

The Importance of Archaeology in Understanding Species at Risk: The American eel as a Case in Point

The Ontario Archaeological Society 2007 Symposium

Either Side of Contact

Kingston, Ontario

November 3, 2007

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(P1: Title Page: Ancestor Reflection, Algonquin Park)

Good morning:

- Before I begin let me acknowledge the leadership and foresight of Chris Andersen whose early and continuing work with traditional Aboriginal use of eels continues to inspire and to provide positive influence on the archaeological community in Ontario. Thanks for a job well done, Chris.

- I dedicate my own presentation today to Tessouat, that shrewd Algonquin Chief who, at the time of European contact 400 years ago, controlled the flow of trade on the Ottawa River from his base on Allumette Island where a stone weir complex allowed harvest of the most significant numbers of American eels now known in archaeological context in Eastern Canada (C&C 2003 etc.; DCB, <http://www.biographi.ca>) **(P2:Stone Weir)**.

I have a story. The purpose of the story is to show some opportunities for archaeology in light of Ontario's new Endangered Species Act. The American eel (*Anguilla rostrata* in Latin or *Pimizi* in Anishinaabemowin) is the species of choice to illustrate this opportunity. (Appendix 1; McGregor 2004:99; Baraga 1878:85; Baraga 1880:83). The story flows from my background as a researcher of fish weir structures and adjacent sites, as a SCUBA diver **(P3: Allen & Turtle)**, as a policy analyst who studies the impact of dams on the migratory movements of the eel and as a person who works extensively with Aboriginal people. The story recognizes that, as John Casselman points out, eels were so plentiful in centuries past that they probably comprised a substantial portion of the overall inshore fish biomass (Casselman 2003:260). The story recognizes that eels, because of their high calorie value, were used widely as a traveling food, but that most eel remains left on the acidic soil of the Canadian Shield may never be found. Until the advent of habitat loss and turbine mortality at hydroelectric dams **(P4: Eel killed by turbine)** eels settled in lakes and rivers for up to 20 or even 30 years before migrating back to the Sargasso Sea to spawn (Verreault et al:2004). Although eel was extremely important as food, Aboriginal people traditionally had many non-food uses for the species as well. (Allen 2007b, 2007c).

Eel skin is thick and durable and has the property of tightening so it was used for many purposes: binding sleds, moccasins, clothing, tying spears and harpoons on sticks and so on (Prosper and Paulette 2002:2). Because of its durability it was used as a ball in games of lacrosse (H. Lickers to Allen, pers. comm 2007). It was used as a covering for bow grips as recently as the late 1920's at Curve Lake (M. Whetung to Allen, pers. comm 2007). Eel skin was the original support hose, enabling a type of garter to relieve sprains and was worn next to the skin for relief from cramps and rheumatism, a technology that was copied in Britain by 1590 (Porter 1958). The tightening quality of drying eel skin made the eel valuable when splints for broken bones were needed (D. Whetung to Allen, pers. comm 2007).

Eel was used for decorative purposes such as hair strings and was found in the medicine pouches of the people (Prosper and Paulette 2002:2). The skin and hair of Aboriginal people shone with animal fat to ward off sun, wind and insects (Mann 2006:48). Bear and eel both provided such fat but eels were much more accessible. Because the eel was sacred all of it was used. The heart, liver and heads were buried, as offerings after successful hunting or fishing and sometimes were offered along with tobacco (Prosper and Paulette 2002:3), but also were used as bait. In times of famine smoked eel skin was the food that offered final hope of surviving starvation. The old story of starving Aboriginal people eating their moccasins is only partly correct. Fresh eel flesh was applied to clothing to waterproof it, especially on footwear and outer clothing. Buckskin fringes evolved as a practical design so that more surface area was available to absorb the eel fat, as well as to discourage insects. In time of starvation the eel-soaked buckskin offered a few calories of fat (D. Whetung to Allen pers. comm 2007). Seventeenth century French newcomers to the continent made many references to Aboriginal use of eels, including the practice of frightened people throwing eels on the fire to appease the devil (Thwaites 1896-1901:7:87).

Aboriginal people have long viewed the eel as a source of spirituality and medicine as well as an object of special ceremony. At least three of the New York State Six Nations had, at one time or another, an Eel Clan - the Cayuga, Onondaga and Tuscarora (Morgan 1877:70). On one maple cane 50 Chief's titles were recorded including three of the 14 Onondagas titles indicating eel clan (Tooker 1978:427) **(P5: Cane)**. Before 1800 the Mahican had a Yellow eel clan (*Wesawmaun*) (Barton 1797). As tribes with eel clan members were decimated by the onslaught of European civilization, some eel clans disappeared. In the face of the European push westward other Aboriginal people moved further west outside eel habitat where eel clan significance, over a few generations, dissolved into subclans. Indigenous surnames include Chief Eel of the Chippewas in the Kawarthas of Ontario (Guillet 1957: li-note, 24) and Chief Swimming Eel (Speck 1939, 1940) among the Scaghticoke on the New York/Connecticut border. The name *Algonquin* itself has been described as possibly relating to eels (Day 1972:226).

The Algonquin people traditionally were nomadic people who adapted cleverly to various environments. For this reason they revered nomadic species. In the eel they found a species that ranged widely the same as the people

did and also was highly adaptable wherever it went, a model for the nomadic people. The traditional value of eels in this case had nothing to do with food and everything to do with Algonquin identity as a nomadic and proudly adaptable people living in harmony with the land.

Recently Elder William Commanda (**P6: Commanda and wampum**) pointed out to Fisheries and Oceans Canada that the eel has played a role in a landmark Supreme Court of Canada decision in the struggle for the recognition of Indigenous fishing rights (Commanda 2007; Appendix 1; SCC 1999). The Supreme Court determined that eel had indeed been used traditionally by Indigenous people as an object of trade, a fact that governments previously fought tooth and nail to discredit. In the 1620's Champlain reported the Indigenous people to be very skilled at fishing eels and hard bargainers in trade, his hungry men giving their coats and other possessions for the fish and he, himself, buying 1200 eels with goods from the storehouse at the rate of ten eels for one beaver (Champlain 1922-1936:5:297, 298). Lest anyone thinks that trade in eels is only a maritime or Québec story, it should be noted that English records in current day Ontario document trade in eels as early as 1770 (Schmalz 1991:96) and specialized eel spears, such as this one illustrated in the 19xx AARO (**P7: Spear**) were in a 1684 inventory at Fort Frontenac here in Kingston (Preston 1958). Indeed the eel has taken on major symbolic significance about the gaps in values between Indigenous concern for the land on the one hand, and, on the other hand, the widespread attitude of resignation to accepting degraded natural environments. The eel has taken on a super species role as an indicator of ecosystem health, despite its adaptability, now succumbing to degraded and blocked river environments. We should not be surprised that Elder Commanda has declared that he believes eel spirit is in the 600 year old wampum belt that he holds (Commanda 2007).

As a SCUBA diver I came to know the nuances of those places in which fish congregate in quiet pools adjacent to fast flowing water (**P8: Sturgeon**). I took this photo in the French River in a pool at the base of Recollet Rapids. This is not traditional American eel habitat because it is upstream from Niagara Falls, a barrier which migrating eels found too challenging to pass (Talbot 1824:1:268). The two lampreys on this sturgeon are not true eels. The American eel looks completely different (**P9: Eels**). But Niagara Falls was not the only natural barrier for eels. In the Ottawa River watershed are two locations where 17th century long distance canoe routes left the eel habitat of the watershed and entered other watersheds where eels were not present. Not surprisingly, these barrier locations became eel harvest sites and the harvest location was named *Pimisi*, the Anishinaabemowin word for eel. (**P10: Pimizi Bay**) On the Mattawa River Pimizi Bay was the eel harvest location for accessing traveling food for those crossing to Lake Nipissing and the upper Great Lakes where eels, prior to the construction of the Welland Canal, did not traditionally live. (**P11: Pim-missi**) In northern Quebec, upstream on the Ottawa River from Lake Timiskaming, Pim-missi Pow-waw-ting (Eel Rapids) was the eel harvest location for accessing travel food for those headed north to Lake Abitibi and the James Bay Watershed where eels do not live. Note that the "Pk" label

on this map denotes “Pow-waw-tink” meaning rapids. Citing Atwater 1892, Casselman points out the reason for eel being a favourite traveling food, namely that the nutritional value of eel is much higher than that of any other freshwater fish (Atwater 1892; Casselman 2003:258). The word *Pimizi* also needs to be understood within the context of words for the barrier structures created traditionally to harvest eels **(P12 Mnjikaning weirs)** eg. *Nishagans, Michigan, Michikan, Mitchikan, Mitchikanibikok, Mnjikaning and M’Chigeeng* (Appendix 2). The weirs may be wooden as here at Mnjikaning Fish Weirs National Historic Site at Orillia, Ontario or may be stone. As I noted in Ontario Archaeology 73, fish weir technology and similar hunting fence technology appear in the same Mnjikaning community **(P13: Hunting Fence)** (Allen 2004:46). Use of weirs was outlawed by the Canadian Government in 1868 (Pulla 2003; Canada 1868). However, since Canadian Confederation most water control and hydro electric dams have been built without consideration of the American eel and its need, unlike most other fish, to be able to pass successfully to reach its spawning grounds in the Sargasso Sea.

Weirs were described in 1634 by the Jesuits as ingeniously made, long and broad and capable of holding five or six hundred eels and having collected stones extending out on either side like a chain or little wall to direct the eels (Thwaites 1896-1901:6:309). **(P14: NS Weir)** Here is an example from Nova Scotia (Prosper and Paulette, 2002:5). Here is the weir at the Wyn’s Farm site on the Otselic River Weir in New York state **(P15: Wyn Farm Weir)**. The site plan shows the stone arrangement used to harvest fish migrating downstream, as mature eels do on their return to the Sargasso Sea **(P16:Wyn site plan)**. In Ontario, weirs in eel habitat were located in the Rice Lake area as of 1817 (Fraser 1912:403) and further upstream in the Lovesick Lake area (Stevens 2004). The eel weir complex on the Ottawa River is accessible only by white water. It is comprised of a series of straight funnel-shaped boulder channels and at least five cascading pools. Between one pool and its adjacent line of piled rock was a finely crafted banded slate celt, shown here in situ during fall low water conditions **(P17: Celt)**.

The Iroquoian word for weir is Taronto. Weirs were so important to Aboriginal people that at the time of European contact the word “Taronto” appears on maps indicating key weir locations **(P18: 1784 map)**. A composite map of 1784 central Ontario shows the word Taronto at each of the locations where weirs were known and the date when the label was documented. With this weir mapping in mind we need to look with fresh eyes at the outstanding work of Gary Warrick in documenting the sequence of movement of villages in the Lake Ontario Watershed. Village locations may not be solely attributable to agricultural development. They may be influenced by the massive abundance of eels to Aboriginal people of the time. Think “eel” as you examine locations of ancient village sites **(P19: Warrick map)** and be aware that, based on new molecular DNA evidence for the Great Lakes to be shared by Grant Karcich later this morning, we need to understand that Algonquian groups lived in the region for at least two thousand years and were widespread throughout the northeast. Also note that in the 1630’s the Kinouchepirini and other Algonquin groups of the Ottawa Valley wintered in Wendake (Huron)

(Thwaites 1896-1901:24:269), sometimes passing overland as did François Marguerie and four Algonquins in 1636 on a 40 day snowshoe trek over ice and snow and through the forests between present day Pembroke and Midland (Thwaites 1896-1901:10:73-75), probably via the Gull River and Couchiching Narrows, always an important regional gathering and sharing place (Allen 2007x). The Gull River, in prime traditional eel habitat, has an archaeological site from which a pipe was excavated before 1890. The pipe stem has a serpentine shape that some people think may represent an eel (P20: Pipe). Balsam Lake at the mouth of the Gull River was reported in the 1914 AARO by Jonas George of Rama First Nation, now Rama-Mnjikaning, as the dwelling place of a monster that was half fish and half snake¹. He even sketched the animal (P21: 1914 Sketch; c1930 Eel) (Laidlaw 1914:78; (Mandrak and Crossman 2003:7), a creature that looks much like a mature eel. By the 14th century Central Ontario villages were predominantly agriculture-based but it is important to not apply that fact to earlier times when a fishing economy largely affected settlement patterns. If migrating fish came to the people the people did not have to be as mobile or to require increased territory as populations increased. Brumbach, citing Hardesty 1977, shows that the natural energy from inland migrating fish could reasonably provide the material basis for population aggregations and seasonal sedentism (Brumbach 1986:37). It is the American eel that may well have contributed to village development in Central Ontario before 1400. In the plentiful traditional eels habitat of Rice Lake we no longer can be sure that “Serpent Mounds” depict serpents (P22: Serpent Mounds). The mounds may well represent the river of life in which the revered eel swims. We no longer can be sure of the depictions represented in the serpentine petroglyphs at Kinomagaywapkong (Peterborough Petroglyphs), adjacent to Eels Creek where eels were harvested as recently as the first half of the 19th century (P23: Eels Creek) (Guillet 1957:li-note; 24). We no longer can be sure that serpentine pictographs occurring in eels habitat, as at this Algonquin Park lake, are depictions of snakes (P24: Lake Louisa Picto).

The depletion of eel stocks in Ontario has led to loss of Aboriginal corporate memory about previous high use of eels. It is archaeology that holds promise about much of our new information about traditional use of eels through documenting weirs, fishing tools, eel faunal remains and eel related language on the landscape. Even where no eel evidence is present at a site that is in former eel habitat, information about that eel habitat needs to be part of our documentation. I encourage all archaeologists to examine how your work can contribute to the documentation of the early Aboriginal use of the now endangered American eel. Will you help with that effort? (P25: Eel)

¹ Where Aboriginal people live outside traditional eel range and have less experience with the food value of eels, the word for eel derives partly from the word *kinebik* meaning “snake”. To the northern Cree the eel is *kinebikoinkosew*, literally “snake fish” (Chamberlain 1901:672). The western Ojibway for “eel” also features the *kinebik* component in *Ke-na-beek gwum-maig* (James 1956:311). Along the southern Mississippi where snakes are more common, the concepts are inverted so the Choctaw word *nanni-saint*, later spelled *iasinti* and *yasinti*, meaning “eel” literally translates as “fish-snake” (Read 1940:547). In the eastern woodland when eels (*Pimizi*) have grown part way to maturity and are the size and colour of a water snake, they are called *minàshkadjosh* (McGregor 2004:99) and at this stage in the eel’s growth the Algonquin people shun harvesting them (Commanda to Allen, pers. comm. 2007; Decontie to Allen, pers. comm. 2007). That practice enhances the development of mature eels ready for the downstream migration to the sea and their spawning grounds.

Appendix #1: Elder Dr. William Commanda letter to Fisheries and Oceans Canada, March 31, 2007

Dear Pooi-Leng Wong:

I wish to add my name to the list of people petitioning for the designation of the American Eel as a Species at Risk.

I am a 93 year old Algonquin of the Ottawa River Watershed, and I currently also serve as Honorary Chair on the Ottawa River Heritage Designation Committee. I have been deeply concerned with the devastating transformation of this watershed and areas beyond throughout the course of my lifetime, and I have been increasingly actively engaged in efforts to promote respect for Mother Earth and all that inhabit her, over the past twenty years. This effort was in part recognized by the Canadian Heritage Rivers System, when, in 2004, I was presented with the Bill Mason Conservation Award.

Over the past ten years, I have also been involved in developing an integrated vision for an international environmentally focussed healing and peace building centre at the sacred meeting place of my ancestors, *Asinabka*, site of the Chaudière Falls in Ottawa, a centre to advance respect for Mother Earth, Indigenous Peoples and all others, and in my mind, these are interrelated matters of grave concern for the world. Last November, I organized a Water Life Workshop, in part to advance this effort, but also to encourage better stewardship of the the Ottawa River. This led me to an effort to dissuade Domtar Inc. from expanding the Hydro Electric Plant at the Chaudière Falls. Amongst other concerns, I have been upset by evidence of the destructive impact of turbines on eels in some graphic photographs.

I believe it is of crucial importance that we all reexamine our invasive and destructive relationship with Mother Earth and all her creatures, and many are beginning to hear this cry. Every day, it seems we hear of the desperate state of yet another species, and the current focus on sharks highlights the interrelated ramifications of the destruction of individual species.

At this point I am raising my voice concerning the plight of the American Eel. The eel has been of spiritual, nutritional and material importance to the Indigenous Peoples of the eastern seaboard, and to my ancestors of the Ottawa River Watershed, since time immemorial, has played a role in the Donald Marshall Junior struggle for the recognition of indigenous fishing rights, and I believe eel spirit is intrinsic to the sacred Seven Fire Prophecy Wampum Belt that I have carried for the people for over thirty six years. It is this prophecy that tells us that humanity is now at a cross roads, and that we need to regenerate our relationship with Mother Earth and each other, and it is a message I delivered at the December 2006 Minster's Round Table on Species at Risk; a short few months later, we all are alert to the issues of global environmental and human crisis.

I am taking the liberty of attaching a paper prepared by Archaeologist Bill Allen, who is currently undertaking studies in support of my effort to advance a vision for the Chaudière site, for a more specific review of critical concerns on this matter.

I look forward to being apprised of development on this file.

Sincerely,

William Commanda
Algonquin Elder
www.circleofallnations.ca

Appendix 2: The role of Aboriginal Languages in Understanding the American eel.

Pimizi derives from the word *pimiy* meaning “grease” (Baraga 1878:120), recognition of the high fat food value of the eel. Mamiwinimowin provides for nuances in understanding the eel species with specialized words: *minàshkadjosh*, *mizay*, *agakanàgwe* and *sakàdeboye* (McGregor 2004:99). If we know that *kinebig* means “snake” (McGregor 2004:305) and *kigonz* means “fish” (McGregor 2004:118) we can understand the logic of why the plural Cree word for eels, *kinebikoinkosew* (Chamberlain 1901:674), literally “snake-fish”, has a focus on the shape of the eel rather than the food value, an understandable choice since the Cree live north of the Ottawa River Watershed outside eel range. The various Indigenous words for “eel” and for “stone eel harvesting fence”, and their cognomens, survive in multiple locations on the map and identify favourite traditional locations for harvesting eels. In the absence of fisheries survey data from the pre industrial period, Indigenous languages provide a clear source of information about traditional range of the American eel.

The word *Nishigans* or *Nishagans* has several *Anishinaabemowin* variations but means "barrier" on a large scale on the landscape. If you are at Detroit and want to canoe to Chicago there is a big barrier in the way, a "Michigan". If you are at West Bay, Manitoulin Island there is a huge escarpment at your back door, a barrier to movement, so the community there is called M'Chigeeng First Nation (<http://www.manitoulin-island.com/communities/westbay.html>). In recent centuries the word has come to mean smaller barriers so the Algonquin (*Anishinaabemowin*) word for "fence", a type of barrier, is "michikan" (McGregor 2004:115). Further west the Ojibway word for fence is "mitchikan" (Baraga 1878:99).

Fences were not common on the land in pre-contact times but one type was the fish fence that was used to channel or trap fish. Multiple cases of fish fences have been documented. One example from a tidal flats environment in Virginia in 1590 was recorded by the artist De Bry (Orr 1917:37). Mnjikaning First Nation is near Orillia, Ontario at the narrows between Lakes Couchiching (meaning "narrows") and Lake Simcoe. "Mnjikaning" there came to mean "place of the fish fence" or even "people of the fish fence" (<http://www.bconnex.net/~ojibway/minj.htm>). The submerged stakes found at a lake near the mouth of Eels Creek in the Kawartha Lakes of Central Ontario were discovered recently (Stevens 2004) so there is no known Aboriginal name for those. Eels ran in Eels Creek (Guillet 1957:li) and further downstream one archaeological site yielded eel remains that were carbon dated to over 1000 years old (Pearce 1977:Table 16). Stone weirs were so important to the people of Barriere Lake in the Ottawa River watershed that the traditional name for that community is "Mitchikanibikok Inik" which means "People of the stone fish weir". (http://www.taigaescue.org/index.php?view=taiga_news&tn_ID=189). Naming a community after a stone fishing weir is highly significant.

Further east the word *michigan* is pronounced "nishigan" or "nishagan". The most famous *nishigans* were on the Moisie River flowing to the lower St. Lawrence River. On the Moisie the *nishigans*, or submerged fish fences, were employed as the traditional way of catching fish until the Canadian government, bowing to pressure from sport fisherman made the *nishigans* illegal in 1868 (Pulla 2003:135; Canada 1868:183).

It is not clear how extensive the eels were on the Moisie River since the sport fishermen were interested only in the salmon. As with so many things influenced by the European mind, only the story of the species of non-Indigenous self interest, in this case salmon, was told and the importance of the eel was relegated to a place of not being mentioned in the public record.

The Pulla article is important because it documents how the sport fishing lobby was so powerful at the time of Confederation that traditional Aboriginal ways of providing basic sustenance were outlawed by Canadian statute even though those traditional practices were necessary for the Aboriginal people to support themselves. In 2007 the sport fishing industry still has the ear of government, no matter how negative an impact that voice has on Aboriginal fishing rights or the survival of the American eel, a species whose future is at risk. It should be no surprise that the *nishigan* stands as an Aboriginal symbol of fishing technology and Canadian injustice toward

those practising Aboriginal fishing technology. Every fisheries biologist, game warden and sport fisherman in Canada should be thoroughly familiar with the importance of the *nishigans* in Canada's tragic and morally corrupt early fishing history, including the traditional Aboriginal eel fishery.

For more on the topic of Anishinaabemowin see Blackbird 1887, Day 1972:226 and Mahr 1959:365.

Appendix 3: Ten Eel Archaeological Sites Confirmed in the Upper St. Lawrence Watershed as of June 1, 2007: (Ottawa River Watershed – 3 sites; Upper St. Lawrence River – 2 sites; Lake Ontario Basin – 5 sites)

(MNI = Minimum Number of Individual eels; many bones found but some bones are from same eel)

(Sites listed south to north with Borden Number and name as registered with Ontario or Québec governments)

1. H&R site (AiGx-91), Bronte Creek, Wellington County, Uren substage village circa 1390 A.D., MNI 1 eel (3.6%) in sample of 28 identified bones; habitat is small creek (Finlayson 1998:593, Table II.3.132).
2. Winking Bull site (AiHa-20), Bronte Creek, Wellington County, Middleport substage village circa 1470 A.D. Identified fish remains: MNI 2 eel in sample of 77 identified bones; habitat is small creek (Finlayson 1998:685, Table II.4.37).
3. Ivan-Elliot site (AiHa-16), Bronte Creek, Wellington County, precontact Neutral village circa 1540 A.D. Identified fish remains: MNI 10 eel in sample of 44 identified bones; habitat is small creek (Finlayson 1998:755, Table II.4.105, based on report published by Bill Fitzgerald (1990:8, Table 1).
4. MacLeod site (AlGr-1) MNI 2 eels, (Pat Reed Masters thesis); habitat is east side of Goodman Creek, a small creek in Oshawa (P. Reed to Allen pers. comm. 2007)
5. Richardson site (BbGl-4), 1977 study and Masters Thesis by Bob Pearce, MNI 13 eel bones, two radiocarbon dates, 850 plus/minus 105 and 1120 plus/minus 80, both calibrated to circa 900 A.D., habitat is small creek.
6. Driver's site (BeFu-2), 1982, Edwardsburgh Tp, Leeds-Grenville on Hwy 2 near Prescott. MNI 38 eel in a sample of 76 identified bones, number of eel bones found in each of 12 excavation units ranges from 1 to 12 bones per unit, habitat is small creek just upstream from its mouth near Prescott; (Tom Ballantine licence report and T. Ballantine to Allen pers. comm. 2007).
7. Beckstead site (BfFt-1), Stormont-Dundas-Glengarry, Williamsburgh Tp, north of Morrisburg, large inland village occupied on a year-round basis, MNI of 5 eels represents 5.4% of identified fish remains; Over 90% of 9000+ faunal elements analysed and reported (D' Andrea et al); habitat is Fritz Markle Creek, a small tributary creek of the South Nation River which flows to the Ottawa River; site is inland and about 20 km northwest of Steward site (Junken-Andersen 1988).
8. Steward site (BfFt-2), small seasonal fishing encampment, MNI 56 eel is the single most abundant (16.4%) vertebrate species in the analyzed portion of the faunal assemblage; 52.5% of faunal remains are fish – suckers, redhorse and bass in spring and eels in late summer and fall; abundant evidence of use of leisters (fishing spear of 3 or more prongs); habitat near mouth of Stata's Creek, Morrisburg about 180 metres north of the St. Lawrence River; peaks of occupational activity at about AD 1150, 1385 and 1550; one of few locations not flooded by St. Lawrence Seaway which undoubtedly flooded large numbers of eel fishing sites (Junken-Andersen 1988).

9. Morrison Island 6 (BkGg-11), one of several sites on island in Ottawa River opposite Pembroke; located in Québec; MNI 520 eels represents the largest known eel harvesting site in North America, almost 10 times the size of celebrated Steward site, 53.7% of total faunal assemblage at site is eel – a rarity; site has majority of sum of all eel remains from all 10 sites listed; site habitat is riverside on the major pre-contact canoe route to both the centre of the continent (Upper Great Lakes and upper Mississippi River) and to the Arctic Watershed (via Lake Timiskaming, Lake Abitibi, James Bay), site age Archaic (4200 to 5500 years).

10. Allumette Island (BkGg-12), 362 eel bones, MNI undetermined, 9.8% of faunal assemblage, large island adjacent to Morrison Island opposite Pembroke; located in Québec; Mixed component site includes Archaic (5500 to 4200 years old), Component #2 (2400 to 1000 years old) and Component #3 (1500 to 1899 AD).

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