Phase 2 - Bay of Fundy, Nova Scotia including the Outer Bay of Fundy Tidal Energy Project Site

Mi'kmaq Ecological Knowledge Study

Membertou Geomatics Solutions
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Executive Summary

This Mi'kmaq Ecological Knowledge Study, also commonly referred to as a MEKS or a TEKS, was developed by Membertou Geomatics Solutions for the Nova Scotia Department of Energy and Fundy Tidal Inc. Fundy Tidal Inc. plans to install and operate Tidal In-stream Energy Conversion devices, supporting technologies, and infrastructure within the Outer Bay of Fundy and Digby County, Nova Scotia, known as the Outer Bay of Fundy Tidal Energy project.

The objectives of this study are twofold:

- To undertake a broad MEKS for the Bay of Fundy Phase II Area as it may relate to future renewable energy projects (i.e. wind, tidal and wave), specifically in the Phase II Area of the Bay of Fundy), and
- To undertake a more focused MEKS review specific to the Outer Bay of Fundy Energy Project Site and Study Area.

This MEKS mandate has been to consider the land and water area that the project will utilize and identify what is the Mi'kmaq traditional use activity that has or is currently taking place within, and what Mi'kmaq ecological knowledge presently exists in regards to the Project Site, Study Area and Phase II Area. In order to ensure accountability and ethic responsibility of this MEKS, the MEKS development has adhered to the "Mi'kmaq Ecological Knowledge Protocol". The protocol is a document that has been established by the Assembly of Nova Scotia Mi'kmaq Chiefs, which speaks to the process, procedures and results that are expected of a MEKS.

The Mi'kmaq Ecological Knowledge Study consisted of two major components:

- **Mi'kmaq Traditional Land and Resource Use Activities**, both past and present,
- A **Mi'kmaq Significance Species Analysis**, considering the resources that are important to Mi'kmaq use.

The Mi'kmaq Traditional Land and Resource Use Activities component utilized interviews as the key source of information regarding Mi'kmaq use in the Project Site, Study Area and the Phase II Area.

The Project Site(s) cover an area in the Digby Gut around Bay View, and Victoria Beach; the southern tip of Digby Neck, including East Ferry, Petit Passage, and a northern portion of Long Island including Tiverton to just northeast of Central Grove; the southern tip of Long Island, including Freeport, a northeastern part of Brier Island, including Westport and Peter Island, as well as Grand Passage; as well as a southwest portion of Brier Island, extending into the Bay of Fundy and Gulf of Maine. The Study Area is the area within a five kilometer (5km) radius of the Project Site(s).

The Phase II Area includes areas of the Bay of Fundy directly north, west and south of the Project Sites straddling back through St. Mary's Bay to Digby Gut. The Phase II Areas also include lands between Bear Cove, Nova Scotia, following a northeast direction to areas just north of the Tobeatic Wilderness Area.

Numerous interviews were undertaken by the MEKS Team with Mi'kmaq hunters, fishers, and plant gatherers, who shared with the team the details of their knowledge of traditional use activities. The interviews took place in February and March, 2012. These informants were shown topographical maps of the Project Site, Study Area and Phase II Area and then asked to identify where they undertake their activities as well as to identify where and what activities were undertaken by other Mi'kmaq. All interviews were voice recorded with permission of the interviewee for the sole purpose of data verification during the analysis to collected information. If permitted by the interviewee, their information was incorporated into the GIS data. These interviews allowed the team to develop a collection of data that reflected the most recent Mi'kmaq traditional use in this area. All interviewee's names are kept confidential and will not be released by MGS as part of a consent agreement between MGS and the interviewee to ensure confidentiality.

The data gathered was also considered in regards to Mi'kmaq Significance. Each species identified was analyzed by considering their use as food/sustenance resources, medicinal/ceremonial plant resources and art/tools resources. These resources were also considered for their availability or abundance in the areas listed above, and their availability in areas adjacent or in other areas outside of these areas, their use, and their importance, with regards to the Mi'kmaq.

This Mi'kmaq Ecological Knowledge Study has also gathered, documented and analyzed the traditional use activities that have been occurring within the Project Site, Study Area and Phase II Area, by undertaking interviews with individuals who practice traditional use or know of traditional use activities within these areas and reside in the nearby Mi'kmaq communities.

Project Site

Based on the data documentation and analysis, it was found that the Mi'kmaq have historically undertaken some fishing, hunting, and gathering activities in the Project Site and that this practice continues to occur today. It appears the majority of activity that occurs in the area is the fishing of lobster and mackerel.

Study Area

Based on the data documentation and analysis, it was concluded that the Mi'kmaq have historically undertaken traditional use activities in the Study Area, and that this practice continues to occur today. These activities primarily involve the harvesting of fish species, but also include plants and animals; all of which occurs in varying locations throughout the Study Area and at varying times of the year.

Lobster was found to be the most fished species in the Study Area. Mackerel and clam were also found to be harvested in the area, but at a somewhat relatively lesser degree. Seal, deer, partridge, pheasant and porpoise were all found to be hunted in the Study

Area, but not in enough numbers to determine a primary hunted species. Dulse and sweetgrass were the most harvested plant species that was found within the Study Area.

Phase II Area

Based on the data documentation and analysis, it was concluded that the Mi'kmaq have historically undertaken traditional use activities in the Phase II Area, and that this practice continues to occur today. These activities primarily involve the harvesting of fish species, but also include plants and animals; all of which occurs in varying locations throughout the Phase II Area and at varying times of the year.

Lobster was found to be the most fished species in the Phase II Area. Mackerel and clam were also found to be harvested in the area, but at a somewhat relatively lesser degree. Deer was found to be the most hunted species in the Phase II Area. Rabbit, partridge, seal and other species were also found to be hunted in the Phase II Area, but at a somewhat relatively lesser degree. Dulse and sweetgrass were the most harvested plant species that was found within the Phase II Area.

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1.0 INTRODUCTION

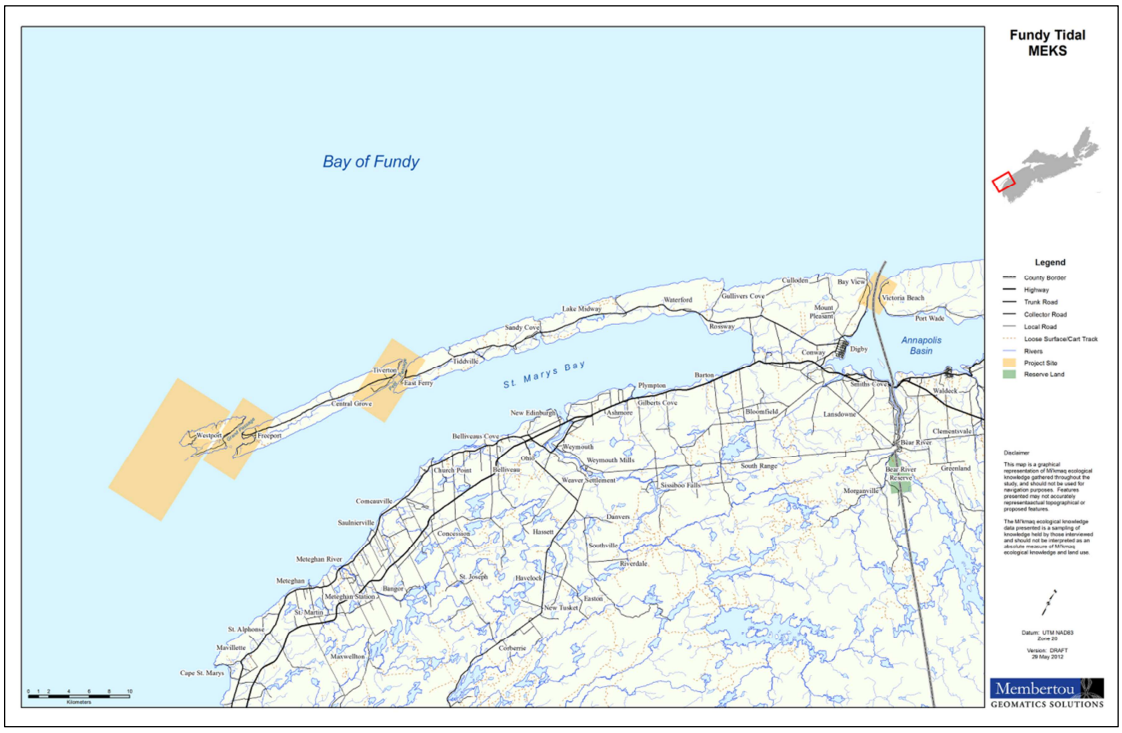
1.1 Membertou Geomatics Solutions

Membertou Geomatics Solutions (MGS) is a Membertou First Nation Company that was developed as a result of the 2002 Supreme Court Marshall Decision. MGS was established as a commercially viable company that could provide expertise in the field of GIS Services, Data Base Development, Land Use Planning Services and Mi'kmaq Ecological Knowledge Studies. It is one of many companies established by the Membertou First Nation – Membertou Corporate Division and these companies provide employment opportunities for aboriginal persons and contribute to Membertou's efforts of growth and development. As well, Membertou's excellent management and accountability of their operations is further enhanced by their ISO 9001:2008 certification.

For the development of this MEKS for the Nova Scotia Department of Energy and Fundy Tidal Inc., MGS brings to the table a team whose expertise and skills with land documentation have developed a sound Mi'kmaq Ecological Knowledge Study. The team skills include expertise within the area of historical Mi'kmaq research, GIS data analysis, Mi'kmaq environmental knowledge and sound Mi'kmaq community connections.

1.2 Outer Bay of Fundy Tidal Energy Project

Fundy Tidal Inc. (FTI) plans to install and operate Tidal In-stream energy Conversion (TISEC) devices, supporting technologies and infrastructure at (4) project zones and (6) TISEC device berth areas within the Outer Bay of Fundy and Digby County, Nova Scotia, this is known as the Outer Bay of Fundy Tidal Energy Project.



Outer Bay of Fundy Tidal Energy Project – Project Sites (yellow)

The COMFIT program applies to TISEC devices with a rated capacity less than or equal to 0.5 MW each, which are connected to the local electrical grid as the distribution level. COMFIT projects must have majority ownership by eligible community proponents which include municipalities, First Nations, not-for-profits, co-operatives, universities, and community economic development corporations (CEDCs). The proposed project is COMFIT eligible following the CEDC model, with capital fund raised through Community Economic Development Investment Funds (CEDIFs).

The Nova Scotia Department of Energy is also interested in the Bay of Fundy, Phase II Area, in exploring the opportunities associated with demonstrating various in-stream tidal energy devices in the Bay of Fundy and monitoring the technology to understand its potential before considering large scale commercial development.

2.0 MI'KMAQ ECOLOGOCAL KNOWLEDGE STUDY SCOPE & OBJECTIVES

2.1 Mi'kmaq Ecological Knowledge

The Mi'kmaq people have a long-existing, unique and special relationship with the land and its resources, which involves the harvesting of resources, the conservation of resources and spiritual ideologies. This relationship is intimate in its overall character, as it has involved collective and individual harvesting of the resources for various purposes, be it sustenance, medicinal, ceremonial and/or conservation. This endearing relationship has allowed the Mi'kmaq to accumulate generations of ecological information and this knowledge is maintained by the Mi'kmaq people and has been passed on from generation to generation, youth to elder, ***kisaku kinutemuatel mijuijij***.

The assortment of Mi'kmaq Ecological Information which is held by various Mi'kmaq individuals is the focus of Mi'kmaq Ecological Knowledge Studies (MEKS), also commonly referred to as Traditional Ecological Knowledge Studies (TEKS). When conducting a MEKS, ecological information regarding Mi'kmaq/Aboriginal use of specific lands, waters, and their resources are identified and documented by the project team.

Characteristically, MEKS have some similar components to that of an Environmental Impact Assessment; yet differ in many ways as well. Among its' purpose, Environmental Assessments seek to measure the impact of developmental activity on the environment and its' resources. This is often done by prioritizing significant effects of project activities in accordance with resource legislation, such as *Species at Risk.* Mi'kmaq Ecological Knowledge Studies are also concerned with the impacts of developmental activities on the land and its' resources, but MEKS do so in context of the land and resource practices and knowledge of the Mi'kmaq people. This is extremely important to be identified

when developing an environmental presentation of the Study Area as Mi'kmaq use of the land, waters and their resources differs from that of non Mi'kmaq. Thus, the MEKS provides ecological data which is significant to Mi'kmaq society and may add to the ecological understandings of the Study Areas.

2.2 Mi'kmaq Ecological Knowledge Study Mandate

Membertou Geomatics Solutions was awarded the contract to undertake a Mi'kmaq Ecological Knowledge Study (MEKS) for Fundy Tidal Inc. and the Nova Scotia Department of Energy. Fundy Tidal Inc. plans to install and operate Tidal In-stream energy Conversion (TISEC) devices, supporting technologies and infrastructure at (4) project zones and (6) TISEC device berth areas within the Outer Bay of Fundy and Digby County, Nova Scotia. This project will require the documentation of key environmental information in regards to the project activities and its possible impacts on the water, land and the resources located here. The MEKS must be prepared as per the **Mi'kmaq Ecological Knowledge Study Protocol** ratified by the Assembly of Nova Scotia Mi'kmaq Chiefs on November 22, 2007.

MGS proposed to assist with the gathering of necessary data by developing an MEKS which will identify Mi'kmaq traditional land use activity within the Outer Bay of Fundy Tidal Energy Project (Project Site) and in surrounding areas within 10 kilometers of the project site (Study Area) as well as the Phase II Area. The proposed MEKS would identify, gather, and document the collective body of ecological knowledge which is held by individual Mi'kmaq people. The information gathered by the MEKS team is documented within this report and presents a thorough and accurate understanding of the Mi'kmaq peoples land and resource use within the Project Site/Study Area and Phase II Area.

MGS understands that this study will be included in the Environmental Assessment that will be submitted to the regulators by the project proponents and

will be used as a primary indicator identifying Mi'kmaq traditional land and resource use within the Study Area and Phase II Area.

However***, it must be stated that this MEKS is not intended to be used for Consultation purposes by government and/or companies or to replace any Consultation process that may be required or established in regards to Aboriginal people. As well, this report cannot be used for the justification of the Infringement of S.35 Aboriginal Rights that may arise from the project.***

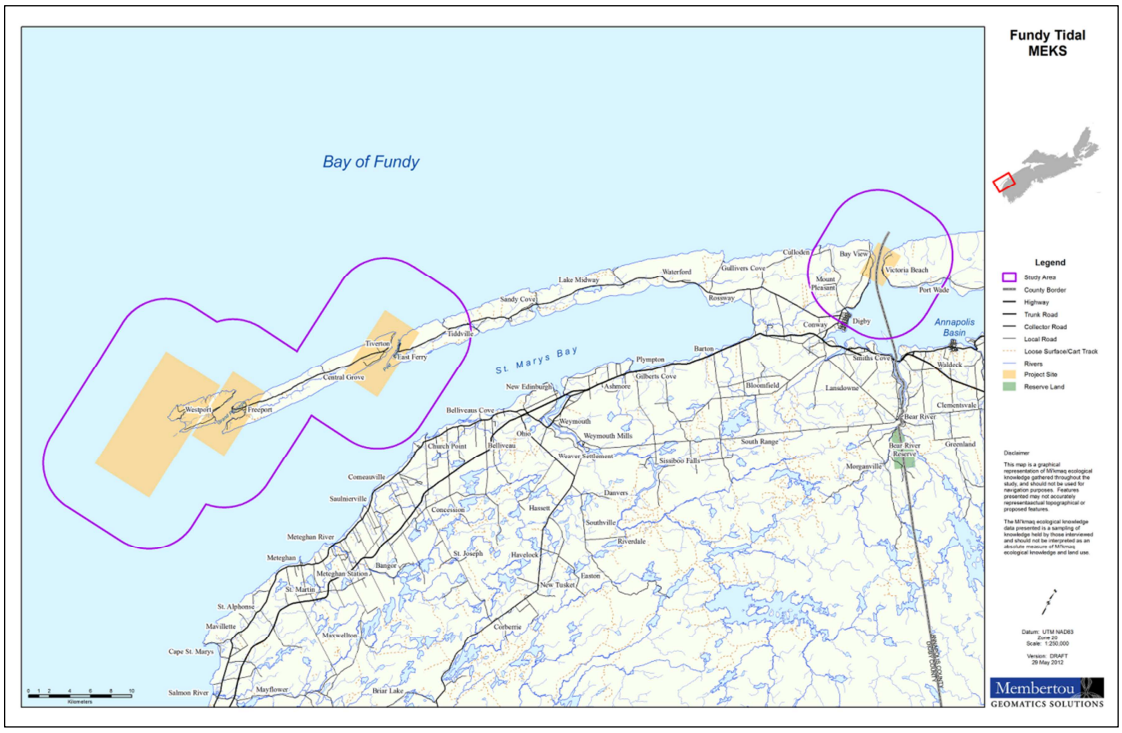
2.3 Mi'kmaq Ecological Knowledge Study Scope & Objective

This MEKS will identify Mi'kmaq ecological information regarding Mi'kmaq traditional land, water and resource use within the Project Site, Study Area and Phase II Area. The data that the study will gather and document will include use from both the past and present time frame. The final MEKS report may also provide information that will identify where the proposed project activities may impact the traditional land and resource of the Mi'kmaq. If such, possible impact occurrences are identified by the MEKS then the MEKS will also provide recommendations that should be undertaken by the proponent. As well, if the MEKS identifies any possible infringements with respect to Mi'kmaq constitutional rights, the MEKS will provide recommendations on necessary steps to initiate formal consultation with the Mi'kmaq. Finally, through the development of this MEKS for the Nova Scotia Department of Energy and Fundy Tidal Inc., Mi'kmaq ecological knowledge and traditional land, water and resource use will be identified for those parties that are considering the proposed project and Phase II Area.

2.4 MEKS Study Area

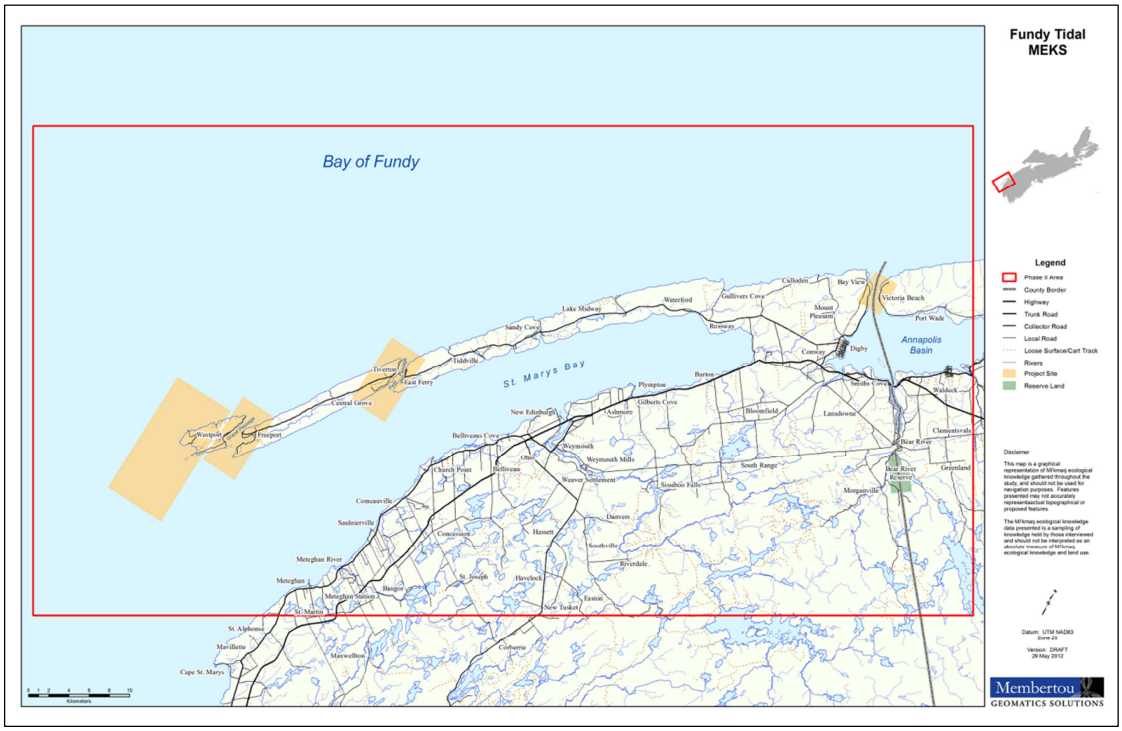
This MEKS will focus on the Outer Bay of Fundy Tidal Energy Project Site which is located in the Outer Bay of Fundy and Digby County, Nova Scotia, referred as the Project Site(s).

The Project Site(s) cover an area in the Digby Gut around Bay View, and Victoria Beach; the southern tip of Digby Neck, including East Ferry, Petit Passage, and a northern portion of Long Island including Tiverton to just northeast of Central Grove; the southern tip of Long Island, including Freeport, a northeastern part of Brier Island, including Westport and Peter Island, as well as Grand Passage; as well as a southwest portion of Brier Island, extending into the Bay of Fundy and Gulf of Maine. The Study Area is the area within a five kilometer (5km) radius of the Project Site(s).



Outer Bay of Fundy Tidal Energy Project – Project Sites (purple) and Study Areas (yellow)

This MEKS will also include a Phase II Area. The Phase II Area includes areas of the Bay of Fundy directly north, west and south of the Project Site(s) straddling back through St. Mary's Bay to Digby Gut. The Phase II Area also included lands between Bear Cove, Nova Scotia, following a northeast direction to areas just north of the Tobeatic Wilderness Area.



Bay of Fundy – Phase II Area (red)

3.0 METHODOLOGY

3.1 Interviews

As a first step to gathering traditional use data, the MEKS team initiated dialogue and correspondence with three (3) Mi'kmaq communities: Bear River First Nation, Acadia First Nation, and Annapolis Valley First Nation. Discussions occurred regarding the identity of individuals who undertake traditional land use activities or those who are knowledgeable of the land and resources and an initial list of key people was developed by the team. These individuals were then contacted by the MEKS team members and interviews were scheduled.

For this MEKS, sixteen (16) interviews were undertaken by the project interviewers and twenty six (26) individuals provided information in regards to past and present traditional use activities. Interviewees resided within or were from the communities of Bear River First Nation, Acadia First Nation, and Annapolis Valley First Nation. All of the interviews that were completed following the procedures identified within the Mi'kmaq Ecological Knowledge Protocol (MEKP) document. Prior to each interview, interviewees were provided information about the MEKS including the purpose and use of the MEKS; the non-disclosure of their personal information and the future use of the traditional use information they provided.

Interviewees were asked to sign a consent form, providing permission for MGS to utilize their interview information within this MEKS. During each interview, individuals were provided maps of the Project Site/Study Area and asked various questions regarding Mi'kmaq use activities, including where they undertook their activities or where they knew of activities by others. When they did such activities or when activities they knew of were done, and what type of resource they utilized or were aware of. Interviews were audio recorded, when permission was granted by the interviewee. This assisted with the data accuracy checks and

allowed for a comparison of audio data with the information documented on the maps, providing further assurance to the accuracy of the information gathered. Also, when required, interviews were conducted in the Mi'kmaq language.

3.2 Literature and Archival Research

With regards to this MEKS, various archival documents, maps, oral histories and published works were reviewed in order to obtain accurate information regarding the past or present Mi'kmaq use or occupation relevant to the Project Site/Study Area. A complete listing of the documents that were referenced is outlined within the *Sources* section.

3.3 Field Sampling

Over the course of three days in May, 2012, members of the MEKS team and a Mi'kmaq ecological knowledge holder took part in site visits to the proposed project areas. The site visits consisted of a walkthrough of the Project Site, and surrounding areas, identifying and recording any observation with regards to plant and animal species in the area, as well as any other land or water features that would be of importance to the Mi'kmaq.

Plant species identified throughout the Project Site are alder, white spruce, blueberry, yellow birth, white birch, chokecherry, black spruce, strawberry, raspberry, juniper, rosehip, cranberry, maple, gooseberry, mountain ash, goldenrod, lily pads, and cow parsnip.

Project Site - Cranberry

There was a small amount of deer and coyote tracks, and other signs, noted while walking the sites.

4.0 MI'KMAQ LAND, WATER AND RESOURCE USE

4.1 Overview

The Mi'kmaq Land, Water and Resource Use Activities component of the MEKS provides relevant data and analysis in regards to Mi'kmaq traditional use activities that are occurring or have occurred within the Study Area and Phase I Area. It identifies what type of traditional use activities are occurring, it provides the general areas where activities are taking place and it presents an analysis regarding the significance of the resource and the activity as well.

The Mi'kmaq traditional use activities information that is provided by interviewees is considered both in terms of "Time Periods" and in regards to the "Type of Use" that the resource is being utilized. The Time Periods that the MEKS team differentiates traditional use activities by are as follows:

"Present" – a time period within the last 10 years
"Recent Past" – a time period from the last 11 – 25 years ago
"Historic Past" – a time period previous to 25 years past

The "Type of Use" categories include spiritual use, and sustenance use, such as fishing, hunting or medicinal gathering activities.

Finally, the study analyzes the traditional use data in consideration of the type of land and resource use activities and the resource that is being accessed. This is the Mi'kmaq Significant Species Analysis, an analysis which ascertains whether a species may be extremely significant to Mi'kmaq use alone and if a loss of the resource was to occur through project activities, would the loss be unrecoverable and prevent Mi'kmaq use in the future. This component is significant to the study as it provides details as to Mi'kmaq use activities that must be considered within the environmental understanding of the Project Site, Study Area and Phase I Area.

4.2 Limitations

By undertaking documentation research and interviews with Mi'kmaq traditional activity users, this study has identified Mi'kmaq Traditional Use activities that have occurred or continue to occur in the Study Area and Project Site. This has allowed the study to identify traditional use activities in a manner that the MEKS team believes is complete and thorough, as required by the MEKP. Historical documents within public institutions were accessed and reviewed and individuals from three (3) Mi'kmaq communities, Bear River First Nation, Acadia First Nation and Annapolis Valley First Nation, were interviewed. The interviews were undertaken with key Mi'kmaq community people, identified initially by the MEKS team, who are involved and are knowledgeable regarding traditional use activities. Through the documentation review and the interview process, the MEKS team is confident that this MEKS has identified an accurate and sufficient amount of data to properly reflect the traditional use activities that are occurring in the Study Area.

The MEKS process is highly dependent on the information that is provided to the team. Because only some of the Mi'kmaq traditional activity users and not all Mi'kmaq traditional activity users are interviewed, there is always the possibility that some traditional use activities may not have been identified by the MEKS.

4.3 Historical Review Findings

The following Historical Review is a collection of source materials found to be relevant to the Native culture and history of the Atlantic Region as well as the Project Area and this section is a compilation of relevant secondary sources.

The Project Study Area encompasses three areas located on the shores of Digby Gut of the Annapolis Basin as well as Petit Passage and Grand Passage of Digby Neck, Digby County, Nova Scotia. The approximately 1.0 km wide Digby Gut drains the tidal Annapolis Basin a cut through the southwestern portion of the North Mountain range before the range continues to Digby Neck. The northeast shore of Digby Gut rises steeply from sea level to a plateau at 150m in elevation with the high point known as Johnson Hill at 164m in elevation. The southwest shore also rises from sea level to a promontory known as Lynches Mountain at approximately 175m in elevation. (11)

Petit Passage is less than a kilometer in width and is one of two passages between St. Mary's Bay and the Bay of Fundy. Petit Passage cuts through the North Mountain range creating Long Island off the mainland connected portion of Digby Neck. The western shore of Petit Passage, being Long Island, has the community of Tiverton that developed around the ferry transportation link with East Ferry on the east shore. North Mountain rises moderately steeply to an elevation of 100m on the east promontory and an elevation of 75m on the west promontory. (11)

Grand Passage is the second passage between St. Mary's Bay and the Bay of Fundy and varies in width from less than a kilometer to approximately 2 km in width. Grand Passage also has a deep cove known as Northeast Cove on the east shore of the passage. Grand Passage creates Brier Island with the community of Westport on the west shore of the passage and Freeport on the eastern shore of Grand Passage. Both communities developed around the ferry transportation link between Long Island and Brier Island. Elevations on both shores are

approximately 25m in elevation which is 50m lower than 75m and 100m elevations of the shores of Petit Passage 15 km to the northeast. (11)

The Land

The North Mountain is the northeast to southwest range that parallels the Bay of Fundy shore and forms the north valley wall of the Annapolis Valley. The Study Areas of Petit Passage and Grand Passage are within a region defined by the Nova Scotia Museum of Natural History as Region 810, Basalt Peninsula. The region's geology is typically comprised of two separate thick lava flows with a softer and more erodible material in between. These layers are tilted down to the northwest into the Bay of Fundy exposing the layers to form a double ridge of Digby Neck. The passages themselves are two of four faults with only Petit Passage and Grand Passage flooding and the faults at Mink Cove and Gullivers Cove are small valleys. Sandy Cove is an ancient river cut rather than a fault. (1)

The Digby Gut Study Area is within the region defined as Region 720, Basalt Ridge which encompasses the North Mountain range north of Digby Neck to Cape Split. Geology within the region is typically basalt lava flows over soft sedimentary rock. The basalt layers contain semi-precious metals. The layers dip to the northwest with the basalt layers forming escarpments on the south face of North Mountain and north wall of the Annapolis Valley which is formed out of the softer sedimentary bedrock layer. (1) The Annapolis Valley is within Region 610, Valley as defined by the Nova Scotia Museum of Natural History. Geology within Region 610 is typically soft sandstone carved out by erosion and glaciers to for a valley between more erosion resistant basalt ridge of North Mountain and the Halifax Formation and Granite of South Mountain. (1)

The North Mountain formation is a geologic layer of basalt of approximately 202 Ma in age, over the geologic layer of the Blomidon Formation of sandstone and conglomerate which is approximately 222 to 202 Ma in age. Underlying the

Blomidon Formation is the Wolfville Formation of sandstone and conglomerate to form the floor of the Annapolis Valley and of approximately 240 to 220 Ma in age. Opposite Digby Gut is the south wall of the Annapolis Basin which is underlain with the slates, siltstone and minor sandstone of the older Halifax Formation at approximately 515 to 263Ma in age. The Halifax Formation and land rises from sea level to approximately 150m in elevation on the southeast shore of the Annapolis Basin just west of Bear River. Underlying Bear River and areas further southeast are the geologic layers of the White Rock Formation of marine quartzite, conglomerate, siltstone, slate, rhyolite and some basalt. The White Rock Formation is approximately 460 to 410 Ma in age and is overlain with younger Torbrook Formation of mudstone, shale, siltstone with some iron and limestone and approximately 410 to 390 Ma in age. (2) Further southeast is the large granite batholith of that underlies most of the interior of Southwestern Nova Scotia from Halifax, Sherbrook Lake, Lunenburg Co., South Alton, Kings Co. to East Kemptville, Yarmouth Co. (2)

The predominant basalt found underlying the shores of the three Study Areas are known to contain semi-precious metals that would have been collected by Early Peoples and Mi'kmaq for ornamentation and utility. The White Rock Formation of marine quartzite underlying the Bear River area would also be collected where exposed and also contains rhyolite which is known to be associated with stone suitable for utility. Chalcedony quartz suitable for points and edges are only found in Nova Scotia along the Bay of Fundy Shore and particularly at Digby Neck, Blomindon and Cape D'Or quarry sites. (21)

The Ice

Evidence from deep-ocean sediments indicate that there have been at least 16 glacial periods that lasted approximately 100 thousand years each. The last glacial period was the Wisconsin Glaciation which began 75 thousand years ago and ended between 12 and 10 thousand years ago. During this period glaciers both

crossed over and formed within the province while being fed by the high amounts of precipitation in the region. [3] Since the 1800's glacial theory for the Atlantic region consisted of two hypothesis with one being a large continental sheet centered near Hudson Bay and Quebec and the other being local confined ice sheets. Recently after extensive sampling in Nova Scotia, evidence indicates that successive glaciation had four distinct phases with different and shifting ice centers. [3]

The Phase 1 ice flows moved eastward across the region including Prince Edward Island and Cape Breton Island before shifting flow direction southeastward across the present day Bay of Fundy, Mainland Nova Scotia and Cape Breton Island. The Ice flowed across all the project sites in this phase in an eastward direction and then at some time shifted to a southeast flow direction. [3]

The Phase 2 ice center was located north of present day Prince Edward Island with flow direction south over mainland Nova Scotia and southeast over lower southeast portions of Cape Breton Island. The southward ice flow direction of Phase 2 was parallel to the faults in Digby Neck and Digby Gut. The faults were most likely widened by ice scouring by the ice sheet. [3]

The Phase 3 ice center was parallel to the present day Nova Scotia Atlantic Coast and extended on land from Cape Sable, through Cape Canso to offshore and approximately south of present day Louisbourg, Cape Breton Island. From this ice divide, ice flows moved northeast across eastern portions of Cape Breton Island, northwest across western portions of Cape Breton Island, northeast across northern portions of the mainland from Cape George to Minas Basin west to northwest across the present day Annapolis Valley and Digby Neck. On the Atlantic side of the ice divide, all flow directions were in a southeast direction over the Scotia Shelf. Ice sheet flow direction over the project site during this phase in is reversed from previous Phases as the ice center origins are local to the province's land mass and flowed west to northwest over all the Project Sites [3]

Phase 4 was a period when several remnant ice sheets were located throughout the province and advanced and receded in a radial direction from the ice centers. Cape Breton had two glaciers that were centered on the Highlands and another centered on the Bas d'Or Lakes. The Chedabucto Glacier filled the present day Chedabucto Bay and St. Georges Bay with a westward ice flow direction across the central portion the province into the Northumberland Strait, Minas Basin and the Atlantic. The Chignecto Glacier was centered near Baie Verte and Cape Tormentine and the South Mountain Ice Cap was centered between the Bay of Fundy and Atlantic Coast near present day Kejimkujik National Park. The radial ice sheet flow direction of the South Mountain Ice Cap would indicate a west to northwest flow direction over the project sites. (3)

The last of the glaciers gradually receded with the Bay of Fundy being ice free between 16 and 14 thousand years ago. Northern portions of the province experienced periodic advancement and stalls in movement of a remnant ice cap centered near the Antigonish Highlands approximately 15 thousand years ago. The flow direction was westward into lowlands and southwestward to offshore of present day Sheet Harbour. By 13 thousand years ago the ice sheets had receded to the approximate coastline of today and then only residual ice caps remained in highland areas at approximately 12 thousand years ago. (3)

Between 11 and 10 thousand years ago there was an abrupt climate change with a cold period lasting approximately 200 years known as the Younger Dryas. During the Younger Dryas Period previously colonized plants that followed the receding glaciers were covered in permanent snowfields and some large mammals became extinct. (5)

The Landscape

The geologic bedrock formations have been weathered by climate and ground by successive ice sheets to form the base of the present-day topography. The till

deposits derived from the surrounding bedrock formed the veneer of material overlaying the bedrock and varies in topographic features such as till plains, talus slopes, drumlin mounds and chains of eskers deposits. (81)

The Shores of Digby Gut and the Annapolis Basin have the most variety in till deposits with plateaus and the higher elevations of the North Mountain range covered with a Stony Till Plain and the steep south facing slopes covered with Colluvial Deposits of falling rock. The less steep north slope of the North Mountain range has Glaciomarine Deposits near the shore and base of the range derived from material dropped or washed out of the ice sheet and collected on what was the bottom of a lake or sea. (81)
The shores of the Annapolis Basin and the floor of the Annapolis Valley are covered with Silt Till Plan derived from the softer sedimentary rock of the Blomindon Formation and Wolfville Formation. Ice contact till formations deposited on the land rather than within marine environments such as Kames and Eskers are found along and adjacent the mouth of the Bear River, Annapolis River and on the lowland between the town of Digby and Marshalltown. Some marine deposits and Glaciomarine Deposits which accumulate and form beyond the Ice sheet environment are found onshore at the head of St. Mary's Bay and adjacent the Annapolis River between Port Royal, Upper Clements and Bridgetown. Glaciomarine Deposits are also found along the Fundy Shore at the base of the North Mountain Range between Mill Cove and St. Croix Cove. Goat Island within the Annapolis Basin is a Silty Drumlin mound deposit. (81)

The shores of the two project Study Areas of Petit Passage and Grand Passage are largely covered with Stony Till Plain deposits as with the remainder of the North Mountain range with Colluvial deposits along steep slopes and Glaciomarine deposits filling the fault at Gullivers Cove and the southeast tip of Long Island. Alluvial deposits formed within flowing watercourses are found in between the double ridge of Digby Neck. An Outwash Fan-delta is found at the ancient river cut at Sandy Bay, Digby Neck. (81)

Soils developed on the various tills are usually inherited the characteristics of the till parent material. Stony Till Plains developed mostly Rossway Soils which are a dark grey-brown Sandy-Loam that is considered to be extremely stony with rapid to medium drainage characteristics. There are Patches of Roxville Soils are found on the North Mountain range among the Rossway Soils. Roxville Soils are dark brown to dark grey Sandy-Loam with imperfect drainage characteristics and considered Fair to Poor for agriculture. Soils developed on finer Silt Till Plain are Annapolis Soils which are a dark Sandy-Loam with a finer texture that gives Annapolis Soils imperfect to slow drainage characteristics. Kentville Soils are a brown Sandy-Loam with well drained moderately slow drainage characteristics. Annapolis Soils are considered fair for agriculture and Kentville Soils are considered good for Agriculture which attracted the early French to the area. There are pockets of greyish-brown Sandy-Loam Seely Soils that have poor drainage and unsuitable for agriculture. [87][88]

The Kames and Esker deposits are gravelly and developed greyish brown Gravelly-Sandy-Loam Digby Soils and similar Comeau Soils. Digby and Comeau Soils have rapid to excessive drainage characteristics but are considered Fair for agriculture. Medway Soils were also developed on Kame and Esker deposits. Medway Soils are dark brown Gravely-Sandy-Loam with good to excessive drainage characteristics that are considered Fair to Poor for agriculture. [87][88]

Opposite Digby is the southeast shore of the Annapolis Basin is mostly covered with light brown Sandy-Loam Bridgewater Soils comprised of slate fragments. Bridgewater Soils have well drained to moderately drained drainage characteristics and are considered Fair to Good for agriculture. There are patches of Wolfville Soils, Middlewood Soils, Mahone Soils, Riverport Soils, Gibraltar Soils, Halifax Soils and Hantsport Soils arranged in a patchy strip west of the Bear River among the predominant Bridgewater Soils and between the community of Bear River, Joggins Bridge and Smiths Cove. [87][88]

The shores of Petit Passage are mostly covered with Rossway Soils on the double ridges of Digby Neck and Long Island with Roxville Soils and Tidville Soils covering the lowland between the double ridge. While Roxville Soils are considered Fair to Poor for agriculture, Tidville Soils are a dark greyish brown Sandy-Loam with slow drainage characteristics and is considered unsuitable for agriculture. The southern portion of Grand Passage is predominately Roxville Soils with northern portion being covered by Rossway Soils. [87][88]

The three main river systems draining the mainland shore of St. Mary's Bay in a west and northwest flow direction before emptying into St. Mary's Bay. The mouth of the Salmon River is just south of Cape St. Marys and technically the Gulf of main but the Salmon River Watershed extends north to just east of the community of Meteghan. The mouth of the Meteghan River is north of the community of Meteghan with the watershed extending north to just south of Weaver Settlement near the Sissiboo River. The mouth of the Sissiboo River empties into St. Mary's Bay at Weymouth Harbour and the watershed extends north to just west of Morganville on the Bear River West Branch. [44]

As the last remnant glaciers receded and the climate warmed again. The landscape was gradually colonized by tundra vegetation of willow shrubs and herbaceous plants between 10 and 7.5 thousand years ago and were replaced by boreal vegetation such as fir, spruce and birch until 6 thousand years ago when pine and oak was prominent. [4]

Temperatures were 2 degree Celsius warmer than today for period until 4 thousand years ago and forests of hemlock mixed with beech and maple was the dominant vegetation. Gradual cooling to present day temperatures and increased moisture favoured spruce forests. [5]

It is also theorized that a terrestrial refuge for plants and animals existed near the edge of the continental shelf where arctic and boreal species survived the last ice

age and eventually repopulated the newly exposed mainland landscape as the ice sheets receded and before the sea level rise. However, since the end of the last ice age the Chignecto Isthmus provided the land corridor for plants and animals to migrate into Nova Scotia as well as assisted airborne species migrations. (6)

People on the Land

Archaeologists and researchers frequently disagree on the relationships between the cultural groups that appeared and disappeared from the landscape over the last 12,000 years and how those previous groups relate to the present day Mi'kmaq and Maliseet. Much of the archaeological record found to date is the decay resistant stone tools, cookware and ornamentation. The artifacts found have a consistency in style and manufacture over long periods with sudden disappearance of old styles and techniques and the appearance of new and different styles and manufacturing methods. The tools styles together with carbon dating, archeologists and researchers can create time periods and approximate distribution and movement of peoples or cultural groups. Disagreement is found among those who theorize that earlier peoples were displaced, moved on, or just disappeared from areas and those who theorize that these peoples stayed and adapted to the changing landscape and animal species available. The changes in tool styles and tool manufacture techniques were thought to be brought about through an early network of trade where peoples quickly adopted technological changes, stylizations and ideas. *(27)*

At the foot of the south slopes of the Cobequid Mountains at present day Debert is found the earliest evidence of peoples populating Mainland Nova Scotia. The Debert Site is located on top of a sandy knoll south of the Cobequid Mountains and was occupied approximately 11 thousand years ago by Paleo-Indian peoples. The campsite overlooked a caribou migration route through the Cobequid Mountains to what would have been tundra plain leading into present day Cobequid Bay. The cold period of the Younger Dryas may have pushed the Paleo-

Indian people south with advancing ice sheets and permanent snowfields or they may have abandoned the region. [7]

Archaeological evidence is scarce for a period of 10 to 5 thousand years ago which is thought to be due to the rise in sea levels that submerged former coastal sites. [7] Sea level rise on the Atlantic Coast was a combination of land rebound after ice sheets receded, rising ocean temperatures and water released by melting glaciers. *[31]* As the thick and heavy ice sheet centers depressed the earth's mantle, the areas of mantel along the ice sheet margins were less weighted by ice and rose slightly through displacement. There was an ice sheet center located in the Gulf of St Lawrence. As the weight of the ice sheets diminished with melting the depressed center areas rebounded and rose in elevation while the mantel of the former ice margin areas lowered in elevation. *[32]*

The Archaic Period covers a time of 9 to 2.5 thousand years BP and is further sub divided into a periods of 5 to 3.5 thousand years BP referred to as the Maritime Archaic Period and 3.5 to 2.5 thousand years BP which was a period of Susquehanna cultural influence indicated by the artifacts found within archaeological sites. [7][8] Tool manufacture techniques and materials indicate a connection between Archaic Period peoples within western Nova Scotia to the Susquehanna Tradition Culture (3500-2500 BP) which was centered in present day Mid-Atlantic States. [7]

While sources available do not include recent artifact finds on the once temporarily drained banks of the former Mersey River, the Archaic artifacts found within an area between Digby Neck, Milton, Queens Co. and inland to Lake Rossignol and the Medway River include: [9]

Digby Neck Sites	2 Ulus
Salmon River	2 Gouges, 2 Plummets
Eel Lake	1 Gouges, 1 Ulu, 1 Rod

Barren Lake Sites	7 Bayonets, 1 Gouge, 1 Ulu, 1 Plummet
Cape Sable Island	1 Plummet
Roseway River	2 Gouges
Ohio River	1 Axe,
Lake Rossignol Sites	6 Bayonets, 1 Axe, 13 Gouges, 1 Rod, 1 Plummet
Indian Gardens	6 Bayonets, 9 Axes, 10 Gouges, 3 Ulus, 7 Plummets
Medway River	1 Bayonet, 1 Gouge
Milton	1 Bayonet, 1 Gouge
Tusket Falls	2 points (46)

The Mersey River has long been a travel route from the Atlantic Coast to the Bay of Fundy. Recent finds of stone tools and points along the length of the river give evidence of at least 5000 years of travelling the route and some trace evidence indicate a possible occupation dated 9000 years. (47)

Preliminary reports in 2005 on the most recent finds during the lowering of river and reservoir level of the Mersey River System report that hundreds of points, pottery fragments and knives were found among the 109 ancient campsites discovered during this period of low water levels. The ages of the artifacts ranged from an estimated 8000 years for some tools to 3000 years for a barbed harpoon. Fish weirs found in-place within the river are estimated to be approximately 4000 years. (86)

Other relevant archaeological finds include the submerged finds offshore in the Bay of Fundy and Gulf of Maine. Sea levels at the end of the last ice age were determined to be 45m above present levels due to the mantel depression and rebound explained earlier. Sea levels then lowered to approximately 60m below present levels at 9500 years BP and have been rising since that time with the majority of the rise occurring in the first 6000 years. (51)

During these long periods of fluctuating sea levels the coastline would have moved further inshore and later moved offshore for a brief period and has been moving inshore for the past 9500 years. At various periods during the coastline migration, early peoples would have lived along these coasts. The following submerged archaeological evidence has been recovered by fishing boats and research vessels:

Off Georges Bank	Mammoth Bone (12270 years Normalized Age) [50]
Eastern Blue Hill Bay	1 Biface, 1 Plummet (Late Paleo-Indian and Early to Middle Archaic) [51]
Off Mount Desert Island	3 Bifaces, 3 Plummets [51]
Off Deer Island, Maine	Site, Biface fragments, 1 Ulus, 1 Adze (Middle-Early-Late Archaic [51]
Passamaquoddy Bay	2 Ulus [51]
Off Indian Island, Maine	1 Gouge (Archaic) [51]

The Ulu (Inuktituk for women's knife) found offshore of Digby Neck was picked up off the bottom of the Bay of Fundy by a scallop dragger in 100m of water near Sandy Cove. Multibeam bathymetry surveys of the offshore revealed a ridge at approximately 45 degree angle to the Digby Neck coastline and extending west into the Bay of Fundy 3 nautical km. Interpretation of the data suggested that the submerged ridge is a gravel Esker System formed under an ice sheet along with a submerged drumlin field to the northeast. A portion of the ridge was above sea levels until approximately 9,500 Years BP when sea levels were 60m below present-day levels and began to rise. The theory proposed is that the ridge would have formed a bar at the water surface and extending an estimated 1.8 km into the bay which provided gravelly beaches ideal to beach and slaughter sea mammals. The fishermen who found the Ulu reported also finding bones and walrus tusks although it was not clear over what time period were the bones and tusks collected or if at the same time as the Ulu find? [85]

The Period of 2.5 to 0.5 thousand years BP is referred to as the Ceramic Period or Maritime Woodland Period that saw the introduction of pottery and burial mounds in Nova Scotia. (7)(8) Coastal Maritime Woodland Period sites were not as impacted by rising sea levels as earlier periods but are currently impacted by coastal erosion of the glacial tills by successive storms and constant wave action.

At the mouth of the Bear River there were three areas along a hillside that had appeared to be shelved or leveled for campsites. These sites were excavated between 1957 and 1959 along with a fourth site near the shore of the Basin that was partially eroded by wave action. Interpretation of the fieldwork results is that the site had been occupied between 500-150 B.C. and again between 150-200 B.C. Based on the artifacts found, the two occupations are believed to be two distinct regional cultures described by the source as Lower Bear River Culture and an Upper Bear River Culture. (45)

The human remains excavated at the Bear River site in 1958-59 were subject of a plan in 1991 to return the remains to a Bear River Reserve or a Kejimkujik National Park burial site. (64)

In 1965 large shell heaps in an abandoned hillside pasture were investigated resulting in what is interpreted as a large scale shellfish smoking site with 2 clay-stone hearths from the Upper Bear River Culture and 2 hearths of the Lower Bear River Culture. (45)

Mi'kmaq Spirituality

Mi'kmaq Spirituality (Mi'kmaq Ktlamsitasuti) belief is that all life is created by Kij-Niskam, an all-powerful being. All living things have a spirit that is to be respected. *(14)*

Mi'kmaq lived and died in the world as they found it without making attempts to change the natural order to suit the Mi'kmaq. Mi'kmaq are part of an interdependent system where everything be it animate or inanimate, has its proper place. Fear was ever present as to not offend spirits and fear of a death at the whim of unknown power. The greatest fear was to upset the natural order intentionally or accidently. Taboos help maintain the balance with nature. Fur bearing animals were subject to many Mi'kmaq rituals to ensure return of game. No such rituals apply to fish as fish are considered a gift for the taking. *(22)*

Some Mi'kmaq beliefs concerning ensuring availability of game had underlying practical reasons for such taboos:

> "to not eat the meat of a pregnant animal as it will make one ill" (ensures birth of future game)
> "turtle meat is reserved for warriors to make them hard to kill in battle"
> "Porcupines were free to wander encampments at night as it was thought that they brought news to someone"
> "Beaver and Muskrat bones are not for dogs" (the animal would be insulted and not allow itself to be captured again) (44)

Mi'kmaq imagine the beginnings of all life and their stories explained the elemental forces of nature as well as explaining why animals look and act as they do. Since all they possess and eat is provided by the living things that they know so well that Mi'kmaq had a great respect for life and thought of these living things as entities that they could communicate with. *(26)*

Burial traditions at some point were influenced by cultures outside the Maritime Peninsula based on an archaeological find during road construction at Whites Lake, Halifax County. The Whites Lake Site dates between 2260 and 2440 years Before Present. *(30)* All remains were recorded and with the assistance of the Mi'kmaq Grand Council and the Mi'kmaq Association of Cultural Studies and the remains were reburied and the site protected. *(29)*

The remains found within the Whites Lake burial site were determined to have been cremated near the burial mound and show evidence of high heat. The remains were then gathered and placed within the burial mound along with the burial artifacts that also show evidence of high heat exposure. *(30)*

The ritual associated with the burial mound found at Whites Lake differs from the burial ritual described by Nicholas Denys 339 years ago where Early Mi'kmaq burials were at common burial ground sites. The deceased was covered in a soft skin or beaver robe and bound with their legs against their chest and touching the chin. The hole was lined with fir and cedar boughs and gifts of weapons, snowshoes, utensils, beads and clothing to accompany them into the land of souls where previously deceased friends and family awaited. *(16)* The nature of early Mi'kmaq was to compete for the best gift given and they gave the very best of what they had. The quality of the gifts was such that they sometimes deprived themselves of the necessities for survival. *(16)*

Mi'kmaq stories and oral traditions are an efficient way to pass on to future generations important information through stories or teachings of the Mi'kmaq past, customs and where the Mi'kmaq fit into the world. Mi'kmaq stories are circular with no beginning, middle and end. Mi'kmaq circular stories can focus on certain aspects for days. *(24)*

The following story interestingly describes a period of flooding and receding that almost parallels the post glacial period of fluctuating sea levels. The Mi'kmaq speak of a great flood that covered all the land with water and one man and women saved themselves by canoe. When the rains stopped, a beaver wished to build an island but drowned before he was finished. A muskrat took over the job and built an island where the man and woman landed. Day by day the water receded making the island larger and larger until it formed the land that is seen today. *(23)*

Mi’kmaq believe that different peoples descended from different ancestors and that the Mi’kmaq origins are within the region of Mi’kmaq traditional territory. *(20)* Kij-Niskam created Klu’scap with divine powers to live among the Mi’kmaq and he taught them all they needed to survive. *(19)*

At the time of arrival of Europeans, Klu’scap spent his last winter with the Mi’kmaq at Cape d’or explaining that because of the arrival of the white men he must leave for his home in the far west and promised to return when the Mi’kmaq needed him. *(20)*

Klu’scap had prophesied a great war and a vision of an Elder Chief of LaHave warned that involvement with the European Monarchs must be avoided at all costs. The vision inspired Grand Chief Membertou in 1610 to propose a solution that the Mi’kmaq unite with the Holy Roman Empire through baptism for protection from the Monarchs and to maintain their independence and lifestyle. *(25)*

Mi’kmaq are generally still faithful to that union and the identifiable spiritual groups in the Mi’kmaq community today are the Traditionalists, Catholics and Catholic-Traditionalists. The Traditionalist group is a general collection of varying degrees of Traditionalism where a person may perceive pre-contact Mi’kmaq beliefs only as traditional or those who may culture Mi’kmaq identity in traditional practices and while maintaining Catholicism as their main spiritual belief. However Neo-Traditionalists practice pre-contact Mi’kmaq beliefs ceremonies that particularly distinguish themselves from Catholicism. Those considered Catholics do not consider themselves as traditionalist but as Christians. However, even the Catholic Christians of the community incorporate a little Mi’kmaq Traditionalism in their beliefs and practices. Catholic Traditionalists allow even more room in their beliefs for both Traditional and Catholic affiliations and practices. Traditional Christian beliefs and ceremonies are infused with Mi'kmaq traditional concepts and ceremonial practices. *(26)*

Contact

The earliest European interests in explorations of North America were inspired by mythical legends of Atlantis, the Islands of Brazil and the Island of Seven Cities. All these mythical legends pointed to the presence of a new world west of England and France that contained an abundance of riches and gold. (52)

Pre-Columbus voyages by seamen and fishermen believed that the land they saw in the west was that of Tartaria but could not reach the shores due to storms. In the 13th and 14th centuries Tartaria was a large region of Eastern Europe and Asia that extended to the Pacific and controlled by the Mongols. Others referred to the land in the west as that of Bacallaos. Circa 1450, these beliefs and sailing directions were noted by Christopher Colom (Columbus) as told to him by seamen of the Port of Santa Maria. (52)

While legends of riches and gold may have inspired explorers, rich fishing grounds inspired many unknown voyages to the new world. England was searching for new fishing grounds off the coast of Africa and also sailed west in search of fish and lands for a new fishing station. Other countries also had the same interest and records of successes and captains logbooks were closely guarded as to keep locations of any rich fishing grounds from competing fishermen and countries. (52)

By 1502 the fishery off the coasts of the new found land had been established and countries and captains had their preferred fishing areas and fishing stations. Ocean crossing became more common place as captains established their routes and landmarks. French records alone have 70 vessels travelling to the New World between 1523 and 1556. (52)

The Contact Period is of 500 to 100 years BP although Norse people visited the region as early as 1000 years BP and colonized the northern tip of Newfoundland.

Portuguese and Basque fishermen were the first Europeans to establish continuous contact with the Mi'kmaq and began arriving 500 years BP. They arrived to find Mi'kmaq peoples inhabiting the thick forests of Nova Scotia as well as Western New Brunswick, Eastern Quebec, Prince Edward Island and Southern Newfoundland. (7)

The Florentine Explorer Verrazano was the leader of a French expedition that sailed to the coast of North America in 1524. It is thought that Verrazano reached the Carolina Coast and briefly sailed south before changing course just north of the Florida Coast and sailing north along the Atlantic Coast as far as the Strait of Belle Isle before returning to Europe. (52)

Verrazano made note of the Natives they encountered as they sailed north stopping occasionally to replenish water as well as meet and trade with the Natives. They found the Natives agreeable at 34 degrees north, which aligns with the approximate the location of Chesapeake Bay and recorded his observations of the natives he met and how they lived. Verrazano continued north and was further impressed with the forested landscape and is thought to have sailed into Narragansett Bay, Rhode Island which he called "Refugio" and stayed for 15 days visiting with the friendly Natives which he detailed in his records. (52)

After leaving his "Refugio", Verrazano sailed north around Cape Cod and entered the Gulf of Maine and along the coast of the land he described as the "Land of Bad People" at 43 2/3 Degrees North Latitude being the mouth of the Kennebec River. It is interesting that Verrazano noted the Natives he encountered here were "Different from the others" he previously encountered in the south. He described the Natives he encountered as "uncouth" with barbarous vices and no matter how hard he tried was unable to have any communication with them. Verrazano made many attempts to go ashore and trade with the natives but was warned off by the natives themselves and would only trade from high rocks by lowering cords into Verrazano's small boats. The Natives offered no courtesy to Verrazano and when

there was nothing left to trade Verrazano was sent off with contempt. Verrazano was so unimpressed that he recorded that there was no value to this land except the forests and some raw metals he had seen being worn by the Natives. (52)

Leaving the Gulf of Maine, Verrazano sailed across the entrance to the Bay of Fundy and sailed along the land that the "Bretons" had previously discovered at 50 Degrees North being the Strait of Bell Isle, before setting a course for France. (52)

The "Bretons" are mentioned again by Father Pierre Biard in 1614 as the original "discoverers of New France in 1504" based on earlier research he did prior to his own voyage to the New World. Biard also refers to "Acadie" being the "Souriquoys Country" and further south across French Bay (Bay of Fundy) as "Norambegue" which he comments is no longer remembered although "Canada" is remembered from Cartier's voyages in 1524 and 1534. (52)

A 1525 Spanish expedition lead by Spanish explorer Estevan Gomez sailed for the "northern parts" of the New World where he discovered and added new coastlines to previously explored areas of "Baccalaos". On arrival to the Atlantic Coast of the New World, Gomez sailed to 40 and 41 degrees North Latitude in that order which placed him just south of Cape Cod before sailing north near the entrance of the Bay of Fundy before changing course south along the coast to Florida and South America. (52)

Gomez sailed up a deep river he called Deer River (Penobscot River) because of the large number of deer found in the area. He noted the number of islands in the river, bay and offshore which most were inhabited by natives fishing based on the number of fires visible at night. There is no mention of disagreeable Natives but rather a brief description of their appearance and some activities. Gomez continues to sail to 46 to 47 ½ Degrees North Latitude and makes note of Cape

Breton and an island within Breton Bay called Isle St Jean which may be Prince Edward Island. (52)

The French exploration expedition of 1534 was led by Jacques Cartier and arrived in the new world at “cap de Bonne Viste” (northeast coast of Newfoundland) and stayed in the harbour of “saincte Katherine” for a ship refit and rest. (52)

Cartier sailed north for open water after their refit and then changed course for “bay de Chasteaulx” (Strait of Belle Isle) where upon entering the strait sailed along the southern coast of Labrador to “Blanc Sablon”. It was at “Blanc Sablon” that Cartier first encounter Natives and interestingly these Native informed him that they were not from this land but from a warmer climate and were there to hunt seals and gather other food for sustenance. These natives he described had birch bark canoes, wore their hair tied up to the top of their heads twisted and interwoven with feathers and painted themselves in various tan colors. (52)

The source refers to “Brest” (Chevery Area?) where Cartier departed the Labrador Coast and sailed south to the northwestern shore of Newfoundland and followed the coast line to approximately Cape Anguille. Cartier left the coast of Newfoundland sailing west to the “Bryon Island” (Ile Brion), “cap du Dauphine” and “cap saint Pierre” (of Magdalen Island) and southwest to “cap d’Orleans” and “cap de Sauvaige” (of Prince Edward Island) where Cartier had seen Natives but no contact had been made. (52)

Cartier continued westward to the New Brunswick Eastern Coast which he followed north to “baye de Chaleur” which apparently looked promising as a passage through to the much sought Western Ocean. While exploring the Bay, Cartier saw approximately 50 canoes of natives crossing the bay and they gave all signs of encouragement for Cartier to land and trade with them. So eager to trade were the Natives (most likely Mi’kmaq) that warning cannon shots were required to keep their canoes away. The following day the Natives returned with gift

offerings of food and an expressed desire to trade. Cartier found these people so agreeable that he commented that the Natives at this location would be prime candidates for “conversion to the Holy Faith”. (52)

Cartier followed the coastline further north and around the Gaspe’ Peninsula to Gaspe’ Bay where they took refuge from bad weather and for repairs. During their stay in Gaspe’ Bay approximately 300 natives arrived for Mackerel fishing and he noted that they were different from those he encountered several days earlier in Chaleur Bay. These peoples (most likely Mohawk-Iroquois or also known as Canadians) had their heads shave except a tuft at the top of the head and tied. Cartier also noted that these people claimed to be from upriver and travel to Gaspe’ Bay during fishing season. The Natives carried with them a large quantity of corn which grew upriver where they normally reside. (52)

Although Cartier found these Natives to be very agreeable, they were upset when Cartier erected his famous cross with shield at Gaspe’ Bay in claiming the land for France. The Chief approached Cartier’s ship and spoke at length in speeches at how this was their land and the cross was erected without his permission. Cartier’s men quickly got the Chief and his two sons onboard to Native’s surprise and Cartier assured them the cross was for the purpose of a landmark for when he would return with more goods to trade. Cartier also managed to convince or trick the Chief to allow his two sons accompany Cartier back to France and promised he would return with them on Cartier’s next voyage to the New World.

Departing Gaspe’ Bay, Cartier sailed northeast until reaching Anticosti Island and followed the coastline of the island, rounded the astern tip and continued to follow the coast until changing course to cross to the south shore of Labrador. While sailing eastward off the coast of Labrador which Cartier called “Cap Thiennot” where he could see smoke from fires onshore but could not land due to unfavorable winds. Fortunately Cartier met some of the Natives in canoes who were returning from the Strait of Belle Isle to their lands where Cartier had

previously seen the smoke. The twelve natives surprised Cartier when they freely came aboard his ship and informed him that they were ‘Chief Thiennot’s People”. Cartier later sailed through the Strait of Belle Isle and set a course for Europe. (52)

Although far removed from the Gulf of Maine and coast of the Cape Sable Area of Southwest Nova Scotia, it is at Gaspe’ Bay that Cartier first enters the world of the Iroquois. Cartier’s first voyage also highlighted that fact that the Region was far from uninhabited but inhabited by several different peoples and cultures. On his second voyage he gives us the first glimpse of the warfare that existed between the many different Native Peoples of the North Eastern Region of North America. This is of relevance because of all the Mi’kmaq that inhabited this region, it seems that throughout history, the Cape Sable Indians of southern Nova Scotia were the most impacted by warfare among both Native peoples and Europeans. (52)

On Cartier’s second Voyage he enters the Strait of Belle Isle and continues his exploration of the region guided by the two sons of the chief that he was returning as promised. He was guided into the mouth to the mouth of the great river of “Hochelaga” (St. Lawrence River) and the route to “Canada”. Cartier continued up the river and passing four villages before reaching the “Isle d’Orleans” and the Village of Stadacona (Quebec) where he met Chief Donnacona, “Lord of Canada” as described in the records. (52)

Cartier was welcome on in his return to the New World and as he had met these people on his first voyage and he left some of his men at Statacona when he continued up the river in long boats to the Village of Hochelaga (Montreal) against Donnaconna’s advice where he was also welcomed by the village Chief. Cartier was warned of the “Agojuda” (bad people) who lived up the Ottawa River and continually waged war. (52)

When Cartier returned to his men in Stadacona he found them in a defensive mode as Donnaconna's warm welcome had cooled since Cartier decided to fraternize with the other villages. It is at this time that Cartier is introduced to the nature of warfare among the Natives when Donnaconna presents the scalps (or faces) of 5 killed Toudamans with each stretched out on small hoops. Donnaconna said the Toudaman Territory was south of them and the Toudamans continually wage war against them. The killings were in revenge over a Toudaman attack on his people as they camped on an island located on the south shore of the St. Lawrence River, opposite the Saguenay River. (52)

Donnaconna's people were later credited by Champlain as the origin of the practice of scalping enemies. Although removal of defeated enemies' heads occurred among the Tribes of early Acadia and New England, they did not practice scalping. (57)

The Toudamans Donnaconna spoke of are thought to be Eastern Algonquians of the Gaspe' Region as there was constant warfare between the Canada Iroquois and Gaspe' Mi'kmaq for the Honguedo Territory (Gaspe' Peninsula). The island where the Toudamans attacked Donnaconna's people is adjacent to the south shore of St. Lawrence River at end of a portage route (Trois Pistoles River) to the St. John River and Algonquian Mi'kmaq and Maliseet Territories. Opposite the island and on the north side of the St. Lawrence River is the mouth of the Saguenay River that was a route into Montagnais Algonquian Territory. (52)

During Cartier's winter stay he thought Donnaconna and his sons would be a hindrance to further explorations and relations with the other Canada villages and kidnapped Donnaconna and his sons as well as two other tribal leaders when they departed for Europe and removed the obstacles for future exploration. (52)

Cartier returned to Stadacona in 1541 and the interim Chief was informed of the death Donnaconna's and one of his son's while in France and that the surviving

son was living like a king. The Chief was not too upset at learning he would remain as Chief but there would be a long lasting distrust between Iroquois and the French due to Cartier's actions at Stadacona. (52)

When Champlain visited the same region 68 years after Cartier, there were no sign of the decedents of Donnaconna's Canada tribe that Cartier had established relations. Cartier had recorded a dictionary of Donnaconna's Canada Iroquois language but in 1603 the French could not understand the current inhabitants and recognized that something had happened to the peoples that Cartier met. (52) It is thought they were driven out or wiped out sometime around 1580 to 1600 by more aggressive Iroquois from the present day New York State area who previously had no territorial access to the St. Lawrence River. (53)

The Canada Iroquois lived upriver on the St. Lawrence and practiced agriculture at the limits of the favorable climate for corn maize. The Canada Iroquois also had a strong connection to the lower St. Lawrence River and Gulf of St Lawrence where they seasonally travelled for fish and sea mammals. By the beginning of the 1600's Donnaconna's former marine culture was nonexistent and all tribes were focused on inland fur-bearing animals for the fur trade. (52)

It is not known what impact removing Chief Donnaconna and his heirs from the leadership of the Canada Natives and if this somehow weakened them in the eyes of their competitors and enemies.

Acadia

In 1604 Monsieur De Monts had been granted rights to a territory between 40 and 46 degrees latitude which was roughly the known coast between points that would be later known as Philadelphia and Louisbourg. De Monts separated boats landed at both Canso and LaHave. DeMonts continued south to Port Mouton and fearing being shipwrecked and marooned in the New World he anchored his ship and sent

Champlain to further explore in a long boat with a crew of 10 and DeMont's Secretary. Champlain rounded the southern coast of Nova Scotia into Baie Stainte Marie (St. Marys Bay) and returned to report to DeMonts. They moved their larger ships to Baie Sainte Marie and eventually to St. Croix Island where they spent a disastrous winter losing 34 men of the 79 that wintered at St. Croix Island. In the spring of 1605, the Frenchmen move what they could from St. Croix Island to the Annapolis Basin which they had briefly visited the year before and then established Port Royal. (54)

The Annapolis basin was not unoccupied at the time of their decision to relocate there in 1605 but was the summer village of Mi'kmaq led by Sagamore named Membertou. They were met by several hundred Mi'kmaq and were permitted to construct a small fort close to the Mi'kmaq village. The arrival of the "Jonas" with more Frenchmen and supplies was late and found Champlain and Pontgrave' were absent sailing for Canso to find supplies with the fishing boats there. Membertou canoed to and boarded the French vessel "Jonas" and greeted the French arrivals in broken French but all signs and gestures indicated a warm welcome. (56)

Onboard was attorney/historian Marc Lescarbot who recorded a wealth of information for future Historians. Lescarbot recorded that their Atlantic crossing brought them to Canso where he observed two Basque long-boat approaching with one of the boats crewed by Frenchmen from St. Marlo and the other boat crewed by Mi'kmaq. Through a long association with seasonal Basque Fishermen these Mi'kmaq had mastered sailing skills and Lescarbot noted that they spoke in a language that was "half Basque". They were informed that the Frenchmen at Port Royal were desperate for supplies and waiting for them. They sailed into the Bay of Fundy which its name may have originally derived from Portuguese "baia fonda" (deep bay). (56)

Upon their arrival at Port Royal Lescarbot begins his descriptions the Mi'kmaq village and its Sagamore Membertou. The village was dozens of conical Wigwams, several large lodges and one large lodge for public gatherings, all surrounded by high palisades. Membertou is described by Lescarbot as being an impressive character, taller than his fellow Mi'kmaq, full bearded and estimated to be in his fifties. Lescarbot recorded that Membertou's name or at least was referred to as "Maupeltuk" (cock who commands many). He led his people with just enough authority to "harangue, advise, lead them to war and render justice". Champlain said he had the reputation as the most treacherous of his people but a good warrior and leader and gracious host to the Frenchmen. In addition to his warrior skills Membertou was also a "buoin" (medicine man) and continued this practice among his people. (56)

Membertou made reference to Cartier's 1534 voyage which was confused by the Frenchmen as to mean he was present during Cartier's visit to the Mi'kmaq shores of the Gulf of St. Lawrence. This resulted in Membertou's age being recorded as being much older. (56)

In addition to permitting the French to build a fort in his territory, Membertou also granted Champlain permission to mine the metals the French valued so highly located at "Mines" or "Minas" (56)

In the fall of 1604 and prior to the winter at St. Croix, Champlain had explored the Coast of Maine that was known to French fishermen as "Norembega" after a fabled country. Champlain sailed the Penobscot Bay, Mount Desert Island and to the mouth of the "Pemetigoet River" (Penobscot River). (54)

In the spring of 1605, Champlain continued his exploration of the Coast of "Norembega" or "Norumbega" and it was on this sail when he met or at least describes the Native inhabitants of the shores of what would be the known as the Gulf of Maine. Upon arrival at Saco Bay they encountered whom Champlain

referred to as the “Armouchiquoise” or “Almouchiquoise”. Champlain noted that the Armouchiquoise were different in language and culture than the Natives than the Natives he encountered further north as the Armouchiquoise practiced agriculture in maintaining garden plots of corn maize, beans, pumpkins and tobacco. (54)

The language of the “Armouchiquoise” or “Almouchiquoise” as in most sources, was so distinct from Souriquois (Mi’kmaq) and Etchemin (Maliseet) that Champlain’s Native guide could only interpret some words and communication was strained. (55)

This difficulty in communication with the peoples of this region was experienced 80 years earlier by Explorer Verrazano who was exasperated by all attempts to communicate with the native he encountered near the Kennebec River. (52) The distinct language of the Almouchiquoise would be a historical ethnographical mystery of the Gulf of Maine as some researchers claim that the Almouchiquoise were neither of the Algonquian or Iroquois languages or a least a third Algonquian dialect to the Souriquois (Mi’kmaq) and Etchemin (Maliseet). The mystery has endured as the peoples of the Gulf of Maine Coast suffered a great pandemic in 1617-1619 with a death rate of 90 to 100%. The struggling survivors of the Almouchiquoise and at least two other cultures were eventually absorbed into a collective Abenaki Culture. (55)

Champlain may not have actually witnessed the garden plots of the Almouchiquoise as these gardens would have been further inland and upriver where Champlain did not venture, and may have been told about the Almouchiquoise agricultural practices. (55)

Continuing south to Plymouth Harbour where the Pilgrims were still 15 years away from first landing there. Champlain encountered the Massachusetts Natives who also maintained garden plots and similar to Verrazano’s experience in the

"Land of Bad People" in 1524, Champlain found these peoples less agreeable than the Natives further northeast along the coast. Champlain found that the further they sailed south along the coast the "more numerous, unfriendly and thievish" were the peoples they encountered. When a shore party landed at "Nausett Harbour" for fresh water a skirmish broke out between the French sailors and Massachusetts or Armouchiquoise Natives over the ownership of a kettle. One Frenchman was killed and the ships guns were used to chase the Natives into the woods. (54)

The experience of the French with the tribes in the Gulf of Maine convinced them that Port Royal was the better place for a colony and discontinued further south exploration of coasts of what would later be known as the New England. The French left the southwestern shores of the Gulf of Maine to the Natives and ultimately later to the English. The source author stated it best:

> "*like so many minor events in history, the theft of a kettle was to have a great influence on the French-English configuration of North America*" (54)

People of the Gulf of Maine

The French assigned names to the different linguistic groups they encountered in North America and the names were not necessarily how the people referred to themselves. However, the French sometimes detailed encounters with the peoples of the region and offers a glimpse at the cultures of the people at the time of European contact. There are four groups distinguished by the early French with the Souriquois being one group who occupied the lands east of the St. John River including Nova Scotia, and Newfoundland and all the north coast from Cape Breton Island to the Gaspe'. The early English referred to these same peoples as Tarrentines and they would later be known as Micmac or Mi'kmaq. *(27)*

West of the Souriquois lands and between the St. John River and the Kennebec River were peoples the French referred to as the Etchemin. Later the Etchemin would be later known as Maliseet and included peoples between the Kennebec River and the Penobscot River. *(27)*

The Maliseet refer to themselves as “Woolastukwiuk” of the Woolastukw (people of the St. John River). The Maliseet reference is derived from a Mi’kmaq word for “he speaks badly” or version of which resulted in the differences in their languages. (60)

West of the Kennebec River and as far south were the Almouchiquois as the Souriquois referred to them as, “Dog People” whom with the Souriquois had a history of war. Unlike European warfare, warfare among the different native peoples of Gulf of Maine watershed and the Maritime Peninsula at the time of European contact were usually single or series of skirmishes to avenge wrong doings and insults should the offences be real or perceived. *(27)*

The Almouchiquois peoples were distinct in language, clothing and dress from the peoples eastward. The Almouchiquois also practiced horticulture. It is also suggested by researchers that the “Dog People” reference may derive from the number of dogs the Almouchiquois possessed for keeping the wildlife out of their crop fields. (55) This group was somehow severely impacted by early European contact and through disease and warfare eventually faded from their lands and records. *(27)*

The Abenakis were the fourth Algonquin language group encountered by the early French and occupied an area centered inland on the Kennebec River. The Abenakis associated more with the French in Quebec and eventually the French referred to all the original four groups as Abenakis. The Abenakis also practiced horticulture. The English referred to the peoples west of Abenakis lands as Pennacooks but the French grouped these separate peoples with the Abenakis.

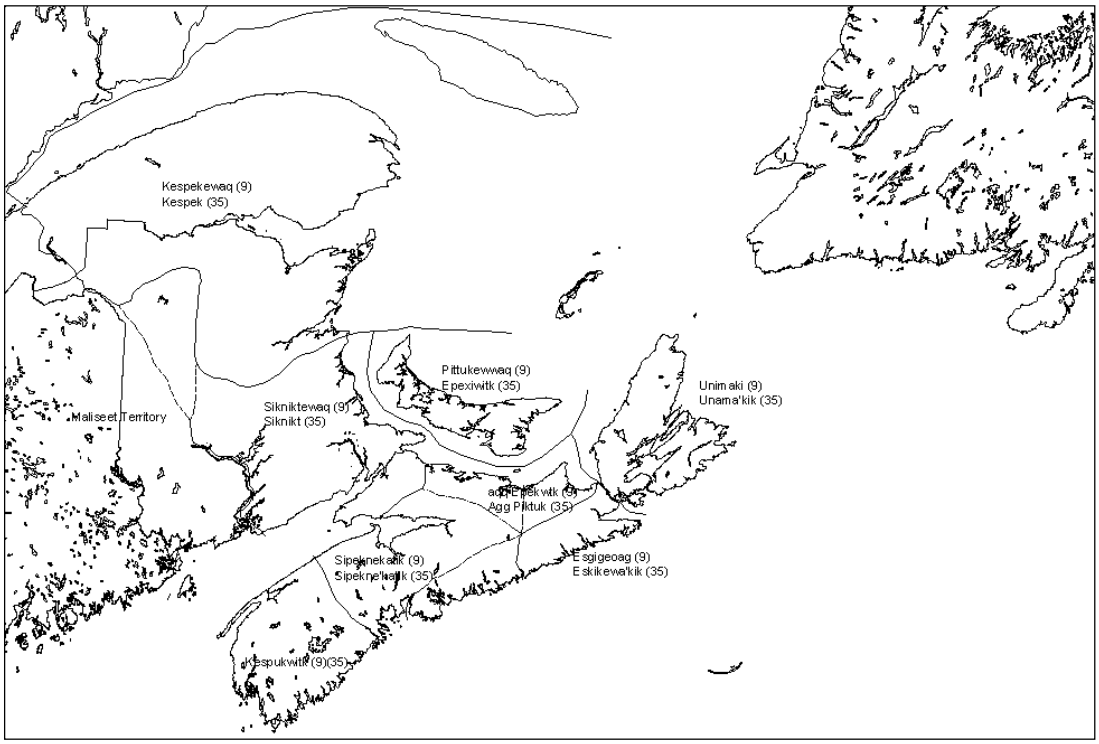
According to the French, the next group of peoples located west of the Abenakis is the Sokokis of the Connecticut Valley. *(27)*

It is theorized by some sources that all the cultures and dialects of the coastal river drainages along the northeastern Coast of North America were of the Algonquian language origin with the exception of the Mohawk-Iroquois cultures found in the Pennsylvania, New York State and along the St. Lawrence River. These Mohawk-Iroquois language cultures cut off the Eastern Algonquian cultures from their Algonquian relatives to the west and north. (55)

Traditional Mi'kmaq Territory

Traditional Mi'kmaq territory is called *Mi'kma'ki* and covered an area that extended from the St. John River east to include Cape Breton Island, southern Newfoundland and from the Gaspe' Peninsula, south to the south shore of Nova Scotia.

Mainland peninsular Nova Scotia is named *Kmitkinag* by Mi'kmaq and Cape Breton Island is named *Unimaki*. *Mi'kma'ki* is further divided into seven political districts: *(12)*



Mi'kma'ki Political Districts Circa 1600 [12][13][14][15]

District (Various Spellings)	***Geographic Territory***
Unimaki [12] *(Unama'kik)* [13][14][15]	Cape Breton Island Southern Newfoundland
Esgigeoag [12] *(Eskikewa'kik)* [13] *(Eski'kewag)* [14]	Canso-Sheet Harbour
Sipeknekatik [12] *(Sipekne'katik)* [13] *(Sikepne'katik)* [14]	Sheet Harbour-LaHave including Minas Basin and Cobequid Bay
Kespukwitk [12][13][14]	Southern Nova Scotia, LaHave-Middleton
Pittukewwaq [12] *(Epexiwitk) (13) (Epekwitk)* [14]	Prince Edward Island
aqq Epekwtk [12] *(Agg Piktuk)* [13] *(Piktuk)* [14]	Shediac to Canso Strait
Kespekewaq [12] *(Kespek)* [13] *(Kespe'kewag)* [14]	Chaleur Bay to Gaspe Peninsula
Siknikteweq [12] *(Siknikt)* [13] *(Sikniktewag)* [14]	Chaleur Bay to Shediac

Three of these political districts are close proximity to each other and converge to share a portion of the Bay of Fundy and Minas Basin. *Pittukewwaq agg Epekwtk* (P.E.I and Northumberland Strait from Shediac to Canso Strait) territory is only the distance of the width of the Chignecto Isthmus to access the Bay of Fundy. [(12)] Other sources indicate different interpretation of the bounds of Pittukewwaq agg Epekwtk as being separate districts with Pittukewwaq being only PEI and agg Epekwtk being an area between approximately Merigomish Harbour and Canso Strait. [(13)(14)] The same sources interpret Esgigeoag district as extending from Canso through to St. Margarets Bay and Sipeknekatik as extending northwest through to the Northumberland Strait as shown on above Map. [(13)(14)]

The Study Area is within the *Kespukwitk* Political District which includes all of Southern Nova Scotia from LaHave on the Atlantic Coast, through Middleton to the Bay of Fundy. [(12)(13)(14)] In Membertou's time this line may have been further north as Membertou had granted Champlain permission to mine for metals at New Minas. It is also possible he was acting as Grand Chief in granting permissions in what is *Sipeknekatik* [(12)] *(Sipekne'katik)* [(13)] *(Sikepne'katik)* [(14)] Political District which includes New Minas.

Location:	**Mi'kmaq Place Name:**	**Definition:**
Yarmouth County:		
Chegoggin	*Chegoggin*	"great encampment"
Pembroke Shore	*Kespoogwit*	"lands' end"
Yarmouth Harbour &Area	*Maligeak*	"crooked every which way"
Chebogue	*Chepaug*	"great still river"
Wedgeport	*Chebec*	"the narrows"
Plymouth	*Neketaouksit*	"the great tidal river"
Tusket	*Neketaouksit*	"the great forked tidal river"

Argyle	*Popkoktek*	"always running down"
Pubnico	*Pogomkook*	"land cleared of trees for cultivation"

Annapolis County:

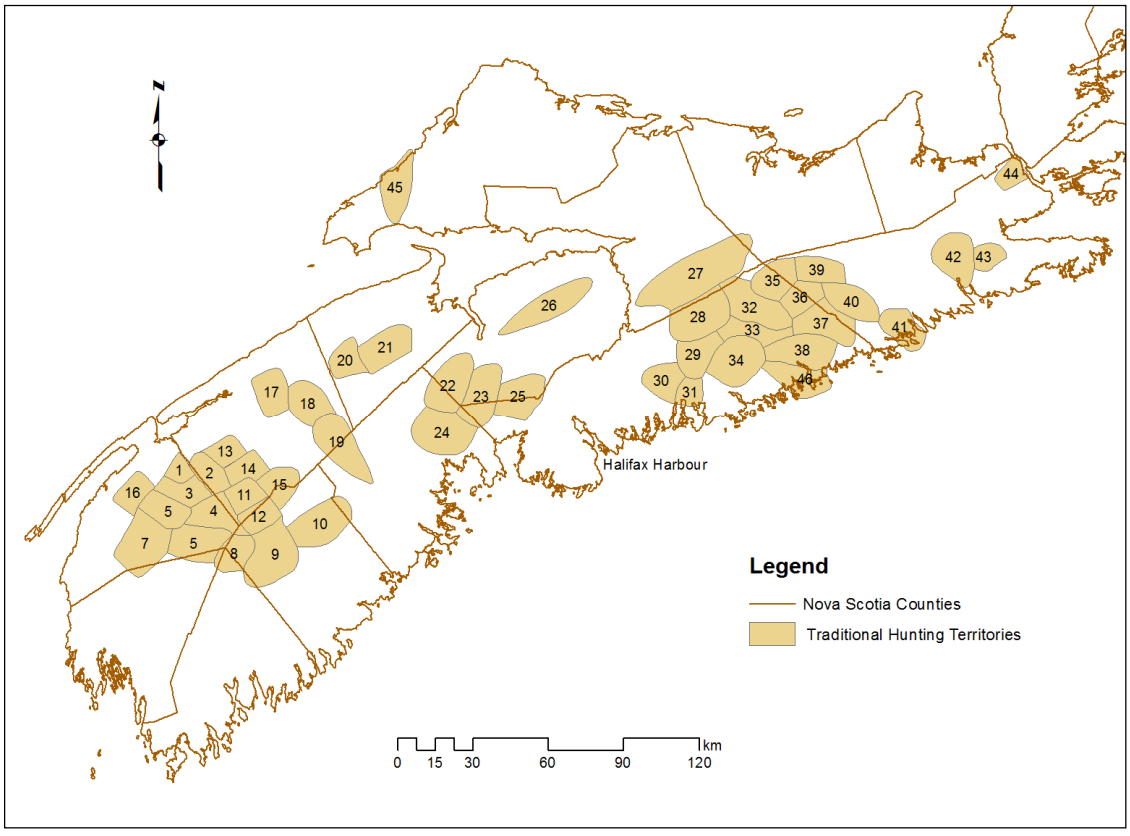
Annapolis Royal	Esunuskek	"hard ground"
Annapolis Royal	Eisuneskwek	"Eison's place"
General's Bridge (Annapolis Royal)	Esunuskek (70)	"the ground is hard and grassy"
Annapolis River	Taoopskek (70)	"flowing out between rocks"

Digby County:

Barton	Wagweik or Wagwitk	"running out to an end"
Bay View	Kijeboogwek / Kikcheboogwek	"channel goes around"
Bear River	Elsetkook	"flowing along by high rocks"
Bear River	Eelsetkook (70)	"flowing along by high rocks"
Central Grove	Mesadek	"extending far out"
Digby	Oositookum	"an ear" (Digby Neck)
Digby Gut	Tee Wee Den (70)	"little hole"
Vicinity near Digby	Weskawenaak (70)	"happy land", "laughing place"
Petit Passage	Tawitk (71)	-
Petit Passage	Tawilketc (70)	"the little outlet", opening"
Sandy Cove	Noogoomkegawaachk	"a small sandy cove"
St. Mary's Bay	Wagweiik	"the end"

Mi'kmaq had an intimate knowledge of the ecology of their territory and fit their lives to seasonal cycles of the vegetation and animals and fish. Due to climate conditions, agriculture for food was a risk for Mi'kmaq. [20] Highly mobile Bands consisting of several related families would assemble at favorite camp sites. In the fall and winter the camps would disperse into small groups of 10-15 people for winter hunting. [20]

It was the duty and responsibility of the chief of each political district to assign the hunting territories to families and any changes were made in the presence of the Council of Elders which met in the spring and fall of every year. [19] Hunting districts of approximately 200-300 square miles were assigned to families. [20]



Mainland Nova Scotia Traditional Hunting Territories [17]

The districts were usually surrounding lakes and rivers and were passed on to sons, unless there were no sons in which the district was then assigned to another

family. [17] The Mi'kmaq respected the boundaries of the assigned territories and only took from the land what they needed for the family to survive thereby preserving game and fish for the family's future survival. [19]

The hunting territories of the mainland Nova Scotia were numerous compact interior territories that encompassed the watersheds of interior lakes and rivers as Mi'kmaq did most their game hunting during colder months of the year when they moved inland from the summer coastal camps. [17][19] Cape Breton Island Mi'kmaq hunting territories are larger and more regional encompassing shorelines and interior river systems indicating a more sparse population. [17]

Map Reference	Name of Family	Geographic Territory
1	Jim Meuse (sa'yem), "chief" of this band)	West Branch of Bear River to Lake Jolly
2	John Siah (Sa'ya)	Mulgrave Lake neighborhood (see fig. 3)
3	Ben Pictou	Around Sporting Lake, southwest of Bear River
4	Abram Labrador	Moosehead and Pine lakes
5	Joe Penhall	Pine Lake and Cofang Lake
6	John Barriyo	Long Tusket and Fourth lakes
7	Christopher Charles	Barriyo and Spruce lakes
8	John Louis	Shelburne lakes
9	Joe Maltai and father Old Joe Maltai	East side of Rossignol Lake West side of Rossignol Lake
10	Louis Luxey (La'ksi)	Ponhook Lake (divided among his sons).
11	Peter Glode	Fairy Lake and Edjemekudji Lake
12	Frank Charles (Tcayali'gil, "short squatty person)	South of Edjemekudji lake
13	Jack Glode (father of Peter Glode, No. 11)	Upper end of Liverpool lakes
14	Jim Glode (son of No.13)	Lower Liverpool lakes almost to Maitland
15	Stephen Bartlett (Wisa'u, "yellow")	Medway Lake and part of river
16	Jim Meuse (Joe Salome)	Fifth Lake and part of Weymouth River

		(White Sand Lake, but the location cannot be given)
17	Stephen Hood	Paradise lakes
18	Pictou	Dalhousie Lake and headwaters of Dalhousie river
19	Louis Labrador	Upper La Have River
20	Abe Hood	Mill Creek and Sand River
21	Ellick Morris	Gaspereau lakes
22	Frank Penhall	Lakes south of Windsor
23	Tom Phillips	Ponhook and caribou lakes
24	John Hammond	Lakes near Chester
25	Joe Brooks	Uniack lake below Mt. Uniack
26	John Ferris	Kennetcook River Valley
27	Frank Paul	Stewiacke River Valley
28	John Newell Cope	Musquodoboit River between Middle Musquodoboit and Musquodoboit
29	Andrew Francis	North of Ship Harbour Lake, Gould lake
30	Joe Cope	North of Jeddore
31	Young Joe Cope (son of No. 30)	Northeast of Jeddore
32	Andrew Paul	Grassy Lake north of Killag River
33	(Territory supposed to have belonged to Paul's)	
34	Sandy Cope	Tangier Lake and Scraggy Lakes
35	Frank Cope	Hunting Lake, Governor's Lake and Ten Mile Lake
36	Peter Joe Cope	Fifteen Mile Lake, Rocky Lake
37	Michael Tom (Toney)	Moser River
38	Young Peter Joe Cope	Large district north of Sheet Harbor
39	Mathew Salome	Big Liscomb Lake
40	Jim Paul	Hunting Lake and Liscomb River
41	Adam Paul (son of No.32)	Lake Mooin, Back of Liscomb
42	Newell Denis	Country Harbor, Isaacs Harbor, and North
43	Steve Malone	Loon Lake
44	Peter Anthony (half-breed)	Mill Village River, near Port Mulgrave
45	John Williams	Shulie Lake and river (Cumberland county)
46	Abram Gould	Neighborhood of Sheet Harbor. (He came originally from Cape Breton Island, where his family had territory, and received a tract from the Cope family in Nova Scotia)

Mainland Nova Scotia Traditional Hunting Territories Recorded Circa 1919 *(17)*

The warmer months were times of abundance with surrounding areas of coastal camps providing fish, shellfish, fowl and eggs. Offerings were made to spirits but the Mi'kmaq rarely stockpiled enough food for the entire winter. They brought with them from the coast smoked and sun-dried seafood, dried and powdered hard boiled eggs. Berries were boiled and formed into cakes were sun-dried. Grease and oils from boiled marrow and fat were stored and transported in animal bladders. Root vegetables such as *segubun* (wild potato) which was similar to today's sweet potatoes and wild nuts were also part of the winter food supply. *(19)*

Although most historic records very rarely report cultivation of crops as a food source for the Mi'kmaq of Acadia some sources do mention the presence of corn in villages and that corn was grown by tribes of the Gulf of Maine. One source suggested a more institutionalized or traditional perspective of agriculture and roles of the Mi'kmaq men and women. One undated source references accounts of the Mi'kmaq of Acadia being skilled not only in war, art, hunting, healing and also at agriculture. In Mi'kmaq couples roles concerning sharing of food from hunts and harvests, women owned what the men hunted and the men owned what the women raised in crops. Boys were taught to hunt and fish and girls were taught early to raise corn and weave nets. New cornfields were established by a cooperative gathering of Mi'kmaq from the vicinity to share the workload. (82)

Month	Seasonal Locations	Seasonal Groupings	Food Resource
Jan.	Sea Coast	Bands	Smelt, Tomcod, Seals & Walrus Beaver, Moose, Bear, Caribou
Feb. (Period of Winter Famine Begins)	Inland	Bands & Family Units	Smelt, Tomcod (ending) Seals & Walrus, Beaver, Moose, Bear, Caribou
Mar. (Period of	Inland	Bands & Family Units	Smelt, Seals & Walrus (ending) Scallops, Crab, Urchins,

Winter Famine)			Winter Flounder, Beaver, Moose, Bear, Caribou
April (Period of Winter Famine ends)	Sea Coast	Villages	Smelt, Winter Flounder, Scallops, Crab, Urchins, Sturgeon, Brook Trout, Alewife, Herring, Spring Bird Migrations, Beaver, Moose, Bear, Caribou
May	Sea Coast	Villages	Smelt, Scallops, Crab, Urchins, Sturgeon, Salmon, Brook Trout Alewife, Codfish, Capelin, Shad, Mackerel, Skates, Herring, Spring Bird Migrations, Beaver, Moose, Bear, Caribou
Jun.	Sea Coast	Villages	Scallops, Crab, Urchins, Sturgeon, Salmon, Brook Trout Alewife, Codfish, Capelin, Shad, Mackerel, Skates Lobsters, Spring Bird Migrations, Beaver, Moose, Bear, Caribou
Jul.	Sea Coast	Villages	Scallops, Crab, Urchins, Codfish, Capelin, Shad, Mackerel, Skates Lobsters, Spring Bird Migrations, Beaver, Moose, Bear, Caribou, Strawberries, Raspberries
Aug.	Sea Coast	Villages	Scallops, Crab, Urchins, Codfish, Skates Lobsters, Beaver, Moose, Bear, Caribou, Strawberries, Raspberries, Blueberries, Ground Nuts
Sept.	Sea Coast	Villages	Scallops, Crab, Urchins, Codfish, Skates, Salmon, Herring, Eels, Fall Bird Migrations, Beaver, Moose, Bear, Raspberries, Blueberries, Ground Nuts, Cranberries
Oct.	Small Rivers	Villages	Scallops, Crab, Urchins, Smelt Codfish, Skates, Salmon,

			Herring, Eels, Brook Trout, Fall Bird Migrations, Beaver, Moose, Bear, Blueberries, Ground Nuts, Cranberries
Nov.	Inland	Bands	Smelt, Tomcod, Turtles, Seals, Beaver, Moose, Bear, Ground Nuts, Cranberries
Dec.	Rivers	Bands	Smelt, Tomcod, Turtles, Seals, Beaver, Moose, Bear, Ground Nuts,

Mi'kmaq Annual Subsistence [18]

When fish, game and plants within the proximity of an encampment became scarce, the Mi'kmaq moved the encampment miles away to a new location with the women being responsible for breaking camp, transporting and setting up the next camp. [16][19]

English Hostilities

The French did establish a small colony on Mount Desert Island some time prior to 1613 when it was attacked by Colonist from Jamestown Virginia led by Captain Samuel Argall. These were the first shots in a war between the France and England in North Eastern North America that would last for the next 150 years. Argall also attacked and destroyed the fortifications and remnants of St. Croix in that same year and proceeded to Port Royal to do the same where he burned and pulled down, burned and defaced fortifications, buildings, stores and Catholic symbols while the inhabitants were working too far away to prevent it. With Port Royal in ruins, most of the French colonists were forced to abandon Port Royal and return to France although it is not clear where the remaining colonists established themselves after leaving Port Royal. [54]

During the 1613 raid on Port Royal by Captain Argal, some 20 to 30 of the inhabitants escaped to the woods and travelled southwest to St. Mary's Bay and

along the coast to Pubnico where there was a large village of Mi'kmaq. Pubnico is derived from a 1650 entry of the Mi'kmaq place name "Pogomkook" meaning "land cleared of trees for cultivation" (83) A pre-LaTour chart by Lescarbot indicates an extensive Mi'kmaq village between Cape Sable and Tusket Bay. (83) While travelling to Pubnico the escaping inhabitants encountered Mi'kmaq at Chegoggin, near Cape Forchu and more Mi'kmaq at a village at Chebogue. Some of the escaping inhabitants lived among the Mi'kmaq for several years and would later become prominent figures in Acadia's early history and conflicts such Charles Biencourt and the LaTours. (83) Mi'kmaq had once lived on Lake Road at Pubnico Head and reaches Great Pubnico Lake. Local history claims that the Mi'kmaq always lived in this area long before Pubnico's founding in 1653. (73)

A trading post was established later by future Acadia Baron LaTour at the mouth of the Penobscot River prior to 1626 when he was force to leave for Acadia (Nova Scotia) by the new colonist at Plymouth. (54)

In1629 the English established a colony near the ruins of Port Royal and built Fort Charles and recruited Scots to man the new English colony within New Scotland. A year later La Tour managed to be appointed by English Royal decree, Baron of the lands from Yarmouth to LaHave. La Tour and his son established themselves near Cape Sable Island at Port La Tour in 1630. (54)

The Treaty of Susa in 1629 returned French lands taken by the English and the Scottish colony at the Annapolis Basin was taken possession by Isaac de Razilly in 1632 and sailed the Scottish colonist back to Scotland. It would be approximately 150 years before the Scottish returned to Acadia or New Scotland. (54)

Battling Barons

Isaac de Razilly was accompanied by his cousin Charles de Menou d'Aulnay, nephew Claude de Razilly and Nicholas Denys to establish his headquarters at LaHave in 1632. He was also accompanied by Recollet missionaries who were banished by the English. With the return of Acadia to the France, de Razilly's group of Frenchmen and their French investors began the first campaign to recruit a large number of French colonists to populate Acadia. (54)

The new arrangement de Razilly made as Acting Governor was to appoint d'Aulnay as his Lieutenant for the western portion of Acadia and Claude Le Tour's son Charles Le Tour as his Lieutenant for the Eastern portion. This arrangement was doomed from the start when de Razilly appointed d'Aulnay to take possession of the trading post that Claude le Tour was force to abandon in 1626. Le Tour was also determined to establish a fort at the mouth of the St. John River and ally with the powerful Natives there to discourage further English colonists interference. This arrangement gave him access to all the furs of the St. John River drainage and his considerable success made him a target for d'Aulnay. This rivalry saw both men become mortal enemies for the next 18 years with d'Aulnay as the aggressor and eventual victor in1645 with Le Tour's men being killed and his wife dying in d'Aulnay's captivity. d'Aulnay's success was short lived when he died 5 years later and ironically d'Aulnay's widow needed an experienced leader to maintain the d'Aulnay family operations and married Le Tour in 1653. The marriage seemed to work as they raised children and ran the operations at the fort at the mouth of the St. John River. (54)

Inter-Tribal Warfare

While the Barons of Acadia were battling for control of the fur trade the Native Peoples of the Gulf of Maine were also battling in inter-tribal warfare for control

of the supply of furs. The Beaver Wars occurred in the region in between 1607and 1632 with one example being the Mi'kmaq invasion of the Penobscot summer territory of Mount Desert Island when the Mi'kmaq armed with French firearms established a stronghold on Mount Desert Island. [55][58]

Inter-tribal warfare had occurred prior to Champlain's 1605 exploration of the shores of the Gulf of Maine as he was informed by others that the people who grew corn lived far inland and no longer kept coastal garden plots as they were constantly being raided by the Mi'kmaq. The Souriquois (Mi'kmaq) had invaded the Almouchiquoise- Massachusetts territory and raided the villages of the Saco River, Androscoggin and Kennebec River and had killed at least one "Bashebas" (Super Chief) and many "Sagamores" (Chiefs). [55]

Membertou himself led an attack against the native tribe of the Saco River (Almouchiquoise) in 1607 to avenge the death of Membertou's son in-law. Membertou began gathering his warriors from all the Mi'kmaq territories which took approximately a month to gather 400 Warriors. Membertou insisted on French assistance and acquired French muskets for possibly the first use of firearms in Northeastern North America by natives in inter-tribal warfare. Membertou left Port Royal with his warriors and returned several weeks later victorious. [56]

Membertou had accomplished what Donnaconna attempted in 1535 with Cartier by allying with the French to gain power and prestige among his people and the Mi'kmaq Nation and an increased ability to strike against his enemies.

Membertou had been a cruel warrior in his youth and accumulated many enemies in his lifetime and was content to live comfortably close to his French allies. Membertou's closeness to the French eventually cost him his life when he died of a European disease. (56) Membertou's oldest son Louis is placed at "Cape

Forchu" in 1613 when he greeted father Masse as chief after his father Membertou died. (61)

The Mi'kmaq village at Port Royal was the only Mi'kmaq village found in the sources reviewed that was surrounded by palisades as were most all Native villages on the shores and inland villages of the Gulf of Maine. Palisades as defensive protection were necessary in a region with a long history of inter-tribal warfare over resources or vengeance.

The Maliseet village of "Meductic" on the Upper St John River was also a fortified village described by early explorers as a rectangular stockade of logs bound together by spruce root and supported by earth and stone. The stockade was completely surrounded on the outside by a trench. Inside the stockade was a longhouse for council meetings and keeping stores of supplies. The village was outside the stockade within a short distance. The site today is submerged by the Mactaquac Hydro Dam. (59)

Another native fortified site is located on the Nerepice River at Woodman's Point that was later built over by the French to construct Fort de Nerepice, also known as Fort Boisehe'bert. Today the site is a National Historic Site. (59)

French-English Hostilities

Returning to the English-French battles over territories and resources, the English were not finished with Acadia as an English campaign to remove Dutch Colonists from Manhattan Island was aborted due to a new peace between England and Holland. The campaign leader General Robert Sedgwick decided to use the resource gathered to take Pentagoet, Port Royal and LaHave in 1654. (54)

French Port Royal or Annapolis Royal as it was known to the English, was a constant irritant rather than a threat to the New England Colonies but became the

focus of New England retaliations for French and Native Ally attacks on New England Colonists. Port Royal was also a haven for pirates that harassed New England shipping. The French-Native attacks on New England originated in Quebec and usually during winter when the smaller French-Native forces had the tactical advantage of rapid movement over a frozen landscape. However, the New England Colonists did not have the resources to lay siege on Quebec so they attacked Acadia and Port Royal which was within their reach geographically and militarily. (54)

The port within the Annapolis Basin, whether it be French Port Royal or English Annapolis Royal, exchanged flags a number of times with the French flag being lowered for the final time in the fall of 1710. A large force of English regulars and New Englanders set sail from Boston and landed in the Annapolis Basin. The French and their Native Allies had brief skirmishes and exchanged sniper fire but the firing of the English siege cannons was not required because once they were in place the threat alone caused the French to negotiate a surrender. The French military honorably marched aboard English transports and were joined by their families to return to France. A total of 258 Frenchmen were transported out of the Annapolis Basin but French Acadian settlers remained to continue working the land and lend support to the ruined fort and the 450 English soldiers left there in 1710. (54)

In response to English and New England Colonist aggression, the Penobscot, Passamaquoddy, Maliseet and Mi'kmaq put aside inter-tribal warfare history and formed the Wabanaki Confederacy in 1701. The Confederacy member tribe could rely on each other to fight the outside enemies when their Symbol of the "wampum belt" was carried among the member tribes by envoys as a signal to gather for warfare. (58)

The Wabanaki Confederacy continued to harass English attempts to establish themselves in Acadia. A pattern of ambush, sniper fire and retreat by the

Confederacy and particularly the Mi'kmaq severely hampered English activities outside the English fortifications. The Confederacy made more concerted harassing attacks on Annapolis Royal in 1711, 1724 and again in 1744 but the ambush tactics worked best for their limited and dwindling numbers. (54)(56) Although there were a number of peace treaties made between various Confederacy tribes and the English, this would be the pattern of harassment of the English throughout Acadia by the Mi'kmaq that would continue until the 1760's.

Captain John Doucett, who was the Lieutenant-Governor at Annapolis Royal from 1717 to 1726, realized that the Nova Scotia Indians would have to be won over and applied to the Lords of Trade for gifts to distribute to the natives. In 1722 Doucett gave a feast for the Native Chiefs at Canso and distributed the gifts and the Chiefs promised their friendship. However certain peace did not occur in New England until 1727 but peace with the Nova Scotia Chiefs was ratified at Annapolis Royal in 1726. (65)

In 1726 a large delegation of Natives gathered in Boston to negotiate a treaty with the English and after a month of negotiations an agreement was reached and was later ratified at Annapolis Royal by the St. John Indians (Maliseet) and Cape Sable Indians (Mi'kmaq) and later by an additional 26 Chiefs. (54)

Mi'kmaq and English Hostilities

The attitude towards the native populations was vastly different between the French and English. The French recognized the Natives as independent allies and not as subjects but as the sovereign owners of the land. However, the English had deeds based on their own interpretations of treaties that excluded and drove off the Native populations from their own traditional territories. *(33)*

To maintain the system of friendliness between the Native populations and the French, an annual giving of practical tools and goods to the Natives occurred

during important gatherings or conferences. The English attempted a similar policy but English punishments for Native wrong doings were too harsh and humiliating for the Natives. Scalp bounties for Native men, women and children issued by the English colonies furthered reinforced Native and French friendly relations. *(33)*

In 1749, the Honorable Edward Cornwallis, Captain General, Governor-in-Chief, set out for Annapolis Royal, ahead of the transports carrying the foreign Protestant settlers. He was then to proceed to Louisbourg with the transports to evacuate the English troops and transport them to Chebucto. *(34)* However, he was wind blown into Chebucto and decided to stay and begin the settlement of Halifax. Cornwallis found some French families on both sides of the harbour upon his arrival but no Mi'kmaq. After surveying the harbour he decided against the plan provided to him as Sandwich Point was too exposed to Southwest storms and settlement within Bedford Bay was too far inland for fishermen and was subject to siege by blockade of the Narrows. He decided to build the settlement on the side of a hill with a commanding view and with surrounding shores within cannon shot. *(35)*

On August 14, 1749 Chiefs were called to meet with the Governor and Council aboard the Beaufort to reaffirm the 1726 Treaty. Present were Chiefs and Deputies from Octpagh, Medochg, Passamaquady and Chinecto. After being asked if they have the authority to sign and agree with the treaty which they did. *(35)* Of the 13 Indians present, 3 were deputies from the St. John, 1 Chief of Chinecto and 9 others of various tribes but none appear to be of the Mi'kmaq of Shubenacadie whose territory Cornwallis has settled within. *(40)* The crucial tribes to Cornwallis and the Council were the St. John River tribes, crucial due to some members of Council having business interests in Maine and the New England area which was a war zone for the past 5 years as settlers encroached into Indian lands. A treaty with the Cape Sable tribes would end hostilities at Annapolis Royal. There had been a Scalp Bounty placed on both these tribes the by the Governor of

Massachusetts in 1744. Representatives of these tribes signed a treaty with Cornwallis on August 15, 1749. *(39)* Although Jean Baptist Cope would eventually sign and break a peace treaty with Cornwallis, Cornwallis never offered to negotiate with the Mi'kmaq the terms to which Halifax could be settled within Mi'kmaq territory. *(40)(37)*

The French Mission Sainte Ann was located deep within Mi'kmaq territory on the west bank of Shubenacadie River. It was here where Father Abbe' Jean-Louis LeLoutre provided spiritual services to the Mi'kmaq between 1738 and 1749 and where he incited the Mi'kmaq to fight the English and continued to use the mission as a staging area for Mi'kmaq attacks on Halifax. *(36)* A letter written by LeLoutre in July, 1749 stated that "we cannot do better than to incite the Indians to continue warring on the English". Not completely without a purpose of their own, the Mi'kmaq attacks that followed were a message to Cornwallis that they had the rights to their own territory as well as to hunt and fish freely within. *(37)*

In 1749, LeLoutre moved the Mission to the isthmus of Chignecto where he and French soldiers, officers and French settlers established a new settlement. His announcement divided the Shubenacadie Mi'kmaq as some wanted to be close to their religious services and some did not want to abandon their traditional territory. Jean Baptist Cope chose to stay at Shubenacadie and became the prominent elder and leader. *(38)*

Cornwallis was under the impression that the Mi'kmaq of the Shubenacadie Tribe were agreeable with the English presence due to the trade that was occurring with the Mi'kmaq until they suddenly disappeared from the settlement. The Mi'kmaq returned on September to begin a series of attacks on the settlement lasting 10 years beginning with an attack on an English party constructing a sawmill on the eastern side of the harbour. A letter from the Shubenacadie tribe was translated and delivered to Cornwallis explaining their attachment to Kjipuktuk (Chebucto). However, Cornwallis extended the 1744 Massachusetts Scalp Bounty to include

all Mi'kmaq. *(39)* After the attacks at Halifax and series of attacks at Canso and ships taken by Chignecto Mi'kmaq incited by LeLoutre and the French on Ilse Royal, the Scalp Bounty was a more appropriate response in Cornwallis' opinion as to declare war on the Mi'kmaq would give them a status of independent peoples rather than bandits, ruffians and rebels and were to be treated as such. On October 01, 1749, he gave orders to all his officers to annoy, distress, take and destroy all Mi'kmaq wherever found including those who assist them. He also offered 10 Guineas for every Mi'kmaq taken or scalp produced to commanding officers at Annapolis, Minas and Halifax. Cornwallis sent out troops to scour the woods around the new town in Halifax for Mi'kmaq and sent more troops to scour the province for Mi'kmaq. *(35)*

Since the founding of Halifax, the French have incited the Mi'kmaq to maintain a campaign of hostilities against the new English town and French could be seen with the Mi'kmaq scouting the town prior to Mi'kmaq attacks. The similar continuous attacks on the English network of Block Houses throughout the province confined the English to garrison towns and unable explore or clear land for settlements and cultivation. *(41)*

Mi'kmaq Survival

Prior to European contact, diseases among the native population were degenerative types of diseases that affected a small percentage of the native population. The European diseases were born from close animal contact and were epidemic diseases to which Europeans had developed partial immunities. The North American and South American native populations had no initial immunities to the diseases brought to them by early contact. *(27)*

Although the Mi'kmaq welcomed or at least tolerated Acadian settlement, they had regular contact with Acadians and Mi'kmaq paid a terrible price. Mi'kmaq had no immunity to European diseases such as smallpox and even common flues

and colds devastated the Mi'kmaq population. Hardest hit by disease were Mi'kmaq populations were encampments nearest Acadian Habitations. [(12)] The Mi'kmaq of the Bay of Fundy and Eastern Atlantic Coast were most impacted by European disease. [(12)]

Between 1611 and 1760 there were several references to Mi'kmaq populations impacted by contagious disease but not all identify the disease nor the impact. The most notable references concern the Epidemic of 1616-1618 where a source states that Mi'kmaq population was reduced to approximately 2,000 from 15,000. [(20)] In 1746 a French expeditionary force landed at Chebucto (Halifax). Reports from Annapolis Royal indicate that at least 100 Mi'kmaq died in each village of "Chebenacadie", Unimaki and Abeqweit of disease attributed to the same French expeditionary force. [(12)]

Mi'kmaq mortality rates of up 66-75 percent were reported among the impacted Mi'kmaq villages. [(28)(20)] Upon realizing the dangers of contact with Europeans the relationship between Mi'kmaq and Acadians changed where Mi'kmaq limited their contact to as little that was necessary for trade. Fewer Mi'kmaq attended European gatherings and then quickly left after obligatory feasts and distribution of gifts from the King of France. [(12)]

It is difficult to determine what the Mi'kmaq population was prior to European contact. One source states that Mi'kmaq and European contact was gradual and the Mi'kmaq population was sufficient enough to quickly repopulate after epidemics. However, the 1746-48 Epidemic killed most of the Mi'kmaq repopulation gains and weakened the Mi'kmaq at the time of expansion of English settlers on Mi'kmaq territory. [(12)] In 150 years of European contact, it is estimated that 75 percent of the Mi'kmaq population was wiped out. [(26)]

Post Mi'kmaq and English Hostilities

News of the fall of Quebec on September 18, 1759 reached the town of Halifax. After 10 years of inciting the Mi'kmaq to hostilities against the English in the province, The French Priest LeLoutre was disowned by the Quebec Bishop and later captured by the English aboard a ship leaving for France. *(41)* Father Maillard, who had spent 25 years with the Mi'kmaq, convinced the Chiefs to go to Halifax and bury the hatchet with the English which finally allowed the English to leave their fortified towns and explore the rest of the province and bring more settlers into the province. *(41)*

There was still some residual apprehension on the English side as to if the Mi'kmaq would hold the peace. *(41)*

Although the Mi'kmaq were beginning to suffer as early as 1758 from years of warfare and diseases, the English remained fearful of the Mi'kmaq, particularly with growing tensions in the New England Colonies. Both the English and the Mi'kmaq were eager to negotiate a peace treaty and the Mi'kmaq were still able to negotiate from a position of strength. The treaties of 1760 did not resolve territorial limits but assured Mi'kmaq access to the natural resources the land had always provided them. *(38)* However, the land provided less over time as they were displaced from traditional territories and the amount of game available declined. *(38)*

With the 1760 series of treaty signings with various chiefs of the Mi'kmaq who had gathered on the coast for the purpose of negotiating peace and trade. The English decided to build Truck Houses at each of the existing forts for the exclusive trade with the Mi'kmaq and the first Truck house was built at Fort Clearance in Dartmouth. The Shubenacadie Lakes and River System were opened up as a transportation route from Halifax to the Bay of Fundy. *(41)*

There were an estimated total 1500 Mi'kmaq men, women and children within mainland Nova Scotia and Cape Breton Island in 1762. *(41)* With an increase in tensions in Boston and the Mi'kmaq threat of hostilities diminishing within the province, a decision was made to recall the troops from Fort Cumberland, Annapolis Royal, Fort Frederick, Fort Amherst, St. John and Louisbourg to concentrate them in Halifax. *(41)*

As settlers encroached on Mi'kmaq traditional lands, Nova Scotia treaties had guaranteed Mi'kmaq access to the province's natural resources and in 1762 issued a proclamation that there was to be no trespassing on lands claimed by the Indians until the Crown made a decision on the claims. The proclamation was more of a formality with little enforcement. The government did begin to issue licenses to the Mi'kmaq in 1783 for lands they promised to settle. *(42)*

In the late 1700's the system of Truck Houses went through a series of revisions in financial structure and there were closures as trade with the Mi'kmaq had declined due to mild winters that disrupted traditional hunting and trapping as well as quality of furs. The Mi'kmaq were encouraged to diversify by manufacturing baskets and tool handles but this was not enough to prevent Mi'kmaq petitioning for relief supplies. *(42)*

The Office of Superintendent of Indian Affairs was established to manage the peace with the Mi'kmaq and later became a conduit of provisions. As the Mi'kmaq suffered hardships from European diseases and depletion of fur and food stocks, the British treaty obligations of providing provisions was later considered charity from the Government's perspective. As the Mi'kmaq threat diminished over time so did the British commitment to treaty obligations as provisions were sporadic or had to be petitioned for by the Mi'kmaq. *(43)*

The Mi'kmaq traditional territories were granted away to these successive waves of emigrants. During these times of emigrant settlers, Mi'kmaq were not granted

title to land but rather were granted “Licenses of occupation during pleasure”. The land was owned by the Crown and reserved for particular Mi’kmaq Bands. The first of these licenses in Nova Scotia was granted in the 1780’s and locations were typically coastal and ravine sites long frequented by Mi’kmaq.

In 1817, the Government began settling numerous Mi’kmaq families in locations such as Shubenacadie, Gold River and Bear River. In 1820 the reserve system was started and each county was instructed to set aside lands near sites frequented by Mi’kmaq. Indian lands not exceeding 1000 acres were being set aside in each county of Nova Scotia totaling 22,050 acres for exclusive use by the Mi’kmaq. The Lands were not always of good quality and not necessarily traditional Mi’kmaq hunting and fishing territories. The Mi’kmaq continued to occupy, hunt and fish lands outside these new reserves. *(43)* If a reserve parcel was good quality land, it was subject to encroachment by settlers. *(20)*

Local History

St. Mary’s Bay received little attention from Europeans both during the French and English occupation of the Annapolis Basin. There are no records of establishing trading posts or expeditions within the Bay and was left to the Mi’kmaq. The Mouth of the Salmon River had a Mi’kmaq village in 1876 within the area known as “Poulamonsebou” “place where the salmon abounds”. Archaeological artifacts of a gouge and points were found on a hill near the mouth of the Salmon River. Further inland and approximately 10 km upriver are reported archaeological finds by landowners at Hectanooga and more extensive finds along the shore between Hectanooga and the Maxwelton indicating a possible permanent village. (44)

Early settlers of Annapolis Basin and St. Mary’s Bay area were assisted by the Mi’kmaq by providing settlers in-need with food when the Mi’kmaq returned from to the coast from their inland winter camps with the first breakup of ice on

the rivers. In addition to teaching settlers fishing skills, Mi'kmaq also shared their knowledge in hunting and trapping, preserving meat and dried fruit as well as the use of herbal remedies. (44)

There were not accounts of conflicts between the Mi'kmaq and settlers in the area of St. Mary's Bay with the exception of Mi'kmaq harassing settlers in Smiths Cove and the Joggins areas. Generally the settlers were not interfering or competing for the same resources with the Mi'kmaq as the Mi'kmaq had no interest in settling down in a fixed location to work and farm. Also, land clearing was slow to begin in the St. Mary's Bay area and Mi'kmaq's resources were not as noticeably impacted by settler's land clearing as were the natives in New England. (44)

Within a description of St. Mary's Bay, Champlain describes Long Island as a shore bordered with dangerous rocks. He describes the sheltered cove at the end of the Island (Northeast Cove) along with 3 to 4 rocks where the Mi'kmaq hunted seals. (44)

Lescarbot described how Mi'kmaq were using "nijagans" (fish wiers) on the tidal flats of the Annapolis Basin which is a fishing method they taught to the Acadians and is still in use today. In addition to developing fishing techniques such as weirs the Mi'kmaq also had a special method of collecting Eels using an Eel trap dam of sticks. (44) Large mammals such as seals, walrus and porpoise were hunted using the larger ocean canoes from which the animals were speared or harpooned and drawn into the boat. (44)

A Roman Catholic chapel was built on a hill near the Abupic River (Argyle) sometime in the mid 1600's. Visiting missionary priests would provide the religious requirements to the scattered Acadians as well as the Natives who inhabited the surrounding woods and were welcomed by the Acadians. (67)

In 1715, 27 New England fishing vessels were seized by the Cape Sable Indians and a commission was formed to negotiate the return of the vessels. (72)

At Some time between 1744 and 1745 several armed vessels from New England arrived at Annapolis Royal and attempted to press the local inhabitants by violence to act as pilots to attack and scalp the Indians and any inhabitants that had any Indian blood in them. Not only were a large number of the inhabitants of mixed race they did not dare go against the Indians for fear of certain vengeance the Indians would inflict on them after these new Englanders left. (62)

It was the opinion of the English and new Englanders that the St. Francois Indians north along the border of Canada, the St. John Indians of the St. John River and the Cape Sable Indians thought that their remoteness protected their own villages from destruction by the English. The Nova Scotia Indians were the most cruel and savage of the other Tribes (63)

The Cape Sable Indians (Mi'kmaq) were estimated to be 600 warriors but this number may have included warriors from village along the entire coast from Annapolis Royal to LaHeve and possibly as far north as Canso. It is known that the number does not include Mi'kmaq living in mission communities. The mission at Shubenacadie had 200 warriors, 80 warriors at Maillard's mission on Isle Royal and another 250 warriors from the Miramichi and Restigouche. (68)

It is estimated that two thirds of the Cape Sable Mi'kmaq warriors and half the Mi'kmaq warriors of the villages of northern portion of the Mainland Nova Scotia, died in 1746 as a result of participating in the failed d'Anville Expedition of the same year. The diseases carried by the warriors to their villages would cause deaths among the women, children and the elderly which cannot be counted. The contagious diseases accompanying the 1746 French Expedition at Chebucto (Halifax) may be responsible for the deaths of one third to one half of the entire Mi'kmaq population within Peninsular Nova Scotia in 1746-1747. (68)

The Native Chiefs of the tribes east of the Penobscot River were bound by an earlier treaty to remain neutral during war but came to the aid of the St. John Indians (Maliseet) and the Cape Sable Indians (Mi'kmaq) during English attempt to subdue these Tribes. In 1745, New England declared war on all these peoples and offered a bounty of $150 for the scalps of these Natives and called for the formation of Volunteer Companies to search out the Natives. (69)

Some of those New Englanders who participated in these Volunteer Companies were later sought out by the Natives and were cut down working in their fields in some cases in ambushes. (69)

In 1759 Mariner and Officer Silvanus Cobb reported to Governor Lawrence that while transporting New England settlers to Nova Scotia they were fired upon by the Cape Sable Indians along with some Acadians. The plans to settle New Englanders to Nova Scotia was postponed until the following year when Cobb landed settlers at Liverpool. (66)

In 1759 a Volunteer Company of Rangers led by Major Samuel Rogers scouted a reported camp of hostile Mi'kmaq camped on the north shore of the "Racket" or "Raquette" which is an inlet within the Annapolis basin just north of the present town of Digby. The Mi'kmaq were unaware of the approaching Rangers and were involved in celebration that took them through the night. The Rangers attacked the village as the Mi'kmaq slept and completely surprised and killed the Chief and others while some Mi'kmaq escaped to the woods. The escaping Mi'kmaq were pursued by the Rangers along the western shore of the Annapolis Basin to Rogers Point (Point Prim) at entrance of Digby Gut. Without weapons for defence most of the Mi'kmaq were slain or drowned at this location. (82)

Sickness among the Mi'kmaq thought to be brought about by their nomadic lifestyle and rustic living conditions. A local historian recounts efforts to induce the Mi'kmaq to adopt the European Settler's lifestyle of farming. The Mi'kmaq

ether petitioned or were provided with land by the province on what was locally known as “Indian Hill” and is now Bear River I. R. No.6. Some Mi’kmaq adopted more European approach to utilizing the reserve land while many others preferred the hunter-gatherer traditional lifestyle. (82)

The Mi’kmaq left the St. Mary’s Bay area in the early 1800’s for the land provided for them at Bear River. They only returned occasionally to sell handcrafts in the area or to attend special masses such as the Feast of St. Anne at St. Mary’s Church at Church Point, Yarmouth County. The Mi’kmaq would gather at Church point and occupy the church grounds with their wigwams and take over the Glebe House to the Priest’s delight during these special masses. (44)

1818 Parish records of St. Mary’s Bay list the names of families recorded as Indian Families and includes numerous surnames of European origin:

Alexis	Labrador
Algomabnik	Laby
Andre’	Louis
Augustin	Marie
Baptiste	Martin
Barriau	Michel
Bernard	Muise
Briard	Naukout
Claude	Pictou
David	Pierre
Denis	Serriau
Fabien	Shishan
Foutou	Thomas
Jerome	William
Joseph	

The Parish records also provide a residence for each family which included Mi’kmaq families from Shelburne and Liverpool as well as Argyle, Sissiboo (Weymouth), Digby and Annapolis. (44)

Mi'kmaq in the Digby area had summer encampments at Bear River, Digby Gut and the District of Clare along the shores of St Mary's Bay where they gathered for fishing. Land Grants eventually forced the Mi'kmaq to settle on reserve land at Bear River established in 1820. However it was not until 1828 did the Mi'kmaq begin to settle on the Bear River Reserve lands. A 1871 census shows that Digby County had counted 224 Mi'kmaq and Annapolis County had counted 63 Mi'kmaq. The total Mi'kmaq estimated in the province of Nova Scotia at the time was 1700. The Federal crown provided a school for the Bear River Mi'kmaq in 1872. (84)

In 1898 there were 160 Mi'kmaq counted within Digby County and distributed mostly at Bear River (L'sitkuk), some families at St Bernard and more at Little River. The Mi'kmaq earned a meager living driving logs, as hunting guides and selling game, fish and baskets and wares. Porpoise oil was used as a lubricant in the late 1800's and Porpoise traditional species hunted by the Mi'kmaq of the area. Mi'kmaq from Bear River would canoe to their traditional camp at Bay View for the Porpoise hunt. They would render and bottle the porpoise oil for a market in Digby and St John, New Brunswick. Archaeological evidence suggests that the Bay View site may have been in use by the Mi'kmaq as early as 2000 years ago (84)

The protected circular cove may be the source of "Racquette" chosen for the name of the cove. The Racquette is a traditional summer encampment that was the scene of the 1759 Ranger attack and continued to be used by the Mi'kmaq possibly into the early 1900's as a summer camp for fishing as well as selling wares in the town and handcrafts to the summer tourists. (84) The Mi'kmaq of the area sold baskets and handmade wares or exchanged these items for farm produce. (82)

Bear River was a popular starting point for American sportsmen to enter the interior of western Nova Scotia. Hunting guides were in demand and although

there were many local guides offering their services it was the Bear River Mi'kmaq Guides that became renowned for their guiding skills. [84]

Southwestern Nova Scotia Mi'kmaq Today

Today the Mi'kmaq of Southern Nova Scotia are comprised of four bands with the Acadia Band having five Reserve Parcels distributed between Yarmouth and Luneburg Counties and the Bear River First Nation Band having three Reserve Parcels distributed within Digby and Annapolis Counties. Further north on the Cornwallis River in Kings County is the Annapolis Valley Band located with Reserve Parcels located within Kings and Hants Counties. The Glooscap Band has a Reserve Parcel located within Kings County. [75][76][77][78]

The Acadia Band received two Reserve Parcels in 1820 with Gold River, Luneburg County being one and Wildcat being the other on the Medway River, Queens County and is an original Mi'kmaq settlement. The Acadia Band received the Ponhook Reserve Parcel on the Mersey River, Queens County in 1843 and the Medway Reserve Parcel on the Medway River at Greenfield in 1865. The fifth parcel received by the Acadia Band is the Yarmouth Reserve, Yarmouth County in 1887. [74] The Acadia Band's total registered population is just under 1300 Band Members. [75]

The Bear River First Nation received the Bear River Parcel, IR6, in 1820. The Parcel straddles Digby and Annapolis Counties and is located on the Bear River. The other two Bear River Reserve parcels are located on and adjacent the Grand lake Flowage, just south of Annapolis Royal. [79] The total registered population is approximately 300 Band Members. [76] The Annapolis Valley Band has a registered population of approximately 260 Band Members. [77] The Horton Reserve Parcel, IR35 is adjacent the Hants-Lings County line and just southwest of Hantsport. There were no population figures available for the Glooscap First Nation.

Land Claims

A review of the Status of Specific Claims indicates that all Acadia Band Specific Claims have either been concluded or settled. The Annapolis Valley Band has one active Specific Claim concerning the St. Croix Reserve IR 34 located in Hants County. Bear River First Nation's Specific Claims have since been concluded. (80)

Historical Review Summary

Due to the rock types found in the bedrock formations underlying and surrounding the Project Site there may be potential for rock collecting for purposes of both utility and decoration. Chalcedony quartz utilized for weapons and tools are only found in Nova Scotia at Digby Neck, Blomindon and Cape d'Or

Southwestern Nova Scotia History has a rich Mi'kmaq history including Inter-Tribal warfare, hosting the early French arrivals and numerous clashes with the English and New England Colonists. Being located on the Gulf of Maine it was difficult to avoid the conflicts and violent history that plagued the Region.

The surviving known Mi'kmaq Place Names surrounding St. Mary's Bay and the Annapolis Basin are only a small representation of a the strong Mi'kmaq presence in the history of the vicinity of the Project Study Areas. Archaeology also indicates a presence in the St. Mary's Bay and Annapolis Basin that predates European contact by at least 2000 years.

There are no recorded traditional hunting territories from the 1922 survey directly within the study area.

There are no Active land claims within the study area filed at this time

4.4 Mi'kmaq Traditional Use Findings

The traditional use data gathered for this MEKS was drawn from one primary source: the Mi'kmaq individuals who reside in the surrounding Mi'kmaq communities and those who are familiar with or undertake these types of activities. This data was acquired through interviews with informants that allowed the study team to identify the various traditional use activities, resources and areas that are currently or have been used by the Mi'kmaq. Interviewees were asked to identify areas within the Study Area, Project Site, and Phase II Area where they knew of traditional and current use that has/had taken place. These interviews took place in February and March, 2012.

To easily identify the traditional use data findings of this study, the analysis has been categorized into the Project Sites/Study Areas for the Outer Bay of Fundy Tidal Energy Project and the Bay of Fundy Phase II Area.

The Project Site(s) consist of the proposed locations of the Tidal In-stream Energy Conversion devices, infrastructure, and berth areas, including Digby Gut around Bay View, and Victoria Beach; the southern tip of Digby Neck, including East Ferry, Petit Passage, and a northern portion of Long Island including Tiverton to just northeast of Central Grove; the sourthern tip of Long Island, including Freeport, a northeastern part of Brier Island, including Westport and Peter Island, as well as Grand Passage; as well as a southwest portion of Brier Island, extending into the Bay of Fundy and Gulf of Maine. The Study Area(s) are areas located within a five kilometer radius of the Project Site(s), encompassing Digby, Seabrook, Culloden, Bay View, and Port Wade; a southern portion of Digby Neck from Little River to East Ferry; Long Island; Brier Island; and waters offshore of these locations including Digby Gut and the Annapolis Basin; St Mary's Bay; and the Bay of Fundy.

The Phase II Area includes areas of the Bay of Fundy directly north, west and south of the Project Site(s) straddling back through St. Mary's Bay to Digby Gut.

The Phase II Area also included lands between Bear Cove, Nova Scotia, following a northeast direction to areas just north of the Tobeatic Wilderness Area.

Based on the data that was gathered by the study team, it appears there are Mi'kmaq traditional use activities occurring, or have occurred, in the various land and water areas throughout the Study Area, and within the Project Site.

Project Site

The Project Site, as well as locations in the *immediate* vicinity (>50 metres) of the Project Site, will be considered when analyzing traditional use activities.

Fishing

When analyzing the information gathered for the Project Site, the analysis found that lobster is the most fished species in this area.

Sixteen (16) lobster fishing areas were identified by informants in the Digby Gut and the Annapolis Basin; in Petit Passage around Boars Head to Little Bear Cove; in the St. Marys Bay approximately 3km south of Tiverton; in Grand Passage around Freeport, Westport, to Canns Cove and Seal Cove; along the western shore of Brier Island from approximately Cow Cove to Whipple Point, and out into the Bay of Fundy; and into the Gulf of Maine around Gull Rock.

Mackerel was recorded as being fished in ten (10) areas in the Digby Gut and the Annapolis Basin; in Petit Passage around Boars Head to Little Bear Cove; in the St. Marys Bay approximately 3km south of Tiverton; in Grand Passage around Freeport, Westport, to Canns Cove and Seal Cove; along the western shore of Brier Island from approximately Cow Cove to Whipple Point, and out into the Bay of Fundy; and into the Gulf of Maine around Gull Rock.

Other species identified by informants, but to a relatively lesser degree than lobster and mackerel are haddock, clam, cod, quohog, scallop, bass, dogfish, eel, pollock, smelt, halibut, periwinkle, crab, and sturgeon.

In terms of the timelines reported for these fishing activities, a slight majority of the fishing data was classified as current use, with thirty-nine percent (39%) classified as such. Historic past fishing activities was reported in thirty-one percent (31%) of the data, and recent past had the remaining thirty percent (30%).

As for types of fishery in the Project Site, fishing for harvesting purposes represented a large majority of the activities with seventy-three percent (73%) of the areas reported as such. Commercial uses and recreational fishing accounted for approximately ten percent (~10%) of the information gathered, and ceremonial had the remaining eight percent (8%).

Hunting

With regards to the Project Site(s), deer, pheasant, partridge, and porpoise were hunted. The deer, pheasant, and partridge hunting areas were noted on Digby Neck, approximately 1km north of East Ferry. Porpoise was hunted in the Digby Gut.

The hunting done near East Ferry was done in the recent past, while porpoise hunting was a historic past activity.

Both the areas were hunted for harvesting purposes.

Gathering

Dulse was gathered in four (4) areas in the Project Site(s) located in the Digby Gut, and south of East Ferry.

Sweetgrass was gathered in two (2) areas along the shores around Dunnings Cove on the southern portion of Digby Neck, and along the shores from Tiverton to Bear Cove on Long Island.

Other plants gathered in the Project Site(s), but to a lesser degree than the two mentioned above is mayflowers.

Much of the gathering activities were done in historic past, and recent past, but activities such as gathering sweetgrass and dulse was noted to be done currently.

Study Area

As mentioned previously, the MEKS data is also drawn from the Study Area which encompasses anything within a five (5) kilometer radius of the Project Site(s). The purpose of this portion of the study is an attempt to portray other land use activities that may have been missed in the Project Site data analysis.

Fishing

From the data gathered, the study found that lobster is the most fished species throughout the Study Area.

Twenty-two (22) lobster fishing areas were identified by informants in the Annapolis Basin; from Mill Cove to Delaps Cove and into the Bay of Fundy; from East Ferry, to Little River, to Sandy Cove, and into the St. Marys Bay; from Whale Cove to Bear Cove, and into the Bay of Fundy; approximately 3km south of Tiverton and Long Island, into the St. Marys Bay; from Flour Cove Point, to Freeport, to Westport, in the Grand Passage, to North Point, and out into the Bay of Fundy; on the western side of Brier Island from Gooseberry Cove to Whipple Point, and into the Bay of Fundy; and on the southern side of Brier Island, approximately 1km south of Green Island, and into the Gulf of Maine.

Mackerel was reportedly fished in fifteen (15) areas in the Annapolis Basin; from Mill Cove to Delaps Cove and into the Bay of Fundy; from East Ferry, to Little River, to Sandy Cove, and into the St. Marys Bay; from Whale Cove to Bear Cove, and into the Bay of Fundy; approximately 3km south of Tiverton and Long Island, into the St. Marys Bay; from Flour Cove Point, to Freeport, to Westport, in the Grand Passage, to North Point, and out into the Bay of Fundy; and on the western side of Brier Island from Gooseberry Cove to Whipple Point, and into the Bay of Fundy.

Eleven (11) clam fishing areas were described by informants in the areas throughout the Annapolis Basin; and in the St. Marys Bay offshore of Long Island, East Ferry, Tiddville, and up towards Rossway.

Other species mentioned by informants, but to a relatively lesser degree than those mentioned above are haddock, scallop, flounder, cod, pollock, quohog, crab, eel, halibut, mussel, periwinkle, bass (including stripped bass), dogfish, salmon, smelt, shad, shrimp, and sturgeon.

With regards to the timeline categories for fishing activities in the Study Area, current use information represented thirty-eight percent (38%) of the data, while recent past use, and historic past use represented thirty-six percent (36%) and twenty-six percent (26%) of the information gathered, respectively.

Hunting

Seals were reportedly hunted in the historic past within the Annapolis Basin. Informants had indicated two areas that encompassed the entire Annapolis Basis, and an area in the Annapolis Basin that goes from Digby, to the Digby Gut, to Port Wade.

Other species hunted in the Study Area, but to a lesser degree is deer, partridge, pheasant, and porpoise.

Overall, the data could be generalized as happening in the past, as fifty percent (50%) of information gathered was classified as historic past use, and the other half classified as recent past use.

Gathering

The gathering of dulse was reported in six (6) areas within the Study Area, including the southern portion of the Annapolis Basin; from Conway, to Digby, and out into the Digby Gut; out into the Bay of Fundy around Bay View; in the St. Marys Bay offshore of Belliveaus Cove, Grosses Coques, and Church Point; and offshore of Long Island and into St. Marys Bay from Tiddville to East Ferry.

Sweetgrass was gathered in four (4) areas along the shores of the Annapolis Basin from Smiths Cove to Conway, to Digby, and near Victoria Beach; along the shore of Digby Neck from Gullivers Cove to near Whale Cove; from just south of Whale Cove to Dunnings Cove on Digby Neck; and along the shores of Long Island from Tiverton to approximately 2.5km southwest of Bear Cove.

Other gathering activities and species gathered by informants, but to a relatively lesser degree are mayflower, apple, blueberry, cranberry, golden thread, and sweet flag.

In terms of the timeline categories sixty-four percent (64%) of the gathering information were reported as historic past use, and remaining information was equally classified into recent past use, and current use at eighteen percent (18%) of data each.

Cultural

An informant had indicated there were Mi'kmaq camps in this area at some point in time, however, based on the information given, it was hard to determine a location and timeframe.

Phase II Area

The purpose of this section is to represent an overall review of all the data collected, in a similar manner of the Project Site(s) and Study Area. It is also an additional view frame in which characteristics of the surrounding land and waters, and the ways the Mi'kmaq have used them, can be used to give a more broad generalization of its use.

Fishing

Similar to the other analyses of the areas, lobster was the most fished species in the Phase II area. Thirty-four (34) areas were identified by informants. A number of areas seem to be focused in the St. Marys Bay from Rossway all the way to Freeport. Other areas include throughout the Annapolis Basin; from Delaps Cove to Mill Cove and out into the Bay of Fundy; from Tommys Beach and White Point to Gullivers Head, offshore of Culloden, and out into the Bay of Fundy; from Whale Cove to Dunnings Cove, Tiverton, Bear Cove and offshore into the Bay of Fundy; from Central Grove Provincal Park to Grand Passage, Freeport, West Port, North Point of Brier Island, and offshore into the Bay of Fundy; offshore of the western side of Brier Island into the Bay of Fundy; and approximately 1km south of Green Island into St Marys Bay and the Gulf of Maine.

Mackerel was found to be fished in nineteen (19) areas throughout the Annapolis Basin; in the St Marys Bay around Rossway to Waterford and surrounding waterways, from Church Point to Saulnierville, and in the middle of St Marys Bay itself; from Whale Cove through to Petit Passage, along Long Island to approximately Bear Cove, and out into the Bay of Fundy; from Gilberts Landing through to Grand Passage, Freeport, Westport and North Point of Brier Island, and out into the Bay of Fundy; as well as along the western side of Brier Island, out to the Bay of Fundy.

Clam fishing was done by informants in thirteen (13) areas of the Phase II area including the middle of St Marys Bay, as well as along Barton, Brighton, and Rossway; but primarily throughout the Annapolis Basin.

Other species fished in the Phase II area, but to a lesser degree than those mentioned above are flounder, haddock, eel, scallop, trout, smelt, cod, pollock, salmon, bass (including striped bass), crab, quohog, dogfish, halibut, mussel, periwinkle, perch, shad, shrimp, and sturgeon.

Hunting

Deer hunting was reported the most by informants in the Phase II area with nine (9) areas being identified. Deer hunting seemed to focus in areas surrounding the Bear River reserve, including Morganville, Greenland, Bear River East, Waldeck, Smiths Cove, Lansdowne, and out towards the Tobeatic Wilderness Area; and in the Digby Neck area from Gullivers Cove to just outside East Ferry.

Other species hunted in this area, but to a lesser degree than deer, are rabbit, partridge, seal, “birds” moose, porpoise, bear, beaver, caribou, coyote, duck, fox, mink, pheasant, and porcupine.

Gathering

Dulse and sweetgrass were found to the most gathered species reported by informants, with seven (7) areas each.

Dulse was found to be gathered in the southern portion of the Annapolis Basin; out to the Digby Gut, from Bay View to Culloden, and into the Bay of Fundy; in Gilbers Cove; offshore into the St Marys Bay from Belliveaus Cove to Church Point; and also into St. Marys Bay from East Ferry to Tiddville.

Sweetgrass was reportedly gathered along the Annapolis Basin from Oak Point, near Upper Clements, to Smiths Cove, from Conway and Digby to Mount Pleasant, as well as Victoria Beach; along the shores of Digby Neck from Culloden to near Little River; along the shore from Whale Cove to East Ferry; and along the coast from Tiverton to near Gilberts Landing.

Other species gathered in this area, other than the ones mentioned above, are blueberry, mayflower, cranberry, golden thread, white ash, alder, apple, birch, black ash, blackberry, chokecherry, poplar, raspberry, spruce, strawberry, sweet flag, and yellow birch.

4.5 Mi'kmaq Significant Species Process

In order to identify possible project activities which may be of significance to the Mi'kmaq with regards to traditional use of the Study Area, the project team undertakes a number of steps in order to properly consider the MEK data. This involves three main components: Type of Use, Availability, and Importance.

Type of Use

The first component of analysis is the "Type of Use" of the resource which involves the categorization of the resource. All resources are placed into various general categories regarding the Type of Use**.** The category headings are Medicinal/Ceremonial, Food/Sustenance, and Tool/Art. These general headings are used so as to ensure further confidentiality with respect to the resources and the area where they are harvested. As well, the total number of instances where a resource harvest has been documented by the study is quantified here as well.

Availability

After the data is considered by the Type of Use it is then considered in accordance with its' availability: This involves considering whether the resource is abundant

in the Study Area or whether it is rare or scarce. Based on the information that is provided to the team from the ecological knowledge holders and/or written literature sources, the availability of the resource is then measured in regards to other water or land areas that are outside of the Study Area. This measuring is primarily done in the context of the areas adjacent to the Study Area, and if required, other areas throughout the province. By proceeding in this manner, the study can provide an opinion on whether that resource may be **rare, scarce** or **abundant**.

The data is classified in accordance with following:

Rare – only known to be found in a minimum of areas, may also be on the species at risk or endangered plants list
Common – known to be available in a number of areas
Abundant – easily found throughout the Study Area or in other areas in the vicinity.

This allows the study team to identify if the proposed project will have an impact on the resources identified, and how this may affect traditional use in the area.

Importance

The final factor the MEKS team considers when attempting to identify the significance of a resource to Mi'kmaq use is whether the resource is of major importance to Mi'kmaq traditional use activities. This can be a somewhat subjective process, as any traditional resource use will be of importance to the individual who is acquiring it, regardless if its' use is for food or art or regardless if the resource is scarce or abundant. However, to further identify the importance; the MEKS team also considers the frequency of the use by the Mi'kmaq; whether the resource is commonly used by more than one individual, and finally the actual use itself. These factors support the broad analysis of many issues in formulating an opinion on significance and supports identifying whether the loss of a resource

will be a significant issue to future Mi'kmaq traditional use, if it is destroyed by the project activities.

4.6 Mi'kmaq Significance Species Findings

This MEKS identified resource and land/water use areas within the Project Site and Study Area that continues to be utilized by the Mi'kmaq people, to varying degrees.

Type of Use

The study identified the following:

TYPE OF USE	NUMBER OF AREAS	NUMBER OF SPECIES
Food/Sustenance	121	32
Medicinal/Ceremonial	17	7
Tools/Art	6	2

Availability

During the information gathering for both Study Area options, there were no rare species of plants or animals identified by the informants.

However, with regards to fishing, three species were mentioned that are on Canada's Species at Risk Act (SARA): salmon, striped bass, and porpoise.

While SARA specifically mentions the inner Bay of Fundy population for Atlantic Salmon that is under concern, it may be worth noting this fishery, in

terms of availability, due to a relatively close location of the areas mentioned in the SARA.

Striped bass has been fished in the Annapolis Basin and into the Bear River by informants since the 1960's, and continue to do so.

Porpoise hunting done by the informant interviewed, was done in the 1960's to late 1970's, and doesn't appear to occur currently.

Importance

While stated above, it is worth noting again that assigning an importance designation for any activity done by Mi'kmaq can be a subjective process, and that all activities are considered ways of preserving the Mi'kmaq way of life, in some shape or form.

One common theme that kept coming up during the analysis was the high number of fishing done in the area, for both harvesting and commercial purposes. From lobster, crab, and mackerel, as examples, these waters are fished by Mi'kmaq, and any environmental effects could have an impact or hamper a source of income and sustenance for some Mi'kmaq.

All other species mentioned throughout the study can be considered common and abundant throughout Nova Scotia.

5.0 CONCLUSIONS AND RECOMMENDATIONS

This Mi'kmaq Ecological Knowledge Study has gathered, documented and analyzed the traditional use activities that have been occurring in the Project Site and Study Area by undertaking interviews with individuals who practice traditional use, or know of traditional use activities within these areas and reside in the nearby Mi'kmaq communities.

The information gathered was then considered in regards to species, location, use, availability and frequency of use to further understand the traditional use relationship that the Mi'kmaq maintain within the Project Site and Study Area.

Project Site

Based on the data documentation and analysis, it was found that the Mi'kmaq have historically undertaken some fishing, hunting, and gathering activities in the Project Site and that this practice continues to occur today. It appears the majority of activity that occurs in the area is the fishing of lobster and mackerel.

Study Area

Based on the data documentation and analysis, it was concluded that the Mi'kmaq have historically undertaken traditional use activities in the Study Area , and that this practice continues to occur today. These activities primarily involve the harvesting of fish species, but also include plants and animals; all of which occurs in varying locations throughout the Study Area and at varying times of the year.

Lobster was found to be the most fished species in the Study Area. Mackerel and clam were also found to be harvested in the area, but at a somewhat relatively lesser degree. Seal, deer, partridge, pheasant and porpoise were all found to be hunted in the Study Area, but not in enough numbers to determine a primary

hunted species. Dulse and sweetgrass were the most harvested plant species that was found within the Study Area.

Phase II Area

Based on the data documentation and analysis, it was concluded that the Mi'kmaq have historically undertaken traditional use activities in the Phase II Area , and that this practice continues to occur today. These activities primarily involve the harvesting of fish species, but also include plants and animals; all of which occurs in varying locations throughout the Phase II Area and at varying times of the year.

Lobster was found to be the most fished species in the Phase II Area. Mackerel and clam were also found to be harvested in the area, but at a somewhat relatively lesser degree. Deer was found to be the most hunted species in the Phase II Area. Rabbit, partridge, seal and other species were also found to be hunted in the Phase II Area, but at a somewhat relatively lesser degree. Dulse and sweetgrass were the most harvested plant species that was found within the Phase II Area.

RECOMMENDATION # 1

The Outer Bay of Fundy Tidal Energy MEKS has identified Mi'kmaq Traditional Use Activities occurring in the Project Site as well in various locations throughout the Study Area. Based on the information gathered and presented in this report, there is a potential this project could affect Mi'kmaq traditional use in the area, specifically commercial fisheries. It is recommended that the proponent meet with the Assembly of Nova Scotia Mi'kmaq Chiefs to determine possible future steps to be taken in regards to Mi'kmaq use of the area.

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APPENDIXES

Map A

Mi’kmaq Traditional and Current Use Areas

Fundy Tidal MEKS

Mi'kmaq Traditional and Current Use Areas

Legend

- Traditional Use Areas
- Study Area
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Project Site
- Reserve Land

Disclaimer

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Datum: UTM NAD83
Zone 20
Scale: 1:250,000

Version: 1
29 May 2012

Membertou GEOMATICS SOLUTIONS

0 1 2 4 6 8 10
Kilometers

Bay of Fundy
St. Marys Bay
Annapolis Basin
Petit Passage
Grand Passage
ANNAPOLIS COUNTY
DIGBY COUNTY
Culloden
Bay View
Victoria Beach
Mount Pleasant
Port Wade
Gullivers Cove
Waterford
Lake Midway
Sandy Cove
Rossway
Conway
Digby
Tiverton
East Ferry
Tiddville
Barton
Plympton
Smiths Cove
Waldeck
Central Grove
Gilberts Cove
New Edinburgh
Ashmore
Bloomfield
Lansdowne
Clementsvale
Westport
Freeport
Belliveaus Cove
Weymouth
Bear River
Ohio
Weymouth Mills
South Range
Church Point
Belliveau
Weaver Settlement
Sissiboo Falls
Bear River Reserve
Greenland
Morganville
Comeauville
Saulnierville
Concession
Hassett
Danvers
Southville
Riverdale
Meteghan River
Meteghan
St. Joseph
Havelock
Bangor
Meteghan Station
Easton
New Tusket
St. Martin
St. Alphonse
Mavillette
Corberrie
Maxwellton
Cape St. Marys
Salmon River
Mayflower
Briar Lake

Map B

Mi’kmaq Traditional and Current Hunting Areas

Fundy Tidal MEKS

Mi'kmaq Traditional and Current Hunting Areas

Legend

- Hunting Areas
- Study Area
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Project Site
- Reserve Land

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Datum: UTM NAD83
Zone 20
Scale: 1:250,000

Version: 1
29 May 2012

Membertou GEOMATICS SOLUTIONS

0 1 2 4 6 8 10
Kilometers

Bay of Fundy
St. Marys Bay
Annapolis Basin
Grand Passage
Petit Passage
ANNAPOLIS COUNTY
DIGBY COUNTY
Culloden
Bay View
Victoria Beach
Mount Pleasant
Port Wade
Gullivers Cove
Waterford
Lake Midway
Sandy Cove
Rossway
Conway
Digby
Tiddville
Tiverton
East Ferry
Central Grove
Westport
Freeport
Barton
Plympton
Smiths Cove
Waldeck
New Edinburgh
Ashmore
Gilberts Cove
Bloomfield
Lansdowne
Clementsvale
Belliveaus Cove
Weymouth
Ohio
Weymouth Mills
Bear River
South Range
Church Point
Belliveau
Weaver Settlement
Sissiboo Falls
Bear River Reserve
Greenland
Morganville
Comeauville
Saulnierville
Concession
Hassett
Danvers
Southville
Riverdale
Meteghan River
Meteghan
St. Joseph
Havelock
Bangor
Meteghan Station
Easton
New Tusket
St. Martin
St. Alphonse
Mavillette
Maxwellton
Corberrie
Cape St. Marys
Salmon River
Mayflower
Briar Lake

Map C
Mi’kmaq Traditional and Current Fishing Areas

Fundy Tidal MEKS

Mi'kmaq Traditional and Current Fishing Areas

Legend

- Fishing Areas
- Study Area
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Project Site
- Reserve Land

Disclaimer

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Datum: UTM NAD83
Zone 20
Scale: 1:250,000

Version: 1
29 May 2012

Membertou GEOMATICS SOLUTIONS

0 1 2 4 6 8 10
Kilometers

Map D
Mi’kmaq Traditional and Current Gathering Areas

Fundy Tidal MEKS

Mi'kmaq Traditional and Current Gathering Areas

Legend

- Gathering Areas
- Study Area
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Project Site
- Reserve Land

Disclaimer

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Datum: UTM NAD83
Zone 20
Scale: 1:250,000

Version: 1
29 May 2012

Membertou
GEOMATICS SOLUTIONS

0 1 2 4 6 8 10
Kilometers

Bay of Fundy
St. Marys Bay
Annapolis Basin
Culloden
Bay View
Victoria Beach
Port Wade
Gullivers Cove
Waterford
Lake Midway
Sandy Cove
Rossway
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Meteghan
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