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A resource like no other: Understanding the 11,000-year relationship between people and water

The Lake Ontario shoreline and its rich estuaries and river systems have been home to people for at least 11,000 years. Archaeological sites are almost all we have to tell the stories of those early settlements, whose physical remnants are very fragile. Finding ways to protect those remnants has become especially important in the last half-century of urban sprawl and expansion. The rate of loss of archaeological sites during that period is staggering – it is possible that hundreds of sites were destroyed in Toronto alone, many of which would have contributed meaningfully to our understanding of the past.

Until the environmental protection legislation of the 1970s and 1980s, municipalities had few tools to combat archaeological site destruction. Armed now with unequivocal instructions from the nation's supreme courts that outline the need for consultation with the Aboriginal communities whose legacy these sites represent, and that have given shape to a clear legislative expression of the provincial interest in the archaeological record, municipal planners must now require the identification of archaeological sites on land poised for development before the backhoes touch the ground.

The primary means by which these resources can be protected is through the planning approvals process. Archaeological master-planning is the latest response to an old problem: how to deal with evidence of the past that is, for the most part, not visible because it is buried underground (or under water). By providing an inventory and evaluation of known archaeological sites, as well as a model that identifies where other sites might be situated, archaeological master plans are the new tool of choice for planners, helping them determine when to call for archaeological assessments in advance of development. Toronto is undertaking one of the most ambitious and comprehensive of these plans in North America.

Almost 150 Aboriginal archaeological sites have been found in Toronto and registered in the provincial database since 1974. These sites date from the earliest period of human occupation in the region through to the nineteenth and early twentieth centuries, and represent a wide range of settlement types, from

places where pre-contact hunters lost their spears thousands of years ago to major 500-year-old farming villages that housed over a thousand people and were surrounded by hundreds of hectares of cornfields.

To predict how additional but undocumented Aboriginal archaeological sites are distributed across the Toronto landscape, consulting firm Archaeological Services Inc. designed an archaeological potential model based primarily on the distance to various forms of potable water. Soil drainage and texture characteristics (especially for agriculturalists) and slope attributes were also considered. The universality of the need for potable water makes its examination a logical point of departure for most predictive modelling exercises. Aboriginal elders and oral histories tell us that the only exceptions usually relate to special places in the landscape where people communicated with the spiritual world, such as rock outcrops or caves for vision quests or burials. The fact that the average distance to water for the eighteen burial sites in Toronto is only 185 metres suggests that people may have believed that those souls that still resided with their ancestors' bones also required water for sustenance. Many Aboriginal groups believed (and still do) that people have two souls, one that goes to the sky world at death and one that stays with the person's remains, which accounts for why such places are considered sacred and should not be disturbed.

While water is arguably the most fundamental resource humans require, archaeologists recognize that the natural landscape of southern Ontario has not remained the same during the span of human occupation. We need to understand where water was during any particular period in the past. Fluctuations in the water levels of the Great Lakes basins had profound effects on early pre-contact settlement and subsistence patterns, alternately opening up and then covering vast areas of land, affecting the survival and present accessibility of sites. This poses a particular problem for finding sites from the earliest occupation of the city, when the Toronto shore of Lake Ontario was several kilometres south of its current location.

Although the character of Toronto's rivers and their tributaries has been severely obscured by land development, we know from historical accounts that, just 200 years ago, they were far different from today. The Don River, for example, was navigable

upstream by boat for three or four kilometres from Lake Ontario and was bordered along its lower reaches and around its mouth by wetlands. In his 1873 history of Toronto, *Toronto of Old*, noted cleric and scholar Henry Scadding described the contiguous marshes through which the Don flowed as 'one thicket of wild willow, alder, and other aquatic shrubbery,' including witch hazel, dogwood, highbush cranberry, wild grape, blue iris, reeds and cattails. He refers as well to an island near the mouth of Castle Frank Brook where wild rice grew plentifully. His account aptly describes the reasons that archaeological sites are close to rivers – they provide potable water, a means of transportation by canoe and, when surrounded by marsh, a veritable supermarket of plant and animal foods, as well as raw resources for tools and clothing.

Understanding the evolving natural environment, and especially water, is crucial for archaeologists attempting to predict where past peoples lived throughout the millennia. The investigations of known archaeological sites have provided rare and valuable insights into people's past relationships with the water in their environments. The following sections highlight some of those insights, from the time of the very first occupants of the region and their use of ancient glacial shorelines to the long-distance travel and trade along the major regional rivers that characterized the ancestral Huron and Seneca use of the region. Throughout the millennia, the trails alongside the Rouge, Don and Humber rivers functioned as the pre-contact equivalents of Highway 400 in the linkage of the lower and upper Great Lakes.

THE VIEW FROM THE IROQUOIS BLUFF (9000 BC–7000 BC)

Small bands of nomadic hunters moved to the southern Ontario region soon after the continental glacier retreated. They often settled on ancient shorelines where they could spot large game such as caribou, mastodon or mammoth in what was then a tundra-like environment similar to that found today in the subarctic region of Canada [1]. The Lake Iroquois strandline above Davenport Road is one such relict shore, although it was located well inland by the time people first moved into the Toronto area. While only a few cultural traces of this period have been found within the city, dozens of 10,000- to 11,000-year-old spearheads have been found along this ancient shoreline in neighbouring municipalities. Unfortunately, some of the largest campsites dating to this

1 *The earliest occupants of Toronto may have camped on a similar glacial shoreline to spot caribou or other large game in the distance.*

period would undoubtedly have been situated adjacent to the Lake Admiralty shoreline or the estuaries that drained into that lake, which are now situated some five kilometres into Lake Ontario.

Truly spectacular evidence of those submerged occupations may have surfaced in 1908 during waterworks-related tunnelling in Toronto Bay, to the east of Hanlan's Point, at a depth of twenty metres below water level. This evidence consisted of over 100 human (possibly moccasined) footprints in clay that were likely laid down during the Wisconsinan glaciation. Although not professionally investigated at the time due to a fear of delay in construction, the on-site inspectors clearly described in newspaper interviews both child and adult footprints, perhaps representing a family heading northward from their camp on the Admiralty lakeshore to what is now downtown Toronto some 11,000 years ago.

HUNTING AND FISHING ON TORONTO'S RIVERS (7000 BC – AD 500)

For the next several thousand years, the landscape in which people lived continued to change. The water levels in the Great Lakes lowered and broadleaf forests expanded, necessitating changes in the hunting, fishing and gathering strategies. This in turn brought about new weapon

2 *Two sides of a 4,000-year-old spear head found on a site near James Gardens on the Lake Iroquois shoreline in the Humber Valley.*

and tool technologies including, eventually, the bow and arrow.

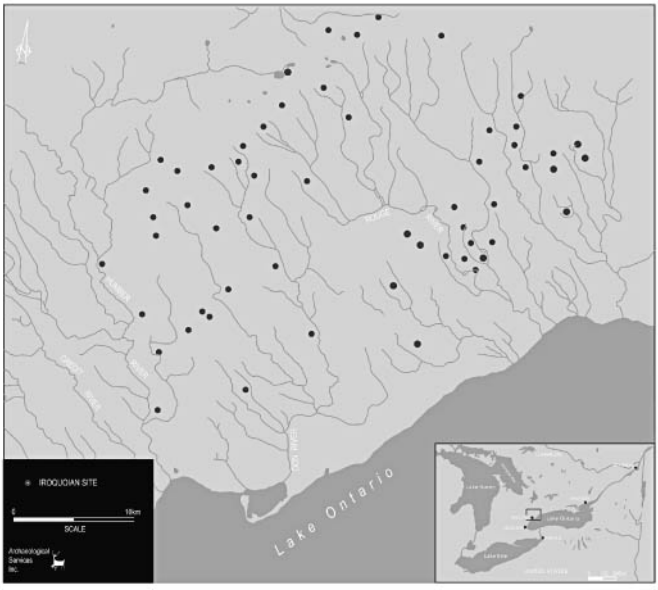
By 4,000 to 5,000 years ago, small bands of related families were settling into familiar hunting territories. They spent the spring and summer in large settlements located near river mouths, fall in small camps in the forested interior so they could harvest nuts and hunt deer, and winters in even smaller camps.

While the earliest of the lakeshore and estuary sites are now either submerged or buried under modern lakefill, a number of the interior sites have survived. The distribution of the thirty-five sites of this period found in Toronto is divided equally between those situated on major rivers and creeks and those situated along small tributaries. A handful of sites are also adjacent to wetlands, and at least two sites are known along the Iroquois shoreline adjacent to the Humber River, including a recently documented 4,000-year-old camp in James Gardens [2]. Other nearby sites are located along the middle reaches of the Humber and Don rivers. The collections from sites in the Eglinton Flats area, for example, contain projectile points that date to the period from 1,000 to 400 BC.

The harvesting calendar of this period would not have been complete without the seasonal catches of fish from Lake Ontario and the lower reaches of the major rivers. While people fished throughout the year, they would have had much larger catches during the spawning runs in spring and fall, as evidenced by the presence of at least seven known sites along the lower Humber, Don and Rouge rivers. Whether situated in forest interiors next to small tributaries or wetlands or adjacent to major rivers, the sites of this period are rarely situated more than 200 metres away from water.

THE ANCESTRAL HURON: FIRST FARMERS (AD 500 – 1600)

The introduction of corn into southern Ontario about 1,600 years ago brought a commitment to producing food through agriculture. The seasonal rounds of the previous millennia were abandoned in favour of growing all food in one place. In the first centuries after the introduction of corn, life involved clearing land first on flood plains and, shortly thereafter, on the tableland surrounding small base settlements. People tended their fields from these settlements while sending out hunting, fishing and gathering parties to satellite camps to harvest other naturally occurring resources, thereby reducing



3 *Locations of ancestral Huron and Petun sites along the rivers draining into the north shore of Lake Ontario, 1350–1550.*

the risk posed by crop failure. By the thirteenth century, these base settlements had grown to one hectare or more, and squash, beans, tobacco and sunflower were grown in addition to corn.

The first agriculturalists who lived along the central north shore of Lake Ontario in the Toronto region were the ancestors of the Huron and Petun [3]. By the beginning of the fourteenth century, there were a number of contemporaneous communities occupying the Humber, Don, Highland and Rouge drainage systems, some of which probably still remain to be documented. While these sites were usually around two hectares in size, by the early sixteenth century, they had grown to four to five hectares, containing at any one time more than fifty house structures occupied by 1,500 to 2,000 people [4]. The resource needs of these early towns included 60,000 trees for house and palisade construction, probably taken largely from nearby cedar swamps. Given the requirement of one pound of corn per day per person, hundreds of hectares of land would also have been cleared around the villages for cornfields. As no irrigation or fertilization methods existed, the ever-decreasing soil fertility would have resulted in field expansions to the point that cabins were necessary in the fields to eliminate the several-kilometre daily walk back and forth from the main village to the remote fields.

4 *Plan of the Alexandra site, a fourteenth-century ancestral Huron settlement on Highland Creek in northeast Toronto. Excavated in 2001–02, the site yielded evidence of sixteen longhouses and several refuse deposits in which over 19,000 artifacts were found.*

There have also been a number of discoveries of ancestral Huron ossuaries in the city.[1] One such late-thirteenth-century site was documented on a small tributary of the Don River just south of Highway 401. Test excavations of the village, known as the Moatfield village, and its associated ossuary, yielded large numbers of fish remains, along with turtles, waterfowl and a variety of both land and water mammals. These finds show how important the resources of the lower Don River were for the site inhabitants. In fact, in addition to American eel, one group of fish comprising Atlantic salmon, lake whitefish and lake trout played a particularly significant role in the diet of the site inhabitants, providing nutritional balance to a maize-dominated regimen. Along with pickerel, these species, all high in the food chain, left a chemical signature in the bones of the village occupants in the form of high nitrogen isotope values.

1 Ossuaries are pits three metres in diameter in which the remains of hundreds of people who had died during the tenure of a village were placed and then commingled.

5 *A 1688 map by Pierre Raffeix shows the location of Iroquois villages along the north shore of Lake Ontario, including Teiaiagon on the Humber and Ganatsekwyagon on the Rouge. Portage routes to 'Lac Tarontho' (Lake Simcoe) are traced. This is the first European map to show the Don River. North is at the bottom.*

Similar data from other fifteenth-century communities in the region situated more than fifteen kilometres from the lakeshore suggest that deer and other mammals were eaten to achieve that balance. Scientists have also been able to examine the oxygen and strontium isotopes in people's skeletal remains to determine where those people were from, since the chemical signatures of those elements are typically acquired through local foods and drinking water.

Most if not all of the communities along Lake Ontario's north shore had moved northward by about 1600, joining with other groups in present-day Simcoe County (between Lake Simcoe and Georgian Bay) to form the Petun and Huron confederacies documented by the first European visitors to the area. By the mid-seventeenth century, those populations had been dispersed due to European disease, resulting in a loss of over half of their populations, and war with the Five Nations Iroquois from south of Lake Ontario, who were traditional enemies of the Huron and in constant conflict with them over beaver hunting grounds and access to the lucrative European fur trade.

THE IROQUOIS AND MISSISSAUGAS: MID-SEVENTEENTH-CENTURY NEWCOMERS (AD 1650–1700) The Five Nations Iroquois established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario, including two villages in Toronto [5]. These new settlements were established by the Seneca near the mouths of the Humber and Rouge rivers, two branches of the

Toronto Carrying Place – the canoe-and-portage route that linked Lake Ontario to Georgian Bay and the upper Great Lakes through Lake Simcoe. By the 1690s, both villages were home to Mississaugas, the Seneca having abandoned the villages to return to their homeland to defend it from the French. Though these villages were similar to earlier Huron settlements along the north shore in that they were surrounded by cornfields, the inhabitants of both villages also depended on the rich salmon fisheries near the mouths of the rivers.

The Seneca settlement on the Humber River is called 'Baby Point' or 'Teiaiagon' (an Iroquois word meaning 'cross the river') and was situated on the level summit and slopes of a large promontory overlooking the main channel of the Humber. The Récollet missionary and explorer Father Louis Hennepin spent three weeks at the settlement in the late autumn of 1678, and French explorer René-Robert Cavelier de La Salle camped at the site in the summers of 1680 and 1681. While hundreds of graves were documented on the site in the early twentieth century, the bodies of two Seneca women were recently discovered, both with ornamental combs, one of which is carved to depict morphing animal figures including Mishipeshu, a powerful underwater dragon-like being [6].

The other Seneca village in eastern Toronto was called 'Ganatsekwyagon' ('among the birch trees'), situated near the mouth of the Rouge River. The first European use of the site was as a mission established by the Sulpician Fathers from 1669 to 1671 under François d'Urfé.

The Senecas, the Mississaugas and the earliest Europeans along the present-day Toronto waterfront were probably there because of the area's strategic importance for accessing and controlling long-established regional economic networks. All these occupations occurred on or near the Lake Ontario shoreline between the Rouge and Humber rivers, at sites that had both natural landfalls for Great Lakes traffic and convenient access, by means of the various waterways and overland trails, into the hinterlands. The origin of the place name Toronto, likely a Mohawk word, means 'trees in water,' which may refer to the fish weirs in the narrows of Lake Simcoe, the first major body of water on the Carrying Place. In the end, the first European settlement of Toronto was simply a continuation of patterns that had been in place for thousands of years – patterns that were centred on water.

6 *A late-seventeenth-century Seneca moose-antler comb depicts a number of significant iconographic figures (including Mishipeshu, a bear and a human) that morph into one another. Etched lines depict Algonkian-Iroquoian symbols such as the power lines that emanate from the animal figures.*

The understanding of the past derived from ongoing research for Toronto's archaeological master plan, with its focus on people's long-standing relationship to water, should remind us of the importance of properly conserving this most fundamental human resource for our own future. Toronto's archaeological master plan has provided the City of Toronto with the tools to manage, preserve and interpret its 11,000-year-old archaeological record. Many ancient settlements have survived in the green spaces of Toronto, and we can now look forward to their conservation and interpretation, a situation that was unimaginable only a few decades ago. New initiatives that will involve First Nations in the management and interpretation of their past represents an equally significant advance that provides us with a partnership for stewardship of the past, and of the present and future as well.