

## **Comments on:**

*An Archaeological Assessment (Stages 1 and 2) of the proposed subdivision development KNL-Kanata Lakes, Parts of lots 6, 7, 8 and 9 Concession 2 and Parts of Lots 7, 8 and 9, Concession 3 (former Township of March, City of Ottawa. KNL Developments Inc., Nicholas R. Adams, August 2003*

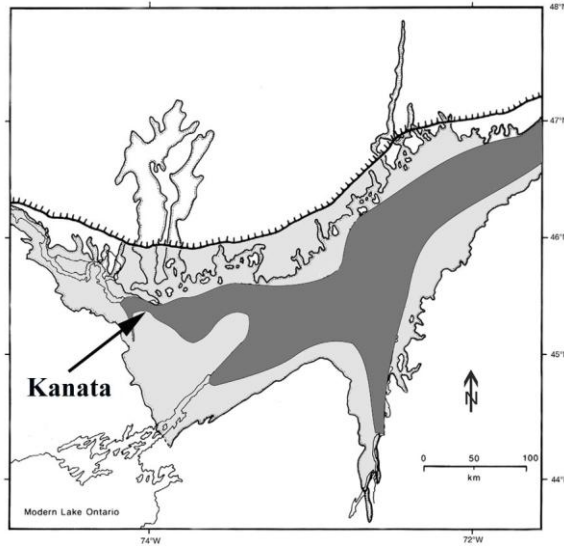
Robert McGhee PhD, FRSC  
August 6, 2010

The area under consideration comprises a mix of arable or semi-arable land that generally lies at an elevation of 90 to 100 metres above sea level, and rolling rocky terrain at elevations of between approximately 100 and 120 metres. The report focuses on the arable portion of the area, and especially on the history of European settlement and use of this land. This portion of the work appears to be competent and thorough, although I am surprised that the Stage 2 assessment did not encounter more remains of European farming, lumbering or mining activities. It is not remarkable that no remains of pre-European activities were discovered in these areas, since the region is at or beyond the limit of aboriginal agriculture, and these wetland/forest plains would have had little attraction to settlement by hunters and gatherers of earlier periods.

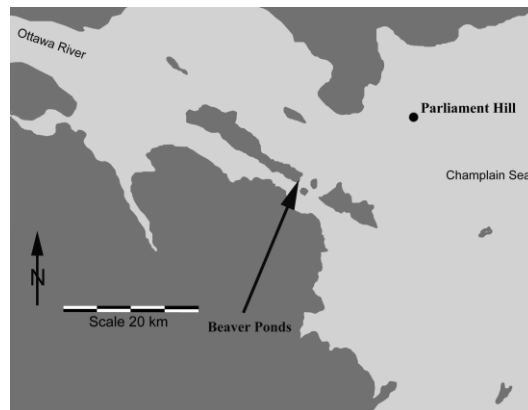
The major problem with this report—and I see it as a fatal flaw—lies in the fact that its statements regarding prehistoric land use appear to be based on an assumption that the local geography and physiography described at the time of European settlement continued unchanged from the ancient past. Very surprisingly for an archaeologist, the author appears to have ignored the fact that the region has undergone major physiographic changes since the last Ice Age, and that in earlier Holocene times the area of the proposed development had significantly different characteristics. In the early postglacial period, between approximately 11,000 and 9000 years ago, the area of the proposed development formed the shore of the Champlain Sea (Fulton and Richard 1987). This was a productive mid-latitude version of a seasonally frozen Subarctic sea, probably combining some of the characteristics of the present Hudson Bay and the northern portion of the Gulf of St. Lawrence. Champlain Sea sediments in gravel pits have yielded the bones of a full range of ice-adapted sea mammals including bowhead whale (*Balaena mysticetus*), beluga (*Delphinapterus leucas*) and walrus (*Odobenus rosmarus*), together with ringed, bearded and harp seals (*Phoca hispida*, *Eringnathus barbatus*, *Phoca groenlandica*) (Harington 1988, Harington *et. al* 2006).

During this period the Carp Ridge emerged as a series of rocky islands paralleling the southern shore of the sea. These islands were separated from one another and from the shore by narrow channels through which tidal currents, together with those of melt water flowing from the nearby mouth of the Ottawa River, would have produced turbulent mixing of fresh and salt water as well as inhibiting the formation of winter ice. Polynia conditions such as these are very productive locales in Arctic waters, attracting both sea mammals and their human predators. When the level of the Champlain Sea dropped below an elevation of about 90 metres above current sea level the islands coalesced to form the Carp Ridge, and this was attached to the mainland at the head of a

narrow and shallow bay that now forms the floodplain of the Carp River. This new configuration, which took form at some time between 10,000 and 9,000 BP, removed the conditions that would have made the local area an exceptional hunting locality during early postglacial times.



**Figure 1:** The maximum extent of the Champlain Sea (light stipple) and approximate limits at 10,000 BP based on distribution of whale bones dated between 10,500 and 9,500 BP (dark stipple). The ice margin is shown as at 11,000 BP (modified from Harington *et. al* 2006: Figure 1).



**Figure 2:** Location of the Beaver Ponds area relative to the Champlain Sea at a level 110 m above current sea level, approximately 11-10,000 years ago.

When this fact is taken into account, the rocky upland areas of the proposed development can no longer be ignored as of low archaeological potential. In fact they should be considered to be of high potential for occupation by early postglacial sea mammal hunters along subsequent shorelines as local sea levels dropped from about 120 m above current sea level at around 11,000 radiocarbon years ago, to 90 meters above sea level at some time around 9,000 years ago. The apparent presence of quartz veins in the groundmass of these highland areas would have provided another attraction to early

hunters of the time, as quartz was the primary tool-stone used by the early Archaic period occupants of the maritime regions to the east (Gulf of St. Lawrence) and south (Gulf of Maine) (Bourque 2001; McGhee and Tuck 1974; Pital 2001, 2006; Plourde 2006; Sanger 2005)

The area of the proposed development is physiographically equivalent to the nearby Broughton Lands (Part of Lot 5, Concession 1, March Township) where Swayze (2005, 2009) recovered convincing evidence of a significant Early Archaic occupation along shorelines of the recessional Champlain Sea. This is, in fact, the earliest known evidence of occupation in Eastern Ontario.

In summary, I consider the report to be clearly inadequate in its dismissal of the archaeological potential of the upland regions of the area under consideration. In fact, a basic knowledge of the physiographic history of the local region should have made it apparent that these are the regions most likely to have archaeological potential for preservation of important sites related to the earliest postglacial occupations of the Ottawa Valley area.

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## **Robert McGhee's Archaeological Qualifications**

I received eight years of undergraduate and postgraduate education in prehistoric archaeology, plus one year of education in geology and geophysics. I obtained a BA (1964) and MA (1966) from the University of Toronto, and a PhD in Archaeology from the University of Calgary (1968). From 1968 until 1972 I was employed as an archaeologist by the National Museum of Man in Ottawa, and then moved to a teaching position at Memorial University of Newfoundland. In 1976 I returned to the National Museum, now the Canadian Museum of Civilization, where I held the position of Curator of Arctic Archaeology until I retired in 2008. I am an elected Fellow of the Royal Society of Canada, the Arctic Institute of North America, and the Royal Canadian Geographical Society. I was the founding Editor of the *Canadian Journal of Archaeology* (1976-79), and served as President of the Canadian Archaeological Association from 1988 to 1990. In 1997 I received the Canadian Museums Association Outstanding Achievement Award for Research, and in 2000 was awarded the Massey Medal of the Royal Canadian Geographical Society.

I have engaged in more than forty years of archaeological excavation and research. This includes work in various parts of Canada (British Columbia, Alberta, Ontario, Newfoundland and Labrador, Yukon, Northwest Territories and Nunavut), as well as in portions of Eurasia (Iran, Svalbard, Chukotka, central Siberia). This work has been published in over 100 books and articles. My work has involved research on a wide variety of archaeological cultures and prehistoric environments, ranging from early post-glacial occupations of eastern Canada to Neolithic cultures of western Asia, to Inuit occupations and the sites of early European exploration in Arctic Canada.

The professional experience that is of greatest relevance to this project includes three years of research (1972-75) on early Archaic occupations dating between approximately 9000 and 6000 years ago on the southern coast of Labrador; and over twenty seasons of fieldwork in various regions of Arctic Canada from the Mackenzie Delta to the High Arctic Islands. This research focused on a variety of prehistoric coastal adaptations to environments that have much in common with those of the early postglacial period in the vicinity of Ottawa, specifically the environments along the shores of the Champlain Sea.