Gete Odena: Grand Island's Post-Contact Occupation at Williams Landing

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ABSTRACT Two seasons of excavation were conducted at Gete Odena, a Terminal Woodland/Historic Period site near Williams Landing. We discuss two significant findings from the post-contact period. The first is the discovery of six pits investigated through a performance-based analysis and thought to be used in hide processing. The second significant finding is the identification of the occupation surfaces associated with the late eighteenth- and early nineteenth-century component. Our investigation has revealed information about site function, seasonality, and hide-smoking technology during the late prehistoric/early historic Native American occupation of the island.

Abraham Williams, the first permanent Euro-American settler on Lake Superior, built his house on the southern end of Grand Island on what we now refer to as "Murray Bay." He chose a location that was not only rich in natural resources but also had a southeastern exposure protected from the high winds and waves of Lake Superior. It is no coincidence, therefore, that Williams and his family selected a spot in 1840 or 1841 that had been occupied by Native Americans for up to 4,000 years (Dunham and Anderton 1999; Skibo et al. 2006). Williams, unfortunately, kept no journal of his 33 years on Grand Island. His daughter, Mrs. Trueman Walker Powell (the former Anna Marie Williams), however, recalled in a 1906 interview that they were invited to live on the island by the Ojibwe chief, Omonomonee, who was "the last chief that had much authority over this tribe" (Castle 1987:32). Williams set up his homestead and trading post near Gete Odena, which means "ancient village," and lived on Grand Island until his death in 1873.

In the summers of 2001 and 2002, the Grand Island Archaeological Project, jointly sponsored by Illinois State University and the Hiawatha National Forest, conducted an excavation at Gete Odena (Figure 1), which is just one portion of a large site (FS 09-10-03-803; 20AR348) that covers much of the southern tip of the island (Dunham and Branstner 1995). The primary objective of our project was to expose living surfaces from the prehistoric and historic periods by excavating a relatively large contiguous block. Previous work at the site (Dunham and Branstner 1995; Robinson et al. 1991) had been confined to shovel testing and 1 x 1 m test units, thereby restricting the researcher's ability to isolate activity areas and interpret site function.

Six pit features were discovered that we argue here and elsewhere (Skibo et al., 2006) were used to create smudge fires for hide smoking. We also discuss a living surface associated with the eighteenth- and nineteenth-century occupation of the site. The surface, identified with stratigraphic evidence and artifact distributions, is presumed to include the remains of a burned structure.

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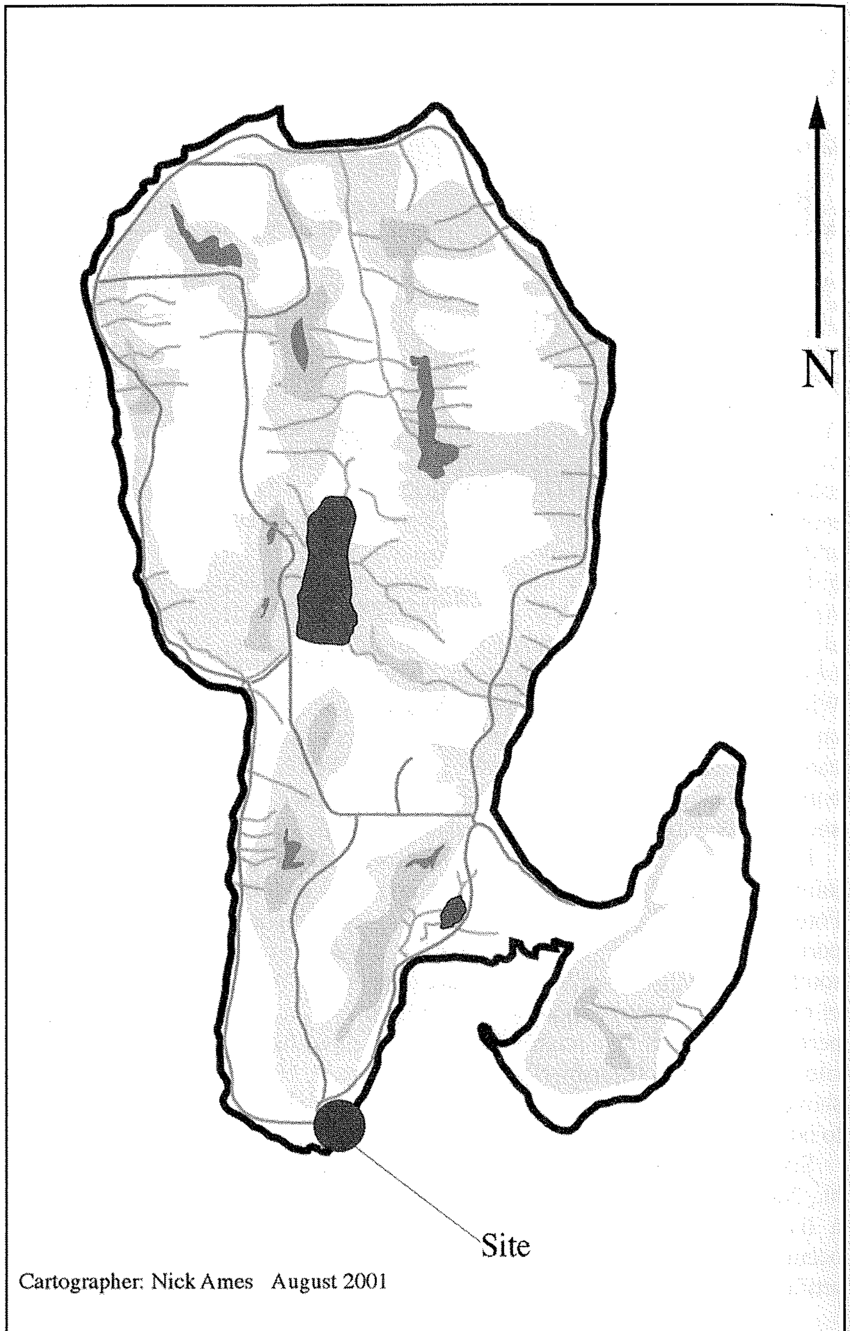

Figure 1. Location of Gete Odena on the southern tip of Grand Island.

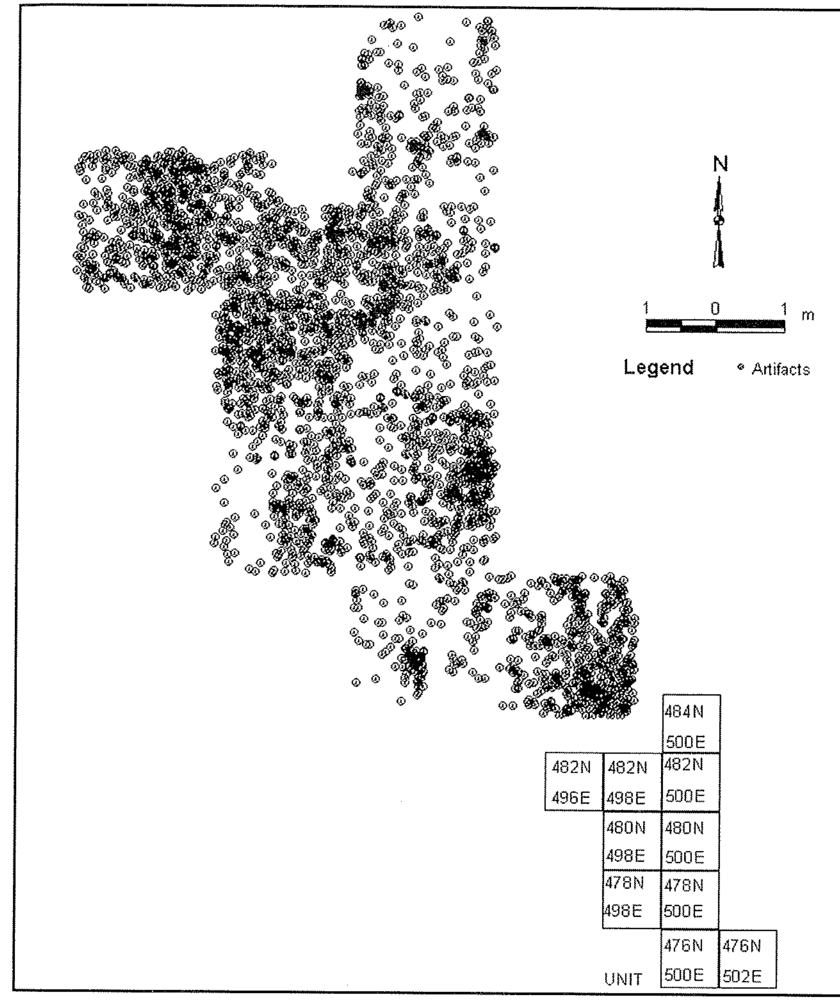

Figure 2. All piece-plotted artifacts found at the site.

Gete Odena Excavation

The 2001–2002 excavations opened up wider blocks of the site with 10 2 x 2 m units. Dozens of features were exposed and about 10,000 artifacts collected (Figure 2). One of our goals was to use artifact and distributional data to identify living surfaces and activity areas, so all artifacts were piece-plotted and the locational information was entered into a Geographical Information System (GIS).

The site was first occupied during the Late Archaic Period as indicated by a single hearth feature. Feature 8 (2001) was located at about 60 cm below the modern ground surface and constitutes the deepest cultural material at the site.

The feature contained one unidentifiable bone fragment, numerous pieces of wood charcoal, blackberry seeds and a single partridge berry. The radiocarbon date for the wood charcoal was 860–1080 cal B.C. (Beta-163732). The feature appears just above transgressive and regressive wave deposits, which are located throughout the site at about 70 cm below the ground surface. The natural stratigraphy on the site is mostly aeolian sand for about the upper 70 cm followed by a series of wave deposits. No other Late Archaic features or artifacts have been found at the site. The feature appears to be a single hearth that was constructed on what was at the time the beach, which is now about 30 m southeast of the current feature location.

The most intensive use of the site took place from the Terminal Woodland Period right up until Williams arrived on the island. A wide range of Woodland

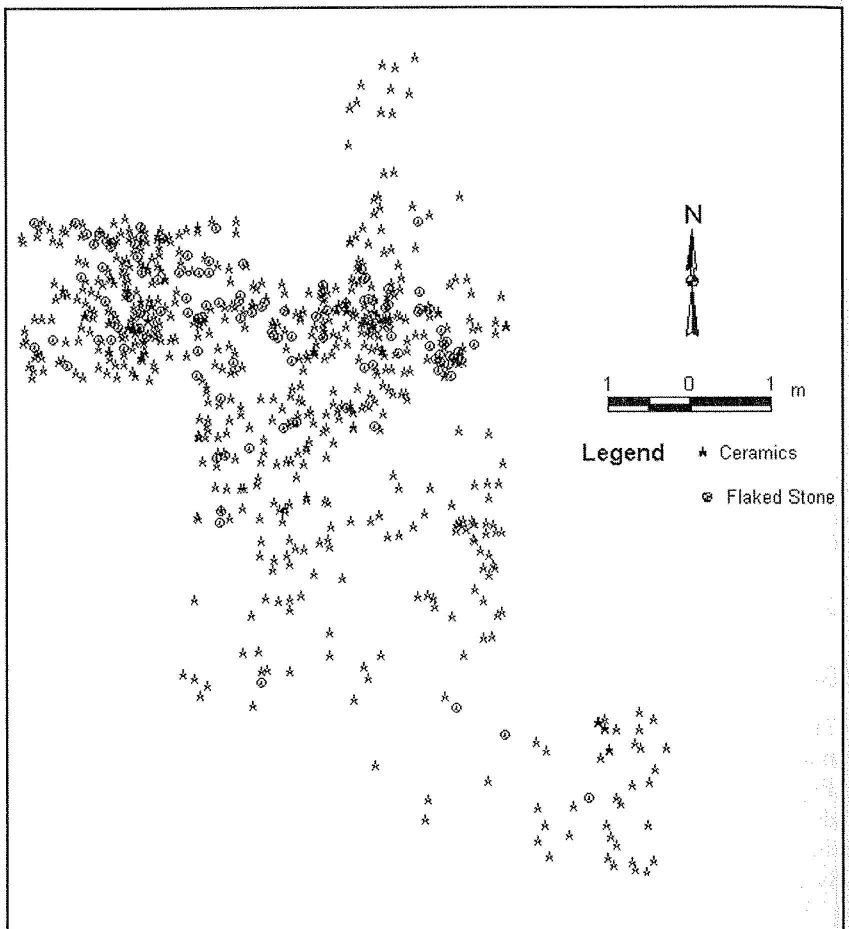

Figure 3. The distribution of prehistoric ceramic and chipped stone.

material was recovered, but it is dominated by chipped stone and ceramics. In terms of horizontal distribution, the vast majority of prehistoric pottery and chipped stone were encountered in a restricted area of the site (Figure 3). The historic, but predominately Native American, artifacts and features were generally found above the prehistoric material, and they had a much more extensive horizontal distribution. Most of the artifacts and features, however, date to the period after European contact.

Smudge Pits

Several dozen features were exposed during the 2001 and 2002 seasons, and five (likely six) of them were unique pit features that were consistent in both morphology and content. The pits had a mean maximum width of 36 cm and a mean maximum depth of 46 cm. As seen in Figures 4 and 5, the pits have straight sides or are slightly bulbous in profile. The base of each pit has a layer of charred, half-burned fuel that was in such a good state of preservation that in some cases pinecones were still intact and needles could be identified. Each pit was filled with sandy mottled soil with flecks of charcoal.

Radiocarbon dates were obtained from Features 5 and 10 (2001):

Feature 5: cal A.D. 1670–1780 and cal A.D. 1800–1950 (Beta-163731).

Feature 10: cal A.D. 1690–1730 and cal A.D. 1810–1920 and 1950 to beyond 1960 (Beta-163733).

The function of the pits was determined through a performance-based analysis of the feature's technical attributes. Only a brief summary of the smudge pit analysis is provided here. For a complete discussion of the smudge pit argument and the role it played in the fur trade, readers should refer to Skibo et al. (2006) [Skibo et al. (2006) compares the analogical reasoning used by Binford (1967) to the performance-based approach]. The details of the performance-based approach used in this analysis are not repeated here, but can be readily found in Skibo and Schiffer (2001) and Schiffer and Skibo (1997).

Performance Analysis

Individuals who want to construct a pit have lots of options that are governed by factors such as function of the pit, soil type, time they want to invest in the project, and the tools available for excavation. An examination of the pits' technical attributes suggests that oxygen deficiency was an important performance characteristic during use. The pits at Gete Odena had relatively narrow mouths that would mean that only one arm could be used for excavation by hand or with the help of a simple scoop. The depth of each pit is about 50 cm, which is about as deep as a pit can be dug by hand. A fire at the base of such a pit would burn in an oxygen-deficient environment producing a smoky, smoldering, flameless combustion.

The contents of the pits and the choice of fuels provide important clues on pit function. Many different dry fuels would have been readily available, but

Figure 4. A smudge pit from Gete Odena.

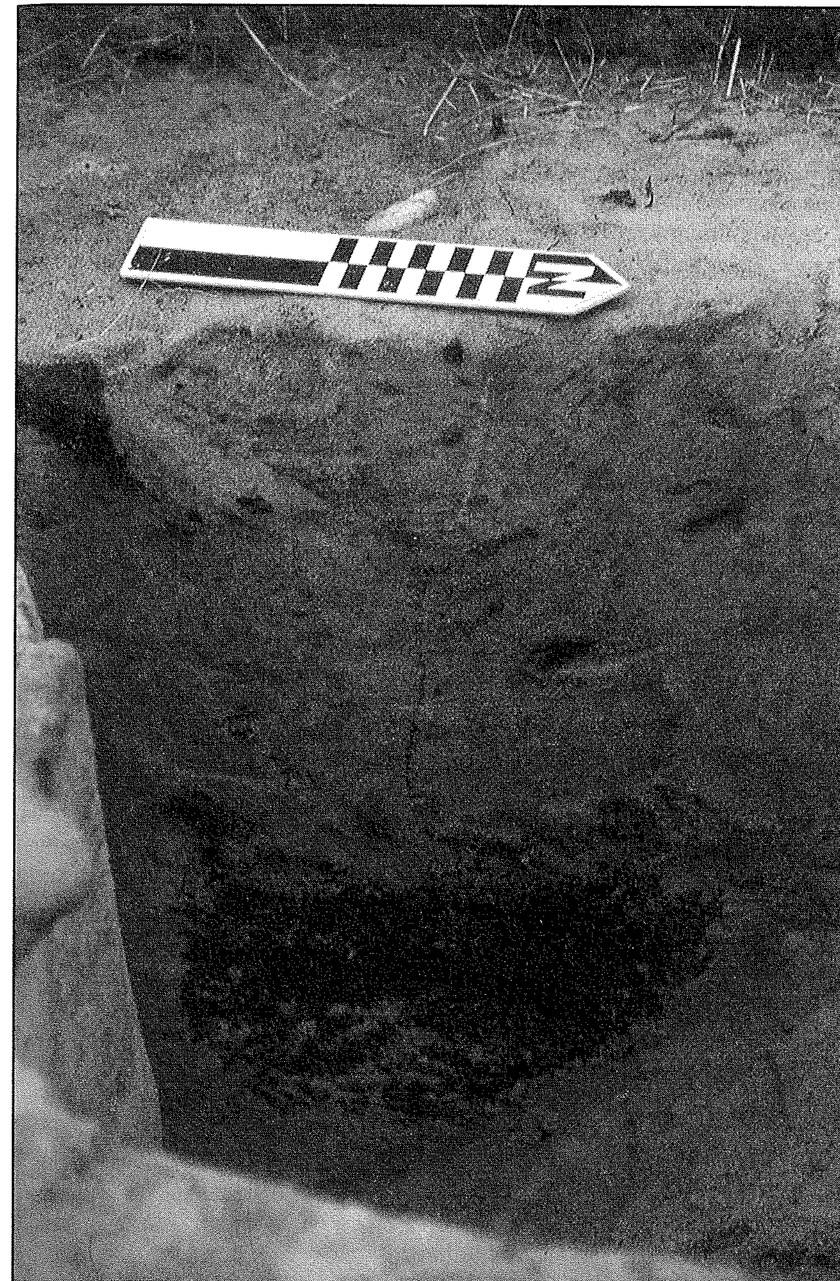

Figure 5. A smudge pit from Gete Odena.

the makers chose, in this case, pine boughs and cones. Ritzenthaler and Ritzenthaler (1983:82) note that the ideal smudge fuel would be pinecones, and Hilger (1992:132) observed white pine and Norway (red) pinecones being used for smudging on the LaPointe Indian Reservation in the early twentieth century. In an oxygen-rich environment, like an open fire, even green boughs and cones will combust, but at the base of each of the Gete Odena pits, charred cones and pine twigs still maintained their structural integrity.

Another important performance characteristic is ease of manufacture and the related performance characteristic, expediency of manufacture. The sandy soil at the site would make hand-digging a pit quite easy, but the unstable sandy soil would not permit these pits to be left open for long without collapsing. The walls of our pits showed little evidence of caving, which suggests that they were dug, used, and filled in within a short period of time, likely in the same day. The great quantity of unburnt matter at the base of the pits suggests that pits may have been filled immediately after use while the smudge was still smoldering. Ritzenthaler and Ritzenthaler (1983:82) report that coloring of hide over a smudge pit would take a total of 40 minutes or less. It is quite likely that the pits at Gete Odena were used only once. When hides were ready to be smoked, a pit was dug, smudge material was put in the base, and burning coals were added to ignite an oxygen-deficient smoky fire. The hides were smoked, removed from over the hole, and soil was tossed back in to fill the pit and extinguish the fire.

Although the above performance-based analysis suggests that the pits were well suited to create a smudge fire on an as-needed basis, the question remains: What were these pits used for? To answer this we turn to contextual clues, faunal data, and the ethnographic record (see Skibo et al. 2006).

There is no evidence among the Ojibwe that they smudged pottery vessels, and the single radiocarbon date from a cone in the pit, along with other contextual information, suggests that the pits were used when ceramics were no longer constructed. We do, however, have strong ethnographic evidence among the Ojibwe for smoking deer hides using very similar features (see Densmore 1979; Hilger 1992; Ritzenthaler and Ritzenthaler 1983). Ritzenthaler and Ritzenthaler (1983; see also Ritzenthaler 1949) report that deer hides were smoked to attain a golden color and to prevent them from getting stiff when wet. These hides were the primary material for making waterproof footwear, coats, and leggings. We argue elsewhere (Skibo et al. 2006) that such items were in greater need as trade goods in the nineteenth century with the influx of Euro-American settlers in the region.

Faunal Analysis

A total of over 1,400 animal remains were recovered in 2001 and 2002 (Table 1) and we discuss them in detail here because they are central to understanding the function of the site (Humbrecht 2003; Welborn 2002). Mammals dominate

Table 1. Faunal Assemblage by Test Unit at the Geta Odena Site, 2001 and 2002 Seasons.

Test Unit	*NSP*[1]	*%*	*NSP Wt (g)*	*%*
484N500E	48	3.4	27.5	1.6
484N488E	9	0.6	1.8	0.1
484N480E	10	0.7	1.6	0.1
482N500E	105	7.4	54.4	3.1
482N498E	86	6.1	54.9	3.2
482N496E	133	9.4	221.7	12.8
480N500E	141	10.0	159.5	9.2
480N498E	146	10.3	215.8	12.4
478N500E	119	8.4	176.5	10.2
478N498E	188	13.3	192.4	11.1
476N502E	289	20.5	387.6	22.3
476N500E	138	9.8	241.9	14.0
Grand totals	1,412	99.9	1,733.6	100.1

[1]Number of specimens.

the Gete Odena faunal assemblage, representing 89.6 percent of all specimens (N = 1,412), 64.4 percent of all specimens that were identified more precisely than class (N = 284), and 45 percent of the minimum number of individuals (N = 51) (Table 2). Converting bone weights to biomass by means of allometric formulae (Reitz and Scarry 1985:67), mammals contributed more than 95 percent of the estimated meat diet. A total of 41 moose bones was probably the largest component to the human diet, because of the large size of an individual animal. The vast majority of moose bones were from the lower legs, especially the phalanges (MNI = 2).

At least four individual black bears are represented by mandibles from three mature individuals and a femur from a subadult. Unlike many archaeological assemblages where bear metapodials and phalanges probably indicate "riders" in hides, only 18 percent of the Gete Odena bear specimens are from the feet, with the majority of the specimens being fragments of various longbones, pelves, and crania along with isolated teeth. The occurrence of three mandibles from three individuals in adjacent units is interesting in light of a bear mandible that was purposely perforated by Native American hunters that was found at this same site in 1990 (Robinson et al. 1991:132). Similar perforated bear mandible tools have been reported from several Upper Great Lakes sites such as Nottawasaga Bay in Ontario (Garrad 1969), Rock Island, Wisconsin (Mason 1986), the Marquette Mission site in St. Ignace, Michigan (Smith 1985), and the Cater site near Midland, Michigan (Martin 2001), and were in use from the

Table 2. Species Composition of Animal Remains from the Geta Odena Site, 2001 and 2002 Seasons.

	NISP[1]	*MNI*[2]	*NISP Wt(g)*	*Biomass (kg)*[3]
MAMMALS	**1,265**	**23**	**1,675.8**	**26.279**
Snowshoe hare, *Lepus americanus*	1	1	0.1	0.003
Beaver, *Castor canadensis*	42	3	76.6	1.306
Muskrat, *Ondatra zibethicus*	13	2	5.7	0.126
cf. Dog, *Canis* cf. *familiaris*	15	2	50.0	0.889
Black bear, *Ursus americanus*	22	4	199.9	3.096
Marten, *Martes americana*	1	1	0.9	0.024
River otter, *Lutra canadensis*	6	2	16.9	0.335
Unidentified medium/large carnivore	2	–	1.3	0.033
Swine, *Sus scrofa*	10	1	47.4	0.848
Moose, *Alces alces*	36	2	420.2	6.041
cf. Moose, *Alces alces*	5	–	16.1	0.321
White-tailed deer, *Odocoileus virginianus*	16	3	67.2	1.160
Cattle, *Bos taurus*	9	1	111.2	1.826
cf. Cattle, *Bos taurus*	2	–	47.0	0.841
Sheep/Goat, *Ovis/Capra*	3	1	12.8	0.261
Unidentified very large mammal	3	–	12.7	0.259
Unidentified large mammal	324	–	334.9	4.925
Unidentified medium/large mammal	687	–	237.6	3.160
Unidentified medium mammal	34	–	13.2	0.268
Unidentified small/medium mammal	11	–	1.8	0.045
Unidentified small mammal	23	–	2.3	0.056
BIRDS	**83**	**16**	**40.6**	**0.689**
Common loon, *Gavia immer*	4	1	3.8	0.069
Canada goose, *Branta canadensis*	4	1	9.7	0.161
Duck sp., *Anatinae*	8	3	3.0	0.055
Domestic chicken, *Gallus gallus*	51	8	17.3	0.273
Rock dove, *Columba livia*	8	2	3.3	0.061
Passenger pigeon, *Ectopistes migratorius*	1	1	0.2	0.005
Unidentified large bird	1	–	1.5	0.030
Unidentified medium bird	6	–	1.8	0.035
REPTILES	**1**	**1**	**0.6**	**0.022**
Semi-aquatic pond turtle, *Emydidae*	1	1	0.6	0.022

continued

Table 2. Species Composition of Animal Remains from the Gete Odena Site, 2001 and 2002 Seasons. *Continued.*

	NISP[1]	*MNI*[2]	*NISP Wt(g)*	*Biomass (kg)*[3]
FISH	**30**	**7**	**11.7**	**0.247**
Lake sturgeon, *Acipenser fulvescens*	18	2	8.8	0.168
Channel catfish, *Ictalurus punctatus*	1	1	0.4	0.008
Lake whitefish, *Coregonus clupeiformis*	2	2	0.2	0.008
Walleye, *Stizostedion vitreum*	3	2	0.4	0.013
Unidentified fish	6	–	1.9	0.050
UNIDENTIFIED VERTEBRATA	**20**	**–**	**2.2**	**–**
BIVALVES	**13**	**4**	**2.7**	**–**
Unidentified mussel	13	4	2.7	–
Grand totals	1,412	51	1,733.6	27.215
Totals identified	284	47	1,118.1	17.931
Percentage identified	20.1		64.5	65.900

[1]Number of identified specimens.
[2]Minimum number of individuals estimated from all test units, ignoring spatial designations.
[3]Biomass in kg were calculated from bone weights using allometric formulae presented by Reitz and Scarry (1985:67).

early seventeenth century through the early eighteenth century. Possibly the mandibles at Gete Odena were cached for eventual modification into the mysterious hide or basswood stropping tools that escaped description (and possibly observation) by Jesuit priests, European traders, and explorers (Martin and Graham 1995).

Other mammals include beaver (MNI = 3), white-tailed deer (MNI = 3), muskrat (MNI = 2), river otter (MNI = 2), marten, canid remains that are most comparable to domestic dog (MNI = 2), and a snowshoe hare. Bones and isolated teeth from cattle, pig, and ovicaprids were likely deposited after 1840 when Abraham Williams arrived on the island, and are probably contemporaneous with the mid- to late nineteenth-century occupation of the site.

Bird bones are not numerous, except for the bones from eight individual domesticated chickens that were discovered in Feature 7 (2002). The remaining bird remains are from one common loon, one Canada goose, three unidentified ducks, a passenger pigeon, and two rock doves.

Together with waterfowl, aquatic species are surprisingly underrepresented. Thirteen small unidentified mussel shell fragments from at least four individuals were found along with one small plastron fragment from an unidentified species of aquatic turtle. Despite Gete Odena being located in a classic setting for exploiting fish from West Channel and Murray Bay, fish remains are limited to a minimum of seven individuals from four species. In

Table 3. Animal Species Identified from Site FS 09-10-03-803 during 1990, 1994, and 2001–2002 Seasons.

	1990[1]	*1994*[2]	*2001–2002*[3]
MAMMALS			
Snowshoe hare/eastern cottontail, *Leporidae*	x	x	–
Beaver, *Castor canadensis*	x	x	x
Muskrat, *Ondatra zibethicus*	–	x	x
cf. Domestic dog, *Canis* cf. *familiaris*	–	–	x
Black bear, *Ursus americanus*	x	–	x
Marten, *Martes americana*	–	x	x
River otter, *Lutra canadensis*	–	–	x
Swine, *Sus scrofa*	x	x	x
Moose, *Alces alces*	x	–	x
White-tailed Deer, *Odocoileus virginianus*	x	x	x
Cattle, *Bos taurus*	–	x	x
Sheep/Goat, *Ovis/Capra*	–	–	x
BIRDS			
Common loon, *Gavia immer*	–	–	x
Loon sp., *Gavia* sp.	–	x	–
Ring-necked duck/lesser scaup, *Aythya collaris/affinis*	x	–	–
Oldsquaw(?), *Clangula hyemalis*	–	x	–
Common merganser, *Mergus merganser*	x	–	–
Duck sp., *Anatinae*	–	–	x
Chicken, *Gallus gallus*	–	x	x
Spruce/ruffed grouse, *Dendragapus canadensis/Bonasa umbellus*	–	x	–
Turkey, *Meleagris gallopavo*	x	x	–
Herring gull, *Larus argentatus*	x	–	–
Rock dove, *Columba livia*	–	–	x
Passenger pigeon, *Ectopistes migratorius*	–	x	x
REPTILES			
Painted turtle, *Chrysemys picta*	x	–	–
Semi-aquatic pond turtle, *Emydidae*	–	–	x
Unidentified Turtle	x	–	–

continued

Table 3. Animal Species Identified from Site FS 09-10-03-803 during 1990, 1994, and 2001–2002 Seasons. *Continued.*

	1990[1]	*1994*[2]	*2001–2002*[3]
FISH			
Lake sturgeon, *Acipenser fulvescens*	x	x	x
Longnose sucker, *Catostomus catostomus*	x	–	–
Sucker sp., *Catostomus* sp.	–	x	–
Channel catfish, *Ictalurus punctatus*	–	–	x
Lake whitefish, *Coregonus clupeiformis*	x	–	x
Lake herring/whitefish, *Coregonus* sp.	–	x	–
Lake trout, *Salvelinus namaycush*	–	x	–
Black bass, *Micropterus* sp.	–	x	–
Walleye, *Stizostedion vitreum*	x	–	x
Walleye/sauger, *Stizostedion* sp.	–	x	–
BIVALVES			
Unidentified mussel	x	–	x

[1]Commonwealth Cultural Resources Group 1991; faunal analysis by Beverley A. Smith.
[2]Dunham and Branstner 1995; faunal analysis by Janet C. Cooper.
[3]Illinois State University, 2001 and 2002 field schools.

addition to 18 dermal bones from a minimum of two lake sturgeon that were approximately five feet long, the only other fish remains are from lake whitefish (MNI = 2), walleye (MNI = 2), and a lone channel catfish.

When we compare the species lists from 1990, 1994, and 2001–2002, there are only a few species unique to the previous investigations of the area (Table 3). These include: some duck bones from ring-necked or lesser scaup, a possible oldsquaw, and a merganser, as well as a grouse, turkey, and herring gull, a painted turtle, and fish are represented by isolated bones from longnose sucker, lake trout, and black bass.

What can we say about seasonality for the late prehistoric and/or early historic people who inhabited Gete Odena? Historic accounts indicate that groups of Ojibwe Indians occupied sites in various locations on Grand Island during the summer (Castle 1989; Roberts 1991:42), but that some groups lived on the island during the winter (Roberts 1991:54). The very presence of certain species can be indicators of seasonal occupations. Common loon, migratory waterfowl, and passenger pigeon would have been summer visitors to the vicinity, and lake sturgeon would have been most accessible in the late spring when they spawned on shoals offshore in Murray Bay. However, the small quantities relative to the whole faunal assemblage suggest that human activity at Gete Odena was not intense during warm-weather periods. The abundance of large mammals and several fur-bearing species, on the other hand, seems to indicate that Gete Odena was a place where people concentrated on acquiring and processing meat and hides from mammals such as moose, black bear, white-tailed deer, beaver, and other small fur-bearers. Given the paucity of fish at the site, was the principle time of human habitation of this site during the cooler times of the year, after the fall spawning period for lake trout and whitefish? Or did the demands of the European fur trade outweigh the importance of fishing at Gete Odena.

Several sites provide useful comparative information. The abundance of fish remains from the stratified Late Woodland occupation zones at the Juntunen site (McPherron 1967), for example, represents a prime example of the inland shore fishery (Cleland 1966, 1982) where people congregated during the spring to exploit spring-spawning suckers and lake sturgeon, and during the autumn to capture whitefish and lake trout. The native innovation of large gill nets made this an efficient enterprise. An early historic example of a Native American fishing camp is the P-Flat site in the Apostle Islands (Richner 1989). Perhaps a better comparison can be made to the early historic occupations of Rock Island in northern Lake Michigan (Mason 1986). The greater density of occupational features, structural features, and palisade lines at Rock Island implies larger Native American populations there throughout the various seventeenth- through nineteenth-century occupations at this site. Animal remains include many of the same large mammals throughout the cultural sequence, as at Gete Odena, but fish remains were also abundant. Because no analysis of the fish was made, we have no impression on whether spring-spawning fish, fall-spawning fish, or both, were targeted.

We have no other comparable excavated sites with a large faunal assemblage on Grand Island available to compare to Gete Odena. At this time, Gete Odena seems to represent a special-function habitation site where animal exploitation activities concentrated on mammals and the processing of hides. Although some fishbones were recovered along with a bone harpoon and several net sinkers (Dunham and Branster 1995), Gete Odena is unlike late prehistoric and early historic sites in similar island settings. Our site lacks significant evidence for fishing, despite the site's placement adjacent to seemingly ideal offshore fishing locations.

Living Surfaces

At many sites in the Great Lakes region it is common to find compact occupation surfaces in which artifacts that may have been deposited hundreds of years apart are, stratigraphically, separated by only centimeters (Reid and Rajnovich 1985:6). Although there are rare exceptions to this pattern, the occupation surfaces from many multicomponent sites are compressed into strata that make difficult the discrimination of even broad temporal patterns. The site of Gete Odena is no exception. Within just 20 cm of sediment we find artifacts that span as much as 600 years. One of the overall goals of our research program is to discern individual occupation surfaces—a daunting task, given the compression of the stratigraphic sequence. Yet, using multiple lines of evidence, we discuss below the discovery of a post-contact Native American living surface.

There are a number of reasons that archaeologists fail to find discrete living surfaces and houses in this region (Hill 1995:338–364; cf. Brose 1970). First, sites are often situated in favorable locations. Native Americans periodically occupied particular sites for thousands of years, often followed by Euro-American settlements. As a result, it is difficult to discern individual occupations at sites like Gete Odena that are occupied seasonally for thousands of years. Second, many of the larger village sites were occupied, at best, from late spring through the fall. Favorable shoreline sites, for example, would be reoccupied yearly, new structures would be erected or old ones repaired. But because these are warm-weather sites, less substantial structures were erected if at all. Third and finally, these birch bark and hide structures were built with small poles. What is left, often, is just a scatter of artifacts and a dizzying array of post-molds that represent years of seasonal occupation.

Two lines of evidence are used to identify a living surface excavated during the 2001 and 2002 seasons: stratigraphy and artifact distribution. The excavation was done by trowel and shovel skimming in natural levels, meaning that level changes were determined in the field based on sediment characteristics, artifact types, quantities, and distributions. This strategy not only permitted the maximum number of piece-plotted artifacts, but it also made possible the identification of subtle soil changes that could be attributed to individual living surfaces. A "living surface," in this context, is defined as an organic-rich stratigraphic layer with features and greater quantities of primary refuse. Such a surface was likely the location for houses and daily activities. Sand deposited by aeolian action prior to and immediately after a seasonal occupation of the site could possibly cap the surface and make it discernable archaeologically. Unfortunately, in most units such surfaces could not be identified owing to a lack of significant between-season sand deposition and the high incidence of pit digging by occupants that tended to blur discrete stratigraphic layers. Despite these problems, one surface was identified that we infer was a burned surface and a possible structure.

In the 2002 excavation we discerned a distinct boundary between what we call, for convenience, "inside" and "outside" a house. The sediment inside the house was rich in organics and had a great deal of charcoal and an overall charred appearance. Reid and Rajnovich (1985) found a similar type of soil change at a series of Laurel sites in northwest Ontario. Immediately below the charred surface at many areas of Gete Odena was fire-hardened sand that was orange, reddish or pink in color. A large hot fire had obviously burned here, and from the stratigraphic evidence and artifacts it seemed to have occurred during the late 1700s and early 1800s, about the same time as the construction of some of the smudge pits.

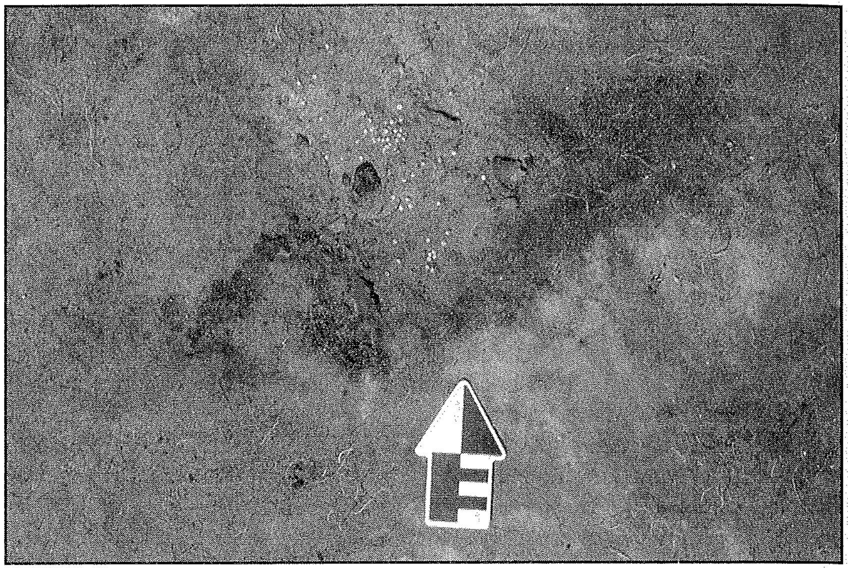

Figure 6. A cluster of beads inside the house.

The only discernable feature in the house is a tight scatter of beads (Figure 6). The 75 or so small, predominately white, "seed beads" appear to have been in a bark container that was likely on the floor of the structure at the time of the fire. The beads are clustered in and around unidentifiable, charred, birch bark-like fragments.

In this unit we have the best case for a house floor and wall boundary (Figure 7). We suggest that this proposed boundary of the burned surface is associated with the outline of an Ojibwe house that was occupied during the eighteenth or early nineteenth centuries. This proposed house living surface is based on stratigraphic clues and artifact distributions. Post holes, which have been used to define houses in the general region (e.g., Brose 1970; McPherron 1967), were found too infrequently to add to this proposition. Interestingly, the long axis of the house has the same orientation as the shoreline, located just 30 m away. Inside the house a burned sand layer is overlaid with a heavily organic and charred surface.

It is difficult to determine why the presumed house burned. Besides the possible bead container, the floor lacked any significant features or usable artifacts. The house seems to have been stripped of its artifacts prior to burning. It is unlikely that the house burned as an accident while the house was occupied. Either the house was purposefully burned or it may have burned during a forest fire. If it was purposefully abandoned and burned, the container of beads could have been left as an offering or perhaps such a small container was left accidentally behind.

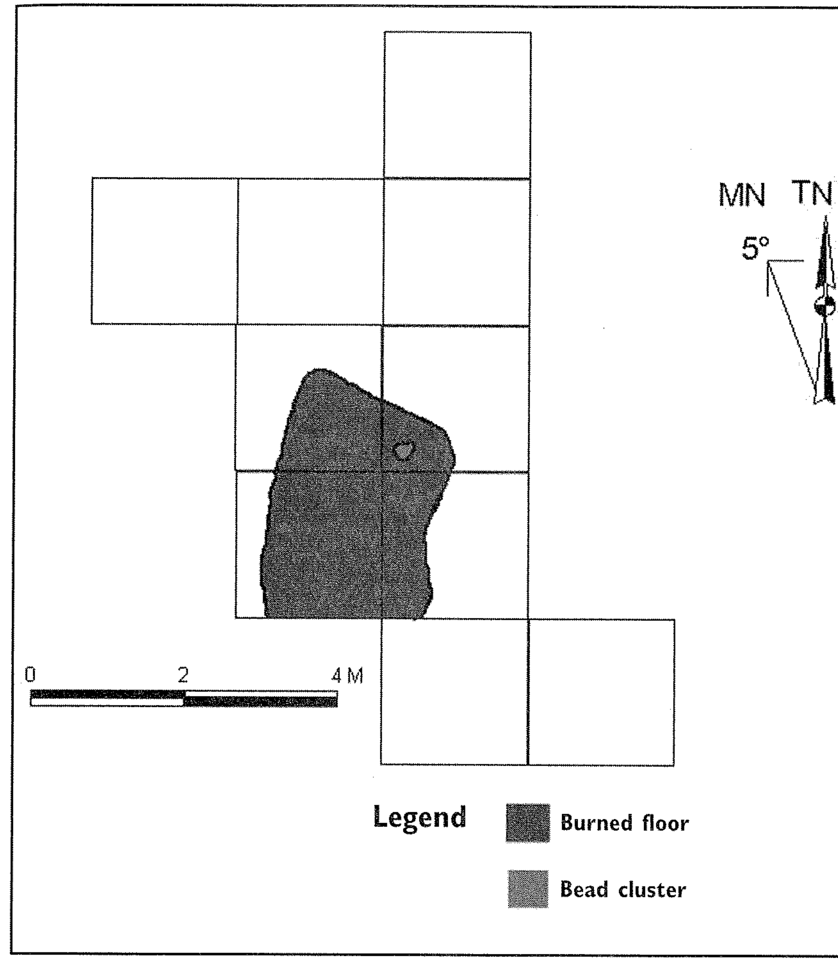

Figure 7. Midden distribution suggesting an Ojibwe house outline. Illustration by Debbie Opokuah, 2003.

All the artifacts were piece-plotted and entered into a GIS. The orientation of the artifacts was also predominately flat, suggesting that the surface and associated artifacts had been trampled repeatedly. The types of artifacts and their distribution inside and outside the house are instructive. To illustrate the artifact densities inside and outside of the house, we focus here on one unit. The density of artifacts was calculated from levels 4 and 5, which are thought to represent two levels of the living surface. The artifact density in the house was 1.35 artifacts per 20 cm^2 and the artifact density outside the house was almost double (2.57 artifacts per 20 cm^2). What could account for an artifact density almost double outside the house? There are two possible, non-mutually exclusive, reasons. First, ethnographically some areas are typically kept cleaner and free of broken tools and debris (Beck and Hill 2004; cf. Reid and Rajnovich 1985). In this case, the area inside of the house could be kept much cleaner. Hill (1995) isolated a house floor in the interior of the western Upper Peninsula of Michigan and found that a "midden ring" defined the exterior walls of the house. As Nielsen (1991) has illustrated experimentally, there is a tendency for larger artifacts to migrate to the borders of heavily trampled areas.

A second possible reason for the much lower artifact density inside the

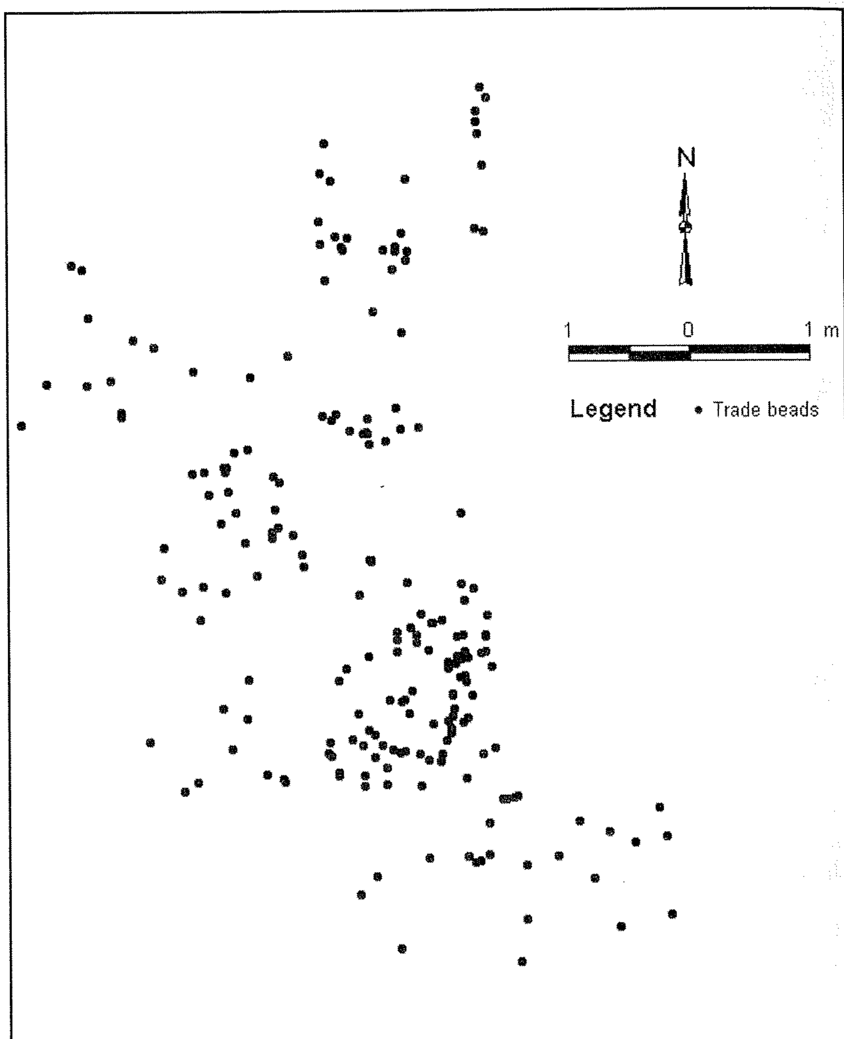

Figure 8. Distribution of trade beads.

house is that fewer artifact-producing activities occurred there. Most activities at a spring through fall site occur outside the house. Activities such as cooking, eating, skinning, animal cleaning, and craft production would all be done outside. The structures become only places to sleep and a shelter during inclement weather.

Glass trade beads are found in great quantity at sites during this era. The tight scatter of beads possibly held in a container of some type was the only evidence for abandoned de facto refuse. Someone either purposefully left or forgot the small pouch prior to the burning. But we believe that trade beads can also be an instructive artifact in the interpretation of site formation processes. The artifacts are so tiny that once dropped they are easily lost especially in the sandy soil matrix characteristic of Gete Odena. And dropping beads would be a common occurrence during use. The bead density is also much higher outside the house if you exclude the beads found in the cache (Figure 8). This supports our hypothesis that few activities were taking place in the structure. We suggest that beadwork was likely done outside the house along with many other activities.

Conclusion

Gete Odena was occupied sporadically for several thousands of years, but both the smudge pits and associated living surface were in use during the late 1700s and early 1800s. Based on a performance-based analysis of the pits and other contextual clues, we conclude that the pits were used to smoke hides. The focus of activity during the eighteenth and nineteenth centuries was on hunting and hide processing of species like white-tailed deer, moose, black bear, and beaver. Similar sites on the Upper Great Lakes have faunal assemblages dominated by fish. Martin (1989, 1999) has argued that prehistoric adaptation in the upper Great Lakes is characterized by "flexibility" as changing environmental conditions necessitate rapid adjustments in subsistence practices. Our research demonstrates that this flexibility extends into the historic period as well. We offer two likely explanations for this pattern. The site may have been occupied during cooler times of the year, after the fall spawning period for lake trout and whitefish. A small group could have been hunting on Grand Island and processing the meat and hides at the site, which they could then more easily transport to their winter camp. Another possibility is that the demands for hides outweighed their concern for fishing, and the site was the focus of animal processing for trade with Euro-American traders. Regardless, the research at Gete Odena provides us with a look at life on Grand Island during this little known period on Lake Superior.

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