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## The Madina Phase: Late Pleistocene – Early Holocene Occupation Along the Margins of the Simcoe Lowlands in South-Central Ontario

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### Abstract

Archaeological and palaeoecological data collected between 1975 and 1992 indicate occupations by Late Palaeo-Indian hunter-gatherer groups, along the margins of the Simcoe lowlands to the southeast of Cook Bay, Lake Simcoe, during the Late Pleistocene-Early Holocene transitional period. A base camp (Deavitt-7YK10) and 14 smaller hunting and/or maintenance encampments and isolated artifact recovery localities are described, and their cultural inventories analyzed. This data is compared with that recovered from similar Late Palaeo-Indian, contracting stemmed producing peoples, who succeeded the better-known Early Palaeo-Indian fluted point using groups, at the termination of the Pleistocene throughout most of Canada and the United States. The local environment is reconstructed for this poorly known period of Ontario's prehistory on the basis of pollen analysis at Rose Swamp near the Deavitt site, which is suggested to date to the period from shortly after the drainage of Lake Algonquin between 10,400 and 10,100 B.P.

### Résumé

Les données archéologiques et paléocéologiques recueillies entre 1975 et 1992 indiquent que les chasseurs-cueilleurs du Paléoindien inférieur ont occupé le bord des basses terres de Simcoe au sud-est de la baie Cook, Lac Simcoe, à la fin du pléistocène et au début de l'holocène. On décrit un camp de base (Deavitt 7YK10) et 14 camps plus petits de chasse et/ou d'entretien et l'emplacement d'objets isolés; on analyse également leur matériel culturel. On compare ces données avec l'enregistrement de sites semblables qui, comprenant des pointes

à pédoncule convergent du Paléoindien supérieur, étaient habités par des gens qui ont succédé aux groupes mieux connus, artisans des pointes cannelées, du Paléoindien inférieur à la fin du pléistocène. On a reconstitué l'environnement local correspondant à cette période méconnue de la préhistoire ontarienne en nous servant de l'analyse de pollens provenant de Rose Swamp situé près du site Deavitt qui, à mon avis, date de la période qui a suivi le drainage du lac Algonquin, entre 10 400 et 10 100 A.A.

## Introduction

In recent years there has been an explosion of knowledge concerning the Palaeo-Indian occupation of Ontario. However, most of this research has focused on Early Palaeo-Indian assemblages, which tend to have the fluted point as their diagnostic markers, rather than on the subsequent Late Palaeo-Indian manifestations that tend to be characterized by lanceolate, contracting stemmed, unfluted forms. This paper attempts to correct this imbalance by reporting on a number of Late Palaeo-Indian assemblages recovered from the margins of the Simcoe lowlands in south central Ontario (Figures 5.1 and 5.2). A major focus of this document is to report on field investigations carried out at the Late Palaeo-Indian Deavitt site, and several other smaller locations that were likely more-or-less contemporaneous.

All the sites from the area, in addition to sites and find spots from other areas in southwestern Ontario, allow for the recognition and definition of distinctive Late Palaeo-Indian manifestations distinguished by lanceolate, contracting stemmed projectile points (hereafter referred to as contracting stemmed). The lithic tool kit is described, and through external

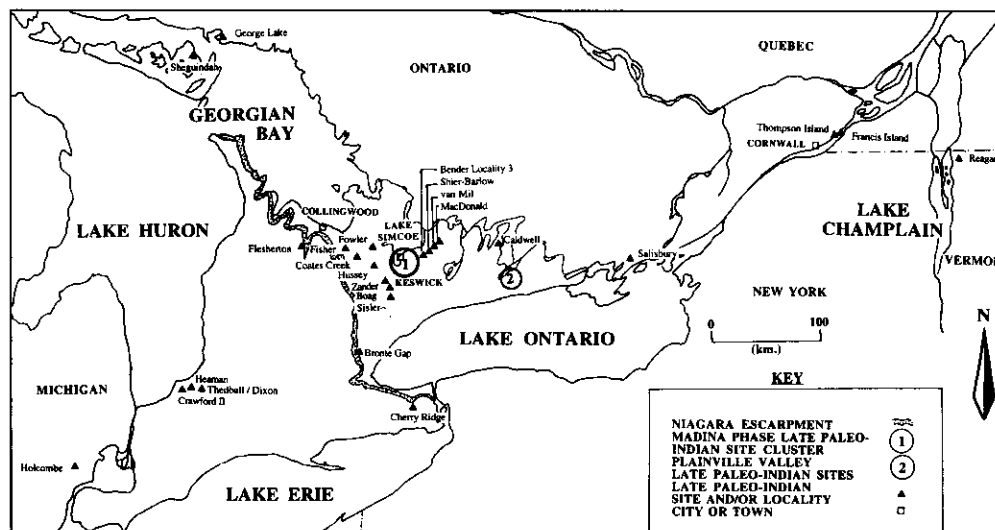


Figure 5.1 Location of Late Palaeo-Indian Sites in Southern Ontario and Adjacent Areas in Michigan, Quebec and Vermont.



with the lowering of the main lake levels, persisted within the upper central section of the Maskinonge River valley for almost three millennia. Since the survey area is located within the Lake Simcoe-Kawartha Lakes drumlin field, most of the major shoreline features abut drumlins (Chapman and Putnam 1973). The elevations of the main Algonquin shoreline range from about 225 m asl. in the south to between 228 and 232 m asl. in the more isostatically uplifted sections at the north end of the study area.

The Deavitt site is located along the western side of an Algonquin peninsula that commands a panoramic overview of the Simcoe Lowlands to the southeast and southwest, and which today encompass the Maskinonge and East Holland rivers, respectively. To the north and northwest there are three former Algonquin islands. The peninsula was favoured because it would have been a natural crossing point for game, such as caribou, moving along the margins of the main shoreline to the adjacent upland features or between the two river valleys. At Deavitt, Areas II-V are situated at elevations of between 238 and 240 m asl., while Area I and the Badali site are located immediately below a secondary bluff, 300 m back of the main shoreline, at an elevation of about 235 m asl. Most of the other Late Palaeo-Indian sites and/or artifact find spots are situated either along or slightly above the main shoreline, at elevations ranging from 235 to 245 m asl.

Surveys to the north and northwest of the Deavitt site, covering almost 200 hectares of the Simcoe Lowlands (Algonquin lakebed), have not resulted in the discovery of components belonging to the Late Palaeo Indian period. The Deavitt site is located on a drumlin that is composed of Newmarket Till, which was deposited upon deglaciation about 13,100 to 12,300 B.P. (Gwyn and DiLabio 1973).

### Palaeoecology

Paleoecology of the site was prepared by J. McAndrews. Today, the Deavitt site is located in the mixed forest zone, which is dominated by the conifer forests of white pine, hemlock and cedar, together with deciduous hardwoods such as sugar maple, beech, elm and oak. Northward, in central Ontario, jack pine and spruce replace white pine and these, combined with fir, birch, and poplar, form the boreal forest zone. Further north, spruce becomes the sole dominant in the forest-tundra transition to the tundra zone along the shores of Hudson Bay.

To make a local pollen diagram, Dr. J. McAndrews (Botany, ROM) cored the sediment of a former shallow embayment of Lake Algonquin called Rose Swamp, which is located along the modern Maskinonge River (Figures 5.3 and 5.4). Rose Swamp is a wetland that formed behind a Lake Algonquin beach bar and when the lake drained, it impeded drainage, which has been maintained by differential isostatic rebound, less in the south than in the north (the direction of river flow).

The pollen diagram displays the Late Pleistocene spruce zone 1 and Holocene zones 2, 3a and 4; subzones 3b, 3c and 3d are missing. The base of zone 2 was radiocarbon dated at 10,070 B.P. (WAT-1016), and the base of 3a was dated at 7,160 +/- 100 B.P. (WAT-1017). The zone boundaries correspond with sediment change. The core was 250 cm long and had 27 cm of dense sand at the base that was successively overlain by marly gyttja, peat and peaty clay (Figure 5.3).

**ZONE 1** is confined to the basal sand and is dominated by spruce and pine with abundant sedge and spikemoss, a boreal moss-like fern ally. The pollen density is low, ca. 1000 ml-1.

**ZONE 2** is confined to the marly gyttja and is dominated by pine with small amounts of larch, fir, birch, elm, and oak, together with aquatics. Jack pine is abundant below 185 cm and white pine prevails above 185 cm.

**ZONE 3** is confined to the peat and is dominated by hemlock and pine with significant beech. There is no hemlock minimum to define subzone 3b, and thus the peat is assigned to subzone 3a that terminated at ca. 5,000 B.P.

**ZONE 4** is confined to the surface peaty clay and has abundant ragweed and other weed pollen, which accumulated due to European agriculture. Mollusks are abundant in the marly gyttja and absent from the peat. They are sparse in the basal sand and surface peaty clay. Plant macrofossils, especially seeds of aquatic plants, are unusually abundant.

The date of 10,070  $\pm$  280 B.P. on the marly gyttja immediately above the basal sand shows the sand to be contemporary with Lake Algonquin. It represents a shallow-water delta deposit that was subject to wave action. With the drainage of Lake Algonquin, the landscape became forested, local wind velocities decreased, the climate warmed and a shallow, aquatic plant-filled pond came to occupy the former embayment. Concurrently, the zone 1 forest-tundra succeeded to the zone 2 boreal forest.

Jack pine, spruce and fir dominated the early boreal forest. With continued temperature rise, the white pine succeeded jack pine, and spruce all but disappeared. Beginning about 7,200 B.P. hemlock came to dominate the forest (subzone 3a). The pond had become filled with sediment and a marsh began depositing peat. Peat accumulation ceased perhaps 5,000 B.P. when the site became a cedar bog.

The zone 4 peaty clay represents local overbank levee deposits stemming from seasonal floods associated with forest clearance in the past century.

The Late Palaeo-Indian occupation of the Deavitt and surrounding sites and/or find spots, likely corresponds with the late pollen zone 1-early zone 2 transition. If the Late Palaeo-Indian occupation were during late zone 1, the dominant vegetation would have been spruce and sedge, which compares with the modern forest-tundra. Using analogues with contemporary northern hunter-gatherers, major subsistence resources could have been barren ground caribou, hare and ptarmigan. If the occupation were during zone 2, the similarities would have been with a boreal forest setting. In the boreal forest, conifers, especially jack pine, were dominant; but white pine, spruce and fir were present with larch in the widespread wetlands (Simcoe Lowlands). Among the deciduous hardwoods were white birch, yellow birch and probably poplar. Nut bearing trees such as oak, were sparse or absent; although edible berries (e.g. blueberries) were likely abundant. In this boreal forest environment subsistence resources were probably woodland caribou, moose, beaver, hare and fish.

Modern hunters of the boreal forest usually put their base camps along navigable streams and not on a forested hilltop like the Deavitt site location. If the time of occupation was during late zone 1, the landscape would have been nearly treeless, and the hilltop base camp could have served as a lookout for migrating game such as barren ground caribou.