

RECENT INVESTIGATION OF LATE WOODLAND OCCUPATIONS AT COOTES PARADISE, ONTARIO

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Excavation and survey activities at Cootes Paradise during 1995 and 1996 offer new insights into the early Late Woodland occupations of this important wetland area. Survey on the north shore of Cootes Paradise relocated the Bull's Point site (AhGx-9), a Princess Point component originally found by David Stothers in 1969, and discovered five additional sites. Two of the new sites, Bull's Cove (AhGx-365) and Cootes 1 (AhGx-366), produced small amounts of Late Woodland pottery. The three other new sites yielded only non diagnostic chert flakes. Bull's Point produced Princess Point and later, possibly Early Iroquoian, pottery, a full suite of chipped lithic artifacts, and maize kernel fragments; almost no bone was recovered. Post moulds and features uncovered at this site are evidence for a small structure. The Bull's Cove site, initially thought to be Princess Point but now classed as Early Iroquoian, underwent limited test excavation. Both Bull's Point and Bull's Cove are small sites situated in the bottoms of ravines at the present water's edge, a type of site location unique to Cootes Paradise. They are interpreted as warm-weather, single family camp sites occupied on a short-term basis for the exploitation of seasonal resources.

INTRODUCTION

In 1995 and 1996, archaeological survey and excavation were conducted under the direction of the author at Cootes Paradise, Ontario. This research comprises one component of the Princess Point Project (Smith and Crawford 1995), initiated in 1993 by Gary W. Crawford and David G. Smith of the University of Toronto to investigate the early Late Woodland and origins of horticulture in southern Ontario. In south-central Ontario this transition is associated with the emergence of the Princess Point Complex (Stothers 1977; Fox 1990). Princess Point sites are located in an area bounded by

Long Point and Kitchener-Waterloo on the west, and the Niagara Peninsula and the western end of Lake Ontario on the east (Figure 1). A distinctive characteristic of most of these sites is their location on major bodies of water, whether these are riverbanks, lake shores or wetlands. There are concentrations of sites at Long Point (lake shore), Cootes Paradise (wetland) and in the Lower Grand River Valley (riverine). Princess Point sites vary from large components situated at the edge of rivers and wetlands to smaller habitations located both at the waters edge and further inland. The Princess Point sites at Cootes Paradise are examples of both large and small habitations associated with a wetland.

That Cootes Paradise was a focus of prehistoric native occupation is evidenced by a variety of site locations on its borders. Although a possible Middle Woodland component is reported by Stothers (1977:33) and Late Woodland (Early and Middle Iroquoian) occupations have also been documented (see below), the most intensive exploitation of Cootes Paradise apparently occurred during early Late Woodland times by Princess Point communities. What are possibly relatively large occupations are situated on both the low-lying peninsulas of Princess Point and Sassafra Point. Smaller sites are located at the Arboretum and the Old Lilac Gardens. Very small sites are situated on Bull's Point. In addition, sites of unknown size are reported on Hickory Island and Rat Island. This paper summarizes the results of survey and excavations in the environs of Bull's Point.

BACKGROUND

Cootes Paradise, located in the Royal Botanical Gardens, Hamilton, Ontario, is a wetland area located at the extreme west end of Lake Ontario (Figure 1). It was created by glacial processes that essentially cut off the western tip of Lake Ontario from the main body of water

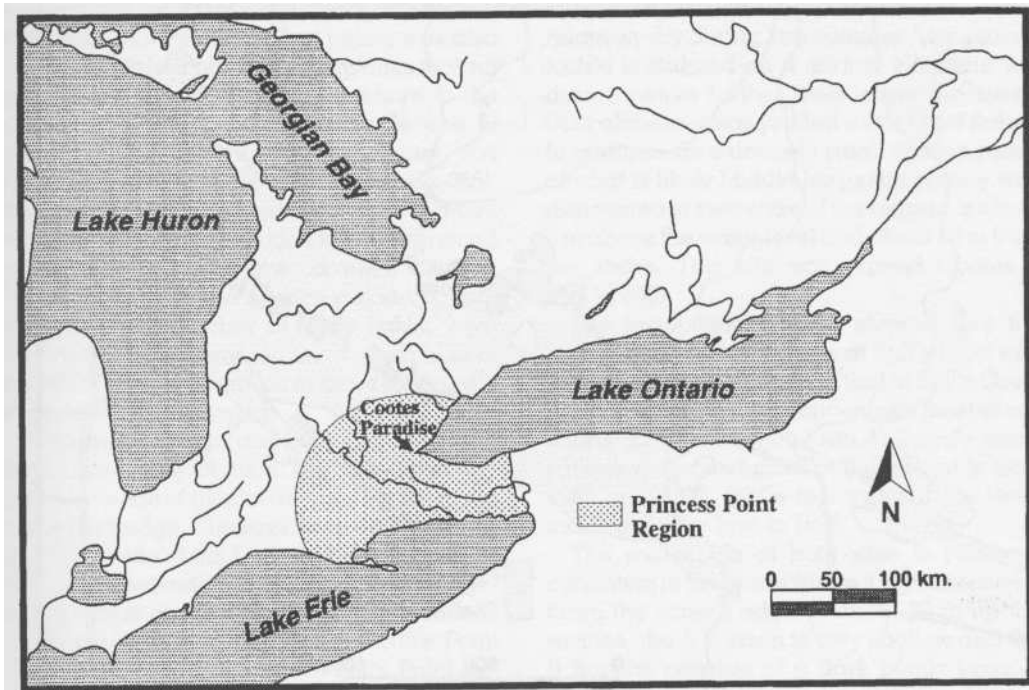


Figure 1. Southern Ontario and Princess Point Region

(McCann 1987). Until the mid-nineteenth century, Cootes Paradise was apparently a true marshland consisting of shallow water and cattails. The dredging of the Desjardins canal resulted in modification of the embayment itself, especially at the western end of the marsh, and the introduction of carp to the marshland caused drastic reduction of the natural cattail cover (Len Simser, personal communication 1996). The general topography of the land immediately surrounding Cootes Paradise does not appear to be altered significantly by recent disturbance. This topography is generally characterized by steep embankments cut by glacial ravines, with swampland at the western end and small low-lying peninsulas at the southeastern end (Princess Point and Sassafras Point; see Figure 2). Observation of the water level by the author in 1995-6 suggested that the current water level varies seasonally, with the highest levels occurring during the spring and summer and the lowest levels occurring during the fall and winter.

The palaeo-environment and nature of Cootes Paradise is more difficult to interpret. In a recent paper, Coakley and Karrow (1994) argue that the present water level of Lake

Ontario was at least one metre higher than it was between one and two thousand years ago. If this is the case, then the level of water in Cootes Paradise, and its status as a wetland, may have been different during the time of Princess Point occupation between AD 500 and 1000 than it is today. This problem is currently being investigated through palynological research by A.M. Davis of the University of Toronto (see discussion below).

Archaeological research conducted by David Stothers and William Noble at Princess Point on Cootes Paradise in the late 1960s led to the definition of the Princess Point Complex; both the archaeological culture and the type site were named after the peninsula (Stothers 1977). In 1969, Stothers conducted an archaeological survey around the periphery of Cootes Paradise and documented the location of an additional six sites (Stothers 1969). The Old Lilac Gardens site underwent mitigative excavation in 1984 to rescue a portion of it from impact by the construction of Highway 403 (Knight 1984). The area was revisited by archaeological field schools from the University of Toronto at Mississauga in 1995 and 1996, which were directed by the author.

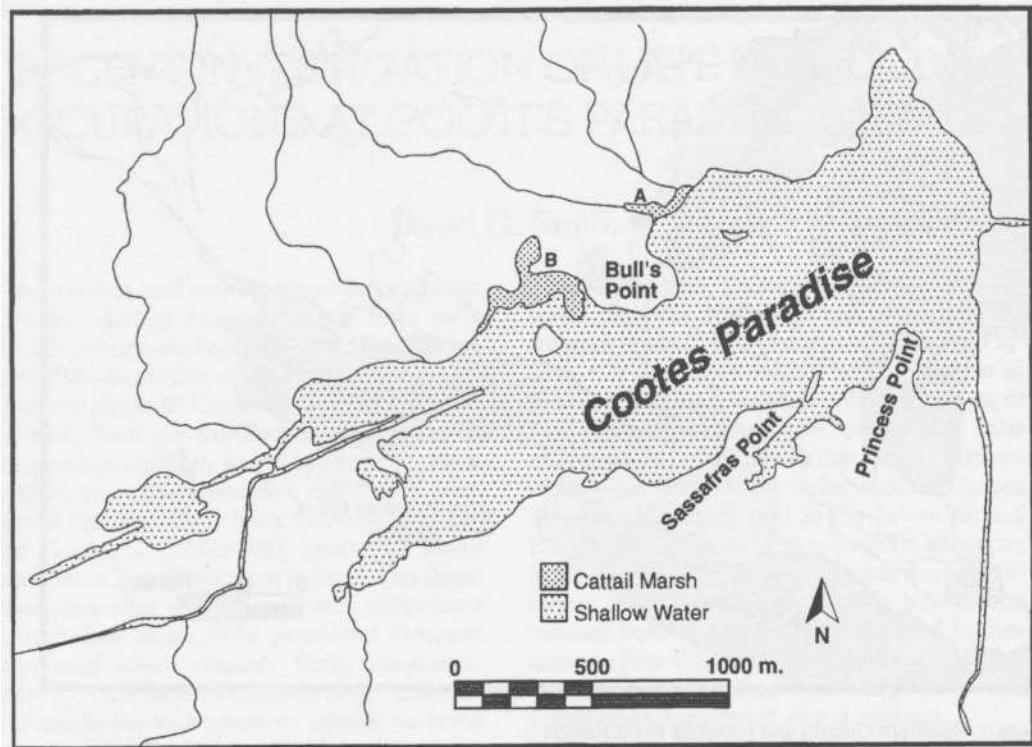


Figure 2. Cootes Paradise

The 1995 and 1996 work was conducted in the environs of Bull's Point, a peninsula jutting into Cootes Paradise on its northern shore. Unlike Princess Point, which is a low-lying peninsula on the southern shore of Cootes Paradise, Bull's Point consists of a plateau of land, about 25 m above the current water level, that is cut on its east and west sides by a number of glacial ravines. To distinguish this landscape feature from the sites situated on it, it will be referred to in the rest of this paper as the Bull's Point Geographical Feature (BPGF).

The Bull's Point (AhGx-9) site was originally discovered during Stothers' 1969 survey, in a ravine on the northwest side of the BPGF. Distinctive cord-wrapped stick pottery was recovered in test pits but, beyond documenting its location and naming it after the predominant local feature, Stothers' crew did no other work at the site, nor did they document any other sites in the environs of the BPGF.

1995-1996 INVESTIGATIONS

Survey

A test pit survey was conducted on the north shore of Cootes Paradise on and around the BPGF in both 1995 and 1996. Areas targeted for test pitting included the level plateau at the top of the BPGF and glacial ravines cutting into both its northwest and northeast sides. Further along the shoreline to the west, a low-lying level area adjacent to the cattail marsh and a narrow terrace between the shoreline and the slope were both test pitted. The survey interval was five metres, which was lowered to two metres when artifacts were encountered. All test pits were at least 30 cm square, and all were excavated to a depth of at least 30 cm and at least 10 cm below the interface of the B and C horizons.

The survey at the top of the BPGF yielded no artifactual material except a few Euro-Canadian ceramic pieces and some rusted metal. Test pitting in the first glacial ravine on the

northwest side of the BPGF in 1995 rediscovered the Bull's Point site. Test pitting was also conducted in four other glacial ravines that cut into the BPGF further along the shore to the northwest of the Bull's Point site. In one of these, a very small amount of pottery was found. This site, named Bull's Cove (AhGx-365), was tentatively identified as Princess Point because the pottery included cord-roughened body sherds (Smith, Ormerod and Bekerman 1996). The other three ravines yielded no artifacts. A small number of chert flakes were discovered in two ravines on the east side of the BPGF, but no ceramics or other diagnostic material were recovered.

Both the Bull's Point and Bull's Cove sites are distinctive in their location. They are situated at the lower ends of glacial ravines, beginning at the waters edge. The ravines are between 15 and 20 m wide at the base and narrow gradually inland, extending in a north-easterly direction up-slope at a gradient of about one in ten. The topographic situation of the Bull's Point site is illustrated in Figure 3. Bull's Point appears to be the larger of the two sites, with cultural deposits extending at least 30 m up the slope. At Bull's Cove, the odd artifact was found in test squares up to 30 m from the waters edge, but the concentration of material appears to be within 15 m of the shoreline. The deposits at the Bull's Point site are proportionately much richer than at Bull's Cove.

It was initially suspected that the archaeological materials discovered at the bottom of the ravines may have been carried by water erosion from the top of the BPGF. However, Davis identified the ravines as glacial in origin, and unlikely to be affected by significant runoff. It was noted by the author that the heavy rainfall resulting from the aftermath of a hurricane in early September, 1996, had no effect on the ravines, even though it occurred within a week of backfilling the excavations. The discovery of post moulds and features at the Bull's Point site confirmed the likelihood that the materials were deposited in situ.

The test pit survey further to the west of the BPGF was focused in two locales. The first of these is a low-lying area of about 1,500 m² situated between the surviving cattail marsh in this part of Cootes Paradise (see Figure 2) and a relatively abrupt slope leading up to the higher ground. This area is about 50 m from the present shoreline on a gradient high

enough above the current water level to be relatively dry during late summer. The second locale is situated on a narrow terrace a few dozen metres further west along the shore. Both of these areas yielded a few chert flakes; in addition, an extremely small concentration of what is likely Middle Iroquoian pottery was discovered in the centre of the terrace at about 2 m above the water level and about 10 m from the shore. This site was named Cootes 1 (AhGx-366).

The test pitting in 1995 showed that the artifact yield in the test pits at Bull's Point was comparatively greater than that at Bull's Cove. Hence, we decided to concentrate most of our efforts on the Bull's Point site. Full-scale excavations were conducted at Bull's Point in both 1995 and 1996, while test excavations were made at Bull's Cove in 1996.

The soil profile at both sites is relatively consistent in the areas where it was examined. From the water's edge to about 30 m up the ravines, the A horizon is very shallow and the B horizon consists of a dark humic layer of about 20 cm over a leached-out layer of about 5 cm. The subsoil is a light brown silt. There is no evidence for erosion at either site.

Bull's Point Excavation

At Bull's Point, a total of 34 m² was excavated over the course of two weeks each in 1995 and 1996 by field school students (Figure 3). The objective of the excavation was to recover as much data as possible about material culture, subsistence and settlement pattern within the two week period allotted each year. Soil profiles were drawn across both the east-west and north-south axes of the excavations. The A horizon and the dark layer of the B horizon were excavated in arbitrary 5 cm levels to a depth of 20 cm; the leached-out layer of the B horizon was then excavated as a single stratum. A ten-litre flotation sample was taken from every level. Subsoil surfaces in each square were carefully examined for subsurface features. In the largest area that was exposed (5 m²), the subsoil surface was shovel-shined. During the field excavations, all soils except those recovered for flotation samples were sifted through 3 mm mesh. The flotation samples were processed using 2 mm mesh to recover heavy fractions and a 425 micron geological sieve to recover light fractions.

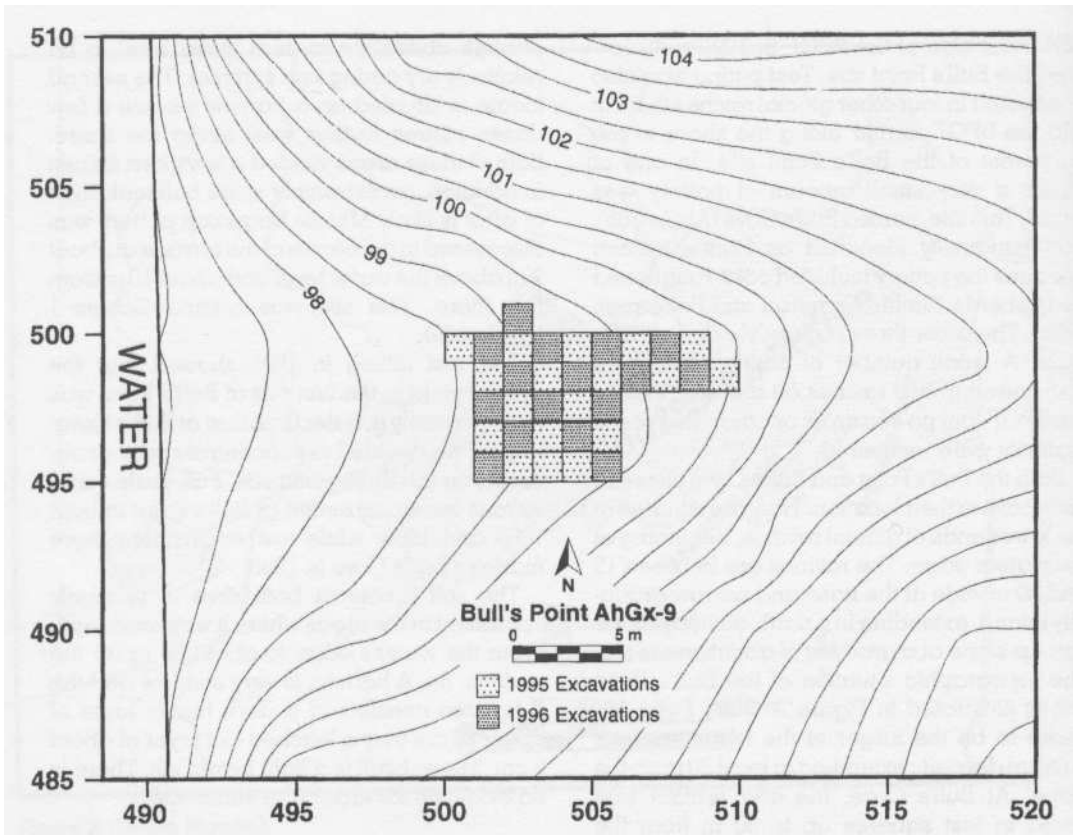


Figure 3. Topography and 1995 and 1996 Excavations at the Bull's Point Site

Features and Structures. In 1995, seventeen squares were excavated in a checkerboard pattern because of concerns we then had about erosion (Figure 3). These excavations recovered rim sherds of typical Princess Point pottery, but also a vessel with stamped and incised decoration, suggesting that the site also had an Early Ontario Iroquoian component. In addition, a pit feature and a number of post moulds were uncovered. Although the spacing of the excavation units precluded recognition of a discernible pattern, the features suggested an architectural structure of some form on the site. In order to fully expose this possible structure, in 1996 an additional 17 squares were excavated in the same area as in 1995 (Figure 3). Two more pit features and a large number of post moulds were revealed (Figure 4). A total of 97 post moulds, 76 of which were profiled, was discovered. Diameters of these post moulds varied from 2 to 12 cm, with a mean diameter of 4.6 cm, and post mould depth below the subsoil surface varied

from 3 to 29 cm, with a mean depth of 9.4 cm. In addition, two features were completely uncovered and excavated; a third was partially exposed, but not excavated. The excavated features (1 and 3) were both shallow pits filled with topsoil; Feature 1 was 12 cm deep and Feature 3 was 4 cm deep. Neither feature had a higher density of artifacts than the overlying topsoil and may, in fact, have been small refuse filled depressions. No hearth floors were uncovered in the excavated area.

The post moulds in the excavated area appear to outline a small structure (Figure 4). It is roughly rectangular in shape, has rounded corners, measures 4 x 3.25 m in size and is oriented with the slightly longer axis on a southwest to northeast axis to magnetic north. The structure is not aligned directly to the axis of the ravine; upslope is directly east on the grid in Figure 4. Features 1 and 3 are inside the structure next to the wall, while Feature 2 is located outside the southwest corner. This structure is situated immediately next to the

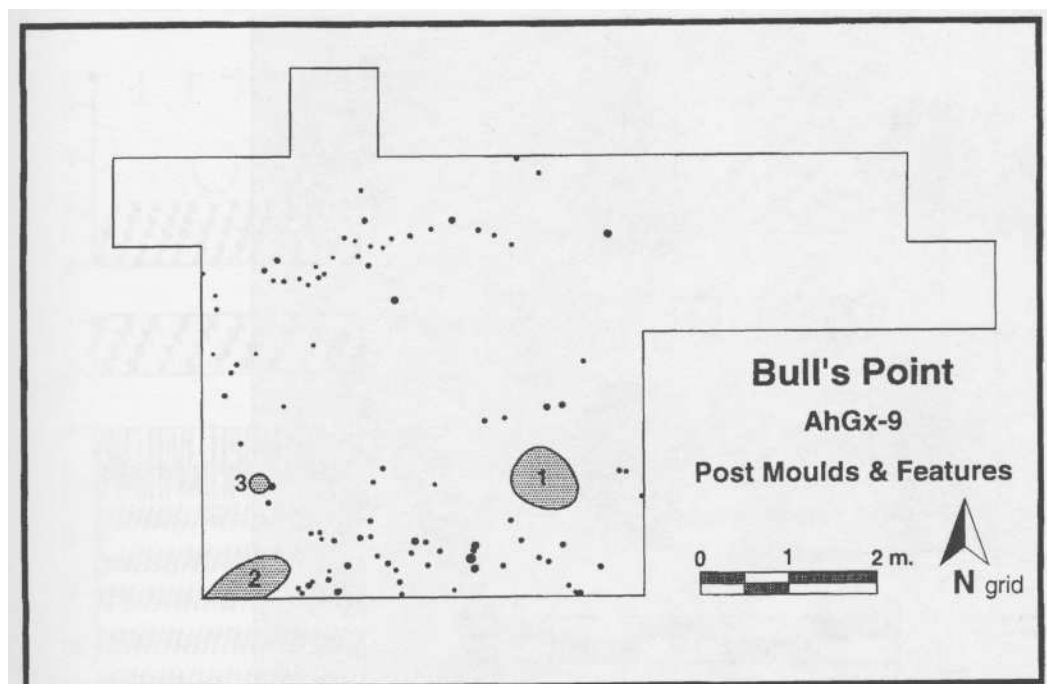


Figure 4. Bull's Point Settlement Pattern

south slope of the ravine in a small area that is somewhat more level than the rest of the ravine. It is approximately 10 m from the present water's edge.

Artifacts. Most of the pottery recovered during the 1995 and 1996 excavations is typical of a Princess Point assemblage, although fragments from at least two vessels were recovered that show decorative techniques and styles more common in the following Early Ontario Iroquoian period. The Princess Point pottery includes sections from about 10 pots, although the pieces are mostly fragmentary. The vessels are, for the most part, small and thin-walled. Only three rim sections are complete enough to show the first two bands of decoration plus presence or absence of punctates and bosses (B, D and E in Figure 6). The decoration on the exterior, lip and interior of these three vessels is shown schematically in Figure 7. All three have outflaring rim profiles, as well as cord-wrapped stick decoration on the interior, lip and exterior surfaces, exterior punctates-interior boss combinations separating the first and second bands of decoration, and horizontal lines in the second band of exterior decoration. Vessel BLP001 (Figure 6: D) has a plain, heavily cord-roughened first

band of exterior decoration. Both Vessel BLP002 (Figure 6: B) and Vessel BLP003 (Figure 6: E) have an exterior first band of cord-wrapped stick right obliques. Vessel BLP003 is also heavily cord-roughened on the first exterior band. These decorations are typical of Princess Point assemblages (Bekerman 1996), but the sample is too small to make any definitive comparisons or seriation.

The chipped lithic assemblage from the Bull's Point site includes cores and flakes as well as a small number of finished tools, including bifaces, scrapers and a drill (Figure 5). Almost no faunal material was recovered and no bone artifacts were found; either preservation conditions are very poor, faunal material was deposited elsewhere, or faunal exploitation was not important at this site. Fragments of maize have been identified through analysis of the flotation samples.

Artifacts were found throughout the B horizon, although over half by number and weight were recovered from between 10 and 15 cm below the surface. The general horizontal distribution of artifacts by weight at Bull's Point is summarized in Figure 8; the post moulds and features discovered on the site are also illustrated. There are several concentrations of

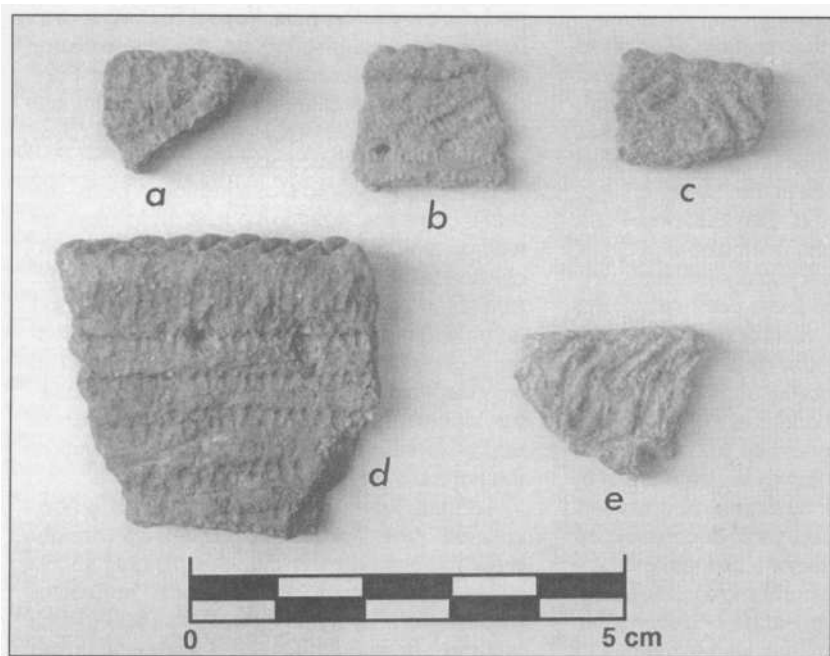
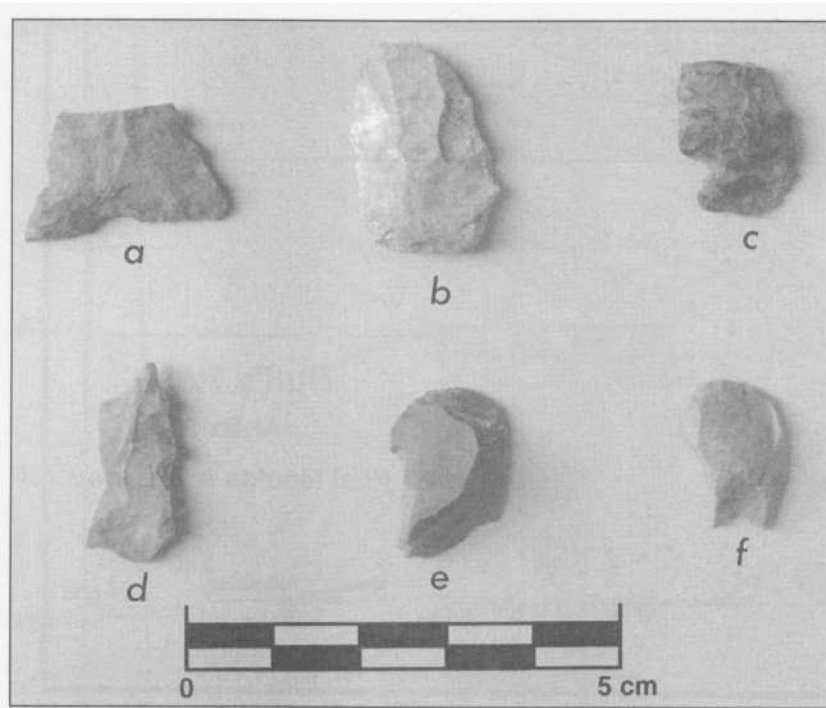


Figure 5 (top). Chipped Lithic Artifacts from the Bull's Point Site
Figure 6. Rim Sherds from the Bull's Point Site

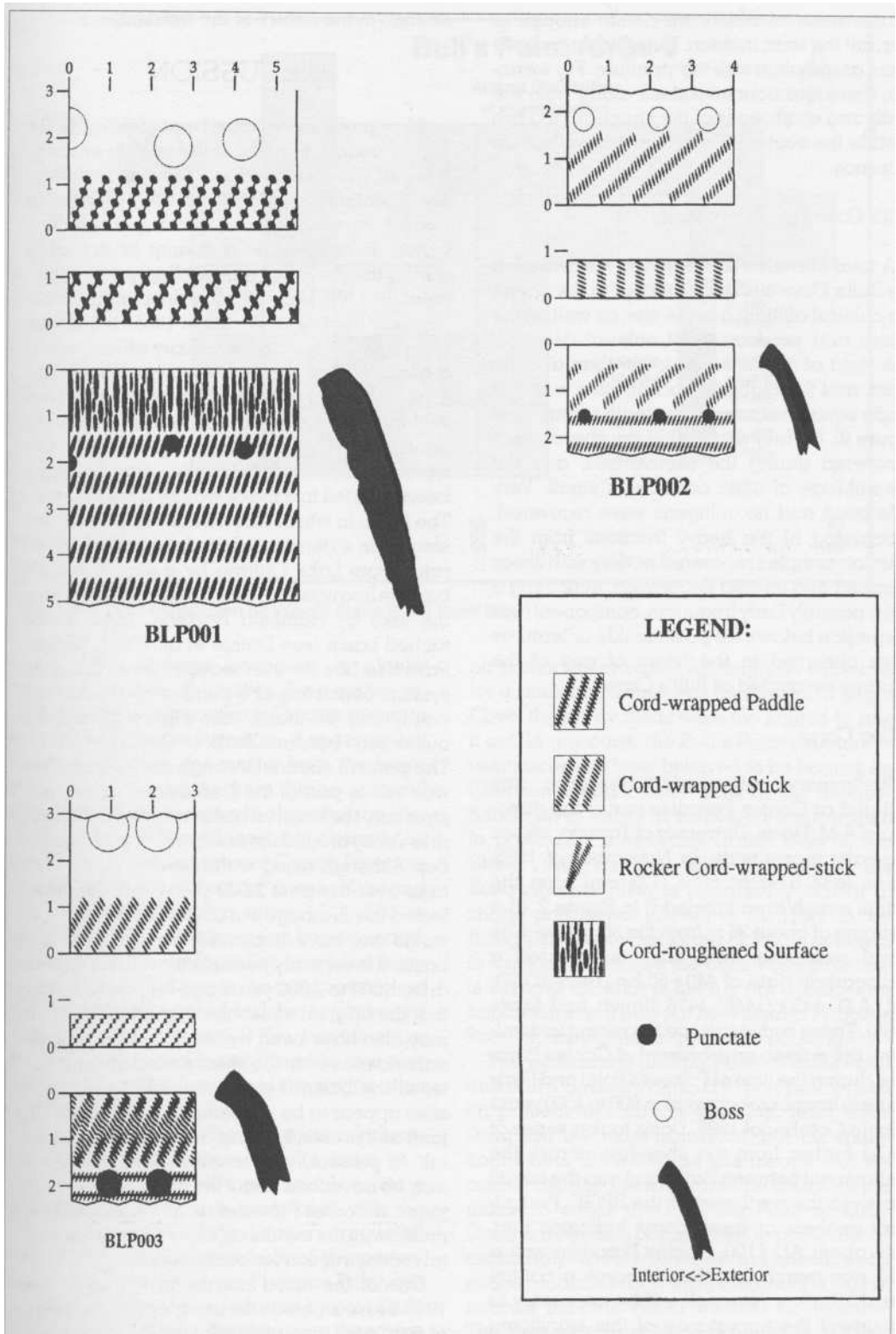


Figure 7. Bull's Point Site Rim Section Decoration and Profiles

refuse, none of which are dense enough to warrant the term midden, but which may have some association with the structure. For example, there are concentrations along both the north and south walls of the structure and two outside the east end, which may have had an entrance.

Bull's Cove Test Excavations

A total of twelve squares was excavated at the Bull's Cove site in an attempt to document the cultural affiliation of the site, as well as the extent and productivity of cultural deposits. The yield of artifacts was lower than at Bull's Point, and the highest concentration was in a single square adjacent to a sterile square (see Figure 9). No fully analyzable rim sherds were recovered during the excavations, and the assemblage of lithic artifacts is small. Very little bone and no cultigens were recovered. Processing of the heavy fractions from the flotation samples recovered pottery with linear stamped and incised decoration, indicating a later, possibly Early Iroquoian, component (see discussion below). No post moulds or features were observed in the floors of any of the squares excavated at Bull's Cove.

Pollen Cores

Preliminary palynological research was initiated at Cootes Paradise under the direction of A.M. Davis, University of Toronto, whose specialty is wetlands. In November of 1995, Davis took a short core (125 cm) from the cattail marsh area labeled B in Figure 2, at a distance of about 35 m from the shoreline. The basal sediments from this core yielded a radiocarbon date of 440 ± 50 bp (Beta-92747), cal. A.D. 1433 (1446) 1478 (Smith and Davis 1996). These sediments are too recent to document the palaeo-environment of Cootes Paradise during the time of Princess Point and Early Ontario Iroquoian occupation 800 to 1500 years ago. In October of 1996, Davis took a series of cores further from the shoreline across the embayment between Rat Island and the cattail marsh to the northwest of the BPGF. Preliminary analysis of these cores indicates that, until about AD 1100, Cootes Paradise was a wild rice marsh that then became a cat-tail marsh. Further research will be necessary to document the importance of this significant

change in the nature of the wetland.

DISCUSSION

A key problem that must be confronted is our lack of information about the palaeo-environment at Cootes Paradise. There is historical documentation that the main body of water in Cootes Paradise was a marsh (i.e., shallow water, as opposed to a swamp or dry land) during the period of earliest European settlement. In 1796, Lady Simcoe described it as a "marshy tract of land" (Innis 1965:183) where Captain Coote, a British military officer, spent a great deal of time shooting waterfowl. The level of water in the basin and the nature of the wetland prior to that time is, however, open to question. Several factors suggest that the water level in Cootes Paradise may not have been affected in a major way by Lake Ontario. The basin in which Cootes Paradise lies is not simply an extension of the lake, but is separated from Lake Ontario by a glacial beach bar (the Iroquois Bar) and buffered further from the lake by Hamilton Harbour, itself a detached basin (see Duthie et al. 1996). Cootes Paradise has its own independent drainage system, consisting of a number of creeks that empty into the basin (see Figure 2) and an outlet into Hamilton Harbour (McCann 1987). The present channel through the Iroquois Bar was cut as part of the Desjardins Canal construction; the original outlet was through Hendrie Valley around the north end of the Iroquois Bar. Although rising water levels in Lake Ontario over the past 2,000 years may have affected the drainage out of Cootes Paradise, it would not have impacted the flow into the basin. It is certainly possible that the basin was drier 1,000 to 2,000 years ago but, considering that the original outlet has now been cut off, it may also have been wetter. The archaeological evidence from the sites around the perimeter of the basin is equivocal; although these sites appear to be situated around the marsh-land as it presently exists, this may be accidental. At present, only tentative interpretations may be advanced about the prehistoric exploitation of Cootes Paradise as a wetland and we must await the results of on-going environmental reconstruction for confirmation.

One of the more interesting results of the 1995-6 research was the unexpected discovery of four sites, two of which are Princess Point

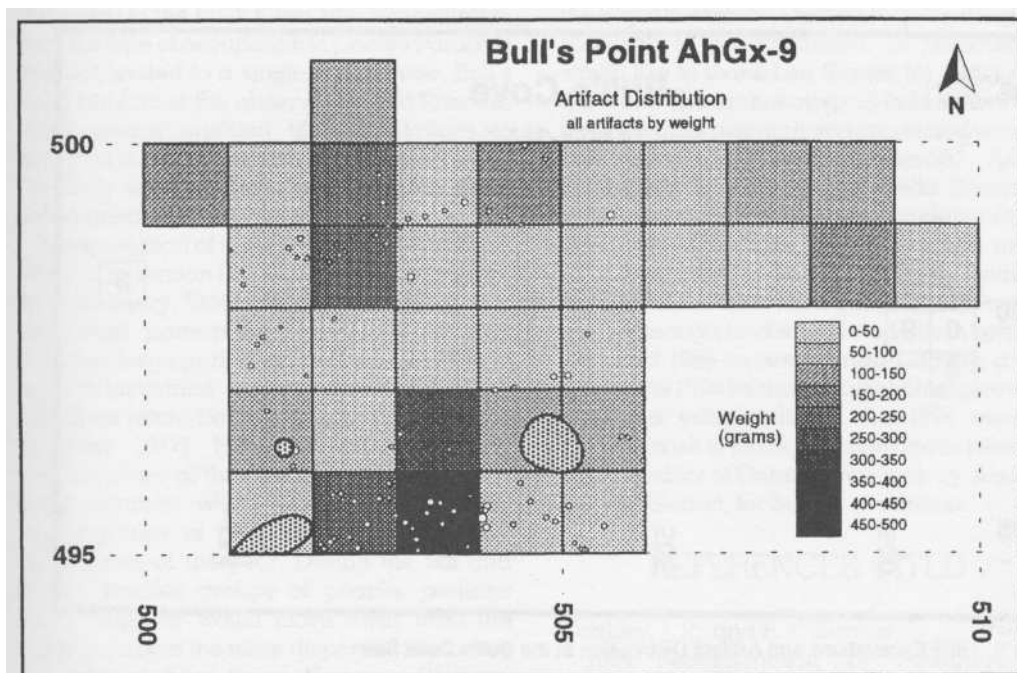


Figure 8. Artifact Distribution by Weight at the Bull's Point Site

and/or Early Ontario Iroquoian, in glacial ravines. This type of location for a native archaeological site in southern Ontario seems to be unique to Cootes Paradise. It appears that ease of access to the ravine from the lower basin, as opposed to from higher ground inland, was a major factor in choosing the site. Although it lends it credence, this observation does not confirm the status of Cootes Paradise as a marshy wetland during Princess Point and Early Ontario Iroquoian times (A.D. 500 to 1300), since other scenarios can be envisioned. For example, Cootes Paradise may have been a drier swampland where the most convenient location for sites would still be in protected locales on the perimeter. If this was the case, and water levels in Cootes Paradise are now higher, significant portions of the ravine sites may now be inundated.

The post mould and feature pattern indicating a possible structure at Bull's Point is a significant discovery. We are unable to state definitively whether it is associated with the Princess Point or Early Ontario Iroquoian component. Although the bulk of the pottery recovered from the site is Princess Point, the structure may have been erected by later Early Ontario Iroquoian groups also using the ravine

on a short-term basis. Although no evidence for a similar structure was uncovered at Bull's Cove, the excavations were too limited to rule it out. In any case, the Bull's Point structure is reminiscent of those believed to be houses on Clemson Island culture sites in the Susquehanna River Valley in southern Pennsylvania. In particular, a structure at the West Water Street Site on the West Branch of the Susquehanna River is remarkably similar in shape and layout (Custer et al. 1996:15), although it is somewhat larger (7.3 m as opposed to 4 m long). Because the Bull's Point structure is situated on what is clearly not a long-term habitation site, it may not be typical of Princess Point or Early Ontario Iroquoian housing.

The seasonality and purpose of Bull's Point and Bull's Cove are difficult to interpret, based on present information. The data from Bull's Point are the most abundant, but the multi-component nature of the site means that we cannot ascribe the structure, the lithics, or the maize to either the Princess Point or Early Ontario Iroquoian occupations in particular or exclusively. The few features and absence of a midden indicate short-term use and the lack of hearths indicate warm weather occupation. The presence of pottery, a full suite of lithic

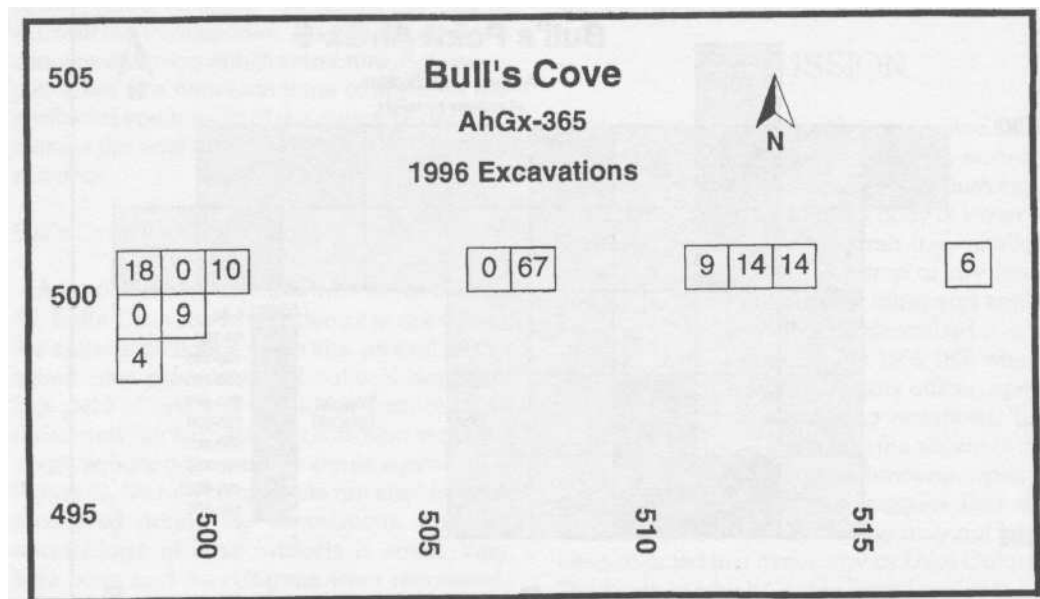


Figure 9. 1996 Excavations and Artifact Distribution at the Bull's Cove Site

material, and maize all suggest that exploitation of the location was neither incidental nor expedient. The dearth of bone and floral material (other than maize), on the other hand, is particularly puzzling. The hypothesis that Bull's Point was an early-fall acorn processing station is improbable given the absence of acorn remains as well as the grinding implements and roasting or leaching pits usually associated with such processing. Along the same lines, there is no material evidence that the site was used for processing wild rice, fish, waterfowl or mammals. Although butchering remains may have been thrown into the water, it seems unlikely that so little material would have been preserved. Of course, the site may simply have been employed as a base for collecting either floral and/or faunal resources which were subsequently transported to a more permanent habitation site. Another scenario is that the primary area of the site is now under water and we are simply seeing the 'back end' of it in the ravine.

At a more general level, the ravine sites were most likely seasonal stations for people based at larger habitation sites. The Princess Point component at Bull's Point is probably associated with sites such as those located at Princess and Sassafras Points. There are no Early Ontario Iroquoian village sites docu-

mented at Cootes Paradise, however, and Bull's Cove may be a seasonal camp for a group that came from further afield for a shorter period of time. This may account for the less dense concentration of artifacts at Bull's Cove, and the smattering of Early Iroquoian pottery found at Bull's Point.

An AMS radiocarbon assay on maize from the Bull's Point site yielded a date of 960 ± 60 bp (TO-6341), cal. AD 980 (1040) 1220. Although the maize was recovered from deposits inside the structure, it is impossible to associate this date with the structure. In addition, because the date falls at the juncture between the Princess Point Complex and the Early Ontario Iroquoian Stage, we cannot definitively associate the date with either of these components at the site. Present data are inadequate to pinpoint a date for the Bull's Cove site.

CONCLUSIONS

Although the 1995 and 1996 research was limited in nature and did not produce large numbers of artifacts, important information about the Princess Point and early Late Woodland habitation at Cootes Paradise was recovered. The existence of the Bull's Point site was confirmed, and its distinctive location at the bottom of a glacial ravine was verified. The

discovery of the Bull's Cove site demonstrates that this type of occupation in Cootes Paradise was not limited to a single occurrence. Bull's Point reinforces the observation that Princess Point groups oriented their habitations to water, at a 'micro' as well as a 'macro' level. Precisely why this is the case remains to be determined.

Interpretation of the nature of the Bull's Point site and its reason for occupation is necessarily preliminary. Stothers proposed a seasonal settlement pattern for Princess Point that included large spring-summer settlements in riverine-lacustrine environments, and small fall-winter micro-band in upland environments (Stothers 1977). Natural riverine/lacustrine resources are at their peak in the spring and early summer, which would have allowed larger groups of people to amalgamate at these times of the year. During the fall and winter, smaller groups of people, perhaps single families, would move *away* from the water to pursue the more dispersed resources available at these times. However, Stothers' model does not take into account the different seasonal schedule required for corn horticulture. In any case, the evidence from Cootes Paradise, where there are both large and small sites at the water's edge, does not support his argument. Bull's Point and Bull's Cove may be small habitations, but because the ravines they occupy face directly into the prevailing northwest winds, they are unlikely to be winter sites. Our tentative interpretation is that these sites represent short-term seasonal camps, but their purpose remains unknown.

The prospect for future archaeological research at Cootes Paradise is highly favorable. Continued palynological research by Davis is expected to document the ecology of Cootes Paradise at the time of the early Late Woodland habitation. Geomorphological research similar to that conducted at the Grand Banks site (Crawford et al. 1998) will be conducted to document site formation processes. It is expected that archaeological survey will discover a number of additional sites.

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