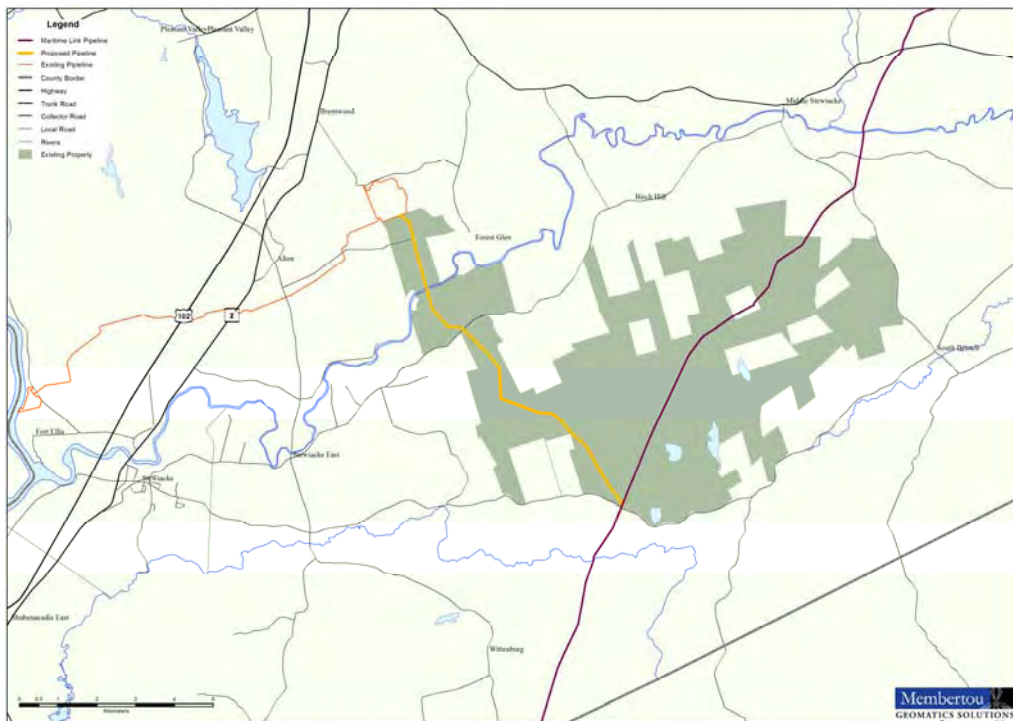


**APPENDIX D**  
**Mi'kmaq Ecological Knowledge Study**



# Alton Natural Gas – Gas Lateral Project Mi'kmaq Ecological Knowledge Study



**Membertou Geomatics Solutions**  
**March 2012**

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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, on behalf of Alton Natural Gas, for the proposed Gas Lateral Project in Alton, Nova Scotia.

This MEKS mandate is to consider land and water areas in which the proposed project will utilize, and to identify what Mi'kmaq traditional use activities that have, or is currently, occurring within, and what Mi'kmaq ecological knowledge presently exists in regards to the area. In order to ensure accountability and ethic responsibility of this MEKS, the MEKS development has adhered to the "Mi'kmaq Ecological Knowledge Protocol". This 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 and Study Area. The Project Site is a proposed pipeline that will run 10 km south east from the existing facility. The Study Area is the area with a 5 km radius of the Project Site that includes the areas and communities of Alton, Brentwood, Forest Glen, Wittenburg, and Stewiacke East.

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 were undertaken during November and

December, 2011. These informants were shown topographical maps of the Project Site and Study 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 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.

### **Project Site**

Based on the data documentation and analysis, it was found that the Mi'kmaq have historically undertaken some traditional use activities, primarily fishing, in the Project Site (or adjacent to), and that this practice continues to occur today. It appears the majority of activity that occurs in the area is trout fishing.

There are other species and traditional use activities occurring in Project Site, but in relatively smaller numbers.

### **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 these practices 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.

**Trout** was found to be the most fished species in the Study Area. Other species of fish noted are **bass** and **salmon**. **Deer, rabbit, partridge, porcupine,** and **pheasants** were recorded as being hunting in multiple areas. **Blueberries** were the most gathered species within the Study 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. MGC was established as a commercially viable company that could provide expertise in the field of GIS Services, Database Development, Land Use Planning Services and Mi'kmaq Ecological Knowledge Studies (MEKS). MGS 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 Alton Natural Gas regarding the proposed Gas Lateral Project, MGS brings to the table a team whose expertise and skills with land documentation have developed a sound MEKS. 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 Alton Natural Gas – Gas Lateral Project***

The Alton Natural Gas Storage Project involves the construction and operation of a natural gas storage facility in Nova Scotia by Alton Natural Gas Storage LP, (Alton Natural Gas). The facility will consist of several solution-mined caverns to be brined out of a large, structurally stable salt formation.

Alton Natural Gas is proposing to develop a new pipeline which will extend 10 km in length South East from the existing facility, known as the Gas Lateral Project. Proposed project activities will be consistent with those of other natural

gas transmission pipeline projects in the province. Construction will include clearing, grubbing, topsoil stripping and grading, trenching, pipe installation, backfilling, and clean-up and restoration. Operations and maintenance will be limited to maintenance of the right-of-way, and regular inspections and testing.

The proposed pipeline will be 16 inches (406 mm) in diameter and approximately 10 km in length. It will be designed, constructed, operated and maintained in accordance with CSA standards (*i.e.*, CSA Z662). The maximum operating pressure will be 1440 psi. Due to the relatively short length of this pipeline, no booster compressor stations are anticipated.

## **2.0 MI'KMAQ ECOLOGICAL 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 Area.

## ***2.2 Mi'kmaq Ecological Knowledge Study Mandate***

Membertou Geomatics Solutions was awarded the contract to undertake a Mi'kmaq Ecological Knowledge Study for Alton Natural Gas with regards to their proposed gas lateral project. 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 project site within the proposed project and in surrounding areas within 10 kilometers of the project site. 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.

MGS understands that this study will be included in the screen-level Environmental Assessment under the Canadian Environmental Assessment Act (CEAA) that will be submitted to the regulators by Alton Natural Gas, and will be used as a primary indicator identifying Mi'kmaq traditional land and resource use within the Study Area.



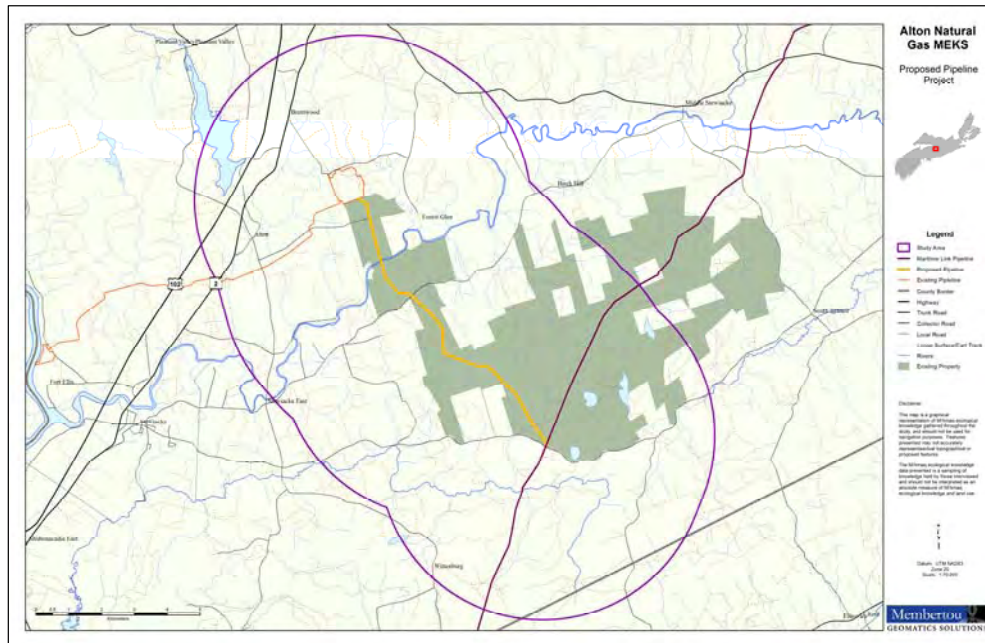
However, *it must be stated that this MEKS is not intended to be used for Consultation purposes by government and/or companies or to replace any Consultation process that may be required or established in regards to Aboriginal people. As well, this report cannot be used for the justification of the Infringement 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. 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 study 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 Alton Natural Gas, Mi'kmaq ecological knowledge and traditional land, water and resource use will be identified for those parties that are considering the proposed gas lateral project.

### ***2.4 MEKS Study Area***

This MEKS will focus the proposed gas lateral project, an area extending 10km south of the existing Alton Natural Gas Storage Facility, along with areas in the immediate vicinity of the lateral, this is known as the Project Site.



*Project site – proposed gas lateral (orange line) and Study Area (Purple highlight)*

The MEKS will also include an analysis in the adjacent Study Area. The Study Area is the areas within 5 kilometers of the Project Site, encompassing the areas of Alton, Brentwood, Forest Glen, Wittenburg, and Stewiacke East.

## **3.0 METHODOLOGY**

### **3.1 Interviews**

As a first step to gathering traditional use data, the MEKS team initiated dialogue and correspondence with two (2) Mi'kmaq communities in Nova Scotia: Millbrook First Nation, Indianbrook 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, fifteen (15) interviews were undertaken by the project interviewers and twenty four (24) individuals provided information in regards to past and present traditional use activities. Interviewees resided within or were from the communities of Millbrook First Nation, and Indianbrook 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 a map 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***

Site visits to each Project Site were undertaken by MGS staff members, guided by a Mi'kmaq ecological knowledge holder from Waycobah First Nation. Site visits took place over a period of three days in October of 2011. The site visits consisted of a walkthrough of the Project Site, noting and identifying any particular species in the area, plant and animal habitats, or other land/water features or areas that would be of importance to the Mi'kmaq.

Plant species of sage, golden thread, labrador tea, raspberry, blueberry, strawberry, blackberry, snowberry, bunchberry, and partridgeberry, were identified throughout the Project Site. Trees including alder, maple, cherry, birch, oak, balsam fir, hazelnut, spruce, and tamarack were also found.

Habitat areas and signs of deer, porcupine, and rabbit were also visible throughout the Project Site.

## **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. 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.

By analyzing the traditional use data with these variables, the MEKS thoroughly documents Mi'kmaq traditional use of the land and resources in a manner that allows a detailed understanding of potential effects of project activities on Mi'kmaq traditional use activities and resources.

## **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 Project Site/Study Area. 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 two (2) Mi'kmaq communities, Millbrook First Nation and Shubenacadie 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 historical 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 each Study Area.

The MEKS process is highly dependant 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 Project Study Area is located approximately 23 km southwest of the mouth of the Shubenacadie River and encompasses an area of lowland known as the Windsor Lowlands which is a large homogeneous landscape region that stretches from the Avon River Valley near Windsor to the Shubenacadie and Stewicake river valleys. The Windsor Lowlands are a subdivision of the larger Carboniferous Lowlands which includes large areas of central and northern Nova Scotia east of Cape Blomidon to the Margaree Valley and the coal fields on Cape Breton Island. The Carboniferous Lowlands have underlying Carboniferous sedimentary rock mainly of the low ice and weather resistant Windsor Group sandstones with some more wear resistant Horton Group Sandstones. The soft sedimentary bedrock produced much fine material to eventually form a deep overlying till soil cover which is approximately 75m thick in the Stewiacke area.

(1)

The hilly lowland topography of the Windsor Lowlands is influenced by the varying thickness of tills and various patches of wear resistant Horton Group rock to form uplands. There is very little surface water as the majority of strata are moderately to highly permeable and any lakes or wetlands present are mostly due to Glacial deposits impeding drainage, sinkholes, oxbows or large areas of heavy clay. Rivers and tributaries tend form a rectangular drainage pattern as the flow follows folds and joints in the underlying bedrock. The Shubenacadie River cuts across the folds and the layered bands of alternating soft and hard strata while the Stewiacke River flows parallel to the folds and bands (1)(8)

The gentle topography and soil drainage characteristics provide for a varied vegetated landscape of hardwood or mixed forest hills and softwood or mixed forested lowlands. (8) The mix of forests attracts deer to the area as the forest edges provide an ideal habitat for them and deer thrive in the upper basin of the Stewiacke River. Due to the low topography the deer in the area do not form large

groups during the winter as they do at foothills of highland areas. The tidal rivers easily allow spawning fish to reach inland spawning areas and for offspring to reach the ocean. The Shubenacadie River and Stewiacke River are visited by Tomcod, American Shad, Salmon and Stripped Bass and also have Brook Trout. (8)

### **Post Glacial**

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)

Glaciers take about 30,000 years to form and when average temperatures increase and when snow accumulation is less than snow loss, glaciation ceases and the ice sheets begin to recede at 4 times the rate of their formation. (16)

The Phase 1 ice flows were 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. (3) The Phase 2 ice center was located north of present day Prince Edward Island and flowed south over mainland Nova Scotia and southeast over Cape Breton Island. The southward ice flow of Phase 2 would have widened the north-south valley passes through the Cobequid Mountains and is responsible for much of the drumlin features found in Southern Nova Scotia today. (3)



The Phase 3 ice centre 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. (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 Kejimikujik National Park. (3)

The last of the glaciers receded with the Bay of Fundy being ice free between 16 and 14 thousand years ago. Northern portions of the province experienced periodic stalls and advancement 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)

As the last remnant Glaciers receded and the climate warmed again, the landscape was colonized by tundra vegetation of willow shrubs and herbaceous plants between 10 and 7.5 thousand years ago to be replaced boreal vegetation such as fir, spruce and birch until 6 thousand years ago when pine and oak was prominent. (4) Until 4 thousand years ago, temperatures were 2 degree Celsius warmer than today 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 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 repopulated the newly exposed land 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. The Chignecto Isthmus continues to assist migrations of new species such as the introduction of Coyote into the province in the past few decades. (6)

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 since 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. (36) As heavily weighted ice sheet centers as was located in the Gulf of St Lawrence depressed the earth's mantle, the areas of the mantle at ice sheet margins rose slightly. As the weight of the ice sheets diminished with melting the depressed center areas rebounded and rose in elevation while the mantle of the margin areas lowered in elevation. (37)

The Archaic Period covers a time of 9 to 2.5 thousand years BP and is further subdivided 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)(9) 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)

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)(9) 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.

In 1837 a spear point and hollow stone tubes were found in Dartmouth near the present day location of Admiralty Place. The hollow tube artifacts were later identified as Ohio pipestone and dated between 2,600 and 2,100 years ago and indicative of the trade network that existed between the early peoples of Northeast North America. (34) This type of find is associated with burials and a similar find at Whites Lake in the Prospect was a burial site of the same tradition and period

of the 1837 find. Laboratory analysis of charcoal determined that the Whites Lake Site dates between 2260 and 2440 years before present. (35) The disturbed site and remains were recorded and with the assistance of the Mi'kmaq Grand Council and the Mi'kmaq Association of Cultural Studies, the remains were reburied and the site protected. (34)

The remains found within the Whites Lake burial site were 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. (35)

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. (21) 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. (21)

### **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. (19)

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 accidentally. 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. (27)

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)

Mi'kmaq stories and oral traditions are an efficient way to pass on to 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. (29)

The following story interestingly describes a period very similar to the post Glacial period 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. (28)

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. (25) Kij-Niskam created Klu'scap with divine powers to live among the Mi'kmaq and he taught them all they needed to survive. (24)

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. (25)

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. (30)

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. (31)

## **Contact**

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)

Natives of the Maritime Peninsula and the Atlantic Shores that Europeans encountered were all of the Algonquin language group that included peoples located at present day New England, Quebec, Labrador, Newfoundland. To the west of Quebec and New England were peoples of the Iroquois language group. Divisions among the Algonquin language group were based on linguistic differences. (32)

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. The four groups distinguished by the early French were the Souriquois 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 Gaspé'. The early English referred to these same peoples as Tarrentines and they would later be known as Micmac or Mi'kmaq. (32)

West of the Souriquois lands and between the St. John River and the Kennebec River were peoples the French referred to as the Etchemins as did the peoples themselves. Later the Etchemins would be later known as Maliseet and included peoples between the Kennebec River and the Penobscot River. (32)

West of the Kennebec River and as far south were the Almouchiquois as the Souriquois referred to them, "Dog People" because the Almouchiquois and Souriquois had a history of war. (15) 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. (32)

The Almouchiquois peoples were distinct in language, clothing and dress from the peoples eastward. The Almouchiquois also practiced horticulture. This group was somehow severely impacted by early French contact and through disease and warfare eventually faded from their lands and records. (32)

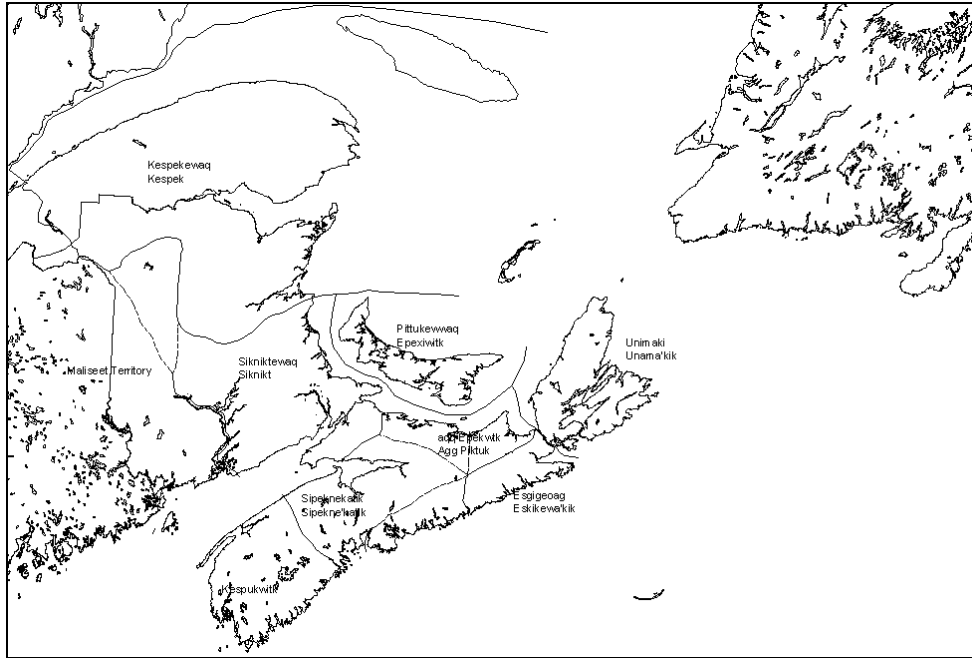
The Abenakis were the fourth Algonquin language group encountered by the early French and occupied an area centered inland on the Kennebec River. The Abenakis associated more with the French in Quebec and eventually the French referred to all the original four groups as Abenakis. The Abenakis also practiced 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. (32)

### **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 Gaspé 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: (17)





Mi'kma'ki Political Districts Circa 1600 (17)(18)(19)(20)

***District (Various Spellings)***

***Geographic Territory***

*Unimaki (17) (Unama'kik) (18)(19)(20)*

Cape Breton Island  
Southern Newfoundland

*Esgigeoag (17) (Eskikewa'kik) (18)  
(Eski'kewag) (19)*

Canso-Sheet Harbour

*Sipeknekatik (17) (Sipekne'katik) (18)  
(Sikepne'katik) (19)*

Sheet Harbour-Lahave  
including Minas Basin  
and Cobequid Bay

*Kespukwitk (17)(18)(19)*

Southern Nova Scotia,  
Lahave-Middleton

<i>Pittukewwaq (17) (Epexiwitk) (18)</i> <i>(Epekwitk) (19)</i>	Prince Edward Island
<i>agg Epekwtk (17) (Agg Piktuk) (18)</i> <i>(Piktuk) (19)</i>	Shediac to Canso Strait
<i>Kespekewaq (17) (Kespek) (18)</i> <i>(Kespe'kewag) (19)</i>	Chaleur Bay to Gaspé Peninsula
<i>Sikniktewaq(17) (Siknikt) (18) (Sikniktewag) (19)</i>	Chaleur Bay to Shediac

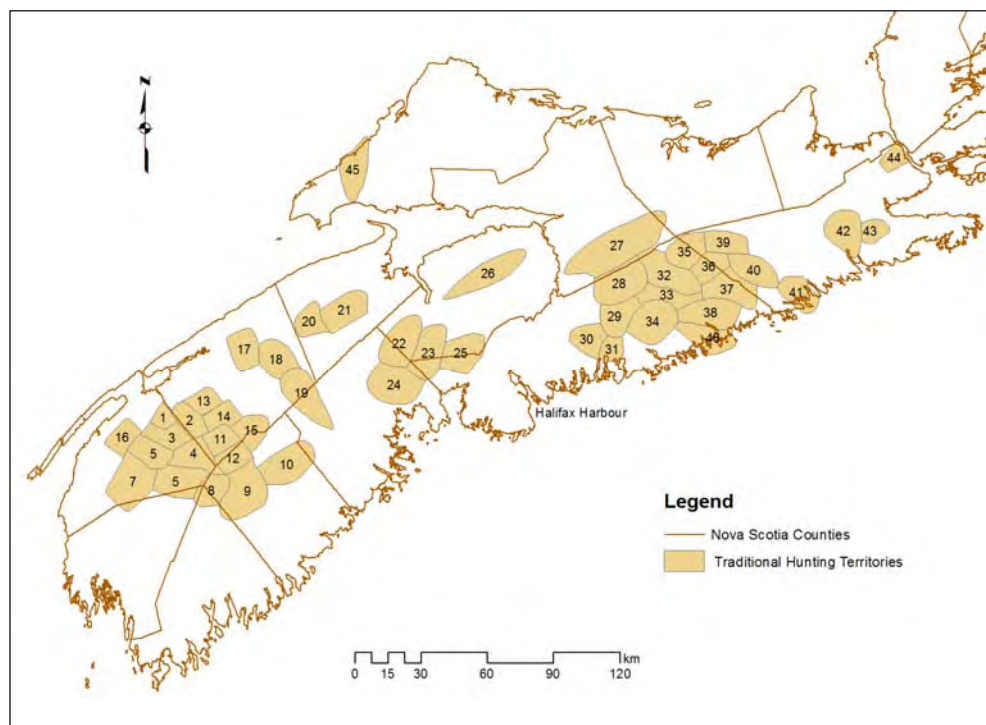
Three of these political districts are close proximity to each other and converge to share a portion of the Bay of Fundy and Minas Basin. *Pittukewwaq agg Epekwtk* (P.E.I and Northumberland Strait from Shediac to Canso Strait) territory is only the distance of the width of the Chignecto Isthmus to access the Bay of Fundy. (17) 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. (18)(19) 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. (18)(19)

The Study Area is within the Political District *Sipeknekatik (17) (Sipekne'katik) (18) (Sikepne'katik) (19)* which has an Atlantic shoreline from Sheet Harbour to Lahave as well as a shoreline on the Bay of Fundy, Minas Basin and Cobequid Bay.

*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*. (25) Highly mobile Bands consisting of several related families would assemble at favorite camp

sites. In the fall and winter small groups of 10-15 people would disperse for winter hunting. (25)

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. (24) Hunting districts of approximately 200-300 square miles were assigned to families. (25)



Mainland Nova Scotia Traditional Hunting Territories (22)

The districts were usually surrounded lakes and rivers and were passed on to sons unless there were no sons where the district was then assigned to another family. (22) 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. (24)

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. (22)(24) Cape Breton Island Mi'kmaq hunting territories are larger and more regional encompassing shorelines and interior river systems indicating a more sparse population. (22)

<b>Map Reference</b>	<b>Name of Family</b>	<b>Geographic Territory</b>
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	Shelbourne 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,	Medway Lake and part of river

	“yellow”)	
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	Kenneticook 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

Mainland Nova Scotia Traditional Hunting Territories Recorded Circa 1919 (22)

The Project site is within one of the last known traditional hunting territory of the Stewiacke River Valley. At the time of the 1922 publication, Frank Paul was assigned the Stewiacke River Valley Traditional Hunting Territory (No.27) which covered a large area the width of Colchester County and was south along the Colchester-Halifax County boundary. (22)

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.

(24)

<b>Month</b>	<b>Seasonal Locations</b>	<b>Seasonal Groupings</b>	<b>Food Resource</b>
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 Winter Famine)	Inland	Bands & Family Units	Smelt, Seals & Walrus (ending) Scallops, Crab, Urchins, 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 (25)

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. (21)(24)

### **The Shubenacadie River System**

The Shubenacadie River System provides an almost continuous water travel route with minor elevation change from the Atlantic Coast at Halifax Harbour to Cobequid Bay at Maitland. From Dartmouth Cove, Halifax Harbour, the Shubenacadie River System route begins at Sea Level and climbs north to an approximate 15m elevation in less than a kilometer distance to Sullivan's Pond, the first in a chain of lakes. The next lake upstream in the chain is Lake Banook followed by Lake Micmac and both at the same approximate elevation as Sullivan's Pond. After an additional 10m climb to 25m in elevation over a 1.5km portage is Lake Charles followed by Lake William which is approximately 10m drop in elevation over a short distance from Lake Charles. The chain lakes of Lake William, Lake Thomas and Fletcher Lake add another 14km to the approximate 10km travelled to the end of Lake Charles to arrive at Shubenacadie Grand Lake. Shubenacadie Grand Lake is approximately 13 km long in a NE-SW direction and roughly 3km across at the widest section and is at an elevation of approximately 15m above Sea Level. Travelling north about 2/3 lake distance along the east shore of Shubenacadie Grand Lake, the Shubenacadie River meanders in a northeast general direction along the valley floor for another 33 km in straight flight distance to where the Stewiacke River flows southwest into the Shubenacadie River from the east bank. The Stewiacke River provides a NE-SW route that extends approximately 60 km inland from the Shubenacadie River. Other rivers such as the Nine Mile River flowing southeast and the Gays River flowing west also meet the Shubenacadie River along the distance between Shubenacadie Grand Lake and Stewiacke. The Shubenacadie River widens to 1.5km at the widest section as it continues to meander from where Stewiacke



River joins for another approximate 25km in a northwest flow until it reaches Cobequid Bay at Maitland.

### **Area Archaeology**

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. Archeologists and researchers can create time periods and approximate distribution and movement of peoples or cultural groups through examination of tool styles together with carbon dating. 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. Through an early network of trade these peoples quickly adopted technological changes, stylizations and ideas. (32)

A 1970 Archaeological Survey of the Shubenacadie River System identified 3 areas of Prehistoric finds and sites being the area of the Shubenacadie River between Grand Lake and Enfield, the area surrounding where the Nine Mile River and the Shubenacadie River Meet and the area surrounding where the Stewiacke River meets the Shubenacadie River. The sites are determined to be fishing stations at strategic fishing locations that are also intersections of travel routes from the Atlantic Coast, Cobequid Bay and interior portions of the mainland. (10)

Between Halifax Harbour (Dartmouth Cove) and there are numerous archaeological finds and sites along the Shubenacadie River System as evidence

of early peoples passing. A grooved axe was found between Dartmouth Cove and Lake Banook. Two possible Archaic stemmed points and a side-notched point of an unspecified later period was found off Highway 18 near the north end of Lake Charles. (10)

Sites BfCv-17 to BfCv-20 span Archaic and Ceramic periods and is located at the south end of Shubenacadie Grand Lake and grouped east of Wellington Station. The sites are heavily disturbed by canal construction and an 81 piece collection by the Engineer in-charge of the canal completion consisted of ground stone tools, adzes, gouges, 2 grooved axes and 2 plummets. A mix of Archaic and Ceramic period artifacts were found during investigation of the site. The Archaic Period artifacts were found west of the outlet to Lake Fletcher at Site BfCv-17. (10)

In the northern portion of Shubenacadie Grand Lake, Site BfCv-24 located on the east shore and BfCv-26 on the west shore have yielded grooved axes each and are estimated to be Archaic or Late Archaic Period.

Sites BfCv-21 and BfCv-22 located at Indian Point produced scrapers, chips and an adze during an archaeological investigation into local oral history of skeletal remains at Indian Point. The investigation was unable to confirm the skeletal remains finds. (10)

A heavily disturbed site produced heavy ground tools such as gouges and adzes estimated to be Archaic Period. Cultivation of a field near and at a shallow depth of 300mm destroyed the site BfCv-2 located on the east bank after the first bend in the Shubenacadie River as it flows from Shubenacadie Grand Lake. (10)

Further downriver 1 km is located a complex site on the north and west bank of an east to north bend in the river. Site locations BfCv-3 to BfCv-8 and including BfCv-15 and BfCv-16 cover an area that stretches along the bank and around the bend for a distance of 730m. The sites were mostly undisturbed and

archaeological finds include points, scrapers, pot sherds, quartz chips, flake knife, native copper gouge and beaten native copper piece. The large site is a favored location as the site is potentially a Ceramic Period site overlying a Late Archaic site. (10)

Sites BfCv-10 to BfCv-14 and including BfCv-31 are a complex located at the intersection of the Shubenacadie River and Highway No. 2. The sites are heavily disturbed by canal and bridge construction but produced numerous artifacts including stemmed points, side notched points, convex adze, scrapers, knives, potsherds and a pendant. The location also produced a collection of leaf shaped and triangular points-knives of both side-notched and side-notched points as well as a plummet. This location was also favored as it also has potential to be a Ceramic Period Site over an Archaic or Late Archaic Site. (10)

Where the Nine Mile River flows into the Shubenacadie River is another grouping of sites that are heavily disturbed by cultivation but have produced artifacts of ground slate cemicircular knife, a number of plano-convex adzes, scrapers and a gouge. (10)

Closer to the Study area, potential archaeological sites surrounding where the Stewiacke River meets the Shubenacadie River may have been destroyed over many years of cultivation. The archaeological finds are isolated and include an adze found in a plowed field and unconfirmed collections by farmers that have since been lost. The Stewiacke River has 5 potential archaeological sites between the Shubenacadie River and East Stewiacke and like the sites where the rivers meet, these sites are heavily disturbed by cultivation. The artifacts produced by the East Stewiacke sites are estimated to be Late Archaic to Early Ceramic and include a grooved axe, stemmed points, leaf shaped knife and a lanceolate biface fragment. (10)

There are few if any archaeological finds down river from where the Stewiacke River meets the Shubenacadie River. The river widens and the banks are steep sandstone cliffs and local oral history places Mi'kmaq spearing salmon where at the mouth of Five Mile River in the early 1900's. (10)

### **Known Mi'kmaq Place Names**

Shubenacadie = "place where groundnuts grow" (8)

Stewiacke = "flowing out in small streams" also "whimpering or whining as it goes" (8)

Salmon River = pulamooa seboo "salmon river" (15)

Debert River = wasokgek "bright" or glistening spot" (15)

Brookfield = bankwenopskw "we hunt amongst rocks" (15)

### **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. (38)

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. (38)

In 1749, the Honourable Edward Cornwallis, Captain General, Governor-in-Chief, set out for Annapolis with foreign Protestant settlers following in transports. He was then to proceed to Louisbourg with the transports to evacuate the English troops and transport them to Chebucto. (39) 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. (40)

On August 14, 1749 to meet with the Governor and Council aboard the Beaufort to sign 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. (40) 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. (45) The crucial tribes to Cornwallis and the Council were the St. John River tribes where some members of Council had 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. (44) Although Jean Baptist Cope would eventually sign and break a peace treaty with Cornwallis, Cornwallis' arrogance prevented him from ever offering to negotiate with the Mi'kmaq the terms to which Halifax could be settled within Mi'kmaq territory. (45)(42)

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. (41) 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. (42)

The September 30, 1749 Mi'kmaq attack on a sawmill at Dartmouth resulted in 4 English dead with decapitation and scalping, 1 carried off and 1 escaping to raise the alarm. A detachment of rangers chased and overtook the Mi'kmaq and killed 3 warriors with 2 being decapitated and 1 scalped. (45)

Newly arrived German settlers in 1751 were directed to the Dartmouth side of the harbour due to the town was not ready to accommodate them within the Halifax settlement. (11) In the late spring of 1751 a Mi'kmaq war party estimated to be 60 warriors attacked in the early morning hours. Shelters were burned and 8 settlers were killed and another 14 were captured as prisoners. The prisoners were taken along a trail (Old Ferry Road) to Lake Charles, Lake William and on to the Shubenacadie River (46)

The settlers were attacked by the Mi'kmaq with such vengeance, death and capturing of prisoners that settlers were reluctant to stay on the Dartmouth side which curtailed further attempts to settle the Eastern side of the Harbour due to the lack of protection provided by the blockhouse during the initial attack. (45) The remaining settlers amounted to less than a dozen families and required a detachment of soldiers to provide protection. The settlers did little to develop Dartmouth as they feared Mi'kmaq attacks should they work in the woods clearing for settlement and crops.

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. (43)

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 K'jipuktuk (Chebucto). However, Cornwallis extended the 1744 Massachusetts Scalp Bounty to include all Mi'kmaq. (44) 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 Isle 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. (40)

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. (46) 1751 saw the construction of the Peninsular Blockhouses and the Peninsular Road. The series of 3 Blockhouses connected by a patrol road extended from the Northwest Arm to the Bedford Basin. The purpose of the Peninsular Blockhouses was to protect the settlers from Mi'kmaq attacks while they cleared and cultivated the land. (12)

There was no direct Mi'kmaq attack against the fortified town of Halifax but rather the Mi'kmaq ambushed stragglers who ventured too far from the fortifications. (45) The fear instilled by the Mi'kmaq attacks severely hampered further development of Halifax and kept the English confined close to fortifications and prevented them from exploring the interior of the province. (40)

The North Blockhouse of the Peninsular Blockhouses came under surprise attack by the Mi'kmaq while the Guards were drinking and playing cards and they were killed. (12) This was typical of the Mi'kmaq attacks as they waited for the careless who wandered too far from the fortifications of the town or let their guard down. Such was the case when 2 workmen were killed at a small sawmill on the stream flowing out of Chocolate Lake. (12)

Cornwallis' superiors being the Lords of Trade and Plantations initially supported Cornwallis' actions to reduce the number of Mi'kmaq but advised Cornwallis that based on experience in New England more peaceful resolutions worked better than force with Indians. (40) A year Later the Board reprimanded Cornwallis for his campaign against the Mi'kmaq and for a year in 1752 he attempted to establish trade and peace with Mi'kmaq Chiefs who would allow Truck houses established in their territories. (43)

Governor Cornwallis was granted permission to resign as Governor on August 03, 1752 and his successor was Hon. Peregrine T. Hopsin. Cornwallis continued to



attend Council Meetings until October 10, before leaving the Province. (45) In 1752, it was proposed that Governor Hospin make peace with the Mi'kmaq by offering annual gifts in return for their loyalty. This would at least provide an opportunity to discover the trails the Mi'kmaq use during their raids and then establish a fort and truck house at the main trail for the purpose of supplying the Mi'kmaq and fortifying the main trail. (46)

In September of 1752, Jean Baptist Cope, then Chief of the Shubenacadie Mi'kmaq and sometimes referred to as Major Cope, arrived with terms for peace which were agreed upon with the English and dated September 15, 1752. Less than 8 months later Cope was involved in the abduction and ransom of an Englishman. (45) A delegation of soldiers left Halifax to meet with Cope and disappeared with the exception of one soldier who was later ransomed back to the English. The returned soldier recounted that Cope had killed all in the delegation with the exception of himself through the intervention of an Acadian couple who also arranged his return. He also described how Cope burned his copy of the treaty and boasted his deception for the purpose of making the English vulnerable to surprise attacks. (43) However, Cope's actions may have been in retaliation for the killing of Mi'kmaq women and children in a skirmish between English sailors and Mi'kmaq on the Atlantic Coast. (43) Hostilities continued between the Mi'kmaq and the English with sporadic Mi'kmaq attacks occurring along the coast to the Northeast and Southwest of Halifax Harbour which made creating new settlements impractical. (45)

The Mi'kmaq were occupied in helping to build French fortifications at Beausejour and other locations in the Spring of 1754. The French had 3 Mi'kmaq tribes assisting them in their fortifications and committed to side with the French against the English. (46) The English took the opportunity during the lull in hostilities to settle some English outposts for the fishery. Captain Floyer and a detachment explored the Shubenacadie lakes and river system and found good land and timber. (46) Captain Floyer also mapped the location of the Mission

Sainte Ann on the west bank of Shubenacadie River midway between upriver Gays River confluence and The Stewiacke River confluence. Mission Sainte Ann is where LeLoutre continued to use the mission as a staging area for Mi'kmaq attacks on Halifax. (41) The English saw considerable advantage to fortifying the Shubenacadie system to interrupt the Mi'kmaq transportation route and provide security to Dartmouth settlers so they may properly cultivate their lands. (46)

The sporadic attacks on the English continued in October of 1756 with French and Mi'kmaq killing Englishmen at the out ports by laying in-wait in the forest to fire upon work parties and disappear again into the woods. (46)

More Mi'kmaq attacks in 1757 against areas of Eastern Passage and Point Pleasant Park caused the English to consider recalling the settlers and troops from Lawrencetown which they eventually did on August 25, 1757. (46)

Jean Baptist Cope was killed in the spring of 1758 at the area of Point Pleasant Park. Mi'kmaq Leaders secretly met to try and come to a consensus on negotiating a peace with the English when an argument broke out among the Mi'kmaq and a short skirmish resulted in 17 Mi'kmaq dead. (14) Jean Baptist Cope was buried at the same location thought to be Father Abbe Thury's burial site at Point Pleasant Park. (49)

### **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. (32)

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. (17) The Mi'kmaq of the Bay of Fundy and Eastern Atlantic Coast were most impacted by European disease. (17)

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. (25) In 1746 a French expeditionary force landed at Cheboucto (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. (17)

Mi'kmaq mortality rates of up 66-75 percent were reported among the impacted Mi'kmaq villages. (33)(25) 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. (17)

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. (17) 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. (46) 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. (46)

There was still some residual apprehension thereafter on the English side as to if the Mi'kmaq would hold the peace. (46)

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. (43) However, the land provided less over time as they were displaced from traditional territories and the amount of game available declined. (43)

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. (46)

There were an estimated total 1500 Mi'kmaq men, women and children within mainland Nova Scotia and Cape Breton Island in 1762. (46) 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. (46)

Michael Franklin was appointed Superintendent of Indian Affairs and periodically reported and reassured Council in 1777 of the Mi'kmaq tranquility and maintaining the peace while they were being constantly courted by New England Rebels to take up arms against the English. (46) To further ensure the Mi'kmaq remain neutral in the American Revolution, in 1780 the English required that all tribes retreat from the Americas. (46)

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 licences to the Mi'kmaq in 1783 for lands they promised to settle. (47)

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. (47)

Fort Ellis was built in 1761 on the north bank of the confluence of the Stewiacke and Shubenacadie River. It was eventually abandoned in 1767. (15)

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 treaty obligations and provisions were sporadic or had to be petitioned for by the Mi'kmaq. (48)

As early as 1699, Shubenacadie has been a part of the early Mi'kmaq and European history. Twice the location was part of a Mi'kmaq resettlement scheme with the first being when missionary Father Louis-Pierre Thury attempted to attract all Acadia Mi'kmaq to one central location. The other resettlement involved the Federal Government's centralization policy in the early 1940's involved moving all Nova Scotia Mi'kmaq to 2 reserves located at Shubenacadie and Eskasoni, Cape Breton Island. Partial movements of communities resulted in a rapid increases in population on these two reserves. The suddenness of communities being thrown together resulted in separate groups of new "Pictou" or "Truro" residents as well as original Shubenacadie residents.

The present Shubenacadie (Indian Brook) reserve lands, Indian Brook IR 14 is approximately 5 km east of Mission location shown on Floyer's 1754 map

### **Historical Review Summary**

The Shubenacadie River System provides an almost continuous water travel route with minor elevation change from the Atlantic Coast at Halifax Harbour to Cobequid Bay at Maitland.

Archaeological evidence indicates early peoples used the Shubenacadie River System during the Archaic and Late Archaic periods with some of these sites overlain by Ceramic Period sites. Three areas of concentrated Prehistoric finds are the area of the Shubenacadie River between Grand Lake and Enfield, the area surrounding where the Nine Mile River and the Shubenacadie River Meet and the

area surrounding where the Stewiacke River meets the Shubenacadie River. The sites are strategic locations for fishing stations as well as intersections of travel routes from the Atlantic Coast, Cobequid Bay and interior portions of the mainland. (10)

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. (41)

The Study Area is within the Political District *Sipeknekatik* (17) (*Sipekne'katik*) (18) (*Sikepne'katik*) (19) which has an Atlantic shoreline from Sheet Harbour to Lahave as well as a shoreline on the Bay of Fundy, Minas Basin and Cobequid Bay.

The project study area is part of the Stewiacke River Valley Mi'kmaq traditional hunting territory. (22)

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, and Project Site, where they knew of traditional and current use that has/had taken place. These interviews took place in November and December, 2011.

To easily identify the traditional use data findings of this study, the analysis has been categorized into two geographic areas. The first is the Project Site – the area within the Alton Natural Gas Project where the proposed pipeline will be located, along with areas in the immediate vicinity of the proposed pipeline. The second is the Study Area, located within a 5 km radius of the Project Site, covering an area that encompasses Alton, Brentwood, Forest Glen, Wittenburg, and Stewiacke East.

Based on the data that was gathered by the study team, it appears there is 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 – Alton Natural Gas Project Proposed Pipeline***

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 trout is the most fished species in this area.

Nineteen (19) trout fishing areas were identified by informants in the northern portion of the Project Site in the Stewiacke River near Forest Glen, and in brooks and/or streams located near the southern portion of the Project Site, just west of Croskill Lake.

Bass fishing areas was identified by informants in nine (9) areas in the northern portion of the Project Site in the Stewiacke River near Forest Glen, and in brooks and/or streams located near the southern portion of the Project Site, just west of Croskill Lake.

Salmon was reported to be fished in six (6) areas in the northern portion of the Project Site in the Stewiacke River near Forest Glen

Other species identified by informants, but to a relatively lesser degree are shad, smelt, and eel.

In terms of the timelines reported for these fishing activities, the data from the interviews was roughly evenly spread through the categories. Historic past and current use information were approximately thirty five percent (35%) each, and recent past use was reported in approximately thirty one percent (31%) of the information.

As for types of fishery in the Project Site, all of the fishing areas were identified as food harvest fishing activities.

## **Hunting**

Five (5) deer hunting areas were reported by informants during the interview process. While the entire Project Areas was indicated to be in the middle of a hunting area, specific areas also include south of Cloverdale Road to Stewiacke Road.

Partridge hunting was reported in five (5) areas of south of Cloverdale Road to Stewiacke Road. Like deer, the Project Site was also said to be in the middle of a larger hunting area.

Porcupine and rabbit hunting was reported in five (5) areas each south of Cloverdale Road to Stewiacke Road. Like deer and partridge, the Project Site was also said to be in the middle of a larger hunting area.

Other species reported to be hunted, but to a relatively lesser degree are pheasant, beaver, bobcat, muskrat, raccoon, and squirrel.

As for the timeline of the data collected, a slight majority of the information is categorized as historic past with forty five percent (45%) of informants classifying their information as such. Current use hunting was represented in thirty three percent (33%) of the information gathered, and recent past had twenty two percent (22%).

## **Gathering**

For the Project Site analysis, no species or specific gathering activity had more than one (1) area identified on the map.

Alder and mayflowers were gathered near Forest Glen from approximately Stevens Road to near Cloverdale Road. Apple gathering is around Cloverdale

Road. Bricbark was gathered near the southern portion of the Project Site around Stewiacke Road. Evergreens, spruce trees, and their bows were gathered near Forest Glen from Stevens Road to Cloverdale Road; and around Stewiacke Road. Blueberries were picked from south of Cloverdale Road to north of Jameson Road.

All of the gathering areas, with the exception of one –apples, have been used as gathering areas from historic past, up to current use with some dating back to the 1970's.

**Study Area – Alton, Brentwood, Forest Glen, Wittenburg, and Stewiacke East**

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. The purpose of this portion of the study is to portray other land use activities that may have been missed in the Project Site data analysis.

**Fishing**

Fifty (50) trout fishing areas were identified by informants primarily in the Stewiacke River. Other areas include Shortts Lake; from Brentwood to Forest Glen Road; brooks and streams near Stewiacke East, Wittenburg, Croskill Lake, Northwest Lake, Davis Lake, Brenton Lake; and around Cloverdale. These activities were described as a harvest fishery.

Bass was reportedly fished in twenty five (25) areas primarily in the Stewiacke River. Other areas include Shortts Lake and Brentwood; in brooks and streams near Alton, Stewiacke East, and Cloverdale; and in Croskill Lake, Northwest Lake, and Davis Lake.

Twelve (12) salmon fishing areas were described as occurring in the Stewiacke River; near Stewiacke East; brooks and streams surrounding Brentwood, including Shortts Lake; near Wittenburg; and around Cloverdale.

Other species mentioned by informants, but to a relatively lesser degree than those mentioned above are shad, eel, smelt, gaspereau, perch, and pickerel.

With regards to the timeline categories for fishing activities, the majority of the data is classified as current use with forty seven percent (47%) of the data was described as such. Thirty one percent (31%) of the activities took place in the recent past, and twenty two percent (22%) took place in the historic past.

## **Hunting**

Twenty (20) deer hunting areas were identified from Alton to Brentwood to Forest Glen Road; from Forest Glen to Birch Hill, Cloverdale, and to Stewiacke Road; and around Wittenburg.

Informants had identified rabbit hunting in seventeen (16) areas from Alton to Brentwood to Forest Glen Road; from Forest Glen to Birch Hill, Cloverdale, and to Stewiacke Road; and around Wittenburg.

Partridge (sixteen (16) areas) and pheasant (twelve (12) areas) were hunted in areas from Alton to Brentwood; around Forest Glen to Birch Hill to Cloverdale; and near Wittenburg.

Thirteen (13) porcupine hunting areas had been identified by informants as occurring in the areas from Alton to Brentwood; around Forest Glen; Cloverdale to Stewiacke Road; and around Wittenburg.

Other species mentioned during the interview process, but in relatively smaller numbers than those mentioned above are beaver, muskrat, raccoon, bobcat, and squirrel.

With regards to a time line categorization, the data suggests that hunting in this area has gone on continuously (in some cases, since the 1950's), slightly favoring recent and historic past data. Historic and recent past categories represented approximately thirty seven percent (37%) of the hunting data, and current use had approximately twenty seven percent (27%).

### **Gathering**

Blueberry gathering was the activity with this highest number of areas within the Study Area. Five (5) areas were identified around Shortts Lake; near Cloverdale; east of Stewiacke East; and around Wittenburg.

Other gathering activities that were recorded in the interviews, but were mentioned in relatively smaller numbers than blueberries are birch bark, evergreens, maple syrup, mayflower, alders, apples, golden thread, spruce trees, and teaberry.

#### **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 the potential impact of a resource being destroyed, by the proposed project activities, will affect the traditional use activity being undertaken.

### **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:

<b>TYPE OF USE</b>	<b>NUMBER OF AREAS</b>	<b>NUMBER OF SPECIES</b>
<b>Food/Sustenance</b>	230	23
<b>Medicinal/Ceremonial</b>	21	7
<b>Tools/Art</b>	9	6

##### **Availability**

During the information gathering for both Study Area options, there were no rare species of plants or animals identified by the informants. However, informants did mention one species that is listed as an endangered species: Atlantic Salmon (Mersey Tobiatic Research Institute).

##### **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 trout fishing done in the area. These waters are heavily fished for this species by Mi'kmaq, specifically in the Stewiacke River, and any environmental effects could destroy or hamper a source of food for some Mi'kmaq.

As noted previously, salmon are listed as an endangered species under the Canadian Species at Risk Act, with fewer than 200 adult salmon returning to the rivers and streams that feed into the Bay of Fundy to spawn. Some Mi'kmaq places a high significance when it comes to salmon and its importance to Mi'kmaq culture. With regards to the Stewiacke River and this project, anything that could upset the habitat of these fish could have a substantial impact on the 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 traditional use activities, primarily fishing, in the Project Site (or adjacent to), and that this practice continues to occur today. It appears the majority of activity that occurs in the area is trout fishing.

### **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 these practices 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.

**Trout** was found to be the most fished species in the Study Area. Other species of fish noted are **bass** and **salmon**. **Deer, rabbit, partridge, porcupine,** and **pheasants** were recorded as being hunting in multiple areas. **Blueberries** were the most gathered species within the Study Area.

## **RECOMMENDATION # 1**

*This Alton Natural Gas – proposed gas lateral project 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, especially with regards to trout and salmon fishing. It is recommended that the traditional use activities of the Mi'kmaq be reflected upon in the overall environmental presentation and any remediation or project work consider the interest the Mi'kmaq have in the area.*

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## APPENDIXES



Map A

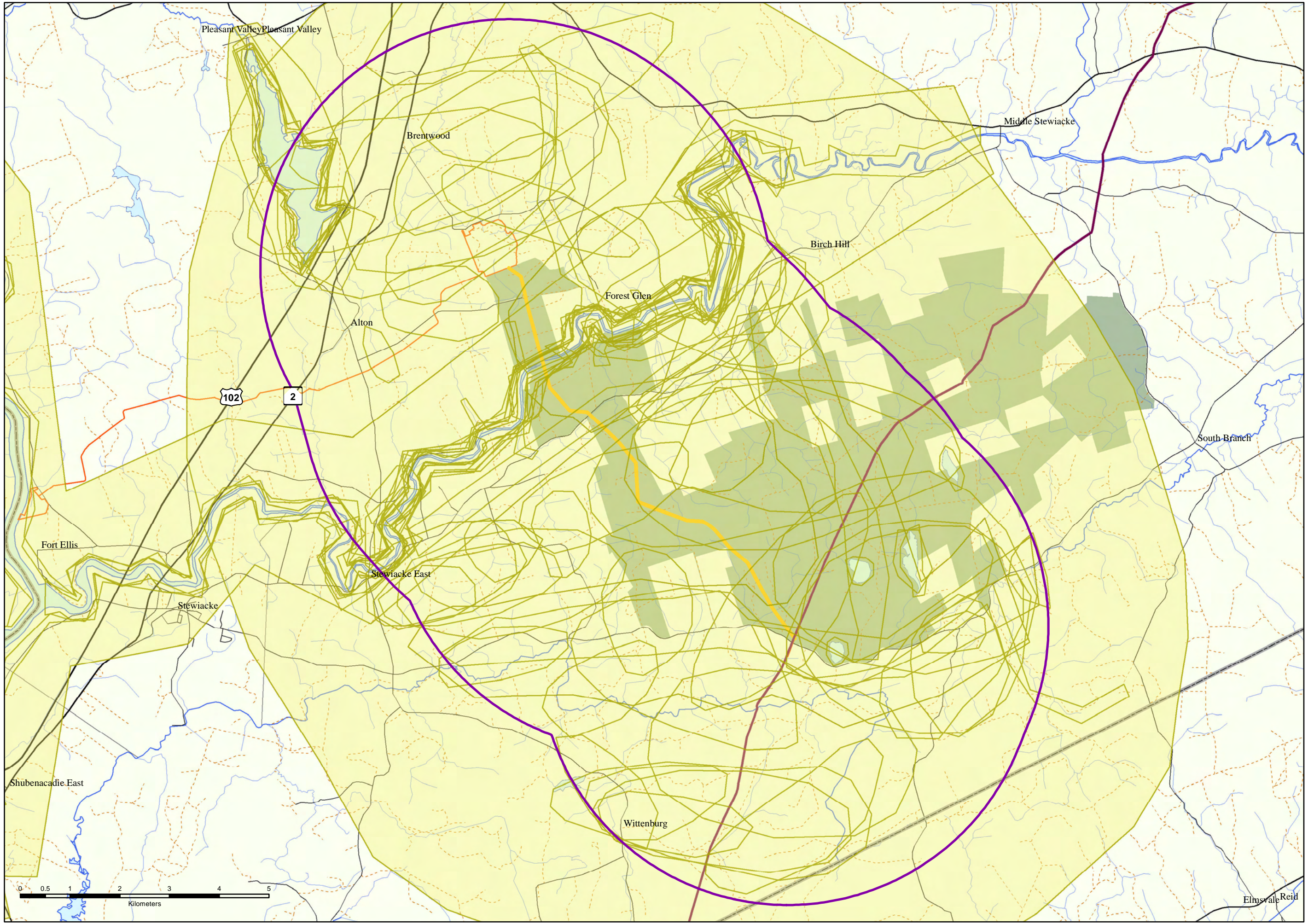
Mi'kmaq Traditional and Current Use Areas





# Alton Natural Gas MEKS

## Mi'kmaq Traditional and Current Use Areas



### Legend

- Study Area
- Traditional Use Areas
- Maritime Link Pipeline
- Proposed Pipeline
- Existing Pipeline
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Existing Property

### Disclaimer

This map is a graphical representation of Mi'kmaq ecological knowledge gathered throughout the study, and should not be used for navigation purposes. Features presented may not accurately represent actual topographical or proposed features.

The Mi'kmaq ecological knowledge data presented is a sampling of knowledge held by those interviewed and should not be interpreted as an absolute measure of Mi'kmaq ecological knowledge and land use.



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 Zone 20  
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 Version: 2  
 21 Mar 2012



Elmsvale Reid





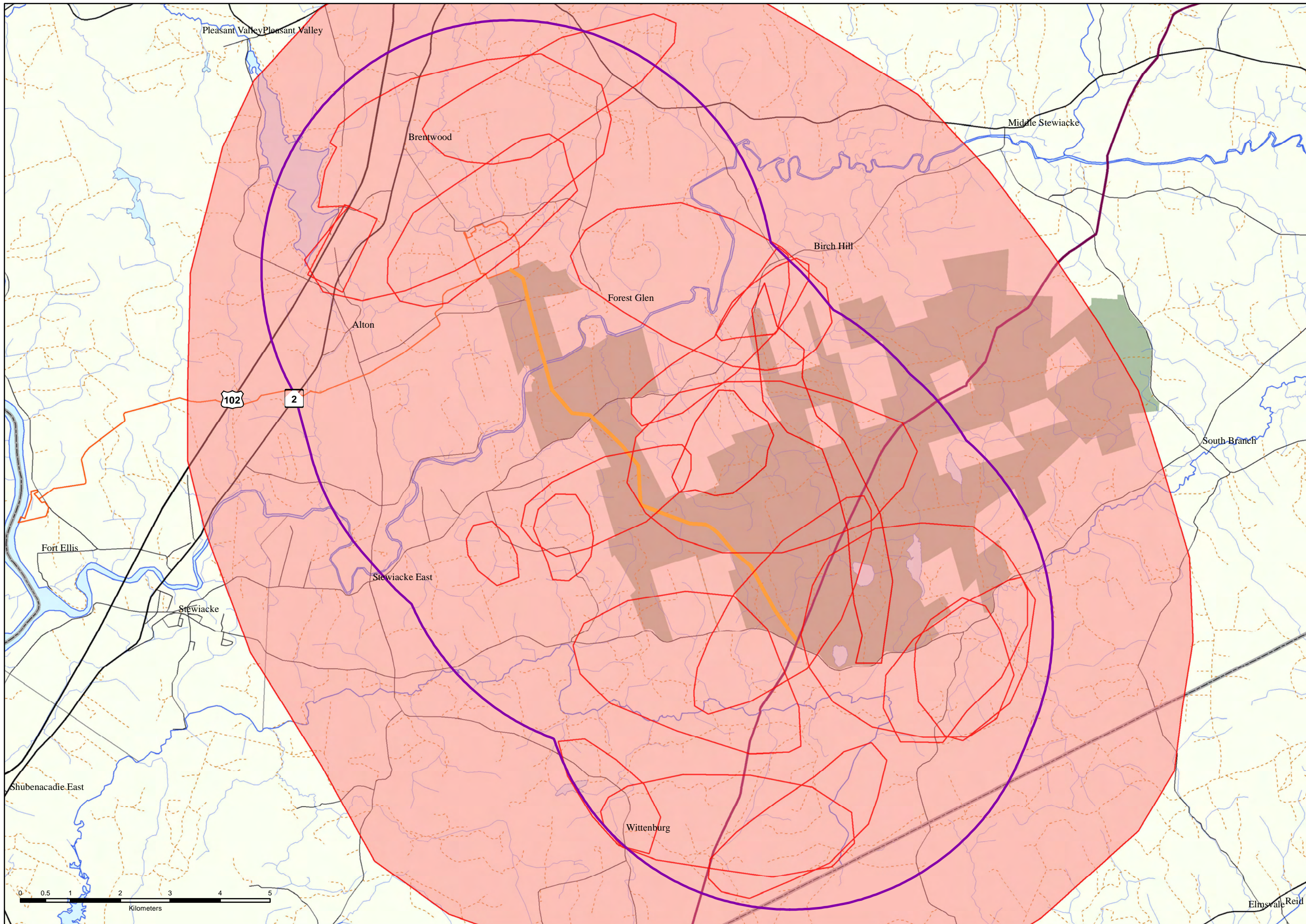
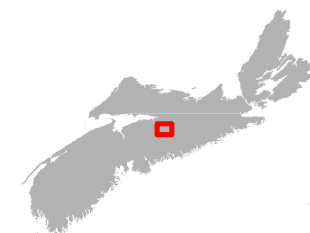
Map B  
Mi'kmaq Traditional and Current Hunting Areas





# Alton Natural Gas MEKS

## Mi'kmaq Traditional and Current Hunting Areas



### Legend

- Study Area
- Hunting Areas
- Maritime Link Pipeline
- Proposed Pipeline
- Existing Pipeline
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Existing Property

### Disclaimer

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Version: 2  
21 Mar 2012







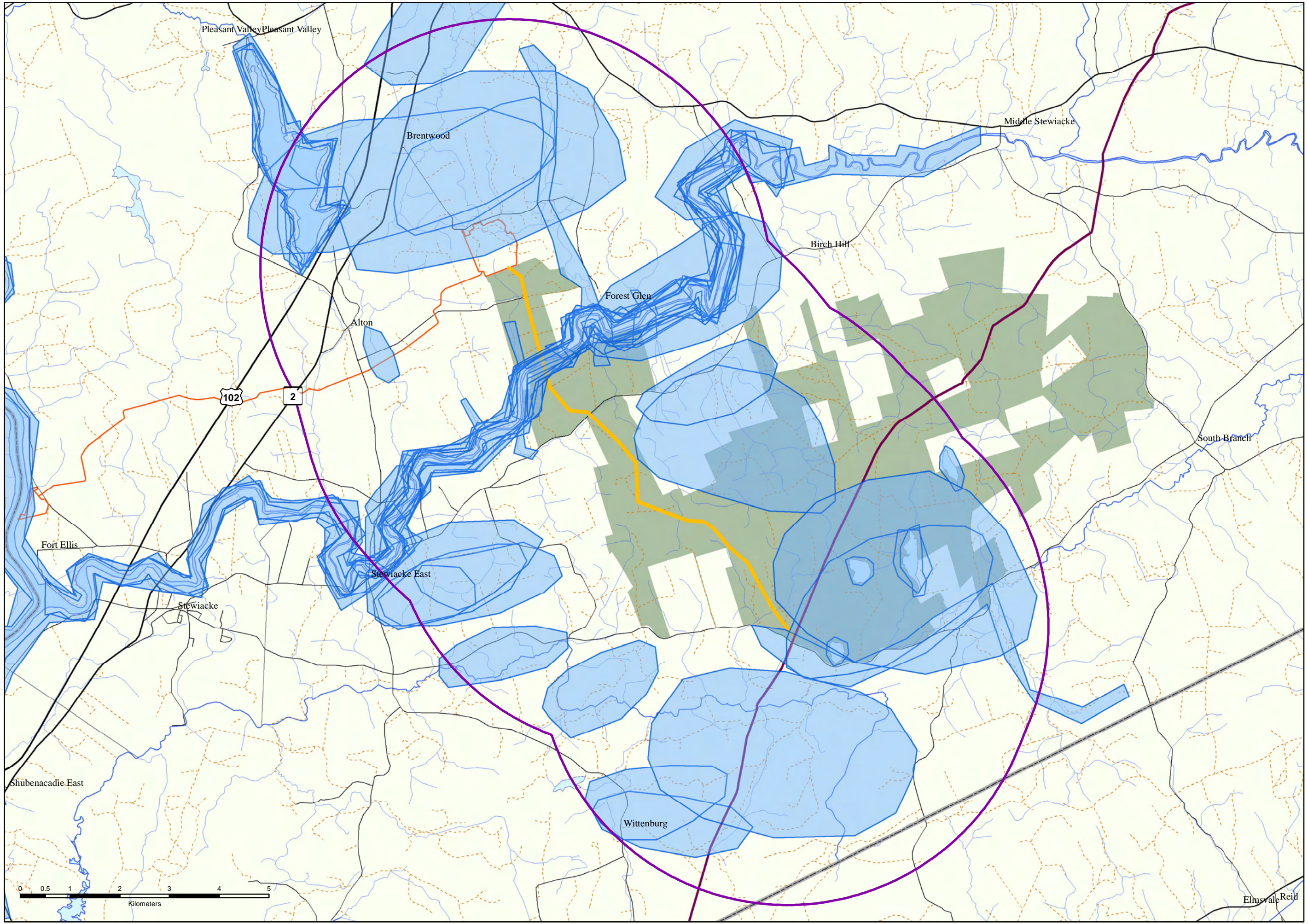
Map C  
Mi'kmaq Traditional and Current Fishing Areas





# Alton Natural Gas MEKS

## Mi'kmaq Traditional and Current Fishing Areas



### Legend

- Study Area
- Fishing Areas
- Maritime Link Pipeline
- Proposed Pipeline
- Existing Pipeline
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Existing Property

### Disclaimer

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21 Mar 2012







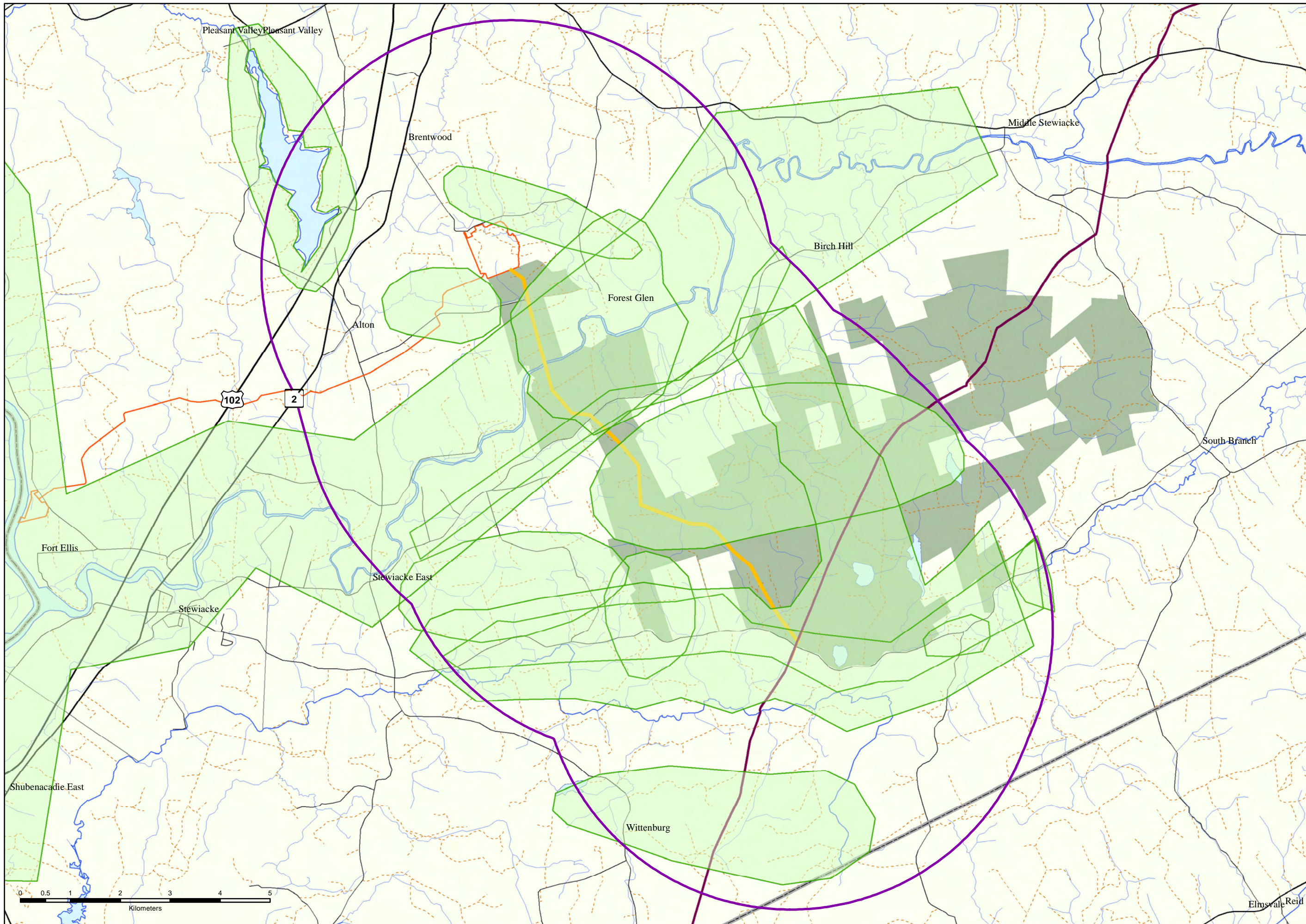
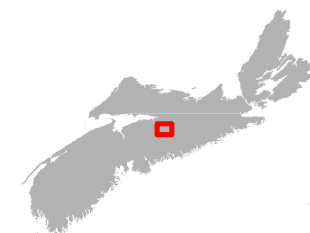
Map D  
Mi'kmaq Traditional and Current Gathering  
Areas





# Alton Natural Gas MEKS

## Mi'kmaq Traditional and Current Gathering Areas



### Legend

- Study Area
- Gathering Areas
- Maritime Link Pipeline
- Proposed Pipeline
- Existing Pipeline
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Existing Property

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Datum: UTM NAD83  
 Zone 20  
 Scale: 1:80,000  
 Version: 2  
 21 Mar 2012



Elmsvale Reid



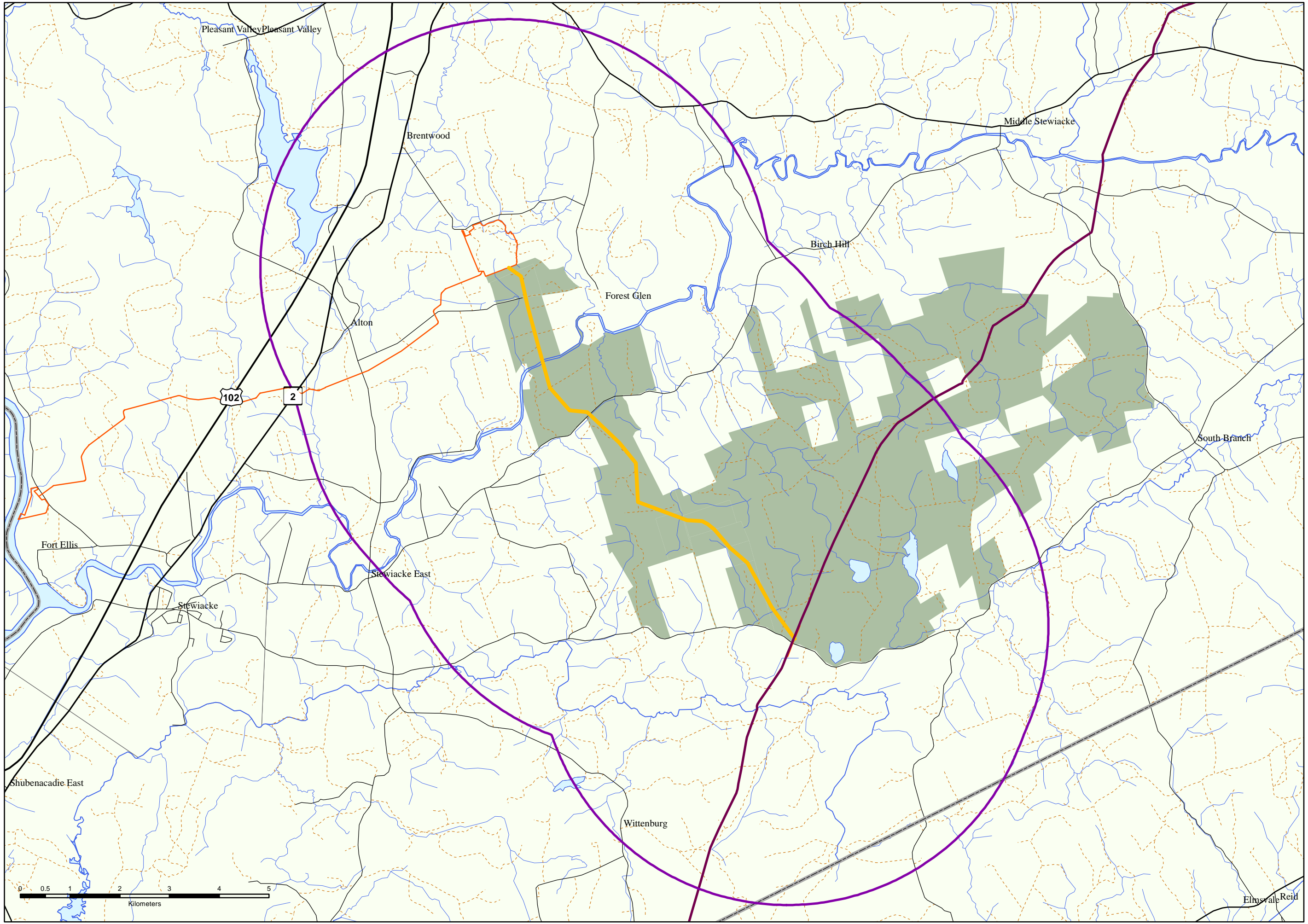


Map E  
Mi'kmaq Traditional and Current Cultural Areas



# Alton Natural Gas MEKS

## Mi'kmaq Traditional and Current Cultural Areas



### Legend

- Study Area
- Maritime Link Pipeline
- Proposed Pipeline
- Existing Pipeline
- County Border
- Highway
- Trunk Road
- Collector Road
- Local Road
- Loose Surface/Cart Track
- Rivers
- Existing Property

### Disclaimer

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Datum: UTM NAD83  
Zone 20  
Scale: 1:80,000

Version: 2  
21 Mar 2012



