

APPENDIX G

Mi'kmaq Ecological Knowledge Study

Sydney Harbour Access Channel Deepening and the Proposed Sydport Container Terminal

Mi'kmaq Ecological Knowledge Study



**Membertou Geomatics Consultants
October, 2008**

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Executive Summary

This Mi'kmaq Ecological Knowledge Study, also commonly referred to as MEKS or a TEKS, was developed by Membertou Geomatics Consultants for the Sydney Ports Corporation on behalf of the Laurentian Energy Corporation (LEC). LEC is proposing to construct and operate a marine container terminal facility in the Sydport Industrial Park, located in the Cape Breton Regional Municipality, Nova Scotia.

In order to proceed with the implementation of the project, the project proponent must receive required approvals from the involved regulatory departments, which involves the Canadian Environmental Assessment Agency (CEAA) for the federal environmental assessment. It is expected that Provincial environmental approvals will be involved in the project at a later date. This MEKS has been developed as a mechanism to ensure that Mi'kmaq traditional knowledge and use of the study area is included in the environmental data and considered within the environmental presentation of the project.

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

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

- **Mi'kmaq Traditional Land and Resource Use Activities,**
both past and present,

- **A Mi'kmaq Significance Species Analysis**, considering the resources that are important to Mi'kmaq use.

The Mi'kmaq Traditional Land and Resource Use Activities component utilized interviews as the key source of information regarding Mi'kmaq use in the study area. Numerous interviews were undertaken by the MEK Team with Mi'kmaq hunters, fishers and plant gatherers, who shared with the team the details of their traditional use activities. The interviews were undertaken during the months of September and October, 2008, whereby Mi'kmaq were shown topographical maps of the project area and larger study area. Those interviewed were then asked to identify where they undertake their activities and all interviews were recorded with permission of the interviewee. If permitted by the interviewee, their information was incorporated into the GIS data. These interviews allowed the team to develop data that reflects the most recent Mi'kmaq traditional use in this area.

The data gathered was also considered in regards to Mi'kmaq Significance whereby each Species identified was analyzed through the consideration as food/sustenance resources, medicinal/ceremonial plant resources and Art/Tools resources. These resources were also considered for their availability or abundance in the study area, and their availability in areas adjacent or in other areas outside of the study area, their use, and their importance, with regards to the Mi'kmaq.

The data collected allowed the team to identify various land, coastal and water areas where Mi'kmaq have historically and currently, undertake traditional use activities. Fishing is the traditional activity that the MEKS team identified as most actively occurring in the Study area, primarily at Sydney Harbour, Cabot Strait, North Sydney, Bra's d'Or, and Blacketts Lake area. Mackerel, Trout, Lobster, Smelt, Cod, and Salmon are some of the fish species that are currently fished by Mi'kmaq in a most significant manner. As well, the hunting of Deer and smaller

animals also occurs throughout the Study area, in varying locations and at varying degrees, and as well as plant gathering activities.

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1.0 INTRODUCTION

1.1 *Membertou Geomatics Consultants*

Membertou Geomatics Consultants (MGC) 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 its' expertise in the field of GIS Services, Data Base Development, Land Use Planning Services and Mi'kmaq Ecological Knowledge Studies. It is one of many companies established by the Membertou First Nation – Membertou Corporate Division and these companies provide employment opportunities for aboriginal persons and contribute to Membertou's efforts of growth and development. As well, Membertou's excellent management and accountability of their operations is further enhanced by their ISO 9001:2000 certification.

For the development of this MEKS for the Sydney Port Corporation, MGC brings to the table a team whose expertise and skills with land documentation have developed a sound Mi'kmaq Ecological Knowledge Study. The team skills include expertise within the area of historical Mi'kmaq research, GIS data analysis, Mi'kmaq environmental knowledge and sound Mi'kmaq community connections.

1.2 *Sydney Harbour Access Channel Deepening and the Proposed Sydport Container Terminal*

The Sydney Harbour Access Channel Deepening and the Proposed Sydport Container Terminal Project, also referred to as the Sydney Harbour project within this study, is an initiative that is currently being developed by the Laurentian Energy Corporation.

LEC is proposing to construct and operate a marine container terminal facility in the Sydport Industrial Park, located in the Cape Breton Regional Municipality, Nova Scotia



Proposed project site

The project proposes to construct and operate a marine container terminal facility in the existing Sydport Industrial Park, located in the Cape Breton Regional Municipality, Nova Scotia. The proposed project activities will include two phases. Phase I will involve dredging the channel adjacent to South Bar to 17 m; constructing a Confined Disposal Facility; dredging at the proposed berth line, infilling of 60 acres, completion of a two berth, 750-800 m long section of wharf, construction of a container storage facility and a Transfer Facility, and extension of the existing dock rail spur. Phase II will involve doubling the terminal capacity through the completion of two berths and 750 -800 m of marginal wharf. The project expects for the dredging activities to take two to six months to complete and expect the Terminal to be operational by late 2010.

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 as well. 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 mijuijj*.

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 a 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*

In August of 2008, Membertou Geomatics Consultants (MGC) was awarded a contract to undertake a Mi'kmaq Ecological Knowledge Study for Sydney Port Corporation, on behalf of Laurentian Energy Corporation. Laurentian Energy Corporation (LEC) is proposing to construct and operate a marine container terminal facility in the Sydport Industrial Park, located in the Cape Breton Regional Municipality, Nova Scotia. The project will involve the dredging of areas of the South West Arm of Sydney Harbour to a deeper water capacity than presently exists, which will allow the travel of large vessels in and out of the Marine Terminal. 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.

MGC proposed to assist with the gathering of necessary data by developing an MEKS which will identify Mi'kmaq traditional land use activity within the study area and in surrounding areas within a 10 kilometer radius. 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 MGC is documented within this report and presents a thorough and accurate understanding of the Mi'kmaq peoples land and resource use within the study area.

MGC understands that this study will be included in the Environmental Assessment that will be submitted to the regulators by the project proponents and will be used as a primary indicator identifying Mi'kmaq traditional land and resource use within the study area.

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 Sydney Harbour Access Channel Deepening Project 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 MEKS will also provide recommendations that should be undertaken by the proponent. As well, if the MEKS identifies any possible infringements with respect to Mi'kmaq constitutional rights, the MEKS will provide recommendations on necessary steps to initiate formal consultation with the Mi'kmaq. Finally, through the development of this MEKS for the Sydney Harbour Access Channel Deepening Project, Mi'kmaq ecological knowledge and traditional land, water and resource use will be identified for those parties that are considering the proposed project

2.4 MEKS Study Area

The Sydney Harbour Access Project is an initiative that is being developed in the Sydport Marine Industrial Park, located in Edwardsville, Cape Breton Island, Nova Scotia. The proposed project area will encompass a dredging area approximately 140 m wide and 9,950 m in length, an infilling area approximately 60 acres in size, and a Confined Disposal Facility construction area requiring 100 acres of land. The dredging area is located in the channel that provides access to the South Arm of Sydney Harbour and in the Sydney Harbour, while the land areas are within the existing Sydport Industrial Park. Terminal berths will be built in Sydney Harbour, connecting to the Sydport Industrial Park. The MEKS will consider these areas and also include adjacent area within a 10 square kilometer zone, extending to the south at Malcolms Brook, to the North at the Cabot Strait, to the western point of Long Island and to the eastern point of First Dodd Lake area. The Sydney Harbour and Channel is a key port as it is a first entry port for vessels transiting the North Atlantic via the Suez Canal. The Industrial Park location is surrounded by residential areas of the Cape Breton Regional Municipality which maintains over 100,000 residents.

3.0 METHODOLOGY

3.1 Interviews

As a first step to gathering traditional use data, the Membertou Geomatics team initiated dialogue and correspondence with the 5 Mi'kmaq communities located in Unamaki, *Cape Breton Island*. Discussions occurred regarding the identity of individuals who undertake traditional land use activities or 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 MGC team members and interviews were scheduled.

For this MEKS twenty (20) interviews were undertaken by the project team whereby forty three (43) informants provided information in regards to past and current traditional use activities. Interviewees resided within or were from the communities of Membertou, Eskasoni, Chapel Island, Waycobah and Wagmatcook, with the majority of the interviewees residing from the community of Eskasoni. All of the interviews that were completed followed the procedures identified within the Mi'kmaq Ecological Knowledge Protocol (MEKP). Prior to each interview taken place, 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 asked to sign a consent form, providing permission for Membertou Geomatics to utilize their interview information within this MEKS. During the interview, Individuals were provided maps of the study area and asked various questions regarding their Mi'kmaq use activities; including where they undertook their activities, when they did such activities, and what type of resource they utilized. 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 accuracy of the information gathered. As well, when required, interviews were conducted in the Mi'kmaq language.

3.2 *Literature and Archival Research*

With regards to the Sydney Harbour Access Channel Deepening 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 occupation of the study area. Documents reviewed included 19th and 20th century census records, colonial government records, burial records and numerous published books. A complete listing of the documents that were referenced is outlined within the *Sources Cited* section.

3.3 *Field Sampling*

Site visits were undertaken by the project lead, along with a Mi'kmaq Ecological Knowledge holder from the Mi'kmaq community of Membertou, as well as Membertou of Membertou Natural resources. Site visits were undertaken over a five (5) day period, which consisted of a walk through of the Study Area, noting and identifying any particular plant species growths, animal habitats or other land or water areas of importance.

The following plant species of Great Mullen, Sage, Huckleberry, Blueberries, Blackberries, Strawberries, and Raspberries were found throughout the study area.



Beach sage

Other species identified included Alder, Cherry trees, Maple trees, Apple trees, Mountain Ash and Tamarack. Habitat areas and signs of Deer, Rabbit, Partridge, Hawks, Coyotes and Ducks were identified during the site visits.

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 data 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 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 Mi'kmaq 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 on the 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 continue or have occurred in the Study Area. This has allowed the study to identify traditional use activities in a manner that Membertou Geomatics believes is complete and thorough, as required by the MEKP. Historical documents within public institutions were accessed and reviewed and individuals from all 5 Unama'ki communities were interviewed. The information provided from these interviews, has been undertaken with key Mi'kmaq community people, identified initially by the MEKS team, who are involved and are knowledgeable regarding traditional use activities. Through the documentation review and the interview process, the MEKS team is confident that this MEKS has identified an accurate and sufficient amount of data to properly reflect the traditional use activities that are occurring in the study area. However, because the MEKS team process is highly dependant on the information that is provided to the team by only several Mi'kmaq traditional activity users and not all Mi'kmaq traditional activity users, there is always the possibility that some traditional use activity may not have been identified by the MEKS.

4.3 Historical Review Findings

The Sydney Harbour Access Channel Deepening Project is proposing to be undertaken in Cape Breton Island, N.S. The project area is located in Edwardsville, just on the border of the town of Sydney. The town of Sydney has existed for over two hundred years, and was founded in 1785 when Cape Breton Island was a British colony. This is when the colonization of the area began with the influx of loyalist settlers from the United States and with the Scottish as well. However, the history of this area does not begin in 1785 with the founding of Sydney, but rather begins hundred of years prior with the Mi'kmaq.

The Mi'kmaq are the aboriginal people who have lived in their traditional homeland of Atlantic Canada, *Mi'kmaki*, since time immemorial. Prior to the arrival of Europeans in the Atlantic area, the Mi'kmaq lived a daily life which where the land, the waters and the natural resources were integral to their daily survival. The Mi'kmaq lived in a society where they maintained their own indigenous beliefs, values and customs in regards to the natural resources, and consequently, their daily social, religious and sustenance practices were also founded on such understandings. Over time, their experiences and relationships with the natural world had provided Mi'kmaq society with the ability to develop a substantive body of ecological knowledge. Through daily social practices that were founded on such ecological knowledge the Mi'kmaq ensured that the most crucial elements of their Nation's existence were secure, healthy and intact for the future survival of their people.

Some of the earliest historical contact to occur in Cape Breton Island between the Mi'kmaq and Europeans has been documented to have occurred in 1504 with the Basque fishermen who came to the area fishing

cod.¹ Over the next two hundred years European explorers continued to come to Cape Breton Island as a part of their voyages to the New World, which ultimately involved contact with the Mi'kmaq people through trade. From the late 1500's through to the beginning of the 18th century, colonization efforts were also pursued in this area, by both the English and the French.

The French were the first group to establish settlement, primarily with Acadians and through much of the seventeenth century the French and the English battled for control of the Atlantic, which included Cape Breton Island. In 1713, the Treaty of Utrecht saw Acadia transfer hands from the French to the British, although the Mi'kmaq continued to assert that all of Mi'kma'ki continued to be their lands.² During this time, Unama'ki, *Ile Royale*, as it was known during this time period, was still under French authority and due to the alliance between the Mi'kmaq and the French, increased numbers of Mi'kmaq began to move from mainland Nova Scotia settlements, such as Port Royal, and settle in existing Mi'kmaq communities in Cape Breton Island.

Mi'kmaq society and daily life was a seasonal pattern and consisted of communities of larger villages in the summer and smaller hunting groups in the winter. This lifestyle pattern continued to be practiced by the Mi'kmaq through to the 20th century, although colonialism caused pattern changes to the daily life of the Mi'kmaq. It is from these lifestyle patterns that the MEKS team is able to clearly identify Mi'kmaq use and occupation of the study area.

The study area is located in the Cape Breton Regional municipality and although the Project Area does not contain any reserve lands, that being

¹ Richard Brown, *A History of the Island of Cape Breton*, p.14.

²

lands defined under the Federal Statute of the Indian Act designating lands for Indian people, there are reserve lands within the Study Area; that being the ten (10) kilometer area of lands surrounding the project area. The Mi'kmaq reserve lands that are within the Study area are that of the **Caribou Marsh, (No.29)** which is located eight (8) kilometers southwest of Sydney, **Lingan, (No.28a)** which is located 1.6 kilometers northeast of Sydney, and **Membertou (No.28B)**, which is located 1.6 kilometers south of Sydney. **Caribou Marsh** contains reserve lands that are 219.3 hectares in size and consist of primarily woodland and swamp.

It is presently occupied by two Mi'kmaq businesses and the lands are used by community members for traditional use activities of hunting, gathering plants or utilizing the wood resources. Presently, it contains no residential occupants. **Lingan** is 51 hectares in size and its' vegetation consists of woodlands and blueberries. **Membertou** is 95.1 hectares in size and is the primary lands that are occupied by the community for residential and business purposes. This Mi'kmaq community was established in 1926, when the community was relocated to this location from **King's Road Reserve**, which was their community at that time. **Membertou** has a population of approximately 1096 people, with nearly 800 living in the community. The community is active in the business world and has recently numerous business establishments within the community, including a Trade and Convention Centre, Gaming Facilities, Gas Bar and an Entertainment facility.



Kings Road Reserve

The King's Road Reserve, known as ***Kun'tewiktu – place of the rock***,³ was Membertou's former community up until 1926 when the community was moved to present day Membertou. The King's Road Reserve was located at the present day location of the Medical Arts Building on King's Road in Sydney and was 2.45 acres in size. It was a Mi'kmaq settlement that had existed there for hundreds of years and in the early 1800's Paul Christmas and others applied to the colonial government for a land grant for the reserve, likely to stop the encroachment of community lands by non-Mi'kmaq settlers.

The lands were designated as Reserve lands by the late 1870's and the Mi'kmaq community continued to be frequented by other Mi'kmaq people, primarily due to its location. The Mi'kmaq utilized the plentiful fish resources located here as a part of their daily livelihood and many historical documents make reference to the early Mi'kmaq who lived here. In 1846, Reverend Uniacke describes the Mi'kmaq fishing lobster here;

At night, or early in the morning when beginning to get dark, you will frequently see the shores of a lake or harbour, lighted up in different spots with the most brilliant bon fire.....the

³ Mi'kmaq Association of Cultural Studies, *Mi'kmaq Place Names*, Unpublished Document, p.257.

gigantic torches blaze away for great part of the night, attracting the lobsters to the shore, and making the water transparent down to the bottom. If he go a little nearer and look over the bank he will see the patient Indian in his canoe watching the crawling lobsters and striking him with unerring aim....⁴

Another early description from the 1850's described the Mi'kmaq community here as follows:

It was a little cluster of birch bark wigwams, pitched upon a carpet of greensward, just at the edge of one of the loveliest harbours in the world.....Nearer at hand were the murmuring pines and the hemlocks, the tender green light seen in vistas of firs and spruces, the thin smoke curling up from the wigwams, the birch bark canoes, the black, bright, eyes of the children, the sallow faces of the men...⁵.

In 1926 the community was relocated through the *Exchequer Court Decision of 1916* which stated that the Indians of the **King's Road Reserve** be removed from their community. In 1926, when the community residents were relocated, the reserve population was around 105 people and the reserve contained 27 homes.⁶

Mi'kmaq also maintained a settlement in **North Sydney** at present day Pottle's Lake, an area that is adjacent to the North West Arm of Sydney Harbour. This settlement existed here up until the 1920's as the land the Mi'kmaq lived on was given to the Dominion Iron and Steel Company and was never provided Indian Reserve Status. Eventually Indian Affairs was

⁴ C. Bruce Fergusson, ed. *Uniacke's Sketches of Cape Breton and Other Papers Relating to Cape Breton Island*, Halifax, PANS, 1958, Nova Scotia Series, p.109.

⁵ Frederic S. Cozzens, *Acadia; A Month With the Blue Noses*, New York: Hurd and Houghton, 1870, p.176,177.

⁶ Rosalie Francis, King's Road Fact Sheet, Membertou Band Council, unpublished internal document.

successful in relocating community members by not providing them with any assistance so long as they resided here.⁷



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North Sydney

Four (4) other Mi'kmaq communities are located outside of the Study Area but are within the boundaries of Cape Breton Island. This includes the communities of **Chapel Island, Eskasoni, Waycobah, and Wagmatcook**. The **Chapel Island Band** is located approximately sixty seven (67) kilometers **SW** from the project area and has a band population of nearly 600 people. The **Waycobah** community is located approximately seventy five (75) kilometers **NW** from the project area and its' band population is 826 people. **Wagmatcook** is located fifty five (55) kilometers from the Project area and has a band population of 645 people. Finally, the **Eskasoni** band is located on the north eastern side of the Bra's d'Or Lakes and is approximately thirty six (36) kilometers W from the project area. **Eskasoni** is presently the largest Mi'kmaq community in Nova Scotia and maintains a band population of approximately 3,750 people.

⁷ Indian Affairs, Sydney Agency – Removal of Micmac Indians from the Sydney Area Where they are Squatters on Lnad owned by the Nova Scotia Steel and Coal Company at Pottle's Lake, 1905-1917, PANS, RG10, Vol.3103, File 307,576.

When considering the past and present existence of Mi'kmaq settlements in the Study Area and in the surrounding areas, it is apparent that Mi'kmaq occupation and use of the land and resources has existed for many years. The MEKS team has found that the Mi'kmaq lived on and utilized much of the lands and waters that are within and surrounding the study site well into the 20th century, and the Sydney Harbour would have been steadily utilized by the Mi'kmaq community at King's Road. Mi'kmaq use in this area is also supported when considering the cultural aspect of Hunting Territories, a social practice of the Mi'kmaq that involved the allotting of lands to specific families for hunting territories⁸.

The MEKS team has found that allotment of hunting territories was a cultural practice that the Mi'kmaq utilized within their social structure well into the 20th century for in 1914, Frank Speck, a well known anthropologist, documented this subject of Hunting Territories. At that time all of Nova Scotia was divided into various hunting territories that were allotted annually by the various chiefs and leaders of the communities.⁹ When considering the project area in regards to hunting territories, this area consisted of at least two hunting areas; those of Tomah Denys and John Isaac.

The first hunting territory was that of Tomah Denys, a hereditary chief of the Mi'kmaq. His hunting territory was known as *Twi'dnutck*, meaning little channel, and encompassed lands from Grand Narrows through to the both sides of East Bay, including Sydney River and as far as the outer coastal areas surrounding Big Pond. John Isaac's hunting territory covered lands and waters from Sydney Harbour through to Bras d'Or. His territory was known as *Kwundewe'gade*, meaning rocky head, and his territory

⁸ Frank Speck, *Beothuk and Micmac*, New York, AMS Press, p.88.

⁹ Speck, p.89.

encompassed lands from Point Aconi through to Lingan.¹⁰ John Isaac was a member of the King's Road reserve and Tomah Denys was from the Eskasoni community. These hunting territories would have been used by the families of all of these individuals through to the 1950's and after this time all lands began to be used by all Mi'kmaq in a less formalized hunting territory manner.

Because Nova Scotia and the Atlantic Region were the homeland of the Mi'kmaq, all waters and lands were referred to by a Mi'kmaq place name. Mi'kmaq place names normally found their meaning from Mi'kmaq's interpretation of the lands and waters and at times could signify an excellent hunting or fishing area. When considering Sydney Harbour, the Mi'kmaq had many different names for the various areas that made up the Harbour, each pertinent to the landscape located there. Sydney Harbour itself was known as *L'sipuktuk*, while the Northwest Arm was known as *L'sipuktukji'jk*, meaning "Harbour ending into a River". The Lower Cove was known as *Walnipkwekiwek*, and Edwardsville was known as *Skite'kmujua'kik*, "meaning Home of the Ghosts". North Sydney was known as *Kweso'mkiaq*, meaning "where sand abounds".

4.4 Mi'kmaq Traditional Use Findings

Mi'kmaq traditional use data was gathered from the Sydney Harbour Access Channel Deepening and the Proposed Sydport Container Terminal Project area, an area which includes the Sydport Industrial Park Terminal Site and the Dredging area site located in Sydney Harbour. For the purposes of this MEKS, data was also gathered by the team from a larger study area. The larger study area consisted of the project site area, and also included a 10 kilometer buffer zone surrounding the project site area. This larger study area included outlying areas of North Sydney,

¹⁰ Speck, *Beothuck and Micmac*, Map Insert.

Sydney, Membertou, Caribou Marsh, Little Bra's d'Or, Lingan Bay and Blacketts Lake.

The data gathered for this MEKS was drawn from one primary source; that being Mi'kmaq individuals who reside in the surrounding Mi'kmaq communities and who are familiar with or undertake traditional use activities. This set of data was acquired through the primary interviews that were undertaken by team members with such individuals, which then 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. These interviews took place during the months of September and October of 2008.

To easily identify the traditional use data findings of this study, the data gathered has been categorized into two (2) large geographic areas, which encompass smaller regions. The first category is the project site area – which is the area that has been identified by the proponent as the location of the proposed dredging and the construction site location of the Storage Facility and Marginal Wharfs. The second area is that of lands outside of the project area but within the study area ten kilometer range and includes such areas as North Sydney, Blacketts Lake, Lingan Bay and Little Bra's d'Or.

Based on the data that was gathered by the study team, it is apparent that Mi'kmaq traditional use activities are occurring in the various land and water areas throughout the study area. The majority of the activities that the study has documented occur **currently**, with nearly 70% of all activities occurring currently and recently. 30% of documented activities have occurred within the **historical past**.

**Project Site Area –Sydport Industrial Park, Sydney Harbour,
North West Arm, South Arm Dredging Area**

Fishing:

With regards to the traditional use activities documented by the study, the project site area was one the most significant area that the study considered in regards to traditional use activities. For the purposes of this study, the MEKS team identified a “Project Site Area” as that where project activities will be occurring and the MEKS team included Sydney Harbour, as the dredging will occur in the channel.

Fishing was found to be a traditional use activity that continues to occur throughout various waterways, brooks and lakes within the Study Area and as well within the Project Site Area. The data research identified that Mi'kmaq currently have harvested fish from the Project Site area and have also done so historically. Species that have been identified include that of **Lobster, Mackerel, Clam and Eel, Mussel, Oyster, Scallop Bass and Trout.**

Lobster is the fish species that the study documented with the most traditional use activity, with sixteen areas being identified as that where Lobster is harvested. Most of these areas are primarily in the region of the **Cabot Strait**, just off of Spanish Bay. As well, seven lobster harvesting areas were identified in **Sydney Harbour**, near the dredging site area.

Mackerel is also another key fish species that the MEKS team identified as being harvested in the project area. This study identified nine (9) fishing areas where Mackerel is harvested. These are located primarily in the area the **dredging site, Muggah Creek, and South Bar.**

Clam and **Eel** harvesting areas were also identified by interviewees as occurring within the project site area. **Clam** was harvested from the South Bar area, adjacent to the wharf site with three (3) harvesting areas being identified, while **Eel** was identified as being fished in (8) eight areas. The **Eel** fishing areas are located primarily in the vicinity of **Sydney Harbour**, the **Northwest Arm**, and **South Bar**, adjacent to the wharf site.

Mussel, Oyster, Scallop, Bass and Trout were the other fishing species who had one or two fishing areas identified to be found within the project site area. The **Trout** fishing area is located in the brooks and waterways in **Westmount** and **Pt. Edward** area. The **Bass** fishing area is located in the dredging area of **Sydney Harbour**. The **Mussel** had two areas identified, specifically located at the **dredging** area and **Leitches Creek** area. Finally, a fishing area for **Scallop** and for **Oysters** was identified in the area of McLennan's Brook, adjacent to the wharf site. As well, through the interviews, the MEKS team ascertained that the majority of the fishing species appear to be on the decrease in terms of stock availability.

Hunting

The study also identified the project site area as that where Mi'kmaq have hunted for various animals located here, although the amount of hunting areas identified were minimal. Total number of hunting areas identified to be occurring in the project area are (7) seven with **Deer, Rabbit and Partridge** being the primary resources being harvested. Deer is the species that was identified as being the most harvested with three (3) deer hunting areas being utilized by Mi'kmaq. Partridge was also identified as another resource harvested by the Mi'kmaq and two (2) partridge areas were documented by the study. Rabbit was the only other resource that the study found to be hunted in the project site area, and like partridge, only two (2) rabbit hunting areas were identified.

Plants

The Mi'kmaq people utilize various plant resources as a part of their traditional use activities, primarily for food, medicinal, or ceremonial purposes and/or also for the development of tools and art. Through the interview process, the MEKS team was able to identify that Mi'kmaq undertake traditional plant gathering activities in the project area as the MEKS team identified six (6) varieties of plants that are harvested for these purposes. The species that the study found to be most harvested by Mi'kmaq in this area were that of **Choke Cherry, Gooseberry, Blueberry, Cranberry, Raspberry, and Strawberry**. Four (4) gathering areas were identified for **Gooseberry** and two (2) areas were identified for **Choke Cherry**. Two (2) areas were identified for **Blueberry and Cranberry** and **Raspberry and Strawberry** has one (1) gathering area each.



Raspberries

Surrounding Area – North Sydney, Sydney, Membertou, Caribou Marsh, Little Bra’s d’Or, Lingan Bay and Blacketts Lake.

As mentioned previously, the MEKS data is also drawn from a larger buffer zone area which encompasses a ten (10) kilometer radius around the smaller project site area. For ease of interpretation, the traditional use activities occurring in this radius are presented here.

Fishing

From the data gathered, the study found that **Trout, Eel, Cod, Smelt, Salmon, and Lobster** are the species of fish that are most harvested by Mi’kmaq currently in the surrounding areas. **Seventy (70) trout** fishing areas were identified by the study as occurring in most of the waterways and lakes in the surrounding area. The Study also identified **sixteen (16) Eel fishing areas, twenty one (21) Cod** fishing areas, **twenty one (21) Smelt** fishing areas, **twenty (2) Salmon** fishing areas, **fifteen (15) Lobster** fishing areas and **eight (8) Mackerel** fishing areas. The majority of the fishing areas for these species are found to be in **Sydney Harbour**, near the North West Arm, in **North Sydney, Bras d’Or, and Blackett’s Lake**. Other fish species were also identified as being harvested, although to a somewhat lesser degree, including **Gaspereau, Herring, Clam, Flounder, Oyster, Catfish, Perch, Scallop and Bass**. All of these resources are primarily harvested by Mi’kmaq for food, with trout and salmon being a common food source for the Mi’kmaq.

Hunting

The study identified hunting activities occurring in the surrounding areas, with **Deer, Rabbit and Partridge** being those species most harvested.

Forty four (44) areas were identified for **Deer** harvesting areas, with the majority of the hunting areas occurring in the **Mira Road** area through to

Caribou Marsh. As well, areas in and around **Scotch Brook and Leitches Creek,** and **Keefe Lake** were identified as Deer hunting areas.

Thirty seven (37) areas were identified as **Rabbit** hunting areas, with the majority of these areas located in and around the **Caribou Marsh** area and **Mira Road** area.

Thirty one (31) areas were identified as **Partridge** hunting areas, and similar to **Deer** and **Rabbit,** the primary areas for hunting occurred in the **Caribou marsh** and **Mira Road** area, but also included areas in **South Bar, Balls Creek,** and **Mill Brook.**

Other species that the study identified that are hunted included **Fox, Beaver, Muskrat, Mink, Duck** and **Otter,** although the hunting areas were minimal, ranging between eight (8) hunting areas for **Fox** and one (1) hunting area for **Duck and Otter.**

Plants

With regards to traditional plant gathering activities, the study identified that **Blueberry, Apple, Cranberry, Spruce, Raspberry, Strawberry, Blackberry, and Birch** are the plants that are most harvested by the Mi'kmaq in the surrounding areas of **North Sydney, Blacketts' Lake, Membertou, Sydney, Lingan and Caribou Marsh.** Most of these species have a significant number of harvesting areas associated with them, the most significant being that of **Blueberry** with thirty nine (39) areas being identified. Many other species were also identified as being gathered from these same areas, but to a somewhat lesser frequency, and these species included **Alder, Cow Lily, Maple, Juniper, Sweetgrass, Golden Thread, and Flagroot.** These plant species are primarily utilized by the Mi'kmaq for medicinal purposes. As well, at least fifteen (15) other species of plants and trees were identified as being harvested, with at least two harvesting areas being identified for each.

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 to the areas adjacent to the study area, and if required, other areas throughout the province are also considered. 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 whether 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 numerous resource and land/water areas within the study area, and adjacent to the study area, that continues to be utilized by the Mi'kmaq people. The data was not only gathered from the Sydney Dredging Project, but also throughout a 10 kilometer buffer zone surrounding the immediate study area.

The study identified the following:

TYPE OF USE	NUMBER OF AREAS	NUMBER OF SPECIES
Food/Sustenance	400	38
Medicinal/Ceremonial	58	11
Tools/Art	33	9

A rare plant, **Great Mullen**, was found during the site visit and is considered an important resource in relation to the traditional use in the Mi'kmaq community. Other various plant and tree resources documented within this MEKS can be classified as common, as their availability in the study area is sound, and as well they are found throughout other areas of Nova Scotia. Such resources considered include such plants as **Golden Thread, Wisswtaqji'jkl, Flagroot, Ki'kwesu'sk, and Sweetgrass, (Hierochloe odorata L.) Switte'**. All of these plants are considered to be very important resources in relation to traditional use in the Mi'kmaq community, specifically those used for medicine. .

With regards to food resources, the resource that this study identified as most prevalent for use were those of **Deer** and **Trout**, with over 100 hunting and fishing areas being identified from the entire Study Area. Many other resources were also identified for traditional use activity as well, including numerous fish species and some small mammals.

However, when considering the **Sydney Harbour area** and specifically the Project area, **Lobster and Mackerel** fishing are the key traditional activities that this study identified. Through the interview process, the MEKS team was also able to identify that the availability of the majority of the fishing species are noted as less abundant than in previous years. This was specifically noted for the trout resource.

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 study area of the Sydney Harbour Access Channel Deepening Project, located near Edwardsville, Cape Breton Island. The MEKS gathered traditional use activity in regards to this area, and a larger ten kilometer area, by undertaking interviews with individuals who practice traditional use activities and reside in the nearby Mi'kmaq communities. The information gathered was then considered in regards to species, location, use, availability and frequency to further understand the traditional use relationship that the Mi'kmaq maintain with the Study Area.

Based on the data documentation and analysis, it was concluded that the Mi'kmaq have historically undertaken traditional use activities in the study area, and that this practice continues to occur today. These activities involve the harvesting of fish species, plants and animals; all of which occurs in varying locations throughout the study area and at varying times of the year. The most prevalent traditional use activity that the study identified to be occurring is that of fishing, although hunting and plant gathering also occur in a prevalent manner as well. The fishing activity occurs primarily in the Sydney Harbour area of the Northwest Arm and South Bar, North Sydney, and Blackett's Lake streams and waterways. Hunting and plant gathering occur primarily in the areas adjacent to Membertou community, in Caribou Marsh area and the Mira Road area as well.

RECOMMENDATION # 1:

In consideration that the Mi'kmaq undertake some fishing activity in various locations throughout Sydney Harbour and that proposed project activities will occur here, it is recommended that the proponent further consider the possible effects of proposed project activities in regards to the Mi'kmaq fishing activities occurring here.

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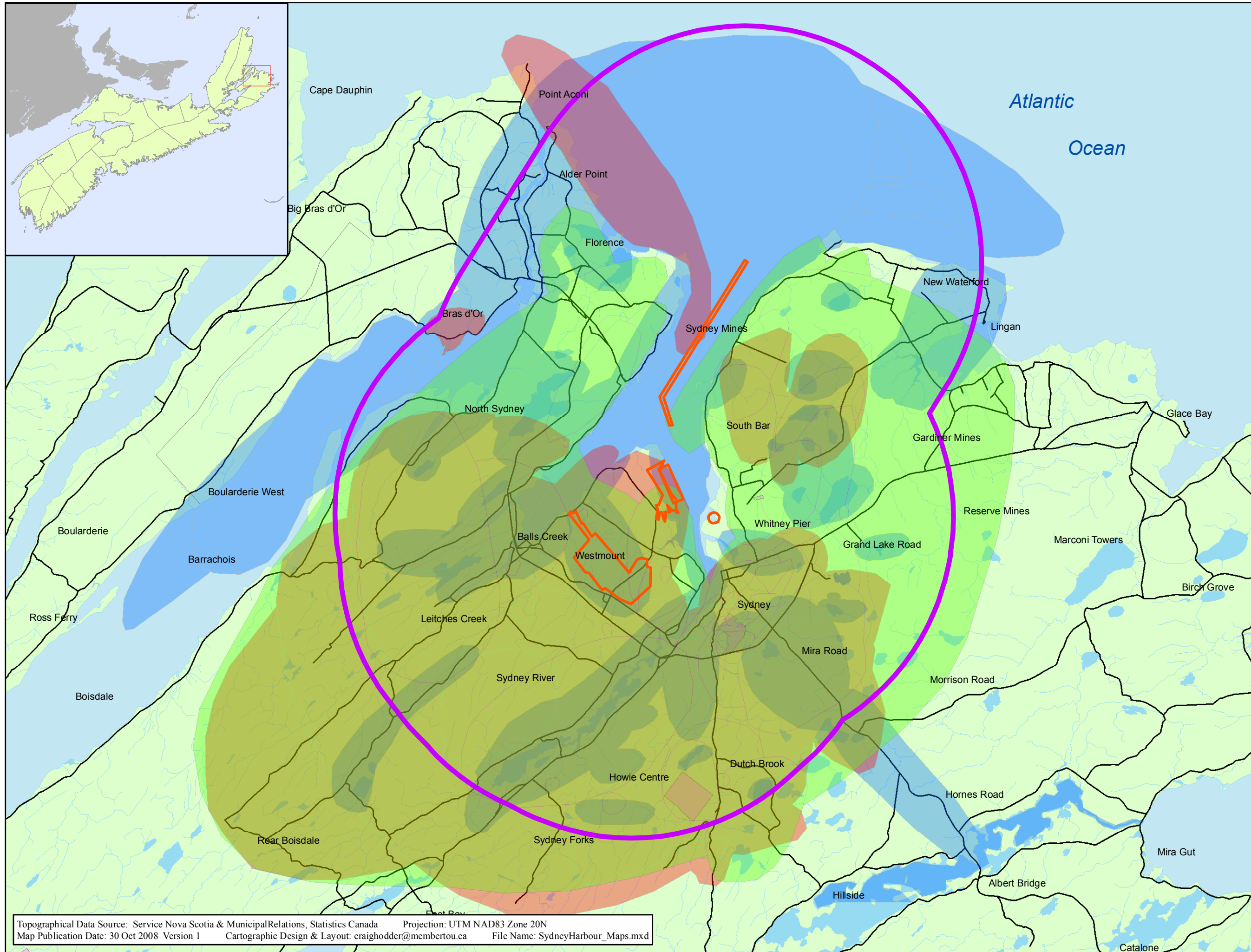
APPENDIXES

Map A
Mi'kmaq Traditional and Current Use Areas

MEKS: Sydney Harbour Dredging

Cape Breton Co.
Nova Scotia

Mi'kmaq Traditional and
Current Areas



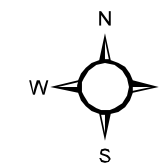
Legend

- Project Sites
- Study Area
- Gathering Areas
- Hunting Areas
- Fishing Areas
- Reserve Land

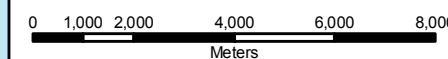
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Traditional uses mapped out are a sampling of traditional knowledge held by those interviewed, and should not be interpreted as an absolute measure of Mi'kmaq ecological knowledge and land use.



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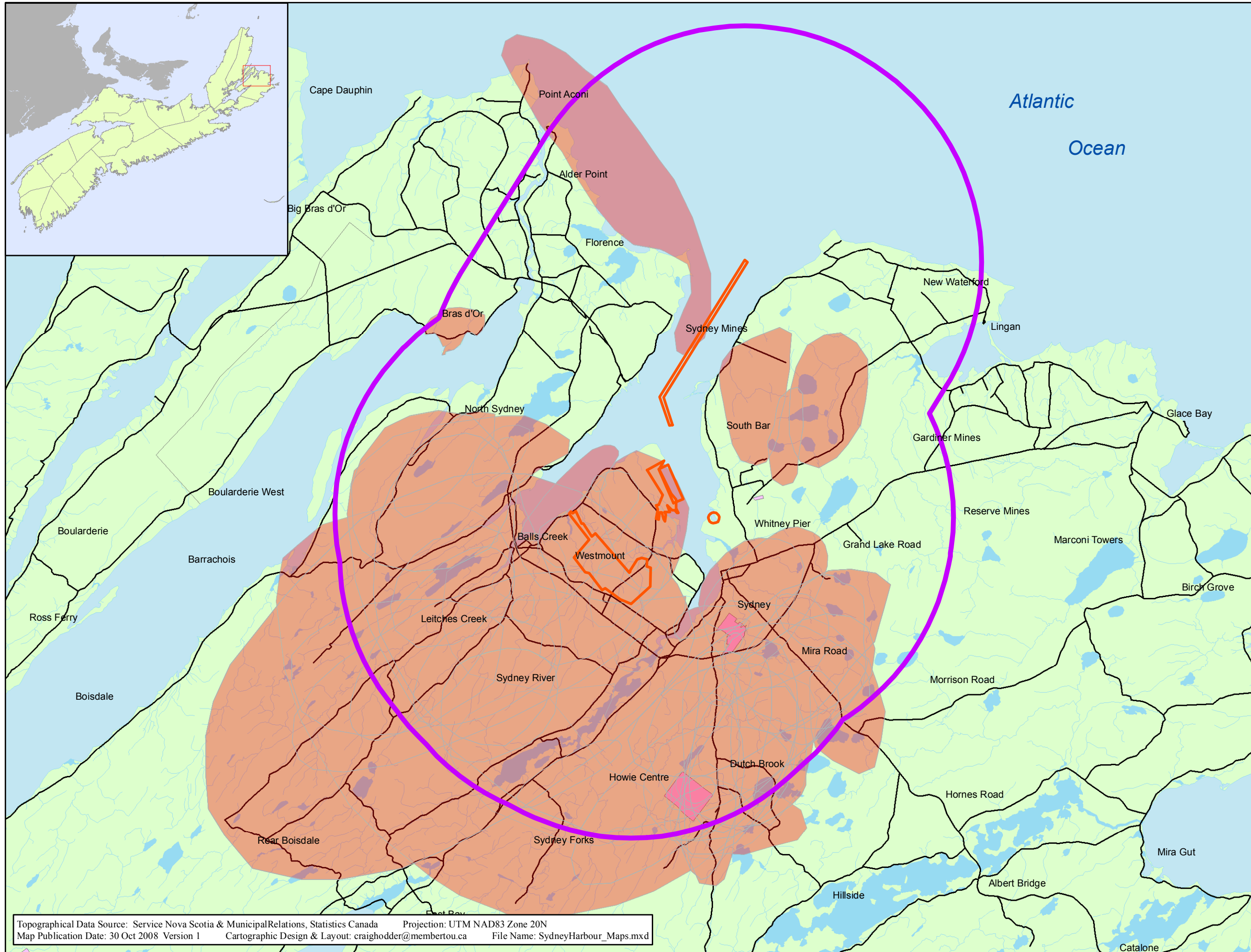


Map B
Mi'kmaq Traditional and Current Hunting Areas





MEKS: Sydney Harbour Dredging

Cape Breton Co.
Nova Scotia

Mi'kmaq Traditional and
Current Hunting Areas



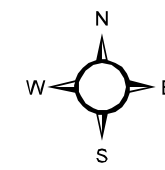
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-  Project Sites
-  Study Area
-  Hunting Areas
-  Reserve Land

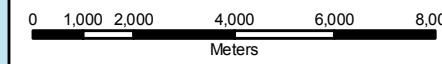
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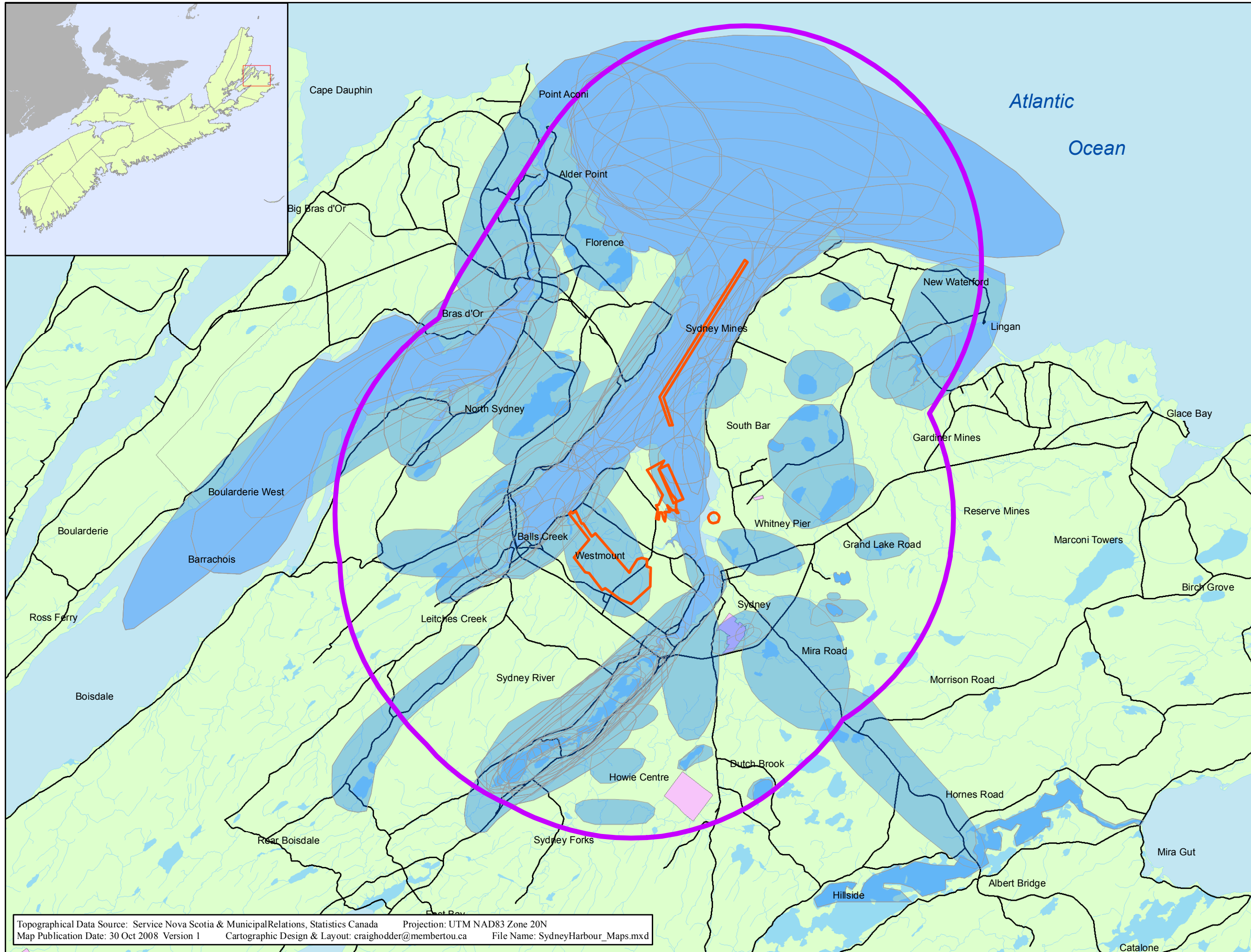
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 Map Publication Date: 30 Oct 2008 Version 1 Cartographic Design & Layout: craighodder@membertou.ca File Name: SydneyHarbour_Maps.mxd

Map C
Mi'kmaq Traditional and Current Fishing Areas

MEKS: Sydney Harbour Dredging

Cape Breton Co.
Nova Scotia

Mi'kmaq Traditional and
Current Fishing Areas



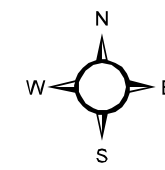
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- ▭ Project Sites
- Study Area
- Fishing Areas
- Reserve Land

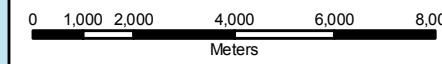
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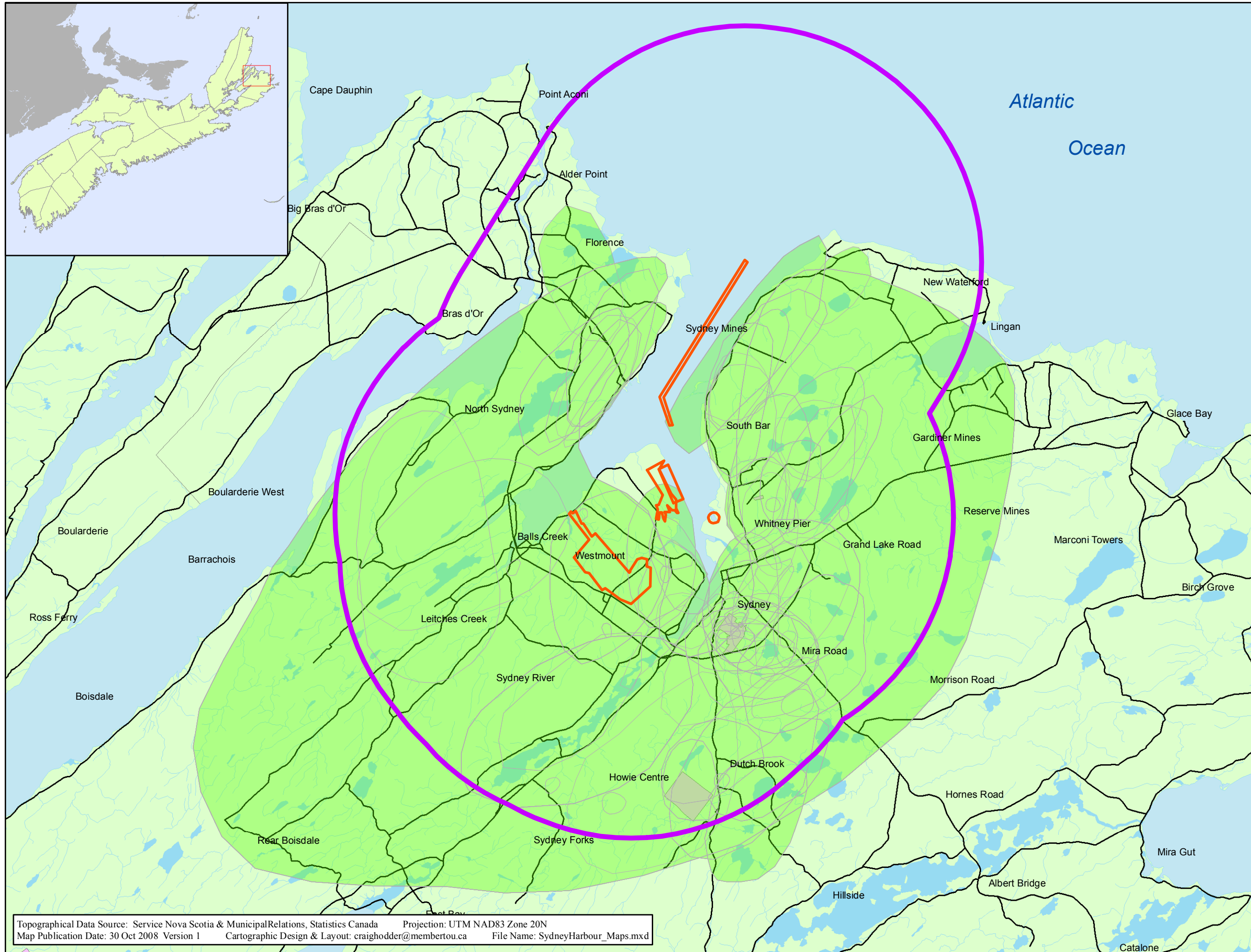
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 Map Publication Date: 30 Oct 2008 Version 1
 Projection: UTM NAD83 Zone 20N
 Cartographic Design & Layout: craighodder@membertou.ca
 File Name: SydneyHarbour_Maps.mxd

Map D
Mi'kmaq Traditional and Current Gathering
Areas





MEKS: Sydney Harbour Dredging

Cape Breton Co.
Nova Scotia

Mi'kmaq Traditional and
Current Gathering Areas



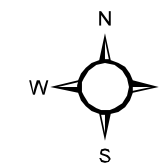
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-  Project Sites
-  Study Area
-  Gathering Areas
-  Reserve Land

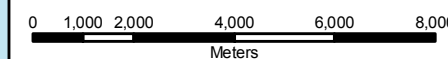
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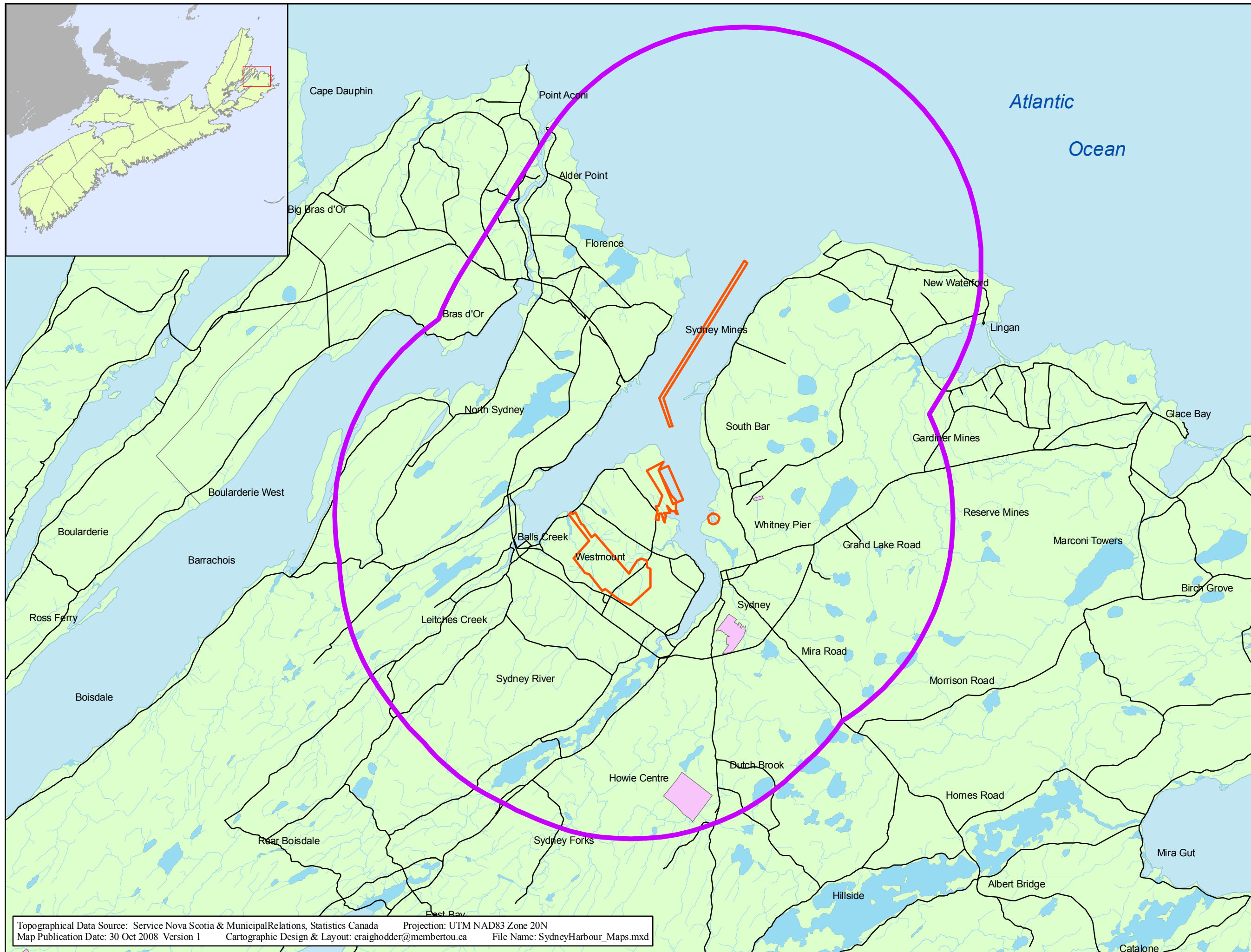


Map E
Mi'kmaq Traditional and Current Land
Occupation Areas

MEKS: Sydney Harbour Dredging

Cape Breton Co.
Nova Scotia

Mi'kmaq Traditional and
Current Land Occupation
Areas



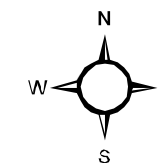
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- Gathering Areas
- Project Sites
- Study Area
- Reserve Land

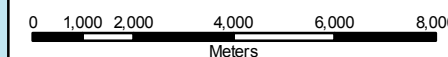
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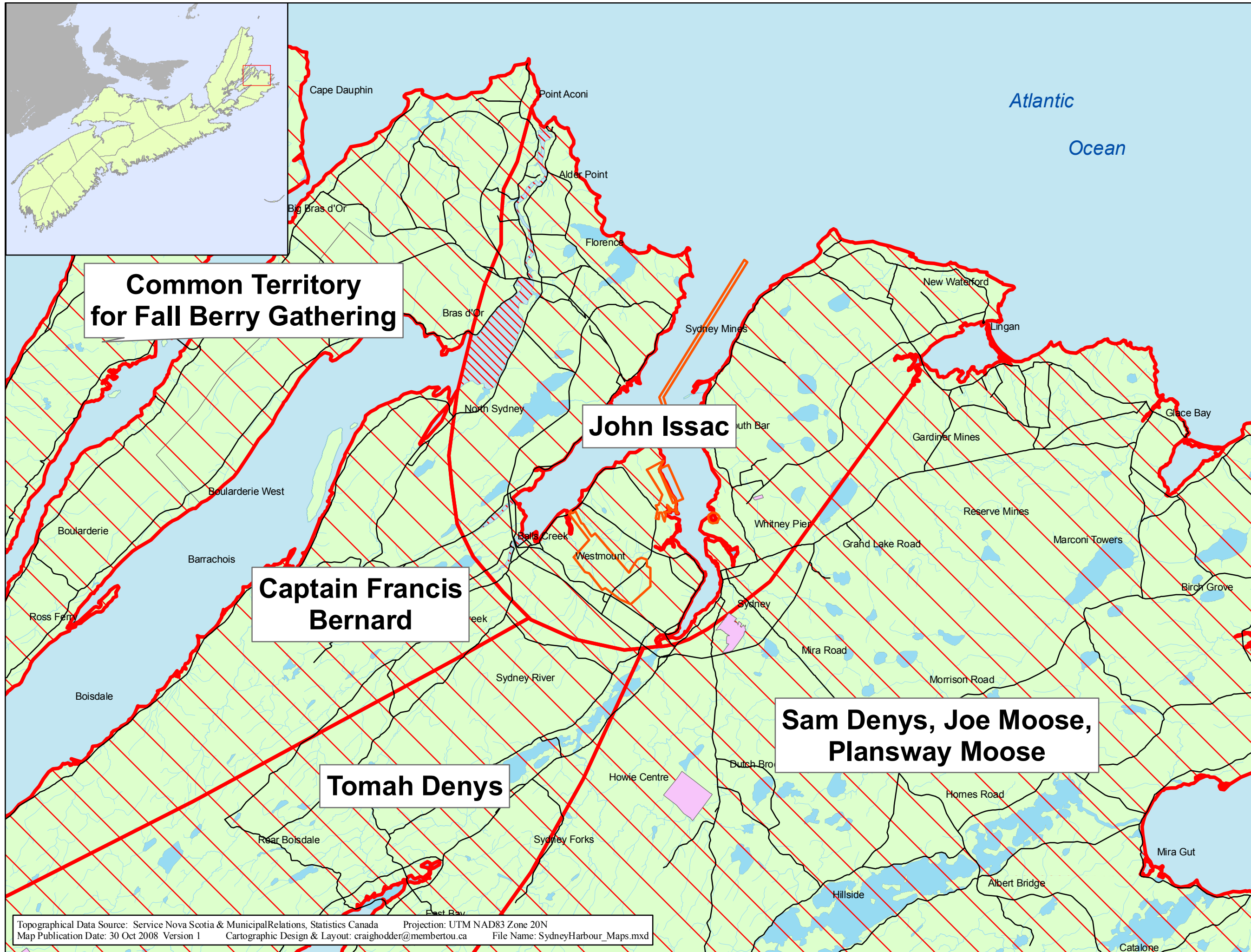


Map F
Traditional Mi'kmaq Family Hunting Areas




MEKS: Sydney Harbour Dredging

Cape Breton Co.
Nova Scotia

Traditional Mi'kmaq Family
Hunting Areas
Identified by Frank Speck



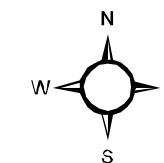
Legend

-  F. Speck Hunting Grounds
-  Project Sites
-  Reserve Land

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