dock was occupied by two big turbot fishing vessels which were fitting out, probably bound for gill-netting in Davis Strait. Christie cooked up a delicious roast chicken with mushroom and broccoli sauce and we tumbled into bed, pleased to have completed half of the voyage home under very pleasant and unusual sea conditions. A crossing to be long-remembered, considering the many trips when we've sat for days at Quirpon or Blanc Sablon waiting for the wind and seas to drop.

As we approached shore, Perry has asked me to call Boyce Roberts, our friend in Quirpon, on the satellite phone and check about the bakeapples he had left in Boyce's freezer on our trip out. I did, but just got a recording. It was 10:30 here, an hour-and-a-half later than across the Straits in Quebec. Since we hoped to get an early start tomorrow, we had a serious bakeapple situation on our hands. It did not help that the weather report called for rain, fog, and easterly wind.

22 August Quirpon to Fleur de Lys We woke to find conditions about as predicted: fog and rain, but a fairly light southeast wind, which was something we could deal with. Perry ran over to find Boyce and get his bakeapples, but found the house empty and no bakeapples in his freezers. With no one around to ask, there wasn't much he could do, and so he returned and we set off. One hopeful thought was that Perry's brother Dennis had been speaking of making a trip to L'Anse aux Meadows to see the Viking site during his August holiday, and Perry's report from

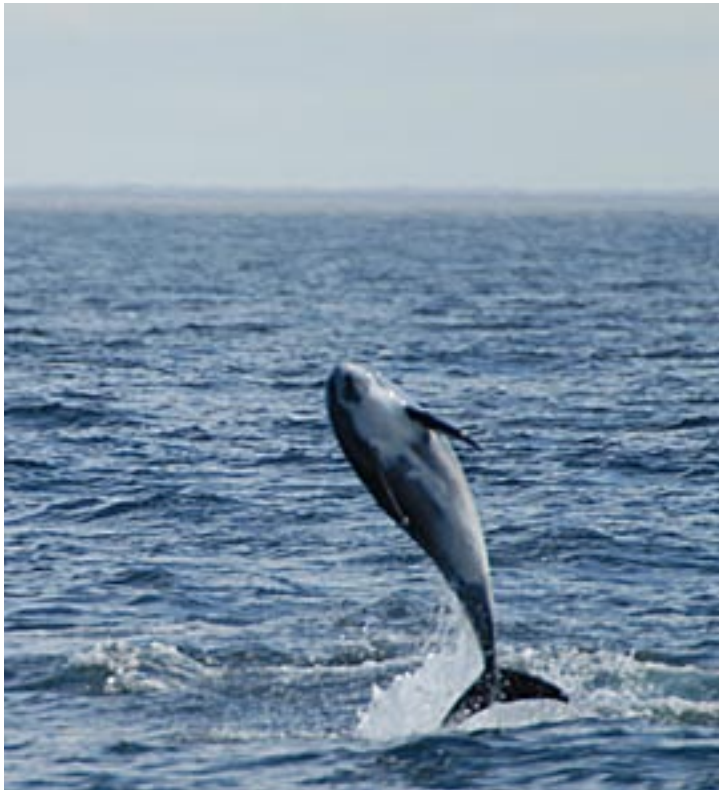


Fig. 2.15: Porpoises often race the Pits, particularly near the Strait of Belle Isle.

our visit that this was the only spot in northern Newfoundland where there were any berries too be had may have been a powerful draw. But it's not like Boyce to have disposed of the berries. You just don't do that sort of thing. So the story awaits resolution.

The seas and wind were manageable, but Perry discovered a problem when he checked the engine once we'd got underway. The tension pulley for the fan-belt that ran our bilge pump and the power steering was wobbling and rubber particles from the belt were collecting on the engine block nearby. We had no spares and so went in to St. Anthony where we could find a belt and make repairs. The harbor was jammed with fishing boats – perhaps fifteen or twenty 40-60 footers tied up along the shrimp processing plant pier on the north side of the harbor

along with a true fishing monster, a huge stern trawler, one of the leviathans of the seas that is wreaking havoc with the fisheries. This was a modern Canadian vessel, but there are many more, Canadian and foreign; and over the years they have taken their toll, not only on cod and shrimp, but on many other species as primary or by-catch discards. The series of articles Jeremy Jackson, Bruce Bourque and others have been publishing in *Science Magazine* for the past couple of years document the decline in fisheries worldwide, from prehistoric times to the present. Hopefully the increasingly tight regulatory regimes being implemented now will begin to plug the holes that have led to the disaster that has been approaching in the world's oceans.

While finding the belt (the last one in stock in the automotive shop) we had a breakfast break at the St. Anthony Tim Horton's and related some Grenfell lore to Esther as we passed the Grenfell Heritage Center and the hospital that is now the legacy of Wilfred Grenfell's health ministry, originally to the Labrador fishermen, which now serves as the regional health service for northern Newfoundland and coastal Labrador. Returning with thirteen pieces of Mary Brown's chicken, we had lunch while Perry installed the belt, and were off south again by 2pm.

The run turned out to be an easy one, as the wind stayed down, and the only problem was the rolling swell from the ocean, which caught us in the trough. We soon had passed Groais and Bell Island, then Canada Bay and its town of Englee, and by nightfall had reached Fleur de Lys, where we tied up at the new pier, across from a spiffy little sailing yacht. The mackerel fishery was on in a big way here, and on the piers were three 'mack-o-vacs' – huge vacuum cleaners that suck the fish out of the hold and into shipping containers, minimizing handling and damage to the easily-bruised fish. It was 10:30 and the town was completely shut down; nothing was stirring, and the tiny harbor, whose narrow, rock-bordered entrance was lit up with tiny bright red and green channel markers, was completely still. Eating our left-over Mary Brown chicken, canned corn, and broccoli in the foc's'le, it seemed like we were the only people on earth. The only sound was the plopping of tiny fish jumping on the surface nearby. We had completed the long-distance open ocean runs and were now within six hours of Lushes Bight and Perry's home, and except for a short run across Green Bay we could skirt the coast in the lee of the cliffy shore for the rest of the way.

August 23 **Fleur de Lys to Lushes Bight**

The town began to wake up at first light, now around 5am Newfoundland time, but we resisted passively until Perry started rummaging around in the stern drawers for his fishing gear. By the time we'd had coffee and a Sunday-like breakfast of bacon and 'heggs' (by this time we'd lost track of what day it was), a group of local fellows had collected on the pier, as curious about us as Perry was about where you could catch a cod. A bearded man soon emerged from the sailboat and introduced himself and his dog (his wife was still below) as from Freeport, Maine, on a vacation trip that had taken him as far north as Chateau, where he met contrary winds that his small engine could not make progress against, so he returned and is heading home via the east coast of Newfoundland. He's been out six weeks so far and finds his dog is a fair-weather sailor, not one to enjoy the 'hobby-horsing' of their small boat in a headwind. Soon the men who seemed to have assembled for no particular reason got more active, and the roar of diesels began to overpower the quiet of the harbor. Trucks appeared and a huge fishing boat pulled up with 80,000 pounds of mackerel sloshing around in its hold. A one-foot diameter vacuum pipe was inserted into the hold and soon fish were gushing into packing containers that were being weighed, iced, and packed on flatbed trucks. The action was incredibly efficient, high-tech,

and carefully-managed by a team of ship's hands, local people, and buyers reps. I filmed the operation for about an hour before we decided to try our own luck at the fishing business and left the pier for a point of land outside the harbor, where Christie and Perry let out handlines to the bottom. But there were no fish, and none were being caught by other two boats in the area, so we pulled up and headed for spots closer to home. We wanted to be part of the new local economy too: people out fishing for cod for the first time – legally – in more than a decade.

It was actually quite amazing to see the change in attitude in the villages due to the new regs. Everywhere along our cruise home we had seen a few small boats out fishing, and off Fleur de Lys as we came in last night there were a couple of boats with lights ablaze fishing for mackerel, which are attracted to one boat's lights while another surrounds them with a seine. During our last visit a couple of years ago Fleur de Lys had been a dying village, drying up for lack of work, with individuals barred from fishing even for their own table. The town was down to 250 and dropping. Now there is at least a ray of hope for people who want to remain in the outports, and for outsiders who are increasingly buying up properties abandoned by people headed for Toronto and Alberta. Whether the big fishing economy of the longliners and draggers will sustain enough people remains an open question, but at least the small-time folks may now be able to maintain a modest living in the villages, provided the fish stock continues to grow.

Fair weather continued throughout the day, and by noon we were rounding Cape St. John's with its three distinctive 'beaks' – North Beak, Middle Beak, and South Beak.

The cape's massif is several hundred feet high and is cut with coves and sea caves and one inspiring waterfall that cascades directly into the sea in three distinct tanin-stained streams. A good place to water your boat, and was probably used for that in the days before docks and hoses. We passed four or five boats fishing around the cape, and more as we got closer to Long Island and Perry's home. Our hope of seeing a sign of fish on the sounder around Gull Island did not materialize, and we continued straight on in to Lushes Bight, finding the pier empty and everyone out fishing for cod or mackerel. Even Perry's wife, Louise, had been out cod fishing during our trip. One of the casualties of the day was our planned visit to old Beothuck burial sites in the coves east of Nippers Harbor, on the Bay Verte Peninsula southwest of Cape St. John's. The old British Admiralty chart identifies a small cove east of Bobby's Cove as "Indian Burial Ground," and local lore tells of stone mounds and pits in Betts Cove, just to the southwest. I doubt if these places have been looked at by archaeologists recently, and a visit might prove interesting, as it was several years ago at a Beothuck burial cave at North China Head, at the north end of Long Island. Maybe we'll have a chance at this in the few days before leaving Newfoundland.

Our return trip was as quick and trouble-free as any we have had in recent years. It is always a great relief to see the end of a successful project and safe return to our base harbor in Newfoundland after 300 miles of open sea travel. But we discovered we have some work to do in getting the Pits operating at peak performance next year, including discovering the source of our engine oil leak, repair of the autopilot unit and our VHF radio that we found was receiving but not transmitting. There's also some hull and piping issues to be cleared up. But overall, this has been one of the most successful Gateways projects of all, with great data recovered, a second land structure opened up, and the making for a fascinating new underwater venture.

3 - Research Area 2001-2006

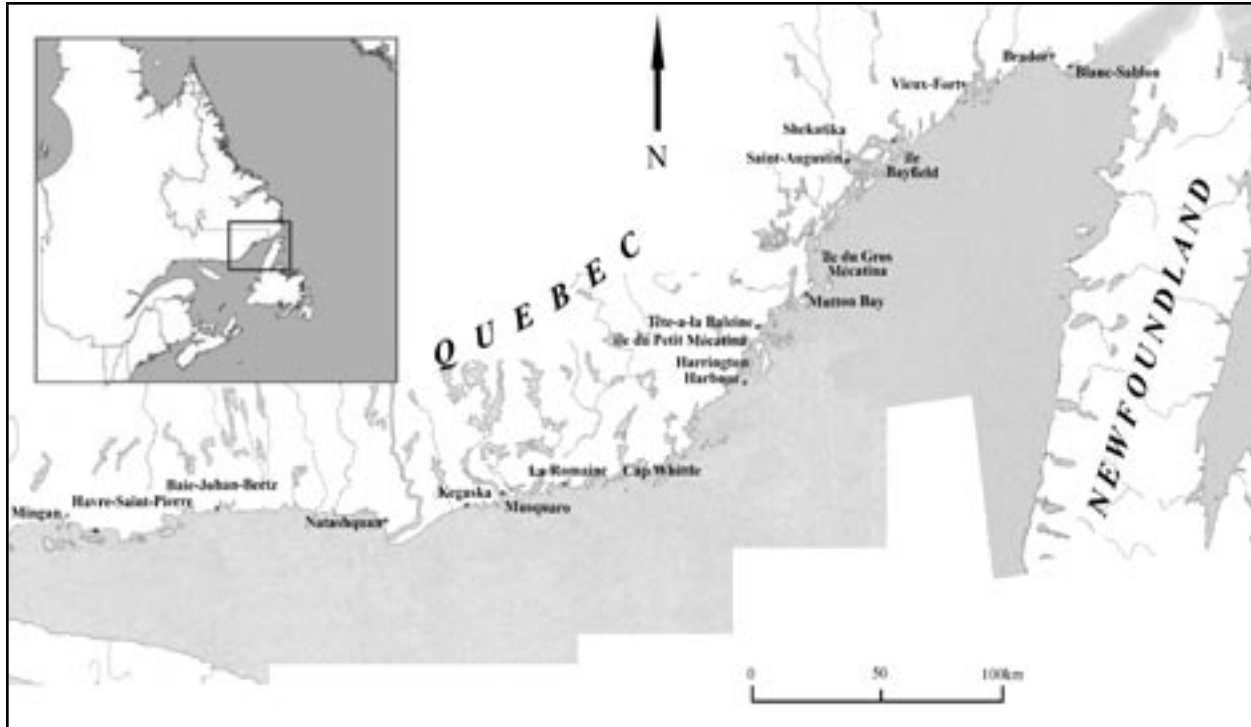


Fig. 3.1: Area of research 2001-2006

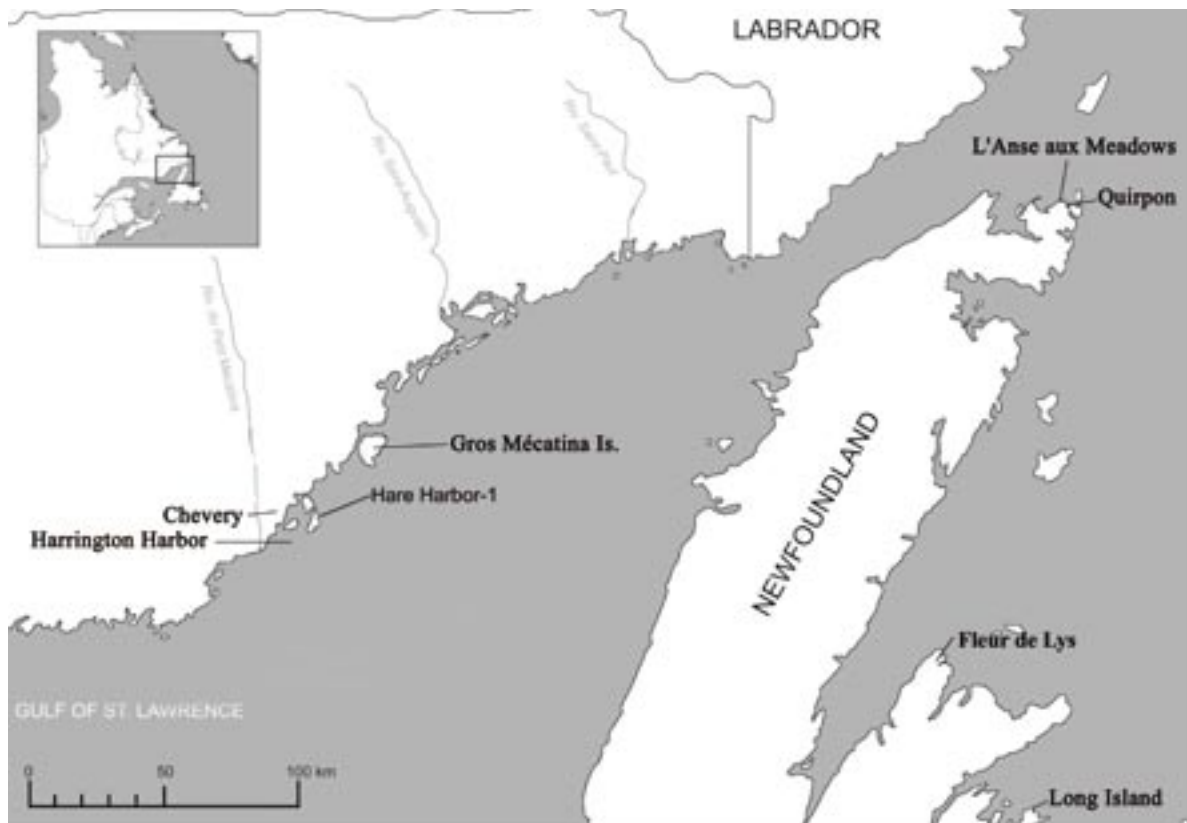


Fig. 3.2: Map of 2006 voyage area

4.1 ~ Hare Harbor-1 Area of Research



Fig. 4.1: Map of Petit Mécatina Hare Harbor-1 site. Section of map 12 J/11

Borden Number: Ed Bt-3

Height ASL: ca. 9.14 meters

Military Grid Ref.: 50° 33.73' N 59° 18.12' W

Culture(s): Groswater, Dorset, Basque (primary deposit)

Tentative Dating: ca. 1700

Areal Extent of Site: The entire area from the stone outcrop shelter to the southern ledge to the shore contains cultural materials. The along the shore also contains cultural materials-the extent of this area has yet to be determined.

Nature of Soils/Sediments/ Vegetation Cover: Grassy, alders, and some juniper under the dry areas of the shelter. There is drainage through Area 2 from the boggy area (A3) down to the shore. Spruce clusters cover the boggy area in the eastern part of the site.

Collection Procedure: Controlled excavation-piece-plotted except for small pieces of tile, test pits of underwater deposit.

Samples Taken: Samples taken are now at Government Archaeological Laboratory, Quebec for analysis, preservation, and cataloging by Anja Herzog.

Excavated By: William Fitzhugh and Pitsiulak 2006 crew.

Dates Excavated: August 4-18, 2006

4.2 Research Sectors and Methods

In August 2006, the Gateways Project conducted another season at the Hare Harbor Basque site at the southern end of Mécatina Peninsula, and initiated excavations at the underwater site discovered there in 2003. Due to a shorter season, we restricted our work to Mécatina and did not survey other regions between Harrington Harbor and Blanc Sablon. Our crew included Perry Colbourne (Pitsiulak skipper), William Fitzhugh, Christie Leece, Esther Perman (a junior at Dartmouth College), photographer Will Richard, and diver-archaeologists Erik Phaneuf and Frédéric Simard. Phaneuf and Simard, re-joining the project from last year, represented the University of Montreal, which has become an institutional partner for our underwater work. Yves Chrétien was unable to join us this year due to his new responsibilities at the Cartier-Roberval settlement he discovered last year on the out-skirts of Quebec City.

The principal goals of the 2006 season were to begin excavating a possible ‘blacksmith’ structure located in 2005 and to map and test the underwater site in preparation for a more intensive three-year marine project in 2007-9. Partial support for this season’s project came from the NMNH Bateman Fund. The project could never have been accomplished without the support we received from the town of Harrington Harbor, particularly from the Rowsell and Evans families; and from the Colbourne clan of Lushes Bight, Nfld.

Land Site Operation Last year we had opened up an 8x8 meter peat bog area in which he found well-preserved barrel staves, quantities of chopped wood and charcoal, iron bar stock, and a large iron hammer head. Test pits east of the bog indicated paving slabs and thick layers of charcoal, suggesting the bog had been used as a dump and fuel-preparation area associated with a black-smith operation which we presumed was nearby.

This summer’s work confirmed this interpretation, revealing a 6x6 meter paved area in which we found a broken and re-worked iron anchor prong, heavy round-headed bolts or pins, and dumps of encrusted iron and charcoal. A small hearth area at the northwest edge of the pavement contained calcined bone fragments, and traces of charred wood flooring were found around the fringes of the pavement and on what seemed to be sill footings of a roughly square structure, whose north side abuts the steep slope at the cliff base. What was missing was evidence of a large furnace, which may yet be found in several peat-covered rock piles lying outside this year’s excavation area. The burned flooring and sills suggest this structure may have burned at the close of the occupation period. The paucity of roof tiles suggests this structure may not have had a tile roof.

An interesting aspect of this excavation was the relative absence of ceramics, tiles, clay pipes, beads, nails, and other materials. The situation was quite the contrary in the nearby cook-house and its external work area to the north. One would not expect domestic materials in a black-smith operation. More unusual was the presence of several Dorset artifacts found in direct association with the Basque materials: a large flake of Ramah chert and a miniature (3 cm dia.) Dorset soapstone lamp fragment with charred encrustations. Stylistically, this lamp dates to Middle or Late Dorset, ca. 300-1200 AD. Currently it is the westernmost Dorset find in the Gulf of St. Lawrence. How it got into a Basque context is even more mysterious than the presence of Inuit soapstone vessels we found in other areas of the site, which we attribute to Inuit in service at the Basque operation.

4.3.1 Excavation and Interpretation - Hare Harbor 1 Land Site

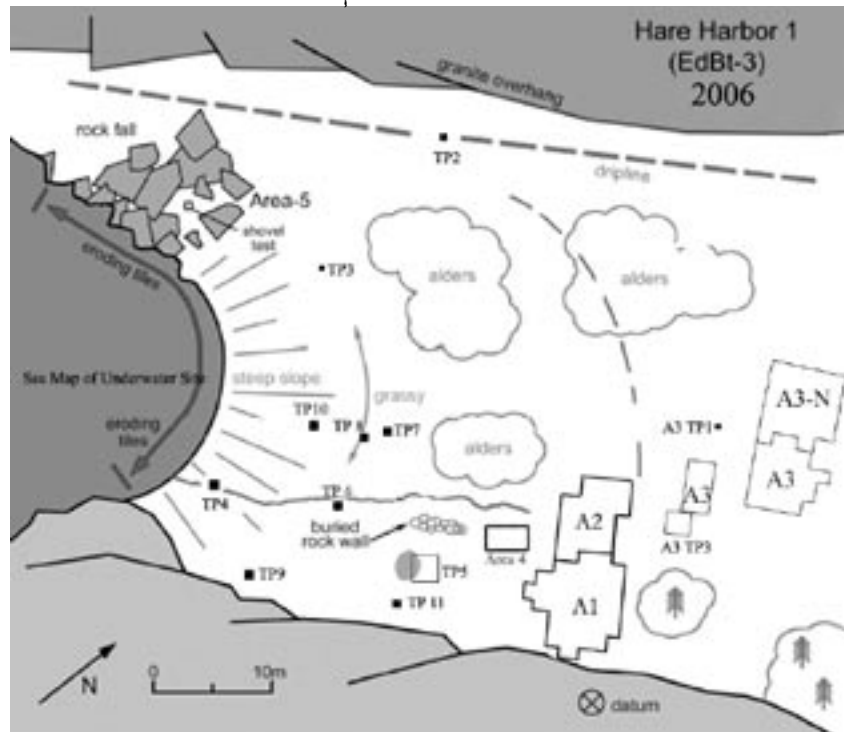


Fig. 4.2: HH-1 areas of excavation 2001-2006.

Area 3 North This year's land operation extended Area 3 north towards the large rock overhang. The digging conditions were fairly complicated as this area is part of a drainage system and water removal was necessary on a daily, if not hourly, basis.



Fig. 4.3: HH 1 Area 3N, rock floor

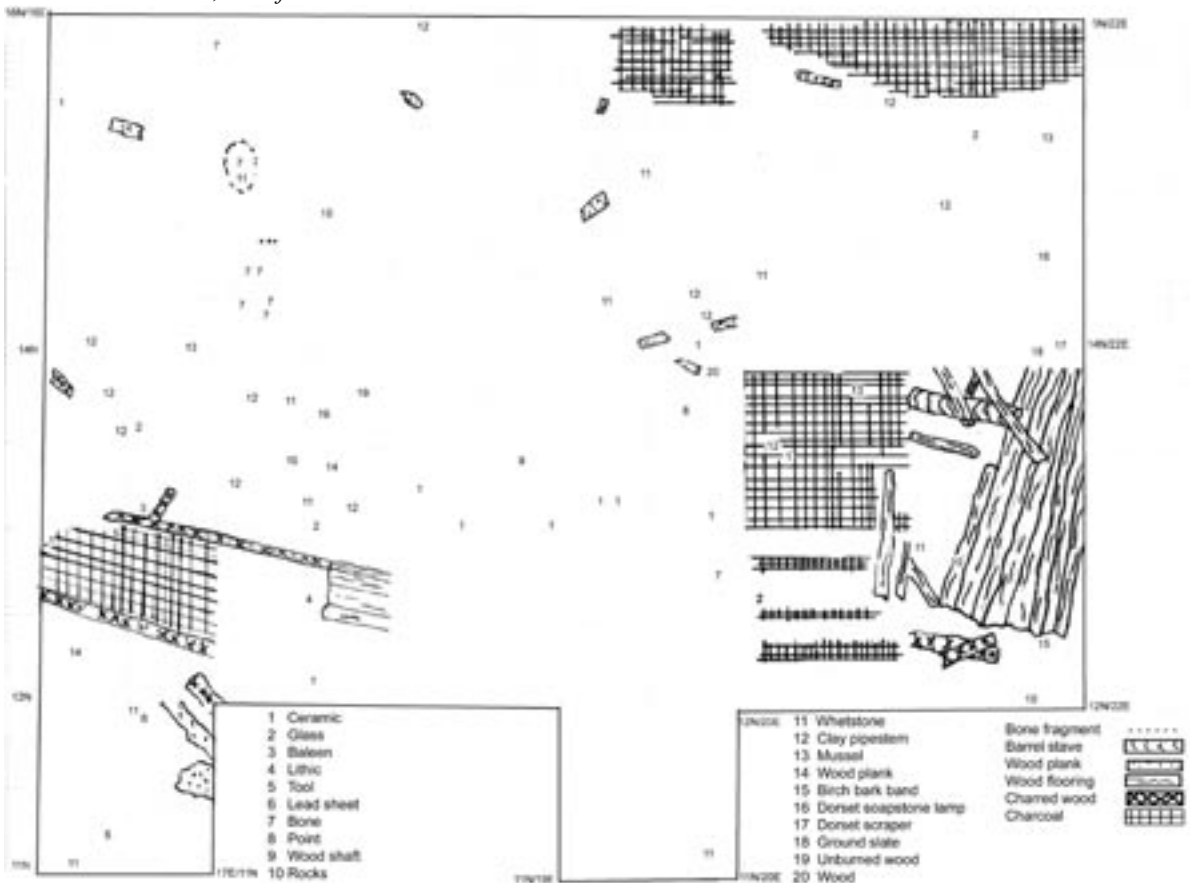


Fig. 4.4: HH 1 Area 3N, wood planking and artifact distribution

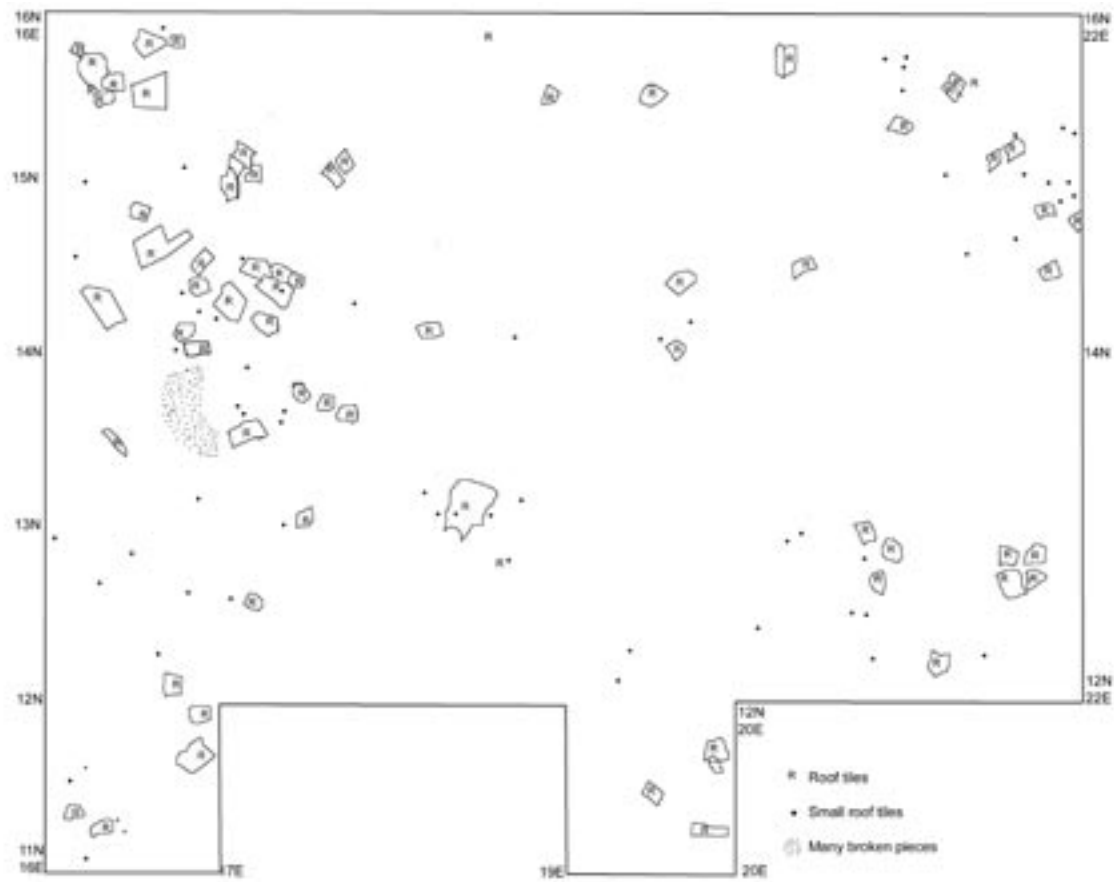


Fig. 4.5: HH 1 Area 3N roof tile distribution

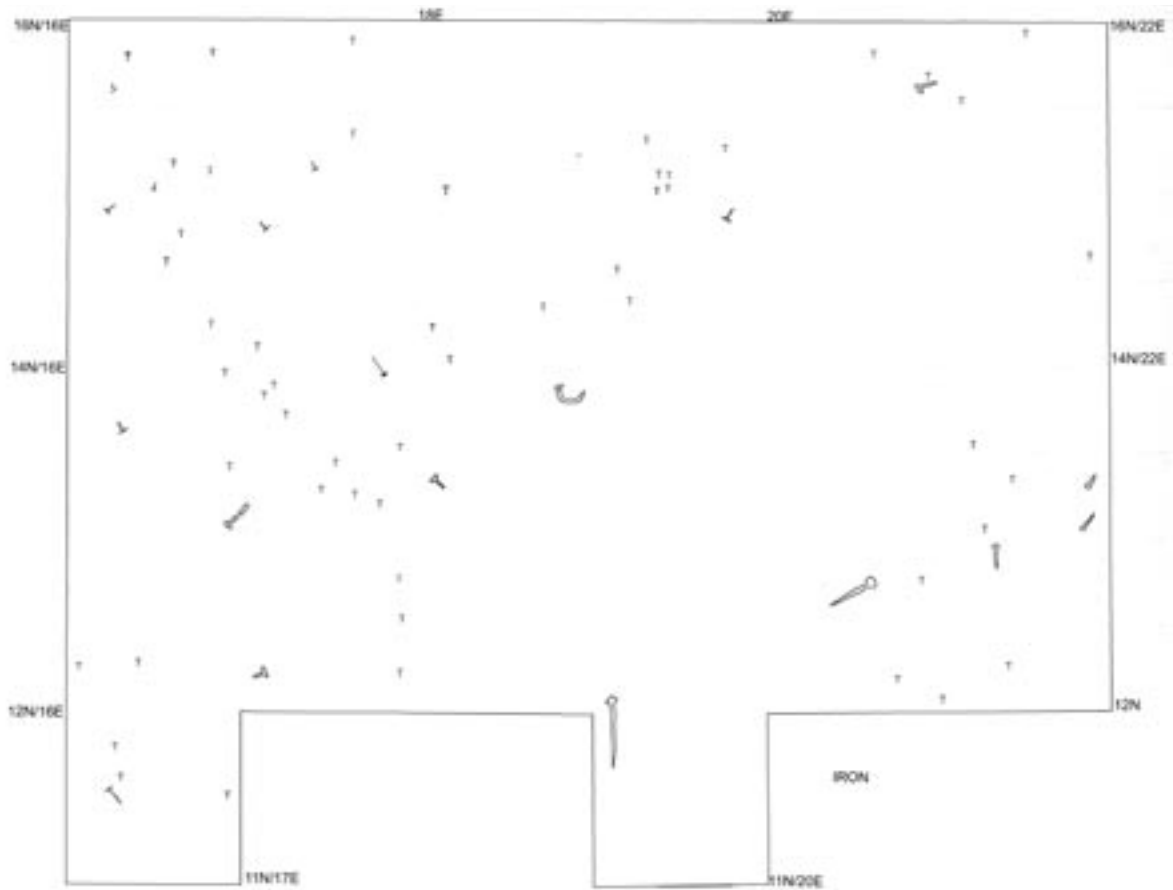


Fig. 4.6: HH 1 Area 3N, iron distribution

HH-1 Profiles

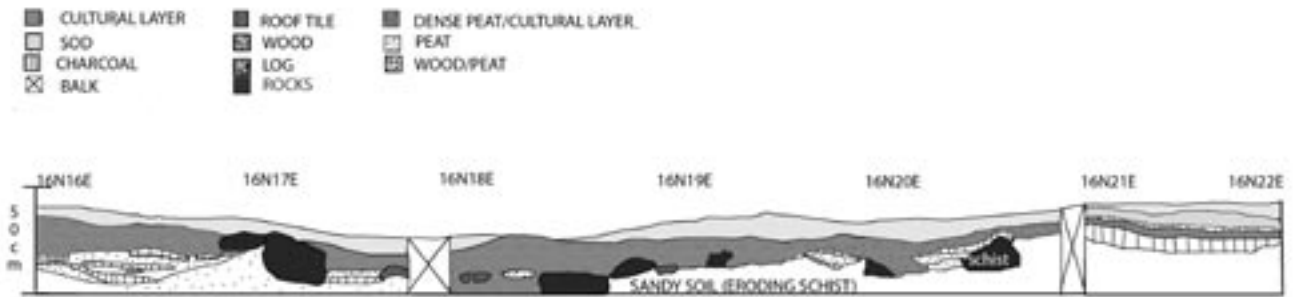


Fig. 4.7a: Profile 16N 16E to 16N 22E

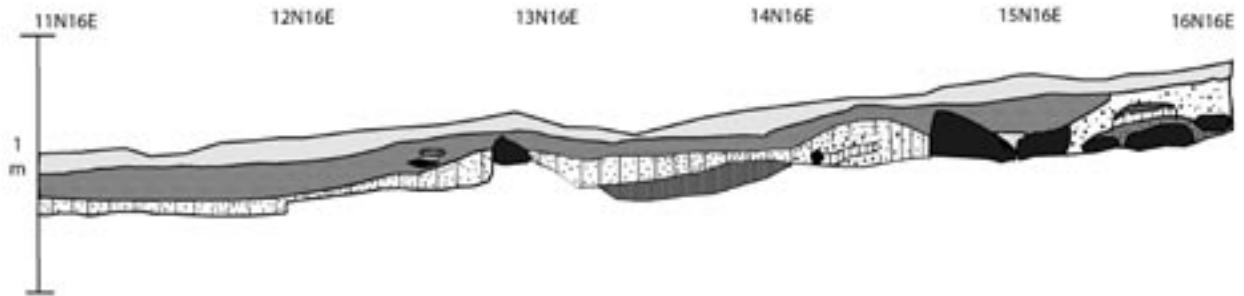


Fig. 4.7b: Profile 11N 16E to 16N 16E

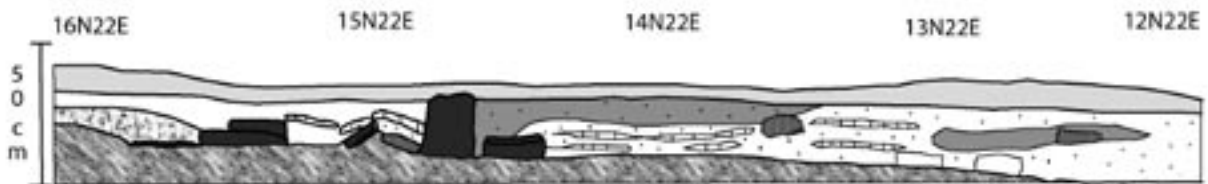


Fig. 4.7c: Profile 16N 22E to 12N 22E

4.3.2 Excavation and Interpretation: Hare Harbor i Underwater Site

Underwater Mapping and Test Pits Most of our effort, was devoted to the adjacent underwater site, located only a few meters off-shore from the land site and positioned as the anchorage location of the Basque vessels. Being new to this game, I quickly learned how much time and energy it takes to support four divers underwater for two hours a day. Perry Colbourne spent a couple hours every day filling tanks with the air compressor we rented from a dive shop in Gander, Nfld., as well as tending the divers and the dredge pump from our dive skiff.

Despite all the complications of technology, diving on the site was an exhilarating adventure. Arrayed across the bottom, angling down from the shore between 10-45 feet deep, were huge humped-up linear piles of ballast stone that looked like giant sea cucumbers heading for the beach. The bottom was strewn with roof tiles, modern grapnels lost by lobster fishermen over the years, a fair number of huge whale bones, and a few 19 and 20th C. bottles and jugs. When the wind was off-shore, our tiny harbor was clear as a bell and you could see 40-50 feet; but when it rained or blew on-shore the visibility fell to about 5-10 meters. Maintaining proper buoyancy was the most difficult part of dry-suit diving at this site because our mapping duties required us to move up and down the steeply-inclined slope continuously, taking and recording measurements.

Yet in the midst of all the physical trials, we got some really good results. We mapped the entire site area and set up a grid that will allow us to map features, conduct excavations, and estimate the amount of rock in the ballast piles (helping to determine the tonnage of ships employed). Erik and Frédéric excavated seven 1-m square test pits on a north-south transect at depths between 55 to 10 feet, revealing a consistent stratigraphic pattern from depth to surface of the sediments: (1) tiles; (2) wood debitage; (3) tiles; (4) fish bones; and (5) tiles. The deposits were thickest at 30-45 foot depths and the wood and bone levels were as thick as 10-12 cm. Wooden barrel wedges and hoop fragments were the most common artifacts found in the wood level, but we also recovered domestic ceramics, part of a leather shoe, and a wooden bowl. The wood level was composed of masses of conifer axe cuttings, suggesting a major timber squaring operation, probably related to building docks and shore facilities.

Fish Bone Level Once the site had been prepared, the bone level gives the appearance of a major fishery operation. While most were cod bone, other species, including several birds and sea mammals, were represented. Sophia Perdikaris has been investigating these remains and her preliminary research indicates that they were almost exclusively medium sized cod. By looking at which bones are present in the deposit, she can determine how the fish were being butchered, as well as what size of fish these were. One of the indicators is the presence of the urohyal, which is a bone in the base of the tongue. Since cod tongues are a common delicacy, they are usually removed in small fishing operations and missing in the resulting archaeological record. However, at Hare Harbour the urohyal is present in the fish skulls leading us to believe this is a larger scale operation. The butchery style is consistent with the Icelandic material she has worked with of a similar split open (bacalao) fish.

Whale Bone Study During the past year Brenda MacLeod and her colleagues have continued their DNA work on our whale remains, identifying humpback and bowhead. She also confirms that our bones are not all from a single whale, but from at least several individuals. Thus we can be assured of at least a minor whaling operation and not just a single chance catch or salvage of a drift whale.

In addition to the above findings we confirmed that the underwater and shore sites are both Basque and date to the same period, ca. late 17th to early 18th C.; that several vessels must have been moored here at one time to account for the multiple ballast piles, some of which occur in less desirable anchorage locations than others; and that the Basque enterprise was a small 'full-

service' operation that appears to have continued sporadically for several decades.

Next year we plan to expand work on the black-smith and underwater operations in collaboration with Brad Loewen and marine archaeology students from the University of Montreal. We hope to survey Hare Harbor with remote sensing gear to check for wrecks or other remains, and to excavate a larger excavation block in the anchorage area.

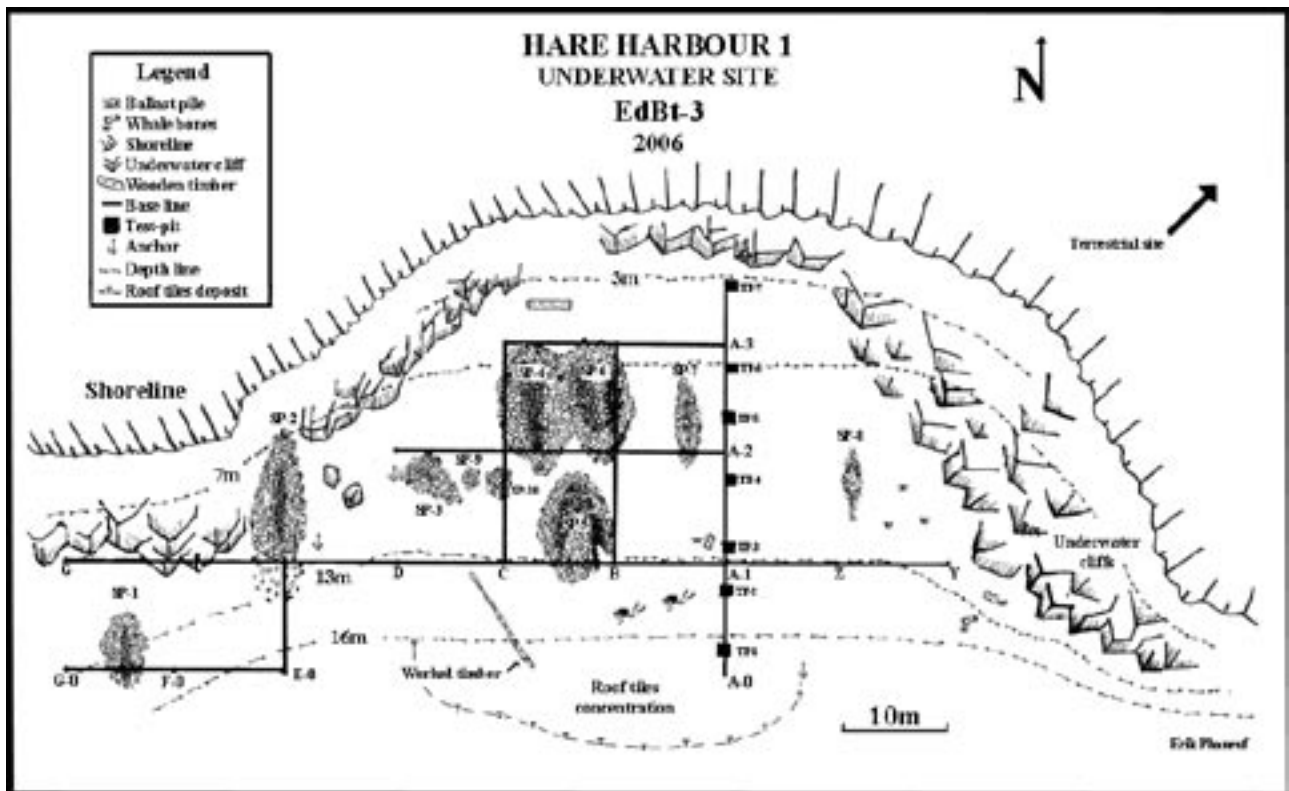


Fig. 4.8: HH 1 Underwater site map

HH 1 Underwater Site 2006 Preliminary Report

Erik Phaneuf

The 2006 underwater archaeological project in Hare-Harbour, Petit-Mécatina had two major objectives, verify and complete last year's underwater plan of the ballast mounds and excavate a trench covering the width of the site in a north-south axis. A lot of work had to be done in the two short weeks of the project. Thankfully we had the participation of two new underwater crew members from the Smithsonian team. Besides Frédéric Simard and Erik Phaneuf, last year's crew from the University of Montreal, Christina Leece and William Fitzhugh joined the underwater effort of completing the bottom plan and installing the new reference grid. A seemingly easy task on the surface becomes an all new experience when at the bottom of the bay in low visibility, without communication and trying to stay well equilibrated.

For this year's project the first objectives were to readjust last year bottom sketch and create a good referential plan (see plan.) In order to do so we had to complement last year's base line, extend it where necessary, and install a ten meter square grid system over the known ballast mounds. This facilitated the identification of the different mounds and their positions over the existing bottom plan. In the process we also discovered a new ballast pile at the westerly limit of the site.

The second objective was slightly changed. We quickly realised that excavating a 30 meter trench would be impossible, particularly because the dredge being used was not powerful enough in the deepest part of the site. The first test-pit was excavated in 16 meters of water reducing the pressure in the dredge hose. This created a problem in the first three test-pits and slowed the whole digging process. In the end we managed to excavate 7 test-pits ranging from the 16m depth line in the roof tile concentration up to the 3m line at the beginning of the underwater drop.

Also, this year the Pitsiulak was equipped with a portable compressor which was a great improvement from last year when we had to travel back to town every three days or so. With 10 scuba tanks aboard we were able to dive twice a day with a complete team of four divers each time. The evenings were spent filling the tanks for the next day, amending our maps, and organizing the artefacts collected during the day's dives. During the two weeks, the four diving archaeologists logged about one hundred hours of bottom time and managed to extend the base line, complete the reference grid, evaluate and adjust the site plan, inventory the ballast pile, excavate a series of test pits throughout the site and film a good part of all this.

The ballast mounds

In the end we observed a total of ten ballast piles of different sizes. Each received a tag ranging from SP-1 to SP-10, SP meaning stone pile. From the ballast mounds we can deduce that the vessels were moored perpendicular to the shoreline and the site could shelter at least 6 vessels at once. This is inferred because SP-1 is situated quite a distance from the most ideal mooring site. This implies that several vessels were moored side by side at the height of activity here. We also observed an empty space between SP-7 and SP-8. Even though we see no ballast mound in this space we observed a larger quantity of rocks at the bottom starting north of the A2 point. This could suggest a floating dock with a small stone encasement close to shore. With time, the

weather and the movement of the ice would have dispersed most of the stones in less than 3 meters of water.

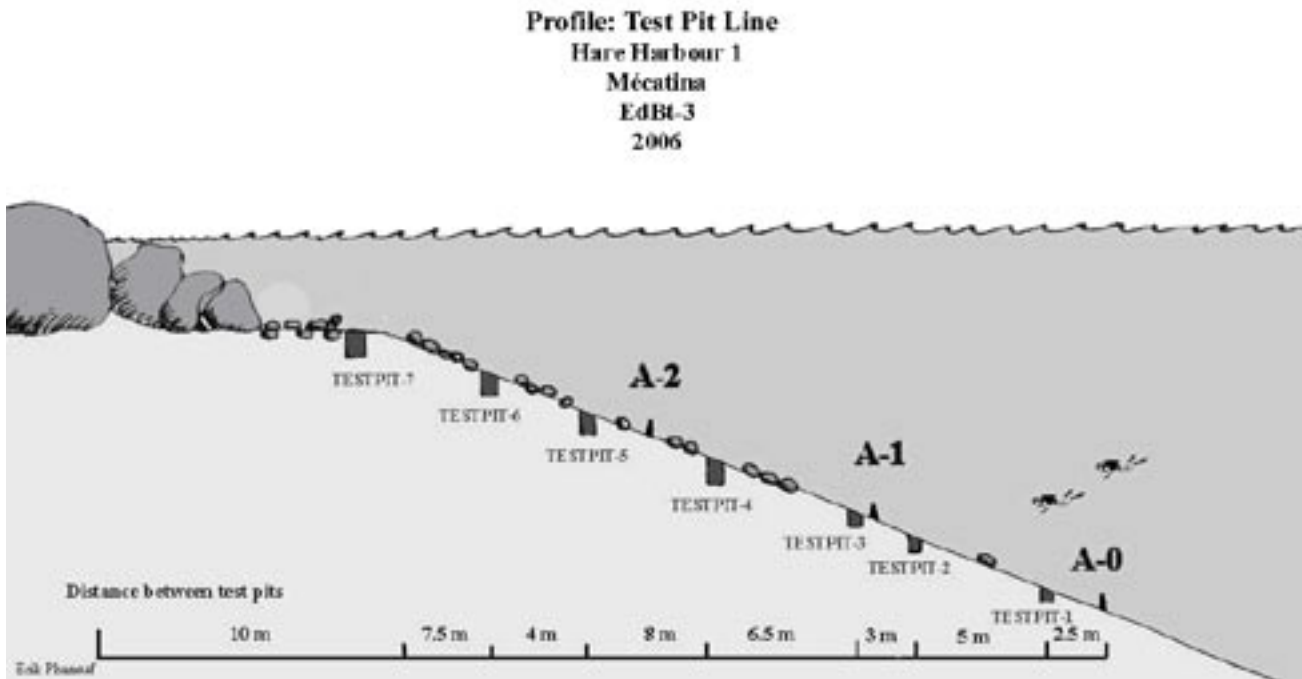


Fig. 4.9: HH 1 Underwater profile of test pits.

The most prominent mounds of the site are SP-4, 5 and 6, found in the C1 and C2 squares. More than 10 meters in length and 5 meters in width, they are at least three meters high. They also have more than one longitudinal crest suggesting multiple dumping occasions. This corroborates our hypothesis from the land site that this area was used for several consecutive seasons. SP-2 is also more than 10 meters in length and about 5 meters wide. Its height is somewhat less than the central mounds. SP-1 is smaller but is large for a single mound and is easily 3 meters high. SP-3, 9 and 10 are three small independent mounds in the D1 square. SP7 and 8 are smaller mounds in length as well as in height. It is difficult to say how many vessels and over what period of time were needed to accumulate such a quantity of stones.

The mounds are composed of two types of rock. The first type resembles granite of unknown origin. The second and most common type, composing at least 75 % of the mounds, is a calcareous stone with strange holes on their surface. The two types range in size from a few centimetres up to a one-meter bolder easily transportable for one man.

The stratigraphy of the site

As mentioned, we originally planned to excavate a trench from the 3 meter line down to the end of the roof tile concentration in more than 16 meters of water. We started at the deepest point of the site close to the A-0 reference point on the A axis. The idea of a 30 meter long trench was quickly abandoned when we realised that the dredge had almost no sucking power at the deepest part of the site. Fortunately it gained power in shallower depths as the water pressure decreased. In the time allowed and in order to maximize the information we could gather, we decided to excavate conventional test-pits of about a meter square in diameter. The result gave us an excellent overview of the different occupation layers present in the sediment.

Test-pit 1

Test-pit 1 was excavated 2.5 metres north of the point A-0 on the north-south baseline A. It lay about 16 metres under the water surface at a distance of more than 30 metres from shore. It was dug in an area of the site littered with fragmented roof tiles. The pit measured about 80cm² at the surface and had a maximum depth of 35 cm.

The first layer was composed of loose, coarse sand with numerous fragmented shells and a large quantity of roof tiles. The tile fragments had an average dimension of about 15cm in diameter. Also found mixed within this layer were some wood chips less than 20 cm in length and 5 to 7 cm in width. Layer 2, about 10 cm under the surface, was also composed of coarse sand and fragmented shells, but contained a clay-like matrix with inclusions of dark grey to black clayish nodules of probable organic origin. This layer also contained some wood chips and split wood fragments and a barrel

hoop fragment. Roof tile fragments were also present but in lesser quantity than the first layer. A fragment of coarse undecorated, lead-glazed earthenware was found along side one fish vertebra.



Fig 4.11: HH 1 Underwater TP 1 artifacts

Test-pit 2

Test-pit 2 was at 8 metres north of the point A-0 and about 5 metres from test-pit 1. It laid approximately at 14 metres in depth at a distance of more than 30 metres from shore. It was situated in the same alignment of the most northerly point of ballast mounds SP-1 and the bottom

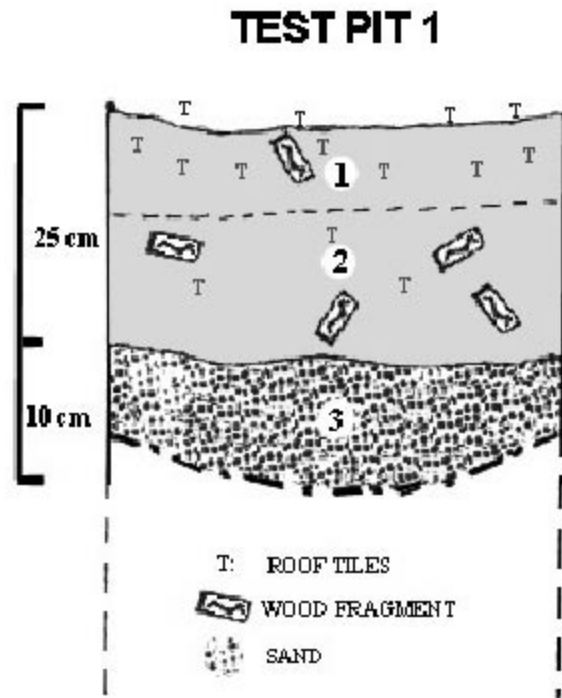


Fig. 4.10: HH 1 Underwater TP 1 stratigraphy.

We observed the presence of charcoal in very small quantity. Layer 3 at 25 cm under the sea bed surface was a compact mixture of silt and sand leaving a thick milky cloud in the water when disturbed. It became almost impossible to see the pit at this point since the dredge was not working to its full capacity. Some roof tiles rested on the upper layer; the rest of the layer was homogenous with no inclusions except for the occasional small stone of less than 10 cm in diameter. This test pit excavation was deemed complete after no additional finds 35cm below the ground surface.

of SP-5. The pit measured about 80cm² at the surface and had a maximum depth of 35cm.

The first layer was a semi compact mixture of coarse sand and clayish deposit with some gravel stones. About 20 cm thick, it had some small ballast stones and numerous roof tile fragments of different sizes scattered throughout the matrix. Also, a more dense concentration of wood chips and split woods was observed in the last 10 cm of the layer. Again some barrel hoop fragments were found in this layer. One small fragment of undecorated, lead-glazed coarse earthenware was found at the lower interface of level 1. It differed slightly from the fragment found in test-pit 1; the glaze present on one side was more prominent. It was thinner and a darker orange with more inclusions in the clay. Also found in this layer were some fish vertebrae and a barrel hoop wedge. Level 2 of TP-2 began at approximately 20cm under the surface and continued over 15cm. It was composed of coarse sand lightly mixed with a clayish substrate giving it a grey-bluish colour. It had a clear superior interface and no visible inclusions. Similar to layer 3 in test-pit 1, it did not blur the water as much as in test-pit 1.

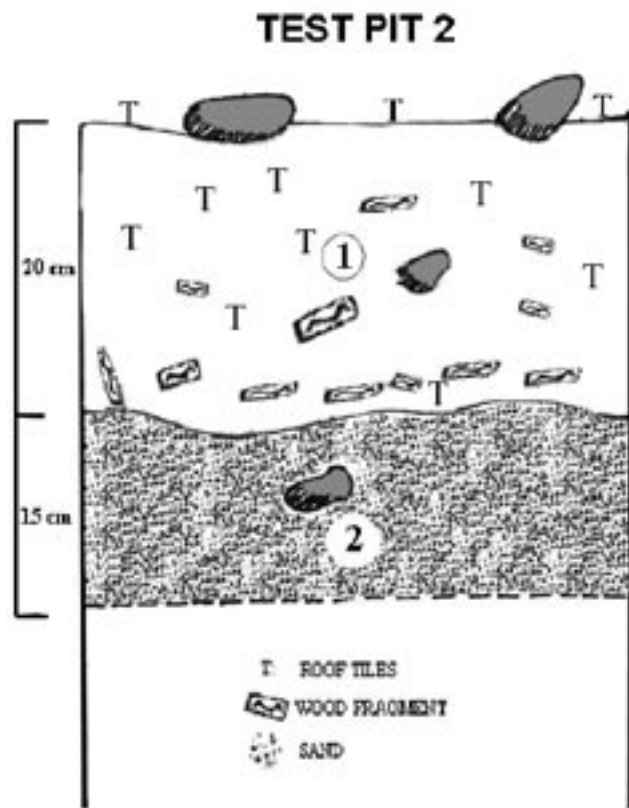
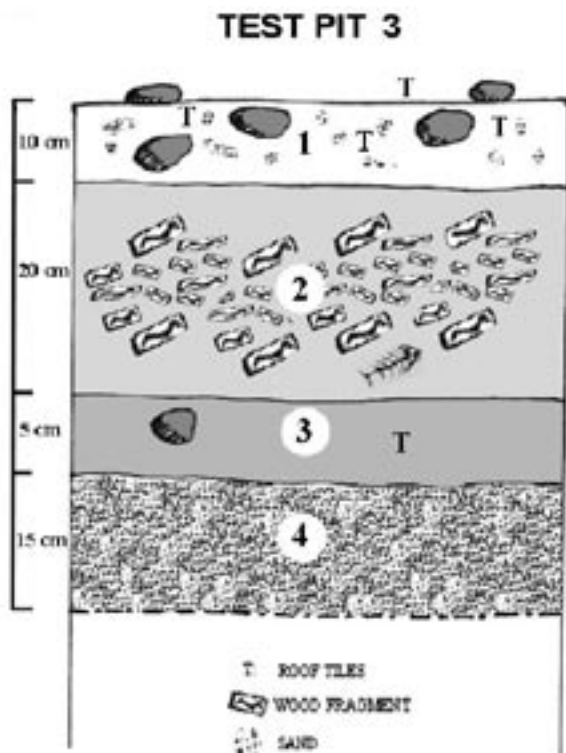


Fig. 4.12: HH 1 Underwater TP 2 stratigraphy.



Test-pit 3

Test-pit 3 was at 12.5 metres from the point A-0 and about 3 metres north of test-pit 2. The surface was approximately 11m deep, and at a distance of more than 30m from shore. It was situated directly next to a whale humerus. The pit measured about one metre at the surface and about 80cm² at its maximum depth of 50 cm.

The first layer, less than 10 cm thick, was composed of semi compact surface sand with sparse stones less than 0.2 m in diameter. We encountered rare and small fragments of roof tiles, many shells and some living bivalves. Layer 2, about 20 cm in thickness, had a matrix composed mainly of organic material principally made of wood chips and splinters. These wood chips were the result of axe activities with tool marks still visible. The majority of the chips and splinters were

Fig. 4.13: HH 1 Underwater TP 3 stratigraphy.

from the external part of the tree some with the bark still attached. They differed in length, in thickness and in type. They varied in size from few centimetres in diameters to more than half a meter long and varied in thickness from a few millimetres up to almost 10 centimetres. The layer also contained cut branches as well as sprigs and twigs. Interestingly, many complete hoops wedges were found along with fragments of barrel hoops, and stave fragments. The organic collection contained half a shell of a walnut, one juvenile seal bone, the distal end of a tarsometatarsus from a small bird and many fish bones originating from the heads and vertebrae of probable cod species. Layer 3 was composed of a very loose clay-like matrix of greyish color. Resting at 25cm from the surface, this 5 cm thick layer had almost no inclusions and seemed organic in origin. It rested directly over layer 4 composed of coarse compact sand, light grey in color with no visible inclusions.

Test-pit 4

Test-pit 4 was at 18 metres of the point A-0 and about 6.5 metres from test-pit 3. It lay approximately at a depth of 11 metres at a distance of more than 20 metres from shore. It was situated in the same alignment of the bottom of ballast mounds SP-4, 6 and 7 and at the same level of SP-3, 9 and 10. The pit measured about a 80 cm at the surface and about 70 cm square at its maximum depth of 90 cm.

The first layer, 25 cm thick, was composed of loose surface sand, some broken shells and live bivalves mixed with the occasional ballast stone and roof tile fragments. Layer 2 is unique on the site and is observed only in this test-pit. It is about 10 to 15 centimetres in thickness and its primary matrix is cod bones mixed with a compact clayish deposit. Many hundreds of bones and fragments were collected in a very small surface area. The majority of the collection was composed of fish heads and mandibles, vertebrae and the occasional spine bones. The only inclusions visible were found at its lower interface where some ballast stones were resting on top of layer 3 composed mostly of a loose clayish sandy matrix. This layer had a lot of gravel and numerous small roof tile fragments, also present were some wooden chips and bits of charcoal but no artefacts. At a depth of 50 cm under the surface, layer 4 was 15 cm thick and composed principally of wooden chips

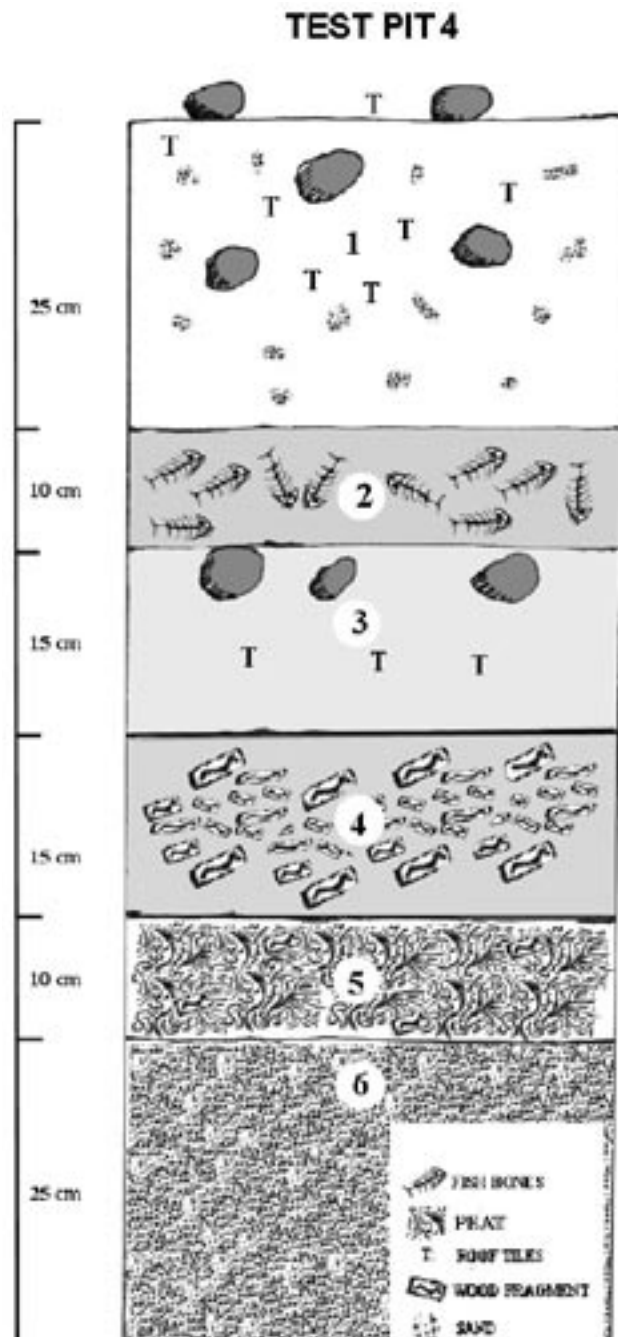


Fig. 4.14: HH 1 Underwater TP 4 stratigraphy.

of all sizes and different essences. This layer is the equivalent of layer 3 in test-pit 3. Within this layer we found numerous fragments of barrel hoops and hoop wedges with fragments of broken barrel staves. One surprising discovery was the half section of a wooden



Fig. 4.15: Wooden bowl found in HH 1, Underwater TP 5

plate. Lost amongst this wooden deposit it was partially broken during excavation but all the fragments were recovered. We also found the skull and the breastplate of a marine bird along with fragments of walnut shell. This woodchip deposit rested on layer 5, which was composed of a 10cm thick layer of peat, roots and branches. Finally, level 6 at a depth of 74 cm under the surface was composed

of compact coarse grey bluish sand with no visible inclusions. At the interface of this sandy layer we found fragments of decomposing whetstone similar to the ones found on the terrestrial site.

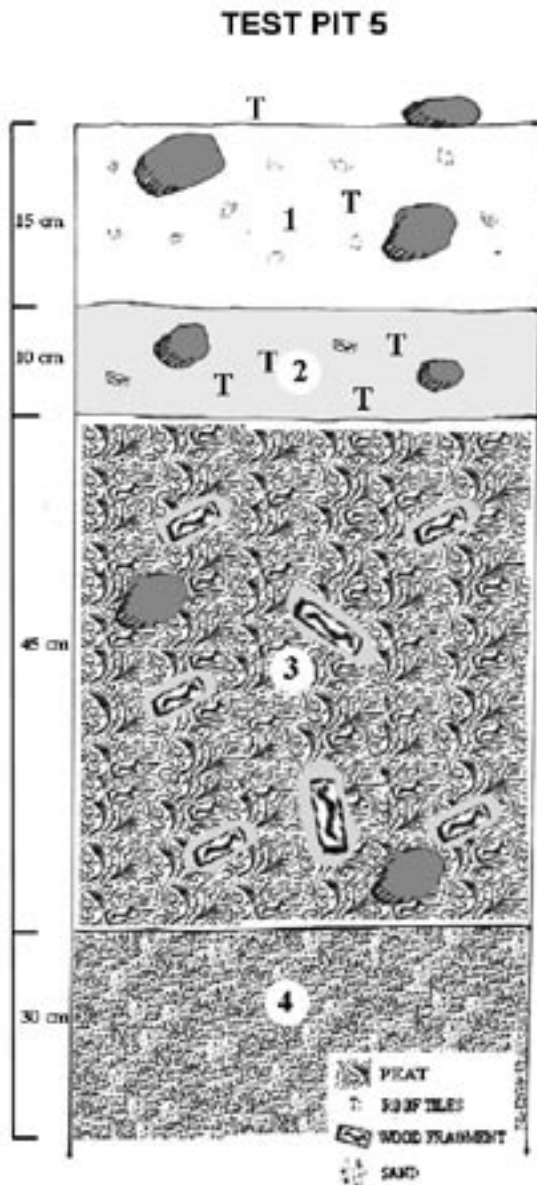


Fig. 4.16: HH 1 Underwater TP 5 stratigraphy.

Test-pit 5

Test-pit 5 was 24 metres from the point A-0 and about 8 metres from test-pit 4. It laid in 9 metres of water at a distance of less than 20 metres from shore. It was aligned with the centre of ballast mounds SP-4, 6 and 7. The pit measured about a meter square at the beginning and about 70 cm square at its maximum depth of one meter.

The surface layer, 15 cm thick, was composed of relatively compact surface sand, some broken shells mixed with the occasional ballast stone and sparse roof tile fragments. The second layer, 10 cm thick, was composed of coarse sand and a soft clayish mixture sticky to the touch. It had inclusion of gravel and a greater quantity of small roof tile fragments not exceeding 20 cm in diameter. We encountered some fragments of wood chip and the occasional calcareous ballast stones of less than 20 cm in diameter. Layer 3 at a depth of 25 cm was composed principally of organic material. It formed a 45 cm thick layer of peat, wooden branches and roots with homogeneously distributed wood chips, bark and rare fragments of charcoal. This layer was similar to layer 5 of test-pit 4. Some sparse calcareous stones of less than 20 cm in diameter were observed. Again, some

bird bones and fragment of walnuts were encountered in that layer but no fish bones were observed. Layer 4 started at a depth of 70 cm under the surface and was excavated for more than 30cm in depth. It was composed of compact coarse sand grey bluish in color with no inclusions present.

Test-pit 6

This test pit was at 28.5 meters north of the A-0 point and about 4 meters from test-pit 5. It was at an approximately 7m under the water surface at a distance of about 15m from the shoreline. This test-pit was aligned with the northern limit of the ballast stone mounds SP-7. The pit measured a meter square at the beginning and about 70 cm square at its maximum depth of one meter under the surface.

The surface layer was 15 cm thick. It was composed of relatively compact surface sand, some broken shells mixed with the occasional ballast stone and fragmented roof tile. The second layer, 10 cm thick, was composed of coarse sand and a soft clayish mixture sticky to the touch. It had inclusion of gravel and many small roof tile fragments not exceeding 20 cm in size. We encountered rare fragments of wood chips and the occasional calcareous and granite ballast stones around 30 cm in diameter. At a depth of 25 cm under the surface, layer 3 is a matrix comprised mainly of peat creating a stratum over 65cm thick. Within the peat we encountered many roots and some branches 10 cm in diameter with again the occasional wood chip distributed homogeneously throughout the matrix. Within this layer we encountered some bird bones and fragments of shell from walnut and hazelnut. This layer seems to be the continuation of layer 3 in test-pit 5 and layer 5 in test-pit 4. It rested on layer 4 at a depth of 90 cm under the surface of the pit. With a clear superior interface this layer was composed of compact coarse sand grey bluish in color with no visible inclusions.

Test-pit 7

About 10 meters from shore, test-pit 7 is at 33m from the A-0 point and at 7.5 meters from test-pit 6. It was excavated at the 3m depth line at the meeting point between the rocky shore plateau and the beginning of the drop. The pit measured about a meter and an half at the beginning and about 50 cm² at its maximum depth of one meter.

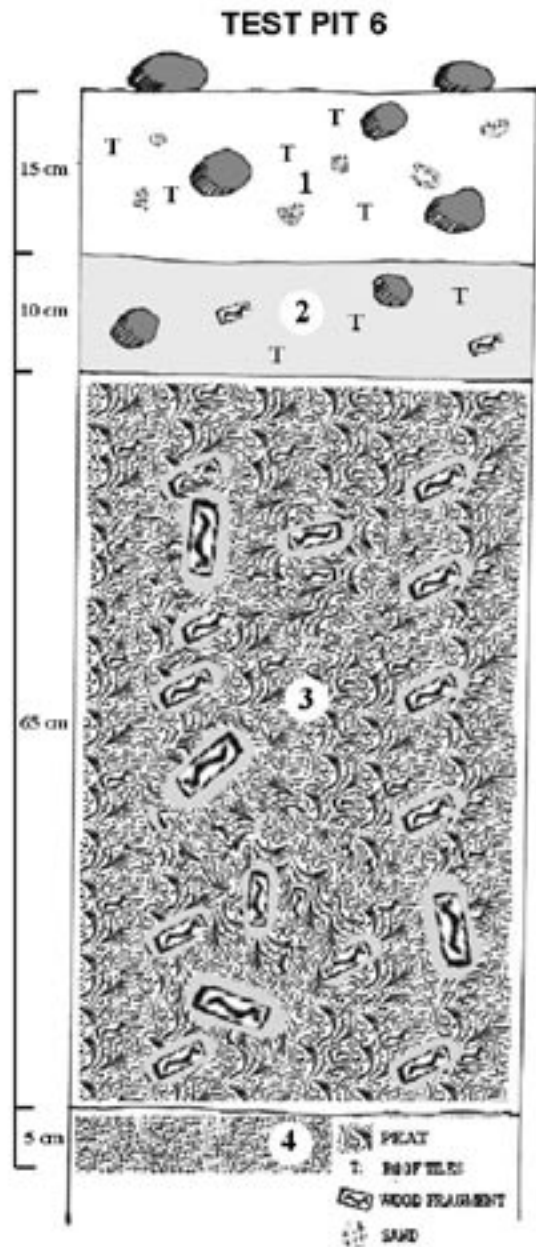


Fig. 4.17: HH 1 Underwater TP 6 stratigraphy.

Test-pit 7 was mainly composed of different size rocks and had four different strata, which were difficult to distinguish. The first layer was about 65cm deep and was composed mainly of rounded stones ranging in diameter from a few centimetres to more than half a meter. The fill was coarse sand and scattered small roof tile fragments. The origin of the stones seemed to be mostly displaced ballast stones with the occasional indigenous stone. The second layer was of a maximum thickness of 5cm. It was composed of coarse sand mixed with silt giving it a greyish color and a clay-like texture. More small fragments of roof tile were present in this layer. The third layer composed of organic matter varied in thickness from one centimetre to a maximum of 3 to 4 centimetres. Between the rocks it was a mix of small roots (originally from peat) with occasional wood chips. Even though it was a very thin and scarce deposit, it resembled the peat layer found in the test pit 4, 5 and 6. Finally, at a depth of about 85 cm under the surface of the pit, we excavated a layer of compact coarse sand grey-bluish in colour with no inclusions. It was excavated a further 20 cm with no observable changes or significant inclusions.

Considering that the dredge did not work to its maximum capacity we managed to gather in this short amount of time enough information to draw a general view of the site stratigraphy for this part of the sea bed. It also gave us a clue of human activities carried on the terrestrial site. But more significantly it enables us to compare it with an underwater trench excavated on the Basque site of Red-Bay.

The shore trench of Red-Bay

Willis Stevens, in his article *Underwater stratigraphy at Red Bay: A methodological approach to explain past events* published in 1982, give us a great summary of the excavation done in what was called the shore trench.

This trench was a 14 meters by 2 meters exploratory excavation between the wreck site and Saddle Island. It was done not only to gain an understanding of the relationship between the wreck and the terrestrial site but also to observe and offer an interpretation of the stratigraphic record. This permitted the establishment of a relative sequence of events of the wreck and the shore based activities. We discuss this particular excavation not only because of its

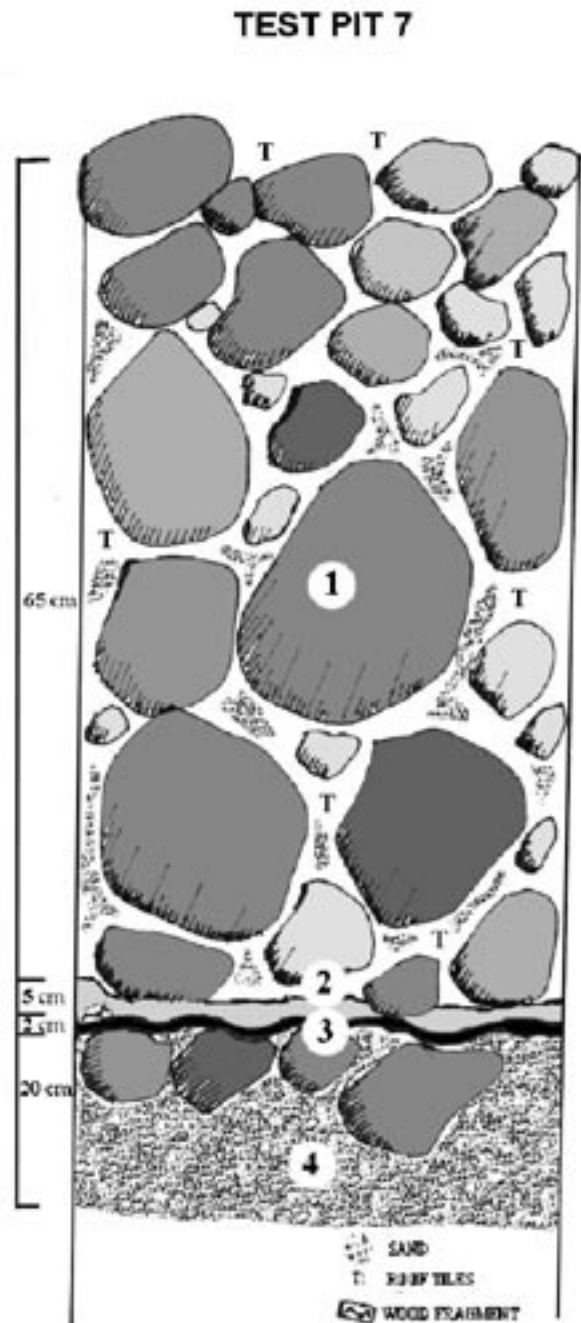


Fig. 4.18: HH 1 Underwater TP 7 stratigraphy.

unique reference of known Basque activities in the New World or its reference to underwater stratigraphical recording but more importantly because the Red-Bay shore trench and Hare-Harbour are so similar in their archaeological interpretation that it is almost uncanny.

In order to present an interpretation of events it is imperative to record the stratigraphic sequence, the objective that was attained in the 7 test-pits excavated in Hare-Harbour. We must then examine the physical sequence of deposited layers, the artefacts and “ecofacts” found within these layers and the relationship that existed between each test-pit. It is through the archaeological context that we can reconstruct a sequence of events observable in the depositional history, in the multiple layers of the site.

The stratigraphic sequence of the Red-Bay excavation was divided in three periods of development: pre-Basque, Basque and post-Basque occupation. The same sequence can be applied to the Hare Harbour 1 site.

The pre-Basque period represented the natural state of the bay before the beginning of human activities. In our case it is observed in the lowest layer of every pit and is often described as a compact coarse sand grey bluish in color with no inclusions present.

In the Red Bay trench these pre-Basque layers were overlain by a built up of “*organic materials deposited as a result of culturally related events*” associated with the Basque occupation. It was first identified through a large deposit of woodchips found in direct association with a deposit of organic peat. This is exactly what we observed in our test-pits. Similarly, some woodchips and peat were found on the Saddle island site, similar to what was found in our land site in Area 3 bog test pit 1 of the 2004 project. It is interesting to note that the woodchips sank and did not float away, it is suggested that they became waterlogged before being thrown away. Note that Area 3 was named bog test pit for its extremely wet condition. But the similarities do not end here. As it was noted for the shore trench, a “*significant discovery*” was the deposit of a thick concentration of codfish bones over the woodchips and peat. This was also observed in a concentrated area of our site, more precisely in test-pit 4.

In Red Bay they found many whalebones within this strata. We also found some whalebone but not directly in this layer. We did observe that the whale vertebrae and the two humeri were almost completely covered with sediment. Judging from their thickness we can argue that they would have rested at about the same depth of the fish bone layer. We can therefore conclude that these layers and the whalebones are contemporaneous with the occupation of the site. The woodchips and the peat deposit are the result of preparing the land site and subsequent constructions and maintenance of wooden structure. It is obvious that the people of Hare-Harbour did practice cod fishing and to a certain extent whale fishing, though we found and observed less than a dozen whalebones on the entire site. Within these Basque occupation layers we also found a few pottery sherds and many roof tiles. The most common artefacts of the underwater site originate from the waste products of cooperage activities. We found many hoop fragments and hoop wedges throughout the occupation layers. One wedge was still in place and attached to hoop fragments. We also found broken parts of barrel staves, all too similar to the Red Bay excavation.

Finally, we have the post-Basque period or the abandonment of the site. This resulted in the

accumulation of silts and shell thus returning the harbour floor to its natural state. It is also true for our harbour. One difference is that we can still observe a large deposit of roof tiles on the bottom floor (see plan). Probably intended for construction on shore but broken during the “trans-Atlantic” trip they were thrown overboard in the bay. This proves that the deepest part of our site is less affected by sedimentation and that artefacts found lower than the 16 meters depth line could be associated with the occupation period.

In conclusion, the 2006 underwater project successfully recorded the ballast mounds and offered a new piece of the archaeological record. This not only permitted the discovery of well preserved wooden artefacts and “ecofacts” unknown to the terrestrial site but, more importantly, made possible a significant comparison of data and a better understanding of the daily occupation of our site. The underwater research has, with a miniscule fragment of its total potential, proved to be an invaluable complement to the existing terrestrial excavation. We can only surmise what potential the bottom of the bay still holds for the future archaeological research.



Fig. 4.19: Barrel hoop wedges from HH 1 Underwater TP 3.

4.4 Artifact Photos

Hare Harbour 1 - Land Site

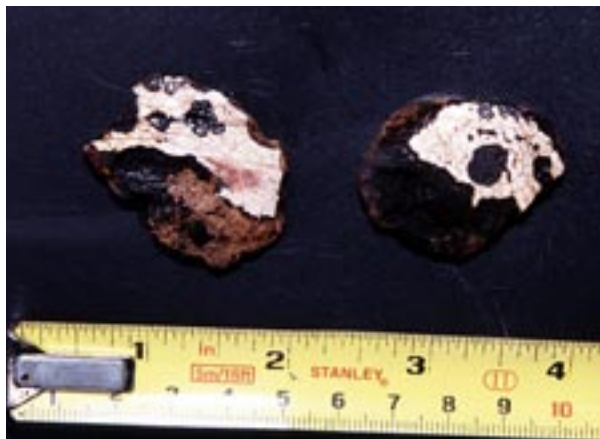


Fig. 4.20: Faience ware from 14N 21 E.



Fig. 4.21: Iron grapnel tine found in square 14N 19-20E.



Fig. 4.22: Dorset material: utilized flake and lamp fragment found in square 15N 22E, point found in 14N 19-20E.



Fig. 4.23: Hole punched birch bark found in 13N 22E.



Fig. 4.24: Worked wood found in 16N 20E.



Fig. 4.25: Bill Fitzhugh with the large iron spike found in 12N 20E.



Fig. 4.26: Iron handle found in square 14N 18E.

Hare Harbour 1 - Underwater Site



Fig 4.27: Earthenware pot fragment found on the surface of the underwater site.



Fig. 4.28: Cut whale bones found near the surface of the underwater site.



Fig. 4.29: Leather shoe fragments found between A1 and TP2.



Fig. 4.30: Wooden bowl found in underwater Test Pit 4.



Fig. 4.31: A sample of the cod fish bones found in the underwater test pits.

5 - Conclusions

Project Summary

The 2006 St. Lawrence Gateways project completed most of the goals set out for what turned out to be a very interesting field season. Despite early difficulties with the dredge in deep water, we were able to gather significant data from several underwater test pits as well as from an extension of the land site operation. We significantly advanced our understanding of the Petit Mécatina Basque site, even finding evidence of commercial fishing that had been an unsubstantiated hypothesis in previous years.

Between four divers, the crew accumulated about 100 hours under water in the cove bottom adjacent to the Basque land site. The extension of the underwater grid took a great deal of time particularly because of the steep gradient of the site, but proved useful in making the map of the cove more accurate and finding an additional ballast pile. Future work at the underwater site will utilize the same grid because it was securely affixed to the sea floor. Lacking alternate evidence, the current hypothesis remains that the large, linear stone deposits found aligned perpendicular to the shore are ballast piles from ships moored at the cove. Given the number of these piles that are not in ideal proximity to the shore, it appears that several ships were moored side by side at some point in time.

The test pits were dug with a dredge along the A-line that goes from perpendicular to the shore as do the ballast piles. This gave us an excellent sample of the stratigraphy of the site at different water depths. In addition to the layer of cod fish bones, a significant amount of chopped wood was discovered in the test pits suggesting there was more than barrel work being done at the site. Future plans for the site include test pits at the different piles of stone as well as a larger area of excavation.

With the assistance of Brad Loewen and marine archaeology students from the University of Montreal we hope to survey the greater area of Hare Harbor with remote sensing gear. The area adjacent to the Basque land site is a fraction of the entire cove, so remote sensing would give us an idea if there are other remains or wrecks that could be associated with this site.

The land site work produced interesting results from a wet portion of the site that contained more charcoal than we have seen in other areas of the site. There were relatively few artifacts found in the newly excavated area, but several large pieces of iron and the significant increase in charcoal are in line with the current hypothesis that Area 3 North was a blacksmith shop. Further excavations in 2007 will determine the borders of the shop area. Of the artifacts that were found in 2006, the most unusual were of Dorset origin. All of the artifacts recovered have been sent for processing to the Quebec Ministry artifact conservation center in Quebec City.

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