

Archaeology in Nova Scotia: 2009 News



Nova Scotia Museum

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A summary of research and other activities for 2009 submitted by the archaeological community in Nova Scotia. The intent of this newsletter is to improve communication of research between archaeologists and to inform the broader public.

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Shand House Museum Drainage System (Stephen Powell, NSM)

This project involved archaeological monitoring of excavation work around the back and sides of Shand House to



Plate 1: Trench excavation on eastern (driveway) side of Shand House.

install a suitable drainage system to alleviate water problems in the basement. The excavation and monitoring was conducted on August 5, 2009. Monitoring was conducted under Heritage Research Permit A2009NS76 held by the author. Shand House is located off of Exit 6 from Highway 101 at 389 Avon Street, Windsor, Hants County. The house was built in 1890-91 and is now part of the Nova Scotia Museum. The study area is the zone directly impacted by the construction. Impact zones for this project include the area adjacent to the foundation on the back and both sides of the structure. No impacts occurred on the front side.

The methodology employed was visual monitoring of the mechanical excavation. The digging was conducted by a Takeuchi TB 125 mini excavator. The excavator operator and crew were informed of the monitoring process and were very co-operative and helpful during the course of the project. Monitoring involved closely watching the digging and stopping the excavator from time to time to enter the trench to inspect potential finds. Archaeological information was recorded using digital photography and field notes. Measurement data was recorded using a 5 metre hand tape.

Eastern side of house (driveway area)

Sub-soil in this area has been extensively disturbed in the past (Plate 1). Pieces of an old ceramic drainage pipe and a cast iron sewer pipe



Plate 2 - Pipe in left profile of trench on eastern (driveway) side of house.

were uncovered. The cast iron pipe connects to a larger concrete pipe (Plate 2). The trench width was 1.10 m and reached a depth of 1.60 m. Soils consist of disturbed red clay. The dry stone foundation is resting on natural reddish clay (Plate 3). Nothing of archaeological interest was found.

Western and back side of house

Excavation on the west side of Shand House was limited to the south corner area and a “T” shape drainage trench running southwest away from the south corner of the main structure. The trench in this area was 1.00 m in width and reached a depth of 1.30 m. The soil summary for this area is: sod development (Lot 1); light brown sandy loam (Lot 2); red clay sub-soil (Lot 3). Soil appears to be disturbed but not as severe as the eastern side of the foundation. In fact, a rose bush was recently dug up from the area adjacent to the south corner and relocated nearby to an area adjacent to the side steps.

Very few artifacts were found during the course of the excavation. These include ceramic sherds, mostly ironstone, white refined earthenware and porcelain, typical of the 1890s and early 20th century.



Plate 3 - Dry stone foundation below brick is resting on natural reddish clay.

The back side of the house foundation is considered to be heavily disturbed by the addition of the cold pantry. Here the stone foundation stops and joins the concrete foundation of the pantry. Soil adjacent to the foundation is a loosely compacted clay/loam with natural red clay below. Due to the disturbed nature of this area the excavation was only monitored up to the back side of the cold pantry addition.

No sub-surface archaeological features were found during the excavation work for the new drainage system. The areas adjacent to the house foundation monitored during this project should be cleared from any further archaeological concerns. ♦

Bailey Cemetery, Donkin

(April MacIntyre, Davis Archaeological Consultants Limited)

In May 2009, Davis Archaeological Consultants Limited conducted an archaeological assessment of the Bailey Cemetery in Donkin, Cape Breton County. The cemetery is located on property currently owned by Xstrata Coal Donkin Management. This land is slated for the Donkin Mine redevelopment project. However, the cemetery lies well outside the proposed impact zone. In 2008, Xstrata Coal Donkin Management committed to defining and delineating the bounds of the cemetery as part of their community liaison engagement. The project was not to include any disinterment of those buried there. The purpose of the project was to locate individual burial shafts and define the outermost limits of the cemetery. The archaeological delineation project revealed fourteen grave shafts representing the interments of adults, juveniles, and possibly infants. Archaeological, documentary, and oral history revealed that the burials likely dated to the mid to late nineteenth century and were probably related to a family burial ground rather than a shipwreck or natural disaster.

The delineation work was preceded by a historical background study and field reconnaissance in 2006. At that time, a single brief newspaper article was all that remained to suggest a cemetery existed here and a date for the cemetery or relation to a particular group or event was not known. According to the 1974 article, 28 people were buried somewhere on the headland overlooking Schooner Cove. Interviews and field visits with previous land owners were all that lead archaeologists to the location of the cemetery. In 2009, the headland was heavily overgrown with rose bushes. Careful inspection beneath the growth revealed four beach stone grave markers, three of which had fallen over.

According to Ms. Martha Bailey, the previous landowner, there were approximately ten adults and five to six children buried at the headland. The children, from her recollection, were buried together near the crest of the headland and some of the graves were enclosed with a metal fence that was heavily rusted and in a state of disrepair many years ago. She also recalled the stones protruding from the surface which she suspected marked some of the graves. Ms. Bailey, now in her eighties, was certain the burials were not a result of a shipwreck in the area because as a child she recalled one Mrs. or Ms. MacLean/McLean of nearby Glace Bay, whose given name she did not know, was visiting with her parents. Mrs./Ms. MacLean/McLean pointed out that an unmarked cemetery existed at the headland and that those buried there were her relatives. Unfortunately, Ms. Bailey reports that Mrs./Ms. MacLean/McLean died only days after speaking with the Baileys and was probably in her eighties at the time.

Xstrata Coal Donkin Management committed to delineating the cemetery using archaeological techniques so that it may be bounded and the memories of those buried there may be recognized by the local community. The cemetery sits adjacent a popular hiking trail and is now highly visible. A 30-metre by 40-metre area was mechanically cleared of brush and overgrowth in late May 2009, which was monitored by DAC. A ditching bucket was used to remove the majority of the sod, so as not to disturb any stable soils or potentially shallow burials beneath the sod. Approximately 0.45 metres of topsoil was then removed with the ditching bucket. At this depth, at least two clearly rectangular grave shafts were visible.

Once the overburden was removed mechanically, the area was then excavated manually by spades, hoes, and trowels in order to clearly locate and define individual grave shafts (Plate 1). Each time a new grave was identified, it was flagged near its northeast corner with a 0.30 meter metal



Plate 1: Manual excavation around the ground shafts after the overburden has been mechanically removed.

stake driven into the native till just outside the redeposited soil so as not to drive the stake into the grave shaft itself. These stakes served to mark the locations of the graves while the crew worked around them as well as for ease of mapping. Furthermore, the stakes were left in place once the area was backfilled so that the individual graves may be relocated in the future if deemed necessary.



Plate 2: Burial A1, likely that of an infant. The edges of the grave shaft have been artificially highlighted. Note the void at the surface of the grave.

Fourteen individual grave shafts were identified during the archaeological delineation project, although one of the burials is expected to contain

two persons as it was much wider than the others. Five of the burials are likely those of children as they are much smaller than the remaining burial shafts and at least three of the juvenile burials may be infants (Figure 1). One of the juvenile's graves had a void at the surface under which was visible wood less than 0.3 metres below the original ground surface suggesting this individual may have been interred in the winter months or during a time of illness (Plate 2). All the burials were aligned east-west.

On the south side of the cemetery, three wrought iron posts with square bases were discovered, two of which were recorded in situ. The two in situ posts were located immediately south of one of the burials, burial A1 and the third dislodged post was noted 1.5 metres northwest of burial A2. Furthermore, an iron stain in the soil near the northeast corner of burial A2 suggests that a fourth post may have been located here but has since been removed, perhaps having collapsed at some time in the past. In the surrounding area of these posts, a significant amount of rusted, deteriorated, and collapsed decorative iron fencing was found and was likely an attempt at fencing burials A1 and A2, suggesting that these two individuals were related. However, the fencing appears to be relatively modern (early to mid-twentieth century). When presented to Ms. Martha Bailey, she confirmed this was the same fencing she recalled seeing at the cemetery in her younger years.

In the northwest corner of burial B1, a concentration of coffin nails encased in wood were encountered in a small (c. 20 cm diameter) shallow depression. However, these nails did not appear to be affixed to a coffin and were likely disturbed and redeposited at some point. From visual inspection of the rusted nails, it is difficult to determine if the nails were hand-forged (pre-1820) or cut (1791-1893) but the nail heads were most certainly hand hammered (pre-1836).

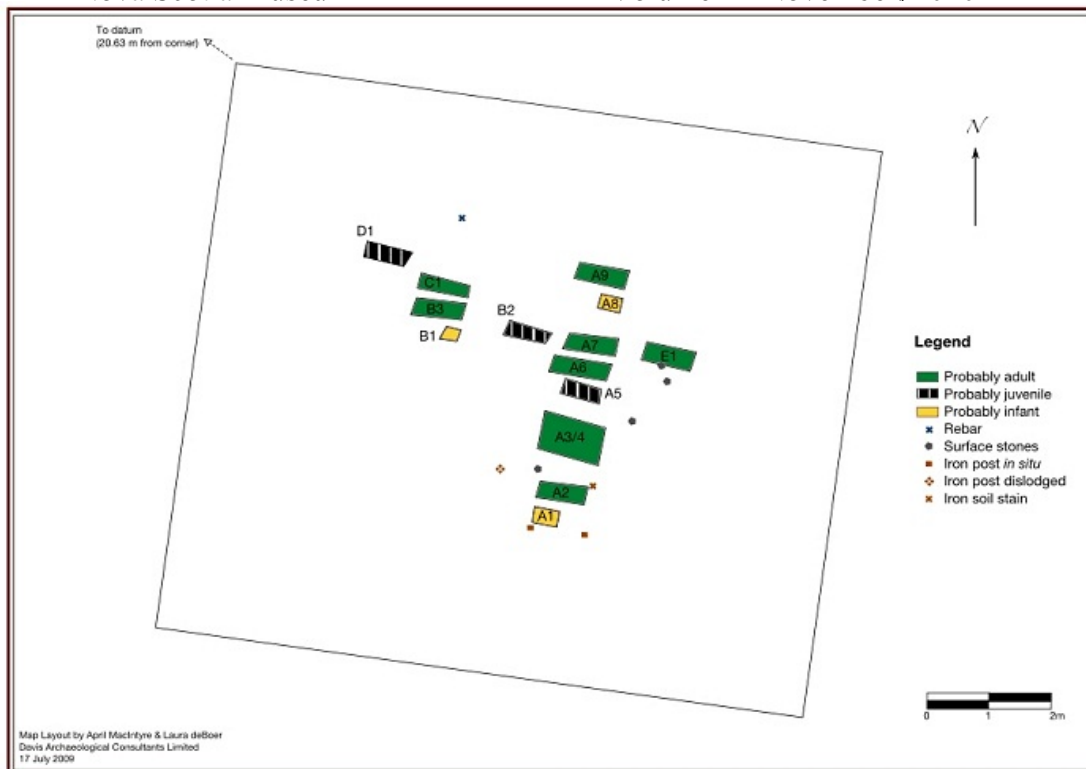


Figure 1: Layout of the burials and associated features showing the possible relative age distributions of those interred, as well as the established five metre buffer zone.

The stones which were visible at the surface did not appear to have been placed at the time of burial as they were not directly associated with any particular burials and were located 0.47 metres above the surface of the burial shafts; rather they were likely a later attempt at marking the cemetery. Consequently, these stones were removed but were first mapped in situ.

The identities of those interred there remain unknown. Furthermore, it is still unknown when the interments were made, although oral reports and lack of any twentieth century records of burials suggest that the interments date to sometime in the nineteenth century. Given that this area was unsettled until the mid-nineteenth century, the burials likely do not date earlier than this.

That the cemetery is now physically bounded, more of the community will become aware of its

existence and its importance spiritually, historically, and archaeologically.

Acknowledgement of these things will ensure that it remains undisturbed and protected for the future. The cemetery has been demarcated using glacial stones on the surface of the backfill to mark a five-metre buffer around the outermost extent of the graves (Plate 3). ♦



Plate 3: The cemetery after backfilling and demarcation (photo courtesy Gary Ellerbrok, XStrata Coal Donkin Management)

E'se'get Archaeology Project

(Matthew Betts, CMCC)

The E'se'get archaeology project seeks to understand the relationship between prehistoric Mi'kmaq and the coastal ecosystem on the South Shore of Nova Scotia. A fundamental goal of the project is the excavation of a sequence of prehistoric shell midden sites spanning the Early to Late Woodland periods, with an emphasis on documenting changes in ancient economic systems as revealed through faunal remains. The 2009 field season, which lasted from May 16th to June 10th, represented the second season of survey and test excavation for the project.

Our 2009 surveys focused on the southern coastline of Thomas Raddall Provincial Park, the western and eastern shores of Port Joli Harbour, and the western shore of Port L'Hebert Harbour. These portions of the coast have a generally low potential for sites based on our site model, and we specifically targeted these locations to "falsify" the positive results obtained surveying high potential areas in 2008. Survey was aided by the use of a 2 cm bore soil probe, which was used as a non-invasive means to test potential sites for subsurface cultural deposits (Figure 1).



Figure 1: Walking survey on the western portion of Port Joli Harbour with soil probe in use.

The survey resulted in the visiting and mapping of two previously known sites and the discovery and mapping of one previously unrecorded site, all within Port Joli Harbour. This was not an entirely unexpected result, as the high energy coasts of southern Thomas Raddall Provincial Park and western Port L'Hebert Harbour are not amenable to soft-shell clam colonies. After two seasons of intensive survey, it seems clear that we have created a relatively comprehensive inventory of shell midden sites in the Port Joli area.

We undertook test excavations at three sites in Thomas Raddall Provincial Park, two of which we had tested previously in 2008. We also conducted brief "shovel" tests at two sites located on Canadian Wildlife Service properties on the west and east coasts of Port Joli Harbour. At AIDf-24, we completed excavation of the main midden area to a sterile subsurface, revealing that the midden is at least 110 cm deep, and is clearly stratified into four major cultural horizons (Figure 2).



Figure 2: South wall profile (2 metre) of Test Units 1 and 2, AIDf-24, Main Midden.

Both at AIDf-24 and AIDf-30, we tested off-midden areas hoping to encounter the remains of habitation features. At AIDf-24, a small test unit revealed alternating lenses of densely packed organic deposits with abundant lithic debitage,

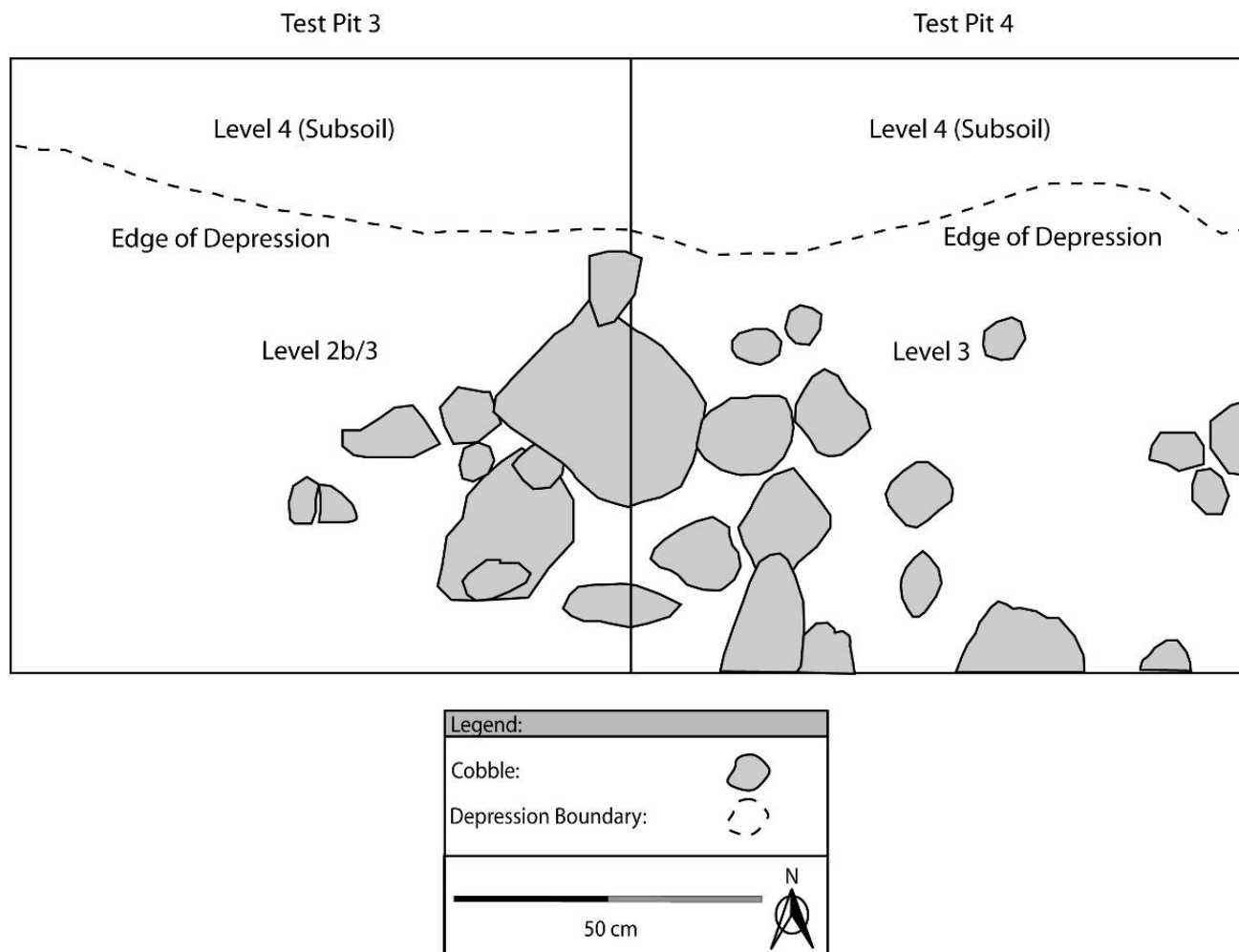


Figure 3: Plan view of AIDf-30 off-midden feature.

stone tools, pottery, and charcoal. At AIDf-30, a formal feature was encountered, characterized by a shallow depression excavated ca. 10 cm into the subsoil, overlain by a compacted, dark organic layer with abundant lithics, pottery, as well as a cultural arrangement of beach cobbles (Figure 3). At AIDf-31, we encountered a feature beneath a thin sheet midden deposit, similar in some respects to the feature at AIDf-30. However, in this case two possible post moulds were encountered, along with a thin, compacted charcoal stained surface, almost completely devoid of artefacts.

Faunal remains recovered from the excavations were abundant and well preserved, and indicate a

range of species, including Atlantic cod, goose, duck, caribou, moose, and small seal. Artifactual remains included abundant pottery, chert and quartz flakes, and several formal stone tools.

Pottery was generally grit-tempered and dentate-stamped, with small flat rims and occasional punctates and linear incisions. Of note in the ceramic assemblage was a large fragment of a pseudo-scallop shell decorated pot with small castellations (AIDf-31) and several fragments of shell-tempered pottery (AIDf-24). Formal lithic tools included a small stemmed point, from the basal portion of the AIDf-24 midden (Figure 4), as well as several quartz bifaces from both the AIDf-24 and AIDf-30 off-midden features.



Figure 4: Quartz stemmed point recovered from basal layer in AIDf-24 Main Midden.

Having completed two seasons of intensive survey and testing in the Port Joli area, we hope to return in 2010 for large scale excavation at midden and off-midden areas of AIDf-24, 30, and 31 in Thomas Raddall Provincial Park. This project, conducted in partnership with Acadia First Nation, the University of New Brunswick, and the Department of Natural Resources, will result in the training of university and local Mi'kmaw students in a field school setting, and will incorporate a public archaeology component that is integrated with park visitor programming. Aboriginal and provincial heritage organizations will also participate in the training of Mi'kmaw students. ♦

Findings and Queries from Tracadie Harbour

(Leah Morine Rosenmeier, The Confederacy of Mainland Mi'kmaq and Brown University)

One of the chapters of my dissertation research focuses on the significant, but disturbed archaeological record in Tracadie Harbour (see Figure 1). Given the nature and length of the newsletter articles, I have selected out a number of findings I think would be of interest to a general audience rather than reporting in any detail on the nature of my dissertation research or its outcomes. These findings include previously unreported data from the Delorey Island (BjCj-9) site, and the presence of Debert brecciated chert at most of the sites in the Harbour. In addition, I have included a number of vexing research issues with the intention that individuals might contact me with thoughts and suggestions about their resolution.

Tracadie Harbour is one of the most densely populated site areas in the Province with fifteen Borden numbers identifying fourteen sites across the Harbour and a site density of one site for every .4323 sq km. Research in the Harbour can best be understood as the results of two processes: excavation and survey with limited testing. The excavations at Delorey Island (BjCj-9) in the 1980s (Nash 1986; Stewart 1986) created a very different record than the survey with limited excavation at other Harbour locations carried out initially by Stephen Davis in 1973 and then subsequently in the 1990s by Nash (Davis 1973, 1974; Nash 1993, 1997; Nash et al 2002).¹ Except for the Delorey Island site, every site in the Harbour was disturbed, with Davis's (1974: 54) observation that "the almost total mixing of the cultural deposit makes it virtually impossible to separate the artifacts in terms of assemblages" true for every site across the Harbour including those found by Nash on the southern and western shores after his initial survey. I approached the archaeological record at Tracadie through published materials, field notes,

and limited collections analyses. While I resurveyed the shoreline of the Harbour, I did not conduct any additional fieldwork or testing.

For dissertation purposes collections analyses involved two primary analytical approaches that were aimed at gaining chronological control and at establishing potential relationships amongst the sites. The first approach was to describe and enumerate bifaces with bases, and the second was to identify lithic materials and to note the absence and presence of each along with gross forms of artifact, flake or core, for each site. The biface analysis included observations of overall shape, degree of finish including the extent of thinning and in some cases fine retouch and grinding, ridge polish, damage, the presence of remnant platforms and utilized flakes. I also drew a distinction between rough preforms, which I have not included and more finished straight-sided lanceolate forms, often called bifaces, which may also have been used as preforms (McEachen et al 1998).

With its more extensive excavations, analyses and reporting, the Delorey Island site anchors research in the Harbour. Nash concluded (1986: 152-153) that the site was a village with a large range of tool types that was occupied over 1000 year period spanning much of the Woodland Period. While the site may not have been occupied year round on a consistent basis, it "functioned as a base camp during the rest of the year and the hub of a catchment area." He suggests (1986: 156) that 30-35 people lived at the site, with no more than 50 at any one time. Subsequent to Nash's work in the 1980's further testing was conducted at Delorey Island in 1993, after a fragmented ceramic pot was found at the western end of the Island. The reporting and analysis of this excavation was left to his undergraduate student, Kim Palmer (2002), who identifies the presence of a pseudo-scallop decorated rim sherd, placing occupation in the Middle Ceramic (>1760 BP +/-60) based on a

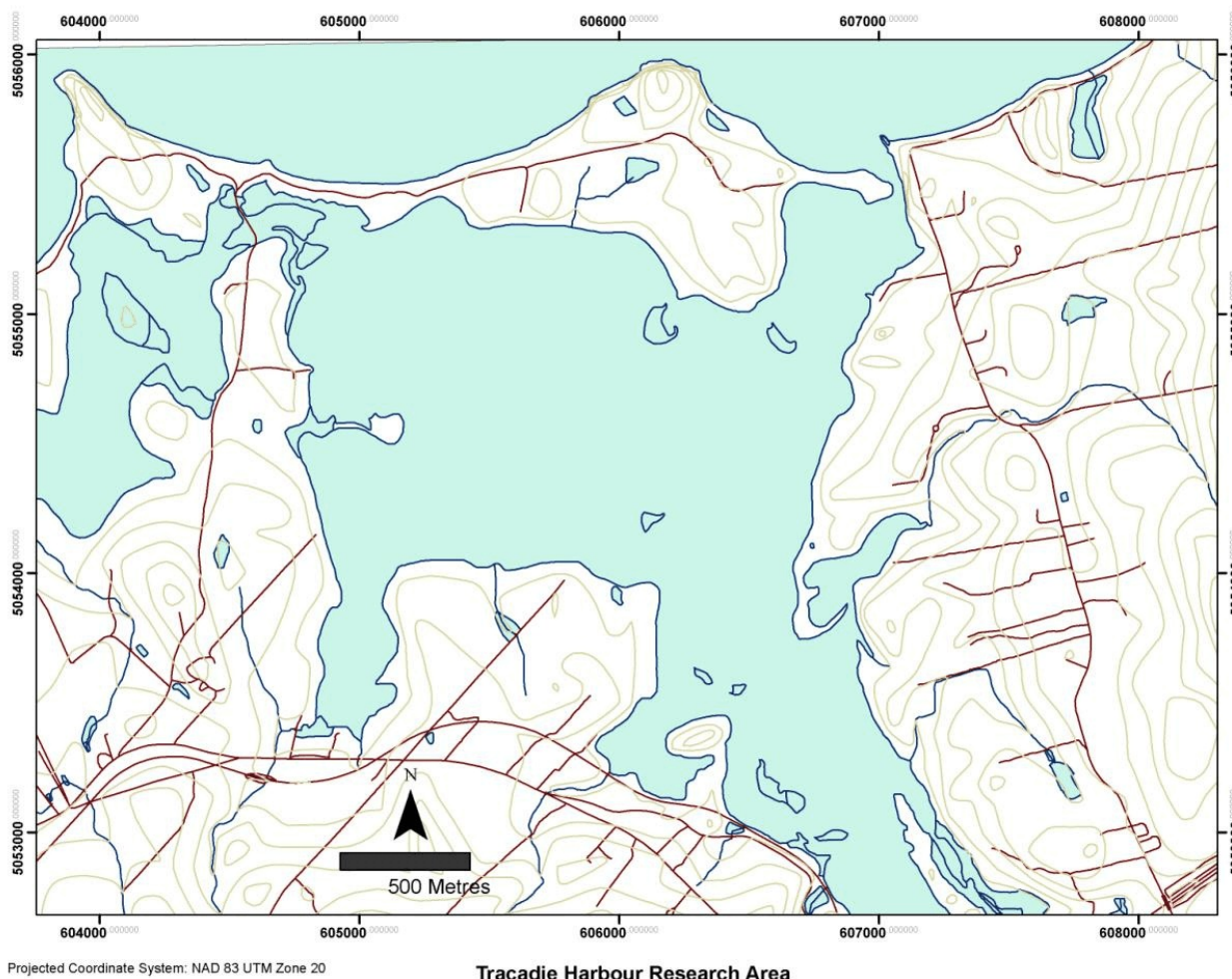


Figure 1: Map of Tracadie harbour research area, which has one of the highest site densities in the Province. It is what I call a locale of descent.

comparison with the Melanson Site. The collection from this unit also produced a small number of diagnostic projectile points ($n=3$) including a stemmed point, a side notched point and a corner notched point (see Figure 2). The corner notched with a lobate base (C) appears to be an extremely close match to the latest form in the Oxbow sequence, dating after A.D. 1000 (Allen 1980: figure 4, top row). While narrow stemmed points are difficult to assess outside of a secure context, the narrow stemmed point is relatively thin and shows considerable basal thinning suggesting an Early Ceramic/Woodland date (Bourque 1995:176-177). There is one additional point with an eared base shown here in

Figure 3 with similar points from BjCj-12. The bases have the potential to be Terminal Archaic, but as the single point of this form from Delorey Island, its position remains equivocal. I would welcome any thoughts or suggestion on these wide-stemmed bifaces. While the three points discussed earlier (Figure 2) do not appreciably change our understanding of the Delorey Island site, the pseudo-scallop sherd indicates habitation at the site prior to Nash's original 1986 analysis, pushing occupation back several centuries to before 1700 yrs BP.

Working to establish chronological control at the other sites throughout the Harbour was a challenging process—one certainly that required inference and a willingness to draw relationships to sites outside the Harbour based on shared



Figure 2: Projectile points from area 3 at Delorey Island, excavated after Nash's (1986) primary publication on the site. They indicate a Ceramic/Woodland Period use of the Delorey Island Site. Materials include Ingonish Island Rhyolite (A) and quartz (B & C).



Figure 3: Possible Terminal Archaic wide-based points from Delorey Island, BjCj-9 (left) and the western shore, BjCj-12 (middle and right). The two left points are made of Ingonish Island rhyolite and the right of a green volcanic.

technological attributes and lithic material type. It was a peculiar outcome to me that the more I worked on the collections, the less certain I was of any particular artifact, but the more broader patterns became apparent. For example, there appears to be a preference for rhyolites in forms that are likely to be Late Archaic, and the presence and diversity of cherts clearly increases with the side and corner notched points. Notwithstanding Nash's arguments to the contrary, I believe that Early and Middle Archaic occupations require greater evidence and analysis to be substantiated. None of the stemmed points from any of the sites or survey collections fit neatly within any of the better documented Early and Middle Archaic point traditions—bifurcate stemmed, Neville-like, or Stark-like. Other clearly diagnostic Early and Middle Archaic components of the sites such as full or three quarter channel gouges, rods, ulus, or bayonets are absent from all sites in the Harbour (Tuck 1991: 46; Petersen 1995: 215-217). Indeed, Deal et al (2006: 257) note that it is these ground stone tools that are “better indicators” of Middle Archaic site distributions in the Maritimes. One other biface from BjCj-12 seems to me to require additional analyses and discussion (Figure 4). I am questioning whether this point is a triangular eared or “Brewerton-like” form and have compared it to a point from Gaspereau Lake (Deal and Rutherford 2001: plate 3, top row, second from right). As with the wide-based points, I would welcome any thoughts or comments on this point. It is made of a black-brown cherty rhyolite—meaning an apparently sedimentary material given the cryptocrystalline, banded groundmass that retains phenocrysts characteristic of a rhyolite.

Despite these challenges, the collections analysis suggests that the sites along the eastern shore (BjCj-2 and BjCj-5) as well as sites along the southern shore (BjCj-8) and the eastern shore (BjCj-12 and BjCj-13) were all occupied during



Figure 4: Showing a possibly eared biface of black brown cherty rhyolite. Point is fractured on the front left corner.

the Late Archaic and the Terminal Late Archaic, usually gauged between 5000 and 3000 years ago, although given the number of sites with solid chronometric dates, these can be considered only roughly comparable at this time. Blair writes (2004:231) about this time period that “the evidence for Late Terminal Archaic activity in the northern portions of the Maritime Peninsula differs from the evidence cited for the southern regions. Several sites have produced radiocarbon dates between 3600 and 2700 years ago,

including a small camp and lithic reduction area in the middle Saint John River valley, and one of several ceremonial sites in the Miramichi River basin.” Habitation and land use continues throughout the Harbour into the Early, Middle and Late Ceramic based on the more extensive analysis of Delorey Island and the point forms found at BjCj-1, BjCj-5, BjCj-6, BjCj-8, BjCj-12, and BjCj-13 (see Figure 5).

In the end, I argue that the sites in Tracadie Harbour are a powerful, if compromised, record of Mi'kmaw land use and occupation during a 5,000 year period. And despite my divergence



Figure 5: Corner notched projectile points from Tracadie Harbour sites (top row) compared with similar points from the Brown Site (bottom row) (cf. Sheldon 1988).

with Nash on the Early and Middle Archaic occupations, I would not want this reanalysis to fall into the long-standing assumption that there are no people in Mi'kma'ki between 10,000 and 5,000 years ago (Fitting 1968; Ritchie 1965; cf. Petersen 1995: 214-215). There is no question that the Province, the Mi'kmaw Nation, and the region have suffered from the ideas of a hiatus between 10,000 and 5,000 years ago (Sanger 1979; Tuck 1991), which at this point appear more likely to be a premature reading of a misunderstood record. Recent work in the Province at the Mersey River and across the region suggests this assumption of little or no population is mistaken (Blair 2004; Murphy 1998; Robinson 1996, 2001). In Nova Scotia in particular, we suffer significantly from the lack of well-excavated stratified sites with independent chronometric dates (Davis 1991: 85; Deal et al 2006: 269). It seems very clear to me this context does not allow for arguments of this kind.

One of the other notable findings in the analysis was the presence of Debert Brecciated Chert at eight of the sites in the Harbour: BjCj-1, BjCj-2, BjCj-3, BjCj-5, BjCj-6, BjCj-8, BjCj-9 and BjCj-12 (see Figures 6 and 7). This means that out of



Figure 6: A spurred endscraper (left) from the Debert site (BiCu-1) is shown in comparison to two scrapers from Tracadie Harbour (centre and right).

the 38 lithic types I identified in the Harbour, it is tied with quartz as the second most prevalent material after Ingonish Island rhyolite in a measure of absence and presence at the site. It shows up as cores, flakes and artifacts (see Figure 7). This material has been tentatively identified at the Gerrish or Quarryville Site² in New Brunswick and at the Jemseg site (Blair 2004: 231, 242; Black 2010), but nowhere else other than the Debert sites in Nova Scotia to date. In addition, I identified the material recently at a site in Cape Breton (CaCf-4), and previously during a visit to a private collection from River Philip (November 2005). I would note the variation in the material and in particular the bands of blue translucent cryptocrystalline material or chert (i.e. chalcedony) in a number of the artifacts. These characteristics match Blair's description (2004: 242). Unfortunately, none of the forms were diagnostic and they did not allow for an understanding of use at any particular time. The absence of reports of the material has contributed to the perceived isolation of the Debert Site. Despite these limited and tentative reports, there may be Northumberland Strait or southern Gulf of St. Lawrence distribution emerging. ♦



Figure 7: This image shows the range of forms, Debort Brecciated Chert. Note the creamy cortex in the lower right and the presence of blue translucent chert/chalcedony in a number of the artifacts. Unfortunately none of these artifacts appear diagnostic, allowing for temporal indications of the use of the material.

I am grateful to Stephen Powell who assisted me in the collections analysis at the Nova Scotia Museum—he was patient with my acute learning curve and a pleasure to learn from and work with at every turn.

¹ The Borden numbering for Nash's sites were assigned without consultation with the Nova Scotia Museum creating a discrepancy between Nash's numbers and the official Borden numbers assigned by the Museum. This clerical error must be considered in any reading of Nash's records as it has potential to create lasting confusion over the sites. I have used only the official numbers in the maps and other annotations.

² This site has been named both the Gerrish Site (Allen 1989) and the Quarryville Site (Allen 1988 and Blair 2004: 231-233).

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NSAS/MHS Archaeological Projects

(Darryl Kelman & Sara Beanlands)

In the summer of 2009, volunteers from the Nova Scotia Archaeology Society (NSAS) and the Mersey Heritage Society (MHS), took part in two separate archaeological research projects. Both programs were continuations of earlier research and survey projects undertaken by members of the MHS. The intention was to provide members of both societies the opportunity to participate in archaeological excavations under the supervision of professionals.

West's Tavern, 547 Main Street, Liverpool, Queens County

Captain John West was one of the original grantees of Liverpool. He was born in Plymouth, Massachusetts, in 1739. In 1762, he married Phoebe Freeman in Liverpool. He was commissioned First Lieutenant in the Queens County Militia in 1771 and by 1778 had been made Captain (QCM n.d.). In 1776 he was licensed to keep a tavern in Liverpool (Perkins 1948: 108). He passed away in 1783 leaving his wife Phoebe to run the tavern (Perkins 1948: 208).

The architectural style of the West Tavern can be seen throughout much of Nova Scotia's South Shore. Several homes in the Liverpool area have been built of the same design, notably Dexter's Tavern at Fort Point, which interestingly was once owned and operated by Mary Dexter, sister of Phoebe West (HTNS 1974). The gambrel roof style comes from New England and can be seen as far away as Williamsburg, Virginia. It is possibly the result of an attempt to obtain greater headroom without increasing the height of the roof. The West Tavern has no basement. It may have had a central chimney with the main fireplace located at the back of the house. At some point, the original fireplaces were replaced and the house now has two chimneys and

Victorian-era mantles. There have been at least two major additions to the house which still stands today (Plates 1 & 2).



Plate 1 - West's Tavern as it appeared in 2009 (with additions)



Plate 2 - West's Tavern as it may have appeared in the 1760s

Archival research and field measurements conducted by members of the MHS indicate that 547 Main Street is the John West house, built in the 1760s on Lot 2 in Letter A of the Liverpool Town Plot, that became West's Tavern. It is not clear when the tavern returned to being a domestic residence however it is known that John and Phoebe's children sold the lot in 1842.

The testing program was designed to investigate the presence, nature and extent of archaeological resources on the property. Due to time constraints, the testing program was limited to a single 1 metre by 1 metre square. The test pit was located 2.5 metres west of the southwest corner of the building. The excavation yielded over 200 artifacts representing mid-nineteenth century domestic refuse. The ceramic assemblage included yellow wares, fine red earthenwares and refined white earthenwares displaying a variety of decoration techniques including sponged, transfer printed and hand painted. The lack of ironstone in the assemblage is seen as an indicator that the midden represents a pre-1850 deposit (Burke 1991: 63; Miller 2000: 13). The artifacts were recovered from a brown silty-sand midden deposit that was encountered approximately 25 centimetres below the current surface. Again time constraints played a role in the project as excavation ceased at a depth of approximately 70 centimetres below the surface and failed to fully penetrate the midden deposit.

As an example of a pre-1850 domestic midden in Liverpool, and because of the potential for further archaeological discoveries on the property, the site was registered with the province as West's Tavern (BaDe-43). Members of the MHS were keen to participate in all aspects of the project and volunteered their time to assist in processing the artifacts for transfer to the Nova Scotia Museum.

Wobamkek Beach, Southwest Port Mouton, Queens County

In 2005, members of the MHS conducted an archaeological survey of an area approximately 4,000 metres square, situated on a wooded slope behind Wobamkek Beach in Southwest Port Mouton. The visual survey identified nine potential archaeological features that were selected for detailed recording (Chandler 2006). In 2009, a selected number of the identified features and the surrounding terrain, were

subjected to archaeological testing. The testing, although minimal in scope, was designed to investigate and/or confirm the nature and extent of cultural resources in the area.

The 2009 archaeological program consisted of limited shovel testing in areas around features identified in the 2005 survey; using a soil probe to investigate selected features in an effort to minimize impact to potential features; and manual excavation of two test units.

Shovel testing concentrated on an area that included six potential features as identified during the 2005 survey (W1, W2, M1, M2, M3, and M4). The potential features are located on a relatively level area near the base of a moderate slope that runs parallel to the main part of Wobamkek Beach. The area is wooded with young softwood trees, particularly spruce and fir, and the terrain is somewhat hummocky. The ground surface is littered with field stones and covered extensively with moss. The moss growth makes it particularly difficult, upon visual inspection, to distinguish between natural and cultural features.

In general, shovel test excavation revealed a stratigraphy of a thin forest mat (approximately 8 centimetres) overlying approximately 5 centimetres of sand. The sand overlay approximately 10 centimetres of dark brown sandy loam that in turn overlay sterile subsoil. Subsoil was typically encountered approximately 20-25 centimetres below the surface. Due to time constraints, only six shovel test pits were excavated with two registering as positive for artifact recovery.

Test Pit 4 yielded a single quartz flake. The presence of the flake may indicate Precontact use of the area however, more investigation is required to confirm such usage. In consultation with the Nova Scotia Museum, given the lack of additional Precontact artifacts recovered during

the shovel testing, the isolated find spot was not registered as an archaeological site.

Test Pit 6, located within a circular feature previously identified as M4, yielded a fragment of burnt green bottle glass. The glass fragment is too small to be diagnostic of a particular time period.

Two mound features (M1 & M3) were tested with a soil probe. Although the probe was not of sufficient length to reach sterile subsoil, both mound features appear to consist almost entirely of sand. The mound features were determined to be natural, rather than cultural.

Shovel test excavation and soil probe testing, although minimal in scope, revealed the presence of a sand deposit underlying the forest mat. This deposit suggests that the area was once an extension of Wobamkek Beach. Historic air photos indicate that forest growth in this area likely occurred sometime after 1945. The presence of an underlying layer of dark brown sandy loam may represent an earlier buried sod layer. In any case, it is clear that the study area and surrounding environs represent a dynamic environment and further investigation would help determine the changing nature of the landscape.

In an effort to determine the age and significance of a five-sided stone feature, identified during the 2005 survey as W3, two test units were manually excavated on either side of the feature.

Feature W3 was described in 2005 as a five-sided stone wall, constructed of field stone, and located approximately 32 metres up-gradient of the preceding features (Chandler 2006). The feature, measuring approximately 30 metres in total length, 1 metre wide and 0.3 metres high, consists of approximately five continuous sections of different lengths, making it irregular in shape.

Test Unit 1 was situated directly south of the wall feature, 2.25 metres west of the outside edge of the feature. The 1 metre by 50 centimetre unit was situated adjacent to the southern face of the stone wall in an effort to visually inspect the method of construction, note the associated stratigraphy and recover any artifacts that may indicate the age and significance of the stone feature.

Excavation commenced with removal of the mossy topsoil layer, measuring approximately 8 centimetres. Once the topsoil was removed, all additional excavation to subsoil was conducted by trowel. All soils were screened to assist with artifact recovery.

Removal of Lot 1 across the test unit exposed a 35 centimetre sand deposit (Lot 2). The nature and stratigraphic position of Lot 2 suggests that it represents the same sand deposit encountered during shovel testing on the more level area north of the W3 feature. Underlying Lot 2 was a 17 centimetre layer of black sandy loam (Lot 3), presumably representing a former occupation surface, that in turn overlay sterile subsoil. Subsoil was encountered approximately 60 centimetres below surface.

Test Unit 1 yielded a single historic artifact; a small fragment of undecorated white refined earthenware, too small to be considered diagnostic of a particular time period. The fragment of earthenware was recovered from the deposit of sand (Lot 2) and may or may not be associated with the construction and occupation/utilization of the stone feature.

Excavation revealed the stone wall to be of dry-laid construction, with no evidence of mortar. The wall consists of large granite field stones and measures approximately 80 centimetres high. The bottom row of stone sits atop the surface of the black sandy loam layer (Lot 3), indicating that the wall was constructed some time before the sand deposit occurred.

Test Unit 2 was situated directly opposite Test Unit 1 on the northern side of the existing wall feature. The 1 metre by 50 centimetre unit was located adjacent to the northern face of the stone wall, providing the opportunity to see both faces of the feature.

The stratigraphy of Test Unit 2 was relatively consistent with Test Unit 1, with the exception of the sand deposit (Lot 2), which was approximately 30 centimetres as opposed to 35 centimetres. Test Unit 2 yielded a single historic artifact; a small shard of clear window pane glass. The artifact was recovered from Lot 3, suggesting it is associated with the feature. Furthermore, the presence of window pane glass indicates that there may have been a structure associated with the stone wall feature.

Following the initial survey in 2005, it was suggested that the stone feature was open on the up-gradient end, forming a "U" shape. Given that the feature is located on a relatively steep section of the slope, it was assumed that the feature was constructed facing downhill and built to take advantage of the slope in some way. Test excavation of the feature, however, revealed the presence of a significant sand deposit that appears to be sloping to the north. It is possible that the sand deposit is creating the slope to a certain extent and that the original feature was originally constructed on more level terrain. If this is indeed the case, it may be that the "back" or southern portion of the feature is potentially buried under a greater amount of sand, making the feature appear to be open-ended. This would certainly make the presence of an associated structure more plausible. Further investigation is required to determine the full extent of the stone feature. Given that both historic artifacts recovered in the vicinity of the wall were not diagnostic, it was impossible to determine the age and significance of feature W3.

The testing programs conducted at West's Tavern and Wobamkek Beach provided members of the

NSAS and the MHS the opportunity to participate in archaeological research projects. Time constraints meant that both projects were severely limited in scope however, the results of both projects have hinted at the potential for more archaeological resources to be discovered.



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Pottery Form and Function in Nova Scotia

(Kora Stapelfeldt, MA MUN 2009)

According to James Deetz (1972: 108), archaeology has three major goals: the reconstruction of culture history, the reconstruction of past lifeways, and the identification of the processes of cultural change. Within pottery study, seriation based on changing designs has been used extensively in the past in developing relative chronologies in northeastern North America. Moreover, form and function studies have become important in the reconstruction of these past lifeways and in determining human behaviour through its examination of vessel use. Processes such as invention and innovation in technology, design, and function, inform us on how a culture may have changed over time.

During the summer and fall of 2007, I traveled across Atlantic Canada in search of near complete and reconstructed pottery vessels, as well as pottery sherds suitable for a regional study of precontact pottery form and function. Over 1100 photographs and multiple sketches

later, the research collection has reached a respectable total of 167 specimens suitable for analysis. The pottery collections, representing 28 sites, were housed in eight different locations across eastern Canada. In New Brunswick, I had access to site collections at the Metepenagiag Heritage Park near Miramichi, the New Brunswick Museum in Saint John, and New Brunswick Archaeological Services in Fredericton. When traveling in Nova Scotia I had access to collections stored at the Yarmouth County Museum, as well as the Nova Scotia Museum, and the Parks Canada Trademart building in Halifax. Further collections are housed at the Canadian Museum of Civilization in Hull and the Department of Archaeology, Memorial University. For some of the comparative samples, I also had access to pottery stored at The Rooms museum in St. John's.

Although my study collections encompass all four Atlantic provinces, I am focusing on Nova Scotia for examples in this publication. For ease of discussion, I organized the sites by region. I do not mean to imply that any one of these regions represents a homogenous group or

Table 1. Temporality of Nova Scotia Study Sites

Region	Borden/ Distinction	Site Name	Time Frame	CP Range	Selected References
Southwestern Nova Scotia	BdDk-1	Bear River	2150 – 950 B.P.	CP2 – CP4	Kristmanson 1992
	BbDh-6	Eel Weir	2150 – 1650 B.P. 950 – 650 B.P.	CP2 and CP5 (two vessels)	
	AlDf-1	Port Mouton I	2150 – 650 B.P.	CP2 – CP5	
	AlDf-3	Port Mouton IV			
	AlDf-2	Port Joli XII	950 – 650 B.P.	CP5	
AkDm-1	Commeau Hill	950 – 650 B.P.	CP5		
Mahone Bay	BcDc-4	Eisenhauer Shellheap	1350 – 950 B.P.	CP4	Smith and Wintemberg 1973
Minas Basin Region	BgDb-4	Melanson Site Cemetery	2150 – 1650 B.P.	CP2	Kristmanson 1992; Nash and Stewart 1990
	BgDb-5		950 – 400 B.P.	CP5-6	
	BhDc-5	Clam Cove	1650 – 1350 B.P.	CP3	Halwas 2006; Kristmanson 1992
Merigomish Harbour and Vicinity	NS VIII B	Quarry Island Shellheap	1350 – 950 B.P.	CP4	Smith and Wintemberg 1973
Cape Breton	BICf-2	Odaskwanokh	950 – 400 B.P.	CP5 – CP6	Erskine (n.d.); Petersen and Sanger 1991

that the vessels in each area are in any way connected. I organized the province into five regions for analysis: Southwestern Nova Scotia, Mahone Bay, Minas Basin Region, Merigomish Harbour and Vicinity, and Cape Breton. I will not be delving into site description detail here, but I have referenced where further information can be found (Table 1). This table also depicts the time frame and ceramic period range (CP) represented by the vessels studies from each site (Petersen and Sanger 1991).

Methodology

The goal in this study was to gather information previously scattered among unpublished dissertations, published articles, and field notes. Most of the pottery uncovered by archaeologists in Nova Scotia is not found whole. As a result, once the information was recorded, I needed a method by which to render vessel volumes from these smaller sherds. As described earlier in my methodology, I recorded both photographs and attributes for each vessel in the study. I used these images and data to develop rim profile drawings for each vessel. These line drawings made it easier to do a formal comparison of vessels of different size. This was achieved using photo-editing software with layering technology. This ensured a form directly extracted from the vessel photograph itself.

Choosing vessels on which I could base the whole Atlantic pottery collection proved to be quite a challenge. Traditional geometric analysis of elliptical vessels assumes complete forms and requires a number of additional measurements from the vessel (Orton et al. 1991, Shepard 1956, Rice 1987). As most of these measurements were unavailable to me I turned to the vessels in the collection that are both varied in shape and accurately tested for volume. Leonard's work on Skull Island in New Brunswick was a perfect candidate (Leonard 1996). The Skull Island vessels have a variety of elliptical forms and are tested for volume using

the summed-cylinders method, which is more accurate than other methods (Rice 1987:222). As for the spherical vessel, the choice lay in the solitary vessel from the Commeau Hill site in Nova Scotia, which already had an approximated volume (Davis 1974). In the end, I selected seven vessels to serve as "type-vessels" for my analysis (see below).

Elliptical vessels make up most of the collection. An elliptical formula requires a known small horizontal axis. Not possessing such a measurement in the Leonard thesis, I used the known values to solve for the unknown. As a caveat, this is not to suggest that there are precisely seven formal varieties of vessels in the archaeological record of Atlantic Canada. I am simply using this method as an approximation, searching for the best fit (Figure 1). As more archeological material is uncovered, this formal variation will likely change.

Each vessel form (Ellipse 1-6 and Sphere) has a set of ratios that distinguishes it from the other; the most obvious of which are the ratio of body diameter to rim diameter, and rim diameter to height. I discerned proportions for each vessel based on these ratios. This made a total of seven sets of proportions. I then applied these factors to the vessel sherds with like attributes in the catalogue. By applying standard volumetric formulae, I was able to discern both a 'spherical' volume and a 'cylindrical' volume giving me an inner and outer volumetric range for each vessel form.

Results for Nova Scotia

Approximately 62 vessel fragments and near-complete vessels were assigned vessel forms in Nova Scotia (Figure 2). Of these, approximately 40% were Ellipse 1. This was not unexpected considering the weight of Ellipse 1 forms in the project as a whole. Temporally speaking, for this province specifically, vessels were generally

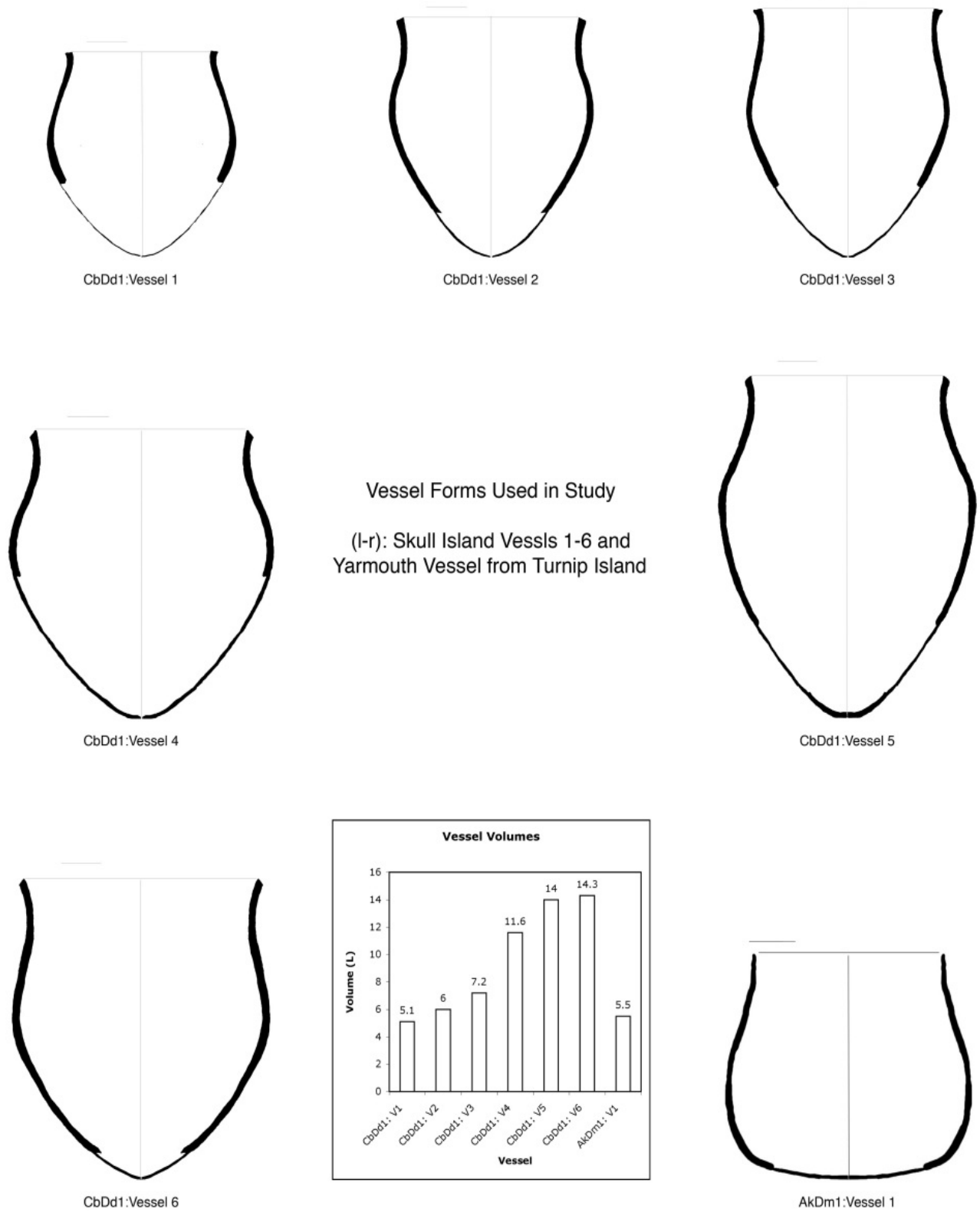


Figure 1

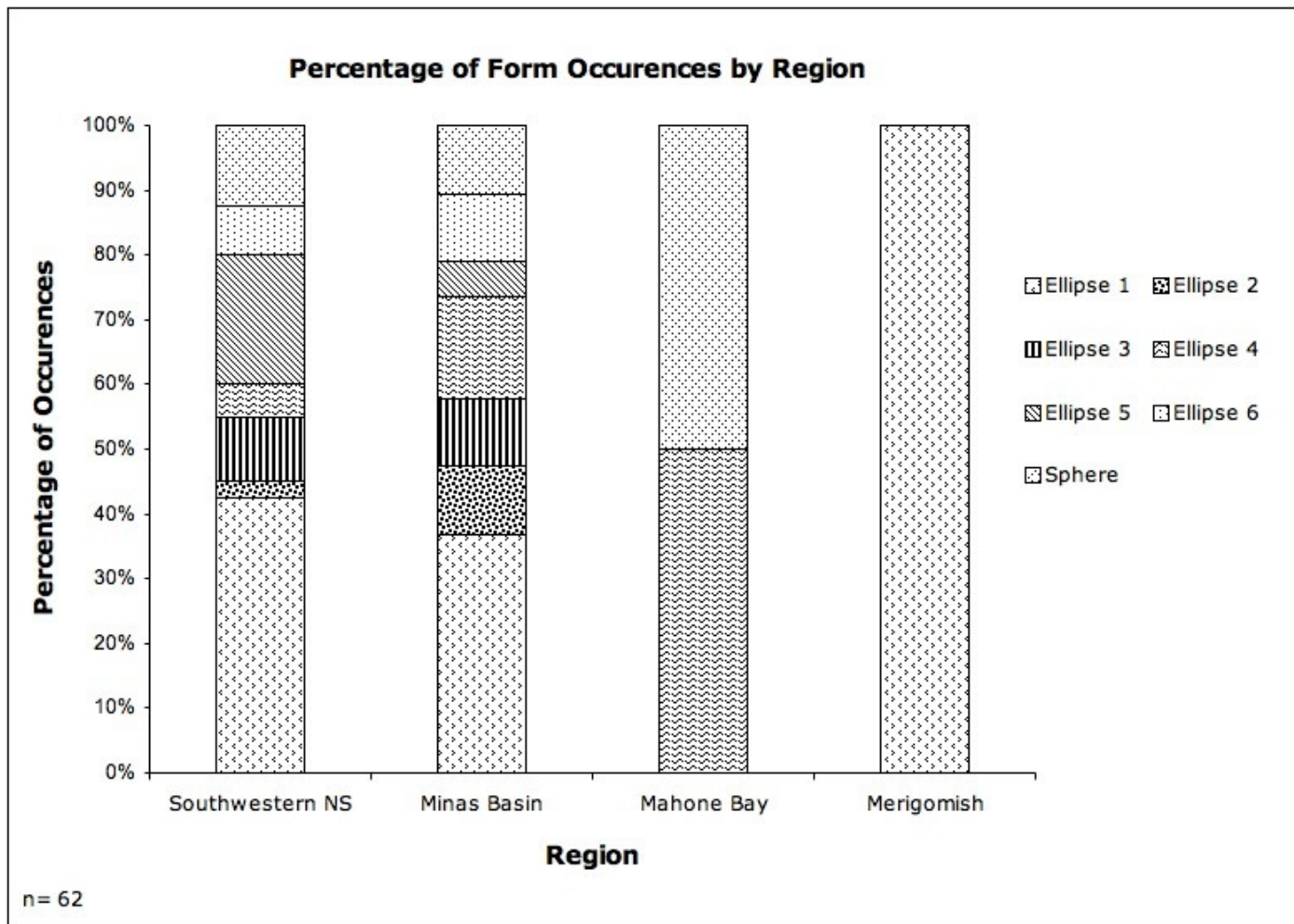


Figure 2

dated to the range of CP2 to CP3 or the early to middle sections of the Middle Woodland Period (2150-1350 B.P.)

There is an extreme range in the representative samples for each region. The Southwestern Region of the province, with the most vessels analyzed, had at least one representative sample from each form. Conversely, the Merigomish Harbour and Vicinity region had only one sample, an Ellipse 1 form, which came from the Quarry Island Shellheap. As mentioned earlier, this form was by far the most common form seen across Atlantic Canada as a whole and in this province in particular. One of the two vessels from the Eel Weir Site (BbDh-6: 9B49X1-1) was identified as part of this category (Figure 3). This is not a fully reconstructed vessel, however, the

reconstructed sherd is sizeable and shows a distinctive curve. The drawing of the curve in



Figure 3

this figure is part of an original drawing by Rion Microys for Parks Canada (Ferguson 2008, pers. comm.).

Although the spherical form was only represented by 3% of the vessels in the catalogue, that represented about 75% of the whole spherical form group overall. These forms were seen in approximately seven sites across the province. As mentioned earlier, the type-vessel for this form hails from Commeau Hill (AkDm-1). Interestingly, the smallest vessel in the catalogue belongs to this group as well. A rim sherd from the Eisenhauer Shell Heap boasts a scant five-centimeter diameter. The vessel has no recorded provenience, but a sizable portion of it is preserved (Figure 4). Whole, the vessel would hold just under a cup of fluid, or about 200 milliliters, and dates to about CP4 (1350-950 B.P.).



Figure 4

Vessel function is undeniably linked to form as pottery vessels are principally used as containers (Arnold 1985; Braun 1983; Deal et al. 1991; Hally 1986; Orton et al. 1991; Rice 1987). In order to understand the function of any one particular vessel we need to consider what aspects of a vessel will hint at its original use. Researchers tend to consider how correct the body shape is for performing a task, the volume of the vessel, and its socioeconomic role. Upon examining the material, previous research, and

available data, the majority of these vessels were likely used at one point for cooking. Researchers have discussed mobile group utilization of cooking vessels and the properties of these vessels for some time (Deal et al. 1991: 176, Linton 1944, Taché et al. 2008). A large number of vessels in the catalogue have residue or absorption evident on their interior, which would suggest cooking use. Just over half (52%) of vessels from Nova Scotia had some evidence of use (Figure 5). Recent research shows that cooking vessel size in early Vinette vessels can be correspondent to the vessels contents. Particularly, that smaller vessels in CP1 (Vinette) were used for processing seeds or nuts and the larger ones in that period were used for cooking the bones of land mammals and for certain steps in shellfish processing. Some of the larger vessels could also have been used for storage (Taché et al. 2008:79). If we extrapolate that notion, coupled with the fact that researchers in NB have discovered traces of large-game processing in larger vessels, we may be able to infer that vessels beyond CP1 or Vinette forms could follow this pattern as well (Deal et. al 1991, Deal 2005). More research would need to be undertaken to confirm or deny this relationship.

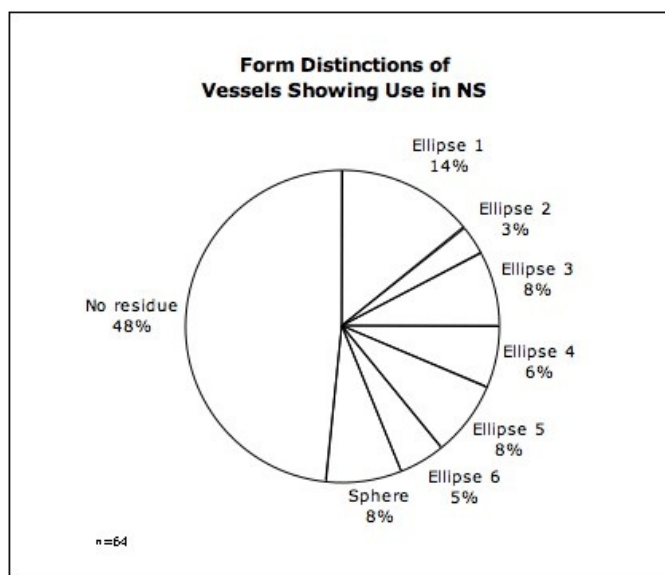


Figure 5

That's not to say these vessels had no other uses. Although there cannot be any singular answer as to why vessels were adopted by mobile communities, social factors likely played an important role in this development. Cultural biography asserts that a vessel has many lives from the tool's inception in the maker's mind to its creation, firing, and use (Holtorf 2002, Koptyoff 1986). The vessel will be affected by each one of these stages in its life cycle and some of these after-effects will leave traces. By implementing more study of vessel function in the Atlantic region, we could learn more about intra-regional variation and thereby help to recreate the past lifeways of the mobile groups from Nova Scotia and beyond. Further research in form and function, and any additions to this research, can aid in the search for social connections among archaeological populations across northeastern North America.

Acknowledgements

A sincere thank you to my supervisor, Dr. M. Deal, the Archaeology Department at Memorial University, and the graduate student cohort for making this research possible by providing both funding and valued feedback. Thank you also to the beyond-numerous assembly of individuals that assisted me with collections housed throughout not only Nova Scotia, but Atlantic Canada as a whole, not to mention to Hull and the Canadian Museum of Civilization.

For a more detailed explanation of my methods, and a listing of all proportional ratios, see Table 4.1 (Stapelfeldt 2009). For further detailed information on vessel attributes and access to the data, you can request a secure web link to my thesis by contacting me. Thank you! ♦

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From the Curator's Corner.....

(Katie Cottreau-Robins, Nova Scotia Museum)

The past year has been a lively year with over 130 heritage research permits in archaeology reviewed and issued in Nova Scotia. Many of the archaeology permits were directly related to impact assessment projects however permits for archaeological research by students, academics and professional consultants who have the opportunity to explore beyond the assessment framework, have also been on the rise.

As part of the Heritage Division for the provincial government, the Curator's position stipulates the very interesting task of reviewing and commenting on all archaeology permit applications and associated reports. The review is an excellent opportunity to keep abreast of the work being done and the dominant research interests of Nova Scotia's archaeology community. The Curator's position also provides the opportunity to engage in projects of personal interest and of interest to specific groups. The following is a sampling of recent undertakings.

In 2009, projects developed from a diverse range of archaeological fields. Two research permits held by the Curator supported efforts to explore Nova Scotia's landscape of slavery in the last quarter of the eighteenth century. The focus of the study was the province's agricultural belt, the Annapolis Valley, and a prominent Loyalist who arrived with slaves to shape a farmstead in the wilderness (Figure 1).

Another research permit supported a collaboration with Parks Canada archaeologist Charles Burke and his investigation of the Beaubassin - Fort Lawrence area on the Isthmus of Chignecto. Intersections of aboriginal and non-aboriginal peoples on contested space is a fascinating thread being pulled.



Figure 1: Evidence of a slave quarter?

A partnership with Nova Scotia Museum Research Associate April MacIntyre began an initiative to develop the outline for a book on urban archaeology in Halifax. Aiming for a substantive contribution to regional historical archaeology scholarship, the book will span the development of the sub-discipline from recognition of urban archaeology possibilities in the 1980s to recent CRM initiatives. Narratives describing daily life, the garrison town, industrialism and building neighborhoods are a few proposed themes.

A team effort from 2009 that will carry through to 2011 is the Canadian Archaeological Association Annual Meeting event scheduled for Halifax in May 2011. Many archaeologists in the community have joined the Nova Scotia Museum (co-host with the CAA) to plan and organize a memorable conference which will highlight the intense archaeological work undertaken in the province since last hosting the CAA in 1996. Tell your friends to *Come East in 2011!*

A collaborative effort that began in 2007 and will continue through this year is preparation of an application to UNESCO to have the Grand Pre cultural landscape declared a World Heritage Site. To meet the requirements of application



Figure 2: Coring the Grand Pre marsh with Dalhousie University Earth Sciences Department

submission an extensive multi-disciplinary research program is ongoing to help define the *outstanding universal value* of the place. Based on this framework, project archaeologists have engaged in interdisciplinary research and partnerships with a number of specialists. One such partnership has been in the field of earth sciences. The objective was to engage in a shared research program that would inform questions generated by each partner. For Dr. David Scott of Dalhousie understanding changes in sea level rise in the Minas Basin was key to his research. For the archaeologists, understanding the changing environment of the marshlands and locating subsurface Acadian period cultural features such as dykes, roads, ditches and aboiteaux was key (Figure 2).

The archaeology team agreed that its role was to gain an understanding of the evolution of the Grand Pre landscape starting with the conditions



that existed and the use of the area before the arrival of the first Acadian settlers in the 1680s. It was important to take into account the Mi'kmaw presence in the Minas Basin area over thousands of years and that the area had unique natural and tidal forces at work that impacted the extraordinary success of the dyked marshlands. Following the Acadians were the New England Planters and other post-Deportation settlers linked to the farming community and finally the current Grand Pre Marsh Body that continues to utilize and maintain the same plots that the Planters farmed in the 1760s and the Acadians before them in the 1600s.

Time was of the essence given the scheduled preparation of the nomination proposal. How could we find with expediency archaeological features or sites on the landscape in good condition that supported the statement of *outstanding universal value*? A process in the field of earth sciences used to extract foramnerifera (single-cell protists with shells) from coastal and marshland environments was



Figure 3: Sampling and analysis of core samples at Dalhousie Earth Sciences lab

applicable to our goal of finding intact features on the marshlands.

At the same time there was interest among the larger research team for data regarding sea level rise and tidal development in the Minas Basin and the effects of such on the development of the dykelands. An opportunity was present to marry archaeology research goals with earth science research goals through the use of a shared field methodology known simply as Vibra-Coring. Under the guidance of Dr. David Scott, marine geologist of Dalhousie University's Earth Sciences Department, we set about extracting deep soil cores at 7 locations to meet two ends: 1) to locate in the sedimentary sequences evidence of features for future test excavation that would confirm Acadian and Planter presence such as buried dykes, aboiteaux, roads and ditches, and 2) to gather insights on the marshland environment through the collection of forams in the cores. The soil cores, some up to 6 meters in length, hold the potential to provide details of distinct changes from salt water to fresh water forams indicating when various areas of the vast marshland were dyked, and sea level changes occurred. An added value for the



archaeological research is that the information studied from the cores provides an avenue of comparative analysis for an incomplete archaeological and historical record. How deep in the soil cores do we see foram change, and soil change that may contain cultural inclusions, and what does that indicate about past surface elevations of the marshlands? Furthermore, what can changes in elevation tell us about the location of buried archaeological remains?

Layered on such questions is the hypothesis of Sherman Bleakney, marine biologist and dyke historian, concerning the progression of the dykes through the marshlands. Bleakney proposes that the Acadians built the first dykes very close to the National Historic Site and then radiated out towards the Basin in eleven different zones. He bases his research on creek drainage patterns and has proposed the locations of buried aboiteaux that would support the drainage of the marsh. The archaeological verification of such features in tandem with the foram analysis has the capacity to confirm or negate the Bleakney hypothesis. The same is held for the dyke progression hypothesis of archaeologist Jonathan Fowler. Fowler holds that the first dykes were built nearer the middle of the marshlands and radiated out from there. It will be interesting to

learn in future months what the core analysis supports (Figure 3).

Dykes built by the Acadians at Grand Pre transformed over 3000 acres of salt marsh into crop land, while holding back the highest recorded tides in the world, with an amplitude of 17 meters. Once drained, the sediments proved to be among the most fertile agricultural soils in northern latitudes in North America. Today, agriculture on the Grand Pre Marsh Body preserves the original Acadian field patterns marked by dykes and drainage channels.

The cores extracted covering the earliest to latest dyked areas will be studied to record the 4000 year transformation from tidal flats to salt marsh to agricultural land. It is hoped that analysis will help determine the sequence of dykes which eventually led to the complete enclosure of the marsh. Initial results of the first core suggest evidence of dyking at approximately one meter below surface. More information is pending regarding sediment build up in different parts of the marsh, a defined soil sequence for a known 18th century dyke, comparative sequences for 2 marshland zones thought to contain the earliest dyked areas, and based on foram species analysis, indications of sea level change in the Minas Basin.

Together this dynamic project is working towards linking archaeological questions of colonial settlement and interaction with the land to marine geology questions that inform the unique environmental conditions supporting a continued successful use of de-salinated marshland. More to come in a future newsletter as we near UNESCO application completion.◆

Note - For further information about the Grand Pre UNESCO proposal and the concept of *outstanding universal value* that frames the application see:

<http://www.nominationgrandpre.ca/documents.html>



**44th Annual Meeting of the Canadian Archaeological Association
Halifax, Nova Scotia
May 18-21, 2011**

The Board of the Canadian Archaeological Association and co-host the Nova Scotia Museum invite you to participate in the 44th Annual Meeting in beautiful Halifax, Nova Scotia.

The Planning Committee is organizing a program with a wide range of sessions including a focus on recent archaeological research in Nova Scotia. Determined by delegate interest, excursions may include tours of historic sites in the Annapolis Valley, Palaeo-Indian archaeology at Debert, Woodland Period shell middens of the South Shore and guided sea kayaking in the Bay of Fundy, Cape Breton or St. Margaret's Bay.

The conference venue is the legendary Lord Nelson Hotel. <http://www.lordnelsonhotel.com>

The Lord Nelson is located at the foot of Halifax Citadel National Historic Site and overlooks the celebrated Public Gardens. Delegates are minutes walk from the Museum of Natural History, the Halifax Waterfront, the Art Gallery of Nova Scotia, Maritime Museum of the Atlantic, Pier 21 – Canada's Immigration Museum and much more.

Enjoy Calgary and we look forward to welcoming you to the East Coast!

Look for the conference website in the Fall of 2010
Inquiries can be sent to:

Katie Cottreau-Robins, Curator of Archaeology, NS Museum
CAA 2011 Conference Chair
(902) 424-6461, cottrecm@gov.ns.ca

Image Courtesy of Destination Halifax/Eastern Eyes Photo

Don't Miss the Annual CAA Meeting, Halifax, May 18-21, 2011!

Editor's Note

The research presented in this newsletter only represents a portion of archaeological activities for 2009 in Nova Scotia. We hope to receive many more articles for our proposed 2010 edition.

Stephen Powell
Editor