Introduction

For readers not familiar with Iroquoian villages, some key features of the settlement pattern are discussed below. An example of a house plan with interior feature types is provided in Figure 3. At Barrie and Dunsmore feature types were designated by the field archaeologists, using criteria developed by the consulting firm Archaeological Services Inc. Some aspects of these feature types were discussed in a previous publication (Needs-Howarth and Thomas 1998). Feature type interpretations for the Carson site have not yet been made available; instead, tentative interpretations were made by the author, based on the archaeologists’ original field notes.

Village boundaries are often marked by a natural feature, such as an abrupt break in slope. Villages typically consist of a number of longhouses with central hearths. Each hearth is thought to have accommodated two families. House walls are usually evidenced by a dense pattern of postmoulds. House walls were often repaired, rebuilt, extended or contracted.

Feature types

The most recognizable and bone-rich features at Iroquoian sites are the outdoor refuse dumps, or middens. All features, and especially middens, may contain superimposed evidence of many different procurement and refuse deposition events. In the absence of clear horizontal layering and/or piece plotting (as recommended in a footnote by Stewart 1991a:69), faunal remains from midden contexts are not all that informative of fine-scale human activity. Middens may relate more to community-based processing (Smith 1996). As Ramsden (1996:106) puts it “the complex catchment patterns of middens make them all but useless as sources of artifactual samples, for any but the most general of analytical purposes.” Complaints about middens are not restricted to Ontario; writing about Iroquoian sites in New York, Kuhn (1986) suggests that greater attention to both the spatial patterning of artifacts and the systemic processes of midden formation is warranted.

Pits were used to store food and personal effects, or to bury refuse (Chapdelaine 1993). It appears that pits used for storage and other specific activities were filled in with refuse once their original intended use had ended. Pits are therefore somewhat similar to middens in faunal composition, although they are usually smaller, and their duration of use may have been shorter. Storage and refuse areas may be distinguished on the basis of relative artifact heterogeneity (Kent 1999). However, a filled in storage pit may contain refuse produced just after it was last emptied. While this may represent a small window of time, there would also be a lot of “noise” from incomplete cleaning out of previous pit contents (Chapdelaine 1993:187; Thomas 1997b).

Ash pits are usually smaller and shallower than regular pits, and contain mostly ash in the fill. They are almost always located near a hearth. They were probably temporary containers for ash removed from hearths. The ash may have had industrial uses, such as hide tanning, corn preparation (Waugh 1973) or sanitation (i.e. odour suppression). Positioned next to hearths, ash pits did not interfere with traffic; they could, therefore, be left uncovered, allowing some floor debris to accumulate in them. Because ash pits are so shallow, the contents may reflect a short depositional period (Ron Williamson, personal communication 1994).

Large flat-bottomed pits surrounded by a ring of peripheral posts of a small diameter, with interior hearths and an entrance sloping upward from the bottom of the pit, are argued to be the remains of sweatlodges, used for ceremonial and ritual activities (MacDonald 1986; MacDonald 1992). They are located inside or adjacent to longhouses, with an entrance from the longhouse. These semi-subterranean features often contain a top layer of dark organic soil mixed with artifacts, resulting from re-use as a refuse pit. The reasons for their abandonment are not clear. In some cases, lack of layering in the fill indicates they were filled in rapidly after their original intended use had ended. Because of their large size, semi-subterranean features which do contain layered fill could represent a more prolonged period of deposition.

Each of these feature types implies a different refuse deposition history. It is likely that pits used for storage and other specific activities were filled in fairly quickly once their original intended use had ended. An empty, disused pit may, therefore, contain refuse from subsistence activities occurring over a short time period. In contrast, a midden accretes refuse over the course of many years. Middens are more likely to contain fill from diverse and unrelated activities that occurred over a long period of time. Of all types of cultural deposit, middens are least well suited for fine-grained study of individual subsistence events or clusters of temporally related events. The fill of some larger features, especially those with recognisable stratigraphy, while providing suitably large sample sizes, may contain superimposed evidence of more than one procurement and refuse deposition event. Furthermore, a certain amount of faunal material dropped on the earthen floor of a longhouse will be trampled into the surface, and traces of this material will find its way into any open feature. Finally, any feature could contain food debris representing the remains of fish caught and preserved months before they were actually consumed (Needs-Howarth and Thomas 1998).

Barrie

The Barrie site is located on the outskirts of the contemporary city of Barrie on a sandy loam terrace overlooking Minesing Swamp, a lowland cedar swamp (Figure 2). The terrace occupied by the site is 25 metres.
above the floor of a wide, flat-bottomed valley that is part of the Simcoe Lowlands. The Simcoe Uplands rise 55 m higher behind the site (Sutton 1996b). The site is bisected by Dyment’s Creek, which issues partway up the upland slope just north of the site. This creek flows southward down onto the valley floor and then turns eastward to drain into Kempenfelt Bay, currently three km east of the site (Sutton 1996a).

Test excavations by James Hunter in 1976 sampled one of the middens (Hunter 1978). The eastern half of the site was excavated in 1991 and 1992 by Richard Sutton as part of his doctoral research at McMaster University in Hamilton, Ontario (Sutton 1996a; Sutton 1996b).

The ploughzone was highly disturbed. Following local excavation convention, it was removed with the use of a “Gradall” earth moving machine. Ploughzone stripping with this accurate type of equipment allowed subsurface settlement features to be exposed and did not damage material in the undisturbed portions of features and middens. All in situ deposits were exposed and excavated using shovels and trowels. Fills of ash pits, hearths and other sensitive features were trowelled, allowing for the documentation of in situ articulations. The remaining features and middens were excavated by shovel.

All fill was screened on a 6.4 mm shaker screen suspended from a tripod, except for a total of 751 litres of bulk soil samples subjected to flotation. The flotation samples were processed on-site, using the two-bucket method. The heavy fraction was screened through a 2 mm mesh geological sieve (Monckton 1993).

The site was probably .8 or .9 hectares in size, with an estimated population of 308 people (Sutton 1996a:174). About 17 percent of the total site area was uncovered (Figure 4). House 2, 17.6 m long and 6.1 m wide, was completely excavated. Interior feature density suggests that House 2 was “occupied for a considerable length of time” (Sutton 1996a:196). House 1, 32.2+ m long, 6.7 m wide and House 3, which is overlapped by the south end of House 1, were partly excavated.

The faunal sample from the 1991-92 salvage excavations derives from the undisturbed areas of three middens (18 m²). 29 features within the three houses, and four exterior refuse pits (Figure 4, Table 3) (preliminary data in Needs-Howarth 1995a). While five midden areas were sampled, zooarchaeological analysis was restricted to samples from three of them. Midden A covers about 85 m², of which 18 m² was excavated. Zooarchaeological remains from 12 m² were analysed. The northwest section was undisturbed. Midden B extends beyond the 20 m² that were excavated. Zooarchaeological remains from 5 m² were analysed. Most of this midden was undisturbed. Midden D appears to have started out as a deep pit, 4.3x3.6 m, which was gradually expanded and filled with refuse. The zooarchaeological sample from one square was analysed.

The recovered faunal material was packed in paper bags and kept separate from other artifacts to minimize post-excavation damage and deterioration. All faunal material was washed and air-dried. After analysis, each identified specimen was re-packed in a small, labelled zip-clip-style bag with an integrated label for long-term curation. The recent Barrie site collections were donated for curation to Huronia Museum in Midland by the excavator.

Ceramic seriation and associated cluster diagrams place the site firmly in the Uren sub-stage, A.D. 1280-1330 (Sutton 1996a) (Table 2). The wood charcoal sample is dominated by maple and beech, followed by elm (Ulmus americana), pine, ironwood (Ostrya virginiana), ash (Fraxinus sp.), tamarack (Larix laricina), oak and birch (Betula sp.), suggesting the presence of a mature maple-beech forest in the area (Monckton 1993). However, substantial quantities of fleshy fruits indicate that disturbed and forest edge habitats were also present near the site. Maize represents 20 percent of the plant remains. The absence of beans, squash and sunflower may be due to small sample size and/or poor preservation of the former two taxa (Monckton 1993).

Dunsmore

The Dunsmore site is located about 4.5 km northwest of Kempenfelt Bay on a broad flat promontory overlooking a small tributary of Willow Creek, which connects to the Nottawasaga River via Minesing Swamp (Figure 2). The site is north-west of the city of Barrie, about 2.5 km west of Little Lake. To the north, the site boundary is defined by the presence of a gully, while to the south and west the land slopes more steeply to the tributary and associated wetlands (Figure 5) (Robertson and Ramsden 1996b).

Test excavations by James Hunter in the early 1970s sampled one of the middens (Hunter 1978). Dunsmore was salvage excavated in 1989 by Richard Sutton (field supervisor) and Ronald Williamson (project director) of Archaeological Services Inc. (ASI), an archaeological consulting firm in Toronto, retained by the Rose Corporation, a commercial developer.

Excavation and bulk sampling procedures were identical to those employed at the Barrie site (Robertson and Ramsden 1996b), although flotation sampling procedures were less intense (Table 4).

The size of the Dunsmore site is 1.9 ha, of which 1.5 ha was investigated during the 1989 salvage excavations. These uncovered 16 structures and four middens, relating to three house clusters. While some of the structures in the northeast cluster may have been seasonally occupied, the houses from which the zooarchaeological remains derive were most likely permanent residences (Robertson and Williamson 1996). The houses in the south-central and west clusters that were the subject of zooarchaeological analysis were all permanently occupied. The largest structure is House 7, at 54 m long (Robertson and Ramsden 1996b).
Again, summary identifications of bone material from the earlier test excavations (Thomas 1978) are excluded from this discussion because the method of quantification is not compatible. Analysis of the recently excavated faunal sample concentrated on a non-random sample selected by the excavator, including the undisturbed areas of three middens (24 m$^2$), and 81 features within 10 houses (Table 4). It was analysed by the author (preliminary data in Needs-Howarth 1994) and Stephen Cox Thomas (1996d) (employed by ASI). The laboratory analysis was conceived and carried out as a collaborative project.

After washing, bones were dried in a cabinet heated by a light bulb. This is not considered to have had any detrimental effect on the faunal remains. After analysis, bones were re-packed together by context in paper bags. The Dunsmore collections were donated for curation to Huronia Museum in Midland.

An AMS radiocarbon date on corn of A. D. 1430-1510 (Cal.) concurs with ASI ceramic seriation (David Robertson, personal communication 1998) (Table 2).

Cultigens made up a small percentage of the seeds in the analysed floatation samples; fleshy fruits appear to have been more important (Monckton 1996). The wood charcoal assemblage is dominated by maple, beech and white pine (Pinus strobus), with ironwood, ash, and elm of secondary importance, suggesting a secondary successional mixed forest (Monckton 1996).

Carson
The Carson site is located close to the Dunsmore site on a former beach ridge near Little Lake (Figure 2).

The site was salvage excavated by Archaeological Research Associates Ltd. (1990) in 1988 and 1989, prior to construction of a proposed housing sub-division. Parts of the site were excavated by supervised high school students enrolled in an archaeological field school.

The disturbed ploughzone was stripped with the use of a bulldozer. All subsurface features were excavated with shovels and trowels.

Small flotation samples were taken from half the fill of all features. Ninety-seven flotation samples, representing 241 litres, were processed in 1997 by Della Saunders with the aid of the SMAP style flotation system at Department of Anthropology, University of Toronto at Mississauga. Heavy fractions were recovered with a 2.4 mm geological sieve. The remainder of the sectioned fill was dry screened through 3.2 mm mesh.

The village was approximately 2.8 hectares in size, consisting of eight houses and two large middens (Figure 6). Excavation concentrated on six of these houses, ranging in length from 52 m to 75 m, and both middens. Construction details of House 6 suggest “it may have been built at a different time or for a different purpose” (Archaeological Research Associates Ltd. 1990:10).

This assemblage was previously analysed in part by two students as part of an introductory course in zooarchaeology at University of Toronto. The current work is effectively a partial re-analysis of a portion of the sample analysed by Crane (1990) and Dompierre (1990). It also includes additional contexts that were not previously analysed or that were not previously available (i.e. the heavy fractions) (preliminary data in Needs-Howard 1997b). The faunal sample under discussion here was intended to comprise all the finds from three houses (Table 5). Because of inconsistent field laboratory bag labelling procedures it was, however, not possible to ascertain whether all bags from these houses were, indeed, examined. House 1 and House 5 are both 52 m long, House 3 is 59 m long (Varley and Cannon 1994). The only feature with significant numbers of bones is House 5 Feature 1, a refuse pit measuring about 55 cm across and 23 cm deep. For the purposes of comparison with other sites, one midden context (Midden 4) was also examined. The generally excellent state of preservation is attested by the ubiquity of fish scales. The collections were donated to Huronia Museum for curation in 1989 by the landowner.

A radiocarbon date from the site of A. D. 1507±27 is argued (Varley 1993) to be in agreement with ceramic seriation (Table 2). Wood charcoal data are not yet available. The ceramic assemblage contained substantial numbers of Lalonde High Collar rimsherds, which occur in a small area of the area between Lake Simcoe and Nottawasaga Bay in the fifteenth century.