

MI'KMAQ ECOLOGICAL KNOWLEDGE STUDY

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1.0 INTRODUCTION

1.1 CMM Environmental Services

CMM Environmental Services is a program operated by the Lands, Environment, and Natural Resources Directorate of The Confederacy of Mainland Mi'kmaq (CMM) that provides fee for service environmental consulting services. CMM provides advisory services to six Mi'kmaw communities in the province of Nova Scotia: Paqtnkek First Nation, Annapolis Valley First Nation, Bear River First Nation, Glooscap First Nation, Millbrook First Nation, and Pictou Landing First Nation.

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1.2 Project Description

The Glen Dhu Project will see the development of a nominal 60 MW wind farm located in an area of approximately 8 sq. km, including access roads, wind turbine sites, electrical collector lines and substation. The Glen Dhu Power Wind Project is located near Barney's River Station, approximately 40 km east of New Glasgow in Pictou County, Nova Scotia. The project site is adjacent to the Trans-Canada Highway No. 104. Access to the project site will be off of Brown's Mountain Road in Bailey's Brook off Barney's River Road (Exit 29 north of Highway 104). A Nova Scotia Power 138kV transmission line crosses the project site providing easy access to interconnect the wind farm cost-effectively to the transmission system. The project location, near Highway 104 and within 2 km of a rail siding, will allow the transportation and handling of the long tower components and turbine blades in a convenient and safe manner.

The Glen Dhu Project will be powered by 30 WTGs; each rated at a minimum 2.0 Megawatts (MW), for a nominal capacity of 60 MW in total. Based on the wind data, energy production is anticipated in the range of 180 Gwh per year. This project also includes 4 additional turbines located in Maryvale, Antigonish, Nova Scotia.

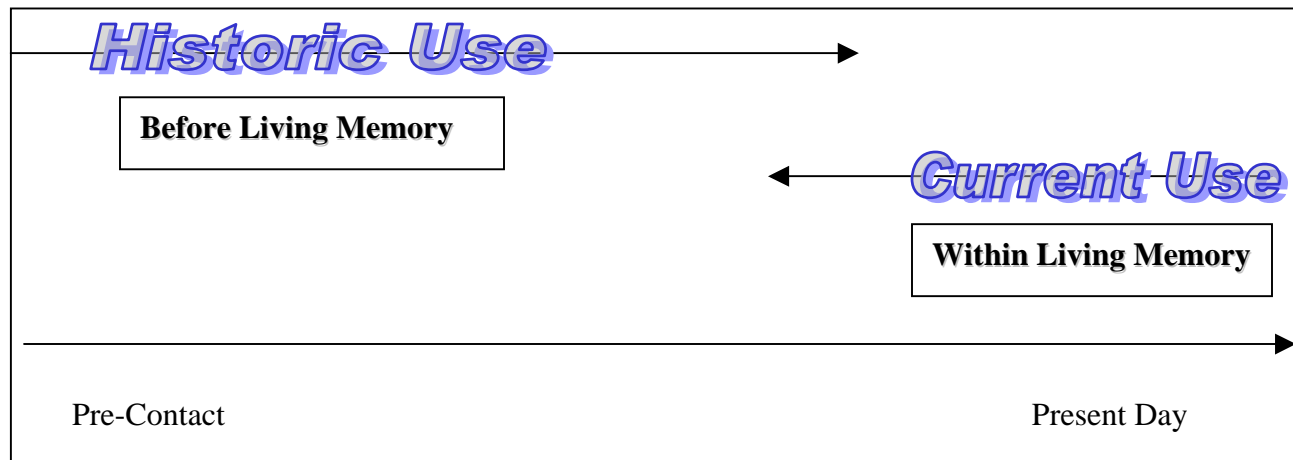
2.0 DEFINITION OF TERMS

Living Memory is the memory of living Mi’kmaq. The period of time included in living memory varies from knowledge holder to knowledge holder. Living memory often extends to the parent and grandparent of the knowledge holder and can be estimated at three to four generations.

Current Mi’kmaq Land and Resource Use occurred within living memory or is occurring at the present day (Figure 1)

Historic Mi’kmaq Land and Resource Use occurred before living memory (Figure 1)

Figure 1: Historic and Current Use Timeline



Mi’kmaq Ecological Knowledge is the collective body of knowledge which Mi’kmaq possess based on their intimate relationship with their natural surroundings, which involves exploitation, conservation and spiritual ideologies, and has been passed on from generation to generation, “*kisaku kinutemuatel mijuijij*”, elder to child.

Mi'kmaq Land and Resource Use Sites are locations where Mi'kmaq land and resource use activities have taken place or are taking place at present day. These sites may or may not display physical evidence of Mi'kmaq use.

Mi'kmaq/Mi'kmaw *Mi'kmaq* means the Family and is an undeclined form. The variant form, *Mi'kmaw*, plays two grammatical roles: 1) it is the singular of Mi'kmaq and 2) it is an adjective in circumstances where it precedes a noun.

Mi'kma'ki is the Mi'kmaw homeland (Atlantic provinces and Gaspé peninsula)

Specific Land Claim arises when a First Nation alleges that the federal government has not honoured its treaties, agreements or legal responsibilities. According to federal policy, a valid specific claim exists when a First Nation can prove the government has an "outstanding lawful obligation". The Mi'kmaq are currently pursuing several specific land claims in Nova Scotia.

Comprehensive Claim is based on underlying Aboriginal Title to traditional territory that has not been dealt with by treaty or other means. Aboriginal Title to lands exists as a legal right derived from First Nations historical occupation and possession of their tribal lands. The process of negotiating the settlement of comprehensive claims, which is known as modern-day treaty making, clarifies access and ownership to land and resources. Currently, the Mi'kmaq have a comprehensive claim to all lands within the province of Nova Scotia including all inland and adjacent waters.

3.0 PURPOSE AND SCOPE OF THE MI'KMAQ ECOLOGICAL KNOWLEDGE STUDY

3.1 Purpose of the Mi'kmaq Ecological Knowledge Study

The purpose of the Mi'kmaq Ecological Knowledge Study is to support the integration of Mi'kmaq knowledge of use and occupation of Mi'kma'ki into development decisions via the environmental assessment process.

3.2 Scope of the Mi'kmaq Ecological Knowledge Study

The MEKS includes:

- 1) A study of historic and current Mi'kmaq land and resource use;
- 2) An evaluation of the potential impacts of the Project on Mi'kmaq use and occupation and constitutionally based rights;
- 3) An evaluation of the significance of the potential impacts of the Project on Mi'kmaq use and occupation; and
- 4) Recommendations to proponents and regulators that may include recommendations for mitigation measures, further study, or consultation with Mi'kmaq.

3.3 Not included in the scope of the Mi'kmaq Ecological Knowledge Study

3.3.1 Section 35 Consultation

This study is not consultation for justification of the infringement of constitutionally protected aboriginal and treaty rights. If the project involves possible infringements of Mi'kmaq constitutional rights, the MEKS recommends further action.

3.3.2 Archaeological Screening and Resource Impact Assessment

The study is not an Archaeological Screening or Archaeological Resource Impact Assessment. Results presented in the study can inform and be informed by archaeological screenings and assessments.

3.3.3 Notification of Mi'kmaw individuals or communities of the Project

The study is not intended to inform or notify Mi'kmaw individuals or communities of the Project, solicit the opinions or concerns of Mi'kmaw individuals or communities on the Project, or promote the Project to Mi'kmaw individuals or communities.

4.0 METHODOLOGY

4.1 Historic Mi'kmaq Land and Resource Use

Historic Mi'kmaq land and resource use occurred before living memory. The study of historic land and resource use paints a broad portrait of Mi'kmaq use and occupation of Mi'kma'ki in centuries past.

4.1.1 Study Area

The historic land and resource use study area is within the Mi'kmaq district of Epekwik/Piktuk and encompasses the area of Pictou County, Antigonish County, and Prince Edward Island and its river system, particularly the Strait of Canso and the surrounding lands.

4.1.2 Methods

CMM's research department will utilize internal sources including index sheets, historical documents, church records, cemetery records and external sources including the Nova Scotia Public Archives and records management, the Archdiocese, Nova Scotia Museum, local archives, and local historical societies to research historical use.

4.1.3 Limitations

Recorded documents are the primary source of information for the study of historic Mi'kmaq land and resource use. There are no recorded documents in the pre-contact period and recorded documents in the post-contact period are not comprehensive. Furthermore, existing documentation has largely been written by people of a different culture. This means that information may either not be completely accurate or may be incomplete.

4.2 Current Mi'kmaq Land and Resource Use

Current Mi'kmaq land and resource use occurred within living memory or is presently occurring. The MEKS includes a study of:

- 1) Current Mi'kmaq land and resource use sites
- 2) Species of significance to Mi'kmaq
- 3) Mi'kmaw Communities

4.2.1 Study Areas

The study areas are described in Figure 2.

4.2.1.1 Current Mi'kmaq Land and Resource Use Sites

The study area for current Mi'kmaq land and resource use sites is the proposed area of development – five km radius surrounding proposed project site.

4.2.1.2 Species of Significance to Mi'kmaq

Study areas are marked on Figure 2.

4.2.1.3 Mi'kmaw Communities

The study area for Mi'kmaw communities is a 5 km radius surrounding the proposed project site.

4.2.2 *Methods*

4.2.2.1 Current Mi'kmaq Land and Resource Use Sites

Mi'kmaq Knowledge on current land and resource sites will be gathered through a review of information collected through oral interviews with Mi'kmaw knowledge holders.

All individuals who will be interviewed will sign consent forms. Knowledge will be gathered in accordance within the spirit of the *Mi'kmaq Ecological Knowledge Protocol* and an application to complete research was submitted to Mi'kmaw Ethics Watch.

Knowledge collected is reported in a general format only. No names or specific locations are published. Collected knowledge will be digitized and compiled to allow for an analysis of potential impacts of the project on current Mi'kmaq land and resource use.

4.2.2.2 Species of Significance to Mi'kmaq

A system of stratified random sampling was employed to identify flora species present in the study areas of significance to Mi'kmaq. Plants were surveyed in the spring 2008 and fall of 2008. Information collected is reported in a general format only. The names of the species are not recorded.

4.2.2.3 Mi'kmaw Communities

A review of outstanding specific land claims within the study was undertaken by CMM. There are no known specific land claims identified within the project area, however, the record of outstanding specific land claims in no way infers that specific land claims may not arise in the future.

4.2.3 Limitations

While every attempt was made to document all available Mi'kmaw knowledge, the knowledge gathering process may not have captured some available Mi'kmaw knowledge. It is also recognized that over generations of cultural and political suppression, much Mi'kmaq knowledge has been irretrievably lost.

5.0 RESULTS

Results of the study are divided into two categories:

- 1) historic land and resource use, that is, use that occurred before living memory, and
- 2) current land and resource use, or use that occurred within living memory or is occurring at the present day.

Land and resource use may be for hunting, burial/birth, ceremonial, gathering, or habitation purposes.

5.1 Historic Mi'kmaq Land and Resource Use

5.1.1 *Pre-Contact Introduction*

Mi'kmaq traditional use of the land in Nova Scotia involved semi-permanent and permanent settlements. Summer villages of the Mi'kmaq were usually located on the banks of streams or rivers. The most important factor in the choice of a site was the proximity of the site to a navigable body of water. Sites around the mouths of rivers with heavy spawning runs were highly favourable for use, as well as smaller rivers running back into a system of lakes.¹ It is therefore likely that the Mi'kmaq settled in the study area, which exhibits these types of natural features.

The Mi'kmaq may have valued this area because of the available water-routes that were used for travel by canoe. This area made it possible to travel across Nova Scotia to some extent, as well as travel across the Bay of Fundy to other parts of Nova Scotia and New Brunswick.

5.1.2 *General Overview of the Study Area*

¹ Donald M. Julien, **Historical Perspective of Micmac Indians Pre & Post Contact Period**, p. 3.

Pictou County lies on the Northern Shore of the Northumberland Strait, and has a length of about 50 miles. It extends inward to a distance of over 20 miles, and is bounded on the south by Guysborough County, on the east by Antigonish County, and on the west by Colchester County.² Proceeding from Pictou Harbour eastward, along the coast, we pass some small harbours known as Chance, Boat, and Little Harbours, and then meet Merigomish, formed by what is called the Big Island of Merigomish.³ Here seems to have been the original entrance to the harbour. The early French explorers in the 17th century speak of this as the entrance, but represent it as becoming choked with sand so that only small vessels could enter and only at high tide. When the first English settlers arrived, the old Indians could recollect when there was sufficient water to afford passage of their canoes.⁴

In Merigomish the same thing is noticed, particularly in the eastern portion of the harbour, between French and Barneys River. Residents have observed that the flats are widening and the water upon them becoming more shallow. The bottom too, consists of rich, soft, fine mud, extending up to the beach itself, evidently brought down by the rivers.⁵ Pictou County has few lakes, compared with some of the other counties of the province, and these are all small. The principle lakes are: Eden, Brora, Sutherlands, and McDonalds Lakes.⁶

Pictou County's geological structure may be described in general terms as follows: Across the whole southern side of the county extends a range of hills of Upper Silurian formation, composed principally of beds of quartzite and slates. This band, which commences on the east at Cape Porcupine and Cape George, is about 15 miles broad from the east side of the county until it approaches the East River, where it suddenly bends to the south, allowing carboniferous strata to extend far up into the valley of the river. Farther west it again widens and so continues beyond the boundaries of the county.⁷

² Patterson, George A. A History of the County of Pictou, p. 9

³ Ibid, p.12

⁴ Patterson, George. A History of the County of Pictou, p. 12.

⁵ Ibid, p. 16

⁶ Ibid, p. 17

⁷ Ibid, p. 18

The remaining portion of the county, stretching along the straits of the Northumberland, consists of newer carboniferous rocks. Copper ores are found at Caribou River, the West River a little below Durham, the East River a few miles above the Albion Mines, and River John.⁸

The county of Antigonish (formerly named Indian Gardens) is situated in the north east of Nova Scotia. It is nearly triangular in form, the base of the triangle being bounded by the Gulf of St. Lawrence and the Bay of St. George, while the apex is wedged between the counties of Pictou and Guysborough.⁹

Commencing at Cape George, a range of hills composed of syenite and metamorphic rocks extends westward to the upper part of the West River. Another range of similar structure, commencing at Cape Porcupine on the Strait of Canso, runs along the southern border of the county. The triangle thus formed comprises of the carboniferous system of rocks. With the exception of the hills mentioned above, the surface of the county is undulating, intersected with numerous streams and here and there diversified by lakes. From the richness in limestone and gypsum, it has that fertile calcareous soil which, combined with the rich intervals along its many streams, renders it perhaps the best fitted for agricultural purposes of any in the province.¹⁰

Most of the archaeological sites occur in the five estuaries along the south side of George Bay. This large u-shaped bay is connected to the Atlantic side by the Strait of Canso and opens out to Northumberland Strait on the Gulf of St. Lawrence. George Bay is a shallow, warm bay drawing its water from Northumberland Strait and with a flushing time of 2-4 weeks for the water (and its associated fish eggs and larvae). The steady current flow in the Strait generates a major clockwise circulation in the bay, but tidal flow also results in an anti-clockwise gyre. By mid-January, the bay is filled with close pack ice with ice conditions being less severe towards the east in the Strait of Canso and Chedabucto Bay.¹¹

⁸ Ibid, p. 19

⁹ Rankin, Rev. D.J. A History of the County of Antigonish, p. 3

¹⁰ Rankin, Rev. D.J. A History of the County of Antigonish, p. 3

¹¹ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 5

The rivers, although generally larger than those of Cape Breton, are still relatively short such that the Micmac were never more than two days canoe travel from the sea.¹² There are numerous streams and small rivers flowing into the estuaries and harbours on Northumberland Strait and George Bay—five rivers converge at Antigonish, which is sometimes translated as ‘the place where the rivers meet.’ To the East are several important rivers—the Guysborough, County Harbour, and St. Mary’s which discharge into elongate drowned river valleys on the Atlantic Coast. The St. Mary’s is the largest and most important salmon-river. One of its branches has its headwaters in the Pictou-Antigonish uplands, the other flows for a considerable distance along the edge of the escarpment before the two branches converge 17.3 km from the sea.¹³

Coniferous forest predominates and consists of species such as balsam fir, white, red and black spruce, white pine, eastern hemlock and tamarack. But with changing elevation, there is a shift in species producing vegetation zones in a “layercake” arrangement. Evergreens are found in the lowlands and valley bottoms. Mixed woods higher up on the ridge tops and the upper slopes are deciduous hardwood sugar species—sugar maple, yellow and white birch and beech. Red maple, trembling aspen and gray birch occur in both upland and lowland stands. The hardwoods have been important historically: birch for wigwams and canoes; maple for bows; ash for baskets, snowshoes and handles.¹⁴

¹² Nash, Ronald J. *Mi’kmaq: Economics and Evolution*, p. 5

¹³ *Ibid*, p. 5

¹⁴ Nash, Ronald J. *Mi’kmaq and Economics*, p. 7

5.1.3 Results

Antigonish Harbour is the largest harbour in the county, approximately 9.6 km long and from 0.3 to 3.8 km wide. The artifacts found in this region represent mostly isolated finds rather than small village sites. The absence of a significant village site is puzzling, although if it was at Indian Gardens, where the historic Mi'kmaq operated fish weirs, then it may have been destroyed with the growth of the Antigonish Town. Some 80 years ago, there were still birch-bark wigwams at Antigonish Landing (Indian Gardens) and 60 years ago, there were tarpaper wigwams near South River Station.¹⁵

In 1979, a survey revealed five sites at Pomquet Harbour, mostly on the shoreline and islands west of St. Anne's church at Summerside and containing merely a few surface finds. The only habitation site is found near the northwest corner of the main harbour, within the sight of the entrance to Pomquet Harbour. This Pomquet Point Site, BjCk-6, extends only a meter above the high tide line and covers an area of about 26 x 21 metres. There is a squarish depression at the site which troweling suggests being historic in time. From the narrow beach came flakes, cores, a point fragment, three celts, a gouge and a circular object. There was no pottery found, but it is likely a Woodland Period component.¹⁶

Tracadie Harbour is about 3.5 km long and 1.9 km wide, and like Pomquet Harbour there is a westerly extension known as Tracadie West Arm. Entrance to the harbour was formerly possible via the West Arm, for the present entrance at East Tracadie was dredged out in 1865. Thus, in earlier times, Tracadie Harbour would have been a hidden harbour behind Delorey Island and the adjacent islands connected by barrier beaches. This factor, along with being further from the open ocean and perceptibly warmer, may account for the higher density of archaeological sites.¹⁷

¹⁵ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 16.

¹⁶ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 16.

¹⁷ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 18.

In 1973, Stephen Davis recorded seven sites along the eastern and central shores of the harbour and in 1979, Ronald J. Nash surveyed Condon Cove and the interconnected islands at the mouth of the harbour, thereby adding two more sites of considerable importance. Site BJCj-8, on the west side of Condon Cove, is distributed over about 175 metres on the top of an elongate knoll. Artifacts are plentiful in the gardens 3 to 6 metres above the water and down to the inter-tidal zone. Most kinds of stone tools are represented including a large, thin lanceolate point found at water level. This style of point is not represented at the nearby Delorey Island Site of Woodland Age, but can be found in the largely Archaic occupation at Ingonish Island, C.B.I. These facts, together with the apparent absence of pottery, may indicate an Archaic Period occupation at Condon Cove.¹⁸

The largest site discovered in the 1979 survey was the Delorey Island Site BJCj-9, which is across the harbour to the north of Condon Cove. Delorey Island is the largest of the islands at the mouth of the harbour and extends for about 1600 metres along the protected south shore. Erosion is probably greatly reduced since the site is on the inside of the island, although artifacts, especially celts, are common on the shore below the site. Some of the site may have been lost and the two tiny offshore islands may once have been connected. Finally, it should be noted that this harbour was at the location of a historic Mi'kmaq village TLAGATIG, meaning "the settlement", and that on the small islands off the eastern shore are the "Indian Mounds," a cemetery of unknown age.¹⁹

There has been no investigation of the separate harbour of Little Tracadie 2.4 km further east, but there are local reports of a site at Linwood. Closer to the Strait of Canso is Havre Boucher, where Erskine (1969) states that a site once existed on a great kame, prior to its destruction in the course of building the railroad.²⁰

The Moodie Point Site, BkCq-20, is near the juncture of Pictou Harbour and the small Moodie Cove and is protected from the rougher waters of Northumberland Strait by a bar spit some 1500 metres in length. The point area is good for clams, mackerel, smelt, eels,

¹⁸ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 18

¹⁹ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 18

²⁰ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 18

and many other resources and there is a spring here as well. The site is in a sloping area at the base of a hillside and is subject to constant erosion and human activities such that artifacts can be collected on the upper beach over an east-west distance of 15 or more metres. Other than one large point, all the material seems to be late Woodland in age and thus comparable to components like Delorey Island.²¹

Delorey Island is one of three islands at the entrance to Tracadie Harbour on the southern portion of George's Bay in eastern Nova Scotia. Across the harbour from the islands is the town of Tracadie, which is about 40 km's from Antigonish. These islands, formerly known as the Indian Islands, are now connected by gravel beaches; probably as a result of continued long shore currents in the bay. This coastal part of Antigonish County is a lowland area, and where farming has not yet eliminated the forest, there is a mixed deciduous/evergreen cover with white spruce being common on the Islands.²²

In the mid-seventeenth century, Nicholas Denys wrote that during the spring, families ascended the Pomquet River just to the west of Antigonish to trade their furs with fisherman. In 1716, the French missionary, Antoine Gaulin, established a mission at Antigonish, which suggests that the area was the location of an important Mi'kmaq settlement. When English settlers occupied the region in 1784, a burial ground and chapel were discovered on an island in the harbour. On December 18, 1761, a French official traveling from Port Dauphin to Fort Lawrence located near Chignecto; saw five Mi'kmaq wigwams at Antigonish. During the early nineteenth century, the Mi'kmaq were living at Pomquet, which lies to the east suggesting that this region had constituted part of their territory. After 1760, habitation of the area continued, as people were encountered along the coastline at Pictou during mid-February and early May. In winter, some families migrated inland to hunt, as shown by a 1767 census, which lists 25 individuals in the vicinity of Hopewell on the West River.²³

²¹ Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 19

²² Nash, Ronald J. Mi'kmaq: Economics and Evolution, p. 21.

²³ Wicken, William C. Encounters with tall sails and tall tales: Mi'kmaq Society, 1500-1632, p. 112.

The earliest settlement by Frenchmen in the county of Antigonish was about the year 1776, when a number of colonists, among whom were Peter Benoit and Charles Delore, settled at Tracadie. Louis La Mort, Cyprian Dorion, Peter Brussard, Simon Vincent, Charles Melanson, and Joseph Dorion settled Pomquet (from the Micmac Pogumkek, meaning dry sand) about the same time.²⁴

It is said that Captain Timothy Hierlihy was sent to recapture four or five deserted soldiers. He landed at Pictou, took an Indian guide to Merigomish, and cruised along the shore to Guysboro where he overtook the deserters. It was on this expedition that a circumstance arose, which led to the settlement of the county. A boat approached the mouth of Antigonish Harbour and Captain Hierlihy observed a number of Indians running down to the shore. At this time they were very numerous and not overly friendly towards the British. Suspecting some treachery, Captain Hierlihy drew his sword and told his Indian guide that if the Indians fired a shot he would run him through. The Indian shouted to those on shore and in an instant the beach was covered with the natives who had been hiding behind stones and sandbanks. On seeing that the strangers were friendly, they came and welcomed them. The boat then proceeded up the harbour. It was in the month of June, and seeing the shores so beautifully wooded, Captain Hierlihy was pleased with the place and made up his mind that as soon as the war should end, he would take up a grant of land in that locality. In the autumn of 1783, the regiment was called to Halifax and disbanded. A grant of 26,600 acres was made to Colonel Hierlihy and 88 others.²⁵

On one occasion Captain Hierlihy and his men were invited by the Indians to cross the harbour to their encampment at a place called Gafford's Rock, now called Mullin's Rock, to witness an Indian dance. The invitation was accepted and all seemed to be going on well. Captain Hierlihy observed that the Indians were getting their guns ready and suspected that all was not right. He collected his men and they marched to their boats. The Indians, shouldering their guns, marched beside them saying "Me soldier too, me soldier too." When the boats were being pushed off their aspect became more

²⁴ Rankin, D.J. A History of the County of Antigonish, p. 4.

²⁵ Rankin, D.J. A History of the County of Antigonish, p. 5.

threatening. Pointing to the other shore they said, “That your side of the water, this Indian’s side, don’t you come back here again.” Few in number and almost unarmed, it was useless for the settlers to show any resistance. The next morning, however, Captain Hierlihy collected as strong a force of soldiers as he could muster, crossed to the Indian encampment, and began to drill his men. They went through the exercise of firing blank cartridges and gave the Indians a scare. After this they gave the settlers no further trouble.²⁶

In 1878 the Indians resident on the Reserve on Little River in the county of Antigonish surrendered 1/16 of an acres of their Reserve for leasing purposes. The surrender stated that the property was to be used expressly “for the purposes of a sawmill and operations connected therewith.” The Indians of Antigonish County made a second surrender for leasing purposes in 1898. At that time they surrendered all that portion of the Pomquet-Paqtnekek Reserve located at the forks of Pomquet River (containing approx. 120 acres). This lease was for a term of four years and specified that it be only for the purpose of cutting and removing hay.²⁷

One of these claims is that Department of Highways has illegally trespassed on the reserve through road construction. In 1926, Order in Council P.C. 1590 authorized the transfer of a 66-foot wide road allowance across block B of the reserve, to the province. Additional lands were transferred to the province for road purposes in 1962 and again in 1968. When the trans-Canada highway was constructed it to cut across parcel C of the reserve. The land was conveyed to the province by P.C. 1962-93 in 1962, by Band Council Resolution (B.C.R.) dated May 24, 1956, the residents of Paqtnekek had approved the taking of the lands for road purposes, however, they stated at the time that the amount of land involved was 0.99 acres (whereas the acreage eventually came to 1.14 acres). The band received a consideration of \$100.00.²⁸ When a total of 19.06 acres of Parcels A and B were taken for highway purposes in 1968, the band received \$994.40 in compensation.

²⁶ Rankin, D.J. A History of the County of Antigonish, p. 8.

²⁷ CMM: Research Department, Pomquet and Afton, p. 22.

²⁸ CMM: Research Department, Pomquet and Afton, p. 23.

This was the amount they had agreed to by B.C.R. in 1965. The transfer was approved by P.C. 1968-1826.²⁹

A third B.C.R. (No. 70) from the Paqtnkek band refers to lands that this division has been dealing with since the 1960s. The B.C.R. requested that this land, known as Summerside property, be returned to the Paqtnkek band. This property is a 100-acre lot of land that the Indians have been using for over 100 years. There is an Indian Chapel and burial ground on the land and two Indian families lived there until the early 1950s. However, this land was never an Indian reserve and was not transferred to the Federal Government at Confederation.³⁰

Pictou County

On October 10 1955, Kenneth Jopps was digging a drain on his property at Lowdens Beach near Pictou, Nova Scotia, where he discovered a burial ground. The copper-pot burial discovered that day, and the second burial site found nearby a year later have provided a wealth of information through the quality and quantity of both the Native-made and European made grave gifts, and their relatively good state of preservation. In the 1980s, the date of the burials was established as being 1580-1590.³¹

The Pictou site represents an interesting variation on the Northport type of interment. Both pits contained secondary burials—in which the bodies are first laid out on scaffolding in the open air for a period of months or years, and the bones then buried in the earth. The first pit was presumed, by the grave gifts, to have contained the skeletal remains of an adult male. Only small pieces of bone were recovered. The second pit held skeletal fragments of a child, a woman, and five other adults, whose gender could not be determined.³²

²⁹ CMM: Research Department. Pomquet and Afton, p. 23.

³⁰ CMM: Research Department. Pomquet and Afton, p. 24.

³¹ Whitehead, Ruth Holmes. Nova Scotia: The Protohistoric Period 1500-1635, p. 49.

³² Whitehead, Ruth Holmes. Nova Scotia: The Protohistoric Period 1500-1635, p. 51.

The first Burial Pit was excavated in 1955, and was divided into two distinct areas or sections. Section One was a circular depression of 6' diameter and 3' deep. A Second depression, Section Two, lay to the north and slightly overlapped the first section. It was of the same depth, covered roughly the same area, but was irregular in shape; this second section was much less carefully prepared. Both portions had nearly vertical sidewalls. The floor of Section One was covered with twigs and small branches. Over these, there was a carefully prepared birch bark sheathing, which covered the entire floor and then reached up along the sides to a height of 1'6" from the bottom. Five layers of pelts lay above the bark on the floor. The final pelt layer lay with flesh side up and was painted red. Three intact, inverted copper kettles lay on the painted skin. Beneath each kettle was a very black layer of decayed organic material. Several grave gifts lay on the black stratum and were protected by the kettles from the earthen grave fill. These included a wooden bow, iron trade axe with handle, awls, fragments of cloth, and a glazed pottery beaker.

Section Two adjoined the first part on the northerly side. Seemingly the carefully prepared portion was not large enough to receive all gifts necessitating the hasty preparation of an extension. All the kettles in the second section were mutilated; some were badly crushed by deliberate flattening under heavy pressure and the rest were slashed with an axe. Many French trade objects and some native artifacts thrown into the grave along with the kettles were scattered about in no definite order.³³

The second burial pit was a circular excavation with a total depth of 48" along the northerly side and 40" on the southerly; the floor was level and the difference in depth was a result of the sloping surface of the ground. The sides were virtually vertical to a depth of 34" when they sloped inwards to make a pit bottom measuring 68" x 63". The lowest, 14", contained skeletal remains from either three or four bodies together with a compact mass of grave goods. In the next 15" were skeletal fragments from a single body

³³ Whitehead, Ruth Holmes. Nova Scotia: The Protohistoric Period 1500-1635, p. 53.

together with two inverted copper kettles and stone and earthen fill; the third section, 11” deep, showed traces of two fires lit over the grave, evidently of a ceremonial nature.³⁴

Other artifacts that were found included: a porcupine skin, with quills still attached; a hair roach of moose neck hairs, painted with red ochre and slip-knotted at one end over sinew cordage, the cord then coiled into a tubular headdress (probably from the suspected male burial in Pit 1); and a collection of nine beaver molars and pre-molars. Five smooth round pebbles coated with red ochre, labelled “Pit A,” may represent symbolically the firestones dropped into bark containers of water to bring them to a boil. Pelts included moose, deer, bear, and beaver.³⁵

The known archaeological sites of Merigomish harbour comprise eighteen shell-heaps, the prehistoric cemetery excavated by Patterson, a modern cemetery, and places that may possibly be, respectively, a modern wigwam site, a burial place of “battle field”, an earthwork, and workshop.³⁶ A single wigwam site is said to be located at Hardwood point, about three quarters of a mile north of Merigomish. The spot is among alders; about 150 feet back from the beach and about the same distance west of the east line of the Olding farm. It was probably the site of a modern Mi’kmaq Indian camp.³⁷

There is a consecrated French and Indian cemetery on the high land at the south side of Big Island, on the north side of Savage cove. It is 1 5/8 miles northwest of Merigomish. Patterson states that the Mi’kmaq Indians used it as a cemetery until about 1837; but he gives its location at about a half mile west of a prehistoric cemetery. This cemetery was located on the farms of Mr. James McGlashan and Mr. Donald McGregor; the McGregor land now being owned by the son, Mr. George McGregor. Patterson claimed that it had been distributed in a search for specimens before he excavated it, and a number of stone axes and arrowheads taken away.³⁸

³⁴ Whitehead, Ruth Holmes. *Nova Scotia: The Protohistoric Period 1500-1635*, p. 55.

³⁵ Whitehead, Ruth Holmes. *Nova Scotia: The Protohistoric Period 1500-1635*, p. 60.

³⁶ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 7.

³⁷ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 9.

³⁸ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 10.

A site at the east side of the Barney River bridge is thought, by Mr. Wallace Copeland of Merigomish, to be a burial place or “battle field” because many bones have been ploughed up at the place.³⁹ A supposed earthwork, locally known as the “Boars Back”, is near Barney River. Patterson relates to a tradition recorded by Silas T. Rand, to the effect at the time of the last war there, in which the Mi’kmaq of the harbour fought other Indians.

The Mi’kmaq were entrenched in a blockhouse or a fort at the mouth of Barney River. These blockhouses were constructed of logs raised up around a vault first dug in the ground. The old Indian fortifications were a sort of palisade enclosures, formed of trees and stakes driven into the ground between them, with branches of trees interlaced. In times of war the women and children were always kept in such fortifications, but that after obtaining axes from Europeans they may have made one like the blockhouse referred to above. This supposed earthwork, however, is probably natural or made by white-men, as earthworks of aboriginal origin are not known in the Maritime Provinces or nearer than Massachusetts.⁴⁰

Many chipped points for arrows and a very great number of chippings have been found on Thomas Patton’s point, now owned by Mr. R. Patterson, at Lower Barney River. The site may have been a workshop where stone was chipped into points for arrows, knives, and scrapers.⁴¹

There are a number of sites on Pictou harbour, at the beaches, and at Fisher’s Grant. There is a small adze made of stone from the beach at Pictou, a fragment of adze made of stone from Town gut, two adzes made of stone, one of them double bitted, from Bug gut, East River, Pictou. In the same collection from East River, Pictou, are two adzes made of stone, one of them grooved on the rounded side of the head. There is also a shell-heap, which is the site of old campfires, composed of oyster, clam, and mussel shells on Ives

³⁹ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 14.

⁴⁰ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 14.

⁴¹ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 14.

Point, on the east side of East River, Pictou.⁴² Stone axes and knives were found a few hundred yards north of Indian Cross point, a little below Ives point.

Many shell-heaps have been found in this area of study, including: Quarry Island, Indian Island, Olding island (Point Betty island), Savage Cove, Big Island, Smashem Head, Finlayson Island, Pig Island, Kerr Point, Smith Point, Barney River, Central Ponds, Little Harbour, Ives Point, East River, Fraser Point, and Caribou Island.⁴³

When European voyagers first visited our coasts, the walrus was still found in this latitude; and with the memory of the persons still living, the seal was also in abundance. The first visitors to Pictou describe in glowing terms the size and abundance of the oysters to be found in our harbour and the shell heaps on the site of old Indian encampments.⁴⁴

The Mi'kmaq lived mainly on the coast. Explorers and pioneer settlers found evidence of Micmac settlements on both the east and west sides of the East River estuaries; at West River, at the Big Island of Merigomish, at the mouth of Barney's River, at Middle River Point, at Caribou, and Little Harbour. Pictou was the centre of the district on Nova Scotia's north shore, those belonging to it being called "Pectougawak"(Pictonians). The Pectougawak tribe's headquarters was probably at Merigomish, and near here they buried their dead on Indian Island, a place that has religious and emotional significance to the remaining Indians who live on the Federal Government Reservation at Pictou Landing. The river-mouths on Pictou's coastline were advantageous campsites for the aboriginal inhabitants. The waters were filled with an abundant supply of shell and vertebrate fish, the water surface was filled with wild fowl, and the forests were stocked with small game, moose, and caribou.⁴⁵

The name Pictou was supposed by many to have been a corruption of Poictou, the name of an old province of France. The Mi'kmaq have a traditional story as to the name of

⁴² Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 15.

⁴³ Smith, Harian I. *The Archaeology of Merigomish Harbour*, p. 7-15.

⁴⁴ Patterson, Rev. George. *A History of the County of Pictou*, p. 20.

⁴⁵ Cameron, James M. *Pictou County's History*, p.1

Pictou: Their story or tradition is that at one time there had been a large encampment up the West River. On one occasion they all left on their canoes on a cruise down the harbour. During their short absence, the whole encampment was burned up, including the woods surrounding it. No person could tell how the fire originated. They always spoke of the event as the “Miskeak Bucto”, or big fire, which naturally became associated with the place. When the whites came, hearing the Mi’kmaq speak of it in this way, they corrupted the name and called the whole north side of the harbour Pictou, because they could not pronounce it right.⁴⁶

Of the seven divisions, Pictou was the centre of the district extending along the north shore of Nova Scotia. Merigomish however, seems to have been their headquarters. This was a favourable position for them because it was near the fishery of the Gulf; the islands abounded in wild fowl, the rivers swarmed with fish, and the woods in rear were plentifully stocked with game.⁴⁷ Their principle place of encampment was at the foot of Barneys River, on the east side, where they had some clearings on which they grew Indian corn and a few beans, at the time of English arrival. Other places such as: the Big Island, some of the smaller islands in the harbour, and some of the points on the shore were also sites of their encampments.⁴⁸

Their burying ground, when the English settled, was near the west end of the Big Island on the south side, a short distance east of Savage Point. They used this until about 40 years ago, and here stood a number of crosses till a recent period. All the Indians of the county now bury on Chapel Island or Indian Island, an island in the harbour donated to them by Governor Wentworth.⁴⁹

The mouth of the East River is marked as the site of an Indian village. There, close by the river is a beautiful flat where the land was clear when the English settlers arrived. When it was ploughed, various articles were turned up such as broken pieces of cookery, a gun barrel, and on one occasion a pewter basin (which was about eight inches in diameter,

⁴⁶ Patterson, Rev. George. A History of the County of Pictou, p. 23

⁴⁷ Patterson, Rev. George. A History of the County of Pictou, p. 23.

⁴⁸ Patterson, Rev. George. A History of the County of Pictou, p. 27.

⁴⁹ Patterson, Rev. George. A History of the County of Pictou, p. 27.

with a narrow rim), and five or six tablespoons. Quite a number of stone hatchets, and oyster shells have also been found. These facts show that the Mi'kmaq occupied this place both before and after the arrival of the Europeans.⁵⁰

Down the river, south of where Fisher's Grant is located to day is another burying place. A large iron cross stood here at the arrival of the English settlers, which was about ten feet high. Hence the place is still known as Indian Cross Point, though the locality is known among the Mi'kmaq, as Soogunagade, or rotting place. Erosion is wasting away the bank, so at times human bones may be found exposed on the shore.⁵¹ In D McLeod's *Old Time Recollection*, published in the Pictou Advocate, he stated that "One day, over fifty years ago, the Indians turned out in force to repair the breach that time and tide had made on their old burial ground."⁵² The Mi'kmaq stopped burying their dead there in the around 1867 as the land was acquired by others who had acquired the land. There was no official grant to the Indians for this area.

Mr. Donald McGregor of the Big Island was ploughing a spot on his field when he turned up a human skull. Upon examination, he found a mass of decayed human bones; among them a skull, transfixed by a flint arrowhead which yet remained in its place. Along with these remains were a large number of ancient implements, stone axes, flint arrowheads, etc., but none of them showing contact with Europeans. The transfixed skull, and the whole appearance of the place, plainly showed that these were the bodies of those who had fallen in some battle and had been heaped together, "in on red burial blent."⁵³

The burial ground was very shallow, being no more than 15 to 20 inches deep. At the bottom there were decayed fragments of the birch bark, in which, according to the custom of the ancient Mi'kmaq, the dead were laid. The shallowness of the pit also indicates that this burial took place previous to the coming of Europeans, when sharpened sticks of wood were their only instruments of digging.⁵⁴

⁵⁰ Patterson, Rev. George. A History of the County of Pictou, p. 27.

⁵¹ Patterson, Rev. George. A History of the County of Pictou, p. 29.

⁵² Brown, Douglas. Indian Cross Point Burial Ground Research: Final Report, page 4

⁵³ Patterson, Rev. George. A History of the County of Pictou, p. 29.

⁵⁴ Patterson, Rev. George. A History of the County of Pictou, p. 30.

The burying ground was used by the Mi'kmaq till about 40 years ago and was about half a mile further to the west. Some of the belongings seemed to indicate that they belonged to another race, a people of small size, like the Esquimaux. That the Algonquin race came from the southwest is now received opinion of American Antiquarians and there are also strong reasons to believe that the Esquimaux occupied the shores of North America, to a point much farther south than they now do. Charlevoix describes the Mi'kmaq in his day as maintaining a constant warfare with the Esquimaux, and the probability is that the Mi'kmaq, on first occupying this region, drove out the Esquimaux, and these remains may be the relics of their conflicts.⁵⁵

One curious fact was found in this cemetery, which has not been noticed in connection with Mi'kmaq customs: the use of fire in some way in connection with the dead. Some of the graves give no indication of this, and in one it was possible to trace the position in which the body was laid, viz., on its side in a crouching posture. But in other cases the remains were mixed with ashes, small pieces of charcoal, and burnt earth showing the use of fire for some unexplained purpose. In another case, a quantity of ashes with small fragments of burnt bones had been found. The whole had been carefully buried, and was probably the remains of some captive whom they had burned.⁵⁶

The settlement of Pictou County by English and Gaelic speaking settlers began after French power in Nova Scotia had ceased, and with it the Indian opposition to the British. Mi'kmaq leaders in 1760 appeared before the Legislative Council in Halifax to make peace. In 1762 a proclamation was issued to prevent encroachment on Indian lands, which was a follow up to a ten-year-old statute that forbade acts of aggression against the Indians.⁵⁷

As the settlers fanned out from Pictou, they found Indians with small plots under primitive cultivation, e.g., Middle River Point, and Barney's River. These and others were purchased from the Mi'kmaq for a meagre amount, by the whites. The Indians'

⁵⁵ Patterson, Rev. George. A History of the County of Pictou, p. 31.

⁵⁶ Patterson, Rev. George. A History of the County of Pictou, p. 31.

⁵⁷ Cameron, James M. Pictou County's History, p. 2.

principal district, Merigomish (an Anglicized spelling and pronunciation of the Indians name for the district “Mallogomichk”, meaning a hardwood grove) was taken over entirely by the whites, except two small islands.⁵⁸

At time of Confederation, some Indians were living on the land later called Chapel Cove, one of the smaller Indian camping places that was in use before the whites had arrived. The whites first designated it as Fisher’s Grant, later known as Pictou Landing. It was recognized as Indian land by the Province of Nova Scotia and was transferred to the Dominion at Confederation in keeping with the BNA Act, which put administration of Indian affairs within the jurisdiction of the Federal Government. Following Confederation, a number of land parcels at Pictou Landing-Chance Harbour were acquired by the Dominion as a reserve for the Pictou Landing Indians—89 acres in 1874, 16 acres in 1876, etc. until the total encompassed 1158 acres, classified by the Federal authorities as Fishers Grant Indian Reserve No. 24. Additionally, Chapel Island and Wooley Island, 30 acres and 5 acres respectively in Merigomish Harbour were set aside. In 1960 they were designated Merigomish Harbour Indian Reserve No. 31 for the use and benefit of Pictou Landing Indians.⁵⁹

For the Indians, the white man brought disaster. In 1775 Magistrate Harris reported their number in the County to be 885. The first federal census almost a century later, 1871, reported the County’s Indian population to be 125, which was a shocking decline, said to have been caused by Indians lacking immunity to the white man’s diseases; small pox, and tuberculosis. By 1961 the census showed the Pictou Landing Indian band had increased in the intervening 90 years to over 200. White settlements on the coast and up-river crowded them off their fishing and hunting grounds.⁶⁰

In 1722, there were 93 Mi’kmaq in Antigonish, and 45 in Pictou; in 1735, 127 in Antigonish and 63 in Pictou, according to map and census data 1600-1735. Also, in 1688, there were 52 Mi’kmaq.⁶¹

⁵⁸ Cameron, James M. *Pictou County’s History*, p. 2.

⁵⁹ Cameron, James M. *Pictou County’s History*, p. 2.

⁶⁰ Cameron, James M. *Pictou County’s History*, p. 3.

⁶¹ Wicken, William C. *Encounters with tall sails and tall tales: Mi’kmaq Society, 1500-1632*, p. 96.

Edward Mortimer recommended that part of the Philadelphia grant near Caribou Point be granted to the Indians in the county. He stated, “It would make a good reserve. There is plenty of grass, good soil, no roads, continuous hunting grounds, plenty of timber convenient for water carriage.”⁶² During the years 1819 – 1820 the government of the province finally divided the province into 10 areas in which there was to be land set aside for the Indians. Unfortunately for the Indians in Pictou, they were not considered in the plan. In 1828, the Indians were prevented from the planting crops and the cutting of firewood by a Mr. Mudie (to whom the land had been granted) even though the Indians lived on the spot for more than 50 years prior.⁶³

In 1842, Robert McKay and some other people of Pictou petitioned the assembly for an allotment of land for the Indians in Pictou and again there was no action. On November 30, 1842, J. Dawson wrote to Joseph Howe asking if the Indians could reasonably expect anything in the shape of “Royal Bounty because the Indians never had more need of it.” The Indians at the time were destitute and in need of clothing. On December 5 of that same year, Howe replied by sending a few blankets and coats to be given to the aged, or poor families only. In addition, Howe asked if there were crown lands available that would suit them for there would be no difficulty in getting a grant of 500 to 1000 acres for them. Mr. Dawson wrote to the government in January of 1843 suggesting that Mr. McArthur at Boat Harbour would be willing to sell his land to the crown and later be used by the Indians. The government did not adopt Mr. Dawson’s recommendations, and it was some time before land was reserved for the Indians at Pictou.⁶⁴

It wasn’t until the eve of confederation in 1867 that the Indians in Pictou were granted land. The amount of land purchased after more than 80 years was 50 acres. The land was not purchased by government funds, but funds collected from the sale of Indian land, which had been encroached upon in Cape Breton.⁶⁵ In 1874 another 89 acres were

⁶² Francis, Barry. Pictou Landing Reserve: A History, p. 3.

⁶³ Francis, Barry. Pictou Landing Reserve: A History, p. 6.

⁶⁴ Francis, Barry. Pictou Landing Reserve: A History, p. 7.

⁶⁵ Francis, Barry. Pictou Landing Reserve: A History, p. 7.

purchased from Wm. Ives for \$1157, which became known as Fisher's Grant, 24 A. In 1876, 16 acres were cut off and exchanged for 11 acres of land, which became known as Fisher's Grant, 24 B. The Indians received less in the exchange but it gave the reservation access to both the Northumberland Gulf Shore and Boat Harbour. Additional parcels of land were acquired in 1888 of 30 acres known as 24 C, 35 acres in 1903 and was known as 24 D, 80 acres in 1907 known as 24 E, 120 acres in 1910 known as 24 F, and 128 acres in 1928 known as 24 G. All these parcels of land were acquired for firewood, which was much needed by the Indians.⁶⁶

Indians from Indian Island moved to Pictou Landing to live where work was available close by. Now the island is uninhabited, but Indians all over the Maritimes visit each year in July to celebrate the "Feast of St. Anne's." Prior to 1838, the Indians used to have a similar celebration, usually in the month of September at Fraser's Point or Middle River Point. There would be about 100 to 150 canoes drawn up on shore while the two days would be spent in racing and other events.⁶⁷

5.2 Current Mi'kmaq Land and Resource Use

The study of current Mi'kmaq land and resource use is comprised of a study of current Mi'kmaq land and resource use sites, species of significance to Mi'kmaq, and Mi'kmaq communities.

5.2.1 Current Mi'kmaq Land and Resource Use Sites

Current Mi'kmaq land and resource use activities are divided into five categories:

- 1) Kill/hunting
- 2) Burial/birth
- 3) Ceremonial

⁶⁶ Francis, Barry. Pictou Landing Reserve: A History, p. 9.

⁶⁷ Francis, Barry. Pictou Landing Reserve: A History, p. 9.

- 4) Gathering food/ medicinal
- 5) Occupation/habitation

Table 1 provides a description of activities undertaken at the sites.

Table 1: Description of Activities Undertaken in Current Mi'kmaq Land and Resource Use Sites

TYPE OF SITE	DESCRIPTION OF ACTIVITIES IN STUDY AREA
KILL/HUNTING	Eel, Pheasant, Porcupine, Partridge, Deer
BURIAL/BIRTH	
CEREMONIAL	
GATHERING	Quill, Feather, Medicinal Plant, Food Plant, Decoration Plant, Specialty Wood
HABITATION	Group camp sites

Burial or Ceremonial Sites were not identified within the project footprint. However, research indicates that Paqtnkek and Pictou Landing First Nations campsites were identified within the study area along the Baileys Brook water system. (See Figure 2)

5.2.2 *Species of Significance to Mi'kmaq present in study area*

Species of significance to Mi'kmaq in the study area are divided into three categories:

- 1) Medicinal
- 2) Food/Beverage
- 3) Craft/Art

The following table describes the number of plants of significance present in the study areas during the fall and spring surveys.

Table 2: Number of Species of Significance to Mi'kmaq Present in the Study Areas Spring 2008

TYPE OF USE	NUMBER OF SPECIES PRESENT SPRING 2008
MEDICINAL	28
FOOD/BEVERAGE	15
CRAFT/ART	10

Table 3: Number of Species of Significance to Mi'kmaq Present in the Study Areas Fall 2008

TYPE OF USE	NUMBER OF SPECIES PRESENT FALL 2008
MEDICINAL	55
FOOD/BEVERAGE	23
CRAFT/ART	10

5.2.3 *Mi'kmaw Communities*

There are no Indian reserves located within the current use study area, however, there are two reserves located within approximately 50 kms of the project area.

Fisher's Grant I.R.#24

Fisher's Grant is located 10 kms north of New Glasgow in Pictou County. The reserve was formed in 1866 from several parcels that were amalgamated in to what is now known as Pictou Landing Reserve. The band has three other parcels of land at Boat Harbour #37, Merigomish Harbour #31 and Fisher's Grant #24 G, which is located near Boat Harbour. In Cumberland County, Pictou Landing First Nation has co-ownership of Franklin Manor IR #22 with Paqtnkek First Nation.

Paqtnkek First Nation IR #23

Paqtnkek First Nation is located 24 kms east of Antigonish and was first set aside by Order-In-Council in 1820 and is divided into three lots: A, B, and C. The band changed their corporate name from Pomquet and Afton #23 to Paqtnkek First Nation in 2002 and will be changing the names of their parcels to their traditional Mi'kmaw names.

5.2.4 Mi'kmaq Place Names

The following is a list of Mi'kmaq place names:

Pictou Island.....	Cunsunk
Moody's Point.....	Poogunipkechk
Merigomish.....	Mallegomichk.....a hardwood grove.
Caribou Harbour.....	Comagun.....a decoy place, duck decoys were set
Green Hill.....	Espakumegek.....High land
Mount Thom.....	Pamdunook.....A mountain chain
Middle River.....	Nemcheboogwek.....Straight flowing
West River.....	Wakumtkook.....Clear water
East River.....	Apchechkumooch-waakade.....Duckland
Saw Mill Brook.....	Nawegunichk.....Saw mill brook
Fisher's Grant.....	Soogunagaderotting place, (Burying ground)
Roger's Hill.....	Nimnokunaagunikt.....Black birch cove
Narrow entrance of Caribou Harbour.....	Tedootkesit.....running into the bushes
Toney River.....	Bucto Taagun.....spark of fire
Little harbour.....	Munbegweck.....Little harbour
Sutherland's Island.....	Coondawaakade.....A stone quarry
Point Betty Island.....	Mkobeel.....Beaver place ⁶⁸
Middle River... ..	Kesooskwostoogwek
Pomquet Harbour....	Pogumkek
Pictou Harbour.....	Poogunikpechk ⁶⁹
Canso, Guysborough, Antigonish, and Halifax County.....	Esgigeoagig
Pictou County.....	Pigtogeog ⁷⁰

⁶⁸ Patterson, George. A History of the County of Pictou, p. 32.

⁶⁹ Frame, Elizabeth. A List of Micmac Names of Places, Rivers, Etc., in Nova Scotia, p. 11.

⁷⁰ Julien, Donald M. Historical Perspective of Micmac Indians Pre and Post Contact Period

6.0 POTENTIAL PROJECT IMPACTS ON MI'KMAQ LAND AND RESOURCE USE

The following table presents potential project impacts on historic and current Mi'kmaq land and resource use.

Table 3: Potential Project Impacts on Mi'kmaq Land and Resource Use

POTENTIAL IMPACTS ON MI'KMAQ LAND AND RESOURCE USE	
6.01	The historic review of Mi'kmaq use and occupation documents historic Mi'kmaq use and occupation in the study area, and potentially the project area. A potential impact of the project is the disturbance of archaeological resources.
6.02	Several species of significance to Mi'kmaq have been identified in the study area. Permanent loss of some specimens is an impact of the project.

7.0 SIGNIFICANCE OF POTENTIAL PROJECT IMPACTS ON MI'KMAQ LAND AND RESOURCE USE

The concept of significance in the Mi'kmaq Ecological Knowledge Study is distinct from the concept of significance under the *Canadian Environmental Assessment Act* or the *Nova Scotia Environmental Assessment Regulations*. Significance to Mi'kmaq is evaluated only in accordance with the criteria listed below. The MEKS evaluation of the significance of the potential project impacts on Mi'kmaq should be used by regulators to inform their determination of the significance of the environmental effects of the Project.

7.1 Significance Criteria

The following criteria are used to analyze the significance of the potential project impacts on Mi'kmaq use:

- 1) Uniqueness of land or resource
- 2) Culture or spiritual meaning of land or resource
- 3) Nature of Mi'kmaq use of land or resource
- 4) Mi'kmaq constitutionally protected rights in relation to land or resource.

7.2 Evaluation of Significance

Table 4: Significance of Potential Project Impacts on Mi'kmaq Land and Resource Use

POTENTIAL IMPACT	EVALUATION OF SIGNIFICANCE
<p>6.01 The historic review of Mi'kmaq use and occupation documents Mi'kmaq use and occupation in the study area, and potentially the project area. A potential impact of the project is the disturbance of archaeological resources.</p>	<p>7.2.01 Mi'kmaq archaeological resources are extremely important to Mi'kmaq as a method of determining Mi'kmaq use and occupation of Mi'kma'ki and as an enduring record of the Mi'kmaq nation and culture across the centuries. Archaeological resources are irreplaceable. Any disturbance of Mi'kmaq archaeological resources is significant.</p>
<p>6.02 Several species of significance to Mi'kmaq have been identified in the study areas. Permanent loss of some specimens is an impact of the Project.</p>	<p>7.2.02 The plant species of significance to Mi'kmaq identified within the study area exist within the surrounding area. The destruction of some specimens within the study areas does not pose a threat to Mi'kmaq use of the species. The impact of the permanent loss of some specimens of plant species of significance to Mi'kmaq is evaluated as not likely significant.</p>

8.0 CONCLUSIONS AND RECOMMENDATIONS

- 8.01 In the event that Mi'kmaw archaeological deposits are encountered during construction or operation of the Project, all work should be halted and immediate contact should be made with David Christianson at the Nova Scotia Museum and with Donald M. Julien at The Confederacy of Mainland Mi'kmaq.
- 8.02 There are no land claims registered with the Specific Claims branch of Indian and Northern Affairs Canada in Ottawa for any of the Mi'kmaq communities in Nova Scotia within the project area. However, that does not suggest that any other Mi'kmaw claimants for this area may not submit land claims in the future.
- 8.03 The information on the Mi'kmaq campsite locations was gathered near the end of the study time period. An approximate area of the Mi'kmaq campsite is shown in Figure 2. Should this area need to be disturbed during the Project construction or operation, further research regarding these campsites is recommended.

9.0 REFERENCES, SOURCES, AND RECORDS CONSULTED

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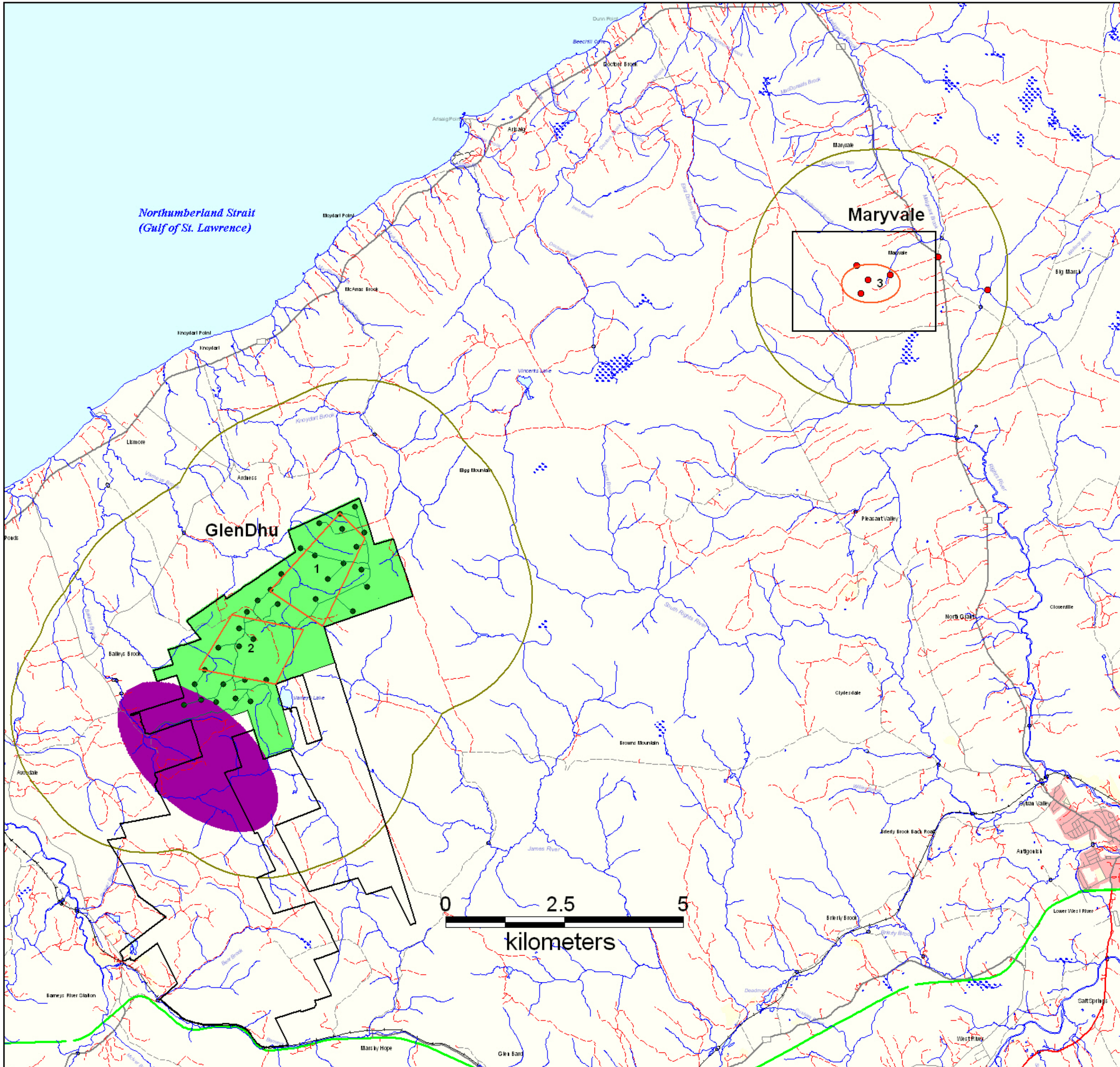
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Indian Affairs Documents

3642-101	3643-101	8270	644
2610-62	X14890	X14921	X14922
X14919	X14894	X14903	X18910
1180-7	X14905	X15826	X14336
X14585	X14586	X14588	X14589
X14602	X14607	X14975	X14976
X14977	X14980	X14981	X14982
X14983	X14984	X14985	X14986
X15119	X20611	X20612	

Figure 2

Current Mi'kmaq Land
and
Resource Use Study Area



Study Areas 1, 2 & 3

Current Mi'kmaq Land
& Resource Use Sites

Legend

- Maryvale Proposed Turbine Sites
- V9 Proposed Road
- V9 Turbine Sites
- Project Area Outline
- GlenDhu Project Boundary
- Maryvale Project boundary
- Mi'kmaq Camps (Approximate Location)
- 5km Buffer
- Lake, River or Brook
- Collector Highway
- Loose Surface Road
- Cart Track
- Hard Surface Road
- TransCanada Highway 104
- Water Bodies
- Swamp



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Engagement Plan for the 6mw Maryvale Wind Project and Nova Scotia Aboriginals and First Nations

February 9, 2009

1.0 OBJECTIVE

This Engagement Plan has been drafted in the interest of a co-operative working relationship between the Proponent, Maryvale Wind LP, and: the Maritime Aboriginal Peoples Council; the Confederacy of Mainland Mi'kmaq; Pictou Landing First Nations; Afton First Nation; Union of Nova Scotia Indians; and the Mi'kmaq Rights Initiative.

2.0 MUTUAL INTERESTS

2.1 Parties Involved

The Confederacy of Mainland Mi'kmaq

Norma Prosper, Environment
PO Box 1590
57 Martin Crescent Truro, NS
B2N 5V3 Tel: (902)895 6385 Fax: (902) 893 1520
Email: norma@cmmns.com Website: www.cmmns.com

Pictou Landing

Anne Francis-Muise, Chief
6537 Pictou Landing Road
Trenton, NS
B0K 1X0 Phone: (902) 752 4912 Fax: (902) 755 4715 Website: http://www.plfn.com/pictou_home.htm

Pat'tnkek First Nation

RR #1 Afton, NS
B0H 1A0
Phone: (902) 386- 2781 or (902) 386 2881
Fax: (902) 386 2043
Website: www.kinu.ns.ca

Kwilmu'kw Maw-klusuaqn Negotiation Office (Mi'kmaq Rights Initiative)

Twila Goudet
851 Willow Street, Truro, NS
B2N 6N8 Phone: (902) 843 3880 Fax: (902) 843 3882 Email: info@mikmagrights.com Website:
www.mikmagrights.com

Maritime Aboriginal Peoples Council

Roger Hunka
172 Truro Heights Road
Truro Heights, Nova Scotia
B6L 1X1
Phone: (902) 895-2982
ikanawtiket@mapcorg.ca
www.ikanawtiket.ca

Union of Nova Scotia Indians

Nancy Paul, Executive Assistant
47 Mailard Street
Membertou, NS
B1S 2P5
Phone: (902) 538 4107
Fax: (902) 564 2137
Email: rec@unsi.ns.ca
Website: www.unsi.ns.ca

2.2 Site Access

There are both traditional and contemporary Aboriginal land use interests which may arise during the planning, construction or operations phases of the wind farm. These may include: hunting; fishing; fowling; and/or gathering species within or around the Project boundary. Maryvale Wind LP's interests include meeting its obligations as stated in the Draft Environmental Assessment (Registration Document scheduled to submit early April 2009) and in maintaining the project plan and the construction schedule. The schedule of construction activities is a crucial part in having the wind farm ready in an efficient and effective manner to meet the terms of contractual obligations with Nova Scotia Power.

2.3 Safety Interests

Public Safety is considered a significant issue of mutual interest during the construction phase of the project. Heavy trucks and machinery will be travelling on access roads and working on turbine sites in the Maryvale project area. For public safety reasons, Maryvale Wind LP will control public access to the project area on the project access roads and on construction sites. First Nations and Aboriginal people who wish to harvest natural resources in the Maryvale area should be aware of these activities and the areas in which work is being conducted. For safety reasons, Maryvale Wind LP needs to be aware of the activities and presence of anybody using the area so as to advise equipment operators.

2.4 Archaeological Interests

Upon the discovery of an archaeological site or artefact unearthed during any phase of the proposed Maryvale Wind Project, the proponent will immediately cease work and contact the Director, Heritage Division, Nova Scotia Department of Tourism, Culture and Heritage, the Executive Director, Confederacy of Mainland Mi'kmaq, the Executive Director, Union of Nova Scotia Indians, and Roger Hunka, Maritime Aboriginal Peoples Council.

2.5 Natural Resource Interests

Maryvale Wind LP has gathered environmental data for the EA and incorporated this data in the project design. As part of its commitments to ongoing environmental monitoring, monitoring studies of plant species, birds, bats and surface water quality will be conducted. This information can be made available to First Nations or Aboriginal groups upon request.

3.0 COMMUNICATION

The following details the correspondence the Proponent has made to interest groups since the Project began:

Union of Nova Scotia Indians – Jan 07 initial conversation with Union member suggested the conversation be directed to CMM to conduct MEKS.

CMM - Jan 8/07 initial conversation with Don Julian, CMM, followed by meeting at CMM office Feb 9/07 with in-house archaeologist and Don Julian, numerous emails and phone calls made by Proponent after with no response, registered letter sent to CMM Feb 11/08, meeting with Michael Cox, presented communications outline, agreed to proposal of MEKS, May 08 – MEKS began, completed in October 2008. Meeting with Norma Prosper Dec 16/08 to discuss engagement plan.

Pictou Landing – starting on Jan 15/07 phone calls made to Chief Anne Francis-Muise, spoke in late Jan, no issues raised, follow-up calls made in Feb, March, April, May, August 07, registered letter Feb 11/08.

Afton – starting on Jan 16/07 phone calls made to band manager, John Prosper, no issues raised, follow up calls over next several months, no response, registered letter Feb 11/08.

Mi'kmaq Rights Initiative – Feb 2008, prior to submitting Draft EA, numerous phone calls made to Twila Gaudet, made contact in late Feb., spoke with Twila Gaudet extensively about project and proposal to work with Aboriginal community, suggested that we speak with CMM and the Union of Nova Scotia Indians.

MAPC – meeting between Lisa Fulton and Roger Hunka Dec 9 to discuss land usage in project area, general project activities and Engagement Plan.

For all matters relating to this Engagement Plan, the Proponent requests that the listed interest groups contact our On-site Environmental Manager, Lisa Fulton at 902-759-6626, or email at lisa.fulton@canada.com.

Unless otherwise directed, in the event of a discovery of anything of archaeological significance, or identification of specimens of botanical significance, the following contacts will be initiated:

- Maritime Aboriginal Peoples Council: Roger Hunka at 902-895-2982 or rhunka@mapcorg.ca
- Confederacy of Mainland Mi'kmaq: Norma Prosper at 902-895-6385 (ext. 240) or norma@cmmns.ca
- Pictou Landing First Nation: Chief Anne Francis-Muise at 902-752-4912
- Paq'tnkek First Nation: Chief Michael Gerard-Julian at 902-386-2781
- Union of Nova Scotia Indians: Nancy Paul at 902-538-4107
- Mi'kmaq Rights Initiative: Twila Gaudet at 902-843-3880

This Plan will become an addendum to the Maryvale Wind Project Environmental Assessment Registration Document, and will be strictly adhered to in any event of discovery made by the Proponent during any phase of the Project. The proponent requests that all other parties listed in this Engagement Plan please contact Lisa Fulton with any other questions or concerns which may arise concerning this undertaking.

Sincerely,

Lisa Fulton

Fulton Energy Research,

Maryvale Wind Project

May 12, 2008

FILE COPY

Troy Bouchie
RMSenergy
796 Dan Fraser Road
RR # 3 Westville, NS B0K 2A0

Dear Mr. Bouchie:

**RE: Environmental Screening 08-04-14
Maryvale Wind Farm**

Further to your request of April 14, 2008, staff of the Heritage Division have reviewed their files for reference to the presence of heritage resources in the study area. Please be aware that our information is not comprehensive, in that it is incomplete and of varying degrees of accuracy with respect to the precise location and condition of heritage resources.

It should be noted that the amount and degree of disturbance from previous developments could have a significant role in establishing the presence, absence or condition of heritage resources in this area.

Cultural Heritage

Archaeological and Historical Sites and Remains

Archaeological staff have reviewed our records and make the following observations:

There are no recorded archaeological sites on file within the project area, and we consider the project area to have low potential for First Nations archaeological sites even though several sites have been recorded to the south-east nearer the coast. The study area is considered to have moderate to high potential for historic archaeological sites, as historic maps indicate settlement in the area.

It is recommended that an assessment for archaeological resources within the study area be undertaken.

Cemeteries

We have no record of historical cemeteries in the study area.

Natural Heritage

The staff of the Nova Scotia Museum Collections Unit (Natural History) have reviewed their records and make the following observations:

Botany

Staff have reviewed the records for plant species-at-risk in our files and report that the following species-at-risk may be found within the footprint of the proposed development.

<i>Bidens beckii</i> Yellow	<i>Impatiens pallida</i> Yellow
<i>Botrychium simplex</i> Yellow	<i>Juncus greenei</i> Red
<i>Caltha palustris</i> Yellow	<i>Lilium canadense</i> Yellow
<i>Campanula aparinoides</i> Yellow	<i>Polygonum scandens</i> Yellow
<i>Carex alopecoidea</i> Red	<i>Rudbeckia laciniata</i> var. <i>gaspereauensis</i> Yellow
<i>Carex eburnea</i> Yellow	<i>Samolus valerandi</i> var. <i>parviflorus</i> Yellow
<i>Carex tinctoria</i> Red	<i>Teucrium canadense</i> Yellow
<i>Epilobium coloratum</i> Yellow	<i>Triosteum aurantiacum</i> Yellow
<i>Erigeron hyssopifolius</i> Yellow	<i>Zizia aurea</i> Yellow
<i>Fraxinus nigra</i> Yellow	

Zoology

We have no zoological records for the specific footprint outlined, although there are several zoological species of concern in the general area. With the exception of a potential impact on flying species (migrating birds and bats), these do not appear to be associated with the upland terrain noted in your query. Since there is no indication of the construction of any right-of-way of significance, we offer the following observations.

There exists the possibility of the presence of Four-toed salamanders *Hemidactylium scutatum* in sphagnaceous habitats that may be associated with the site. Although this species does not have any formal conservation ranking in the Province, it is of limited distribution and so should be noted.

In the last Breeding bird surveys (late 1980s), there were nesting records of the following bird species of concern within the general area of the project:

- Bobolink *Dolichonyx oryzivorus* - Yellow
- Eastern Kingbird *Tyrannus tyrannus*
- Merlin *Falco columbarius*
- Osprey *Pandion haliaetus* (Provincial Bird)

This small number of records suggests that the site should be investigated more rigorously. There is a current Breeding bird census underway at this moment, and we would recommend that the proponent refer to the Maritime Breeding Bird Atlas <http://www.mba-aom.ca/english/index.html> for update information.

Troy Bouchie
May 12, 2008
Page 3

We have no records of bat hibernation associated with the site or immediate area, although information of bat migration and habitat use is very limited.

The presence/absence of these species should be determined through field assessment conducted during the growing season or when their identity can be determined to species or variety.

Ecological Sites

There are no recorded significant ecological sites in the area.

I have attached an invoice for the staff time spent reviewing our records and compiling this response. If you have any questions, please contact me at 424-6475.

A handwritten signature in cursive script, appearing to read "Robert Ogilvie".

Robert Ogilvie
Manager, Special Places

Enclosure

ENVIRONMENTAL MANAGEMENT PLAN Maryvale Wind Project

Erosion Control

Silt Fence Filter Fabric Barrier:

DESIGN CONSIDERATIONS

Erosion control practices will be followed in compliance with the design criteria of the *Erosion and Sedimentation Control Handbook for Construction Sites* prepared by Nova Scotia Environment, 1988. Control of sedimentation is a fundamental principle to be followed by Maryvale Wind Energy LP and its contractors in managing the environmental issues related to the construction and operation of the Maryvale Wind Project.

IMPLEMENTATION STEPS

1. Location: The locations of filter barriers should be selected to prevent damage from heavy equipment.
2. Preventing End-Flow: Where barriers are constructed across a wide ditch or swale carrying low flow, end flow will be prevented by keying in the ends of the filter to the sides of the ditch. The side slopes should be re-graded to a stable slope (see Factsheet 2.7, Check Dams – General).
3. Excavating Trenches: A trench 100 mm (4 in.) by 100 mm (4 in.) should be excavated in a crescent shape across the flow path, with ends pointing upslope.
4. Setting Wood Stakes: Square wood stakes, 50 mm (2 in.), spaced at 1 m (3.3 ft.) intervals should be driven securely into the ground along the downslope side of the trench. If the ground is hard, a pick or steel bar will be needed.
5. Installing the Filter Barrier: To avoid seams and improve the strength and efficiency of the barrier, filter fabric should be drawn from a continuous roll and cut to its required length. The filter fabric should be stapled to the upstream side of the stakes with the bottom extending 200 mm (8 in.) into the trench. A filter barrier should not exceed a height of 900 mm (36 in.).
6. Backfilling: Backfill and compact the soil in the trench over the filter fabric.
7. Covering Exposed Soil: Re-vegetate exposed soil immediately.

MAINTENANCE

Accumulated sediment should be removed at regular intervals and after severe rainstorms. Repairs to the barrier should be conducted promptly if undercutting or end flow has occurred. The barrier can be removed on completion of the work and stabilization of the area.

Source: *Erosion and Sediment Control Fact Sheet No. 2.9*

Sediment Retention and Control

Straw Filter Barrier

DESIGN CONSIDERATIONS

Straw filter barriers are designed to allow water to flow through, not over, the barrier. If properly installed and maintained no apron is required for straw filter barriers. Constant inspection and maintenance is required as straw bales may plug up with sediment very quickly. The life expectancy of a straw filter barrier is approximately 3 months, or less under wetter conditions or successive storms. A rock apron must be constructed on the down-slope side of the straw filter barrier if the bales are not replaced when plugged with sediment.

IMPLEMENTATION STEPS

The following installation procedures will be required to reduce potential failure because of improper installation and use. Undercutting and end flow can occur due to improper installation.

These conditions can actually increase the quantity of sediment which is eroded and transported in the runoff.

1. Excavating Trenches: A trench the width of a straw bale and the length of the proposed barrier should be excavated to a minimum depth of 100-150mm (4-6in.) below the surface.
2. Placing Straw Bales: The straw bales should be placed on their sides and packed tightly together in the trench. Bales tied with non-degradable twine, should be placed flat. Two sturdy wooden or steel stakes should be driven through each bale, deep enough to anchor them securely. The first stake in each bale should be driven toward the previously laid bale to force the bales together. A wedge of loose straw should be placed between cracks or other openings and loose straw should be scattered over the soil on the uphill side of the barrier. The movement of the loose straw acts as a seal for any undetected openings in the barrier.
3. Backfilling: Backfilling and light compacting of the excavated soil should be conducted up to a depth of 100mm (4in.) on the upper slope side of the barrier. Backfilling and compaction of the excavated soil should be conducted to ground level on the downslope side.
4. Constructing the sediment trap: The sediment trap should be excavated on the upslope side of the barrier.

MAINTENANCE

Regular inspections of straw filter barriers are required after rainstorms. Bales which have become clogged with sediment must be replaced. Sediment trapped in the upslope sediment trap should be removed. Typically, straw filter barriers can be removed after other measures have been completed and control is well established.

Source: *Erosion and Sediment Control Fact Sheet No. 2.8*

Environmental Protection Plan Maryvale Wind Project

Maryvale Wind Energy LP will implement the following Environmental Management Plan (EMP) to minimize potential environmental effects during the construction and operation of the Maryvale Wind Project.

Vehicle Operation

- Public access to the construction site will be restricted. "Restricted Access" signs will be posted at the entrance of each access road.
- During the transport of materials including turbine components and turbine blades to the site, transportation companies, suppliers and drivers will abide with local traffic management regulations. Project manager will coordinate with RCMP and Nova Scotia Transportation and Infrastructure Renewal to ensure that the permitting for wide or heavy loads and safe transport of these materials are in place and that there is with minimal disturbance to the public.
- All drivers will obey local traffic laws, speed limits, and practice safe, defensive driving.
- Construction will be completed in a timely manner as to minimize the amount of time the construction equipment is on site.
- The Contractor responsible for Road Construction will provide dust suppression measures as needed to ensure there are no health risks to site workers, nearby communities and the environment.
- An emergency spill containment kit will be maintained on site by the Construction Contractor to adequately control any loss of fuel or lubricant.
- Most construction equipment will operate on diesel fuel and will be maintained so as to minimize noise and exhaust emissions.
- There will be a designated site, away from wetlands or watercourses, which will be used for fueling and parking construction equipment and vehicles.
- The use and transportation of petroleum, oils and lubricants will be conducted in compliance with the Transportation of Dangerous Goods Act and sound environmental practices.
- Maryvale Wind Energy LP will establish a system to receive and respond to noise complaints.

Site Clearing, Road and Tower Foundation Construction

- Tower foundations will be constructed in strict accordance with the manufacturer's specifications and site specific engineering design.
- Turbine sites will be selected to avoid wetlands and water courses to the extent possible.
- Construction activities will be restricted to approved work spaces and turbine sites.
- To the extent possible, the road and turbine site construction and grading will not be conducted during heavy rain events where runoff could result in sediment transport to drainage ditches or watercourses.
- A buffer area of no less than 50m will be established around rare plants in which vegetation will not be disturbed where possible.
- Shipments of imported materials must have fumigation certificates before arriving in Nova Scotia to ensure that harmful species are not transferred to the region.
- Construction equipment will be cleaned before being brought to the site.
- Access roads will be located and designed to pose minimal disturbance to existing watercourses.
- Watercourses will be spanned by bridges and culverts that do not alter the existing flow regime of any watercourse and all water crossings will take place at designated crossing sites.

- To the extent possible, rock excavation will be performed by ripping rather than blasting.
- The sides of any excavation pit will be sloped so that the pit does not present a safety hazard to site workers or the public (offsite pit). Where the public may have access, signs will be posted and/ or fencing erected. Borrow pits solely used for construction of this project will be backfilled with native material and seeded with non invasive, native, herbaceous plant species.
- Excess soils which are unsuitable for use as fill or dressing slopes will be disposed of at a site approved by the project engineer.
- Upon completion of construction work, exposed soils which have been disturbed by the work will be re-vegetated or allowed to re-grow naturally with non invasive, native, herbaceous plant species.

Construction Waste

- The disposal of construction waste will be managed by Maryvale Wind Energy LP and the Contractor so as to prevent a release or impact to watercourses and wetlands. These wastes may include minor amounts of scrap metal, timber, soils and non combustible material.
- Domestic refuse and waste will be collected and disposed of on a full time bases by a local waste management company in accordance with the procedures of Antigonish County Solid Waste Management and internally managed by the Proponent's Safety Officer.
- Disposal sites for fill are to be located by the Contractor and will be approved by Maryvale Wind Energy LP's Project Manager.
- Limbs and timber will be chipped and or crushed and disposed of at the site. Non-combustible material, overburden and rock will be disposed of where their use as fill material is impractical.
- Waste disposal areas will be located away from rivers or any other watercourse.
- Portable toilets will be used at the construction site so that no untreated sewage is disposed in the watercourses.
- Petroleum, oils and lubricants and their wastes will be stored on site in a designated lay down area and will be managed in compliance with applicable provincial and federal regulations, codes and guidelines. Wastes will be contained and disposed of in compliance with the Provincial regulations for such substances.

Preservation of Water Quality

- The disposal of any agent, either directly or indirectly, will not be permitted into any watercourse at any time during the project.
- The contractor will follow the provisions of Nova Scotia Environment's *Erosion and Sediment Control Manual, 1998* to ensure the preservation of water quality in watercourses or wetlands at the site. These provisions include the installation and maintenance of silt fences, hay bales in the manner proscribed in the document. The Proponent's Safety Officer and the Contractor will be responsible for maintaining these erosion/sedimentation control systems to ensure their effectiveness.
- Any water which must be pumped out of excavations will not be discharged directly into any wetland or watercourse. Water containing total suspended solids (TSS) at a concentration exceeding 25 mg/l above the background condition of a watercourse at the site must be pumped to a control area where the sediment can be allowed to settle. Settlement areas will be designated in an area up-gradient and downstream of the excavation. The discharge from the settlement area may be allowed to spill onto the ground and return to a watercourse following the natural topography providing that the discharge does not erode or entrain of soil particles in its flow.

- Erosion and sediment barriers will be removed from those areas which may be flooded by watercourses under high flow seasonal conditions to prevent these materials from being entrained in the watercourses following the completion of construction.
- Immediately after completion of construction, materials placed in or adjacent to a river for the temporary diversion of the river will be removed by the Contractor. This will be done in controlled manner as to minimize sedimentation of the flow.
- Maryvale Wind Energy LP will be responsible for sampling and monitoring of TSS as conditions warrant. Water samples will be collected and analyzed for TSS from the watercourses at locations upstream, adjacent to and downstream of the site prior to construction. The average value of these three samples will be used to establish the background TSS value.
- Erosion control measures will be monitored to ensure their effectiveness.

Fires and Medical Emergencies

- An emergency response plan will be established which incorporates appropriate response and reporting procedures. These will be addressed with the Four Valleys Fire Department.
- All turbines will be equipped with lightning protection systems.
- Flammable waste will not be stored on site and will be collected and disposed of in a timely and appropriate manner.
- Smoking will be prohibited within 50 m of flammable products.
- The contractor will provide on-site fire fighting equipment and will maintain the equipment in good working order. Operations and maintenance personnel will be trained in the proper use and maintenance of fire-fighting equipment.
- In the event of a fire, on-site personnel will attempt to put out the fire, if it is safe to do so, using the on-site fire-fighting equipment. All fires, even those put out by on-site personnel, will be reported to the Four Valleys Fire Department.
- In case of medical emergencies and/ or fires, assistance will be requested from 9-1-1.
- Maryvale Wind Energy LP will work with members of local emergency response, fire departments and medical rescue personnel to develop local capability to handle fire and medical emergencies within a wind farm setting.

Wildlife Encounters

- Maryvale Wind Energy LP will provide a set of appropriate procedures for personnel to use in the event of a wildlife encounter,
- Personnel will be instructed in the proper methods of garbage disposal at designated locations so as not to attract wildlife (i.e. bears, raccoons, etc.). Personnel will keep the work area clean of food scraps.
- No attempt to harass wildlife will be made by any person at the work site (Grounds for Dismissal).
- Equipment and vehicles will yield the right-of-way to wildlife.
- In the event of encounters with injured or diseased wildlife at the work site, the encounter will be report immediately to the site supervisor who will contact the local Provincial Wildlife Officer. No attempt will be made to harass the animal, and no person at the work site will come into direct contact with the animal.
- Dead animals will be reported to the local Provincial Wildlife Officer as soon as possible and dead animals will only be removed by or with the approval of the local Provincial Wildlife Officer.
- Personnel will report the presence of wildlife to the site supervisor. When wildlife sightings are reported to management, the manager will initiate any reasonable action to reduce the chance of disruption or injury. Should disruption or injury to the wildlife occur, management will contact local Provincial Wildlife Officer.

- If an injured or dead bird or bat is encountered, the following information will be recorded: date and time it was found; state of decomposition; estimated number of days since death; injury sustained (if identifiable); and species. This information will be logged into the post-construction bird monitoring program.