

APPENDIX A
ENVIRONMENTAL PROTECTION PLAN –
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APPENDIX B MEKS

Higgins Mountain Wind Farm Project
Higgins Mountain, NS
MEKS



M.E.K.S. Project Team

Jason Googoo, Project Manager

Dave Moore, Author and Research

Devin Abbass, Author and GIS Technician

Colin Poushay, GIS Web-Support

Jing Lian, GIS Web-Support

Kerry Prosper, Traditionalist

Kimberly Strickland, Interviewer

Leigha Julian, Interviewer

Sunshine Paul Martin, Interviewer

Prepared by:

Reviewed by:

Dave Moore & Devin Abbass

Jason Googoo

Executive Summary

This Mi'kmaq Ecological Knowledge Study, also commonly referred to as a MEKS or a Traditional Ecological Knowledge Study (TEKS), was developed by Membertou Geomatics Solutions (MGS) for STRUM with regards to the proposed project.

This MEKS mandate is to consider land and water areas in which the proposed project is located and to identify what Mi'kmaq traditional use activities have occurred, or are currently occurring within, and what Mi'kmaq ecological knowledge presently exists regarding to the area. In order to ensure the accountability and ethical responsibility of this MEKS, the MEKS development has adhered to the “Mi'kmaq Ecological Knowledge Protocol, 2nd Edition”. 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 within the Project Site and Study Area. The Project Site includes the 50 to 200 megawatts [MW] wind power project, located near Higgins Mountain, Nova Scotia.

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 regard to its significance to the Mi'kmaq people. 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.

Historic Review Summary

The Project Site and Study Area straddle the Traditional Political Districts of *Sipekni'katik* (Wild Potato Area) of the central area of Nova Scotia and *Siknikt* (Drainage Area) of Nova Scotia and New Brunswick and centered on the isthmus between the two Provinces of today. There are few known archaeological finds/sites found within the Study Area. Most archaeological finds/sites in that area were mostly found close to rivers and also among present-day development, whether that be building and road construction including agricultural land use. Most are likely accidental finds and the site locations give indication of where to tread lightly at river and brook crossings.

There are potential natural resources within the Cobequid Hills in exposed bedrock containing Rhyolite stone of suitable properties for tools and weapons for early peoples. There are reported sources of Black Ash on the north slopes of the Cobequid Hills which are a valuable resource to early peoples and Mi'kmaq today, for tool handles and basket making.

Millbrook First Nation is the nearest large Mi'kmaq community to the Study Area, located south of Truro and referenced as Millbrook No. 27. Franklin Manor No, 22 Reserve is located west of the River Herbert and south of Amherst, approximate half distance to Parrsboro.

A review of Specific Claims shows no current and active First Nation Claims within the Project Study Area. However, Millbrook First Nation has an active specific claim regarding loss of land for Highway R.O.W and routing of Fiber Optic Cable through same R.O.W.. No specific location detail given.

Traditional Use - Project Site Summary

Based on the data documented and analyzed, it was concluded that there is some Mi'kmaq activity reported on the Project Site.

Activities in the Project Site include Moose, Rabbit and Deer hunting, Salmon & Trout and Bass Fishing, and Sweetgrass & Berry and Wood harvesting.

All usage period-categorization breaks down as follows:

Current Use ~13%

Recent Past ~18%

Historic Past ~69%

Traditional Use - Study Area Summary

Deer hunting, Salmon & Trout fishing, and Berry & Sweetgrass harvesting were the activities reported by interviewees in the highest frequency. There was other fishing, hunting, and gathering activities reported as well.

All usage period-categorization breaks down as follows:

Current Use ~9%

Recent Past ~13%

Historic Past ~78%

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1.0 INTRODUCTION

1.1 Membertou Geomatics Solutions

Membertou Geomatics Solutions (MGS) is a Membertou First Nation company that was developed as a result of the 2002 Supreme Court Marshall Decision. MGS was established as a commercially viable company that could provide expertise in the field of GIS Services, 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 9001:2015 certification.

For the development of this MEKS, MGS brings to the table a team whose expertise and skills with land documentation have developed a sound MEKS. The team skills include knowledge of historical Mi'kmaq research, GIS data analysis, Mi'kmaq ecological and cultural knowledge, and Mi'kmaq community connections.

1.2 Higgins Mountain Wind Farm Project

The Higgins Mountain Wind Farm Project is a wind power project (proposed project), 50 to 200 megawatts [MW], located near Higgins Mountain, Nova Scotia. It is anticipated that between 10 and 50 turbines will be constructed.

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 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 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 Assessment; yet differ in many ways as well. Among its purpose, Environmental Assessments 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 the Federal *Species at Risk Act* and the Nova Scotia *Endangered Species Act*.

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 adds to the ecological understandings of the Project Site and Study Area.

2.2 Mi'kmaq Ecological Knowledge Study Mandate

Membertou Geomatics Solutions was contacted by Nova Scotia to undertake a MEKS for the proposed project. This project will require the documentation of key environmental information in regard 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 (MEKSP)** ratified by the Assembly of Nova Scotia Mi'kmaq Chiefs on November 22, 2007, and the 2nd Edition released in 2014.

Note: Due to the current Covid19 pandemic, this study was delayed due to Covid19 restrictions and safety concerns regarding conducting interviews within Mi'kmaq communities.

MGS proposed to assist with the gathering of necessary data by developing a MEKS which will identify Mi'kmaq traditional land use activity within the Project Site and in the surrounding areas. This MEKS had gathered, identified, and documented 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's use of the land and resources within the Project Site/Study Area.

It must be stated, however, that this MEKS preparation and/or acceptance of this report is not considered Consultation within itself, nor is it deemed to fulfill the Duty to Consult owed by the Crown to the Mi'kmaq. This report does not replace any Consultation process that may be required or established in regard 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 traditional use from both the past and present time frames. The final MEKS report will 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.

2.4 MEKS Project Site and Study Area

This MEKS will focus on the Project Site. The Project Site includes a 50m buffer of the proposed projects' footprint.

The Study Area will consist of a larger area that falls within a 5km radius around the Project Site.

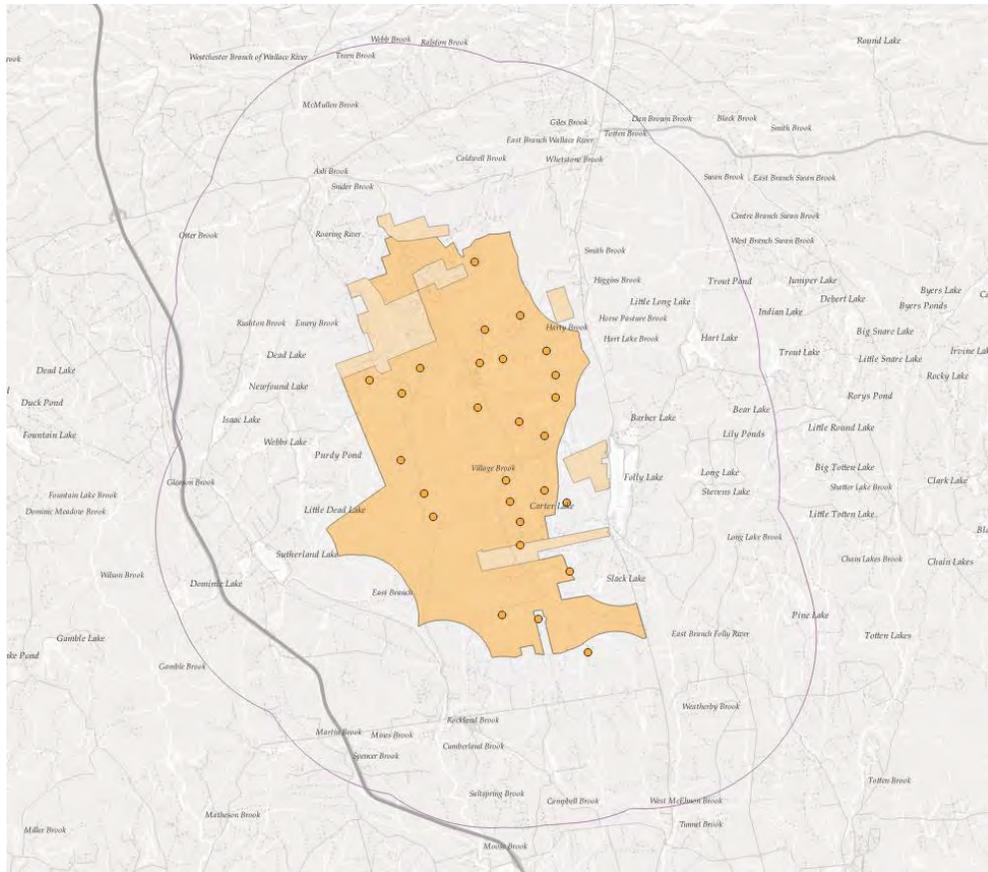


Figure 1. Project Site (orange areas) and Study Area (purple outline) are identified by the Project Team.

3.0 METHODOLOGY

3.1 Interviews

As a first step to gathering traditional use data, the MEKS team had initiated dialogue with knowledge holders from the First Nation communities of Pictou Landing, Millbrook, and Sipekne’katik, given their close proximity with the Project Site. Interviews were also conducted through an online portal that was recently developed by Membertou Geomatics Solutions. This online portal allows Mi’kmaq individuals the ability to provide traditional knowledge and use with regards to the proposed project.

Knowledge holders were contacted by the MEKS team members and interviews were conducted between October 2022 and February 2023.

For this MEKS, twenty-six (26) informants provided information in regard to past and present traditional use activities. 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, an agreement of non-disclosure of their personal information in any reports, and the future use of the traditional use information they provided. Information gathered from other studies conducted in the area were utilized in this study as well.

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 such activities were undertaken, and how that type of resource was utilized. Other information gathered could be species habitats, changes in species populations, and/or general information about the land related to its' use. When required or preferred, 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 and Study Area.

As part of the historical review process, it should be noted there may be other sources of Historical and Archaeological data available but may have restricted access or not uncovered within this project's Historical Review. A complete listing of the documents that were referenced is outlined within the *Sources* section.

3.3 Field Sampling

Methodology

Field sampling, or site visits, are conducted as another method to gather and document plants, trees, animal signs/tracks, fish and wildlife habitats, or any other land feature which would hold significance to the Mi'kmaq (food or sustenance, social, cultural, or ceremonial purposes).

Site visits consist of site reconnaissance (to evaluate the entrances to the site, terrain characteristics, and evaluation of any other information that would affect safety or logistics of the site visit), logistics planning, as well as capturing “observation points” with the assistance of a Mi'kmaq knowledge holder. Observation points are stops along the site visit where species or landmarks significant to the Mi'kmaq were observed to be occurring. These are taken at approximate set intervals, or whenever a species or feature was deemed worthy to be noted by the knowledge holder. While every effort is made to ensure the Project Site receives a good coverage of observation points, weather, vegetation, available paths and trails, or difficult terrain can cause some data gaps.

Site visits were conducted by MGS staff and accompanied by a Mi'kmaq knowledge holder from First Nation community Paqtnkek. Throughout the site visit various species (and subspecies) of plants, trees, and animal signs/tracks were observed.

Site Visit Observations

Observation	# of observations	Observation	# of observations
Yellow Birch	12	Striped Maple	6
Raspberries	11	Red Spruce	5
White Spruce	11	Black Spruce	5
American Beech	8	Willow	5
Balsam Fir	8	Hazel Nut	5
Red Maple	8	Deer sign	4
Sugar Maple	7	Sage	3
White Birch	7	Mountain Ash	3
Blueberry	6	Witch Hazel	2
Wire Birch	6	Life Everlasting	2
Blackberry	6	Goldthread	1

Table 1. Summary of observation points



Figure 3. Blueberry.



Figure 4. Sage.

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 regard 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 regard to the "Type of Use" for a given resource. The Time Periods that the MEKS team differentiates traditional use activities by are as follows:

"Current Use" – 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 and 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 a desktop background review and interviews with Mi'kmaq participants in traditional activities, this study has identified Mi'kmaq Traditional Use activities that have occurred or continue to occur in the Study Area and Project Site. This has allowed the study to identify traditional use activities in a manner that the MEKS team believes is complete and thorough, as required by the MEKP. Historical documents within public institutions were accessed and reviewed and individuals from nearby Mi'kmaq communities were interviewed. The interviews were undertaken with key Mi'kmaq community people, identified 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 the Study Area.

The MEKS process is highly dependent on the information that is provided to the team. As 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 this MEKS.

At the time of this report, it should be noted that due to the ongoing Covid19 pandemic, MGS noticed a decline in interview participation as well as a decline in traditional use

activities occurring during the pandemic. The Covid19 pandemic is still a concern within Mi'kmaq communities.

4.3 Historical Review Findings

The Project Study Area

The Historical Review looks at a collection of sources holding knowledge of the natural and cultural history relevant to the Project Site location and surrounding larger Study Area. A review of these sources provides the pieces of a larger story of the land and people. This review attempts to tell some of that story and pass on the knowledge gained.

Context is very important in the telling of this story. The landscape, climate and wildlife were somewhat different at various periods of time than in present-day.

The traditional lands of the Mi'kmaq are collectively known as Mi'kma'ki. The sources reviewed provided very general boundaries of 7 Districts of Mi'kma'ki and have just enough detail to give an approximation of boundaries along the coast but not much detail for the interior boundaries. (1)(2)(3)(4)

Using the general boundaries provided by the sources, MGS interpreted the source maps and recreated boundaries of the 7 Districts of Mi'kma'ki in more detail. The sources included relevant maps, significant watersheds, some major rivers and landscape features, as the defining features on the ground.

The Project Study Area straddles the *Sipekni'katik and Siknikt* Districts (Territories)

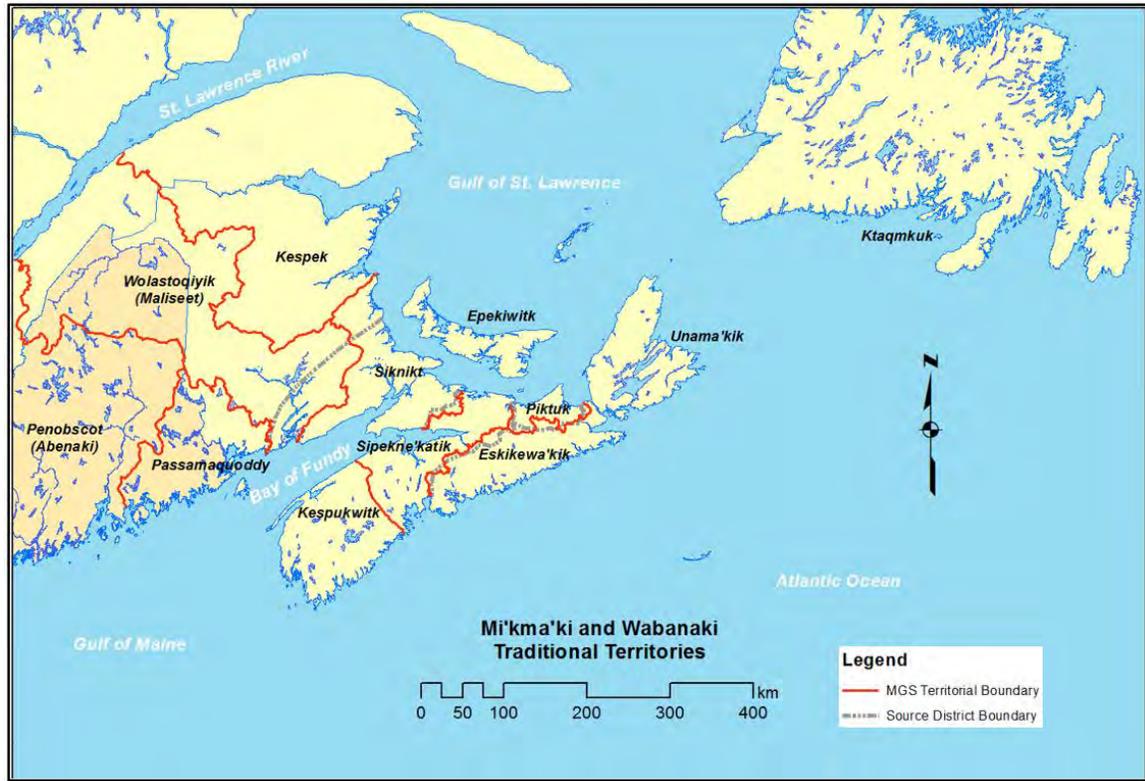
Sipekni'katik (Wild Potato Area) This District includes all lands and waters draining into the Northumberland Strait from MacFarlane Point, Wallace Harbour to and including the Middle

River of Pictou watershed. Sipekni'katik also includes all the lands and waters draining into Cobequid Bay, Minas Basin and Bay of Fundy from Five Islands Carrs Brook and Economy River watersheds to and including North River and Salmon River, Avon River, Cornwallis River watersheds to MacNeily Brook near Margaretsville. In addition, Sipekni'katik includes all lands draining into St. Margarets Bay and Mahone Bay including the Ingram River watershed to and including eastern shore of the LaHave River.

From the Wentworth Valley and westward, the Study Area is within the ***Siknikt District*** (Territory), a District that extends west to the St. John Harbour and northeast well into present-day New Brunswick.

Siknikt (Drainage Area)

All the lands and waters draining into the Gulf of St. Lawrence and Northumberland Strait south of Escuminac Point, N. B. to and including the Wallace River watershed and Wentworth Valley. All the lands and waters draining into Cobequid Bay, the Minas Basin, and Bay of Fundy west of Five Islands N. S. and including the Petitcodiac River watershed and all drainage along the Bay of Fundy coast to Mispec Point on the east side of St. John Harbour.



Mi'kmaq Political Districts with Maliseet, Passamaquoddy and partial Penobscot Traditional Territories. (1)(2)(3)(4)

The district boundaries may be adjusted after review by the Mi'kmaq and Maliseet Communities. Until that time, the other Districts of Mi'kma'ki outside the Study Area are proposed as follows (1)(2)(3)(4):

Eskikewa'kik (Skin Dressers) Eskikewa'kik includes all lands and waters draining into the Atlantic from St. Margarets Bay including Big Indian Lake, Chebucto (Halifax), Eastern Shore, Strait of Canso to Cape Blue on St. Georges Bay. The district includes the entire Musquodoboit River watershed, a portion of the Shubenacadie River to and including the Stewiacke River watershed draining into Cobequid Bay. In addition, Eskikewa'kik includes the West St. Marys River watershed, East St. Marys River

watershed, Country Harbour River watershed as well as the Salmon River and Milford Haven River watersheds draining into Chedabuctou Bay.

Kespek (Last Land)

All the land and waters draining into the Gulf of St. Lawrence north of Escuminac Point, N. B. including the Miramichi River watershed and north to include the Gaspé Peninsula and south shore of the St. Lawrence River. This was the last land to be added to Mi'kmaq territory after a war with the Iroquois.

Epekwithk (Lying in the Water)

aaq Piktuk (The Explosive Place) This District combines the entire Island of Prince Edward Island with all the lands and waters draining into the Northumberland Strait and St. Georges Bay from Mainland N. S. east of Abercrombie Point to Cape Blue. The district includes the East River of Pictou watershed to and including the Tracadie River and Little Tracadie River watersheds.

Kespukwik (Last Flow, Land Ends) This District includes all the lands and waters draining into the Bay of Fundy from approximately Margaretsville, the Gulf of Maine coast and the Atlantic to the western shore of the LaHave River. The LaHave River Watershed may have divided by east and west districts with the eastern watershed a portion of Sipekni'katik and the western watershed is a portion of Kespukwik. Champlain's early map of the LaHave River show two separate Mi'kmaq communities on either side of the river located near Upper Kingsburg and at Green Bay near Petite

Riviere. This may indicate a community of each district sharing the LaHave River.

Unama'kik (Land of Fog) This District combines all of Cape Breton Island
Aqq Ktaqmkuk (Land Across with the Southern Coast of Newfoundland.

Ice

Evidence from deep-ocean sediments indicate that there have been at least 16 glacial periods that lasted approximately 100 thousand years each. The last glacial period was the Wisconsin Glaciation which began 75 thousand years ago and ended between 12 and 10 thousand years ago. During this period, early glaciers flowed across the Atlantic Region in an eastward direction shifting to the south in later ice flows. The last of the glaciers were formed locally within the region while being fed by the high amounts of precipitation. 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. (5)

The present-day landscapes began to emerge from under ice some 12,000 years BP for Cobequid Bay which was ice free at that time. The ice continued to melt and reveal barren landscapes of deep till deposits being eroded and transported about by meltwater. The ice also left exposed and thinly covered erosion resistant bedrock at higher elevations. The sea level rose some +60m over the next 6000 years reaching near present day level and coastline. At 11,000 years BP, remnant ice caps topped the Cobequid Hills, Antigonish Highlands, South Mountain of the Annapolis Valley and Cape Breton Highlands. These ice caps and another ice block centered in Chedabuctou Bay, advanced a short distance each during the Younger-Dryas cold period of approximately 11,000-10,500 BP. (5)(6)

The Younger Dryas Period was a cold period that saw local ice centers such as the Cobequid Hills ice cap advance flows again in directions radiating from their center ridges. (6) Sources have the Younger Dryas Period a northern hemisphere cold event lasting 1000 years to 1500 years. (7)(8) The impacts of the Younger Dryas Period were not consistent across the northern hemisphere as there were varied regional impacts influenced by local conditions. (9) Nova Scotia sources have the cold period lasting approximately 200 years based on analysis of lake sediment and peat beds throughout the Province. (6)(10) During the Younger Dryas Period, previously colonized plants that followed the previously receding glaciers were then covered in permanent snowfields and some large mammals became extinct. (10)

Archaeology

It is during the fluctuating climate Younger-Dryas period that the earliest signs of people on the land at the Debert-Belmont encampment sites that were utilized by early peoples of the Paleo-Indian Archaeological Period of 11,000 to 10,000 BP. Located within the transition from the Minas Lowlands (620) to the Cobequid Slopes (350) the archaeological rich area of the Debert Paleo-Indian Site, is a National Historic Site of Canada. The area of the former RCAF Station Debert has been explored over the last 60 some years since the first site discovery in 1948 and extensively explored from 1962-1964 with new discoveries added since that time near Belmont. (11)(12)

The existing known Paleo-Indian sites are scattered within a large area north of Plains Road atop prominent ground overlooking the Debert River Valley and Cobequid Basin. It is believed that these were strategic seasonal camps to hunt Caribou migrating from the Cobequid Hills (340) to the Minas Lowlands (620) of Cobequid Bay for calving. Some 5000 stone artifact of points, knives and hide scrapers of the Paleo-Indian Period have been retrieved from the area. (11)(12)

Although disturbed by the former base development, these sites appear to be undisturbed by the ice advance of the Younger-Dryas period and there may have been ice-free

corridor between ice sheets from the Minas Basin through to the Northumberland Strait through present-day Pictou Harbour at that time. With the lower sea levels at that time, Prince Edward Island was one landmass with the Northumberland Lowlands (530). The Magdalen Islands (Îles de la Madeleine) was a large low-lying island close offshore. The Debert-Belmont area would be an Ideal location to find migrating herds of the wildlife of the time. (1)(6)(12)

The entire Study Area was ice-free by 10,000 BP and left a landscape of mostly glacial ground moraine of a silty till plain with water lain deposits of deltas, outwash fans and esker systems within the north and south flow ancient drainage cuts. The elevated Cobequid Hills were erosion resistant to the ice and were left with a thin till cover to exposed bedrock. (10)

There are at least 5 time period references used by research and literature over the last several decades for the Atlantic Region. The most recent archaeological studies in the region also include Mi'kmaq time period references along with more common referenced time periods. (13)

<i>13,000 – 9000 Years BP</i>	<i>Sa'qiwe'k L'nu'k (The Ancient People)</i>
<i>9,000 – 3,000 Years BP</i>	<i>Mu Awsami Kejikawe'k L'nu'k (The Not So Recent People)</i>
<i>3,000 – 500 years BP</i>	<i>Kejikawe'k L'nu'k (The Recent People)</i>
<i>500 Years BP – Present Day</i>	<i>Kiskukewe'k L'nu'k (Todays People)</i>

The Natural History of Nova Scotia lists 5 Archaeological time periods for the Province of Nova Scotia that are prior to and including European contact with the Mi'kmaq. (10):

11,000-10,000 Years BP, Paleo-Indians

The earliest evidence of early peoples east of the State of Maine is found at the foot of the Cobequid Mountains at Debert, Nova Scotia. There is evidence of an encampment on the site dated to be in use roughly 11,000 to 10,500 years BP. (10) At this time, local ice sheets remained centered at locations of Bras d'Or Lakes/Highlands of Cape Breton,

Canso, Baie Verte-Cobequid Mountains and South Mountain adjacent the Annapolis Valley. There was a large ice sheet centered on the Eastern Mainland of the province with ice flows into St. Georges Bay, Minas Basin and along the Eastern Shore. (10) The time of the Debert Site occupation is within the approximate period of the glacial re-advances of the Younger Dryas Period of 11,000- and 10,000-years BP. Increasingly harsh conditions are thought to have caused the early peoples to abandon the region. (10)

10,000-5,000 Years BP, the Great Hiatus

The rising sea levels and submerging coastlines are thought to be responsible for the lack of physical evidence of early peoples for this time period. Any evidence of coastal settlements of that period would be lost to coastal erosion and submergence. (10)

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. (10) (10) As the thick and heavy ice sheet centers depressed the earth's mantle, the areas of mantle along the ice sheet margins were less weighted by ice and rose slightly through displacement. There was an ice sheet center located in the Gulf of St Lawrence. As the weight of the ice sheets diminished with melting, the depressed center areas rebounded and rose in elevation while the mantle of the former ice margin areas lowered in elevation. (14)(15)

5,000-3,500 Years BP, the Archaic Period

A period characterized by physical evidence of stone tools some of which are found offshore and possibly lost during deep water fishing. There was a cultural influence or cultural presence of peoples in the southern part of the province dated at a time between 3,500 and 2,500 BP known as the Susquehanna Tradition. The Susquehanna Tradition originated in area of the mid-Atlantic states of today and is identified by some unique artifacts. (10)

2,500-500 Years BP, the Ceramic Period

Evidence of pottery is introduced to the archaeological record during this period as are burial mounds. Ceramic period sites are scattered throughout the province and a 10m diameter burial mound was discovered at Whites Lake, HRM, dated at 2,300 BP. (10)

500-100 Years BP, the Contact Period

The first European contact with the Mi'kmaq was most likely with Portuguese fishermen roughly 500 years ago. (10)

There are various period delineations being used for Archaeology in the Province and Maritime publications which differ in the number of periods, names, and time spans. The Archaeological Periods Table below places the periods in context with each other. It is useful to provide these various periods for reference and context when reviewing archaeological reports and placing in time the artifacts and features found. (10)(16)

Artifacts are archaeological objects that can be recorded and removed from the site such as flakes (chips from tool or point manufacture), arrow/spear tips (points), tools, bones, preforms (unfinished tool or point blanks) and pottery sherds. Features are archaeological finds that cannot be removed from the site and can only be recorded such as charred or discolored ground, a storage pit or Historic Period building foundations as some examples.

Time	Archaeological Periods		* (Dates are Approximate)	
	Natural History of N. S.	* Periods	* Northeastern Periods	* Maritime Region Tradition
11,000 B.P.	< Paleo-Indians		< Paleo-Indian	< Paleo-Indian
	11,000 - 10,000 yrs. B.P.	< Early Period	11,000 - 10,000 yrs. B.P.	11,000 - 10,000 yrs. B.P.
	↓	10,600 - 6,000 yrs. B.P.	↓	↓
10,000 B.P.	< Great Hiatus		< Early Archaic	—
	10,000 - 5,000 yrs. B.P.		10,000 - 8,000 yrs. B.P.	?
	?		↓	?
8,000 B.P.	?		< Middle Archaic	?
	?		8,000 - 6,000 yrs. B.P.	?
	?	↓	↓	?
6,000 B.P.	?	< Middle Period	< Late Archaic	< Laurentian
	?	6,000 - 3,000 yrs. B.P.	6,000 - 2,500 yrs. B.P.	+/- 5,000 yrs. B.P.
	< Archaic Period			< Maritime Archaic
	5,000 - 3,500 yrs. B.P.			5,000 - 3,700 yrs. B.P.
4,000 B.P.	↓			< Susquehanna Tradition
	< Susquehanna Tradition			4,000 - 3,500 yrs. B.P.
	3,500 - 2,500 yrs. B.P.			—
		↓	↓	?
3,000 B.P.		< Late Period	< Ceramic (Woodland)	< Maritime Woodland
		3,000 - 500 yrs. B.P.	3,000 - 500 yrs. B.P.	+/- 3,000 yrs. B.P.
	↓			- Present
2,500 B.P.	< Ceramic Period			
	2,500 - 500 yrs. B.P.			< Middlesex
				+/- 2400 yrs. B.P.
2,000 B.P.				
	↓	↓	↓	↓
500 B.P.	< Contact Period	< Historic Period	< Historic	< Mi'kmaq, Maliseet and
	500 - 100 yrs B.P.	500 yrs B.P. - Present	500 yrs B.P. - Present	European Traditions
	—	↓	↓	↓
Present (1950)	—	—	—	—

Archaeological Periods (10)(16)

Local anecdotal history places a seasonal Mi'kmaq resident and occasional Mi'kmaq gathering encampment along Whetstone Brook below Station Road. The brook was used to soak split Ash tree for crafting into tool handles and splints for shaving thin Ash strips (17)

Black Ash is a natural resource prized by the Mi'kmaq to craft into products for own use and sale. The source referenced *i*-Naturalist for nearby geo-locations of Black-Ash which

was confirmed by this study review and shows an abundance of identified locations along the north slope of the Cobequid Hills (340) and Cumberland Hills (540). The south facing Cobequid Slopes (350) had no observed Black Ash locations with only a single location found at Debert. (17)(18)

The East Wentworth mountains above the Annandale Waterfall on East Branch Swan Brook is where Mi'kmaq would take refuge from "Settler Authorities" but no further detail was given. (17)

The same source also recounts what local history believes, to be a Mi'kmaq burial ground on the west side of the Wallace River in the area of Wentworth, just north outside the Study Area. Described as an *intervale*, the small field had several low mounds in a row formation that included two small mounds. Believed to be Mi'kmaq burials, haying was only done by hand and the landowner never ploughed nor operated machinery over the site. The general area described appears to be covered in forest today but LiDAR - Hill shade imagery does show a row of three prominent mounds. (17)

Similar mounds were observed by the source adjacent Higgins Brook on the valley floor. However, being close proximity to highway, the mounds may be a result of previous highway construction activities. (17)

As elevations drop along the north edge of the Cobequid Hills (340) the Cumberland Hills (540) form a hilly topography sloping north from approximate 125m to 75m elevation near Greenville Station. (19)

The Cumberland Hills (540) is mostly covered in Acadian mixed forest with hardwoods on upper slopes and softwoods on level and lower slopes. Upper elevations are subject to ice and wind damage. There is habitat for Mainland Moose which are common within the Cumberland Hills (540) ecodistrict. (19)

Contact

By 1502 the fishery off the coasts of the new-found land had been established and countries and captains had their preferred fishing areas and fishing stations. Ocean crossing became more common place as captains established their routes and landmarks. French records alone have 70 vessels travelling to the New World between 1523 and 1556. (20)

The Contact Period is 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 eastern New Brunswick, eastern Quebec, Prince Edward Island and southern Newfoundland. (10)

As early as 1481, fishing fleets from Bristol, England were sailing to the Atlantic Coast of North America. Most likely, fleets of French and peoples from the Basque Provinces were also sailing to these Atlantic Coasts. One such Bristol fleet recorded finding an island they called the Isle of Brasil and no doubt found the fishing grounds of the Grand Banks. Due to competition, news of discoveries was kept quiet as to exploit the resources unhindered by competing fleets.

(20)(21)

Recent research has confirmed a Basque whale fishery had visited the Gulf of St. Lawrence and Labrador coast from the 1540's to the early 1600's. The Basque also participated in the cod fishery while establishing ports such as Plaisance (Placentia) in Newfoundland and Cape Breton until the arrival of other nation's fleets. (24)

By 1534, there was a fishery of ports, watering places along the Atlantic Coast from Southeastern Labrador to Southern Nova Scotia. As a sideline to fishing, fishermen began

trading with the Mi'kmaq, Beothuk and Montagnais-Naskapi, the peoples that they encountered while drying their catch along the shores. (21)

During Champlain's approach to Canso, onboard was attorney/historian Marc Lescarbot who recorded a wealth of information for future Historians. Lescarbot recorded that their Atlantic crossing brought them to Canso where he observed two Basque long-boat approaching with one of the boats crewed by Frenchmen from St. Marlo and the other boat crewed by Mi'kmaq. Through a long association with seasonal Basque Fishermen these Mi'kmaq had mastered sailing skills and Lescarbot noted that they spoke in a language that was "half Basque". (23)

Traditional Hunting Territories

In earlier Historic Period years, 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 and 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)

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

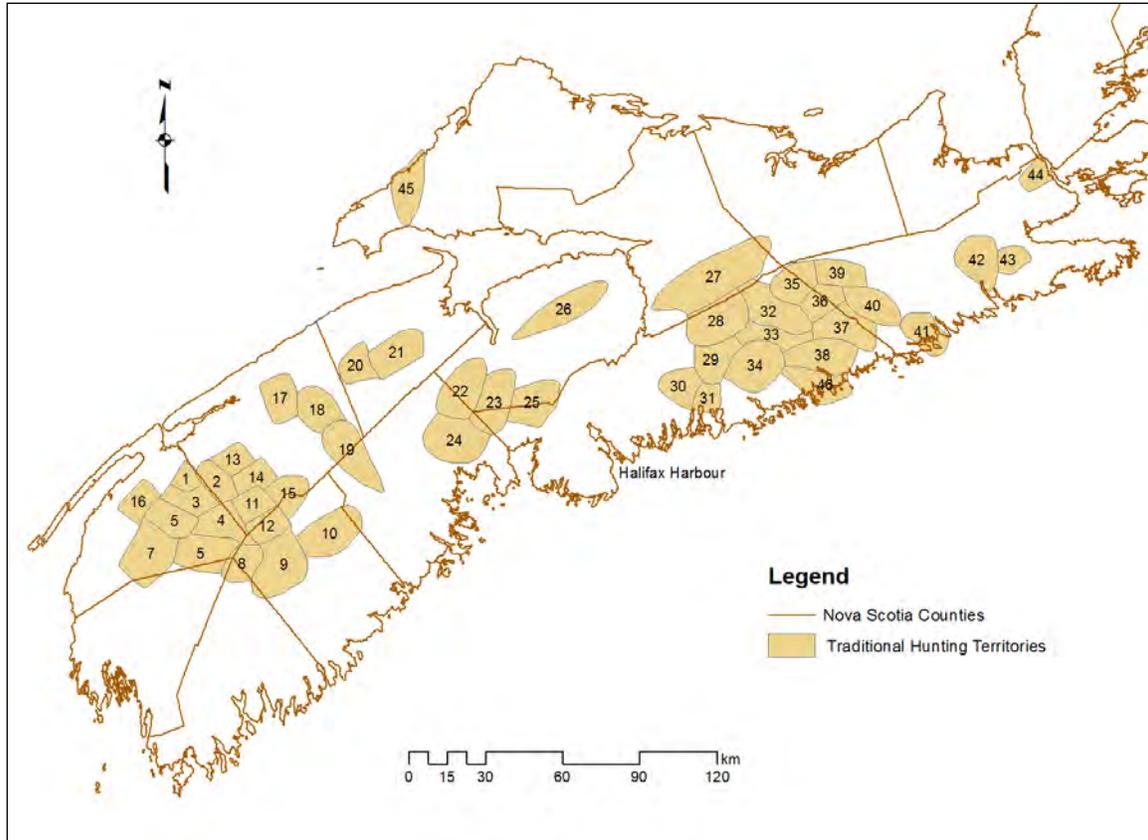
Mar. (Period of Winter Famine)	Inland	Bands & Family Units	Smelt, Seals & Walrus (ending) Scallops, Crab, Urchins, Winter Flounder, Beaver, Moose, Bear, Caribou
April (Period of Winter Famine ends)	Sea Coast	Villages	Smelt, Winter Flounder, Scallops, Crab, Urchins, Sturgeon, Brook Trout, Alewife, Herring, 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)

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. (26) Highly mobile Bands consisting of several related families would assemble at favorite coastal camp sites in warmer seasons. In the fall and winter, the camps would disperse into small groups of 10-15 people for winter hunting. (28)

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. (26)



Mainland Nova Scotia Traditional Hunting Territories (27)

The Project Site is not within any Traditional Hunting Territories known at the time of the 1922 Speck publication. The territories were usually surrounding lakes and rivers and were passed on to sons unless there were no sons where the district was then assigned to another family. (27) 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 (24)(27) Cape Breton Island (Unama’ki) Mi’kmaq hunting territories are larger and more regional, encompassing saltwater coastal shorelines and interior river systems. (27)

The territorial reference numbers pertain to the source's original reference system and it is unknown if territorial numbers were assigned by Chiefs. (27)

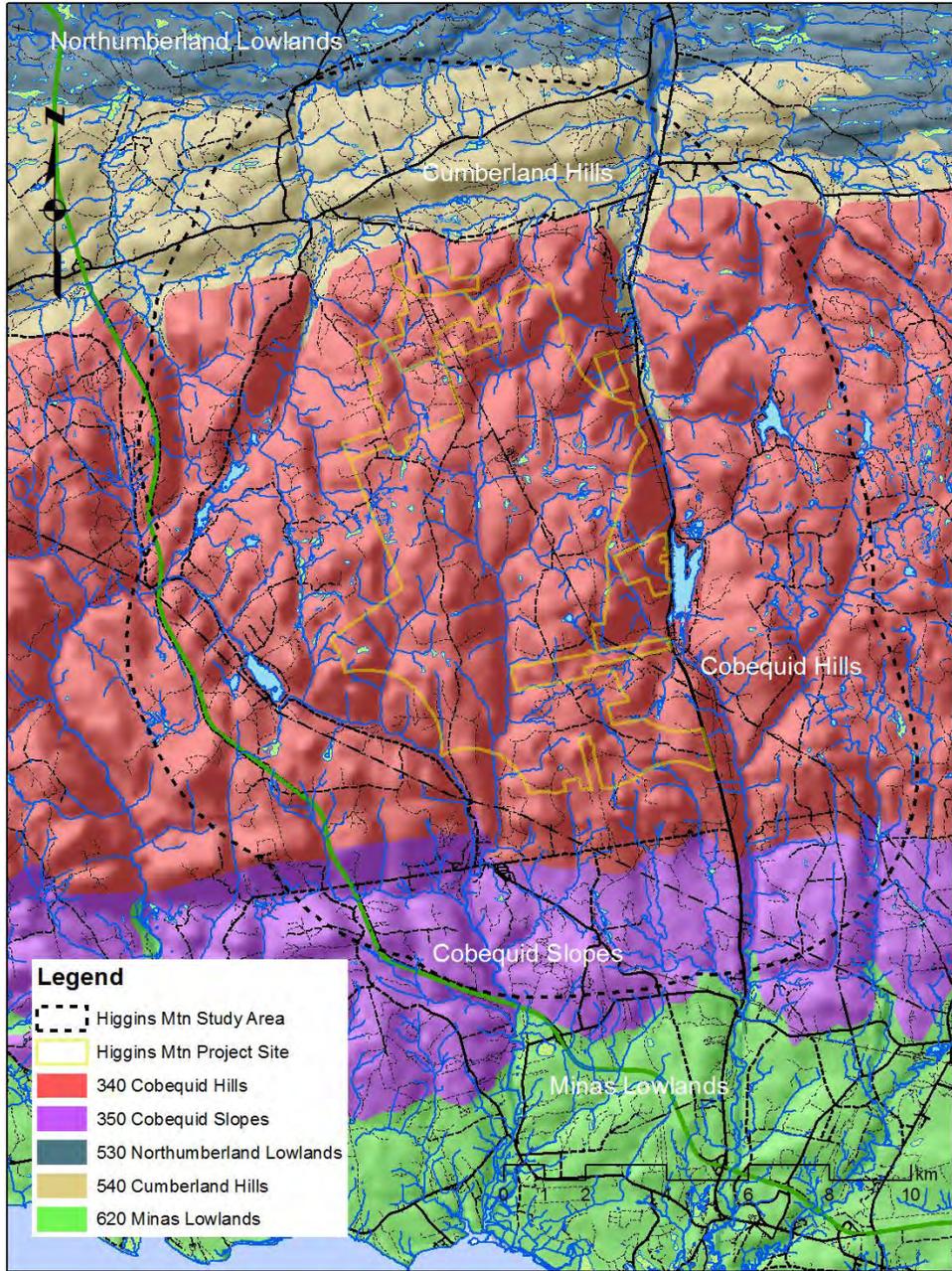
N. S. Ecological land Classification

Although south of the Study Area, the Minas Lowlands (620) are lowland shores surrounding Cobequid Bay and extend approximately 8km north inland to Onslow Mountain. The Minas Lowlands (620) extend further north to approximately the 75m contour along river and brook cuts in the upper elevated Cobequid Slopes (350), which are within the Project Study Area

The Minas Lowlands (620) are covered mostly in Black Spruce and Pine on poorly drained sites and Hemlock, Red Spruce, Yellow Birch, Beech and Sugar Maple on well drained sites and steep slopes. Coastline has abundant saltmarshes that support Deer and Moose during summers. (19)

North of the Minas Lowlands and climbing in elevation are the Cobequid Slopes (350) that represent an approximate 5km narrow, east-west band of sloped topography between 75m and 125m elevation. North River and Totem Brook form the south limits of the Cobequid Slopes (350) and MaCallum Settlement and Londonderry form the approximate north limits. (19)

The Cobequid Slopes (350) proximity to the Bay of Fundy and south exposure have a moderate climate that supports a habitat of Acadian mixed forest that attracts white tail deer. Red Spruce Forest covers the middle to lower slopes and Sugar Maple, Yellow Birch and Beech cover upper slopes and hill crests. There are very few wetlands on the well drained tills and sloped topography of the Cobequid Slopes (350). (19)



Nova Scotia Ecological Districts

The Project Site is entirely within the Cobequid Hills (340) ecodevice of steeply cut topography from approximate 125m to 325m elevation. There are high points of over 350m elevation within the Cobequid Hills (340) ecodevice with Higgins Mountain at approximately 325m. The elevated plateau topography continues westward from Higgins

Mountain and drops sharply on the eastern face into the Wentworth Valley. Higgins Mountain plateau and adjacent plateaus have very few lakes and wetlands. The topography is well drained by numerous ancient deep drainage cuts with south flows to Cobequid Bay and north cuts directing present-day flows to the Northumberland Strait. Sutherland Lake and Folly Lake were created by glacial deposits blocking an ancient drainage cuts with Folly Lake 30m deep. (19)

The Cobequid Hills (340) passes through the Study Area centered at East Folly Mountain, through Folly Mountain, Cobequid Mountain and Higgins Mountain.

A band of Volcanic Bedrock running east-west, the Fountain Lake Formation forms the Wentworth Valley east and west walls at the north end of notch between Higgins Brook and Wentworth Valley at approximately Miller Court Road. In addition to the Colluvial Deposits along step valley walls, the bedrock has thin till cover on the hill tops and exposes potential sources of Rhyolite for stone tools and weapon points for use by early peoples. (28)

Forest cover consists of Acadian hardwood Sugar Maple, Yellow Birch, Beech from crests to lower slopes and White Ash and Ironwood on more humus rich soils. Softwood stands are found on level terrain, mixed forest within the ravines. The upper elevation forests are subject to ice and wind damage. There are few wetlands within the Cobequid Hills (340) due to rapid surface drainage with larger wetland supporting habitat for Mainland Moose. (19)

Post Contact History

Much of the source history of the Mi'kmaq in the Chignecto area after contact with Europeans revolves around the former Acadian Settlement at Beaubassin and the English and French hostilities over control of the Chignecto Isthmus. The location was the middle ridge of five elongated SW to NE ridges that rose out of the tidal marshes and where the

Missaquash and La Planche rivers meet the Cumberland Basin and named it Beaubassin. (29)

On June 04, 1755, the British Troops marched from Fort Lawrence and fought over the next 12 days of the siege of the French Fort Beausejour located on a north parallel ridge within French Territory. When the mortar shells began to landing inside the Fort Beausejour walls, all was lost and the fort was surrendered. (30)

The British renamed the captured French fort, Fort Cumberland. The following day the commander of the small French fort, Fort Gaspereau, located near Port Elgin on the shores of Baie Verte, was surrendered to the British. (29) These were the first British victories in a campaign to win the battle for North America.

The late 1700's was a critical time in Mi'kmaq history when the Mi'kmaq population was decimated by disease and Mi'kmaq way of life was disappearing. It was at this time that England encouraged settlement on Acadian lands that had been abandoned after the Acadian Deportation in 1755. The New England Planters arrived between 1760 and 1766 to occupy former Acadian farms. Mi'kmaq and Acadian place names were replaced with English names. (27)

Not many of the Mi'kmaq place names survived through the Cobequid Hills and Wentworth area.

Local Mi'kmaq Placenames (31)

Belmont	Nisaqaniskik	flowing downward
Chiganois River	Nisaqaniskik	flowing downward
Onslow	Nisaqaniskik	flowing downward
Cobequid Basin	We'kopekitk	end of the flow
Debert River	Wasoqsikek	glistening signal in the distance
Millbrook	Niktuipukwek	flowing fork wise

Salmon River	Plamui-sipu	salmon river
Truro Area	We'kwampekitk	the bay runs far up
Amherst	Nemaluskite'kn	meaning uncertain
Big Lake	Wpnk	his/her lungs
Fort Lawrence	Kweso'malikek	a point of land where there is hard wood
Franklin Manor I,R,	Kospemk (Qospemk)	at the lake
Little River	Ksikaqnji'jk	at the fast-flowing little river
River Philip	Ksu'skipukwek	flowing through hemlock

A second wave of approximately 1000 English settlers known as the Yorkshire Migration arrived in Nova Scotia between 1771 and 1776. The Yorkshire Emigrants were recruited from northern England to occupy Acadian farms and increase British presence among the planters and republican sentiments. The Yorkshire Emigrants landed at Fort Cumberland in 1772. (32)

American Revolution was fought and won by the Americans. Loyalists (citizens loyal to England) and British soldiers and officers were looking for land and British protection. These Loyalists arrived in large numbers between 1783 and 1784 and founded numerous new Cumberland settlements. (33)

The land grants to the Loyalist and the Scottish-Irish emigrants that followed was wide spread throughout Nova Scotia and most all remaining lands in Nova Scotia were granted to emigrants who left their home countries. (34)

The Mi'kmaq traditional territories were granted away to successive waves of by then immigrants looking to work land granted them. During these times of immigrant settlers Mi'kmaq were not granted title to land but rather were granted "Licenses of occupation during pleasure". The land was owned by the Crown and reserved for particular Mi'kmaq Bands. The first of these licenses in Nova Scotia was granted in the 1780's and locations were typically coastal and ravine sites long frequented by Mi'kmaq. In 1820 the reserve

system was started and each county was instructed to set aside lands near sites frequented by Mi'kmaq. A number of reserves of approximately 1000 acres each was planned for each county of Nova Scotia totaling 22,050 acres for exclusive use by the Mi'kmaq. This produced little action and it was the Mi'kmaq themselves that pushed for reserve lands. However, what the Mi'kmaq received was not always of their choosing and if their reserve was good land, it was subject to encroachment by settlers. (35)

Cumberland County was particularly problematic for Mi'kmaq concerning land set aside for their exclusive use. Cumberland County had surveyed and set aside 500 acres on the western shore of Pugwash Harbour. However, these lands were subject to title dispute due to a questionable transaction concerning two Loyalist brothers buying the 500 acres from 3 Mi'kmaq which had no authority to sell the land. After prospering for a while, the title dispute continued to plague the brothers until their eventual financial ruin. The title dispute was put to rest when the crown auctioned off the Pugwash Indian Lands. (36)

The Mi'kmaq eventually had 1000 Acres surveyed at Shinimicas Bridge which is approximately 20 km west of Pugwash and 23 km east of Amherst. The parcel straddled the West Branch of the Shinimicas River and the plan lists the parcel as *reserved for Indians 1000 acres* and is shown adjacent the boundary for the Township of Amherst. East of the 1000-acre parcel are adjacent parcels of J. Smith and to the southeast is the parcel of N. Merrit. (37)



Land Grant Map 68 (38)

Inland, the Crown Land Maps shows a large acreage reserve west of the Herbert River and northwest of Halfway River (Newville Lake). (32) A.F. Church’s 1873 Map indicates an “Indian Grant” in the same approximate location as the Reserve shown on the Crown Land Map. However, Church’s map also shows an “Indian Village” on the western shore of Halfway River Lake (Newville Lake). The person’s name scribed within the Indian village on the map is that of P. Toney. (39) The “Indian Village” location today is approximately the same location as the current or former Newville Lake Park.

It is possible that the above “Indian Village” is the subject of a Specific Claim by Paq’nkek First Nation regarding unlawful granting of 250 acres without surrender in 1827. The status on that claim is “Concluded”. (40) The Crown Land Index Sheet 50,

shows a date icon of 1827 for a small shaded parcel and a note “leased To The Crown” on the western shore of Newville Lake. (41)

There was a period beginning in the early 1800’s when Mi’kmaq were encouraged to remain in a single location. Attempts were made to introduce Mi’kmaq to farming and centralizing Mik’maq on large reserves such as Indian Brook I. R. 14 located at Shubenacadie, East Hants Co. (35)

Franklin Manor I. R. 22 today is located 35km south of Amherst on Indian Brook, maintains a Mi’kmaq presence in this portion of Cumberland County. Consisting of 212.5 hectares (525 acres). Franklin Manor reserve is shared between Pictou Landing First Nation, Pictou County and Paqtnkek Mi’kmaw Nation, Antigonish County. (42)

The nearest large Mi’kmaq community to the Study Area is Millbrook First Nation, located south of Truro and the Study Area. The Millbrook First Nation has a long history within the vicinity of Project Study Area and this region of Mi’kma’ki. As early as the late 1700’s, the Mi’kmaq resided on the banks of the Salmon River near Bible Hill, where the present-day Dalhousie Agricultural Campus is located. (43)

When the land was sold to the original college in 1855, the Millbrook ancestors were relocated to a property on King Street near the train tracks and where St Mary’s Elementary School is located and known to the residents as Christmas Crossing. (43)

The land of Millbrook First Nation today was discovered by Peter Wilmot as full of game and ash trees. The residents of Christmas Crossing wanted to exchange their King Street location for the land Peter Wilmot found. Sometime around 1875 the Christmas Crossing residents relocated to 35 acres of land approximately 8km south of Truro. Additional 120 acres was purchased in the early 1900’s and totals 747 acres (302.3 hectares) today. In addition to better access to natural resources, all future land transportation corridors between Halifax and the rest of North America would have to pass through or adjacent Millbrook No. 27. (43)

A review of Specific Claims shows no current and active First Nation Claims within the Project Study Area. However, Millbrook First Nation has an active specific claim regarding loss of land for Highway R.O.W and routing of Fiber Optic Cable through same R.O.W.. No specific location detail given.

Project Site

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

Fishing

Trout (2 areas), Salmon (2 area) and Bass (1 area) fishing activity was identified in the project site. All reported activity took place in the Historical Past category.

Hunting

Deer (1 area), Moose (1 area), and Rabbit (1 area) hunting activity was identified in the Project Site. All reported activity took place in the Historical Past category.

Gathering

Sweetgrass (3 areas), Berry (2 areas) and Wood (2 areas) gathering activity has been identified in the project site. ~29% of the reported activity is Current Use, with ~28% Recent Past, and ~43% Historic Past usage.

Study Area

As mentioned previously, the MEKS data is also drawn from the Study Area. The purpose of this portion of the study is to portray other land characteristics and land use activities that may have been missed in a narrow Project Site data analysis.

Fishing

Trout (7 areas), Salmon (5 area) and Bass (1 area) fishing activity was identified in the Study Area.

- Higgins Brook
- Fally Lake
- Hart Lake
- Newfound Lake
- Sutherland Lake
- Cumberland Brook
- East Branch Folly River

These Activities took place primarily in the Historic Past (~92%), with ~8% Recent Past Use usage.

See Appendix B, map “Higgins Mountain Wind Farm MEKS – Mi’kmaq Traditional and Current Use Areas: Fishing”

Hunting

Deer (4 areas), Minx (1 area), Beaver (1 area), Fox (1 area), Raccoon (1 area), Wild Cat (1 area) and Moose (1 area) hunting activity was identified in the Study Area.

- Long Lake Brook
- Ashbrook
- McMullen Brook
- Webb Brook

These Activities took place primarily in the Historic Past (~82%), with ~9% Recent Past Use, and ~9% Current Use.

See Appendix C, map “Higgins Mountain Wind Farm MEKS – Mi’kmaq Traditional and Current Use Areas: Hunting”.

Gathering

Sweetgrass (3 areas), Berry (2 areas) and Wood (1 area) gathering activity has been identified in the Study Area. These are included:

- Ash Brook
- Dead Lake
- Barber Lake
- Folly Lake
- Carter Lake
- Slack Lake

Activity took place primarily in the Historic Past category (~50%), with ~25% Recent Past, and ~25% Current Use.

See Appendix D, map “Higgins Mountain Wind Farm MEKS – Mi’kmaq Traditional and Current Use Areas: Gathering”.

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 MEKS 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 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 regard 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; and

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 of whether its use is for food or art, and regardless if the resource is scarce or abundant. However, to further identify the importance, the MEKS team also considers the frequency of its use by the Mi'kmaq; whether the resource is commonly used by more than one individual, the perceived importance to the Mi'kmaq in the area, 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 impacted 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 continue to be utilized by the Mi’kmaq people, to varying degrees.

Type of Use

The study identified the following in the Study Area:

TYPE OF USE	NUMBER OF AREAS	NUMBER OF SPECIES
Food/Sustenance	30	16
Medicinal/Ceremonial	3	2
Tools/Art	1	1

Table 5. Resource Use within Study Area

Availability

During the information gathering for the Study Area, interviewees had mentioned the fishing for salmon. The Atlantic Salmon is considered an endangered species in Canada.

(44)

Striped bass has no status with the Nova Scotia species registry, the federal species at risk registry consider the Gulf of St. Lawrence population of Striped Bass to be of special concern. (45)

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. Scarcity and abundance of a species in an area can both increase the importance of a species.

As noted previously, Atlantic Salmon are considered an endangered, threatened, or species of special concern in Canada and the Mi'kmaq still rely on these species for sustenance and for cultural ceremonies and activities. Any disturbances to their habitats could have an impact on Mi'kmaq use.

Based upon frequency of activities reported by the interviewees, Deer hunting, Salmon and Trout fishing, along with harvesting Sweetgrass can be considered to be the favored activities for Mi'kmaq in this particular area.

5.0 CONCLUSIONS

This Mi'kmaq Ecological Knowledge Study has gathered, documented and analyzed the traditional use activities that have been occurring in the Project Site and the 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 regard 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.

Historic Review Summary

The Project Site and Study Area straddle the Traditional Political Districts of *Sipekni'katik* (Wild Potato Area) of the central area of Nova Scotia and *Siknikt* (Drainage Area) of Nova Scotia and New Brunswick and centered on the isthmus between the two Provinces of today.

There are few known archaeological finds/sites found within the Study Area. Most archaeological finds/sites in that area were mostly found close to rivers and also among present-day development, whether that be building and road construction including agricultural land use. Most are likely accidental finds and the site locations give indication of where to tread lightly at river and brook crossings.

There are potential natural resources within the Cobequid Hills in exposed bedrock containing Rhyolite stone of suitable properties for tools and weapons for early peoples. There are reported sources of Black Ash on the north slopes of the Cobequid Hills which are a valuable resource to early peoples and Mi'kmaq today, for tool handles and basket making.

Millbrook First Nation is the nearest large Mi'kmaq community to the Study Area, located south of Truro and referenced as Millbrook No. 27. Franklin Manor No, 22 Reserve is located west of the River Herbert and south of Amherst, approximate half distance to Parrsboro.

A review of Specific Claims shows no current and active First Nation Claims within the Project Study Area. However, Millbrook First Nation has an active specific claim regarding loss of land for Highway R.O.W and routing of Fiber Optic Cable through same R.O.W.. No specific location detail given.

Traditional Use - Project Site Summary

Based on the data documented and analyzed, it was concluded that there is some Mi'kmaq activity reported on the Project Site.

Activities in the Project Site include Moose, Rabbit and Deer hunting, Salmon & Trout and Bass Fishing, and Sweetgrass & Berry and Wood harvesting.

All usage period-categorization breaks down as follows:

Current Use ~13%

Recent Past ~18%

Historic Past ~69%

Traditional Use - Study Area Summary

Deer hunting, Salmon & Trout fishing, and Berry & Sweetgrass harvesting were the activities reported by interviewees in the highest frequency. There was other fishing, hunting, and gathering activities reported as well.

All usage period-categorization breaks down as follows:

Current Use ~9%

Recent Past ~13%

Historic Past ~78%

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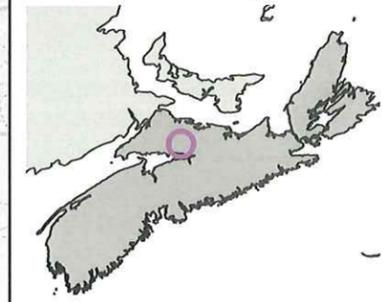
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**Higgins Mountain
Wind Farm Project
MEKS
Higgins Mountain, NS
Traditional Usage:
All Activity**

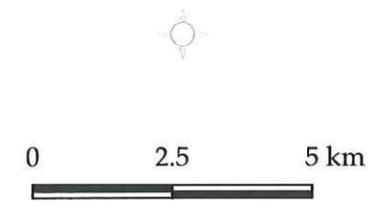


- All Usage
- Study Area
- Turbine Locations
- Project Site

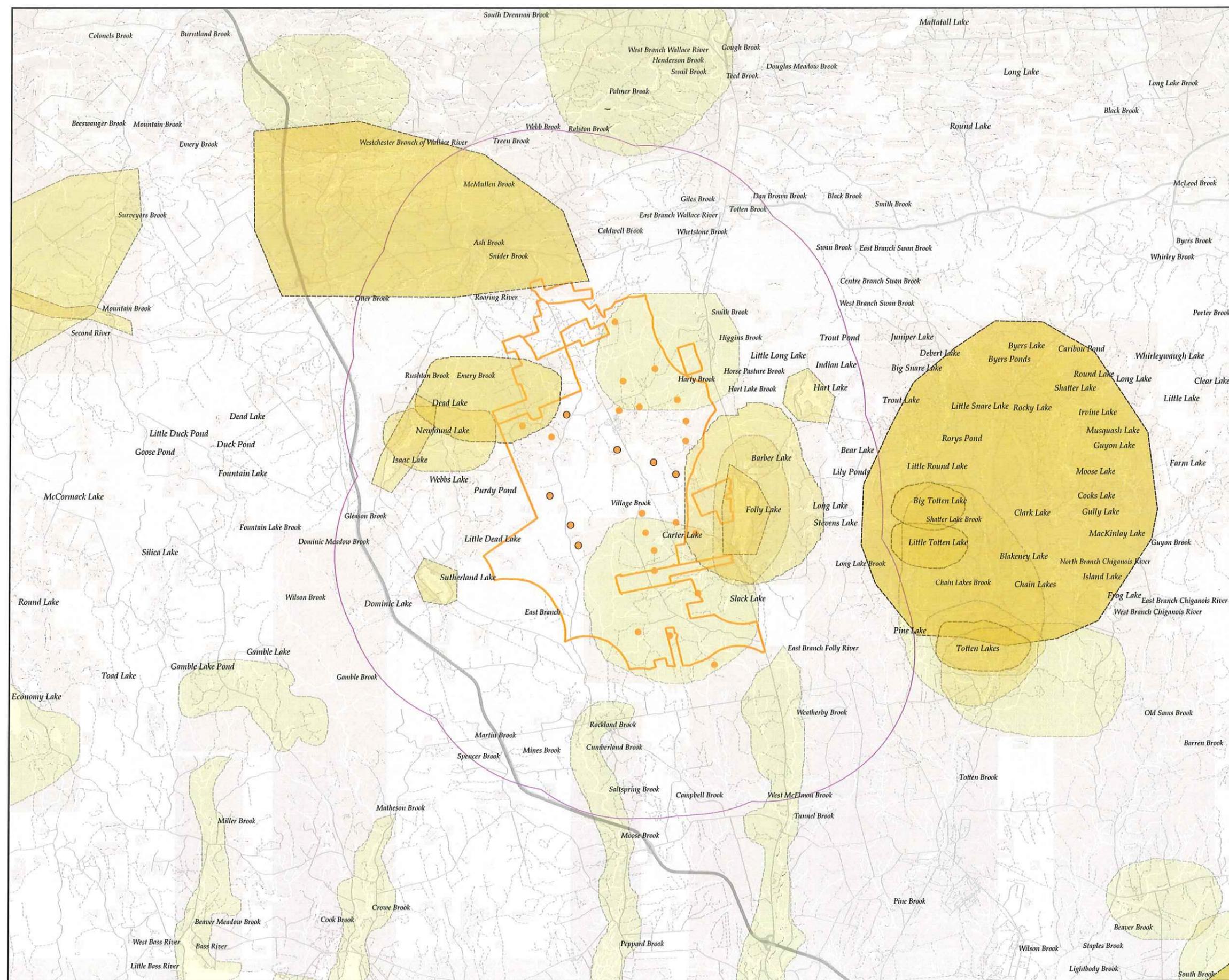
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Features presented may not accurately represent actual topographical or proposed features.

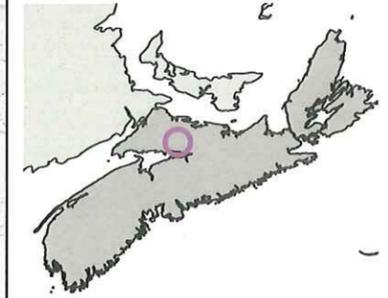


Datum: UTM NAD83 ZONE 20
Scale: 1:116,500
March 2023



Sources: Esri, Garmin, USGS, NRCAN, GeoNOVA, OpenStreetMap contributors, and the GIS User Community.

**Higgins Mountain
Wind Farm Project
MEKS
Higgins Mountain, NS
Traditional Usage:
Fishing**



-  Fishing Activity
-  Study Area
-  Turbine Locations
-  Project Site

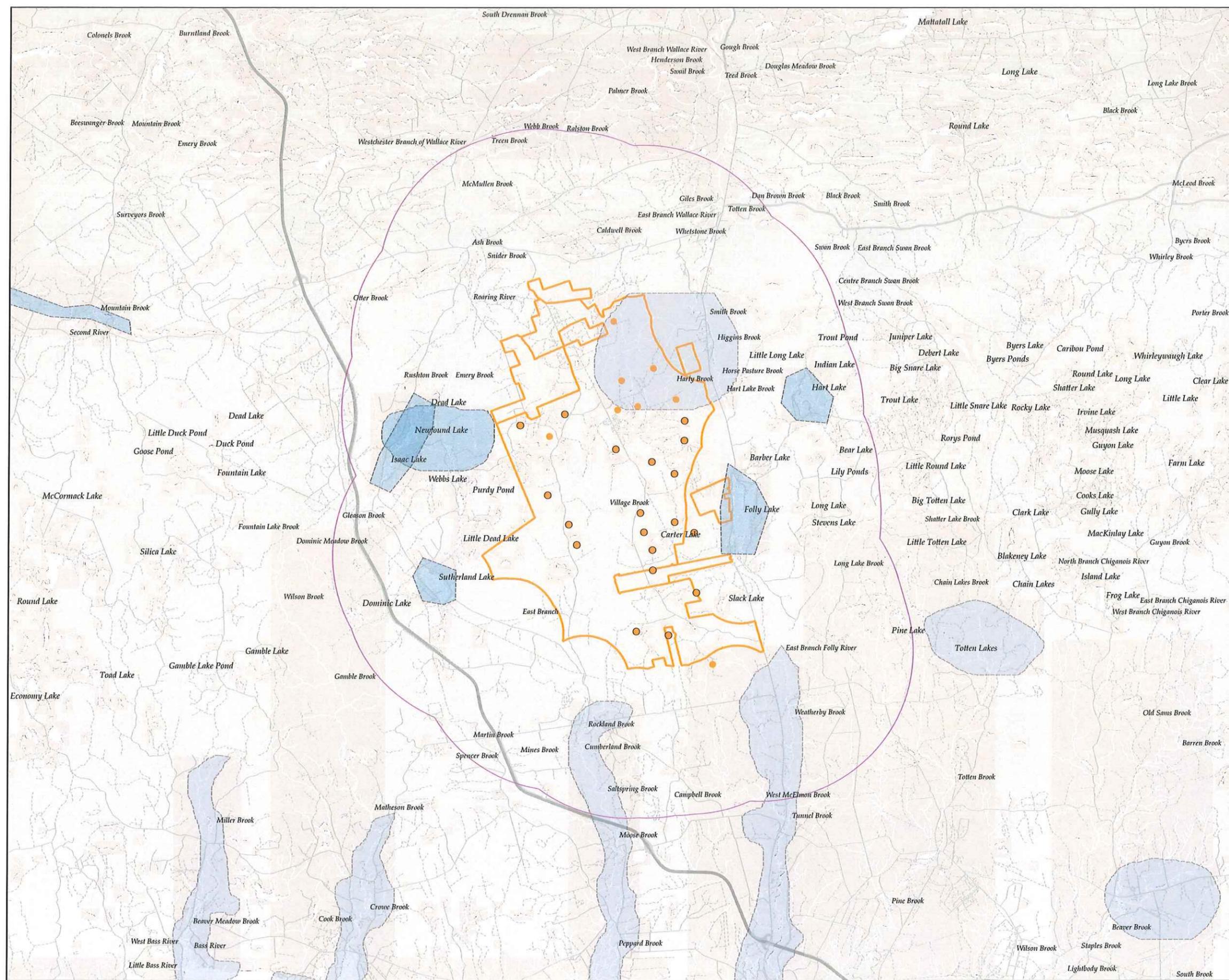
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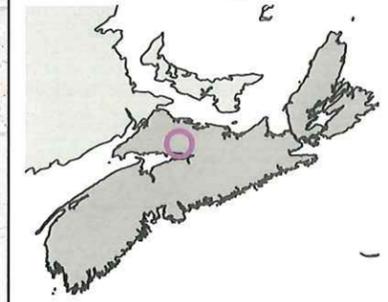


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**Higgins Mountain
Wind Farm Project
MEKS
Higgins Mountain, NS
Traditional Usage:
Hunting**



- Hunting Activity
- Study Area
- Turbine Locations
- Project Site

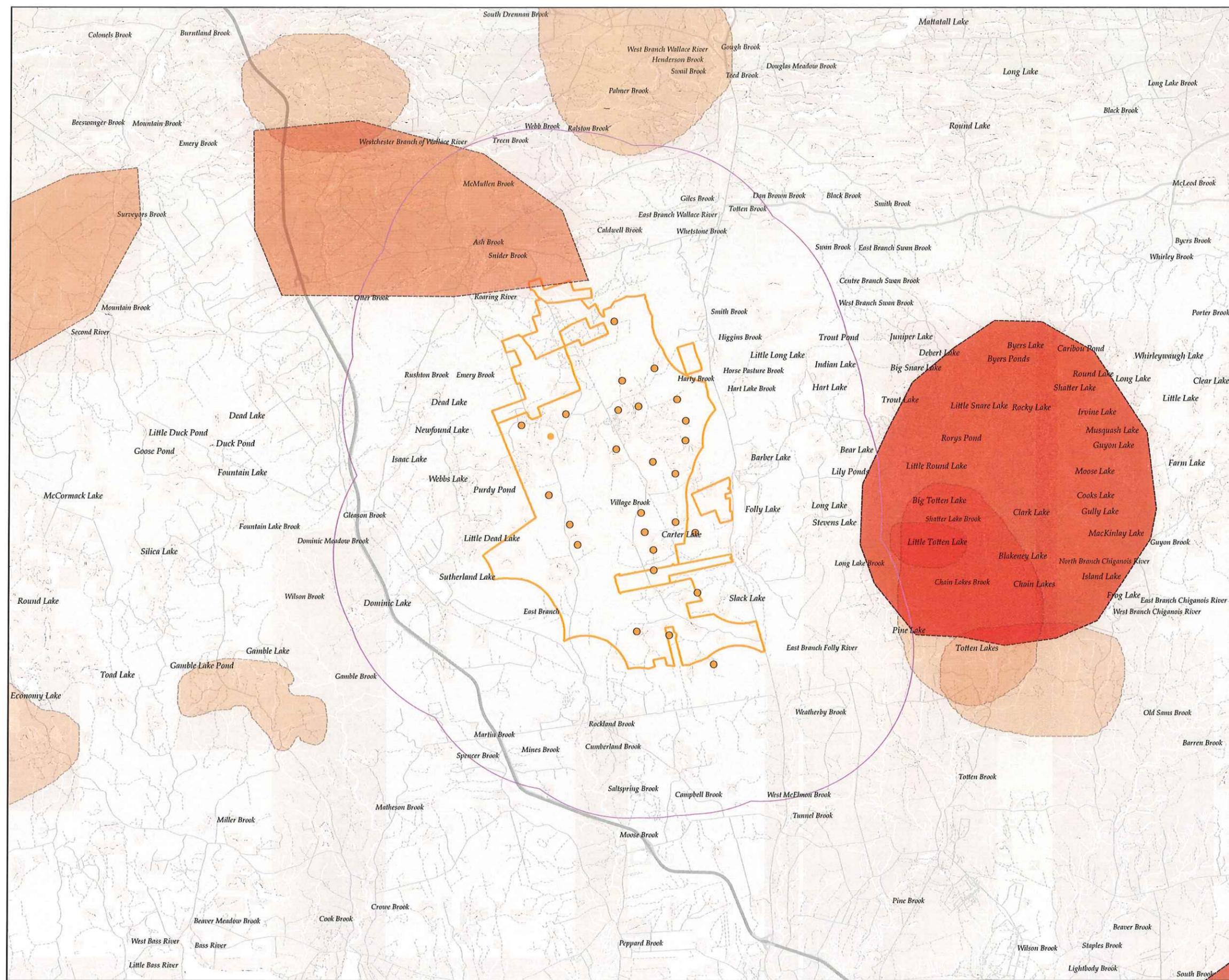
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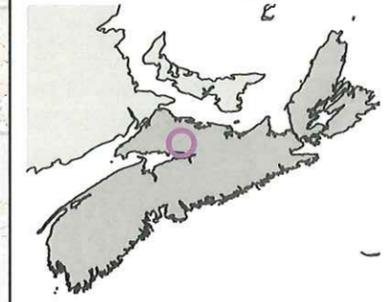


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**Higgins Mountain
Wind Farm Project
MEKS
Higgins Mountain, NS
Traditional Usage:
Gathering**



- Gathering Activity
- Study Area
- Turbine Locations
- Project Site

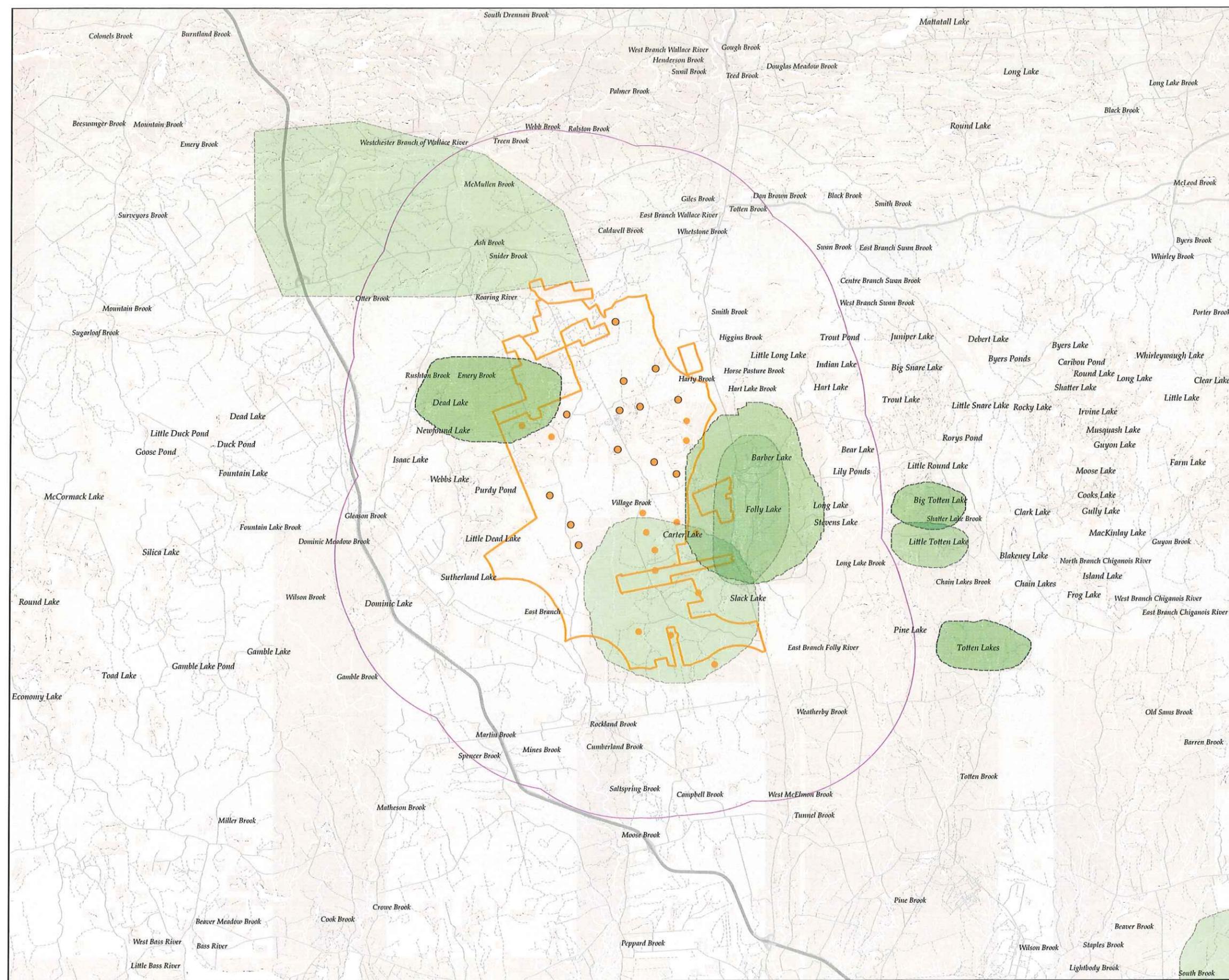
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