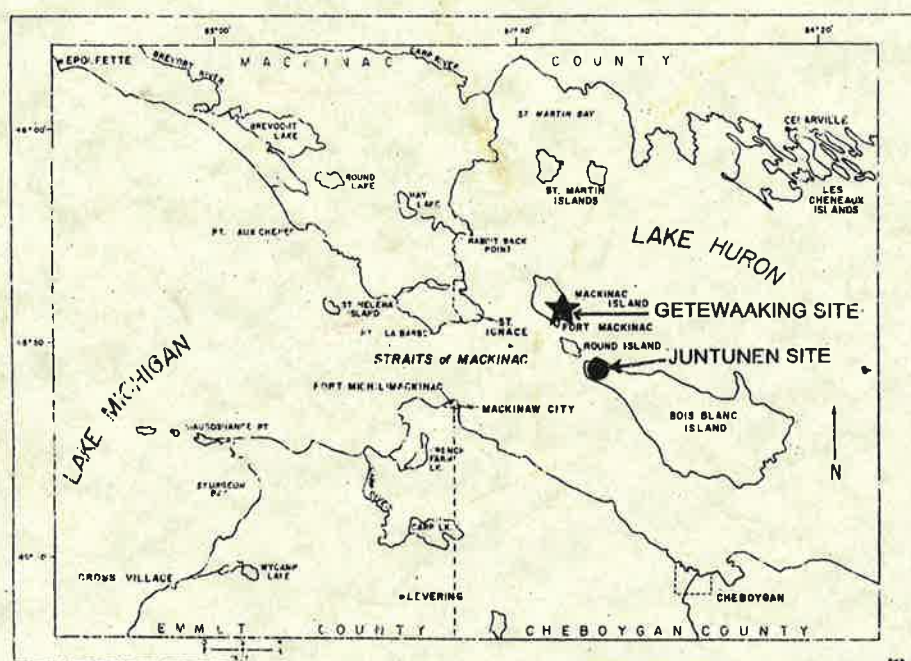


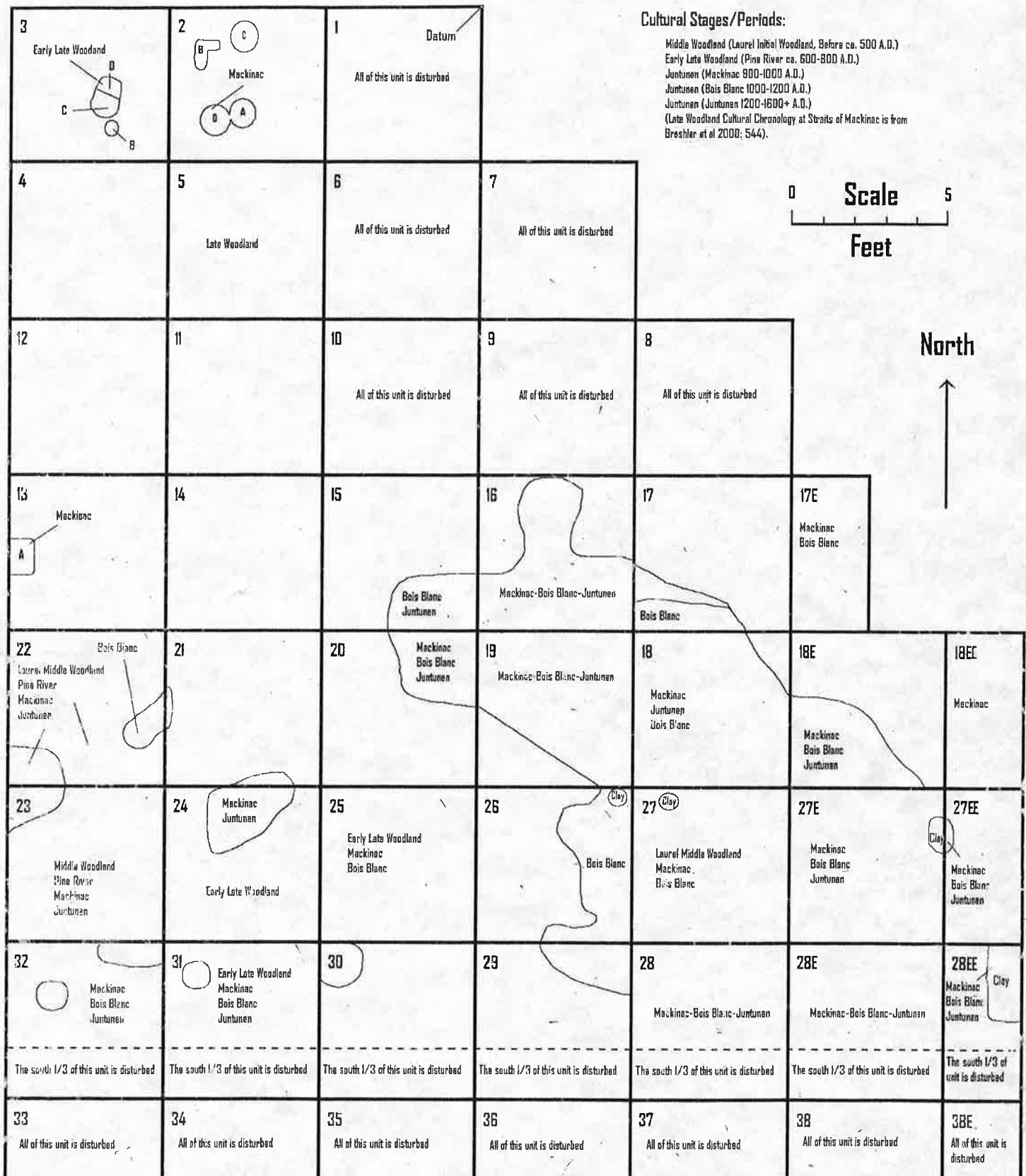
**Animal Remains  
from the Getewaaking Site (20MK457),  
a Multiple-Component Middle to Late Woodland  
Habitation Site on Mackinac Island, Michigan**

**Terrance J. Martin and Angela R. Perri**



**Illinois State Museum  
Landscape History Program  
Technical Report 2011-000-7**

**August 2011**



This area adjacent to the building was excavated out by a backhoe machine for a builders trench. It has been disturbed many times previously for repairs/maintenance to the stone wall foundation which was originally built in the 1830's.



**'Indian Dormitory' Building**

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by

Terrance J. Martin and Angela R. Perri  
Photographs by Doug Carr

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**ANIMAL REMAINS FROM THE GETEWAAKING SITE (20MK457),  
A MULTIPLE COMPONENT MIDDLE TO LATE WOODLAND HABITATION SITE  
ON MACKINAC ISLAND, MICHIGAN**

Terrance J. Martin and Angela R. Perri  
Illinois State Museum

Following the Treaty of Washington with the Odawa and Ojibwa in 1836, the Indian Dormitory was constructed in 1838 to provide housing for Native Americans who came to Mackinac Island to receive their annual payments as part of the provisions of the treaty. Because the Native Americans usually preferred to camp along the harbor, it was used primarily as an administrative building by Indian agents and as the residence of the dormitory keeper. After 1846 the building functioned as the Mackinac Island Public School, and as the Mackinac Island Summer School of Art during the early 1940s. The Mackinac Island State Park Commission restored the structure to its 1838 appearance by the mid-1960s. From 2007 until 2011, the building was converted into the Richard and Jane Manoogian Mackinac Art Museum (Mackinac Island State Park Commission 2011; Widder 1972:50). Construction activities in the yard behind (north) of the building during this latest construction phase necessitated archaeological mitigation in 2009, and this work was carried out by Andrews Cultural Resources. Despite disturbed areas, these investigations disclosed cultural deposits associated with Middle Woodland (Laurel), Early Late Woodland (Pine River phase), and Late Woodland (Mackinac, Bois Blanc and Juntunen phases) occupations. The site extends over a large area, part of a bench upon which the Indian Dormitory and the village of Mackinac Island are located (Prah and Branstner 1984:55). Registered as site number 20MK457, the site was named Getewaaking, "the place of the old ones." Reportedly, field archaeologists occasionally encountered concentrations of fish bones and scales that formed mats two inches thick that covered areas as large as four square feet. Thus, only animal remains that were thought to be potentially identifiable were collected during the investigation. Ultimately, a faunal assemblage in excess of 2,000 specimens from a total of 46 test units and several pedestals (bulks) between units was submitted to the Illinois State Museum for identification and analysis. Because the investigated area is such a small portion of a much larger prehistoric site, our conclusions are tentative and apply only to the available sample.

## METHODS

Animal remains from the Getewaaking site were examined at the Illinois State Museum's Research and Collections Center in Springfield, where an extensive collection of modern vertebrate skeletons and freshwater mussel shells are available for reference. Information for each identified specimen and each lot of unidentified specimens was entered on tags that were printed on acid-free, archive-quality paper. Specimens and accompanying tags were placed within 2 mil or 4 mil polyethylene zipper bags. Included on the specimen tags is information on archaeological provenience, animal taxon represented, anatomical element, side, portion of element, condition of epiphyseal closure (if present), completeness, weight of the specimen in grams, natural modifications

(e.g., carnivore- and/or rodent-gnawing), and cultural modifications (e.g., burning and cut marks). Standard lengths of fish were estimated for each identified bone by referring to bones from modern fish of known size in the comparative collection. Single specimen counts were tallied in the case of refitted broken specimens as well as rejoined epiphyses and shafts. All information was then entered into computer files in order to facilitate the analysis.

Summary calculations are presented in tables and include the number of identified specimens (NISP), minimum number of individuals (MNI) per taxon, total weight of specimens per taxon (in grams), and biomass (in kg) for each taxon. Scientific and common names for animals conform to the Integrated Taxonomic Information System (ITIS) website. Shells from large gastropods are omitted from the tabulations because their presence can usually be attributed to post-occupation intrusion. MNI estimates for all other taxa are based on anatomical element, symmetry, element portion, and biological age or body size. Estimates of MNI were calculated from the site at large ignoring provenience and individual component groupings (Table 1) following a minimum distinction approach (Grayson 1973), and alternatively, following a maximum distinction approach, which assumes that specimens from unique component/temporal groupings represent unique individuals (Table 2). Thus, values for MNI shown in the two columns in Table 2 tend to range between conservative and overly generous. Furthermore, we assume that specimens from one large individual mammal (e.g., caribou or moose) could reasonably occur in multiple excavations units and features, but that skeletal specimens from small-bodied animals were unlikely dispersed great distances across the site. Dietary contributions to the site inhabitants must take into consideration the body size of the various prey animals in addition to numbers of individuals. Biomass estimates were derived from allometric scaling. As described by Reitz and Scarry (1985:18), "the weight of the archaeological bone is used in an allometric formula [see Reitz and Scarry 1985:67] to predict the quantity of biomass for the skeletal mass recovered rather than the total original weight of the individual animal represented by the recovered bone." Biomass estimates were calculated separately for each component/temporal grouping, and the totals presented in Table 2 are sums for these groupings. This approach avoids the problem of basing meat estimates on problematic MNI estimates and assuming that meat from entire animals was consumed at the site from which the archaeological sample was acquired. Despite the problems inherent in the various techniques used to estimate biomass and usable or edible meat, the interpretive value of such measures are the *relative* importance of the various taxa rather than the *absolute* quantities.

## SPECIES ACCOUNTS

Table 1 provides a perspective on the animal remains and culture historical deposits at the Getewaaking site. Although the site witnessed several hundred years of intermittent occupation, considerable mixture of the various deposits had occurred. Despite approximately 70% of the faunal assemblage by count being associated with Late Woodland occupations, the Mackinac and Bois Blanc phases are the only occupations that could be isolated, and these contribute only 10% of the site's animal remains. The species composition of the site's total faunal collection is presented in Table 2. A total of 1,195 specimens, which comprises 56.6% of the total assemblage by count and

78.3% by weight, were identified more precisely than class. The occurrence of the various animals by cultural and/or temporal component, based on associations with diagnostic artifacts, is presented in Tables 3 through 9. Although sample sizes vary, the representation of various species seems to be remarkably consistent through time.

### *Mammals*

A large and diverse assemblage of mammals were identified from the Getewaaking site, and the taxa include rodents, carnivores, fur-bearing species, and large artiodactyls. Post-Contact Euroamerican activities are also indicated by the presence of domesticated species.

Moose is especially well-represented at the site with 30 specimens coming from 13 test units and three pedestals. Twenty-four are from various Late Woodland occupations, five are from unidentified contexts, and one is from a disturbed area in TU 23. A minimum of two individuals are indicated from two left proximal radii, but a more liberal estimate of seven individuals can be made if specimens are segregated by cultural or temporal contexts. Moose contributed just over 25% of the biomass from identified mammals. Nearly half of the specimens are from the lower legs and feet (eleven phalanges, two metacarpals, and an astragalus exhibiting cut marks [Fig. 1]), five are fragments from the proximal forequarters (humerus, three radii, and an ulna), two are from the proximal hindquarter (a proximal femur shaft and a distal tibia shaft), plus one rib fragment, three cranial fragments, one incomplete mandible, and three isolated teeth. An incisor and metacarpal were modified into artifacts. Although moose was also present at the Juntunen and Scott Point sites (Cleland 1966:188; Martin 1982), specimens from the very large artiodactyl were not nearly so plentiful as at the Getewaaking site. Moose probably reached Mackinac Island by swimming in open water or crossing on the ice from the Upper Peninsula mainland (Baker 1983:603).

Caribou specimens were identified in ten test units and represent at least two individuals based on two left innominate bones and two right calcanei. These were distinguished from white-tailed deer on the basis of direct comparisons to reference skeletons of both species in the osteology collection at the Illinois State Museum. Sixteen bones were associated with various Late Woodland occupations, six were from unidentified contexts, and one was found in a disturbed portion of TU 31. Caribou provided just under 12% of the total biomass from identified mammals. Seventeen specimens are bone fragments from the lower leg or foot (two calcanei, three metacarpals, five metatarsals, one metapodial shaft, and six phalanges). The other specimens consist of a right distal humerus shaft from TU 21, two innominate bone fragments from TU 17 and 25, and the left anterior portion of a sacrum from the pedestal in the southwestern corner of TU 26. Two lumbar vertebrae fragments from TU 24 and the pedestal in the southwestern corner of TU 17E compare most favorably to caribou. Cut marks were observed on an ischium and a distal metatarsal shaft. Similar to moose, caribou appear to have been more plentiful at the Getewaaking site than at Juntunen or Scott Point. Historically, woodland caribou inhabited the Straits of Mackinac as recently as the mid-nineteenth century, although it may have been a transient species to the area only during cold weather. Their presence on islands in the Great Lakes may also have been limited to winter crossings over ice (Baker 1983:614-615).

Only two bones were confidently identified as white-tailed deer. These are the middle portion of a left ischium with knife cuts that was recovered from the pedestal in the southwest corner of TU 21 (unidentified cultural context) and a right carpal bone (triquetral) associated with a Late Woodland occupation in TU 17E. Six incomplete specimens could not be distinguished between the two artiodactyl species. These are all from Late Woodland contexts and include fragments of a mandible from TU 26, a rib from TU 24, a right proximal ulna from TU 27E, a left proximal tibia shaft from TU 18EE, a proximal metatarsal from TU 18E, and a left proximal ulna from TU 17. Based on a similar relative scarcity of white-tailed deer remains at the Juntunen site, Cleland (1966:200) suggests that the ecological situation on Bois Blanc Island became more favorable for deer after lumbering activities. Major logging operations in the northern woods resulted in an overall expansion of the white-tailed deer range in the Upper Peninsula following the Civil War (Baker 1983:580). Ten antler fragments could not be distinguished as originating from caribou, white-tailed deer, or moose.

Native rodents and leporids (rabbits and hares) are represented at the site by four species. By far the most abundant of these is beaver, specimens of which were recovered from 21 test units and five pedestals. All parts of the body were identified, although 37.3% of the specimens are isolated teeth, from which a minimum of five individuals are indicated by right lower incisors. The MNI estimate rises to eleven if cultural/temporal contexts are considered. Estimated biomass from beaver is the third highest at the site behind moose and canids. Seven porcupine specimens were identified from teeth, at least three individuals are indicated by right lower incisors. The only postcranial bone from porcupine is a right proximal femur from TU 27EE. An additional three incisor fragments are from either beaver or porcupine. Muskrat is represented by only one specimen: a left distal scapula from the Late Woodland occupation in TU 18. A right distal humerus from the Late Woodland deposit in TU 25 is from a snowshoe hare, and a first phalanx found in TU 17E is conservatively attributed to the Leporidae family (snowshoe hare or eastern cottontail [*Sylvilagus floridanus*]), although it is probably also from a snowshoe hare.

Two highly-regarded fur-bearing mammals of the mustelid family were identified from the central area of the Getewaaking site, with all four specimens coming from Late Woodland contexts. Marten remains include a right proximal humerus from TU 18, a left ilium from TU 25 and a right ilium from the pedestal in the southwestern corner of TU 16. Noted as being solitary animals with low population densities, martens seem to prefer mature northern coniferous forests (Baker 1983:459). Native populations in northern Michigan were extirpated by the mid-twentieth century as a result of fur trapping (Baker 1983:457). The lone river otter specimen is a whole metapodial from TU 25. Otters in Michigan seem to thrive in shallow marshes having abundant plants as well as in deep lakes and streams (Baker 1983:529). Both marten and otter were recovered from the Juntunen site (Cleland 1966:188-189).

Five fragmentary black bear specimens were found scattered across four test units. Three bones were from the feet: a left proximal second metacarpal found in the pedestal in the southwestern corner of TU 15, a distal metapodial from TU 27, and a first phalanx from the pedestal in the southwestern corner of TU 21. Also identified were fragments of a cervical vertebra and a rib

from Late Woodland contexts in TU 18. Although all of the bear bones could be from a single individual, the bone from TU 27 is possibly associated with a Middle Woodland occupation, and the bones from the pedestals are from unidentified contexts, thus increasing the potential MNI to three. Black bear remains were present at the Juntunen site, and it is known to have been on Mackinac Island during historical times (Cleland 1966:163).

Members of the canid family are plentiful. One specimen, a right first upper molar, is tentatively attributed to the gray wolf due to its exceptionally large size (Fig. 2). This is from a Late Woodland context in TU 18E and, following von den Driesch (1976:45), measures 20.5 mm in length by 15.8 mm in breadth. This is comparable to gray wolf specimens in the Illinois State Museum zoology collection and significantly larger than the coyotes, dogs, and dog-coyote hybrids. The rest of the 198 specimens identified as *Canis* sp. are probably domesticated dog, based on their physical size, relative abundance, and age composition. Canid remains were recovered from 26 test units and eight pedestals. Despite all parts of the body being represented, none of the canid remains occurred as complete articulated burials. Cranial specimens are most numerous, and an MNI estimate of six is derived from fragments of right mandibles (Fig. 3). This includes fragments from Test Units 17E and 18E that were refitted. A mandible from TU 2 is from an individual that is approximately six months of age, based on the newly erupted first and second molars (Ellenport and St. Clair 1975:1544) (Fig. 4 and 5). A count of seven individuals is attained when six isolated right lower canine teeth are added to a right mandible that has its canine in place. Some of these canine teeth are those of subadults. Although attention to postcranial bones reveals individual(s) less than six months of age (as indicated by open epiphyses on a pair of proximal radii from TU 2, distal humeri from Test Units 2 and 16, an innominate bone from TU 2, and several metapodials and phalanges found among various test units [Sisson 1975:1437, 1451]), these could be bones from the same individuals that are represented by teeth and cranial specimens. Thus, remains from juveniles less than six months of age would be included among those in our total MNI estimate of seven. Despite the presence of juvenile and subadult animals, we are impressed by the overall large size of the individuals that are represented. Several of the postcranial bones, especially metapodials, are comparable to, or larger than, reference specimens from a standard collie, and larger than coyotes (*Canis latrans*). This large size (comparable to a modern German shepard) is reminiscent of the 196 dog bones from at least 31 individuals from the Juntunen site, which Cleland (1966:205) described as appearing "to be a very large variety of the Woodland-Mississippian dog" defined by Haag (1948). Also similar is the "fragmentary and scattered" nature of the canid remains along with the presence of knife-cut marks, which Cleland attributed to consumption of canids as food (1966:206). Thirteen canid bones from the Getewaaking site have cut marks, including a basisphenoid from TU 26, a mandible from TU 16, a cervical vertebra from TU 2 (Fig. 6), lumbar vertebrae from TU 2 and 31 (Fig. 7), a rib from the pedestal in the southwestern corner of TU 18, a juvenile's humerus from TU 2, two femurs from TU 2 (Fig. 8), a tibia from TU 27E, a metacarpal from TU 27EE, and a first phalanx from TU 22. A cervical vertebra from TU 19 was perforated/punctured on both the right and left lateral surfaces, dorsal to the centrum. Thus, the Getewaaking site canid remains do not seem to be intentional burials, other than being carcass disposals, and the large number of observed cut marks, along with the high representation of subadults, would seem to indicate dismemberment of canids for the consumption of meat. Estimated biomass for dogs is 34.7% of all identified mammals

and 29.5% of all identified animals.

Six fox specimens were identified, all from Late Woodland contexts. Although none of the fox bones could be positively distinguished between red fox (*Vulpes vulpes*) or gray fox (*Urocyon cinereoargenteus*), the former species is more likely since Michigan is the northern edge of the latter's range, and the red fox has always been better established as a northern species (Baker 1983:414, 425). Two portions of a left distal humerus shaft were discovered to refit from two test units: TU 19 and TU 29, and together with another left humerus from TU 25 (which has a knife cut on the distal anterior shaft), a minimum of two individuals are indicated. Two right humeri from TU 16 (which has knife cuts on the distal medial surface) and TU 24 also point to an MNI of one. The other specimens consist of the posterior portion of a left mandible from TU 17, which has knife cuts on the lateral surface, and a left calcaneus from TU 26.

Specimens from five historical species were encountered as intrusive into the Pre-Contact deposits. These occurred in the far north end of the site (TU 1) and in the southern portion adjacent to the old builder's trench for the Indian Dormitory. Three cattle bones consist of portions of a sawed cervical vertebra from the pedestal in the southwest corner of TU 31, a sawed lumbar vertebra from TU 29, and a sawed dorsal rib from TU 26. This last specimen was found in fill that contained artifacts from a Bois Blanc phase Late Woodland occupation. Two additional specimens from domesticated animals were also discovered intruding into Late Woodland occupation zones. A left distal humerus from a sheep was recognized from TU 31, and the first phalanx from a subadult pig was recovered from deep in TU 32. A calcaneus from a small adult goat was identified from a surface sample in TU 28. Two Norway rat bones (a humerus and femur) were found in the fill of TU 1.

### **Birds**

Common loon and bald eagle were the most frequently identified bird species at the Getewaaking site. All six of the loon bones are humeri from five different test units. The right distal humerus associated with the Middle Woodland feature in TU 22 was modified. Four specimens were from mixed Late Woodland contexts: a left proximal shaft (also modified) and right proximal end from TU 27E, a right distal humerus from the feature in TU 19, and a right proximal shaft from the pedestal in the southwest corner of TU 16. A left proximal humerus shaft from the pedestal in the southwest corner of TU 26 is from an unidentified cultural context. At least two individuals are represented, but temporal considerations could make this estimate as high as four. A minimum of 20 individual loons are represented at the Juntunen site by 75 bones (Cleland 1966:188). More than 30 loon bones were present at the Scott Point site where the species also has the greatest representation (Martin 1982). Loons are wary and difficult to approach on the open water because they dive and swim long distances under water. For this reason, their presence is hypothesized to be the consequence of getting tangled in the gill nets that Native Americans used to capture deep-water fish (McPherron 1967:196), but Cleland (1966:168, 169) points out that loons would also be vulnerable when nesting on land along the shore.

Bald eagle remains, except for a left distal carpometacarpal from unidentified non-feature

cultural contexts in TU 3, consist of phalanges from the foot (Fig. 9). Two whole ungual (fourth) phalanges from feature contexts in TU 19 (mixed Late Woodland) and TU 30 (unidentified context) represent talons, neither of which were apparently modified as pendants. Three first phalanges were recovered from features in Test Units 18, 18E (both mixed Late Woodland), and 27 (Middle Woodland to Bois Blanc Phase). Although from an anatomical perspective all of the eagle remains could be from one individual, temporal associations suggest that as many as three individuals may be represented. Bald eagle remains, from a minimum of twelve individuals, occurred at the Juntunen site as burials and as isolated elements during the Bois Blanc and Juntunen phases (Cleland 1966:207-208). Six bald eagle bones were also identified from refuse contexts associated with the Bois Blanc component at the Scott Point site, one of which is a carefully cut proximal ulna, which suggests that the shaft had been made into a tube or whistle (Martin 1982, 2007).

Four bones from waterfowl were recovered from the southern portion of the excavations. A medium-sized duck is represented by a right carpometacarpal that was associated with a mixed Late Woodland feature in TU 24. Two other duck bones, fragments of a left ulna and a right tibiotarsus, were found in the disturbed surface area of TU 28. The lone Canada goose bone is a fragment of a furculum found in TU 31.

The remaining identified avian specimens are unique occurrences at the site. One passenger pigeon bone consists of the proximal half of a right carpometacarpal that was found in TU 28-28E in a level that was associated with artifacts from the Mackinac, Bois Blanc, and Juntunen phases. Three bones from gallinaceous species were encountered. Two were from subadults that could not be identified to species. One of these is a right proximal scapula from TU 29 (disturbed area), and the other is a proximal tarsometatarsus from a juvenile individual in TU 28-28E (mixed Late Woodland). A fragment of a left pelvis from TU 32 compares most favorably to a domesticated chicken despite coming from a mixed Late Woodland occupation zone.

### ***Reptiles and Amphibians***

Turtles represent just less than five percent of all identified specimens from the site. All of the turtle specimens are from carapaces with the exception of one appendage bone. No plastron specimens were encountered.

Specimens of Blanding's turtle are the most numerous turtle at the site, coming from 17 test units, three pedestals, and all cultural/temporal contexts. An estimate of six for the minimum number of individuals is based on six proneural carapace bones, although as many as ten individuals can be tallied if temporal periods are considered. The known natural distribution of this turtle includes all of the Lower Peninsula of Michigan and only the central portion of the Upper Peninsula. Although Blanding's turtle was identified at the Juntunen site, there were only three specimens from three individuals (Cleland 1966:171). Historically, Blanding's turtle have been observed on Mackinac Island, but these may have been introduced by humans more recently (P. Martin 2010).

Two other turtle species are present, and both are associated with the mixed Late Woodland occupations. A right distal humerus from a large snapping turtle was recovered from TU32. Fused

peripheral carapace bones from eastern box turtle (probably the same individual) were found in feature contexts in TU 16 as well as in the pedestal in the southwest corner of TU 16. The specimen from the pedestal was cut. Although Mackinac Island and northern Michigan (including all of the Upper Peninsula) is outside the known distribution of the eastern box turtle, the possibility exists that late prehistoric occurrences may reflect "last vestiges of former natural populations" (Harding 1997:197). Two box turtle carapace specimens found at the Scott Point site are noteworthy in that both were modified, and their presence along the northern shore of Lake Michigan may be attributed to seasonal travels by Scott Point inhabitants or to contacts with groups in the western side of Michigan's Lower Peninsula (Martin 1982). No box turtles specimens were identified from the Juntunen site (Cleland 1966:188-189).

Another 20 turtle specimens could not be positively identified to species but are distinctive as to the family of pond turtles, which includes Blanding's turtle, painted turtle, and eastern box turtle. These are most likely specimens of Blanding's turtle that are too badly fragmented to identify with certainty. All are carapace elements, five of which are modified in the same manner as the seen on the Blanding's turtle described above. Whereas the painted turtles (*Chrysemys picta*) was probably the most common turtle in the northern Lake Huron area, as suggested from the Juntunen and Scott Point sites (Cleland 1966:171, 188; Martin 1982), none were identified at the Getewaaking site. The rarity of specimens other than those from the carapace may indicate that turtles were not a focus of animal procurement when Native Americans visited Mackinac Island, but that containers made from carapaces may have been transported along with other artifacts.

Three American toad bones are distinctive because of their large size. These include the distal portion of a tibio-fibula shaft from TU 17E (Late Woodland), and a femur shaft and humerus from the pedestal in the southwest corner of TU 14 (unidentified cultural/temporal context). Each specimen is significantly larger than American toad reference specimens in the ISM collection. The tibio-fibula consists of circa three-quarter of shaft (27 mm long) and is 7.5 mm wide at the distal end of the shaft. The humerus from the distal condyle to the proximal end of the shaft (the proximal epiphysis is missing) is 27.5 mm long. The whole femur shaft measures 35.8 mm in length (minus the epiphyses on both ends). Harding (1997:115) acknowledged that American toads living on some of the islands in the Great Lakes, especially islands in northern Lake Michigan, attain greater size than those on the mainland possibly "due to genetic differences, greater longevity, or other factors."

### **Fish**

The samples's total of 683 identified fish specimens constitutes 57.0% of all identified specimens from the site by specimen count, 15.5% by specimen weight, and 9.3% of the biomass from identified taxa. Individual fish makes up from 26% to 34.5% of the sample's estimated minimum numbers of individuals (Table 2). Vertebrae represent 59.8% of all fish bones from the site. Although cranial specimens from whitefish that could be identified were all from lake whitefish, lake whitefish and round whitefish (*Prosopium cylindraceum*) cannot be distinguished from the vertebrae and are listed under subfamily Coregoninae in the various tables. Scales were not counted, but several areas yielded large concentrations of fragile cycloid scales that appear to be from whitefish. These scales constitute nearly 62% of all fish remains by weight. We emphasize that fish

are under represented in the analyzed sample because not all concentrations of fish remains were collected from the site.

Despite this field sampling bias, the relative quantities of the species represented are most insightful in that 95.3% of the identified fish bones, between 58.3% and 76.3% of the individuals, and 87.4% of the estimated biomass are from fall-spawning, deep-water whitefish and lake trout. Burbot, another deep-water fish that spawns during the winter, was also regularly exploited. Under-represented are those fish that spawn in the spring, such as lake sturgeon, walleye, and northern pike. Absent altogether are the spring-spawning suckers, especially white sucker (*Catostomus commersonii*), longnose sucker (*Catostomus catostomus*), and redhorses (*Moxostoma* spp.), as well as black bass (*Micropterus* spp.) and other members of the sunfish family (Centrarchidae). This suggests that fish exploitation for the people that inhabited this portion of the Getewaaking site was almost exclusively a fall and winter activity in contrast to the Juntunen and Scott Point sites where spring-spawning species were also important (Cleland 1966:209; Martin 1982). The identification of fish specimens included size estimates, and this is important in distinguishing individual fish from the various groupings by component/temporal period. Table 10 presents specimens from the various fish taxa by 8-cm size classes. Although recovery techniques may have biased our findings, the presence of fish no smaller than 32 cm long (standard length) may indicate the use of gill nets that were designed to capture larger fish (Cleland 1982:779).

### **Bivalves**

Four species of freshwater mussels were found in our sample. All are native to the Great Lakes-St. Lawrence drainage (Burch 1975) and occur in substrates consisting of mud, sand, and gravel (Cummings and Mayer 1992). Although the spike was identified at the Juntunen site on Bois Blanc Island, Cleland (1966:203) noted that this was either the northern limit of its range, or that its presence reflects a relic population from a previous warmer period. In addition to the shells in our sample, ten modified shells were recovered. These are described elsewhere and consist of ten flat discs with two having drilled holes. Nine of these were made from freshwater shells and one of the perforated shells was made from marine shell that was identified as lightning whelk (*Busycon sinistrum*).

## **MODIFIED SPECIMENS**

Among the animal remains in our sample from the Getewaaking site are numerous specimens that were modified into artifacts. Many of the antlers, teeth, and bones that were selected to be converted into these tools or decorative items have counterparts at other northern Great Lakes sites. Burning and scavenging by animals also have an impact of a site's faunal assemblage.

### ***Cervid Ulna Perforating Tool***

A left proximal ulna from either caribou or white-tailed deer was modified into a perforating tool that measures 95 mm in length (Fig. 10). The mid-shaft was ground and polished to form a pointed end. Striations and fine cut marks are visible on the modified shaft. The artifact was

recovered from TU 17 and was associated with the Late Woodland Bois Blanc phase occupation. Similar "deer ulna awls" were recovered at the multiple-component Mero site on the upper Door Peninsula of northeastern Wisconsin (Mason 1966:70-71).

#### ***Moose Metacarpal Perforating Tool or Pin***

The proximal end of a second or fifth metacarpal (sometimes referred to as the vestigial metacarpals) from a moose was utilized as a perforating tool, pin, or matting needle (Fig. 11). Anatomically, the proximal end is naturally flattened and pointed where it articulates with the main metacarpal (i.e., the fused third and fourth), and the specimen from the pedestal in the southwest corner of TU 16 was additionally pointed and sharpened, perhaps due to repeated use over time as an awl or shuttle. The specimen is 152 mm long. These were also found at the Juntunen (McPherson 1967:Plate XL) and Scott Point (Martin 2007) sites, and Mason (1986:186) illustrates examples of nearly identical metapodial artifacts from historic Native American contexts at the Rock Island site.

#### ***Moose Incisor Pendant***

A left, lower, fourth incisor from a moose was carved on the end of the root to form a pendant (Fig. 12). It was associated with the Late Woodland occupation in TU 18E. It is 42.8 mm long, and the root is oval in cross-section and ranges from 6.5 to 8.2 mm in diameter. Tooth pendants at the Mero site consisted of a similarly grooved root tip on a black bear canine and a perforated canid canine (Mason 1967:74), but none were reported from the Juntunen site.

#### ***Large Mammal Bone Perforating Tool or Pin***

An unidentified large mammal bone shaft fragment from TU 17 (Bois Blanc phase) has a tapered shaft resembling in size, shape, and polish, the broken pointed end of the deer or caribou ulna described above (Fig. 13). It is 45.3 mm long, 14.8 mm wide at its proximal end, and 5.7 mm thick.

#### ***Mammal Bone/Antler Perforating Tool/Pin Fragments***

Eleven specimens resemble small, whole or partial pointed objects that are variously described as perforating tools, awls, or pins (see McPherson 1967:176-177; Mason 1967:69-73). Most of the Getewaaking site examples are made from split mammal bones, but antler may be the raw material for some. These range in length from 16 to 47 mm. Six of the objects were finely-made, symmetrical, and polished, whereas others were not as well made and may have been expedient tools. These were recovered from Test Units 17E (2), 18 (2), 18EE (2), 24, 27, 27E, 28, and the pedestal in the southwest corner of TU 15.

#### ***Mammal Bone/Antler Counter or Gaming Piece***

A uniformly-shaped, rectangular bone or antler specimen having blunt to slightly rounded ends was found in TU 17 (Bois Blanc phase) (Fig. 14). It is 46.6 mm long, 9.8 mm, and 5.3 mm thick. The intended function is not obvious, but it may have been a gaming piece or counter.

#### ***Mammal Bone Handle or Die Fragment***

A specimen from a medium to large mammal specimen that was found in TU 18E is thinly carved and polished with a fine, beveled edge (Fig. 15). Although it is associated with a Late

Woodland occupation, the flat interior face of the artifact is reminiscent of a European-made bone scale made to encase a handle for a table knife or fork. Alternatively, its thinness is suggestive of a gaming piece or die.

### ***Cervid Antler Artifacts***

Three antler fragments are artifact remnants of unknown function. The largest is from TU 18E (Late Woodland component) and is cut and ground resulting in a smooth exterior surface. It is 123 mm long and 21 mm thick (Fig. 16). An antler fragment from TU 27 (Middle Woodland to Bois Blanc phase) is 36 mm long x 32 mm wide x 8.6 mm thick and has a irregular perforation on one end that is about 9 mm in diameter. It has several series of incisions that are oriented in different directions in a seemingly random manner (Fig. 17). The third specimen from TU 17E (Late Woodland) is heavily worn, has a squared end, and measures 32 mm long x 28.6 mm wide x 8.5 mm thick (Fig. 18). The latter two specimens may be broken fragments of antler harpoons, based on their widths, thicknesses, and shapes (cf. McPheron 1967:Plate XLI; Mason 1986:179-181).

### ***Beaver Incisor Chisels or Engraving Tools***

Three beaver incisor teeth had been ground or purposely shaped in order to function as tools, presumably for woodworking or for some other engraving tasks (Fig. 19 and 20). The lower incisors from Test Units 2, 19 and 27EE (all from Late Woodland components) were heavily ground on the lingual surfaces. Five other specimens (also from Late Woodland occupations) exhibited cutting or polished surfaces, as if used by humans. An additional 30 isolated beaver and seven porcupine incisors may have been expedient tools. The likelihood that these large rodent incisors were used as tools is well illustrated by the discovery at the Juntunen site of a beaver incisor that was hafted into an antler handle (McPheron 1967:177).

### ***Loon Humerus Perforating Tool or Pin***

The right proximal humerus of a common loon exhibits polish over nearly its whole surface, and the shaft has been grounded to form a pointed end (Fig. 21). Although it may have functioned as an awl, the delicate nature of the specimen, along with the polish, suggests that it may have been used as an ornamental pin. The specimen is associated with the Late Woodland occupation in TU 27E and is 96 mm long. A cruder example of a similar modified loon humerus from the Juntunen site is illustrated by McPheron (1967:Plate XL).

### ***Bird Bone Perforating Tool/Pin Fragment***

Two tapered and polished bone shaft fragments resemble pieces of bird bones such as the loon humerus described above. One is from TU 27EE (Late Woodland context) and is 31 mm long. The second is from TU 27 (Middle Woodland to Bois Blanc phase) and measures 10 mm long by 7 mm wide.

### ***Loon Humerus Manufacturing Debris***

A right humerus from a common loon was cut and snapped on the shaft 45 mm from the distal end, and straight, deep, longitudinal incisions on the lateral and medial surfaces of the shaft (Fig. 22). The surface of the shaft also has a polish. Perhaps the mid-shaft portion was desired to be used as a bone tube, in which case, the distal end may be seen as manufacturing debris. The

specimen is from TU 22 where it was associated with other artifacts ranging from Middle Woodland through the Bois Blanc phase.

### ***Blanding's Turtle Carapace Containers***

Twenty specimens (62.5% of all Blanding's turtle specimens) were either cut or have ribs or vertebrae that were removed so as to modify carapaces into containers. Many sections of carapaces were refitted so as to reveal cut, ground, and polished margins. It seems likely that all six of the Blanding's turtle individuals had been modified to serve as containers (Fig. 23 and 24).

### ***Burned and/or Calcined Animal Remains***

A total of only twelve specimens (0.6% of all vertebrate and invertebrate remains) are burned black or calcined. Nine of the incinerated specimens were mammal with one each being bird, fish, and unidentified vertebrate.

### ***Carnivore-chewed Animal Remains***

Only 15 specimens (0.7% of all vertebrate remains) show damage by scavenging carnivores. All are from mammals (1 cattle, 4 caribou or deer, 2 beaver, 6 canid, 1 fox, and 1 black bear). No specimens exhibited rodent-gnawing.

## **DISCUSSION**

Although the Juntunen site has been the hallmark for our understanding of Late Woodland cultures in the northern Great Lakes (see Brashler et al. 2000:562; Martin 1999:221), the stratigraphic sequence at the Bois Blanc Island location was complex. Cleland (1966:162) points out that less than 25% of the excavation units at the Juntunen site could be confidently assigned to specific occupations. The Getewaaking site presents a similar situation. Although Late Woodland occupations are best represented in the yard behind the Indian Dormitory on Mackinac Island, Middle Woodland and early Late Woodland components are also present. There were few areas where the Late Woodland deposits could be isolated into one or the other phases, and so most of our perspectives on subsistence and animal exploitation practices must focus on a broader scale. The Juntunen site is the most appropriate site for comparisons because of its proximity in Lake Huron, its island setting, and most of all, because it has a large faunal assemblage that was analyzed in detail by Cleland (1966).

Whereas the Getewaaking site inhabitants appear to have concentrated more on mammals than the groups that occupied the Juntunen site, this perspective is not necessarily accurate. Since not all fish remains were collected during the 2009 excavations, the proportions of fish reported in the various tables prepared for this report are an under representation of quantities actually observed at the site. Despite this bias, moose, caribou, and beaver must have provided major portions of meat at the Mackinac Island locality with supplements coming from white-tailed deer and black bear. Domesticated dog was apparently also an important source of meat. Unlike the Juntunen site, no articulated dog burials were encountered at Getewaaking, but canid remains with cut marks, were

found widely-dispersed across the site. These represent large, young individuals. Concerning aquatic resources, the Juntunen site inhabitants concentrated on both spring-spawning and fall-spawning fish species as their major subsistence activity, fish constituting more than 60% of the identified specimens, approximately 70% of the MNI, and more than 71% of the usable meat (Cleland 1966). Fishing at the Getewaaking site may have been more specialized in that nearly all of the species identified are fall-spawning species, consisting of whitefish and lake trout, as well as the winter-spawning burbot. Spring-spawning lake sturgeon and suckers (white sucker, longnose sucker, and redhorse) are nearly absent in our analyzed sample. Although no bald eagle burials were found at Getewaaking, isolated eagle bones were recovered. Overall, bird remains are more scarce than at the Juntunen site. The Getewaaking faunal assemblage is also distinctive in that all of the Blanding's turtle and eastern box turtle specimens consist of carapaces, with all of the Blanding's turtle carapaces apparently having been made into containers. Many of the species at the Mackinac Island site, as well as the artifacts that were made from bones, antlers, and teeth, have counterparts at Late Woodland sites elsewhere in the Upper Great Lakes region. The Getewaaking site is significant, however, in that it provides a unique setting from which to view how Native Americans lived on this portion of Mackinac Island prior to European contact.



Figure 1. Moose astragalus with knife cut marks.



Figure 2. First upper molar (right side) from a gray wolf.



Figure 3. Canid mandibles representing six individuals.



Figure 4. Lateral view of subadult canid mandible from TU 2.



Figure 5. Dorsal view of subadult canid mandible from TU 2 (same specimen as in Figure 4).



Figure 6. Canid cervical vertebra with knife cut mark on dorsal surface.



Figure 7. Canid lumbar vertebra from TU 31 with knife cut marks on ventral surface of centrum.



Figure 8. Canid distal femur with knife cut marks on posterior distal shaft.



Figure 9. Bald eagle phalanges; top row, left to right: TU 18, 18E, 27; bottom row, left to right: TU 19, 30.



Figure 10. Cervid ulna perforating tool.



Figure 11. Moose second or fifth metacarpal perforating tool.



Figure 12. Moose incisor pendant.



Figure 13. Large mammal bone perforating tool.



Figure 14. Mammal bone or antler counter or gaming piece.

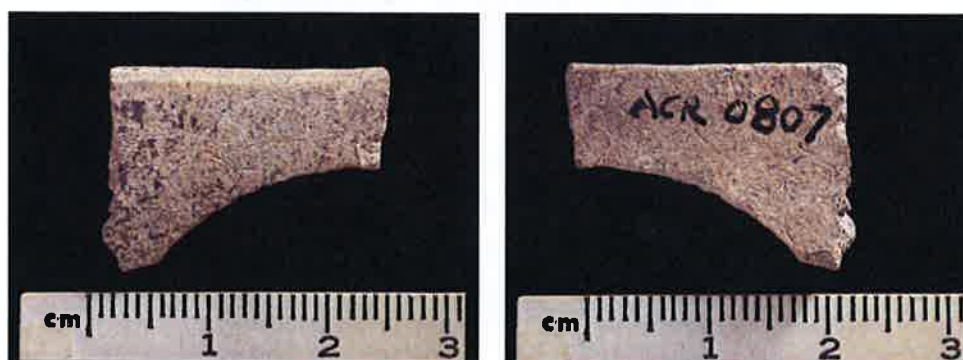


Figure 15. Mammal bone handle or die fragment.



Figure 16. Modified cervid antler fragment from TU 18E.



Figure 17. Modified cervid antler fragment from TU 27.



Figure 18. Modified cervid antler fragment from TU 17E.



Figure 19. Beaver incisor tools, lateral view.



Figure 20. Beaver incisor tools, lingual view.



Figure 21. Loon humerus perforating tool or pin. (modern reference specimen on left).



Figure 22. Loon distal humerus manufacturing debris.

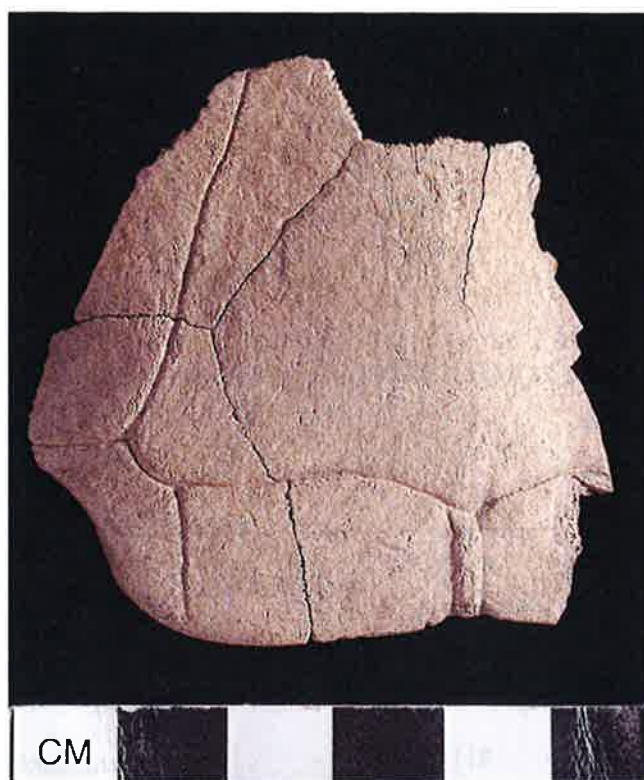


Figure 23. Modified Blanding's turtle carapace from TU 26 (cut and ground right first peripheral.



Figure 24. Posterior portion of modified Blanding's turtle carapace: dorsal view on left showing cut and ground margin on the peripherals; interior view on right showing where vertebrae had been removed and ground smooth.

Table 1.  
Faunal assemblage from the Getewaaking site (20MK457) by Cultural Context

Cultural Context	NSP <sup>1</sup>	Total NSP Weight (g)
Mixed Middle Woodland and Late Woodland	122	219.6
Early Late Woodland (Mixed Pine River and Mackinac Phases)	168	125.4
Late Woodland Mackinac Phase	118	139.6
Late Woodland Bois Blanc Phase	96	154.2
Mixed Late Woodland (Mackinac through Juntunen Phases)	1,114	1,546.7
Unidentified cultural affiliation	428	604.7
Disturbed contexts	65	103.3
Grand Totals	2,111	2,893.5

<sup>1</sup>Number of specimens.

Table 2  
Species composition of all animal remains from the Getewaaking site (20MK457) on Mackinac Island

	NISP <sup>1</sup>	MNI min <sup>2</sup>	MNI max <sup>3</sup>	NISP Wt (g)	Biomass (kg) <sup>4</sup>
<b>MAMMALS</b>	<b>850</b>	<b>33</b>	<b>65</b>	<b>1,997.8</b>	<b>34.037</b>
Snowshoe hare, <i>Lepus americanus</i>	1	1	1	.2	.006
Rabbit/hare, Family Leporidae	1	—	—	.1	.003
Beaver, <i>Castor canadensis</i>	102	5	11	238.8	4.110
Norway rat, <i>Rattus norvegicus</i>	2	1	1	.7	—
Muskrat, <i>Ondatra zibethicus</i>	1	1	1	<.1	—
Porcupine, <i>Erethizon dorsatum</i>	8	3	4	12.8	.277
Beaver/porcupine, <i>Castor/Erethizon</i>	3	—	—	1.1	.031
cf. Gray wolf, <i>Canis</i> cf. <i>lupus</i>	1	1	1	3.1	.073
Dog/coyote, <i>Canis</i> sp.	198	7	17	527.8	8.601
Red/gray fox, <i>Vulpes/Urocyon</i>	6	2	4	23.4	.495
Black bear, <i>Ursus americanus</i>	5	1	3	15.1	.335
American marten, <i>Martes americana</i>	3	1	1	1.3	.033
Northern river otter, <i>Lontra canadensis</i>	1	1	1	.6	.017
Swine, <i>Sus scrofa</i>	1	1	1	3.3	.077
White-tailed deer, <i>Odocoileus virginianus</i>	2	1	2	14.4	.304
Moose, <i>Alces alces</i>	30	2	7	375.6	6.197
Caribou, <i>Rangifer tarandus</i>	21	2	6	152.5	2.711
cf. Caribou, <i>Rangifer tarandus</i>	2	—	—	9.1	.205
White-tailed deer/caribou, <i>Odocoileus/Rangifer</i>	6	—	—	28.0	.582
Deer/moose/caribou, Family Cervidae	10	—	—	45.5	—
Cattle, <i>Bos taurus</i>	3	1	2	22.4	.460
Goat, <i>Capra hircus</i>	1	1	1	5.9	.130
Sheep, <i>Ovis aries</i>	1	1	1	5.2	.116
Unidentified very large mammal	12	—	—	92.9	1.695
Unidentified large mammal	99	—	—	226.2	3.952
Unidentified medium/large mammal	218	—	—	139.0	2.554
Unidentified medium mammal	107	—	—	53.1	1.056
Unidentified small/medium mammal	4	—	—	.5	.014
Unidentified small mammal	1	—	—	.1	.003
<b>BIRDS</b>	<b>43</b>	<b>9</b>	<b>14</b>	<b>41.4</b>	<b>.764</b>
Common loon, <i>Gavia immer</i>	6	2	4	18.1	.311
Canada goose, <i>Branta canadensis</i>	1	1	1	1.3	.026
Medium-size duck sp., Subfamily Anatinae	3	1	2	2.1	.039
Bald eagle, <i>Haliaeetus leucocephalus</i>	6	1	3	8.0	.148
cf. Red junglefowl (domestic chicken), <i>Gallus gallus</i>	1	1	1	.2	.005
Gallinaceous bird, Family Phasianidae	2	2	2	.7	.116
Passenger pigeon, <i>Ectopistes migratorius</i>	1	1	1	.1	.003
Unidentified large bird	10	—	—	5.9	.116
Unidentified medium/large bird	8	—	—	3.3	.065
Unidentified medium bird	5	—	—	1.7	.035
<b>REPTILES</b>	<b>55</b>	<b>8</b>	<b>12</b>	<b>126.9</b>	<b>1.639</b>
Snapping turtle, <i>Chelydra serpentina</i>	1	1	1	6.2	.107
Blanding's turtle, <i>Emydoidea blandingii</i>	32	6	10	100.8	1.110

Table 2 (continued)

	NISP <sup>1</sup>	MNI min <sup>2</sup>	MNI max <sup>3</sup>	NISP Wt (g)	Biomass (kg) <sup>4</sup>
Eastern box turtle, <i>Terrapene carolina</i>	2	1	1	4.7	.089
Semiaquatic pond turtle, Family Emydidae	20	—	—	15.2	.333
<b>AMPHIBIANS</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>.7</b>	<b>.004</b>
American toad, <i>Bufo americanus</i>	3	2	2	.7	.004
<b>FISH</b>	<b>1,085</b>	<b>24</b>	<b>59</b>	<b>382.2</b>	<b>2.742</b>
Lake sturgeon, <i>Acipenser fulvescens</i>	1	1	1	.3	.012
Channel catfish, <i>Ictalurus punctatus</i>	1	1	1	.5	.010
Northern pike/muskellunge, <i>Esox</i> sp.	2	1	2	1.0	.034
Lake whitefish, <i>Coregonus clupeaformis</i>	14	[4]	[9]	2.6	.089
Lake/round whitefish, Subfamily Coregoninae	511	9	21	50.4	.904
cf. Coregoninae (scales)	—	—	—	235.7	—
Lake trout, <i>Salvelinus namaycush</i>	126	5	24	51.2	.907
Burbot, <i>Lota lota</i>	22	5	7	7.9	.148
Walleye/sauger, <i>Sander</i> sp.	6	2	3	2.6	.071
Unidentified fish	402	—	—	30.0	.567
<b>UNIDENTIFIED VERTEBRATA</b>	<b>25</b>	<b>—</b>	<b>—</b>	<b>7.4</b>	<b>—</b>
<b>BIVALVES</b>	<b>50</b>	<b>16</b>	<b>18</b>	<b>337.1</b>	<b>—</b>
Spike, <i>Elliptio dilatata</i>	13	7	8	144.5	—
Fluted-shell, <i>Lasmigona costata</i>	3	3	3	21.3	—
Pink heelsplitter, <i>Potamilus alatus</i>	7	4	5	55.9	—
Plain pocketbook, <i>Lampsilis cardium</i>	2	2	2	47.5	—
Unidentified freshwater mussel	25	—	—	67.9	—
Grand Totals	2,111	92	170	2,893.5	39.186
Totals, Identified below class	1,195	92	170	2,265.5	29.129
Percentage identified below class	56.6			78.3	74.3

<sup>1</sup>Number of identified specimens.

<sup>2</sup>Minimum number of individuals calculated from the site as a whole, ignoring provenience and component/temporal groupings; i.e., minimum distinction approach.

<sup>3</sup>Minimum number of individuals calculated for each component/temporal grouping and summed; i.e., maximum distinction approach.

<sup>4</sup>Biomass in kg was calculated from total NISP weights for each taxon using allometric formulae presented by Reitz and Scarry (1985:67). Figures represent the sums of biomass calculated separately for each component/temporal grouping.

Table 3

Species composition of animal remains from mixed Middle Woodland and Late Woodland contexts at the Getewaaking site.

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>69</b>	<b>6</b>	<b>127.8</b>	<b>2.310</b>
Beaver, <i>Castor canadensis</i>	13	2	64.6	1.120
Porcupine, <i>Erethizon dorsatum</i>	2	1	.8	.022
Beaver/porcupine, <i>Castor/Erethizon</i>	1	—	.3	.009
Dog/coyote, <i>Canis</i> sp.	11	1	23.1	.444
Black bear, <i>Ursus americanus</i>	1	1	2.2	.053
Deer/moose/caribou, Family Cervidae	3	1	4.9	—
Unidentified large mammal	5	—	11.5	.237
Unidentified medium/large mammal	19	—	11.5	.237
Unidentified medium mammal	14	—	8.9	.188
<b>BIRDS</b>	<b>6</b>	<b>2</b>	<b>6.5</b>	<b>.123</b>
Common loon, <i>Gavia immer</i>	1	1	3.9	.070
Bald eagle, <i>Haliaeetus leucocephalus</i>	1	1	1.2	.024
Unidentified large bird	3	—	1.0	.020
Unidentified medium/large bird	1	—	.4	.009
<b>REPTILES</b>	<b>11</b>	<b>2</b>	<b>14.3</b>	<b>.229</b>
Blanding's turtle, <i>Emydoidea blandingii</i>	6	2	10.9	.157
Semiaquatic pond turtle, Family Emydidae	5	—	3.4	.072
<b>FISH</b>	<b>30</b>	<b>7</b>	<b>23.0</b>	<b>.157</b>
Lake whitefish, <i>Coregonus clupeaformis</i>	1	1	.3	.012
Lake/round whitefish, Subfamily Coregoninae	10	1	1.2	.035
cf. Coregoninae (scales)	—	—	16.9	—
Lake trout, <i>Salvelinus namaycush</i>	10	5	3.9	.088
Unidentified fish	9	—	.7	.022
<b>UNIDENTIFIED VERTEBRATA</b>	<b>1</b>	<b>—</b>	<b>.1</b>	<b>—</b>
<b>BIVALVES</b>	<b>5</b>	<b>4</b>	<b>47.9</b>	<b>—</b>
Spike, <i>Elliptio dilatata</i>	2	2	23.2	—
Fluted-shell, <i>Lasmigona costata</i>	1	1	6.8	—
Pink heelsplitter, <i>Potamilus alatus</i>	1	1	16.1	—
Unidentified freshwater mussel	1	—	1.8	—
Grand Totals	122	21	219.6	2.819
Totals, Identified below class	69	21	183.7	2.106
Percentage identified below class	56.6		83.7	74.7

Table 4  
Species composition of Early Late Woodland animal remains from the Getewaaking site  
(Mixed Pine River and Mackinac Phases)

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>23</b>	<b>4</b>	<b>87.7</b>	<b>1.593</b>
Beaver, <i>Castor canadensis</i>	3	1	5.0	.112
Red/gray fox, <i>Vulpes/Urocyon</i>	1	1	5.2	.116
Moose, <i>Alces alces</i>	3	1	31.2	.582
Caribou, <i>Rangifer tarandus</i>	1	1	1.0	.026
cf. Caribou, <i>Rangifer tarandus</i>	1	—	5.3	.118
White-tailed deer/caribou, <i>Odocoileus/Rangifer</i>	1	—	2.4	.058
Deer/moose/caribou, Family Cervidae	2	—	7.0	—
Unidentified large mammal	8	—	29.8	.558
Unidentified medium/large mammal	1	—	.3	.009
Unidentified medium mammal	2	—	.5	.014
<b>REPTILES</b>	<b>1</b>	<b>1</b>	<b>.5</b>	<b>.020</b>
Semiaquatic pond turtle, Family Emydidae	1	1	.5	.020
<b>FISH</b>	<b>142</b>	<b>9</b>	<b>36.2</b>	<b>.640</b>
Lake whitefish, <i>Coregonus clupeaformis</i>	1	1	.2	.008
Lake/round whitefish, Subfamily Coregoninae	66	2	12.4	.221
Lake trout, <i>Salvelinus namaycush</i>	39	5	20.0	.322
Walleye/sauger, <i>Sander</i> sp.	1	1	.5	.015
Unidentified fish	35	—	3.1	.074
<b>UNIDENTIFIED VERTEBRATA</b>	<b>2</b>	<b>—</b>	<b>1.0</b>	<b>—</b>
Grand Totals	168	14	125.4	2.253
Totals, Identified below class	120	14	90.7	1.598
Percentage identified below class	71.4		72.3	70.9

Table 5

Species composition of animal remains associated with the Mackinac Phase at the Getewaaking site

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>62</b>	<b>5</b>	<b>128.5</b>	<b>2.283</b>
Beaver, <i>Castor canadensis</i>	2	1	2.6	.062
Dog/coyote, <i>Canis</i> sp.	32	2	100.9	1.673
Moose, <i>Alces alces</i>	1	1	1.7	.042
White-tailed deer/caribou, <i>Odocoileus/Rangifer</i>	1	1	1.9	.047
Unidentified large mammal	2	—	5.8	.128
Unidentified medium/large mammal	10	—	11.4	.235
Unidentified medium mammal	14	—	4.2	.096
<b>REPTILES</b>	<b>3</b>	<b>1</b>	<b>7.3</b>	<b>.145</b>
Blanding's turtle, <i>Emydoidea blandingii</i>	2	1	5.4	.098
Semiaquatic pond turtle, Family Emydidae	1	—	1.9	.047
<b>FISH</b>	<b>51</b>	<b>4</b>	<b>2.4</b>	<b>.072</b>
Lake whitefish, <i>Coregonus clupeaformis</i>	1	1	.1	.005
Lake/round whitefish, Subfamily Coregoninae	13	1	.8	.025
Lake trout, <i>Salvelinus namaycush</i>	1	1	.1	.005
Burbot, <i>Lota lota</i>	1	1	.5	.010
Unidentified fish	35	—	.9	.027
<b>UNIDENTIFIED VERTEBRATA</b>	<b>2</b>	<b>—</b>	<b>1.4</b>	<b>—</b>
Grand Totals	118	10	139.6	2.500
Totals, Identified below class	55	10	115.9	2.014
Percentage identified below class	46.6		83.0	80.6

Table 6  
Species composition of animal remains associated with the Bois Blanc Phase at the Getewaaking site

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>42</b>	<b>8</b>	<b>139.7</b>	<b>2.734</b>
Beaver, <i>Castor canadensis</i>	4	1	7.0	.152
Porcupine, <i>Erethizon dorsatum</i>	1	1	1.1	.029
Dog/coyote, <i>Canis</i> sp.	14	2	30.1	.563
Red/gray fox, <i>Vulpes/Urocyon</i>	2	1	4.3	.098
Moose, <i>Alces alces</i>	2	1	42.1	.762
Caribou, <i>Rangifer tarandus</i>	2	1	17.4	.344
White-tailed deer/caribou, <i>Odocoileus/Rangifer</i>	2	—	19.4	.379
Cattle, <i>Bos taurus</i>	1	1	6.9	.150
Unidentified large mammal	2	—	4.5	.102
Unidentified medium/large mammal	11	—	6.2	.136
Unidentified medium mammal	1	—	.7	.019
<b>BIRDS</b>	<b>2</b>	<b>1</b>	<b>1.1</b>	<b>.022</b>
Unidentified large bird	2	1	1.1	.022
<b>REPTILES</b>	<b>3</b>	<b>1</b>	<b>10.4</b>	<b>.170</b>
Blanding's turtle, <i>Emydoidea blandingii</i>	2	1	9.7	.145
Semiaquatic pond turtle, Family Emydidae	1	—	.7	.025
<b>FISH</b>	<b>44</b>	<b>4</b>	<b>2.6</b>	<b>.080</b>
Lake whitefish, <i>Coregonus clupeaformis</i>	1	[1]	.1	.005
Lake/round whitefish, Subfamily Coregoninae	27	2	1.6	.044
Lake trout, <i>Salvelinus namaycush</i>	5	2	.7	.023
Unidentified fish	11	—	.2	.008
<b>UNIDENTIFIED VERTEBRATA</b>	<b>5</b>	<b>—</b>	<b>.4</b>	<b>—</b>
Grand Totals	96	14	154.2	3.006
Totals, Identified below class	64	13	141.1	2.719
Percentage identified below class	66.7		91.5	90.5

Table 7

Species composition of animal remains from mixed Late Woodland contexts at the Getewaaking site

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>478</b>	<b>27</b>	<b>945.6</b>	<b>15.218</b>
Snowshoe hare, <i>Lepus americanus</i>	1	1	.2	.006
Rabbit/hare, Family Leporidae	1	—	.1	.003
Beaver, <i>Castor canadensis</i>	68	4	137.8	2.215
Muskrat, <i>Ondatra zibethicus</i>	1	1	<.1	—
Porcupine, <i>Erethizon dorsatum</i>	5	2	10.9	.226
Beaver/porcupine, <i>Castor/Erethizon</i>	2	—	.8	.022
cf. Gray wolf, <i>Canis</i> cf. <i>lupus</i>	1	1	3.1	.073
Dog/coyote, <i>Canis</i> sp.	80	6	177.3	2.779
Red/gray fox, <i>Vulpes/Urocyon</i>	3	2	13.9	.281
Black bear, <i>Ursus americanus</i>	2	1	6.3	.138
American marten, <i>Martes americana</i>	3	1	1.3	.033
Northern river otter, <i>Lontra canadensis</i>	1	1	.6	.017
Swine, <i>Sus scrofa</i>	1	1	3.3	.077
White-tailed deer, <i>Odocoileus virginianus</i>	1	1	2.4	.058
Moose, <i>Alces alces</i>	18	2	149.4	2.382
Caribou, <i>Rangifer tarandus</i>	11	2	71.0	1.219
cf. Caribou, <i>Rangifer tarandus</i>	1	—	3.8	.087
White-tailed deer/caribou, <i>Odocoileus/Rangifer</i>	2	—	4.3	.098
Deer/moose/caribou, Family Cervidae	5	—	33.6	—
Sheep, <i>Ovis aeries</i>	1	1	5.2	.116
Unidentified very large mammal	7	—	61.0	1.064
Unidentified large mammal	63	—	138.9	2.231
Unidentified medium/large mammal	124	—	85.0	1.434
Unidentified medium mammal	71	—	34.8	.642
Unidentified small/medium mammal	4	—	.5	.014
Unidentified small mammal	1	—	.1	.003
<b>BIRDS</b>	<b>23</b>	<b>7</b>	<b>22.2</b>	<b>.396</b>
Common loon, <i>Gavia immer</i>	4	2	10.1	.167
Medium-size duck sp., Subfamily Anatinae	1	1	.6	.013
Bald eagle, <i>Haliaeetus leucocephalus</i>	3	1	4.6	.082
cf. Red junglefowl (domestic chicken), <i>Gallus gallus</i>	1	1	.2	.005
Gallinaceous bird, Family Phasianidae	1	1	.2	.005
Passenger pigeon, <i>Ectopistes migratorius</i>	1	1	.1	.003
Unidentified large bird	3	—	2.7	.050
Unidentified medium/large bird	5	—	2.5	.047
Unidentified medium bird	4	—	1.2	.024
<b>REPTILES</b>	<b>26</b>	<b>4</b>	<b>79.0</b>	<b>.798</b>
Snapping turtle, <i>Chelydra serpentina</i>	1	1	6.2	.107
Blanding's turtle, <i>Emydoidea blandingii</i>	17	2	63.0	.508
Eastern box turtle, <i>Terrapene carolina</i>	2	1	4.7	.089
Semiaquatic pond turtle, Family Emydidae	6	—	5.1	.094

Table 7 (continued)

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>AMPHIBIANS</b>	<b>1</b>	<b>1</b>	<b>.2</b>	<b>.001</b>
American toad, <i>Bufo americanus</i>	1	1	.2	.001
<b>FISH</b>	<b>539</b>	<b>24</b>	<b>273.8</b>	<b>.983</b>
Lake sturgeon, <i>Acipenser fulvescens</i>	1	1	.3	.012
Channel catfish, <i>Ictalurus punctatus</i>	1	1	.5	.010
Northern pike/muskellunge, <i>Esox</i> sp.	1	1	.5	.017
Lake whitefish, <i>Coregonus clupeaformis</i>	7	[2]	1.3	.037
Lake/round whitefish, Subfamily Coregoninae	215	11	18.7	.305
cf. Coregoninae (scales)	—	—	218.8	—
Lake trout, <i>Salvelinus namaycush</i>	28	5	6.0	.124
Burbot, <i>Lota lota</i>	14	4	4.3	.080
Walleye/sauger, <i>Sander</i> sp.	4	1	1.6	.041
Unidentified fish	268	—	21.8	.358
<b>UNIDENTIFIED VERTEBRATA</b>	<b>10</b>	<b>—</b>	<b>2.2</b>	<b>—</b>
<b>BIVALVES</b>	<b>37</b>	<b>10</b>	<b>223.7</b>	<b>—</b>
Spike, <i>Elliptio dilatata</i>	10	5	115.1	—
Fluted-shell, <i>Lasmigona costata</i>	1	1	5.7	—
Pink heelsplitter, <i>Potamilus alatus</i>	4	2	21.2	—
Plain pocketbook, <i>Lampsilis cardium</i>	2	2	47.5	—
Unidentified freshwater mussel	20	—	34.2	—
Grand Totals	1,114	73	1,546.7	17.396
Totals, Identified below class	534	73	1,161.8	11.526
Percentage identified below class	47.9		75.1	66.3

Table 8  
Species composition of animal remains from unidentified contexts at the Getewaaking site

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>130</b>	<b>9</b>	<b>484.8</b>	<b>8.170</b>
Beaver, <i>Castor canadensis</i>	8	1	14.8	.297
Dog/coyote, <i>Canis</i> sp.	54	4	175.7	2.756
Black bear, <i>Ursus americanus</i>	2	1	6.6	.144
White-tailed deer, <i>Odocoileus virginianus</i>	1	1	12.0	.246
Moose, <i>Alces alces</i>	5	1	149.0	2.376
Caribou, <i>Rangifer tarandus</i>	6	1	59.7	1.043
Unidentified very large mammal	2	—	22.6	.435
Unidentified large mammal	12	—	26.6	.504
Unidentified medium/large mammal	37	—	14.7	.296
Unidentified medium mammal	3	—	3.1	.073
<b>BIRDS</b>	<b>4</b>	<b>2</b>	<b>7.1</b>	<b>.133</b>
Common loon, <i>Gavia immer</i>	1	1	4.1	.074
Bald eagle, <i>Haliaeetus leucocephalus</i>	2	1	2.2	.042
Unidentified large bird	1	—	.8	.017
<b>REPTILES</b>	<b>10</b>	<b>3</b>	<b>12.5</b>	<b>.212</b>
Blanding's turtle, <i>Emydoidea blandingii</i>	4	3	8.9	.137
Semiaquatic pond turtle, Family Emydidae	6	—	3.6	.075
<b>AMPHIBIANS</b>	<b>2</b>	<b>1</b>	<b>.5</b>	<b>.003</b>
American toad, <i>Bufo americanus</i>	2	1	.5	.003
<b>FISH</b>	<b>272</b>	<b>11</b>	<b>42.4</b>	<b>.747</b>
Lake whitefish, <i>Coregonus clupeaformis</i>	2	[2]	.5	.017
Lake/round whitefish, Subfamily Coregoninae	178	4	15.4	.262
Lake trout, <i>Salvelinus namaycush</i>	40	4	19.6	.317
Burbot, <i>Lota lota</i>	7	2	3.1	.058
Walleye/sauger, <i>Sander</i> sp.	1	1	.5	.015
Unidentified fish	44	—	3.3	.078
<b>UNIDENTIFIED VERTEBRATA</b>	<b>4</b>	<b>—</b>	<b>2.2</b>	<b>—</b>
<b>BIVALVES</b>	<b>6</b>	<b>3</b>	<b>55.2</b>	<b>—</b>
Spike, <i>Elliptio dilatata</i>	1	1	6.2	—
Pink heelsplitter, <i>Potamilus alatus</i>	2	2	18.6	—
Unidentified freshwater mussel	3	—	30.4	—
Grand Totals	428	29	604.7	9.265
Totals, Identified below class	322	29	501.0	7.862
Percentage identified below class	75.2		82.9	84.9

Table 9

Species composition of animal remains from disturbed cultural contexts at the Getewaaking site

	NISP	MNI	NISP Wt (g)	Biomass (kg)
<b>MAMMALS</b>	<b>46</b>	<b>9</b>	<b>83.7</b>	<b>1.729</b>
Beaver, <i>Castor canadensis</i>	4	1	7.0	.152
Norway rat, <i>Rattus norvegicus</i>	2	1	.7	—
Dog/coyote, <i>Canis</i> sp.	7	2	19.8	.386
Moose, <i>Alces alces</i>	1	1	2.2	.053
Caribou, <i>Rangifer tarandus</i>	1	1	3.4	.079
Cattle, <i>Bos taurus</i>	2	1	15.5	.310
Goat, <i>Capra hircus</i>	1	1	5.9	.130
Unidentified very large mammal	3	—	9.3	.196
Unidentified large mammal	7	—	9.1	.192
Unidentified medium/large mammal	16	—	9.9	.207
Unidentified medium mammal	2	—	.9	.024
<b>BIRDS</b>	<b>8</b>	<b>3</b>	<b>4.5</b>	<b>.094</b>
Canada goose, <i>Branta canadensis</i>	1	1	1.3	.026
Medium-size duck sp., Subfamily Anatinae	2	1	1.5	.026
Gallinaceous bird, Family Phasianidae	1	1	.5	.011
Unidentified large bird	1	—	.3	.007
Unidentified medium/large bird	2	—	.4	.009
Unidentified medium bird	1	—	.5	.011
<b>REPTILES</b>	<b>1</b>	<b>1</b>	<b>2.9</b>	<b>.065</b>
Blanding's turtle, <i>Emydoidea blandingii</i>	1	1	2.9	.065
<b>FISH</b>	<b>7</b>	<b>4</b>	<b>1.8</b>	<b>.062</b>
Northern pike/muskellunge, <i>Esox</i> sp.	1	1	.5	.017
Lake whitefish, <i>Coregonus clupeaformis</i>	1	1	.1	.005
Lake/round whitefish, Subfamily Coregoninae	2	—	.3	.012
Lake trout, <i>Salvelinus namaycush</i>	3	2	.9	.028
<b>UNIDENTIFIED VERTEBRATA</b>	<b>1</b>	<b>—</b>	<b>.1</b>	<b>—</b>
<b>BIVALVES</b>	<b>2</b>	<b>1</b>	<b>10.3</b>	<b>—</b>
Fluted-shell, <i>Lasmigona costata</i>	1	1	8.8	—
Unidentified freshwater mussel	1	—	1.5	—
Grand Totals	65	18	103.3	1.950
Totals, Identified below class	31	18	71.3	1.304
Percentage identified below class	47.7		69.0	66.9

Table 10  
Estimated sizes (standard lengths in cm) of fish taxa  
for the Getewaaking site (NISP per size class)

Taxon	Standard Length Size Classes (cm)						Total number of specimens by taxon
	>32 ≤40	>40 ≤48	>48 ≤56	>56 ≤64	>64 ≤72	>72 ≤80	
Channel catfish	—	—	—	1	—	—	1
Northern pike/muskellunge	—	—	—	2	—	—	2
Lake whitefish	—	7	7	—	—	—	14
Lake/round whitefish	33	245	190	43	—	—	511
Lake trout	—	10	33	20	18	45	126
Burbot	—	1	9	11	1	—	22
Walleye/sauger	—	1	5	—	—	—	6
Total number of specimens by size class	33	264	244	77	19	45	682

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