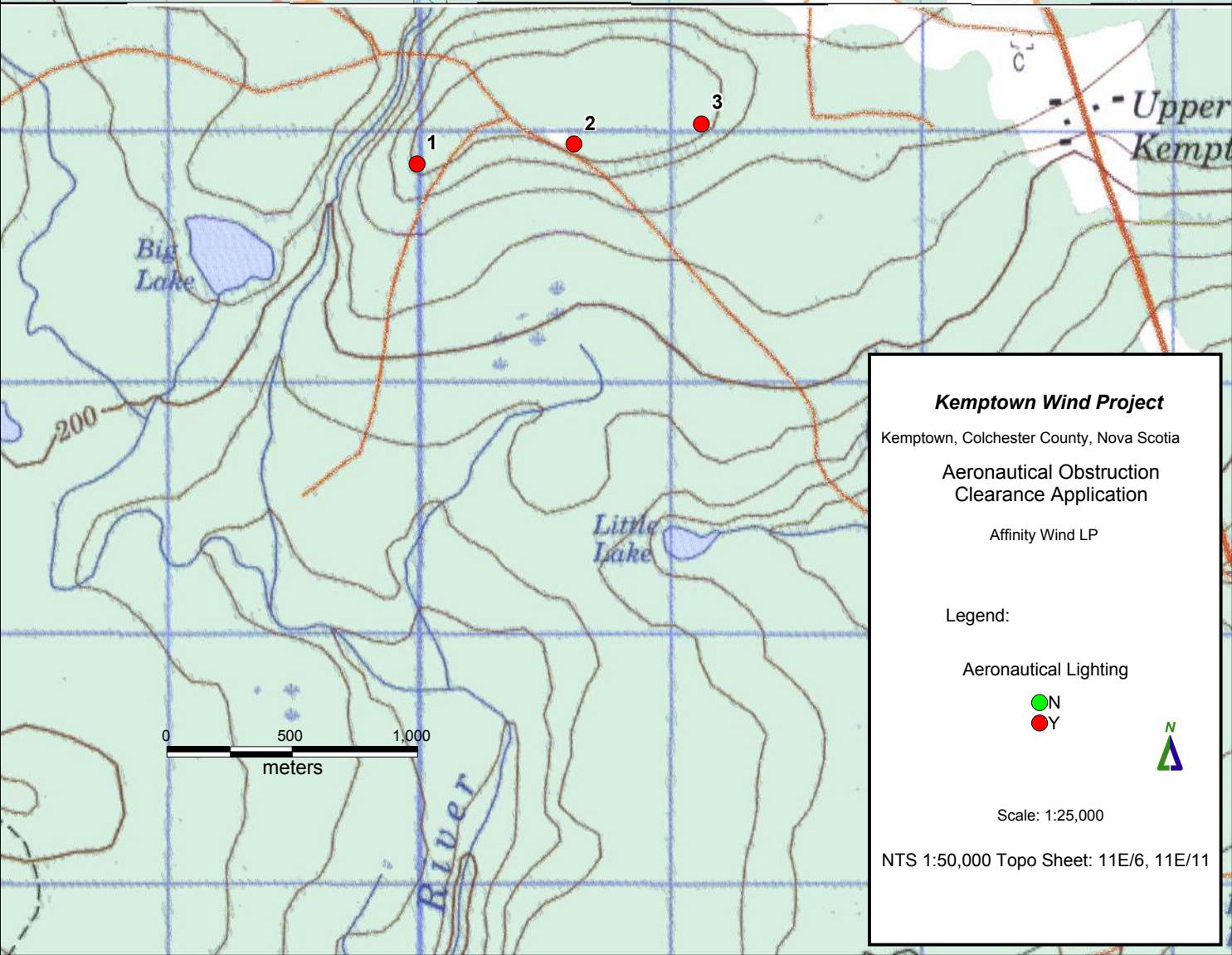
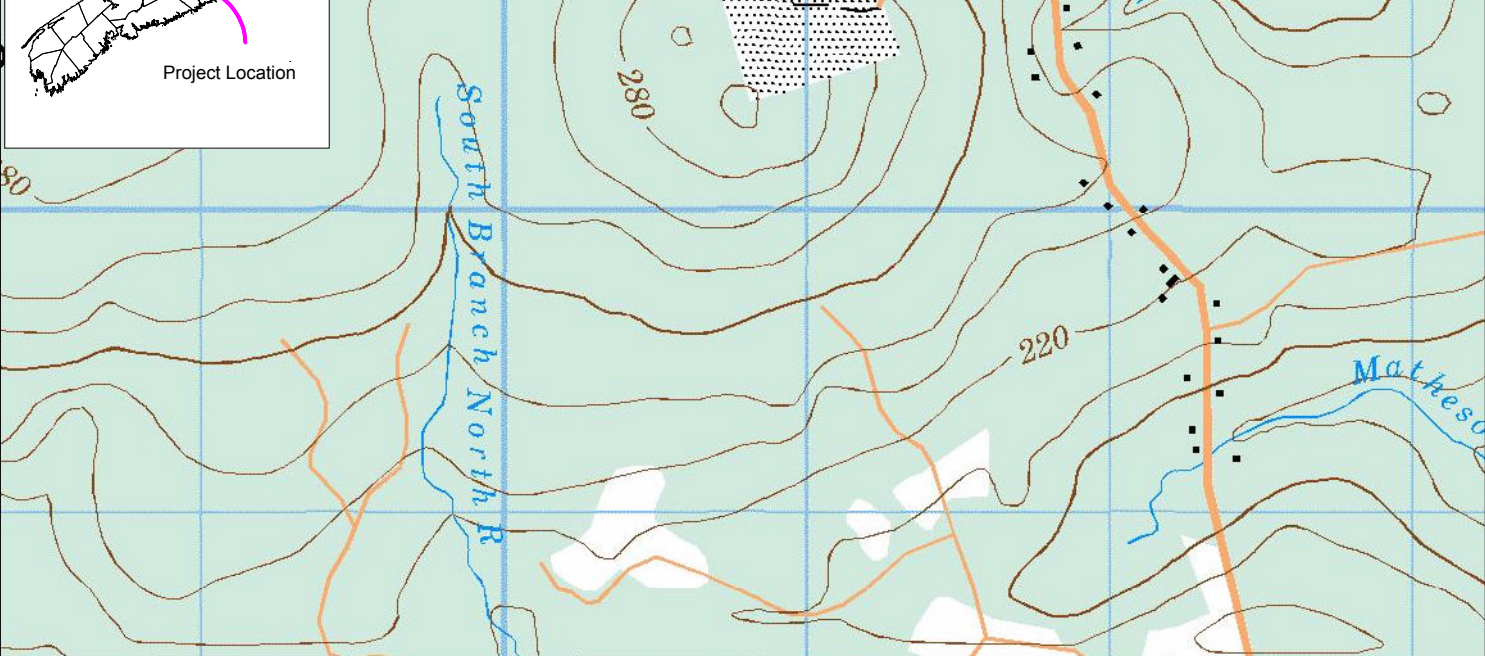


Turbine	Lat_dms	Long_dms	Elev	Hub_Ht	Rotor_Dia	Tip_Height	Lit
1	45,29,39.81	-63,07,40.9	241	80	82	362	Y
2	45,29,42.40	-63,07,12.1	241	80	82	362	Y
3	45,29,45.01	-63,06,48.7	241	80	82	362	Y



Kempton Wind Project
 Kempton, Colchester County, Nova Scotia

Aeronautical Obstruction Clearance Application

Affinity Wind LP

Legend:

Aeronautical Lighting

● N
 ● Y

Scale: 1:25,000

NTS 1:50,000 Topo Sheet: 11E/6, 11E/11

Subject: FW: Kemptown Wind Project - Revised Turbine Coordinates
From: "Kirk Schmidt" <kirk@nortekresources.com>
Date: 25/08/2014 11:28 AM
To: "Lisa Fulton" <lisa@rmsenergy.ca>

forces.gc.ca

From: MARIO.LAVOIE2@forces.gc.ca [mailto:MARIO.LAVOIE2@forces.gc.ca]
Sent: Monday, August 25, 2014 11:26 AM
To: kirk@nortekresources.com
Cc: +WindTurbines@forces.gc.ca
Subject: FW: Kemptown Wind Project - Revised Turbine Coordinates

Hello,

DND has reviewed your proposal in respect to DND's radio communication systems, and we have no objections or concerns.

Thank you for coordinating with DND.

Have a good Day.

Mr. Mario Lavoie
Spectrum Engineering Technician
National Defence | Défense nationale
Ottawa, Canada K1A 0K2
mario.lavoie2@forces.gc.ca
Telephone | Téléphone 613-992-3479
Facsimile | Télécopieur 613-991-3961
Government of Canada | Gouvernement du Canada

Mario Lavoie
DND Frequency Spectrum Management
Spectrum Engineering
DFSM 4 2
Work: 613-992-3479
Cell: 613-697-7925
mario.lavoie2@forces.gc.ca

From: Kirk Schmidt [mailto:kirk@nortekresources.com]
Sent: August-01-14 2:56 PM
To: Lavoie MJ@ADM(IM) J6 Coord@Ottawa-Hull
Cc: 'Land Use'
Subject: Kemptown Wind Project - Revised Turbine Coordinates

To Whom It May Concern:

I am forwarding this message on behalf of Affinity Wind LP which is currently developing the Kemptown Wind Farm which is located in Colchester County, Nova Scotia. I have attached the recently revised proposed turbine coordinates and pertinent data, as well as a general location map for your perusal. Can I ask you to amend your file for this wind turbine project and complete your internal review to determine if you anticipate any interference issues with your existing radio systems.
Please let me know if you have any questions or require any additional data.

Regards

Kirk Schmidt, M.Sc.F., RPF

Manager

Nortek Resource Solutions Inc.

Nova Scotia, Canada

Tel: 902.922.3607

Fax: 902.922.3274

Web: nortekresources.com

Email: kirk@nortekresources.com

Attachments:

Kemptown_Layout_230720140.pdf

1.0 MB

Kemptown_Layout_23072014.xls

16.0 KB

Subject: RE: Kemptown Wind Project - Revised Turbine Coordinates

From: "Weather Radars Contact,National Radar Program [Ontario]" <weatherradars@ec.gc.ca>

Date: 07/08/2014 9:31 AM

To: "Kirk Schmidt" <kirk@nortekresources.com>

CC: "Lisa Fulton" <lisa@rmsenergy.ca>, "Deaudelin,Gaetan [Montreal]"

<Gaetan.Deaudelin@ec.gc.ca>, "Weather Radars Contact,National Radar Program [Ontario]" <weatherradars@ec.gc.ca>

Dear Mr. Kirk Schmidt,

Thank you for contacting the Meteorological Service of Canada, a branch of Environment Canada, regarding your wind energy intentions.

Our preliminary assessment of the information provided to us via e-mail on August 1st, 2014 indicates that any potential interference that may be created by the Kemptown Wind Farm located in Colchester County, NS will not be severe. Although we would prefer our radar view to be interference free, this is not always reasonable. As a consequence, we do not have strong objections to the current proposal.

If your plans are modified in any manner (e.g. number of turbines, height, placement or materials) this analysis would no longer be valid. An updated analysis must be conducted.

Please contact us at: weatherradars@ec.gc.ca.

Thank you for your ongoing cooperation and we wish you success.

Best Regards,

Jim M.C. Young



**Environment
Canada**

**Environnement
Canada**

National Radar Program | Programme national de radars
Meteorological Service of Canada | Service météorologique du Canada
Environment Canada | Environnement Canada
4905 Dufferin Street | 4905, rue Dufferin
Toronto, Ontario M3H 5T4 | Toronto (Ontario) M3H 5T4
Email | Courriel : Jim.Young@ec.gc.ca
Phone | Téléphone : +1-416 514-2643

From: Kirk Schmidt [<mailto:kirk@nortekresources.com>]

Sent: August 1, 2014 2:58 PM

To: Weather Radars Contact,National Radar Program [Ontario]

Cc: 'Lisa Fulton'

Subject: Kemptown Wind Project - Revised Turbine Coordinates

To Whom It May Concern:

I am forwarding this message on behalf of Affinity Wind LP which is currently developing the Kemptown Wind Farm

which is located in Colchester County, Nova Scotia. I have attached the recently revised proposed turbine coordinates and pertinent data, as well as a general location map for your perusal. Can I ask you to amend your file for this wind turbine project and complete your internal review to determine if you anticipate any interference issues with your existing radar systems.

Please let me know if you have any questions or require any additional data.

Regards

Kirk Schmidt, M.Sc.F., RPF

Manager

Nortek Resource Solutions Inc.

Nova Scotia, Canada

Tel: 902.922.3607

Fax: 902.922.3274

Web: nortekresources.com

Email: kirk@nortekresources.com

Subject: 14-2411 East Mountain Wind Project
From: "Trandafilovski, Aleksandar" <Aleksandar.Trandafilovski@navcanada.ca>
Date: 05/08/2014 9:00 AM
To: Kirk Schmidt <kirk@nortekresources.com>
CC: Lisa <lisa@rmsenergy.ca>

Hello Kirk,

Lisa Fulton has already submitted those; please note the above file number. I have already processed the file, I will attach it to the file.

Thank you

Aleksandar Trandafilovski
Land Use Specialist
Aeronautical Information Management (AIM)
NAV CANADA
tel (613) 248-4009 / toll-free (866) 577-0247
fax (613) 248-4094
e-mail: aleksandar.trandafilovski@navcanada.ca

From: Kirk Schmidt [<mailto:kirk@nortekresources.com>]
Sent: August-01-14 2:56 PM
To: mario.lavoie2@forces.gc.ca
Cc: Land Use
Subject: Kemptown Wind Project - Revised Turbine Coordinates

To Whom It May Concern:

I am forwarding this message on behalf of Affinity Wind LP which is currently developing the Kemptown Wind Farm which is located in Colchester County, Nova Scotia. I have attached the recently revised proposed turbine coordinates and pertinent data, as well as a general location map for your perusal. Can I ask you to amend your file for this wind turbine project and complete your internal review to determine if you anticipate any interference issues with your existing radio systems.

Please let me know if you have any questions or require any additional data.

Regards

Kirk Schmidt, M.Sc.F., RPF
Manager
Nortek Resource Solutions Inc.
Nova Scotia, Canada
Tel: 902.922.3607
Fax: 902.922.3274
Web: nortekresources.com
Email: kirk@nortekresources.com

This electronic message, as well as any transmitted files included in the electronic message, may contain privileged or confidential information and is intended solely for the use of the individual(s) or entity to which it is addressed. If you have received this electronic message in error please notify the sender immediately and delete the electronic message. Any unauthorized copying, disclosure or distribution of the electronic message is strictly forbidden. NAV CANADA accepts no liability for any damage caused by any virus and/or other malicious code transmitted by this electronic communication.

Subject: Re: Kemptown Wind Project - Revised Turbine Coordinates
From: Charles Rousseau <charles.rousseau@radio-canada.ca>
Date: 04/08/2014 3:33 PM
To: Kirk Schmidt <kirk@nortekresources.com>
CC: Lisa Fulton <lisa@rmsenergy.ca>

Hi Mr. Schmidt,

Thank you for informing CBC/Radio-Canada of the proposed wind projects. Please take note of the following documents:

- *CBC/Radio-Canada Involvement and Requirements Concerning Wind Energy Projects*

The document lists and describes CBC/Radio-Canada's requirements and involvement concerning Wind Energy projects.

- *Technical Information and Coordination Process Between Wind Turbines and Radiocommunication and Radar Systems*

This document is published jointly by the RABC & CanWEA

We hope that you will find the explanations found in the above-listed documents satisfactory and that they will assist you in moving forward with the project, while protecting CBC/Radio-Canada's existing broadcast coverage.

Best regards,
Charles

Charles Rousseau, ing.
Premier Ingénieur, Ingénierie du spectre
Senior Engineer, Spectrum engineering
Services Technologiques aux médias
CBC/Radio-Canada
Tel: 514-597-6035 Cell: 514-895-0980
Email: charles.rousseau@radio-canada.ca

2014-08-01 14:59 GMT-04:00 Kirk Schmidt <kirk@nortekresources.com>:

Hi Charles:

I am forwarding this message on behalf of Affinity Wind LP which is currently developing the Kemptown Wind Farm which is located in Colchester County, Nova Scotia. I have attached the recently revised proposed turbine coordinates and pertinent data, as well as a general location map for your perusal. Can I ask you to amend your file for this wind turbine project and complete your internal review to determine if you anticipate any interference issues with your existing radar systems.

Please let me know if you have any questions or require any additional data.

Regards

Kirk Schmidt, M.Sc.F., RPF

Manager

Nortek Resource Solutions Inc.

Nova Scotia, Canada

Tel: 902.922.3607

Fax: 902.922.3274

Web: nortekresources.com

Email: kirk@nortekresources.com

-- Attachments: -----

CBC Radio-Canada Involvement and Requirements Concerning Wind Energy Projects.pdf	156 KB

RABC CANWEA Guidelines (EN) (1).pdf	297 KB

Subject: Kempton Wind Project - Revised Turbine Coordinates
From: "Kirk Schmidt" <kirk@nortekresources.com>
Date: 01/08/2014 3:42 PM
To: <Windfarm_coordinator@rcmp-grc.gc.ca>
CC: "Lisa Fulton" <lisa@rmsenergy.ca>

To Whom It May Concern:

I am forwarding this message on behalf of Affinity Wind LP which is currently developing the Kempton Wind Farm which is located in Colchester County, Nova Scotia. I have attached the recently revised proposed turbine coordinates and pertinent data, as well as a general location map for your perusal. Can I ask you to amend your file for this wind turbine project and complete your internal review to determine if you anticipate any interference issues with your existing radio systems.

Please let me know if you have any questions or require any additional data.

Regards

Kirk Schmidt, M.Sc.F., RPF
Manager
Nortek Resource Solutions Inc.
Nova Scotia, Canada
Tel: 902.922.3607
Fax: 902.922.3274
Web: nortekresources.com
Email: kirk@nortekresources.com

Attachments:

Kempton_Layout_23072014.xls	16.0 KB
Kempton_Layout_230720140.pdf	1.0 MB

Subject: Kempton Wind Project - Revised Turbine Coordinates
From: "Kirk Schmidt" <kirk@nortekresources.com>
Date: 01/08/2014 3:39 PM
To: <cooknb@gov.ns.ca>
CC: "Lisa Fulton" <lisa@rmsenergy.ca>

Hi Norm:

I am forwarding this message on behalf of Affinity Wind LP which is currently developing the Kempton Wind Farm which is located in Colchester County, Nova Scotia. I have attached the recently revised proposed turbine coordinates and pertinent data, as well as a general location map for your perusal. Can I ask you to amend your file for this wind turbine project and complete your internal review to determine if you anticipate any interference issues with your existing radio systems.

Please let me know if you have any questions or require any additional data.

Regards

Kirk Schmidt, M.Sc.F., RPF
Manager
Nortek Resource Solutions Inc.
Nova Scotia, Canada
Tel: 902.922.3607
Fax: 902.922.3274
Web: nortekresources.com
Email: kirk@nortekresources.com

Attachments: _____

Kempton_Layout_230720140.pdf	1.0 MB
Kempton_Layout_23072014.xls	16.0 KB



August 18, 2014

Your file
East Mountain Wind Project
Our file
14-2411

Ms Lisa Fulton
Affinity Renewables Inc.
1383 Mt Thom Road
Salt Springs, NS
B0K 1P0

RE: Wind Farm: 3 Wind Turbines - East Mountain, NS
(See attached spreadsheet)

Ms. Fulton,

We have evaluated the captioned proposal and NAV CANADA has no objection to the project as submitted. Analysis shows all of 3 of the proposed turbines are marginally visible to the Halifax Radar. The turbines have the potential to be constant sources of false targets and could mask real aircraft in the vicinity of the turbines. None of the 3 proposed turbines are visible to the Moncton Radar.

The nature and magnitude of electronic interference to NAV CANADA ground-based navigation aids, including RADAR, due to wind turbines depends on the location, configuration, number, and size of turbines; all turbines must be considered together for analysis. The interference of wind turbines to certain navigation aids is cumulative and while initial turbines may be approved, continued development may not always be possible

In the interest of aviation safety, it is incumbent on NAV CANADA to maintain up-to-date aeronautical publications and issue NOTAM as required. To assist us in that end, we ask that you notify us at least 10 business days prior to the start of construction. This notification requirement can be satisfactorily met by returning a completed, signed copy of the attached form by e-mail at landuse@navcanada.ca or fax at 613-248-4094. In the event that you should decide not to proceed with this project or if the structure is dismantled, please advise us accordingly so that we may formally close the file.

If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.

NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA engineering as deemed necessary.

Yours truly,

A handwritten signature in black ink, appearing to be "DL" or similar initials, written over a light blue horizontal line.

David Legault
Manager, Data Collection
Aeronautical Information Services

cc ATLR - Atlantic Region, Transport Canada

204-176



APPENDIX C TO CAR 621.19 - ANNEXE C RAC 621.19

TC File No./Ref No. - TC n° du dossier/N° de réf.

TC2011-54104

AERONAUTICAL OBSTRUCTION CLEARANCE FORM

FORMULAIRE D'AUTORISATION D'OBSTACLE AÉRIEN

TO BE COMPLETED BY APPLICANT - À REMPLIR PAR LE REQUÉRANT

Operator's Name - Nom de l'opérateur
AFFINITY WIND LP

Operator's Address - Adresse de l'opérateur
1383 Mt Thom Road, Salt Springs, NS B0K 1P0

Operator's Contact - Agent de liaison de l'opérateur
LISA FULTON

Contact's Telephone No. - N° de téléphone de liaison: **902-759-6626**
Contact's FAX No. - N° de télécopieur de liaison: **902-925-9464**
Contact's Email Address - Adresse électronique de liaison: **lisa@rmsenergy.ca**

Applicant's Name - Nom du requérant: **Affinity Wind LP**
Address - Adresse: **1383 Mt Thom Road**

City - Ville: **Salt Springs**
Province/Territory - Province/Territoire: **NOVA SCOTIA**
Postal - Code - postal: **B0K 1P0**

Applicant's Telephone No. - N° de téléphone du requérant: **902-759-6626**
Applicant's FAX No. - N° de télécopieur du requérant: **902-925-9464**
Applicant's Email Address - Adresse électronique du requérant: **lisa@rmsenergy.ca**

Nearest city / town to proposed facility - Ville la plus proche de la structure proposée: **TRURO**
Geographic coordinates of structure - coordonnées géographiques de la structure: **see attached**
N Latitude / Latitude N:
W Longitude / Longitude O:
NAD83 WGS84

TOWERS / ANTENNAS TOURS / ANTENNES	BUILDING OR OTHER STRUCTURE BÂTIMENT OU AUTRE STRUCTURE	Feet - Pieds	Meters - Mètres
		400.3	122
		400.3	122
		790.7	241

A Height above ground / Hauteur au-dessus du sol
B Building height / Hauteur du bâtiment
C Ground elevation above sea level / Hauteur du sol au-dessus du niveau de la mer

List any tall adjacent buildings and structures which may shield the proposed structure (Attach sketch)
Faire une liste indiquant les structures et bâtiments avoisinants plus haut que le bâtiment projeté (inclure un diagramme)

New struc. - Nouv. struc.: Yes / No
Add. to exist. struc. incl. total height - Ajout à un bâti. exist. incl. hauteur total:
Proposed Construction - Date - de construction proposée: **JUNE 2015**

TYPE OF STRUCTURE (narrative description and function) - GENRE DE STRUCTURE (description narrative et fonction)

WIND TURBINE GENERATORS (3)

Signature (of applicant) (du requérant):
Date (Y/M/DJ): **2014-07-25**

TRANSPORT CANADA USE ONLY - À L'USAGE DE TRANSPORTS CANADA

AERONAUTICAL ASSESSMENT - ÉVALUATION AÉRONAUTIQUE

Site acceptable - Emplacement acceptable: Yes / No (if no, reason) / Non (si non, pourquoi)

Lighting as per (TP382) required - Balisage lumineux tel que demandé au (TP382): Yes / No or Non ou

Painting as per (TP382) required - Balisage peint tel que demandé au (TP382): Yes / No or Non ou

Temporary lighting required - Nécessité d'un balisage lumineux temporaire: Yes / No (if yes, type) / Non (si oui, de quel genre)

Advise Transport Canada in writing 90 days before construction - Avertir Transports Canada par écrit 90 jours avant la construction: when construction starts / au commencement de la construction and on completion / et à la fin des travaux Valid to / Valable jusqu'au: **N/A**

Civil Aviation Inspector (as required) - Inspecteur Aviation Civile (si nécessaire)

Comments - Commentaires: **All three turbines must be lighted as per the Standard (Y/M/DJ)**
C Allani
Signature:
Date: **2014-09-30**

Regional Manager Aerodrome Safety - Gestionnaire Régional Sécurité des aérodrômes:
Date (Y/M/DJ): **2014-09-30**

**A Mi'kmaq
Traditional and Ecological Knowledge Review
of three
Wind Project Development Properties**

Historical and Field Survey Information

Submitted to:
Affinity Renewables Inc
1383 Mt Thom Rd
Saltspring, NS. Canada B0K 1P0

Submitted by:
AMEC Environment & Infrastructure
a division of AMEC Americas Ltd.
Dartmouth, Nova Scotia

December 2013

TV134003

TABLE OF CONTENTS

1.0	INTRODUCTION.....	3
1.1	INDIGENOUS KNOWLEDGE AND KNOWLEDGE SYSTEMS	3
2.0	DATA ACQUISITION.....	7
2.1	GATHERING OF LOCAL KNOWLEDGE OF PROJECT SITE	7
2.1.1	<i>Data Collection and Verification- WORKSHOP</i>	7
2.2	FIELD SURVEY FOR PLANT SPECIES OF MI'KMAQ CULTURAL SIGNIFICANCE.....	7
2.2.1	<i>Review of Available Data</i>	7
2.2.2	<i>Field Survey</i>	7
2.3	WILDLIFE SURVEY AND HABITAT MODELING EXERCISE	8
3.0	BACKGROUND: A PEOPLE AND THEIR PLACE	9
3.1	THE MI'KMAQ.....	9
3.1.1	<i>Traditional Land Use</i>	9
3.1.2	<i>Traditional Medicines</i>	11
3.1.3	<i>Traditional Materials and Other Useful Plants</i>	11
3.2	THE PIKTUK AQQ EPEKWITK DISTRICT	12
3.2.1	<i>Environmental Context</i>	12
3.2.2	<i>Traditional Food Resources</i>	12
4.0	PLACE.....	20
4.1	FIELD SURVEY RESULTS	20
4.1.1	<i>GREENFIELD</i>	20
4.1.2	<i>KEMPTOWN</i>	24
4.1.3	<i>LIMEROCK</i>	29
4.2	SUMMARY OF USEFUL PLANT SPECIES DETECTED ON THE PROJECT SITES.....	32
4.3	RESULTS OF WILDLIFE SURVEY AND HABITAT MODELING EXERCISE	40
5.0	PEOPLE.....	41
5.1	INTERVIEWS AND MEETINGS WITH LOCAL RESIDENTS.....	41
6.0	CONCLUSIONS.....	43
7.0	LITERATURE CITED.....	44

LIST OF TABLES

Table 3-1:	Fish Species Traditionally Harvested by Nova Scotia Mi'kmaq.	13
Table 3-2:	Bird Species Reported as Traditionally (Hoffman 1955) and Recently (Benoit 2007) Harvested by Nova Scotia Mi'kmaq, with Habitat Information (Tufts 1986).....	14
Table 3-3:	Mammal Species Traditionally Harvested by Mi'kmaq in Nova Scotia (Sources: Hoffman 1955, Wallis and Wallis 1955, Speck 1917)	19
Table 5-1:	Traditional Mi'kmaq Wildlife Resources Potentially Utilizing Habitats on the Greenfield, Kempton and Limerock Sites.....	42

LIST OF FIGURES

Figure 1-1: Affinity Renewables Wind Project Sites 5
Figure 3-1: Traditional Mi’kmaq Districts 9
Figure 4-1. Aerial Depiction of Greenfield Project Site. 21
Figure 4-2. Aerial Depiction of Kemptown Project Site..... 26
Figure 4-3. Aerial Depiction of Limerock Project Site..... 30

LIST OF PHOTOS

Photo 4.1: Mowed Agricultural Field on the Greenfield Site 20
Photo 4.2: Mixed Forest on the Greenfield Site 22
Photo 4.3: Wetland Habitat on Greenfield Site..... 23
Photo 4.4: Regenerating clearcut area in front of coniferous forest at Greenfield 23
Photo 4.5: Regenerating Area at Kemptown..... 25
Photo 4.7: Wetland at Kemptown..... 27
Photo 4.8: Coniferous woods at Kemptown..... 27
Photo 4.9: Disturbed and regenerating areas around meteorological tower at Kemptown 28
Photo 4.10: Deciduous Forest on Limerock Site..... 31
Photo 4.11: Example of Disturbed Area at Limerock 31

LIST OF APPENDICES

APPENDIX A: Native Plant Species Tables for Nova Scotia
Table A.1: Native Plant Species Traditionally Consumed by Nova Scotia Mi’kmaq
Table A.2: Native Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi’kmaq.
Table A.3: Other Useful Native Plant Species Traditionally Used by Nova Scotia Mi’kmaq.
APPENDIX B: Native Plant Species Tables as Observed at Project Sites
Table B.1: Native Plant Species Traditionally Consumed by Nova Scotia Mi’kmaq Reported from the Greenfield, Kemptown and/or Limerock Sites.
Table B.2: Native Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi’kmaq Reported from the Greenfield, Kemptown and/or Limerock Sites.
Table B.3: Other Useful Native Plant Species Traditionally Used by Nova Scotia Mi’kmaq Reported from the Greenfield, Kemptown and/or Limerock Sites.

1.0 Introduction

Affinity Renewables Inc., a subsidiary company of RMS Energy Ltd., proposes to construct three wind projects in north-eastern Nova Scotia. One wind project, comprised of three 1.68 MW turbines, will be located near Kemptown, Nova Scotia, while a second wind project consisting of two 1.6 MW turbines will be located near Greenfield, Colchester County, Nova Scotia. The third wind project, comprised of three 1.68 MW turbines, will be located near Limerock in Pictou County, Nova Scotia.

Figure 1.1 provides a reference for the location of these projects in the Atlantic coastal region.

The proposed locations for the Affinity Renewables Wind Project turbines on the three Project Sites are:

Site	Easting	Northing
Limerock	513855.00	5042921.41
Limerock	513522.04	5042874.29
Limerock	513895.00	5042531.00
Kemptown	490679.78	5032684.42
Kemptown	491363.66	5032883.36
Kemptown	491017.65	5032748.41
Greenfield	489054.55	5021679.11
Greenfield	489107.66	5021466.68

Affinity Renewables Inc. understands that the purpose of an Indigenous Ecological Knowledge Study, or more specifically a Mi'kmaq Ecological Knowledge Study, is to understand the local environment and its relationship with the people who have long standing rights associated with the land and the resources it contains. There is considerable information in the culture and social structures of the people who have lived and inhabited a region in which their culture has evolved. This information can help us understand the "nature" of the place in which a new project is being planned. It also helps us understand the potential impact a project can have upon the indigenous community.

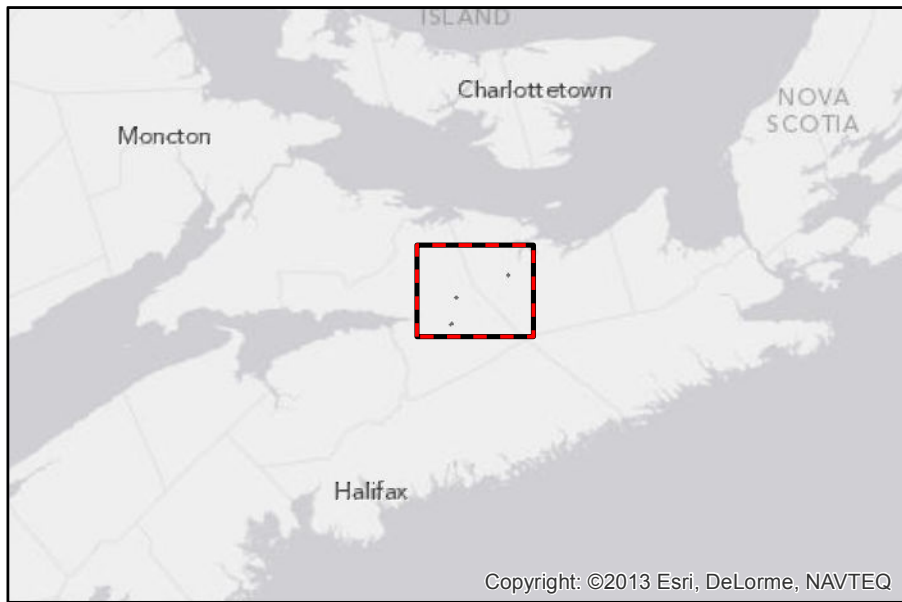
As a result, Affinity Renewables engaged the services of AMEC Environment and Infrastructure to assist in completing a Mi'kmaq Ecological Knowledge Study. This study was undertaken in two parts, first, an historical background study and bio-ecological field survey (the Place) and, secondly, a current use study comprised of face-to-face discussions with Mi'kmaq knowledge holders during a round table workshop (the People).

1.1 Indigenous Knowledge and Knowledge Systems

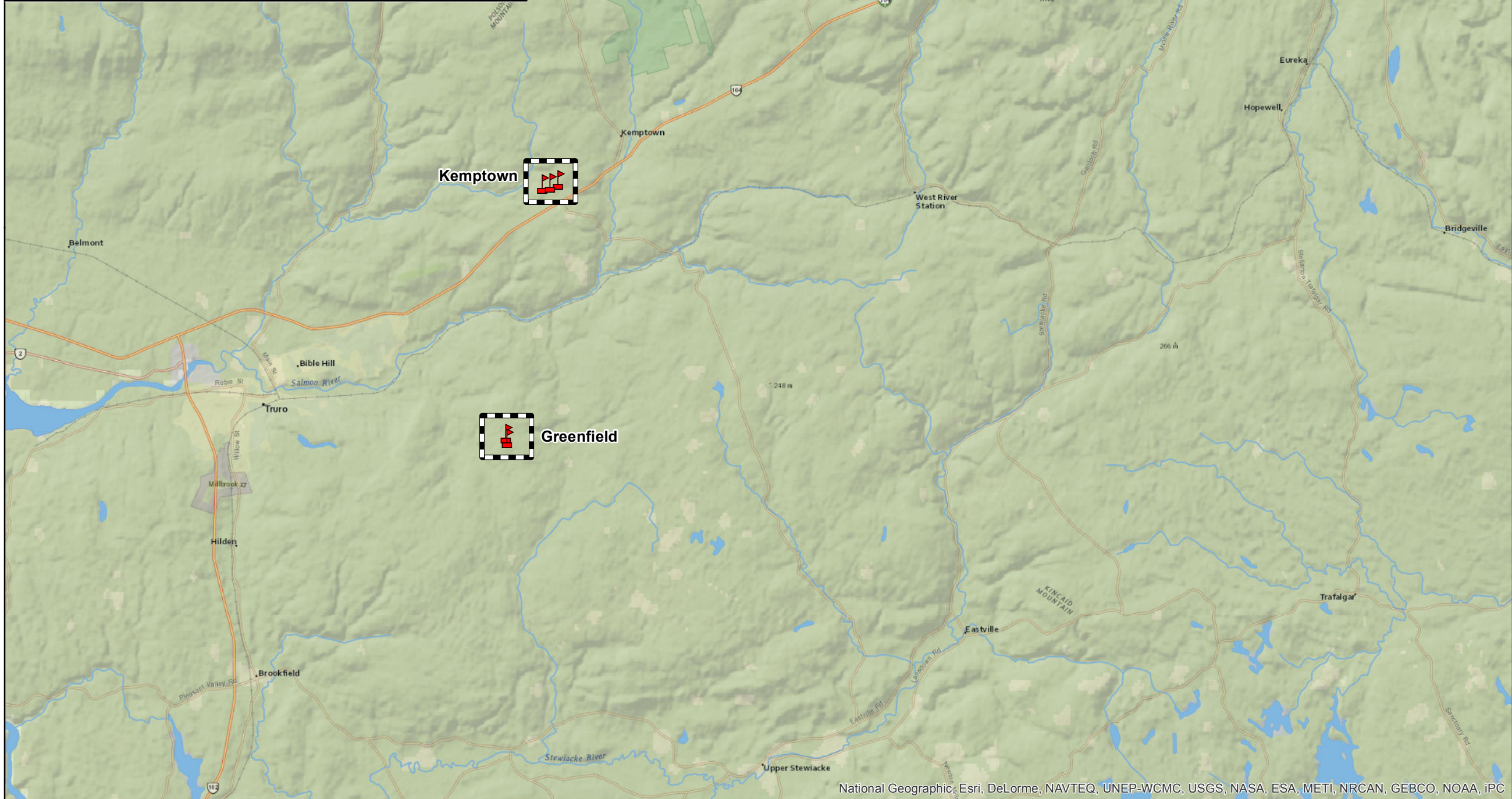
Early in the 1990's governments and international development agencies became aware that Traditional Ecological Knowledge and associated Traditional Management Systems could be useful in improving development planning in areas populated by indigenous peoples (Johannes 1993). Traditional Ecological Knowledge, or as it is now more commonly known as, Indigenous Traditional Knowledge (ITK), is the accumulated knowledge of natural ecosystems, based on spiritual health, culture and language of the people that is passed between successive generations through stories, song and dance and myths to ensure their survival and the integrity of their socio-cultural and socio-economic systems. Indigenous

knowledge is dynamic, based upon an intimate understanding of the components of non-living (abiotic) and living (biotic) environments. In most instances the management system aspects of indigenous peoples knowledge systems has been segregated from the endeavour of compiling information for decision-making and the ITK aspects have been the focus of study. In Nova Scotia, ITK is referred to as Mi'kmaq Ecological Knowledge (MEK).

Indigenous Traditional Knowledge has become the focus of considerable international discourse on intellectual property rights (Ritchie *et al.* 1996). Indigenous communities worldwide have felt that their knowledge has been used to advance commercialization and over exploitation of local renewable resources and as a result, have become vocal about the protection of their knowledge and its use. The value of indigenous knowledge is becoming increasingly recognized by scientists, managers and policy makers and is an evolving subject of both domestic and international law (Anaya 1996). Indigenous people are aware that there is a value to their knowledge and that it can be used for exploitative purposes. In some cases this risk has been offset by the fact that knowledge holders often provided access to their knowledge and knowledge systems for a cost (fee), however, it is freely and openly shared, subject to intellectual property rights agreement, when it is used for protection of biodiversity and environmental condition.



Copyright: ©2013 Esri, DeLorme, NAVTEQ



TITLE: **Figure 1.1
AFFINITY RENEWABLES WIND
FARM PROJECT SITES**

PROJECT: **A MI'KMAQ
TRADITIONAL AND ECOLOGICAL
KNOWLEDGE REVIEW OF THREE WIND
FARM DEVELOPMENT PROPERTIES**

CLIENT: **AFFINITY RENEWABLES INC
1383 MT THOM RD
SALTSPRING, NS. CANADA B0K 1P0**


LOCATION: **NORTH-EASTERN NOVA SCOTIA:
GREENFIELD, COLCHESTER CO.
KEMPTOWN, COLCHESTER CO.
LIMEROCK, PICTOU CO.**

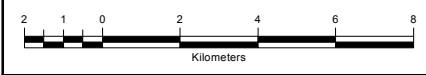
DATE: **Tuesday, November 19, 2013**

DATUM: **NAD83**

PROJECTION: **Zone 20**

AMEC PROJECT NO: **TV134003**

LEGEND:  Proposed Turbine Locations



**AMEC Environment & Infrastructure
A Division of AMEC Americas Ltd.**
50 Troop Avenue, Unit 300
Dartmouth, N.S. B3B 1Z1
(P) 902-468-2848 (F) 902-468-1314


Path: \\h1-1s\projects\300 PROJECTS\2013\TV134003 - Affinity Renewables Inc - KMK MEKSCad\11\TV134003 - Figure 1.1.mxd User: demids.schulz, Date: 11/19/2013

Acquisition of knowledge of complex ecological systems is an ongoing and dynamic learning process. As such, indigenous knowledge often provides an informational foundation for, and is used by, indigenous people's institutions and organizations. Indigenous knowledge is seen to be a component of the cultural elements of a society, and the processes of acquiring knowledge involve institutional frameworks and social networks nested across social and geographic scales (Folke 2004). This requires multiple tools for data and information gathering and multiple approaches to information analysis.

Recent ITK studies have focused on the collection of information from elderly members of indigenous communities. In some instances, depending on the purpose of the study, present day hunters/trappers/fishers are interviewed to collect information on the specific location of plants and animals considered important as biologically important to the local ecosystem. This approach is a science-based research approach for data acquisition, and neglects some of the social, economic, cultural and spiritual elements.

It is now widely understood that traditional knowledge is greater than the sum of individual experiences, and that traditional knowledge is a significant component of the culture and identity of indigenous peoples (Orcherton 2012). Traditional knowledge is founded in the collective experiences of a community and is transmitted between individuals and generation in accordance with traditional institutions and practices. It is also understood that a society's culture can evolve as a result changing resource abundance, environmental condition, technological changes and interaction with other cultural groups.

Studies that focus on individual's harvesting experience are founded upon a false assumption that individual resources users can provide a meaningful understanding of the relationship between a "People" and a "Place". Evidence suggests that this is an incomplete approach and that the gathered information will not enhance understanding of the relationship between the Indigenous community and the traditional territory, and does not resolve the issues regarding acceptability of new project development on local indigenous populations. To this end, the United Nations Permanent Forum on Indigenous Issues has hosted several workshops that have examined the process of indigenous input on project development (Mauro and Hardison 2000, Persoon and Minter 2011). Results of these efforts have substantiated the use of historical and archival research, information gathering through group workshops and discussions with political/traditional leadership.

2.0 Data Acquisition

As noted above, the MEK study for the sites of the three Affinity Renewables Inc. wind projects consisted of two main exercises. A desktop review of existing data was performed to gather environmental information specific to the sites (Place) and historical information related to the Mi'kmaq use of the area (People), and this work was augmented through field surveys to compile current environmental data on species of known historical significance. Face-to-face consultations with local First Nations groups and individuals enabled the collection of local site-specific knowledge of current Mi'kmaq use of natural resources in the area.

2.1 Gathering of Local Knowledge of Project Site

2.1.1 Data Collection and Verification- WORKSHOP

A noted deficiency in many past ecological knowledge surveys has been the absence of any effort to determine the validity of information collected. An informant who is knowledgeable about historical activity or environmental matters is just as concerned about the accuracy of information as any researcher. However, there can be a temptation to embellish the facts to influence the outcome of any development initiative so that the final decisions favour the informant's community (Johannes 1993, Albert Marshall, Personal Communication, 2013). Furthermore, since many ecological knowledge studies require payment of an honorarium or fees to the informant, some informants may feel obligated to enhance information to justify earnings for information. Finally, some individuals may wish to gain recognition from outside communities by providing embellished information to researchers from outside the indigenous community (T.G. Poulette, Personal Communication, 1995). Informants do not intend to compromise the reliability of information compiled in an MEKS, but nonetheless, create a need to verify information collected through ground-truthing.

2.2 Field Survey for Plant Species of Mi'kmaq Cultural Significance

2.2.1 Review of Available Data

Preliminary site surveys conducted for Affinity Renewables along with the *Natural History of Nova Scotia* (Davis and Browne 1996) were used to provide some background as to the vegetation communities typical of the region encompassing the Affinity Renewables wind project Sites.

2.2.2 Field Survey

A site visit was undertaken to identify and locate potential medicinal plants and other related resources that may be of importance today.

Vegetation surveys were conducted on July 16 (Greenfield and Kemptown sites) and July 17 (Limerock site) 2013 by AMEC Biologist Beth Cameron within the three project study areas depicted in Figure 1.1. Prior to conducting field surveys, the various habitats located within the Study Area were assessed and classified using information gathered during a desktop study (e.g. aerial photography and Nova Scotia Forest inventory database, etc.). Habitat modeling was conducted to identify the potential presence of plant species of significance to Mi'kmaq based on available habitat.

Vegetation surveys focused on plant species identified during the desk top review and consisted of optically controlled meanders through habitat polygons identified to potentially contain plants of

significance to Mi'kmaq, with a focus on the proposed wind turbine locations. General locations of significant plants identified in the field were recorded using a GPS and photographs of the habitats were recorded with a digital camera.

2.3 *Wildlife Survey and Habitat Modeling Exercise*

Information collected during the field survey and a review of the historical use of wildlife and fish resources by Mi'kmaq, combined with known wildlife habitat preferences and the results of the habitat surveys, allowed a determination of wildlife species potentially using the project site. The results of the desktop reviews, field surveys and the public consultation exercises were compiled and a habitat modeling exercise conducted. This exercise consisted of comparing habitat preferences of NS wildlife species with the habitats known to occur on the site, in order to determine the likelihood of each species' presence on the three proposed Affinity Renewables Wind Project Sites.

3.0 Background: A People and their Place

3.1 The Mi'kmaq

3.1.1 Traditional Land Use

The Mi'kmaq¹ are the pre-contact inhabitants of the region comprised of Nova Scotia, New Brunswick, Prince Edward Island, the Gaspé region of Quebec, northern Maine and southern Newfoundland. While there are a wide range of estimates of the Mi'kmaq population before initial arrival of Europeans in North America, it is likely that the population at the time of contact was roughly 35,000 (Miller 1976).

The Mi'kmaq territory was divided into seven traditional "districts". Each district had its own independent government and boundaries. The independent governments had a district chief (Keptinaq or Saqmaw) and a council. The council members were band (family groupings or "clans") chiefs, elders and other worthy community leaders. The district council was charged with performing all the duties of any independent and free government by enacting laws, justice, apportioning fishing and hunting grounds, making war, suing for peace, etc. The seven Mi'kmaq Districts are Kespukwitk, Sipeknékatik, Eskíkekik, Unamáik, Piktuk aq Epekwitk, Sikniktewa and Kespékewa (see Figure 3-1

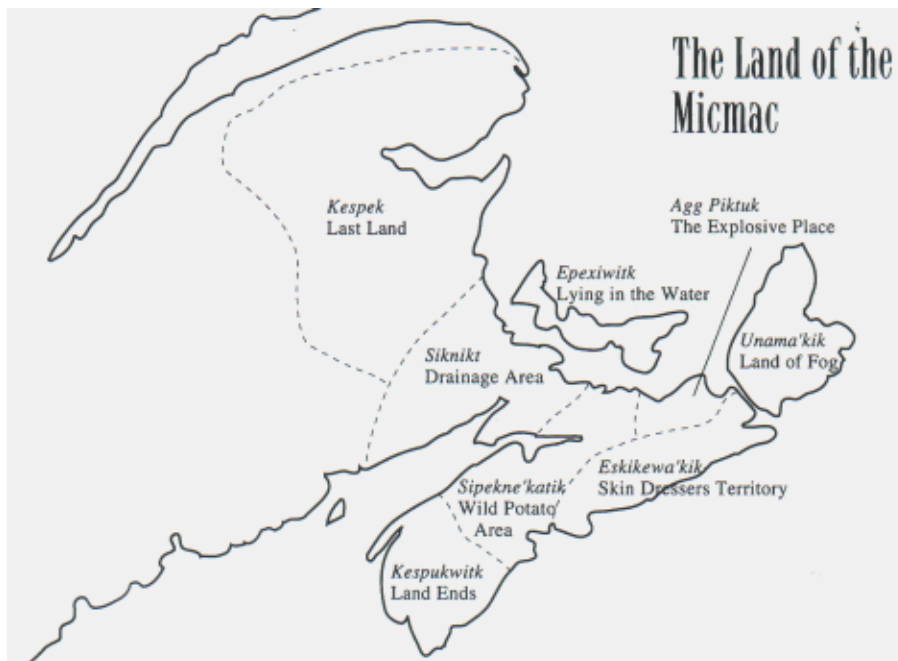


Figure 3-1: Traditional Mi'kmaq Districts
(from <http://www.danielnpaul.com/Map-Mi'kmaqTerritory.html>)

In addition to the district councils, there was also a Grand Council or Santé Mawiómi. The Grand Council was composed of "keptinaq". There were also Elders, the Putús (Wampum belt readers and historians,

¹ Lnu (plural: Lnu'k) is the self-recognized term for the Míkmaq of New Brunswick, Newfoundland, Nova Scotia, Quebec and Maine, which translated to "human being" or "the people". (<http://museum.gov.ns.ca/MiKmaq/>)

who also dealt with the treaties with the non-natives and other Native tribes), the women council and the Grand Chief (kji'saqmaw). The Grand Chief was a title given to one of the district chiefs.

The local Mi'kmaq communities seasonally moved throughout the region to occupy areas of abundant food and shelter. Much of this travel was along waterways which facilitated transportation and food harvesting. It is therefore likely that the coastal rivers and streams were used during coastal travel as they provided opportunity for harvesting and for inland excursion in search of suitable encampments.

Ancient First Nations people using this area would have lived a migratory life, travelling throughout the Unama'kik district, as noted above. This migratory cycle involved seasonal movement between areas where shelter and food resources were most abundant.

While it is difficult to fully comprehend the undisturbed forests and riverine habitats that existed before colonial influences, it is possible to understand the relationship between landscape and human use activities.

The Affinity Renewables Wind Project sites fall within the Piktuk aqq Epekwitk district, which in English means "Laying in the Water" possibly in recognition of the important relationship the Island held with the coastal inhabitants of the mainland (Rand 1875). This area also known as "the explosive place is frequented by significant thunderstorms during the summer months. According to oral tradition, the people of the Piktuk aqq Epekwitk district have used the lands and coastal waters of the area since the beginning of time, travelling between what is now known as the Northumberland coastal areas of Colchester, Pictou and Antigonish counties and Prince Edward Island

Many of the families that traditionally occupied the district were relocated to the Eskasoni First Nation and the Indian Brook First Nation (Shubenacadie) as part of Canada's centralization policies. However, many of the descendents of the initial inhabitants of this region are located in the Pictou Landing, Paq'tnkek and the Millbrook First Nations.

Both archaeology and oral history add to the knowledge of how these ancestors lived in pre-contact times. Dates and time periods were not important to the Mi'kmaq in understanding their history, and many hold the belief that they have occupied the region since it was possible to sustain life. Historically, knowledge was passed down from generation to generation through stories. Often these stories passed empirical knowledge of the physical and biological environment through myths, for example, one such story describes how the earth came into being and how the animals and the People came to inhabit the region (Lockerby 2004). This tradition of storytelling has evolved over the centuries, however, the dependence on oral tradition remains important in Mi'kmaq communities.

Mi'kmaq way of life changed after contact with the French, the first European settlers to this area. Colonial conflicts between France and England during the seventeenth and eighteenth centuries shaped the cultural development of the indigenous population (Thorp 1996), and eventual permanent European settlement would further challenge the survival of Mi'kmaq culture and Mi'kmaq as a people.

On June 24 1610, Grand Chief Membertou (who was from the southern district of Kespukwitk) converted to Catholicism and was baptized. This relationship with the Europeans changed with the conclusion of European wars and the transfer of Acadia to British control through Treaty. The first treaty of a series of treaties (referred to as the Covenant Chain of Treaties) between the British Crown and the Micmac Nation was signed in 1725. All treaties were reaffirmed in 1752, and culminated in the

Treaty and Royal Proclamation of 1763. The treaties were an exchange of Micmac loyalty for a guarantee that “Micmacs” would be able to continue hunting and fishing in their territory. These treaties have been recognized by the Supreme Court of Canada as legal and binding.

Even after the adoption of western religious beliefs, the Mi’kmaq continued to harvest food and resources in accordance with long held spiritual understanding of the relationship between living things referred to as “Netukulimk”. While some have argued that the eventual dominance of British colonial rule eroded traditional Mi’kmaq worldviews, there is strong evidence that Mi’kmaq harvests are still governed by Netukulimk principles (Prosper *et al.* 2011).

3.1.2 Traditional Medicines

A use of traditional lands that continues throughout Canada, and in particular, Mi’kmaq territory, is the collection and harvest of medicinal plants. Often overlooked in these times of over-the-counter medicines, Aboriginal peoples had developed an in-depth and intimate knowledge of various local plants and how they could be used for sustenance and, in some instances, to cure ailments. This knowledge, which formed part of the spiritual understanding of the balance between people and the local environment, continues to be informally passed on from generation to generation in aboriginal communities, often as guarded family secrets that provide position within the community. It is estimated that 70-80% of people worldwide rely on traditional herbal medicines to meet their primary health care needs (Farnsworth 1991).

In Canada, traditional medicines still provide an increasingly important source of income for rural and aboriginal communities (Uprety 2012). Many Mi’kmaq elders continue to harvest and prepare traditional medicines and provide them to friends and relatives to treat common health conditions (K. Prosper, personal communication, 2010), however, it has been noted that harvesting areas are becoming increasingly limited due to continuous development that alters the natural ecosystem (F. Meuse, Personal Communication, 2012). Table A-2 in Appendix A provides a list of plant species reported to be traditionally used as medicine by Mi’kmaq in Nova Scotia.

3.1.3 Traditional Materials and Other Useful Plants

Due in part to the long history of territorial occupation by immigrant populations, the Mi’kmaq are one of the most studied people for the use and nature of their traditional medicines (Speck 1917, Wallis and Wallis 1955), and several guide books have been published on the subject.

Aside from food and medicines, Mi’kmaq people utilized various natural resources for a wide range of other purposes. Animal, bird and fish skins were tanned using animal materials or smoked, and then used to make clothing, footwear and baby blankets. Pelts were used to make fur robes. Sinew from animal carcasses served as thread (Nova Scotia Museum factsheet, ND).

Varieties of wood types were used in shelter construction. Spruce poles, birch bark sheets and flexible moosewood (striped maple) saplings were used in the construction of conical dwellings known as “wikuom” or wigwams. Various woods were also used in the construction of devices to aid in transportation, and to create fish traps and weirs (NS Museum factsheet, ND). Other woods were used to make storage containers and vessels. Tools such as axes, adzes and gouges were made from reworking suitable stone and wood materials. Stones such as chalcedony were used to make hunting,

cooking, carving and hide-preparing tools, spears were made of bone and wood, while bone was also used to make needles, awls and painting tools. Copper, which was likely traded for from natives from outside the region, was used to make fish hooks and needles. Teeth from beavers were used for fine carving, while walrus tusks were used for ivory. Bags and mats were made from woven reeds, grasses, cattails, cedar and basswood barks. Baskets may have been woven from thin branches (Nova Scotia Museum factsheet, ND). Specific uses of many plant species are outlined in Table A-3 in Appendix A.

Dwellings and clothing were often decoratively painted using red and yellow ochre, charcoal and ground eggshell, mixed with fish roe or egg yolks as a binder. Clothing was also decorated with animal bones, teeth, and claws and quills, and sometimes feathers. Bird wings were sometime worn by men. Pipes were made from stone, bone, bark, wood and lobster claws. After 1600, Mi'kmaq women made decorative porcupine quillwork and shell beadwork for sale to Europeans. Dyes for quills and mats came from a variety of roots, bark, leaves and flowers (Nova Scotia Museum factsheet, ND).

3.2 The Piktuk aqq Epekwitk District

3.2.1 Environmental Context

The Project Sites are located within the Pictou-Antigonish Highlands Ecodistrict. Soils in this ecodistrict are well drained coarse textured soils on hilly terrain (Neily *et al.* 2003). Vegetation in the ecodistrict is generally characterized by shade-tolerant hardwoods, with yellow birch (*Betula alleghaniensis*), sugar maple (*Acer saccharum*), and American beech (*Fagus grandifolia*) being the most common. Red spruce (*Picea rubrum*), white spruce (*P. glauca*), eastern hemlock (*Tsuga canadensis*), and balsam fir (*Abies balsamea*) are scattered on the flat upland surfaces and form coniferous stands on lower slopes and valley bottoms (Webb and Marshall 1999). High elevations influence the climate of the Pictou-Antigonish Highlands Ecodistrict. This ecodistrict is characterized by late, cool springs, cold winters, and the lowest mean annual temperature in Nova Scotia (5.4°C). It experiences about 1409 mm of precipitation annually and receives about 505 mm of this in the form of rain between May and September (Webb and Marshall, 1999).

3.2.2 Traditional Food Resources

Historically, the Mi'kmaq families who lived in this area annually migrated between hunting and fishing grounds (Chute 1999). These seasonal migrations were heavily dependent upon riverine and coastal transportation. As a result, food resources were heavily biased toward fish and seafood.

In late winter, the Mi'kmaw in Nova Scotia generally moved closer to the marine coast and the river mouths. In the Piktuk aqq Epekwitk district this was a time for gatherings between Island and mainland inhabitants, who shared the bounty of the productive waters in the Gulf of St. Lawrence. Such positions allowed them to take advantage of the numerous shallow water coastal fish and shellfish exposed by the melting ice (such as winter flounder and clams) as well as the spring fish run in the rivers. In early spring, smelts and alewife (gaspereau) were abundant in the rivers, followed by salmon and sturgeon. Brook trout and striped bass began swimming upstream, followed by white perch and "elvers" or young eels. American plaice appeared off the coast, as did cod, various skate species, whiting or silver hake and mackerel. Freshwater and marine fish and shellfish species historically utilized by Mi'kmaq in Nova Scotia are listed in Table 3.1: Fish Species Traditionally Harvested by Nova Scotia Mi'kmaq.

Table 3-1: Fish Species Traditionally Harvested by Nova Scotia Mi'kmaq.

Common Name	Mi'kmaq Name	Habitat ⁵	Uses	Source
Brook Trout	Adagwaasoo ¹ , atoqwa'su ³ ADAGWAASOO ²	Freshwater streams, marine		Hoffman 1955
Eel, Elvers	Kat ¹ , KATEL ²	Marine, freshwater	Food	Hoffman 1955
Gaspereau	Segoonüměkw ⁴	Marine, ascends streams to breed in freshwater	Food and bait	
Salmon	Pălāmoo ¹ , PULAMOO ²	Marine, ascends streams to breed in freshwater	Food, commerce and ceremony	Hoffman 1955
Shad	Msamu ³	Marine, ascends streams to breed in freshwater	Food	
Smelt	Kákpāsow ¹ , KAKPASOW ² gaqpesaw ³	Marine, ascends streams to breed in freshwater	Food	Hoffman 1955
Striped Bass	Chegao ¹	Marine, ascends streams to breed in freshwater	Food and commerce	Hoffman 1955
Sturgeon	KOMKUDAMOO ²	Marine, ascends streams to breed in freshwater	Food	Hoffman 1955
White Perch		Marine, ascends streams to breed in freshwater	Food	Hoffman 1955
¹ Accepted Current Smith-Francis Orthography				
² Phonetic spelling from reference document (Hoffman 1955) (also capitalized)				
³ Listuguj spelling				
⁴ Marshall spelling				
⁵ Habitat references for fishes are from Scott and Scott (1988).				

In addition to this abundance of fish, spring was also a time when migratory birds returned and began nesting, providing plenty of fresh meat and eggs. Hoffman (1955) provided a list of bird species traditionally harvested by Mi'kmaq in Nova Scotia. A more recent report by Benoit (2007) summarized waterfowl species recently hunted by Mi'kmaq in mainland NS.

Species mentioned by Benoit (2007) are presumably all species traditionally hunted by Mi'kmaq people. Most of these species utilize both freshwater and marine habitats throughout the year, while others, such as eider and scoter species occur primarily in marine coastal areas. Snipe and pin-tailed ducks occur primarily in freshwater environments, while woodcock are found in forested areas, often treed wetlands. All of these species, with the exception of the Barrow's Goldeneye, are relatively common in suitable habitats throughout NS during the appropriate season. Barrow's Goldeneye in NS belongs to the eastern population, which is currently listed under SARA as a species of Special Concern. This species is quite rare in NS. It is unlikely to occur in the vicinity of the three wind Project Sites.

Table 3-2: Bird Species Reported as Traditionally (Hoffman 1955) and Recently (Benoit 2007) Harvested by Nova Scotia Mi'kmaq, with Habitat Information (Tufts 1986).

Mi'kmaq Name	Common Name	Species Name	Habitat (Tufts 1986)	Season
	American Bittern	<i>Botaurus lentiginosus</i>	Freshwater wetlands	Spring migrant (Hoffman 1955)
	American Black Duck	<i>Anas rubripes</i>	Marine coast, freshwater lakes	Resident (Hoffman 1955), Year round (Benoit 2007)
	American Golden Plover	<i>Pluvialis dominica</i>	Marine coastal flats	Fall migrant (Hoffman 1955)
	American Wigeon (Baldpate)	<i>Anas americana</i>	Marine coast, freshwater lakes	Fall migrant (Hoffman 1955)
	American Woodcock ¹	<i>Philohela minor</i>	Wooded swamps, forests, fields	Spring migrant (Hoffman 1955), Summer (Benoit 2007)
	Atlantic Puffin	<i>Fratercula arctica</i>	Marine coast	Resident (Hoffman 1955)
	Barred Owl	<i>Strix varia</i>	Forests	Resident (Hoffman 1955)
	Barrow's Goldeneye	<i>Bucephala islandica</i>	Breed in wooded lakes and ponds in Quebec. Winter in protected coastal waters or open inland waters.	Winter (Benoit 2007)
	Black Guillemot	<i>Uria lomvia</i>	Marine coast	Winter resident (Hoffman 1955)
	Black Scoter ("American Scoter")	<i>Melanitta americana</i>	Marine coast	Winter resident (Hoffman 1955), Winter (Benoit 2007)
	Black-bellied Plover	<i>Pluvialis squatarola</i>	Marine coastal flats, shores	Fall migrant (Hoffman 1955)
	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	Coastal marshes	Fall migrant (Hoffman 1955)
	Blue-winged Teal	<i>Anas discors</i>	Inland marshes, lakes, ponds, pools, and shallow streams	Summer (Benoit 2007)
	Brant	<i>Branta bernicla</i>	Freshwater ponds and lakes	Spring migrant (Hoffman 1955)
	Bufflehead	<i>Bucephala albeola</i>	Marine coast, freshwater lakes	Fall migrant (Hoffman 1955)

Mi'kmaq Name	Common Name	Species Name	Habitat (Tufts 1986)	Season
Senümkw'	Canada Goose (eggs also important food source in spring)	<i>Branta canadensis</i>	Freshwater ponds and lakes	Year round (Benoit 2007), Spring and Fall migrant (Hoffman 1955)
	Common Eider	<i>Somateria mollissima</i>	Breeds in Arctic, winters farther south in temperate coastal zones	Year round (mainland NS) (Benoit 2007)
Apchechk	Common Goldeneye	<i>Bucephala islandica</i>	Shallow coastal bays and inlets	Fall migrant (Hoffman 1955), Winter (Benoit 2007)
	Common Loon	<i>Gavia immer</i>	Marine coast in winter, freshwater lakes in summer	Spring migrant (Hoffman 1955)
	Common Murre	<i>Uria aalge</i>	Marine coast	Resident (Hoffman 1955)
	Common Merganser	<i>Mergus merganser</i>	Rivers and lakes	Summer (Benoit 2007)
	Eskimo Curlew	<i>Numenius borealis</i>	Marine coastal flats, wetlands	Fall migrant (Hoffman 1955)
	Great Black-backed Gull	<i>Larus marinus</i>	Marine coast	Resident (Hoffman 1955)
	Great Blue Heron	<i>Ardea herodias</i>	Edges of shallow water bodies, generally nest in trees	Spring migrant (Hoffman 1955)
	Great Horned Owl	<i>Bubo virginianus</i>	Forests	Resident (Hoffman 1955)
	Greater Scaup	<i>Aythya marila</i>	Breeds in Arctic, winters south along marine coasts	Winter (Benoit 2007)
	Green-winged Teal	<i>Anas crecca</i>	Freshwater lakes	Fall migrant (Hoffman 1955)
	Herring Gull	<i>Larus argentatus</i>	Marine coast	Resident (Hoffman 1955)
	Hooded Merganser	<i>Lophodytes cucullatus</i>	Breeding in swamps and wooded ponds, winter in ice-free ponds, lakes and rivers.	Summer (Benoit 2007)

Mi'kmaq Name	Common Name	Species Name	Habitat (Tufts 1986)	Season
	Hudsonian Whimbrel /Hudsonian Curlew	<i>Numenius phaeopus hudsonicus</i>	Marine coastal flats, wetlands	Fall migrant (Hoffman 1955)
	King Eider	<i>Somateria spectabilis</i>	Winter along marine coasts, breed in Arctic tundra	Winter (Benoit 2007)
	Lesser Scaup	<i>Aythya affinis</i>	Marine coast	Fall migrant (Hoffman 1955), Winter (Benoit 2007)
	Lesser Yellowlegs	<i>Tringa flavipes</i>	Marine coastal flats, wetlands, shores	Fall migrant (Hoffman 1955)
	Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	Marine coast, wetlands	Fall migrant (Hoffman 1955)
	Long-Tailed Duck	<i>Clangula hyemalis</i>	Breed in tundra pools and marshes, winters along marine coasts	Winter (Benoit 2007)
Apchechk	Mallard	<i>Anas platyrhynchos</i>	Freshwater lakes	Year round (Benoit 2007), Fall migrant (Hoffman 1955)
	Mourning Dove	<i>Zenaidura macroura</i>	Fields, forests	Fall migrant (Hoffman 1955)
	Northern Gannet	<i>Morus bassana</i>	Marine coast	Spring & Fall migrant (Hoffman 1955)
	Northern Pintail	<i>Anas acuta</i>	Breeds in open unwooded wetlands. Winters in sheltered estuaries, brackish marshes and coastal lagoons	Summer (Benoit 2007)
	Osprey	<i>Pandion haliaetus</i>	Forested areas close to water bodies	Spring migrant (Hoffman 1955)
	Passenger Pigeon	<i>Ectopistos migratorius</i>	Forested habitats	Fall migrant (Hoffman 1955)
	Pied-billed Grebe	<i>Podilymbus podiceps</i>	Shallow freshwater ponds	Fall migrant (Hoffman 1955)
	Razorbill ("Razor Billed Auk")	<i>Alca torda</i>	Marine coast	Spring migrant (Hoffman 1955)
	Red Knot	<i>Calidrus canutus</i>	Marine coastal flats, shores	Fall migrant (Hoffman 1955)
	Red-Breasted Merganser	<i>Mergus serrator</i>	Marine coast, freshwater lakes	Resident (Hoffman 1955), Summer (Benoit 2007)

Mi'kmaq Name	Common Name	Species Name	Habitat (Tufts 1986)	Season
Nabao	Ruffed Grouse	<i>Bonasa umbellus</i>	Forests	Resident (Hoffman 1955)
	Semipalmated Plover	<i>Charadrius semipalmatus</i>	Marine coastal flats, shores	Fall migrant (Hoffman 1955)
Nabao	Spruce Grouse	<i>Dendragapus canadensis</i>	Forests	Resident (Hoffman 1955)
	Surf Scoter	<i>Melanitta perspicillata</i>	Marine coast	Winter (Benoit 2007)
	White-winged Scoter	<i>Melanitta fusca</i>	Marine coast	Spring migrant (Hoffman 1955), Winter (Benoit 2007)
	Willet	<i>Catoptrophorus semipalmatus</i>	Marine coast, wetlands, shores	Fall migrant (Hoffman 1955)
	Wilson's Snipe	<i>Gallinago delicata</i>	Fields, freshwater wetlands	Spring migrant (Hoffman 1955) Summer (Benoit 2007)
	Yellow Rail	<i>Coturnicops noveboracensis</i>	Freshwater wetlands	Fall migrant (Hoffman 1955)
	Herring Gull	<i>Larus argentatus</i>	Coastal	Resident (Hoffman 1955)
	Ruffed Grouse	<i>Bonasa umbellus</i>	Forests	Resident (Hoffman 1955)
	Great Horned Owl	<i>Bubo virginianus</i>	Mature forests	Resident (Hoffman 1955)
	Barred Owl	<i>Strix varia</i>	Mature forests	Resident (Hoffman 1955)

Waterfowl species not mentioned specifically by Benoit which are likely also hunted by First Nations in NS include Green-winged Teal and Ring-Necked Duck.

Other, non-waterfowl species are hunted in NS by First Nations hunters. Grouse (both Ruffed and Spruce) have traditionally been targeted species, and are presumably still hunted by First Nations hunters in the region in which the Projects are located. Ring-necked pheasant, an introduced species which now occurs through most if not all of NS, may also currently be targeted by First Nation hunters. Other bird species not typically hunted today, such as owls, may have been used as a traditional food source, especially in lean times.

In the late summer and fall, the southward migrations brought many more bird species to Nova Scotia which could be harvested. Around the middle of September, Mi'kmaq withdrew from the coast, moving inland where they began to harvest the eels now migrating downstream. In October and November, they began hunting moose and beavers, as well as bear, otter, muskrat and caribou. They fished the

salmon which were now returning downstream after spawning. In December, they fished tomcod, which spawn under the ice at that time. In January, seals were hunted as they came ashore on certain islands or areas of the coast to give birth. In February and March, the hunt for beavers, otters, moose, bears and caribou continued. As the winter waned, the people moved closer to the coast again and the annual cycle was renewed.

Table 3-3: Mammal Species Traditionally Harvested by Mi'kmaq in Nova Scotia (Sources: Hoffman 1955, Wallis and Wallis 1955, Speck 1917)

Common Name	Mi'kmaq Name	Habitat ¹	Uses
Moose	Team ¹ , tia'm ²	Forested areas, wetlands	Food
Deer	Lüntook ¹ , lentug ²	Edges of forested areas, thickets	Food
Black Bear	Mooin ¹	Forested areas	Food, spiritual
Hare	Able'gúmocch ¹	Forested areas	Food
Porcupine	Nābegök ¹ , matues ²	Forested areas	Food, cultural industry
Beaver	Kobet ¹ , gopit ²	Water bodies and wetlands adjacent to forested areas	Food and pelts
Groundhog/Woodchuck	Mulumgwej ¹	Fields, open areas adjacent to forests	Food and pelts
Caribou		Boreal forest	Food and pelts
Mink	Jiagewj ²	Coasts	Pelts
Otter	Giwnig ²	Rivers and lakes, coasts	Food and pelts
Muskrat		Freshwater ponds, wetlands	Skins
Squirrel		Forested areas	Food

¹ Deblois, 1997

² Listiguj (www.mikmaqonline.org)

³ Banfield 1974

The arrival of spring also meant that new plant growth, such as fiddleheads and other greens, was increasingly available to harvest. As the growing season progressed, wild fruits and other edible plant parts became available. Many foods were eaten fresh, while others which were more plentiful, such as blueberries, were dried and preserved for the leaner winter months. Table A-1 in Appendix A provides a list of plant species reported as traditionally consumed by Mi'kmaq in Nova Scotia.

4.0 Place

4.1 *Field Survey Results*

Information on general habitats was collected for each of the three project sites. In addition, presence of vegetation traditionally used for food, medicine and other uses (Tables 4.1, 4.2 and 4.3 respectively) was confirmed during the surveys.

4.1.1 GREENFIELD

General Habitats

An aerial photograph of the Greenfield site is provided in Figure 4-1.

During the plant surveys, a total of 6 major habitat types were observed in the vicinity of the planned turbine locations. The major habitat types occurring within the Study Area include:

- Agricultural Field;
- Coniferous Forest;
- Mixed wood Forest;
- Wetland;
- Regenerating Clear-cut; and
- Disturbed Area.

The following paragraphs provide a summary of the various habitats encountered during the survey. Complete lists of the culturally significant plant species found on the Greenfield site are provided in Table.1 (edible species), Table. 2 (medicinal species) and Table 3 (other useful species) in Appendix B.

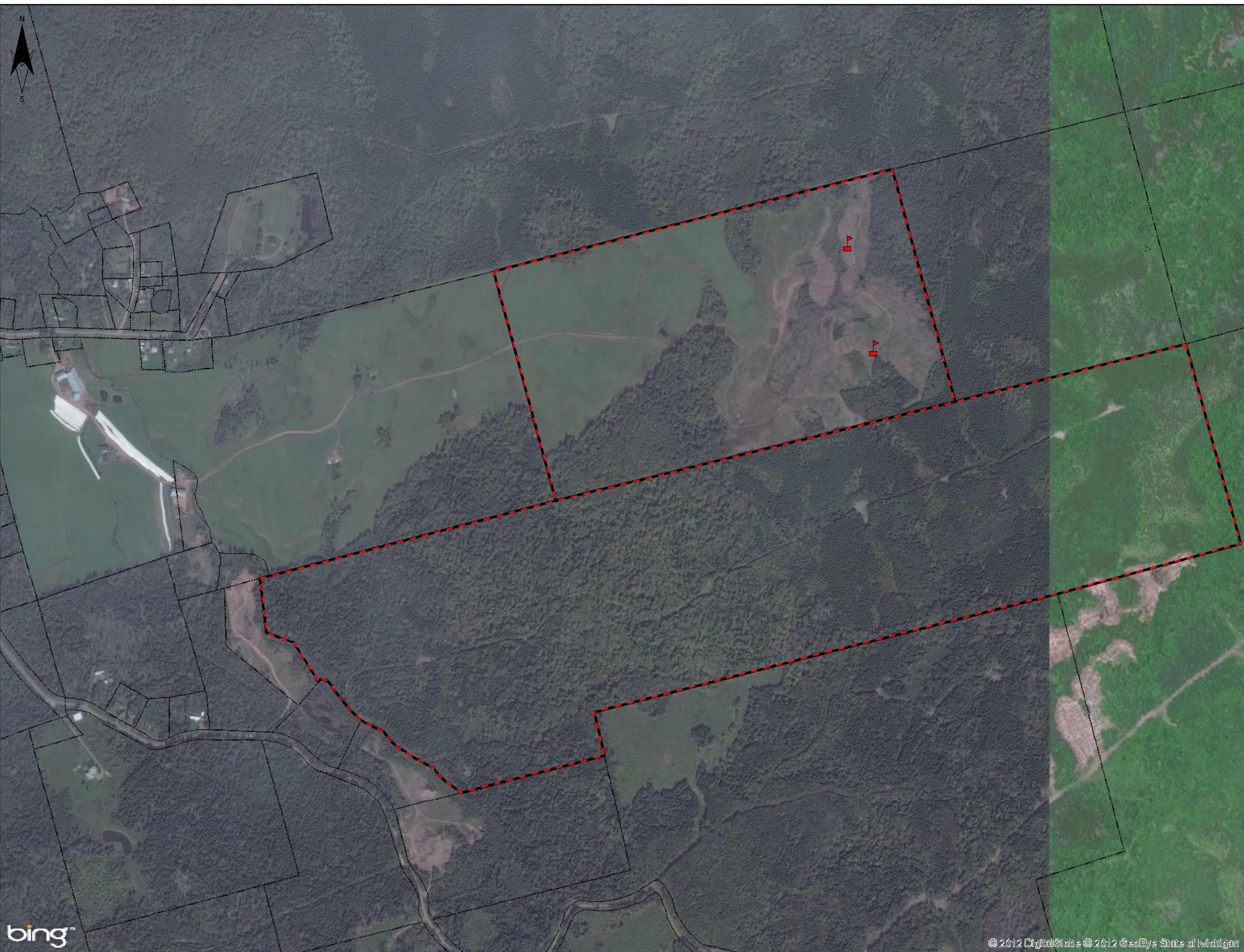
Agricultural Field

Much of the main Project site consisted of agricultural fields. Some were fenced off as cow pasture, while other areas appeared to be hayfields and have recently been mowed. These areas are dominated by grass species such as timothy as well as clover, dandelion, and goldenrods. Shrubs and trees are nonexistent.





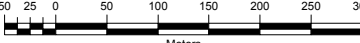

Photo 4.1: Mowed Agricultural Field on the Greenfield Site

Path: P:\6300 PROJECTS\2013\TV134003 - Affinity Renewables Inc. - KMK MEKS\Cad\11\Greenfield.mxd User: derrick.schulz Date: 11/20/2013



bing™

© 2012 DigitalGlobe © 2012 GeoEye State of Michigan

TITLE:	FIGURE 4.1 AERIAL DEPICTION OF GREENFIELD PROJECT SITE
PROJECT:	A MI'KMAQ TRADITIONAL AND ECOLOGICAL KNOWLEDGE REVIEW OF THREE WIND FARM DEVELOPMENT PROPERTIES
CLIENT:	AFFINITY RENEWABLES INC 1383 MT THOM RD SALTSPRING, NS. CANADA B0K 1P0
LOCATION:	GREENFIELD, COLCHESTER CO.
DATE:	Tuesday, November 19, 2013
DATUM:	NAD83
PROJECTION:	Zone 20
AMEC PROJECT NO:	TV134003
LEGEND:	<ul style="list-style-type: none">  Turbine Locations  Greenfield Properties
 Meters 1:7,400	
AMEC Environment & Infrastructure A Division of AMEC Americas Ltd. <small>50 Troop Avenue, Unit 300 Dartmouth, N.S., B3B 1Z1 (P) 902-468-2848 (F) 902-468-1314</small> 	

Coniferous Forest

Coniferous forest occurred over much of the site. It was generally dominated by balsam fir (*Abies balsamea*) and black spruce (*Picea mariana*). In some areas adjacent to recent clearcuts, the black spruce stands were almost impenetrable, and ground vegetation was very scarce. Shrubs included saplings of balsam fir and black spruce, as well as some beaked hazelnut (*Corylus cornuta*), red maple (*Acer rubrum*), raspberry (*Rubus pubescens*) and skunk currant (*Ribes glandulosum*). The ground vegetation layer was dominated by Sphagnum mosses. Other ground vegetation species included goldthread (*Coptis trifolia*), and starflower (*Trientalis borealis*).

Mixed woods

Mixed woods were a common habitat type on the site. The tree layer often included White ash (*Fraxinus americana*), Balsam fir, Red maple, Yellow birch (*Betula alleghaniensis*), Paper birch (*Betula papyrifera*) and Black spruce. Common shrub species included Red maple saplings, beaked hazelnut, bunchberry (*Cornus canadensis*) and late low blueberry (*Vaccinium angustifolium*). The ground vegetation layer consisted of whorled wood aster (*Oclenema acuminatus*), cinnamon fern (*Osmunda cinnemomea*), various grasses, bristly dewberry (*Rubus hispida*), various hawkweeds (*Hieracium* spp.), balsam fir seedlings, starflower, hay-scented fern (*Dennstaedtia punctiloba*) and oldfield cinquefoil (*Potenilla simplex*). Other ground vegetation species noted included goldenrods (*Solidago* spp.), swamp candles (*Lysimachia terrestris*), grass-leaved goldenrod (*Euthamia graminifolia*), and pearly everlasting (*Anaphalis margaritacea*).



Photo 4.2: Mixed Forest on the Greenfield Site

Wetland

Some areas of wetland habitat occur on the Greenfield site. The largest observed was located near the western edge of the property, in a gently sloping valley. No trees were present in this wetland. Shrubs were represented by red maple seedling, speckled alder, birch saplings, mountain holly, and willows. Ground vegetation was dominated by *Sphagnum* mosses, with woolly bulrush, blue-joint reed grass (*Calamagrostis canadensis*), narrow-leaved cattail, swamp candles, cinnamon fern, knotted rush (*Juncus nodosus*), creeping snowberry (*Gaultheria hispida*), cottongrass (*Eriophorum* sp.), boneset (*Eupatorium perfoliatum*) and round-leaved sundew (*Drosera rotundifolia*) also occurring.



Photo 4.3: Wetland Habitat on Greenfield Site

Regenerating Clearcut

Significant areas on the Greenfield site consist of regenerating forest as a result of recent logging activities. As such, no trees are present in this habitat. Shrub and young tree species such as white spruce (*Picea glauca*), speckled alder (*Alnus incana*), common blackberry (*Rubus alleghaniensis*), elderberry (*Sambucus racemosa*), red maple, pin cherry, and Virginia rose (*Rosa virginiana*) are present. The ground vegetation layer includes fireweed (*Chamerion angustifolium*), whorled wood asterwooly bulrush, grass-leaved goldenrod, bunchberry, and blue-joint reed grass (*Calamagrostis canadensis*), timothy (*Phleum pratense*), pearly everlasting, and speedwell (*Veronica officinalis*).



Photo 4.4: Regenerating clearcut area in front of coniferous forest at Greenfield

Disturbed Area

Several types of disturbed areas are present on the Greenfield site. An active farm is located adjacent to the the Greenfield site, and a dirt access road traverses the property, travelling from west to east, A few smaller dirt roads are present near the proposed turbine locations. Much of the main dirt road travelled through pasture and field, entering forested and recently cleared areas near the western portion of the site. Vegetation along the road consists of black spruce, balsam fir, red maple, and large-tooth aspen (*Populus grandidentata*). Shrubs include saplings of paper birch, black spruce, and pin cherry (*Prunus pennsylvanicus*). Ground vegetation includes various grasses, woolly bulrush (*Scirpus cyperinus*), goldenrods (*Solidago rugosa* and *S. puberula*), sedges (*Carex lurida*, *C. gyndandra*), and common vetch (*Vicia cracca*).

4.1.2 KEMPTOWN

General Habitats

An aerial photograph of the Kemptown site is provided in Figure 4-2. During the plant surveys a total of five dominant habitat types were surveyed. The major habitat types occurring within the Project Site include:

- Mixed Woods;
- Regenerating Clearcut;
- Coniferous Woods;
- Wetland; and
- Disturbed Area (Dirt Road).

The following paragraphs provide a summary of the various major habitats encountered during the survey. Complete lists of the culturally significant plant species found on the Kemptown site are provided in Table.B-1 (edible species), Table.B- 2 (medicinal species) and Table B-3 (other useful species) in Appendix B.

Mixed Woods

Areas of mixed wood forest of varying ages cover much of the Kemptown site. Common trees include red maple, trembling aspen (*Populus tremuloides*), balsam fir, white spruce, grey birch (*Betula populifolia*), eastern white pine (*Pinus strobus*), and largetooth aspen (*Populus grandidentata*). The shrub layer varies and includes Canada fly honeysuckle (*Lonicera canadensis*), bunchberry, common blackberry , alternate-leaved dogwood (*Cornus alterniflora*), willows (*Salix* spp.), pin cherry, mountain holly (*Nemopanthes mucronata*), lambkill, yellow honeysuckle, and velvet-leaf blueberry. Rhodora (*Rhododendron canadense*), eastern larch (*Larix laricina*), and northern wild raisin (*Viburnum nudum*) occur in wetter areas. Common species in the ground vegetation layer include bracken fern (*Pteridium aquilinum*), trailing arbutus (*Epigaea repens*), wild lily of the valley (*Maianthemum canadense*), starflower, twinflower (*Linnaea borealis*), parasol white top, drooping sedge (*Carex gyndandra*), fireweed, fowl manna grass (*Glyceria striata*), cinnamon fern, bunchberry , and mountain cranberry (*Vaccinium vitis-ideaus*).

Regenerating Clearcut

A regenerating clear cut area is located near the second proposed turbine location. Trees here were nonexistent. Shrubs included northern wild raisin, black spruce (*Picea mariana*), bunchberry, white spruce, Labrador tea, and leatherleaf (*Chamaedaphne calyculata*). The ground vegetation layer was dominated by bracken fern. Other common species included paniced bulrush, pink lady's-slipper (*Cypripedium acaule*), cottongrass (*Eriophorum sp.*) and teaberry (*Gaylussacia procumbens*).

Another area of regenerating forest occurs near the Turbine 3 location. No trees are present, but shrub layer includes red maple saplings, spruce and balsam fir saplings. The ground vegetation layer is dominated by bracken fern, with smaller amounts of soft rush (*Juncus effusus*), paniced bulrush, cinnamon fern and oldfield cinquefoil.



Photo 4.5: Regenerating Area at Kemptown

Wetland

Some small patches of wetland were observed on the site. These were mostly open bog-type wetlands within forested areas. Trees here included eastern larch (*Larix laricina*) and black spruce around the edges, while shrub community included black spruce saplings, northern wild raisin, red maple saplings, bristly dewberry, Labrador tea, speckled alder and common blackberry. Ground vegetation included cottongrass (*Eriophorum sp.*), swamp candles, three-leaf solomon's-seal (*Maianthemum trifolium*), round-leaved sundew (*Drosera rotundifolia*), wild lily of the valley, small cranberry (*Vaccinium oxycoccos*), bog goldenrod (*Solidago uliginosa*), cinnamon fern, three-seed sedge (*Carex trisperma*) and woodland horsetail (*Equisetum sylvaticum*).



TITLE: **FIGURE 4.2
AERIAL DEPICTION OF
KEMPTOWN PROJECT SITE**

PROJECT: **A MI'KMAQ
TRADITIONAL AND ECOLOGICAL
KNOWLEDGE REVIEW OF THREE WIND
FARM DEVELOPMENT PROPERTIES**

CLIENT: **AFFINITY RENEWABLES INC
1383 MT THOM RD
SALTSPRING, NS. CANADA B0K 1P0**



LOCATION: **KEMPTOWN, COLCHESTER CO.**

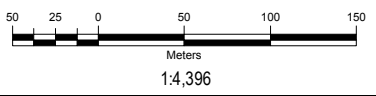
DATE: **Wednesday, November 20, 2013**

DATUM: **NAD83**

PROJECTION: **Zone 20**

AMEC PROJECT NO: **TV134003**

LEGEND:
 Turbine Locations
 Kempton Properties



**AMEC Environment & Infrastructure
A Division of AMEC Americas Ltd.**

50 Troop Avenue, Unit 300
Dartmouth, N.S., B3B 1Z1
(P) 902-468-2848 (F) 902-468-1314



© 2012 DigitalGlobe © 2012 GeoEye State of Michigan

Path: P:\6300 PROJECTS\2013\TV134003 - Affinity Renewables Inc. - KMK MEKS\Cad\11\TV134003 - Figure 4.2.mxd User: derrick.schulz Date: 11/20/2013



Photo 4.6: Wetland at Kemptown

Coniferous woods

Coniferous woods occurred on the Kemptown site. Tree species here included balsam fir, black spruce, and some red maple. The shrub layer included species such as red maple saplings, and mountain holly. The ground vegetation layer included red maple seedlings, bracken fern, yellow clintonia (*Clintonia borealis*), bunchberry, pink lady's-slipper, starflower, cinnamon fern, twinflower, goldthread, wild lily of the valley, wood sorrel (*Oxalis montana*) and black spruce seedlings.



Photo 4.7: Coniferous woods at Kemptown



Photo 4.8: Disturbed and regenerating areas around meteorological tower at Kemptown

Disturbed area

Disturbed areas, in the form of the meteorological tower clearing and dirt access roads occur on the Kemptown site. As this area was previously forested, and is located within an existing patch of mixed wood forest, this area supports both forest species and pioneer species. As this area has been clearcut in recent years, no trees are currently present. Shrub layer consists of pin cherry and large-tooth aspen, red raspberry (*Rubus idaeus*), and common blackberry. Ground vegetation included grass-leaved goldenrod, various grasses, mouse-ear hawkweed (*Hieracium pilosella*), various goldenrods, parasol white top aster (*Doehleringia umbellata*), Virginia strawberry (*Fragaria virginiana*), yellow sweet clover (*Melilotus officinalis*), pink clover (*Trifolium pratense*), dandelion (*Taraxacum officinale*), pearly everlasting, curly dock (*Rumex crispus*), oxeye daisy (*Leucanthemum vulgare*), creeping buttercup (*Ranunculus repens*), black knapweed (*Centaurea nigra*), coltsfoot (*Tussilago farfara*), velvet-leaf blueberry, fireweed, swamp candles, bunchberry, nodding sedge (*Carex gynandra*), cinnamon fern, late low bush blueberry, white spruce seedlings, fall dandelion (*Leonotodon autumnalis*), birch seedlings (*Betula* spp.), and hay-scented fern.

Small depressions within this disturbed area supported moisture-loving shrub species such as Labrador tea (*Rhododendron* (formerly *Ledum*) *groenlandicum*), lambkill (*Kalmia angustifolia*), and skunk currant, as well as herbaceous species such as rushes (*Juncus* spp.), sallow sedge (*Carex lurida*), bristly dewberry, paniced bulrush (*Scirpus microcarpus*), and fowl manna-grass (*Glyceria striata*).

4.1.3 LIMEROCK

General Habitats

An aerial photograph of the Limerock site is provided in Figure 4-3.

During the plant surveys a total of four dominant habitat types were surveyed. The major habitat types occurring within the Study Area include:

- Mixed forest;
- Coniferous forest;
- Deciduous forest; and
- Disturbed area.

The following paragraphs provide a summary of the various habitats encountered during the survey. Complete lists of the culturally significant plant species found on the Limerock site are provided in Table.B-1 (edible species), Table.B- 2 (medicinal species) and Table B-3 (other useful species) in Appendix B.

Mixed forest

Mixed forest was common on the site, and the tree canopy often included balsam fir, red spruce, grey birch, paper birch, and red maple. Shrubs included gray birch saplings, beaked hazelnut, balsam fir saplings, striped maple, dogwood, bristly dewberry and Virginia rose. Species frequently encountered in the ground vegetation layer included wild lily of the valley, various goldenrods (*Solidago* spp.), ferns, balsam fir seedlings, hawkweeds (*Hieracium* spp.), violet (*Viola cucullata*), Virginia strawberry, bunchberry, starflower, Indian Pipe (*Monotropa uniflora*), wild sarsaparilla (*Aralia nudicaulis*), woodland horsetail, drooping sedge, whorled wood aster, parasol white-top, cinnamon fern, speedwell, hay-scented fern, and sensitive fern.

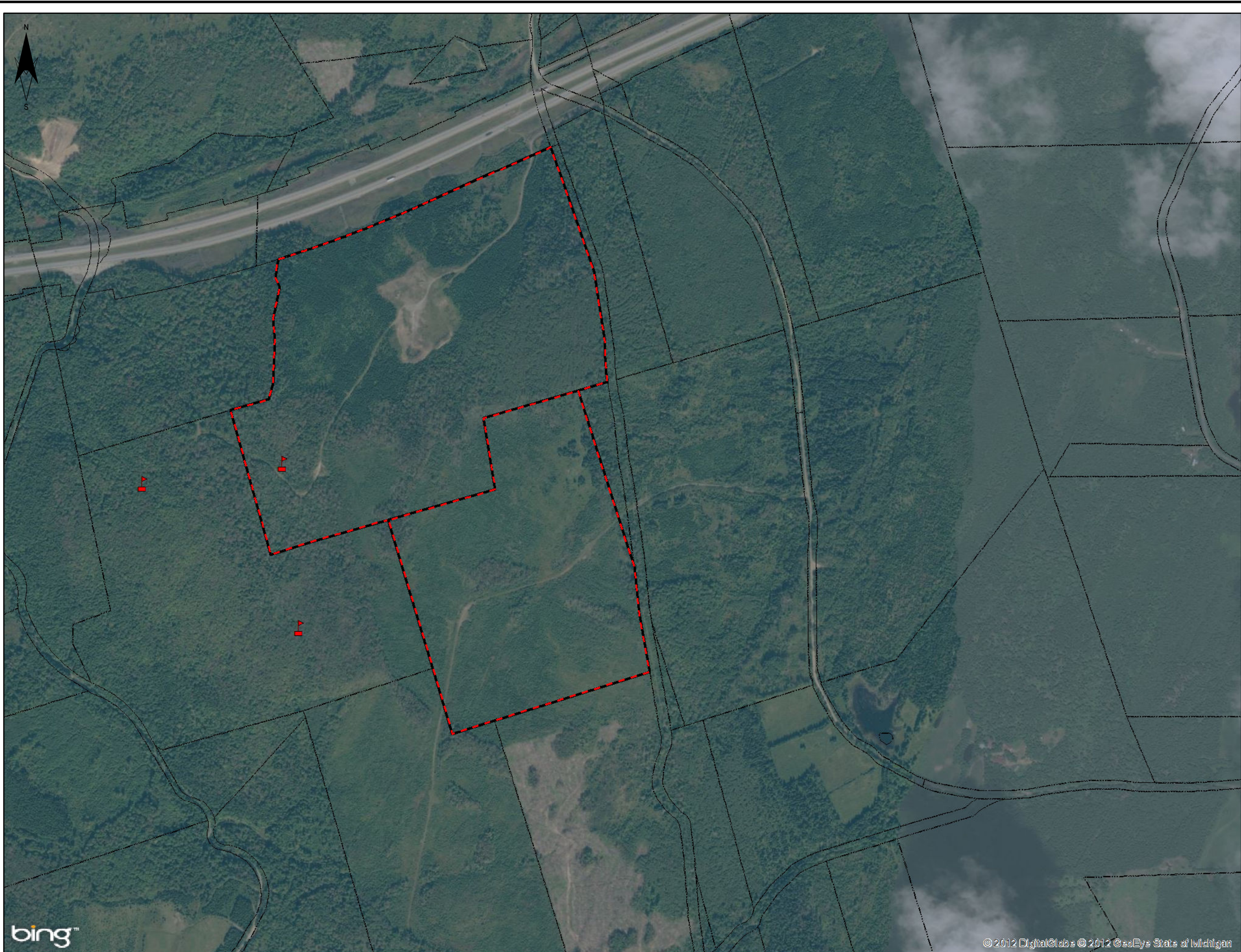
Coniferous forest

Areas of coniferous forest on the Limerock site supported white spruce. Shrubs included white spruce saplings, pin cherry, white ash, and willows (*Salix* spp.). Ground vegetation included hawkweeds, speedwell, goldenrods, boneset, whorled wood aster, curly dock, sensitive fern, soft rush, red maple seedlings, and various ferns.

Deciduous Forest



A few areas of deciduous forest occurred on the Limerock site. Trees included mature yellow birch, mountain maple, red maple and black spruce. Shrub layer was represented by balsam fir, striped maple, yellow birch saplings, and white ash. The ground vegetation layer included sugar maple seedlings, wild sarsaparilla, goldthread, starflower, wild lily of the valley, bunchberry, striped maple seedlings, drooping sedge, various ferns, tall buttercup, running ground pine (*Lycopodium clavatum*), balsam fir seedlings, tall rattlesnake root (*Prenanthes trifoliata*) hawkweed, sensitive fern, coltsfoot (*Tussilago farfara*), wild cherry seedlings, violets, water horehound (*Lycopus uniflora*), whorled wood aster, anemone (*Anemone* sp.), and partidgeberry.

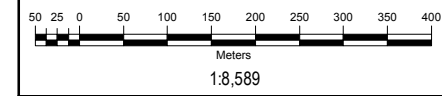
Path: P:\5300 PROJECTS\2013\TV134003 - Affinity Renewables Inc. - KMK MEKS\Cad\11\171_limerock.mxd User: derrick.schulz Date: 11/20/2013



© 2012 DigitalGlobe © 2012 GeoEye State of Michigan

TITLE:	FIGURE 4.3 AERIAL DEPICTION OF LIMEROCK PROJECT SITE
PROJECT:	A MI'KMAQ TRADITIONAL AND ECOLOGICAL KNOWLEDGE REVIEW OF THREE WIND FARM DEVELOPMENT PROPERTIES
CLIENT:	AFFINITY RENEWABLES INC 1383 MT THOM RD SALTSPRING, NS. CANADA B0K 1P0
LOCATION:	LIMEROCK, PICTOU CO.
DATE:	Tuesday, November 19, 2013
DATUM:	NAD83
PROJECTION:	Zone 20
AMEC PROJECT NO:	TV134003

- LEGEND:
-  Turbine Locations
 -  Limerock Properties



AMEC Environment & Infrastructure
A Division of AMEC Americas Ltd.

50 Troop Avenue, Unit 300
Dartmouth, N.S., B3B 1Z1
(P) 902-468-2848 (F) 902-468-1314






Photo 4.9: Deciduous Forest on Limerock Site

Disturbed Area

Disturbed areas on the site included the meteorological tower location, a gravel borrow pit, and the access roads. Trees were non-existent. Shrubs encountered along the road included beaked hazel, white spruce saplings, various brambles (*Rubus spp.*), and pin cherry. Common ground vegetation species were fireweed, various goldenrods, black knapweed, yellow sweet clover, white sweet clover, Queen Anne's lace, pink clover, fleabane, common plantain, timothy, self-heal (*Prunella vulgaris*), common vetch, yellow rattle (*Rhinathes minor*), oxeye daisy, and path rush (*Juncus tenuis*). Wetter areas along the road supported bedstraw species (*Gallium spp.*), boneset, marsh blue violet (*Viola cucullata*), narrow-leaf cattail (*Typha latifolia*), and various rushes (*Scirpus* and *Juncus spp.*).



Photo 4.10: Example of Disturbed Area at Limerock

4.2 Summary of Useful Plant Species Detected on the Project Sites

The following paragraphs provide a summary of many vascular plant species which are used by Mi'kmaq people in Nova Scotia for a variety of purposes, and which were detected in 2013 during botanical surveys of the three Affinity Project Sites.

American Beech / *Fagus grandifolia* is a tree which belongs to the Beech or Fagaceae family. It occurs in fertile uplands, rarely in swamps. Nuts of this species have been used by Mi'kmaq in NS (Speck and Dexter 1951, 1952). The branches are used to make snowshoe frames (Speck and Dexter 1951). Leaves have been used to treat chancre, while the leaves and bark have also been used for fevers and festers (Chandler *et al.* 1979).

American Mountain Ash / E'psemusi / *Sorbus americana* is a small tree belonging to the Rosaceae (rose) family. It occurs in open woods and along hedgerows. The bark can be used to treat stomach pains (Lacey 1993) and "mother pains" (Chandler *et al.* 1979). The bark has also been used to treat boils (Chandler *et al.* 1979), and parts of plant can used as an emetic (Chandler *et al.* 1979). An infusion of root may be taken for colic and other unspecified purposes (Speck 1917).

Balsam fir / Stoqn / *Abies balsamea* is an evergreen conifer belonging to the Pinaceae (Pine) family. Balsam fir grows in a wide variety of habitats. It is known to be high in Vitamin C and antioxidant flavonoids (MacKinnon *et al.* 2009). Balsam fir has been used as a source of food and medicines as well as craft and construction materials by many First Nations. In eastern Canada, Balsam Fir bark has been used to make a beverage (Speck and Dexter 1951, Lacey 1977). This species has a wide range of traditional medical uses. The buds, cones and inner bark were used to treat diarrhoea (Chandler *et al.* 1979). The cones were also used to treat colic (Wallis 1922, Chandler *et al.* 1979), while the buds were used as a laxative (Chandler *et al.* 1979). The bark was used for gonorrhoea (Chandler *et al.* 1979). The gum was used as a burn dressing and to treat bruises, sores, wounds and fractures (Chandler *et al.* 1979, Speck 1917). It was also used as a cold remedy (Chandler *et al.* 1979). Balsam fir was also used to prevent colds and influenza, with tea from cones and tops used to relieve colic, asthma and tuberculosis symptoms (Lacey 1993). The sap was used to treat stomach ulcers and as a healing antiseptic for cuts and sores (Lacey 1993). Balsam fir wood has been used for kindling and fuel, while the evergreen boughs were used to make beds (Speck and Dexter 1951, Unama'ki Institute of Natural Resources, 2012).

Beaked Hazelnut / Malipqwanj / *Corylus cornuta* is a small tree belonging to the Betulaceae (Birch) family that occurs in dry and open woods, sometimes in climax forests, scattered along roadside thickets, along edges of fields and along margins of woods. It produces edible nuts which have been consumed by Mi'kmaq in NS (Speck and Dexter 1951, 1952, Stoddard 1962). The root has also been used as a cough medicine (Chandler *et al.* 1979) and the twigs have been used in basketry (Wallis and Wallis 1955).

Birch / *Betula* sp. Birch trees are deciduous members of the Betulaceae family which occur in a variety of habitats. Birch bark is used to make torches for night fishing or to make trumpets for calling game. The bark can also be used to construct containers, boxes, and cups. Bark sheets are used in wigwam construction (Speck and Dexter 1951, Wallis and Wallis 1955, Nova Scotia Museum factsheet, ND). See also Paper, Grey, and Yellow Birch.

Black Spruce or Bog Spruce / Kawatkw / *Picea mariana* is an evergreen tree in the Pine family. It grows mostly in bogs, swamps and poorly drained areas. The bark of black spruce was used to make a beverage or medicinal tea by the Micmac of the Maritimes (Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977). The bark is chewed to treat laryngitis (Lacey 1993) and as a cough remedy (Wallis 1922). Black spruce wood is used for kindling and fuel, and the boughs were traditionally used to make beds (Speck and Dexter 1951). The roots are used as sewing material for canoe birch bark products (Speck and Dexter 1951). Unspecified spruce species have also been used as a source of poles for wigwam construction, and roots for sewing twine (Nova Scotia Museum factsheet, ND, Wallis and Wallis 1955).

Boneset / *Eupatorium perfoliatum* is a tall perennial herbaceous plant in the Aster (Asteraceae) family, which grows in wet shores, meadows, the edge of swamps and bogs, along ditches and streams. Traditionally it has been used to treat stomach ulcers, colds and to provide relief from arthritic pain (Lacey 1993). It has also been reported to be used to treat kidney trouble, gonorrhoea, and spitting blood (Chandler et al.1979).

Bristly Dewberry or Swamp Dewberry / *Rubus hispida* is a bramble in the Rosaceae or Rose family. It grows mostly in peat bogs, but often occurs on roadsides, damp hollows and barrens. Roots of this species are used to treat fever, cough and consumption (Chandler *et al.* (1979). The fruits of various other unspecified *Rubus* species have also been used as a food source by Mi'kmaq people of Nova Scotia (Speck and Dexter 1951, 1952).

Broadleaf Cattail / *Typha latifolia* is an herbaceous plant belonging to the Typhaceae or cattail family. It occurs in Swamps, ponds, and ditches in estuaries above the salt water, occasionally in floating bogs. It has been used as dermatological aid to relieve sores (Chandler *et al.* 1979). Unspecified cattail species have also been widely used for weaving bags and mats (Nova Scotia Museum factsheet, ND).

Bunchberry / *Cornus canadensis* is a small woody shrub which is part of the Dogwood family. It grows in forested areas. A tea brewed with leaves of this species was used to treat bedwetting and kidney ailments (Lacey 1977). The berries, roots and leaves were thought to have anticonvulsant properties and were used to treat seizures (Chandler *et al.* 1979). The plant was also used to treat stomach problems and leaves were applied to wounds to stop bleeding and promote healing (Lacey 1993).

Christmas Fern / *Polystichum acrostichoides* is an evergreen fern belonging to the Dryopteridaceae or wood fern family. It grows in moist woods, cool ravines, wooded banks and thickets. Roots of this plant have been used as a throat aid to treat hoarseness (Chandler *et al.* 1979).

Common Blackberry / Ajioqjomiqaqi / *Rubus allegheniensis* is a bramble in the Rosaceae or Rose family. It grows in sandy ground, old fields, open woodlands, and clearings. Berries of many bramble species were eaten fresh or preserved. Blackberry fruit can be used to treat diarrhoea, and a tea made from runners was used as stomach medicine (Lacey 1993). A tea brewed from leaves and berries was also used to treat sores in mouth and throat (Lacey 1993). The fruits of various other unspecified *Rubus* species have also been used as a food source by Mi'kmaq people of Nova Scotia (Speck and Dexter 1951, 1952).

Common Chokecherry / Luimanaqaqi / *Prunus virginiana* is a small tree in the Rosaceae (Rose) family. It occurs along roadsides, fencerows, edges of intervals, and the edges of woods. Bark of this species can

be used to treat diarrhoea and bleeding lungs (Chandler *et al.* 1979). Twigs and barks from unspecified *Prunus* species have also been boiled to make a tea (Lacey 1993).

Common Dandelion / *Taraxacum officinale* is an introduced species belonging to the Asteraceae or Aster family which is an aggressive weed in lawns, pastures, and cultivated soil. The young leaves may be eaten raw or cooked (Rousseau 1945, Speck and Dexter 1951, 1952).

Common Plantain / Wijikanipkl / *Plantago major* is an introduced plant species belonging to the Plantaginaceae or plantain family, which is widely used as an edible and medicinal herb. A colonizing species, it grows in disturbed areas. It is used to draw out poison from wounds and sores, and to treat stomach ulcers (Lacey 1993).

Common Wild Rose / Jikjawiknejewimusi'l / *Rosa virginiana* is a thorny shrub belonging to the Rosaceae (Rose) family. It occurs in old pastures, thickets, dykelands, and around the heads of salt marshes. It produces large persistent fruits (rose hips) which have provided a food source for many First Nations people (MacKinnon *et al.* 2009, Unama'ki Institute of Natural Resources, 2012).

Creeping Snowberry / *Gaultheria hispidula* is a small woodland plant with waxy leaves and small red berries. It is a member of the Ericaceae or Heath family and grows on mossy woodland knolls, barrens, and mature bogs, usually in partial shade. It has been reported that that species had medicinal properties, however the use was not specified (Speck 1917).

Curly Dock / *Rumex crispus* is a perennial herbaceous flowering plant belonging to the Polygonaceae (knotweed) family. Not native to North America, it is now commonly found in waste places, on cultivated ground, along roadsides and around dwellings. An infusion of curly dock roots has been used by Mi'kmaq in eastern Canada as a purgative (Mechling 1959).

Eastern Hemlock / *Tsuga canadensis* is a large coniferous tree belonging to the Pinaceae or Pine family. It occurs mostly on northern slopes or ravines. This species has many medicinal uses. The inner bark was grated and eaten by the Mi'kmaq and the bark was also used as a beverage and medicinal tea (Speck and Dexter 1951, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977). A tea made from the bark and stems is used to treat colds and influenza (Lacey 1993, Chandler *et al.* 1979, Wallis 1922), while the inner bark is used for diarrhea and to treat scurvy and chapped skin (Chandler *et al.* 1979). The bark was also used to treat bowel and internal troubles (Wallis 1922, Chandler *et al.* 1979) and to treat cough and grippe (Wallis 1922, Chandler *et al.* 1979). Roots and stems were used to treat kidney ailments (Chandler *et al.* 1979). Hemlock bark is also used to make a dye, while the wood is used for kindling and fuel (Speck and Dexter 1951).

Eastern Larch or Tamarack / Hackmatack or Apu'tam'kie'jit / *Larix laricina* is one of the few coniferous trees which are actually deciduous. A member of the Pinaceae or Pine family this species is very common in NS and is found in bogs and wet depressions in forests. Larch Wood used for kindling and fuel (Speck and Dexter 1951). Bark from larch was used to treat "suppurating wounds" and colds (Chandler *et al.* 1979). A tea made from the boughs was used to treat sores and swelling (Speck 1917), while the bark was used as a stimulant to treat physical weakness (Chandler *et al.* 1979). A tea brewed from larch bark and twigs used to treat colds and influenza, while the bark was used externally to treat festering wounds (Lacey 1993) and in the treatment of consumption and gonorrhoea (Chandler *et al.* 1979). Larch wood was also used for kindling and fuel (Speck and Dexter 1951).

Eastern White Pine / *Pinus strobus* is a large evergreen coniferous tree belonging to the Pine family (Pinaceae). It grows in bogs, swamps and poorly drained areas. Mi'kmaq people of NS brewed a beverage from pine bark (Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977, while the inner bark was grated and eaten (Speck and Dexter 1951). A tea brewed from bark, needles and twigs of white pine is used to treat colds and kidney problems (Chandler *et al.* 1979, Lacey 1993), as well as to treat coughs (Chandler *et al.* 1979). The bark is also used to treat wounds, while the sap is used to treat hemorrhaging (Chandler *et al.* 1979). The inner bark may be boiled and used to treat sores and swellings (Speck 1917). The bark, leaves and stems can be used for grippe (Chandler *et al.* 1979), while the inner bark, bark and leaves used for scurvy (Chandler *et al.* 1979). White pine wood is used for kindling and fuel (Speck and Dexter 1951).

European Yarrow / *Achillea millefolium* is an herbaceous flowering plant in the family Asteraceae. It is found growing in disturbed areas such as old fields, meadows, roadsides and sandy shores, and usually in acidic soils. A tea from the plant may be used to treat fevers. It has been used to treat colds (Chandler *et al.* 1979), with (Wallis 1922) stating that a decoction of plant was taken with milk to cause a sweat to treat colds. The dried, powdered bark or green leaves could be used for swelling, bruises and sprains (Lacey 1993, Wallis 1922, Chandler *et al.* 1979).

Field Mint / Plamwipkl / *Mentha arvensis* is an herbaceous plant belonging to the Mint family. It grows in rich damp soil. It is traditionally used to treat upset stomach and croup in children (Chandler *et al.* 1979).

Foxberry or Mountain Cranberry or Lingonberry / Poqomannaqsiis / *Vaccinium vitis-idaea* is a low-growing woody vine belonging to Ericaceae or heath family. It grows in cooler regions, such as exposed, coastal headlands and barrens. Berries can be eaten fresh or preserved.

Goldthread / Wisawtaqji'jkl / *Coptis trifolia* is a small perennial plant in the Ranunculaceae (Buttercup) family. It grows primarily in coniferous forests, swamps, hummocks on bogs, and along roadside banks. It is traditionally used to promote appetite as well as to treat sore or chapped lips and mouth ulcers (Lacey 1993).

Grey Birch / *Betula populifolia* Inner bark is used for infected cuts (Chandler *et al.* 1979). The bark of unspecified species of birch has also been reported to be used to make torches for night fishing, trumpets for calling game. containers, boxes, and cups. Bark sheets are also used in wigwam construction (Speck and Dexter 1951, Wallis and Wallis 1955, Nova Scotia Museum factsheet, ND).

Heartleaf Willow / Cottony Willow / *Salix eriocephala* is a shrub belonging to the Salicaceae (Willow) family. It occurs mostly on riverbanks and out on gravel bars, and in bottomlands, but also occurs elsewhere. Bark from this species is traditionally used as a cold remedy and to stimulate the appetite. The bark was also used to treat blisters (Chandler *et al.* 1979). Leaves of unspecified Willow species have also been used as tobacco (Speck and Dexter 1951).

Indian Cucumber Root / Eskitmukewey / *Medeola virginiana* is a small herbaceous woodland plant which belongs to the Liliaceae or Lily family. It occurs in open deciduous woods, usually scattered on well-drained slopes. It produces a tuber that smells and tastes like garden cucumber and was significant to Mi'kmaq in Nova Scotia (Unama'ki Institute of Natural Resources, 2012).

Jewelweed or Spotted Touch-me-not / *Impatiens capensis* is a herbaceous plant which belongs to the Balsaminaceae or balsam family. It grows in damp rich soils in wooded areas. Parts of this plant have been used to treat jaundice (Chandler *et al.* 1979).

Labrador Tea / Apuistekie'ji'jit/ *Rhododendron (syn. Ledum) groenlandicum* is a low-growing woody shrub belonging to the Ericaceae or Heath family. It grows in bogs, wooded swamps, wet barrens, and poorly-drained clearings and pastures. The leaves, and sometimes the whole leafy twigs and flowers, of this species were used, fresh or dried, for tea (Speck 1917, Speck and Dexter 1951, 1952, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977, Chandler *et al.* 1979). Leaves were used for the common cold (Chandler *et al.* 1979); a decoction of leaves taken as a diuretic (Speck 1917) and as a treatment for scurvy (Chandler *et al.* 1979). They could also be used for kidney trouble; to make a beverage (Chandler *et al.* 1979) and to treat asthma (Chandler *et al.* 1979). A leaf tonic treated a variety of kidney ailments (Lacey 1993) and was considered to have a "beneficial effect on the system" (Speck 1917).

Lambkill / *Kalmia angustifolia* is a low shrub which belongs to the Ericaceae or Heath family. Snuff made from roasted leaves of this plant was used by Mi'kmaq to treat colds (Black 1980). Parts of this plant were also used to treat pain (Wallis 1922, Chandler *et al.* 1979), with a poultice of crushed leaves bound to head for headache (Speck 1917). This plant was also used for swellings, and sprains (Chandler *et al.* 1979). An infusion of leaves was also considered valuable as a "non-specific remedy" (Speck 1917). It was also boiled and used as bathing solution to reduce swelling, ease pain of rheumatism and treat sore legs and feet (Lacey 1993). Lambkill wood was also used to treat kidney trouble (Chandler *et al.* 1979). Overall, this plant is considered very poisonous (Speck 1917, MacKinnon *et al.* 2009), as suggested by the common English common name of "lambkill".

Large-fruited Cranberry / *Vaccinium macrocarpon* is a low-growing woody vine belonging to the Ericaceae or heath family. It occurs primarily in bogs. Cranberries can be eaten fresh (Waugh 1916, Speck and Dexter 1951, 1952, Stoddard 1962, Black 1980), and the stewed berries make a general tonic (Lacey 1993).

Low Bush Blueberry / Pkumanaqsi / *Vaccinium angustifolium* is a low growing woody shrub belonging to the Ericaceae or heath family. It is found on headlands, peaty barrens, fields, dry soils, and sandy areas. Many species of *Vaccinium* produce berries which can be used fresh or dried. The Mi'kmaq also made juice from blueberries and bilberries for drinking, but most reports do not state which species were involved (Speck and Dexter 1951, 1952, Adney 1944, Lacey 1977).

Maple / *Acer spp.* are deciduous trees belonging to the Maple family (Aceraceae), and occur in various habitats. Unspecified maple wood is used to make pins for securing clothing (Wallis and Wallis 1964). See also Red, Striped, and Sugar Maple.

Narrow-leaved Cattail / *Typha angustifolia* is an herbaceous plant belonging to the Typhaceae or cattail family. It occurs in brackish swales near the coast, inland swamps, ditches, and along streams. It has been used to treat 'gravel' (kidney stones) (Chandler *et al.* 1979). Unspecified cattail species have also been widely used for weaving bags and mats (Nova Scotia Museum factsheet, ND).

Northern Bayberry / Kljimanaqsi / *Morella (syn. Myrica) pensylvanica* is a small shrub belonging to the Ericaceae or Heath family. It occurs in coastal areas, on headlands and beaches, but is occasionally found in bogs and on heavier soils. Snuff made from this plant has been used to treat headache while a

root poultice has been used to treat inflammation (Wallis (1922)). A tea made from the berries, bark, and leaves of this species has also been used as an exhilarant (Wallis (1922)).

Northern Red Oak / *Quercus rubra* is a tree belonging to the Fagaceae or Beech family. It grows preferentially in light or well-drained soils and granitic areas. The bark and roots of northern red oak have been used by Mi'kmaq to treat diarrhoea (Chandler *et al.* 1979).

Panicled Bulrush / *Scirpus microcarpus* is a member of the Cyperaceae or sedge family which occurs in swamps, meadows, and along ditches and streams, especially where there is freshwater seepage. Roots have been used to treat abscesses while the herbaceous portion may be used to treat sore throats (Chandler *et al.* 1979).

Partridge Berry / *Mitchella repens* is a small woodland plant which produces red berries, and belongs to the Rubiaceae or Madder family. It is a low-growing groundcover which grows in moist places in forests. Mi'kmaq in Nova Scotia eat partridge berries fresh or preserved, and use parts of this plant to brew a tea (Speck 1917, Speck and Dexter 1951, 1952). It was also used in the late stages of pregnancy to ease the pain of childbirth (Lacey 1993).

Pearly Everlasting / *Anaphalis margaritacea* is a flowering perennial plant in the Asteraceae family. Though native to Europe, it is now widespread in North America and is found in pastures, old fields, roadsides, and near borders of woods. This plant is smoked by Mi'kmaq for spiritual purposes (Lacey 1993).

Pin Cherry / Maskwe'smanaqsi/ *Prunus pennsylvanicus* is a small tree in the Rosaceae (Rose) family. It occurs in clearings, thickets, and the edges of fields on light soils. Wood from this species is used to treat chafed skin and prickly heat (Chandler *et al.* 1979, Unama'ki Institute of Natural Resources, 2012). Twigs and barks from unspecified *Prunus* species have also been boiled to make a tea (Lacey 1993).

Pink Lady's-slipper / Moccasin Flower / *Cypripedium acaule* is a woodland orchid which is common in coniferous woods. The root of this plant has been used as a sedative to treat nervousness (Chandler *et al.* 1979).

Pussy Willow / Lmu'ji'jmnaqsi / *Salix discolor* is a multi-trunked shrub belonging to the Salicaceae (Willow) family. It occurs mostly on low ground, in wet pastures, in damp, open woods, and along the edges of swamps. Pussy willow bark has been used externally to treat bruises and skin cancer, while a tea brewed from this bark is also used to treat colds and kidney ailments (Lacey 1993).

Queen Anne's Lace / Wild Carrot / *Daucus carota* is a flowering perennial member of the Asteraceae family, which grows in hayfields and along roadsides. The leaves have been used as a purgative (Chandler *et al.* 1979, Wallis 1922). The bark and leaves have also been used to treat festers and wounds (Chandler *et al.* 1979). Dried, powdered bark or green leaves rubbed over bruises (Wallis 1922), and the gum was used for bruises, sores and wounds (Chandler *et al.* 1979).

Red Elderberry / Pukulu'skwimanaqsi'l / *Sambucus racemosa* is a small shrub belonging to the Adoxaceae family. It grows in meadows, wet places, rocky hillsides, and along streams in rich soils. The juicy, tart berries were eaten fresh or dried for winter storage (Speck and Dexter 1951, 1952), while the bark was used for emetic and cathartic purposes (Lacey 1993, Chandler *et al.* 1979).

Red Maple / *Acer rubrum* is a small member of the Maple family which occurs in swamps, alluvial soils, and moist uplands. Traditionally this species has been used to make basketware (Speck and Dexter 1951).

Red Osier Dogwood / *Cornus sericea ssp. sericea* is a small shrub which is a member of the Dogwood family. It occurs along edges of intervals, brook sides, wet meadows, and ditches along roadsides, and is most common in rich, alkaline soils. This species is thought to have analgesic properties and may be used to treat headache and sore eyes (Chandler *et al.* 1979). It was also used to treat runny nose and sore throat (Chandler *et al.* 1979).

Red Raspberry / Klitawmanaqsi'k / *Rubus idaeus* is a bramble in the Rosaceae or Rose family. It grows mostly on roadsides, deforested land, talus slopes, and rocky ground. Mi'kmaq in NS use the berries fresh or dried (Speck and Dexter 1951, 1952) and also make juice from the berries (Stoddard 1962). The leaves and roots of this plant can be used to treat rheumatism and the berries are considered a good general tonic (Lacey 1993). The fruits of various other unspecified *Rubus* species have also been used as a food source by Mi'kmaq people of Nova Scotia (Speck and Dexter 1951, 1952).

Shining Willow / *Salix lucida* is a shrub belonging to the Salicaceae (Willow) family. It occurs along large streams and lakes, on sand bars, and occasionally in wet ground or ditches. Bark from this species is traditionally used to stop bleeding (Wallis 1922, Chandler *et al.* 1979), and as a respiratory aid for asthma (Chandler *et al.* 1979). Leaves of unspecified willow species have also been used as tobacco (Speck and Dexter 1951).

Skunk Currant / *Ribes glandulosum* is a small species of flowering shrub belonging to the Grossulariaceae family. It grows in damp rich forested areas and produces edible berries. Its fruit may have been used by Mi'kmaq in NS, as Speck and Dexter (1951, 1952) state that Mi'kmaq in NS used unspecified species of currants as a food source.

Smooth Serviceberry / Klmuejmnaqsi / *Amelanchier laevis* is a shrub belonging to the Rosaceae or Rose family. It occurs in hedgerows and the borders of woods. It has been widely used by First Nations people throughout Canada and is considered to be significant by the Mi'kmaq of Nova Scotia (MacKinnon *et al.* 2009, Unama'ki Institute of Natural Resources 2012).

Speckled Alder / Tupsi / *Alnus incana* is a small tree or shrub belonging to the Betulaceae (Birch) family which occurs on low ground in alluvial soils. The bark of this species is reported to have been used to treat mouth ulcers and to relieve pain (Chandler *et al.* 1979). Bark of unspecified Alder species have also been used to treat bleeding, haemorrhage of lungs, fever, fractures, diphtheria, wounds (Chandler *et al.* 1979). Alder bark can be used to make a dye (Speck and Dexter 1951).

Striped Maple, Mountain Maple, or Moosewood / Mimkutaqo'q / *Acer pensylvanicum* is a small member of the Maple family found in rocky woods, rich deciduous forests, on wooded slopes and along streams. Its bark has been used for tea (Speck and Dexter 1951, 1952, Lacey 1977, Wallis and Wallis 1955). Wood from this maple has been used to treat spitting blood and unspecified plant parts may be used for "trouble with the limbs" (Chandler *et al.* 1979). The saplings of this species were used in shelter construction (Nova Scotia Museum factsheet, ND).

Sugar maple / Snawey / *Acer saccharum* occurs on well-drained soils. It can be used to make bows and arrows (Speck and Dexter 1951).

Tall Buttercup / *Ranunculus acris* is a small herbaceous plant belonging to the Ranunculaceae or Buttercup family. It grows in fields, meadows, and roadsides, mainly in heavy or moist soil. Mi'kmaq in NS have used leaves of this plant as an analgesic to treat headaches (Chandler *et al.* 1979).

Trembling Aspen / *Populus tremuloides* is a deciduous tree in the Poplar family. It grows in damp soils. Bark of this species has been used as a cold remedy, and also to simulate the appetite (Chandler *et al.* 1979).

Virginia and Woodland Strawberries / Atuomkminaqsi / *Fragaria virginiana* and *F. vesca* are small herbaceous species that grow in old fields and roadsides. Berries of these species were used fresh or preserved, or made into beverages (Speck and Dexter 1951, 1952, Adney 1944, Rousseau 1945). Unspecified parts of this plant have been used to treat irregular menstruation (Chandler *et al.* 1979).

White Ash / *Fraxinus americana* is a tree within the Oleaceae family. It occurs in interval forests, low ground, and open woods. The leaves of this species were used for cleansing after childbirth (Chandler *et al.* 1979). Wood was used to make axe and knife handles (Speck and Dexter 1951).

White Birch or Paper Birch / Maskwi / *Betula papyrifera* is found in forests, especially on slopes. Paper birch bark has traditionally been used in making baskets, dishes, cooking utensils, boxes, coffins and other containers. Bark used to make canoes and house coverings (Speck and Dexter 1951, Speck and Dexter 1951, Rousseau 1948).

White Spruce or Cat Spruce / Kwatkw / *Picea glauca* is an evergreen tree in the Pinaceae (Pine) family. It grows mostly in old fields and along the coast. The bark of this species can be used for a variety of purposes. It has been used to make a beverage and various medicines (Speck and Dexter 1951, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977, Lacey 1993). A preparation of the bark is used as a cough remedy, and as a salve for cuts and wounds (Chandler *et al.* 1979). The gum may be used to treat scabs and sores (Chandler *et al.* 1979). Unspecified parts of this plant may also be used to treat stomach trouble (Chandler *et al.* 1979). The bark leaves and stems are also used to treat scurvy (Chandler *et al.* 1979). White spruce wood is used for kindling and fuel, and the boughs were traditionally used to make beds (Speck and Dexter (1951). Unspecified spruce species have also been used as a source of poles for wigwam construction, and roots for sewing twine (Nova Scotia Museum factsheet, ND, Wallis and Wallis 1955).

Wild Sarsaparilla / Wopapa'kjukal / *Aralia nudicaulis* is a perennial herbaceous plant with large compound leaves which occurs mostly in dry woodlands and old forest. Its rhizomes have been used to make a beverage (Speck and Dexter 1951, MacKinnon *et al.* 2009), and the root may be used to make a cough medicine (Chandler *et al.* 1979, Lacey 1993). It may also be used externally to treat wounds (Lacey 1993).

Wintergreen, Teaberry, or Checkerberry / *Gaultheria procumbens* is a small perennial plant which occurs in woods, barrens, pastures. It is a member of the Ericaceae or Heath family. Mi'kmaq were said to make juice from the berries (Stoddard 1962, Rousseau 1947, Speck and Dexter 1952, Lacey 1977), which were also eaten fresh. The bark was used to treat bleeding (Chandler *et al.* 1979). It was used as a preventative medicine for heart attacks and used by someone recuperating from a heart attack, and tea from plant was used to thin and regulate the blood to prevent blood clots (Lacey 1993).

Yellow Birch / *Betula allegheniensis* is a deciduous tree in the Birch family. Traditionally, First Nations people in eastern Canada have consumed the sap of this tree, rendered it into syrup and sugar, and made tea from the wintergreen-flavoured twigs (Waugh 1916, Stoddard 1962, Lacey 1977). Bark is also chewed for nourishment (Lacey 1993). Bark of this tree has been used to treat rheumatism as well as relieve indigestion, diarrhoea and stomach cramps (Lacey 1977). The wood has been used as a hot-water bottle (Chandler *et al.* 1979), and thin branches have been used as straps and thongs (Wallis and Wallis 1960).

4.3 Results of Wildlife Survey and Habitat Modeling Exercise

The AMEC field survey revealed the presence of several known plant species of importance and known historical use to Mi'kmaq harvesters. Furthermore, by combining a review of known wildlife habitat preferences and the results of the habitat surveys, a determination of wildlife species potentially using the Project Site was made. These are outlined in Table 4.4.

5.0 People

5.1 *Interviews and Meetings with Local Residents*

AMEC conducted roundtable discussions in Pictou Landing on November 5th 2013 to discuss current Mi'kmaq uses of the areas encompassing the three Project Sites. This workshop was held in a common space in a local church. Invitations were sent to key informants selected by Chief Andrea Francis. These invitations were aimed primarily at local elders and other knowledge holders.

AMEC provided an introduction to the meeting explaining that the purpose of the roundtable session was to discuss Mi'kmaq knowledge and interest (both current and historical uses) of the three Project Sites. It was specifically noted that the MEKS is about the *location*, and not about the *project* proposed for the site.

During the meeting, large maps and aerial photographs of the Project Sites and surrounding areas were laid out on tables to provide participants with the location and context of the Sites. Information on hunting and harvesting areas was marked directly on the maps, and only data which was not attributable to individuals was recorded. This was done in order to protect respondent's identities and protect their traditional knowledge. None of the information which was gathered was associated with any one respondent's identity.

The workshop included a meal so that participants could enjoy a meal together while discussing the Project Sites. The shared meal, which was catered by a Pictou Landing band member, facilitated open and relaxed discussions about the proposed Project Sites.

A total of 14 band council members and elders attended the workshop. Participants were not paid an honorarium, since the payment of fees for interviews could be considered as a form of coercion under the principles of free, prior and informed consent, as described by the United Nations Permanent Forum on Indigenous Issues.

The workshop revealed that the areas are not targets for harvesting, for two main reasons. Firstly, decreases in resource abundance have led to decreased hunting and harvesting in the general Project areas. Secondly, the sites are considered to be too close to the Trans Canada Highway to provide good hunting. Preferred hunting areas for large game were near Cheticamp and near Alton. There was no mention of small game hunting or gathering in the vicinity of the Project sites.

Considerable discussion was held on the state of band-owned lands which are not in close proximity to the Project site. Concerns were also expressed about potential impacts of the wind developments on local birds and wildlife.

Table 5-1: Traditional Mi'kmaq Wildlife Resources Potentially Utilizing Habitats on the Greenfield, Kemptown and Limerock Sites.

Common Name	Mi'kmaq Name	Habitat ¹	Uses	Greenfield Habitat Type						Kemptown Habitat Type					Limerock Habitat Type			
				Agricultural Field	Coniferous Forest	Mixed wood forest	Wetland	Disturbed Area	Regenerating Clearcut.	Mixed wood	Regenerating clearcut	Coniferous woods	Wetland	Disturbed Area	Coniferous woods	Deciduous Woods	Mixed Woods	Disturbed Areas
MAMMALS																		
Moose ²	Team', tia'm	Forested areas, wetlands	Food and pelts			x	x				x			x				
White-Tailed Deer	Lüntook', lentug	Edges of forested areas, thickets	Food	x	x	x			x		x	x				x	x	
Black Bear	Mooin	Forested areas	Food, spiritual		x	x			x		x	x			x	x		
Hare	Able'gūmocch	Forested areas	Food		x	x			x		x	x			x	x		
Porcupine	Nābegök, matues	Forested areas	Food, cultural industry		x	x					x		x		x	x		
Beaver	Kobet, gopit	Water bodies and wetlands adjacent to forested areas	Food and pelts															
Groundhog/Woodchuck	Mulumgwej	Fields, open areas adjacent to forests	Food and pelts	x											x		x	
Caribou		No longer present in NS	Food and pelts															
Mink	Jiagewj	Coasts	Pelts				x											
Otter	Giwnig	Rivers and lakes, coasts	Food and pelts															
Muskrat		Freshwater ponds, wetlands	Skins				x											
Red Squirrel		Forested areas	Food		x	x			x		x	x		x	x	x	x	
Eastern Coyote		Forested areas	Pelts (recent arrival in NS)		x	x		x		x	x	x		x	x	x	x	
Bobcat					x	x				x		x		x	x	x		
Red Fox					x	x		x		x	x	x		x	x	x		
Raccoon					x	x				x	x	x		x	x	x		
BIRDS																		
Ruffed Grouse					x	x									x	x	x	
Great Horned Owl					x	x										x	x	
Barred Owl					x	x										x	x	

² While moose have historically been present, the current abundance has led them to be declared Endangered on the mainland. Moose have not been observed in the Project area for several years.

6.0 Conclusions

The purpose of this MEK study is to understand the relationships between the local Mi'kmaq communities and the lands upon which they have and continue to depend. These relationships are cultural, historical and ecological in nature and provide important understanding of the lands and resources in and near the Project site.

The MEKS does not constitute consultation and the information has been collected without prejudice to Mi'kmaq Rights and Title. Names of persons involved with the study have been withheld to protect their identity and to ensure individual knowledge, which is the intellectual property of the individual, is protected.

The study demonstrated that there has been a considerable shift in Mi'kmaq use of the lands in and near the project site. Historical records and anthropological research has illustrated the widespread use of the lands for sustenance, and economic well being of individuals, families and communities over many centuries. However, since centralization and the assimilation into a market economy there has been less emphasis on harvesting for food and an increase in recreational harvesting. Urbanization and changes in land-use have also focused harvesting activities on areas remote to the Pictou Landing First Nation where game resources are of greater abundance (Cape Breton Highlands and Alton).

The information compiled for the MEKS substantiates that there has been, and continues to be a traditional relationship with, and attachment to the region near the Limerock, Kempton and Greenfield wind project sites, despite the fact that there has been a shift in the nature of activities occurring on these lands. This region holds historical significance to the Mi'kmaq nation and continues to hold cultural importance to the people of Pictou Landing.

Information on the environment (Place) compiled for the MEKS was analyzed in context with the findings from the People at the community round table workshop. It was through open discussion with Mi'kmaq community members that a more complete understanding of the traditional knowledge can be achieved. This understanding can be of use for decision-making and planning related to the construction and operation of the proposed wind projects.

Even though the project sites have not been the focus of hunting and gathering activities in recent years, continued developments in primary hunting areas may result in greater attention being placed on areas in and near the project sites. This can be a significant change in the socio-economic relationship between the Project and the Mi'kmaq. As such, it is recommended that the Project Proponents continue to develop a working relationship with the First Nations and provide information to local First Nation Communities about the projects.

7.0 Literature Cited

- Adney, E. T. (1944). The Malecite Indians' names for native berries and their meanings. *Acadian Naturalist* 1 (3): 103-110.
- Anaya, J. (1996) *Indigenous People in International Law*, Oxford University Press
- Arnason, T., R. J. Hebda, and T. Johns (1981). Use of plants for food and medicine by Native Peoples of eastern Canada. *Can. J. Botany* 59 (11):2189-2325.
- Banfield, A. W. F. (1977). *The Mammals of Canada*. 2nd printing. University of Toronto Press. Toronto, Ontario. 438 pp.
- Benoît, A. R. (2007). *Aboriginal harvest of waterfowl in the Maritimes*. Technical Report Series No. 488. Canadian Wildlife Service, Atlantic Region
- Black, M. J. (1980). *Algonquin Ethnobotany: An Interpretation of Aboriginal Adaptation in Southwestern Quebec*. National Museum of Man. Mercury Series. National Museums of Canada. No. 65, Ottawa.
- Chandler, R. F., L. Freeman and S. N. Hooper (1979). Herbal Remedies of the Maritime Indians. *Journal of Ethnopharmacology* 1:49-68 (p. 53)
- Chute, J.E. (1999). Frank G. Speck's Contributions to the Understanding of Mi'kmaq Land Use, Leadership, and Land Management *Ethnohistory* 46:3
- Davis, D.S. and Browne, S., (Eds). (1996). *The Natural History of Nova Scotia*. Nova Scotia Museum. Nimbus Publishing, Nova Scotia, Canada. 2 vols.
- DeBlois, A. (1997) *Micmac Dictionary*. Canadian Museum of Civilization. Trade Paperback.
- Farnsworth N.R, Soejarto, D.D., 1991 "Global Importance of Medicinal Plants", in *Conservation of Medicinal Plants: Proceedings of an International Consultation 21-27 March 1988, Chiang Mai, Thailand*. O. Akerele and V. H. Heywood eds. Cambridge University Press.
- Folke, C. (2004). Traditional knowledge in social–ecological systems. *Ecology and Society* 9(3): 7
- Hinds, H. (2000). *Flora of New Brunswick (2nd Edition)*. Biology Department, University of New Brunswick. 695 pp.
- Hoffman, B. G. (1955). *The Historical Ethnography of the Micmac of the Sixteenth and Seventeenth Centuries*. Ph.D. dissertation, University of California, Berkeley. 836 pp.
- <http://www.danielnpaul.com/Map-Mi'kmaqTerritory.html>. Accessed March 2013.

- Johannes, R.E. (1993). Integrating traditional ecological knowledge and management with environmental impact assessment. In. *Traditional Ecological Knowledge: Concepts and Cases* (ed. J.T. Inglis), international Development Research Centre, Ottawa
- Lacey, L. (1993). *MicMac Medicines Remedies and Recollections*. Nimbus Publishing. Nova Scotia, Canada
- Lacey, L. (1977). *Micmac Indian Medicine: a Traditional Way of Health*. Formac, Antigonish, N. S.
- Leonard, K. J.M. (1996). *Mi'kmaq Culture During the Late Woodland and Early Historic Periods*. PhD. Dissertation. University of Ottawa.
- Lockerby, E. (2004). Ancient Mi'kmaq Customs: A Shaman's Revelations. *Canadian Journal of Native Studies* XXIV, 2
- MacKinnon, A., L. Kershaw, J. Arnason, P. Owen, A. Karst, and F. Hamersley-Chambers (2009). *Edible and Medicinal Plants of Canada*. Lone Pine Publishing, 448 pp.
- Mauro, F. and P. D. Hardison (2000). Traditional Knowledge of Indigenous and Local Communities: International Debate and Policy Initiatives *Ecological Applications* 10:5
- Mechling, W. H. (1959). The Malecite Indians, with notes on the Micmacs. *Anthropologica* 8: 239-263.
- Mi'kmaq Environmental Services Ltd. (2004) *Interim Mi'kmaw Knowledge Study*. For the Bear Head LNG Terminal Project . Bear Head, NS. Prepared for Jacques Whitford Environment Limited. http://www.gov.ns.ca/nse/ea/bearHeadLNGTerminal/Appendix_J.pdf
- Mi'kmaq, Mainland Nova Scotia (2011). "Mi'kmaq and the American Eel."
- Miller, V.P. (1976). Aboriginal Micmac Population: A Review of The Evidence. *Ethnohistory* 23:2
- Nova Scotia Museum Factsheet (undated). <http://museum.gov.ns.ca/arch/infos/mikmaq1.htm>
- Orcherton, D. (2012). Raising the bar: Recognizing the intricacies of cultural ecological knowledge in natural resource management. *BC Journal of Ecosystems and Management* 12(3): 55–82.
- Persoon, G., and T. Minter (2011). *Code of Conduct for working with Indigenous and Local Communities*, Tropenbos International, Wageningen, the Netherlands. vi + 28 pp
- Prosper, K. , L. J. McMillan, A. A Davis, and M. Moffitt (2011). Returning to Netukulimk: Mi'kmaq cultural and spiritual connections with resource stewardship and self-governance. *The International Indigenous Policy Journal* 2(4)
- Rand, S. T. (1875). *A First Reading Book in the Micmac Language: Comprising The Micmac Numerals, and the Names of the Different Kinds of Beasts, Birds, Fishes, Trees, &c. of the Maritime Provinces of*

- Canada. Also some of the Indian Names of Places, and many Familiar Words and Phrases, Translated Directly into English. Nova Scotia Printing Company. Halifax, Nova Scotia
- Ritchie, M. K. Dawkins and M. Vallianatos (1996). Intellectual Property Rights and Biodiversity: The Industrialization of Natural Resources and Traditional Knowledge. *Journal of Civil Rights and Economic Development* 11(2) Article 6.
- Rousseau, J. (1948). Ethnobotanique Et Ethnozoologie Gaspésiennes. *Archives de Folklore* 3:51-64
- Rousseau, J. (1947). Ethnobotanique abenakise. *Archives de Folklore* 11:145-182.
- Rousseau, J. (1945). Le Folklore Botanique De Caughnawaga. *Contributions de l'Institut botanique l'Universite de Montreal* 55:7-74 .
- Scott, W.B. and M.G. Scott (1988). *Atlantic Fishes of Canada*. University of Toronto Press. Toronto, ON. *Canadian Bulletin of Fisheries and Aquatic Sciences* 219. 731 pp.
- Speck, F. G. (1917). Medicine practices of the Northeastern Algonquians. *Proceedings of the International Congress of Americanists* 19:303-332.
- Speck, F. G. and R. W. Dexter (1951). Utilization of animals and plants by the Micmac Indians of New Brunswick. *J. Washington Academy of Sciences* 40 (8):250-259.
- Speck, F. G. and R. W. Dexter (1952). Utilization of animals and plants by the Malecite Indians of New Brunswick. *J. Washington Academy of Sciences* 42 (1):1-7.
- Stoddard, N. B. (1962). Micmac foods. *The Journal of Education* 15:30-38.
- Thorp, D.I B. (1996). "Equals of the King: The Balance of Power in Early Acadia", *Acadiensis* XXV, 2
- Tufts, R. (1986). *Birds of Nova Scotia*. <http://museum.gov.ns.ca/mnh/nature/nsbirds/index.htm>
- Unama'ki Institute of Natural Resources (2012). *Mi'kmaq Ecological Knowledge. Distribution of Culturally Significant Plants*. Available at <http://www.uinr.ca/wp-content/uploads/2010/03/Plant-Report-WEB.pdf>
- Uprety Y, H. Asselin, A. Dhakal and N. Julien (2012). Traditional use of medicinal plants in the boreal forest of Canada: review and perspectives. *Journal of Ethnobiology and Ethnomedicine* 8:7.
- Wallis, W. D. and R. S. Wallis (1955). *The Micmac Indians of Eastern Canada*. University Minnesota Press, Minneapolis, MN.
- Wallis, W.D. (1922). Medicines Used By The Micmac Indians. *American Anthropologist* 24–30.
- Waugh, F. W. (1916). *Iroquois Foods and Food Preparation*. Canada Department of Mines Geological Survey, Memoir 86, No. 12, Anthropological Series, Government Printing Bureau, Ottawa.

Webb, K.T. and Marshall, LB. (1999). Ecoregions and ecodistricts of Nova Scotia. Crops and Livestock Research Centre, Research Branch, Agriculture and Agri-Food Canada, Truro, Nova Scotia; Indicators and Assessment Office, Environmental Quality Branch, Environment Canada, Hull, Quebec. 39 pp. and 1 map.

Yanovsky, E. (1936). Food plants of the North American Indians. United States Department of Agriculture, Miscellaneous Publication No. 237, Washington, D. C.

Zinck, M. (1998). Roland's flora of Nova Scotia. Nimbus Publishing and Nova Scotia Museum, Halifax, NS. 2 vols.

Personal Communications

Marshall, Elder Albert, Eskasoni First Nation. Personal Communication, 2013.

Meuse, Chief Frank, Bear River First Nation. Personal Communication, 2012.

Poulette, Thomas George, Postmaster, Eskasoni First Nation. Personal Communication, 1995.

Prosper, Kerry, Councilor, Paq'tnkek First Nation. Personal Communication, 2010.

Pictou Landing First Nations Workshop Participants, Personal Communication, 2013

Sable, Trudy, Gorsebrook Institute, Personal Communication, 2012.

APPENDIX A

Table A.1: Native Plant Species Traditionally Consumed by Nova Scotia Mi'kmaq

Table A.2: Native Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi'kmaq.

Table A.3: Other Useful Native Plant Species Traditionally Used by Nova Scotia Mi'kmaq.

Table A.1: Native Plant Species Traditionally Consumed by Nova Scotia Mi'kmaq

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source
Stoqn	Balsam fir	<i>Abies balsamea</i>	Various	Bark used for beverage	Speck and Dexter 1951, Lacey 1977
Mimkutaqo'q	Striped maple/ moosewood/Mountain Maple	<i>Acer pensylvanicum</i>	Rocky woods, rich deciduous forests, wooded slopes and along streams	Bark used to make tea	Speck and Dexter 1951, 1952, Lacey 1977, Wallis and Wallis 1955
Snawey	Sugar maple	<i>Acer saccharum</i>	Well-drained soils	Sap boiled into syrup, and a beverage tea was made from the bark and twigs, Used as cooking broth	Speck and Dexter 1951, Stoddard 1962
kiw'eswa'skul	Sweetflag ³	<i>Acorus americana</i>	Wet places and the borders of quiet streams. marshes, the edges of ponds and wet meadows. Coastal marshes just above high tides.	Rootstocks used to make a beverage and medicinal tea. Tubers eaten raw, or more commonly boiled or roasted	Yanovsky 1936, Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977
	Wild leek	<i>Allium tricoccum</i>	Rich deciduous forests and intervaleas	Bulbs eaten fresh and dried	Speck and Dexter 1952 Stoddard 1962
		<i>Amelanchier laevis</i>			
	Groundnut	<i>Apios americana</i>	Thickets and along rivers in alluvial soils	Groundnuts used	Speck and Dexter 1951
Wopapa'kjukal	Wild sarsaparilla	<i>Aralia nudicaulis</i>	Dry woodlands and old forests	Used to make a beverage.	Speck and Dexter 1951
Kinnickick	Bearberry	<i>Arctostaphylos uva-ursi</i>	Sandy or gravelly soils	Berries eaten	Speck and Dexter 1951, 1952
	Common milkweed	<i>Asclepias syriaca</i>	Light soils	The young shoots, stems, flower buds, immature fruits, and even the roots were boiled and eaten as a vegetable. The Mi'kmaq cooked the young pods and flowers with meat	Stoddard 1962
Nimnoqn	Yellow birch	<i>Betula alleghaniensis</i>	Various	Drank sap, rendered it into syrup and sugar, made tea from the twigs	Waugh 1916, Stoddard 1962, Lacey 1977.
	Lambsquarters, Pigweed or Goosefoot	<i>Chenopodium album and closely related species</i>	A weed of cultivated and waste ground	Leaves and plants eaten as green, edible greens and seeds. The young plants were cooked as a potherb	Speck and Dexter 1951, 1952
Wjkulje'manaqsi	Red osier dogwood/ red willow	<i>Cornus sericea ssp. sericea</i>	The edges of intervaleas, brook sides, wet meadows, and ditches along roadsides. Most common in rich, alkaline soils	Mi'kmaq people made a tea from the bark of dogwood (probably this species)	Wallis and Wallis 1955
Malipqwanj	Beaked hazelnut	<i>Corylus cornuta</i>	Dry and open woods. Sometimes in climax forests, scattered along roadside thickets, along edges of fields and along margins of woods.	Nuts used	Speck and Dexter 1951, 1952, Stoddard 1962
Kawiksa'qoaqsi	Thornapple, hawthorn	<i>Crataegus spp.</i>	Various, depending on species	Fruit used fresh and to make beverage	Rousseau 1945, Speck and Dexter 1951, 1952, Black 1980, Speck and Dexter 1951, 1952, Adney 1944
	Trout lily/ Dogtooth violet	<i>Erythronium americanum (presumably)</i>	Upland woods of beech and maple, and along the edges of intervaleas	Bulbs eaten raw, boiled, or baked in the hot ashes of a fire	Stoddard 1962
	American beech	<i>Fagus grandifolia</i>	Fertile uplands, rarely in swamps	Nuts used	Speck and Dexter 1951, 1952
Atuomkminaqsi	Virginia and Woodland Strawberries	<i>Fragaria virginiana , F. vesca</i>	Old fields and road sides	Berries used fresh or preserved, or made into beverage	Speck and Dexter 1951, 1952, Adney 1944, Rousseau 1945
	Red ash	<i>Fraxinus pennsylvanica</i>	Near lakes or ponds, or in other low-lying areas	Sap of ash was added to maple and yellow birch sap	Stoddard 1962
Ka'qaju'mannaqsi	Wintergreen, Teaberry, or Checkerberry	<i>Gaultheria procumbens</i>	Woods, barrens, pastures	Berries eaten, Mi'kmaq were said to make juice from the berries	Stoddard 1962, Speck and Dexter 1952, Lacey 1977
	Huckleberry	<i>Gaylussacia sp.</i>	Barrens and bogs	Berries eaten	Waugh 1916, Speck and Dexter 1951, 1952
	Witch-hazel	<i>Hamamelis virginiana</i>	Rocky woods or near cliffs where there is underground water	A decoction of this plant, sweetened with maple sugar, was used as a tea. Also ate the "nuts". Twigs used for beverage	Waugh 1916, Stoddard 1962, Lacey 1977
	Jerusalem artichoke	<i>Helianthus tuberosus</i>	Waste ground, intervaleas, rich soils	Tubers eaten.	Speck and Dexter 1951
	Butternut	<i>Juglans cinerea</i>	NOT IN NS	Nuts used	Speck and Dexter 1951
Kini'skweji'jik	Low bush juniper (common juniper)	<i>Juniperus communis</i>	Sandy areas, old pastures, heaths and bogs	Boughs, with or without the fruits, were used to make a beverage tea	Wallis and Wallis 1955, Lacey 1977
Alawey	Beach pea	<i>Lathyrus maritimus</i>	Coastal, along the strand line, mostly in beach gravel. Occasionally a considerable distance from shore	Pea used	Speck and Dexter 1951, 1952
Ma'susi'l	Ostrich fern	<i>Matteuccia struthiopteris</i>	Rich, moist soils, often on floodplains. Occasionally in low-lying areas and swamp borders. Often in pure stands	The young vegetative shoots, or "fiddleheads," and sometimes the entire crown, were traditionally eaten, boiled or roasted, as a spring vegetable	
Eskitmukewey	Indian Cucumber root	<i>Medeola virginiana</i>	Open deciduous woods, usually scattered on well-drained slopes.	Edible root	Unama'ki 2012, MacKinnon <i>et al.</i> 2009
	Partridge berry	<i>Mitchella repens</i>	Moist places, forest ground cover	Berries were eaten fresh or preserved. Used the plant for a beverage tea	Speck 1917, Speck and Dexter 1951, 1952,
Kawatkw	White spruce (cat spruce)	<i>Picea glauca</i>	Old fields and along the coast	Bark used for beverage and medicine	Speck and Dexter 1951, Wallis and Wallis 1955,

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source
					Stoddard 1962, Lacey 1977
Kawatkw	Black spruce (bog spruce)	<i>Picea mariana</i>	Bogs, swamps and poorly drained areas	The bark of black spruce was used to make a beverage or medicinal tea by the Mi'kmaq of the Maritimes	Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977
	Eastern white pine	<i>Pinus strobus</i>	Bogs, swamps and poorly drained areas	Bark used for beverage, Inner bark grated and eaten	Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977
Miti	Trembling aspen (poplar)	<i>Populus tremuloides</i>	Damp soils	Inner bark eaten , leaf buds and catkins high in vitamin C	Unama'ki 2012, MacKinnon <i>et al.</i> 2009
	American plum	<i>Prunus americana</i>	Does not occur in NS, suspected to be received in trade from outside region (Leonard 1996)	Fruit and beverage	Speck and Dexter 1951,1952, Leonard 1996
	Wild cherries	<i>Prunus spp.</i>	Thickets, clearings and open woods	Boiled cherry twigs and bark for tea	Stoddard 1962, Lacey 1977, Speck and Dexter 1951, 1952, Adney 1944
	Oak	<i>Quercus sp.</i>	In light or well drained soils and granitic areas	Nuts used	Speck and Dexter 1951, 1952
	Handsome harry/ meadow beauty	<i>Rhexia virginica</i>	Peaty lake margins and swales or wet thickets	Leaves were steeped to produce a sour drink	Speck 1917, Lacey 1977
	Labrador tea	<i>Rhododendron (syn. Ledum) groenlandicum</i>	Bogs, wooded swamps, wet barrens, and poorly-drained clearings and pastures	The leaves, and sometimes the whole leafy twigs and flowers, of both species were used, fresh or dried, for tea	Speck 1917, Speck and Dexter 1951,1952, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977
	Wild black currant	<i>Ribes americanum</i>	Fertile thickets and slopes	Berries eaten fresh or dried and preserved	Speck and Dexter 1951, 1952
	Wild gooseberry/ currant	<i>Ribes spp.</i>	Various, depending on species	Fruit	Speck and Dexter 1951, 1952
Ajioqjominaqsi	Canada blackberry	<i>Rubus canadensis</i>	Clearing, thickets, and the edges of woods.	Berries used fresh or preserved, made into beverage	Waugh 1916, Speck and Dexter 1951, 1952, Arnason <i>et al.</i> 1981
Klitawmanaqsi'k	Red raspberry	<i>Rubus idaeus</i>	Roadsides, deforested land, talus slopes, and rocky ground	Berries used fresh or dried, juice made from berries	Speck and Dexter 1951, 1952, Stoddard 1962
	Bramble	<i>Rubus sp.</i>	Various, depending on species	Fruit & beverage	Speck and Dexter 1951, 1952
	Curly dock	<i>Rumex crispus</i>	Waste places, cultivated ground, roadsides and around dwellings	Young leaves used as cooked vegetable	MacKinnon <i>et al.</i> 2009
Pukulu'skwimanaqsi'l	European elder	<i>Sambucus nigra</i>	Rich soil, open woods, around old fields and along brooks. On damp ground or wet floodplains	Berries were eaten fresh or dried for winter storage	Speck and Dexter 1951, 1952, Stoddard 1962
Pukulu'skwimanaqsi'l	Red elderberry	<i>Sambucus racemosa</i>	Meadows, wet places, rocky hillsides and along streams. In rich soils	The juicy, tart berries were eaten fresh or dried for winter storage	Speck and Dexter 1951, 1952
	Common dandelion	<i>Taraxacum officinale</i>	An aggressive weed in lawns, pastures, and even cultivated soil.	Young leaves eaten raw or cooked	Rousseau 1945, Speck and Dexter 1951, 1952
	Canada yew	<i>Taxus canadensis</i>	Cool damp woods, ravines, climax coniferous forest, and wooded swamps.	Twigs made into beverage	Lacey 1977
	Eastern hemlock	<i>Tsuga canadensis</i>	Lakesides and swamps or old pastures, northern slopes or ravines	The inner bark of was grated and eaten by the Mi'kmaq of the Maritimes, and the bark was also used as a beverage and medicinal tea	Speck and Dexter 1951, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977
	Blueberries, bilberries,cranberries	<i>Vaccinium spp.</i>	Various, depending on species	Berries used fresh or dried and also the Mi'kmaq made juice from blueberries and bilberries for drinking, but did not state which species were involved.	Speck and Dexter 1951, 1952, Adney 1944, Lacey 1977
	Large -fruited Cranberry	<i>Vaccinum macrocarpon</i>	Bogs	Berries eaten fresh	Waugh 1916, Speck and Dexter 1951,1952, Stoddard 1962, Black 1980
Poqomannaqsi	Foxberry (mountain cranberry)	<i>Vaccinum. vitis-idaea</i>	Cooler regions, such as exposed, coastal headlands and barrens	Berries	Unama'ki 2012, MacKinnon <i>et al.</i> 2009
Nipanmaqsi'l	Highbush cranberry	<i>Viburnum opulus</i>	Swamps and along streams	Berries used fresh or preserved	Speck and Dexter 1951, 1952
E'psemusi	American mountain ash (mountain ash)	<i>Sorbus americana</i>	Open woods and along hedgerows	Berries used fresh or preserved	Unama'ki 2012, MacKinnon <i>et al.</i> 2009
Jikjawiknejewimusi'l	Common wild rose	<i>Rosa virginiana</i>			

Table A.2: Native Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi'kmaq.

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
Stoqn	Balsam Fir	<i>Abies balsamea</i>	Various	Buds, cones and inner bark used to treat diarrhea Gum used to make dressing to treat burns Gum used as cold remedy Cones used to treat colic Gum and sap used to treat bruises, sores, and wounds Buds used as a laxative Gum used to treat fractures Inner bark boiled and used to treat sores and swelling Used to prevent colds and influenza Tea from cones and tops used to relieve colic, asthma and tuberculosis Sap used to treat stomach ulcers Bark used to treat gonorrhoea	Chandler <i>et al.</i> (1979) Wallis (1922) Lacey (1993)
Mimkutaqo'q	Striped maple/ moosewood	<i>Acer pensylvanicum</i>	Rocky woods, rich deciduous forests, wooded slopes and along streams	Wood used to treat "spitting blood" Bark used to treat colds and coughs Wood used to treat kidney trouble Bark used to treat "grippe" Unspecified plant parts used to treat "trouble with the limbs" Wood used to treat gonorrhoea	Chandler <i>et al.</i> (1979) Wallis (1922)
	Maple	<i>Acer sp.</i>	Various, depending on species	Bark used externally to treat cold and congestion, as well as swollen limbs.	Lacey (1993)
	Common Yarrow	<i>Achillea millefolium</i>	Disturbed areas, old fields, meadows, roadsides and sandy shores. Acidic soils	Tea from plant used to treat fevers. Plant pulverized and used externally on bruises, sprains and swellings Dried, powdered bark or green leaves rubbed over swellings, bruises, and sprains Herb used to treat colds Decoction of plant taken with milk to cause a sweat to treat colds	Lacey (1993) Wallis (1922) Chandler <i>et al.</i> (1979)
Kiw'eswa'skul	Sweetflag	<i>Acorus americana</i>	Wet places and the borders of quiet streams. marshes, the edges of ponds and wet meadows. Coastal marshes just above high tides. Always in open sunlight and often mixed with cattails	Root used to treat colds Root used to treat coughs Root used to treat cholera, smallpox and other epidemics Plant (root and herb) used as a panacea Root used to treat lung ailments, pneumonia and pleurisy Root was placed in water and steamed in the house to prevent illness. Root was chewed to relieve indigestion and stomach cramps Roots chewed to treat 'medicinal use'	Speck (1917) Chandler <i>et al.</i> (1979) Lacey (1993) Speck and Dexter (1951)
	Northern Maidenhair Fern	<i>Adiantum pedatum</i>	In fertile or quite alkaline soils. Under oak-birch-sugar maples-elm trees, on intervals	Herb used to treat fits and taken as an "agreeable decoction"	Chandler <i>et al.</i> (1979)
	Witch Grass	<i>Agrostis hyemalis</i>	Disturbed areas, along roadsides, lakeshores, and headlands	Used as a general tonic to tune-up the body	Lacey (1993)
Tupsi	Speckled Alder	<i>Alnus incana</i>	Low ground in alluvial soils	Bark used to treat ulcerated mouth	Chandler <i>et al.</i> (1979)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
Tupsi	Alder	<i>Alnus</i> spp.	Low ground in alluvial soils	Bark used to treat bleeding Bark used to treat hemorrhage of lungs Bark used to treat fever Bark used to treat dislocations and fractures Bark used to treat diphtheria Bark used as painkiller to treat cramps Bark used to treat retching Bark used to treat rheumatism Bark used as a physic Bark used to treat wounds Bark and leaves used to treat fevers and festers Tea from bark used to treat neuralgic pain Bark and leaves used externally to treat festering wounds	Chandler <i>et al.</i> (1979) Lacey (1993)
	Woodland Angelica	<i>Angelica sylvestris</i>	Spreading out along roadsides and in fields, An aggressive weed where found- an introduced species	Infusion of roots and spikenard roots used to treat head colds Infusion of roots and spikenard roots used to treat coughs Infusion of roots and spikenard roots used to treat sore throats	Mechling (1959) Chandler <i>et al.</i> (1979)
	Everlasting	<i>Antennaria</i> sp or <i>Anaphalis</i> sp	Pastures, old fields, roadsides, borders of woods	Smoked, used spiritually	Lacey (1993)
	Indian Hemp	<i>Apocynum cannabinum</i>	Open ground, thickets and borders of woods	Tea was used to kill and expel worms	Lacey (1993) Chandler <i>et al.</i> (1979)
Wopapa'kjukal	Wild Sarsaparilla	<i>Aralia nudicaulis</i>	Dry woodlands and old forests	Used externally to treat wounds Root can be used to treat colds, coughs, and flu	Lacey (1993) Chandler <i>et al.</i> (1979)
	American Spikenard	<i>Aralia racemos</i>	Rich or calcareous wooded slopes and deciduous forests. Usually as solitary plants	Root used to treat headaches and female pains. Root used to treat spitting blood Infusion of roots and angelica roots used to treat head colds Roots used to treat wounds Infusion of roots and angelica roots used to treat coughs Roots used to treat sore eyes Root used to treat kidney troubles Root used to treat fatigue Root used to treat consumption Tuberculosis Root used to treat gonorrhoea	Chandler <i>et al.</i> (1979) Lacey (1977) Wallis (1922) Mechling (1959)
	Lesser Burrdock	<i>Arctium minus</i>	Disturbed soils	Tea from roots were used to treat and purify blood Roots used to treat boils and abscesses	Lacey (1993) Chandler <i>et al.</i> (1979)
Kinnickick	Bearberry	<i>Arctostaphylos uva-ursi</i>	Sandy or gravelly soils	Tea from leaves and berries used as a general tonic, with antiseptic effects on the urinary passage	Lacey (1993)
	Indian turnip, Jack-in-the Pulpit	<i>Arisaema triphyllum</i>	Common in wet woods, mucky areas and in alluvial soils	Slices of the dried bulb were taken internally to treat tuberculosis and other chest complaints Dried bulb used to treat general stomach problems Parts of plant used to treat boils and abscesses Parts of plant used as a liniment used to treat external use	Lacey (1993) Lacey (1977) Chandler <i>et al.</i> (1979)
	Horse Radish	<i>Armoracia rusticana</i>	Old gardens (cultivated plant)	Tea of root used as a stomach medicine and to promote an appetite	Lacey (1993)
	Common Milkweed	<i>Asclepias syriaca</i>	Light soils	White juice from this plant used to ease the rash caused from poison ivy	Lacey (1993)
	Common Barberry	<i>Berberis vulgaris</i>	Thickets, pastures and fencerows	Bark and root used to treat ulcerated gums. Bark and root used to treat sore throat	Chandler <i>et al.</i> (1979)
Nimnoqn	Yellow Birch	<i>Betula alleghaniensis</i>	Various	Wood used as a hot-water bottle Bark used to treat rheumatism Bark is also chewed for nourishment Tea from bark used to relieve indigestion , treat stomach cramps and diarrhea	Chandler <i>et al.</i> (1979) Lacey (1993) Lacey (1977)
	Gray Birch	<i>Betula populifolia</i>	On light soils, in pastures, burnt-over land, and barrens	Inner bark used to treat infected cuts. Inner bark used as an emetic.	Chandler <i>et al.</i> (1979)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
Kaju	Crinkleroot/ toothwort	<i>Cardamine diphylla</i>	Moist, rich soil along brooks and in low-lying , wet, or rocky woods, both mixed and deciduous	Root used as a sedative Root used to clear the throat and to treat hoarseness Root used as a tonic	Chandler <i>et al.</i> (1979)
	White Turtlehead	<i>Chelone glabra</i>	Swamps, wet roadsides, meadows, along rocky streams and estuarine rivers above the influence of salt water	Herb used to prevent pregnancy	Chandler <i>et al.</i> (1979)
	Pipsissewa/ prince's pine	<i>Chimaphila umbellata</i>	Dry soils sometimes in spruce or fir woods	Used to treat consumption/ tuberculosis Used as stomach medicine Herb used to treat rheumatism Herb used as a blood purifier Herb used to treat blisters Herb used to treat stomach trouble Herb used to treat kidney trouble and pains Herb used to treat smallpox Infusion of roots, hemlock, parsley and curled dock used to treat "colds in the bladder"	Lacey (1977) Rousseau (1948) Chandler <i>et al.</i> (1979) Mechling (1959) Lacey (1993)
	Yellow Clintonia/Bride's Bonnet	<i>Clintonia borealis</i>	Deciduous to mixed woods	Root juice taken with water to treat "gravel" (kidney stones)	Speck (1917)
	Sweetfern	<i>Comptonia peregrina</i>	Open, sandy or barren soils	Used to treat rheumatism and external sores Root used to treat headache and inflammation Leaves used to treat sprains, swellings, poison ivy, and inflammation Leaves used to treat catarrh Berries, bark and leaves used as an "exhilarant" and beverage	Lacey (1993) Chandler <i>et al.</i> (1979)
	Chinese Hemlock parsley	<i>Conioselinum chinense</i>	Swamps, mossy coniferous woods or swales and seepy slopes near the coast	Infusion of roots, hemlock, prince's pine , and curled dock used to treat colds in the bladder	Mechling (1959)
Wisawtaqji'jkl	Goldthread	<i>Coptis trifolia</i>	Coniferous forests, swamps, hummocks on bogs, and roadside banks	Herb used to treat sore or chapped lips and mouth ulcers Roots used to treat sore eyes Roots used to treat stomach medicine Roots chewed to treat unspecified medicinal use Used to promote an appetite	Chandler <i>et al.</i> (1979) Lacey (1977) Speck and Dexter (1951) Lacey (1993)
Wso'qmanaqsi'l	Bunchberry/ Dwarf Dogwood	<i>Cornus canadensis</i>	Various	Leaf tea used to treat bed wetting and kidney ailments Berries, roots and leaves used to treat seizures Used to treat kidney ailments Used to treat stomach problems Leaves were applied to wounds to stop bleeding and promote healing	Lacey (1977) Chandler <i>et al.</i> (1979) Lacey (1993)
Wjkulje'manaqsi	Red Osier Dogwood/ Red Willow	<i>Cornus sericea ssp. Sericea</i>	The edges of intervals, brook sides, wet meadows, and ditches along roadsides. Most common in rich, alkaline soils	Herb used to treat headache Herb used to treat sore eyes Herb used to treat catarrh Herb used to treat sore throat	Chandler <i>et al.</i> (1979)
	Dogwood	<i>Cornus spp.</i>	Various	Smoke used spiritually with parts of other plants such as willows	Lacey (1993)
	Pink Lady's Slipper	<i>Cypripedium acaule</i>	Acid soil in dry or wet woods; open areas	Tea of roots used to treat nervousness Tea of roots used treat tuberculosis	Chandler <i>et al.</i> (1979) Lacey (1993)
	Queen Anne's Lace, Wild Carrot	<i>Daucus carota</i>	Hayfields and along roadsides	Leaves used as a purgative	Chandler <i>et al.</i> (1979) Wallis (1922)
	Moosewood, Leatherwood	<i>Dirca palusiris</i>	Rich deciduous or mixed woods	Colds, coughs, influenza , bark tea	Wallis (1922)
	Common Boneset	<i>Eupatorium perfoliatum</i>	Wet shores, meadows, the edge of swamps and bogs, along ditches and streams	Used to treat stomach ulcers Used to treat colds Used to treat arthritic pain Used to treat kidney trouble Used to treat spitting blood Used to treat gonorrhoea	Lacey (1993) Chandler <i>et al.</i> (1979)
	American Beech	<i>Fagus grandifolia</i>	Fertile uplands, rarely in swamps Dry forest ridges and hilltops, scattered elsewhere	Leaves used to treat chancre Tea from leaves used to treat tuberculosis and other chest ailments Leaves used to sooth nerves and stomach	Chandler <i>et al.</i> (1979) Lacey (1993)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
Atuomkminaqsi	Virginia and Woodland Strawberries	<i>Fragaria virginiana</i> , <i>F. Vesca</i>	Old fields and road sides	Parts of plant used to treat irregular menstruation Tea from plant used as a good general tonic Tea from plant used to treat dysentery Tea from plant used to treat weakness of the intestines Tea from plant used to treat infections of the urinary organs Leaves used to treat stomach cramps	Chandler <i>et al.</i> (1979) Lacey (1993)
	White Ash	<i>Fraxinus americana</i>	Intevale forests, low grounds and open woods	Leaves used to treat cleansing after childbirth.	Chandler <i>et al.</i> (1979)
	Cleavers/ Sticky Willy	<i>Galium aparine</i>	Ballast heaps and waste places	Parts of plant used to treat persons spitting blood Parts of plant used to treat gonorrhoea Parts of plant used to treat kidney trouble Parts of plant used to treat gonorrhoea	Chandler <i>et al.</i> (1979)
Kna'ji'jk	Creeping Snowberry	<i>Gaultheria hispidula</i>	Mossy woodland knolls, barrens, and mature bogs, usually in partial shade	Decoction of leaves or whole plant taken to treat unspecified purpose	Speck (1917)
Ka'qaju'mannaqsi	Wintergreen, Teaberry, or Checkerberry	<i>Gaultheria procumbens</i>	Woods, barrens, pastures	Used to prevent and treat heart attack Tea from plant thins and regulates the blood to prevent blood clots	Lacey (1993)
	Yellow Avens	<i>Geum aleppicum</i>	Along roadsides, riverbanks, waste places and occasionally around outbuildings	Roots used to treat coughs and croup	Chandler <i>et al.</i> (1979)
	Chocolate root, purple avens	<i>Geum rivale</i>	Swamps, wet fields, and meadows	Root used to treat diarrhea Root decoction used to treat Dysentery Root decoction used to treat coughs and colds in children,	Chandler <i>et al.</i> (1979) Speck (1917)
	Witch Hazel	<i>Hamamelis virginiana</i>	Shade tolerant, in rocky woods or near cliffs	Leaves steeped and used as an aphrodisiac Leaves steeped and used to treat headache	Lacey (1993)
Pako'si	Cow Parsnip / masterwort	<i>Heracleum lanatum</i>	Wet meadows and brook sides in alluvial soils	Root tea used as General preventative medicine Used to treat cold and influenza as well as tuberculosis	Lacey (1977) Lacey (1993)
	Rough cow parsnip/ Eltrot	<i>Heracleum sphondylium</i>	Along roadsides and in vacant lots	Green and light color plant used as gynaecological medicine to treat women Dark and ripe plant used as urinary medicine to treat men	Wallis (1922) Chandler <i>et al.</i> (1979)
Kjimskiku	Sweet Grass	<i>Hierochloe odorata</i>	Moist heavy soils, generally in the upper reaches of tidal marshes	Important ceremonial and spiritual use	Lacey (1993)
	Live to treat ever/ Witch's Moneybags	<i>Hylotelephium telephium</i> ssp. <i>telephium</i>	Shaded areas with rich soil	Dermatological Aid, Leaves used to treat boils and carbuncles	Chandler <i>et al.</i> (1979)
	English Holly	<i>Ilex aquifolium</i>	Cultivated non-native species	Root used to treat cough Part of plant used to treat fevers Root used to treat consumption Root used to treat gravel	Chandler <i>et al.</i> (1979)
	Jewelweed	<i>Impatiens capensis</i>	Moist open places, wet ground, along brooks and ditches, and in wet thickets. Prefers alluvial ground where organic matter and nutrient content are high	Herbs used to treat jaundice	Chandler <i>et al.</i> (1979)
	Elecampane	<i>Inula helenium</i>	Damp roadsides and neighbouring fields, as an escape	Root used to treat headaches Root used to treat colds Root used to treat heart trouble	Chandler <i>et al.</i> (1979)
	Blue Flag Iris	<i>Iris versicolor</i>	Meadows, swamps, along streams and grazed pastures	Used as an emetic to rid the stomach of poison Root used to treat wounds Herb used to treat sore throat Root used to treat cholera and the prevention of disease Root used as a "basic medical cure" Herbs used to treat sore throat and root used to treat wounds	Lacey (1993) Chandler <i>et al.</i> (1979)
Kini'skweji'jik	Low Bush (Common Juniper)	<i>Juniperus communis</i>	Sandy areas, old pastures, heaths and bogs	Bark used to treat tuberculosis Stems used in hair wash Cones used to treat ulcers Gum used to heal cuts, sores, burns and sprains Inner bark used to treat stomach ulcers Roots used to treat rheumatism Used to treat kidney ailments and as a urinary tract medicine	Lacey (1993) Chandler <i>et al.</i> (1979) Wallis (1922)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
	Sheep Laurel/ lambkill	<i>Kalmia angustifolia</i>	Open ground	Roasted leaves used to treat colds Herb used to treat pain, swellings and sprains Poultice of crushed leaves bound to head to treat headache Herb used to treat swellings, pain and sprains Infusion of leaves considered valuable as a "non-specific remedy" Plant is boiled and used as bathing solution to reduce swelling, ease pain of rheumatism and treat sore legs and feet Plant considered very poisonous	Black 1980 Wallis (1922) Chandler <i>et al.</i> (1979) Speck (1917) Lacey (1993)
Apu'tam'kie'jit	Eastern Larch (Tamarack)	<i>Larix laricina</i>	Bogs and wet depressions in forests	Bark used to treat colds Boughs brewed into tea and used to treat Sores and swelling, and as a diuretic Bark used to treat physical weakness Tea from bark and twigs used to treat colds and influenza Bark was used externally to treat festering wounds Bark used to treat consumption Bark used to treat gonorrhoea	Speck (1917) Chandler <i>et al.</i> (1979) Lacey (1993)
	Common Motherwort	<i>Leonurus cardiaca</i>	Scattered around old houses and gardens, not often a weed in cultivated land	Part of plant used to treat obstetric cases	Chandler <i>et al.</i> (1979)
	Canada Lily	<i>Lilium canadense</i>	Local, in meadows and on stream banks	Parts of plant used to treat irregular menstruation	Chandler <i>et al.</i> (1979)
	Carolina Sealavender	<i>Limonium carolinianum</i>	Characteristic of salt marshes and seashores	Roots pounded, ground, added to boiling water and used to treat consumption with hemorrhage	Mechling (1959)
	Indian Tobacco	<i>Lobelia inflata</i>	Dry pastures, run-out fields, roadsides, barrens, and similar locations	Smoke from this plant used to treat earach Smoke from this plant used to treat asthma Smoke used spiritually	Lacey (1977) Lacey (1993)
	Clubmoss	<i>Lycopodium sp.</i>	Various species, mostly found in wooded areas	Herb used to treat fever	Chandler <i>et al.</i> (1979)
	Feather or False Solomon's Seal	<i>Maianthemum (syn. Smilacina) racemosum ssp. racemosum</i>	Scattered in open deciduous woods, along edges of thickets and clearings	Leaves and stems used to treat rashes and itch	Chandler <i>et al.</i> (1979)
Plamwipkl	Mint (Field Mint)	<i>Mentha arvensis</i>	Rich, damp soil	Herb used to treat children with an upset stomach Herb used to treat croup	Chandler <i>et al.</i> (1979)
	Common Buckbean	<i>Menyanthes trifoliata</i>	Stagnant pools and bogs	Strong decoction of root taken to treat unspecified purpose	Speck (1917)
	Partridge Berry	<i>Mitchella repens</i>	Moist places, forest ground cover	Used in the late stages of pregnancy to ease the pain of childbirth	Lacey (1993)
Kljimanaqsi	Northern Bayberry	<i>Morella (syn. Myrica) pensylvanica</i>	Coastal, on headlands and beaches. Occasionally in bogs and on heavier soils	Tea, berries, bark,leaves used as exhilarant Plant used to treat headache Root poultice used to treat inflammation Powdered root used to treat arthritic and rheumatic pain Tea from dried roots and leaves used to treat mouth infections Roots pounded, soaked in hot water to treat inflammation	Wallis (1922) Lacey (1993)
Mujila'pij	Cow Lily (Yellow Pond Lily)	<i>Nuphar variegata</i>	Lakes, ponds, quiet streams and stillwaters	Root brewed into tea or worn around neck as a general preventive Used externally to treat swollen limbs	Lacey (1977) Lacey (1993)
Mujila'pij	Sweet-scented Water Lily, American White Waterlily	<i>Nymphaea odorata</i>	Lakes, slow moving rivers and mucky ponds	Leaves used to treat colds Juice of root taken to treat coughs Root decoction used to treat Coughs, swellings Poultice of boiled root applied to swellings Roots used to treat suppurating glands Leaves used to treat colds Leaves used to treat grippe Leaves used to treat limb swellings and colds	Chandler <i>et al.</i> (1979) Speck (1917) Lacey (1993)
Kawatkw	White Spruce (Cat Spruce)	<i>Picea glauca</i>	Old fields and along the coast	Bark used to treat a variety of symptoms	Lacey (1993)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
Kawatkw	Black Spruce (Bog Spruce)	<i>Picea mariana</i>	Bogs, swamps and poorly drained areas	Bark used as a cough remedy Bark used to prepare a salve to treat cuts and wounds. Gum used to treat scabs and sores Parts of plant used to treat stomach trouble Bark, leaves and stems used to treat scurvy Bark is chewed to treat laryngitis	Chandler <i>et al.</i> (1979) Lacey (1993) Wallis (1922)
	Eastern White Pine	<i>Pinus strobus</i>	Bogs, swamps and poorly drained areas	Tea from bark, needles and twigs used to treat colds and coughs Tea from bark, needles and twigs used to treat kidney problems Bark used to treat wounds Sap used to treat hemorrhaging Boiled inner bark used to treat sores and swellings Plant parts used to treat kidney trouble Bark, leaves and stems used to treat grippe Inner bark, bark and leaves used to treat scurvy	Lacey (1993) Chandler <i>et al.</i> (1979) Speck (1917)
Wijikanipkl	Common Plantain	<i>Plantago major</i>	Disturbed areas	Used to draw out poison from wounds and sores Used to treat stomach ulcers	Lacey (1993)
	Tall Northern White Bog Orchid	<i>Platanthera</i> (syn. <i>Habenaria</i>) <i>dilatata</i> var. <i>dilatata</i>	A wide variety of habitats , preferring sunny and wet situations such as bogs, marshes and riverbanks	Root decoction used to treat kidney stones Root juice taken with water to treat kidney stones	Speck (1917) Lacey (1977)
	Rock Polypody	<i>Polypodium virginianum</i>	Damp cliffs, on top of large boulders, preferring a rocky substrate with a covering of leaf mould	Infusion of plant used to treat urine retention Roots used to treat pleurisy	Rousseau (1948) Chandler <i>et al.</i> (1979)
	Christmas Fern	<i>Polystichum acrostichoides</i>	Moist woods, cool ravines, wooded banks and thickets	Roots used to treat hoarseness	Chandler <i>et al.</i> (1979)
	Pickeralweed	<i>Pontederia cordata</i>	Growing in large pure colonies around the mucky margins of ponds and lakes, and in slow-moving streams	Herbs used to prevent pregnancy	Chandler <i>et al.</i> (1979)
A'maqansuti	Balsam Poplar	<i>Populus balsamifera</i>	Common along streams and open intervals	Buds and other parts of plant used as salve to treat sores Buds and other parts of plant used as salve to treat chancre	Chandler <i>et al.</i> (1979)
	Poplar	<i>Populus</i> spp.	Various	Tea from bark used to treat colds and influenza Tea from bark used to treat worms	Lacey (1993) Lacey (1977)
Miti	Trembling Aspen (Poplar)	<i>Populus tremuloides</i>	Damp soils	Bark used to treat colds Bark used to stimulate the appetite	Chandler <i>et al.</i> (1979)
Maskwe'smanaqsi	Pin Cherry	<i>Prunus pensylvanica</i>	Clearings, thickets, and the edges of fields on light soils	Wood used to treat chafed skin and prickly heat Bark used to treat erysipelas	Chandler <i>et al.</i> (1979)
	Black Cherry	<i>Prunus serotina</i>	Thickets and open wood	Bark used to treat colds Bark used to treat coughs Bark used to treat smallpox Fruit used as a tonic Bark used to treat consumption	Chandler <i>et al.</i> (1979) Wallis (1922)
	Red cherry (species unspecified)	<i>Prunus</i> sp.	Thickets, clearings and open woods	Tea of the bark from 'red cherry' used to treat high blood pressure	Lacey (1993)
	Wild Black Cherry	<i>Prunus serotina</i>	Thickets, clearings and open woods	Black cherry used to treat coughs and colds	Lacey (1993)
Luimanaqsi	Common Chokecherry	<i>Prunus virginiana</i>	Roadsides, fencerows, edges of intervals, and the edges of woods	Bark used to treat diarrhea	Chandler <i>et al.</i> (1979) Lacey (1993)
	Bracken	<i>Pteridium aquilinum</i>	Pastures, old fields, roadsides, borders of woods	Fronks of plant used as stimulant to treat weak babies and old people	Chandler <i>et al.</i> (1979)
	Liverleaf Wintergreen	<i>Pyrola asarifolia</i> ssp. <i>Asarifolia</i>	Rich, mainly calcareous, woods and thickets	Parts of plant used to treat spitting blood Parts of plant used to treat kidney trouble Parts of plant used to treat gonorrhoea	Chandler <i>et al.</i> (1979)
	Northern Red Oak	<i>Quercus rubra</i>	In light or well-drained soils and granitic areas	Bark and roots used to treat diarrhea	Chandler <i>et al.</i> (1979)
	Oak	<i>Quercus</i> sp.	In light or well drained soils and granitic areas	Used to treat haemorrhaging and intermittent fever	Lacey (1993)
	Tall Buttercup	<i>Ranunculus acris</i>	Fields , meadows, and roadsides, mainly in heavy or moist soil,	Herbs used to treat headache Leaves used to treat headaches	Chandler <i>et al.</i> (1979)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
	Buttercup	<i>Ranunculus</i> sp.	Various	Scent or juice from leaves applied to nostrils said to cure headache Used to treat cancer	Lacey (1993)
	Handsome Harry/ Meadow Beauty	<i>Rhexia virginica</i>	Peaty lake margins and swales or wet thickets	Tea from plant used as a wash to clean and clear the throat	Lacey (1993) Chandler <i>et al.</i> (1979)
	Yellow Rattle	<i>Rhinanthus crista-galli</i>	Old fields, roadsides and waste places	Tea of plant used to treat epilepsy	Lacey (1993)
Apuistekie'ji'jit	Labrador Tea	<i>Rhododendron</i> (syn. <i>Ledum</i>) <i>groenlandicum</i>	Bogs, wooded swamps, wet barrens, and poorly-drained clearings and pastures	Leaves used to treat the common cold Tea brewed from leaves used as diuretic Leaves used to treat scurvy Leaves used to treat asthma Tea from leaves used as a tonic to treat variety of kidney ailments Infusion of leaves taken to treat a "beneficial effect on the system"	Chandler <i>et al.</i> (1979) Speck (1917) Lacey (1993)
Ketaqimus	Starhorn Sumac	<i>Rhus typhina</i>	The edges of woods in dry or rocky soils, along roadsides and other open areas and hillsides	Used to treat coughs, sore throats, and earaches	Lacey (1993) Chandler <i>et al.</i> (1979) Wallis (1922)
Ajioqjominaqsi	Common Blackberry	<i>Rubus alleghaniensis</i>	Sandy ground, old fields, open woodlands, and clearings	Berry used to treat diarrhoea Tea from runners used to as stomach medicine Tea from leaves and berries used to treat sores in mouth and throat	Lacey (1993)
Mkuo'qminaqsi'k	Cloudberry (Bakeapple)	<i>Rubus chamaemorus</i>	Sphagnous bogs, heathlands, and meadows near the coast	Roots used to treat cough Roots used to treat fever Roots used to treat consumption/Tuberculosis	Chandler <i>et al.</i> (1979)
	Bristly Dewberry/ Swamp Dewberry	<i>Rubus hispidus</i>	Peat bogs, but often on roadsides, damp hollows and barrens	Roots used to treat cough Roots used to treat fever Roots used to treat consumption/Tuberculosis	Chandler <i>et al.</i> (1979)
Klitawmanaqsi'k	Red Raspberry	<i>Rubus idaeus</i>	Roadsides, deforested land, talus slopes, and rocky ground	Leaves and roots used to treat rheumatism Berries are a good general tonic	Lacey (1993)
	Dwarf Red Blackberry/ Dwarf Raspberry	<i>Rubus pubescens</i> var. <i>Pubescens</i>	Low-lying boggy land, talus slopes, and often growing luxuriantly under bushes in open woods	Parts of plant used to treat irregular menstruation	Chandler <i>et al.</i> (1979)
	Blackberry, Raspberry	<i>Rubus</i> spp.	Various, depending on species	Tea from runners used to treat stomach issues	Lacey (1977)
	Curly Dock	<i>Rumex crispus</i>	Waste places, cultivated ground, roadsides and around dwellings	Infusion of roots used as a purgative Roots used as a purgative Infusion of roots, hemlock, parsley and Prince's pine used to treat "cold in bladder"	Mechling (1959) Chandler <i>et al.</i> (1979)
Lmu'ji'jmnaqsi	Pussy Willow	<i>Salix discolor</i>	On low ground, in wet pastures, in damp, open woods, and along the edges of swamps	Bark used externally to treat bruises, and skin cancer Tea from bark also used to treat colds and kidney ailments	Lacey (1993)
	Heartleaf Willow	<i>Salix eriocephala</i>	Riverbanks and out on gravel bars. Bottomlands	Bark used to treat colds Bark used to stimulate the appetite Bark used to treat blisters	Chandler <i>et al.</i> (1979)
	Shining Willow	<i>Salix lucida</i>	Along large streams and lakes, on sand bars, and occasionally in wet ground or ditches	Bark used to treat bleeding Bark used to treat asthma	Wallis (1922) Chandler <i>et al.</i> (1979)
Pukulu'skwimanaqsi'l	European Elder	<i>Sambucus nigra</i>	Rich soil, open woods, around old fields and along brooks. On damp ground or wet floodplains	Berries, bark and flower used as a purgative Bark used as a physic Bark used as an emetic Berries, bark and flower used as a soporific	Chandler <i>et al.</i> (1979)
Pukulu'skwimanaqsi'l	Red Elderberry	<i>Sambucus racemosa</i>	Meadows, wet places, rocky hillsides and along streams. In rich soils	Barked used to treat emetic and cathartic purposes	Lacey (1993) Chandler <i>et al.</i> (1979)
Malteweknejkl	Bloodroot	<i>Sanguinaria canadensis</i>	Low ground in intervals along streams, in the shade	Tea of root used to treat tuberculosis Leaves used to treat rheumatism Roots used to treat irregular menstruation Infusion of roots used to treat colds Roots used to treat infected cuts Roots used to treat hemorrhages and to prevent bleeding Used as an aphrodisiac Infusion of roots used to treat sore throats Roots used to treat consumption/tuberculosis with hemorrhage	Lacey (1993) Rousseau (1948) Chandler <i>et al.</i> (1979) Rousseau (1948)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
	Maryland Sanicle/ Black snakeroot	<i>Sanicula marilandica</i>	Rich woods and intervale soils, usually where the soil is quite damp and humus content good	Roots used to treat irregular menstruation Roots used to treat rheumatism Roots used to treat menstrual pain and slow parturition Roots used to treat kidney trouble Roots used as a snakebite remedy and to treat rheumatism.	Chandler <i>et al.</i> (1979)
Mkoqewik	Northern Pitcher Plant	<i>Sarracenia purpurea</i>	Bogs	Herbs used to treat spitting blood Strong decoction of root taken to treat "spitting blood" and pulmonary complaints Herbs used to treat kidney trouble and consumption Roots used to treat smallpox and herbs used to treat consumption Tea from root used to treat tuberculosis, kidney ailments and relieve indigestion Infusion of root taken to treat sore throat Herbs used to treat consumption	Lacey (1993) Speck (1917) Chandler <i>et al.</i> (1979)
	Panicled Bulrush	<i>Scirpus microcarpus</i>	Swamps, meadows, and along ditches and streams, especially where there is freshwater seepage	Roots used to treat abscesses Herbs used to treat sore throats	Chandler <i>et al.</i> (1979)
	White Mustard	<i>Sinapis alba</i>	Cultivated, occasionally escaping	Parts of plant used to treat tuberculosis of lungs	Chandler <i>et al.</i> (1979)
	Climbing Nightshade/Bittersweet	<i>Solanum dulcamara</i>	Thickets, intervale, roadsides and dumps. Along fences and around buildings	Roots used to treat nausea	Chandler <i>et al.</i> (1979)
E'psemusi	American Mountainash	<i>Sorbus americana</i>	Open woods and along hedgerows	Tea from the bark used to treat stomach pains Bark used to treat "mother pains" Bark used to treat boils Parts of plant used as an emetic Infusion of root taken to treat colic Infusion of bark taken to treat unspecified purpose	Lacey (1993) Speck (1917) Chandler <i>et al.</i> (1979)
	Claspleaf Twistedstalk	<i>Streptopus amplexifolius</i>	Scattered in moist deciduous or mixed woods, ravines, and wooded intervale	Parts of plant used to treat spitting blood Parts of plant used to treat kidney trouble	Chandler <i>et al.</i> (1979)
	Waxberry	<i>Symphoricarpos albus</i>	Around buildings and in gardens	Parts of plant used to treat gonorrhoea Scent of plant used to treat headache	Chandler <i>et al.</i> (1979) Lacey (1993)
	Skunk Cabbage	<i>Symplocarpus foetidus</i>	Springy swales, bogs, sphagnum woods and wet thickets	Tea from root used to treat diabetes Tea from root used to cure toothache	Lacey (1993)
	Common Tansy	<i>Tanacetum vulgare</i>	In patches along roadsides, becoming a weed infields	Herbs used to prevent pregnancy Leaves used to treat kidney trouble	Chandler <i>et al.</i> (1979) Chandler <i>et al.</i> (1979)
	Canada Yew	<i>Taxus canadensis</i>	Cool damp woods, ravines, climax coniferous, and wooded swamps.	Bark used to treat bowel and internal troubles Parts of plant used to treat afterbirth pain and clots Leaves used to treat fever Parts of plant used to treat scurvy	Wallis (1922) Chandler <i>et al.</i> (1979) Lacey (1977)
	Eastern White Cedar	<i>Thuja occidentalis</i>	Lakesides and swamps or old pastures	Used externally to treat swollen hands and feet Stems used to treat headaches Inner bark, bark and stems used to treat burns Inner bark, bark and stems used to treat cough Leaves used to treat swollen feet and hands and stems used to treat headaches Gum used to treat toothache Inner bark, bark and stems used to treat consumption	Lacey (1993) Chandler <i>et al.</i> (1979)
	Heartleaf Foamflower	<i>Tiarella cordifolia</i>	Deciduous forests and intervale. Gravelly roadsides	Roots used to treat diarrhea	Chandler <i>et al.</i> (1979)
	Clover	<i>Trifolium pratense</i>	Fields and roadsides	Tea from plant used to treat fevers	Lacey (1993)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources
	Eastern Hemlock	<i>Tsuga canadensis</i>	Northern slopes or ravines	Tea from bark and stems used to treat colds, coughs, "grippe" and influenza Inner bark used to treat diarrhea Inner bark used to treat chapped skin Parts of plant used to treat bowel, stomach and internal troubles Roots and stems used to treat "cold in kidney." And "cold in bladder" Bark used to treat grippe Inner bark used to treat scurvy	Lacey (1993) Chandler <i>et al.</i> (1979) Wallis (1922)
	Narrow-leaved Cattail	<i>Typha angustifolia</i>	Brackish swales near the coast, inland swamps, ditches, along streams	Roots used to treat gravel	Chandler <i>et al.</i> (1979)
	Broadleaf Cattail	<i>Typha latifolia</i>	Swamps, ponds, and ditches in estuaries above the salt water, occasionally in floating bogs.	Leaves used to treat sores	Chandler <i>et al.</i> (1979)
	Slippery Elm	<i>Ulmus rubra</i>	Ornamental, planted about towns and villages.	Bark used to treat suppurating wounds	Chandler <i>et al.</i> (1979)
Pkumanaqsi	Low Bush Blueberry	<i>Vaccinium angustifolium</i>	Headlands, peaty barrens, fields, dry soils, sandy areas	Leaves and roots used to treat rheumatism Berries a good general tonic	Lacey (1993)
	Large -fruited Cranberry	<i>Vaccinium macrocarpon</i>	Bogs	Stewed berries used as a general tonic	Lacey (1993)
Wo'jekunmusi	Common Mullein	<i>Verbascum thapsus</i>	Light soils, roadsides, hillsides, gravel plains, and pastures. A common weed on rough land	Leaves smoked or steeped (fumes inhaled) to treat asthma Parts of plant used to treat sores and cuts Parts of plant used to treat catarrh	Lacey (1993) Chandler <i>et al.</i> (1979)
Nipanmaqsi'l	Highbush Cranberry	<i>Viburnum opulus</i>	Swamps and along streams	Bark used to treat swollen glands and mumps	Chandler <i>et al.</i> (1979) Lacey (1993)
	Field Pansy	<i>Viola arvensis</i>	Fields and roadsides	Used to treat sore eyes	Lacey (1993)

Table A.3: Other Useful Native Plant Species Traditionally Used by Nova Scotia Mi'kmaq.

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source
Stoqn	Balsam fir	<i>Abies balsamea</i>	Various	Wood used for kindling and fuel Boughs used to make beds	Speck and Dexter (1951), Unama'ki Institute of Natural Resources, 2012
Mimkutaqo'q	Moosewood (striped maple)	<i>Acer pensylvanicum</i>	Rocky woods, rich deciduous forests, wooded slopes and along streams	Thin saplings used in wigwam construction	Nova Scotia Museum factsheet, ND
	Red maple	<i>Acer rubrum</i>	Swamps, alluvial soils, and moist uplands	Used to make basketware	Speck and Dexter (1951)
Snawey	Sugar maple	<i>Acer saccharum</i>	Well-drained soils	Used to make bows and arrows	Speck and Dexter (1951)
Tupsi	Alder	<i>Alnus spp.</i>	Low ground in alluvial soils	Bark used to make a dye	Speck and Dexter (1951)
Maskwi	White/paper birch	<i>Betula papyrifera</i>	Forests, especially on slopes	Bark used to make baskets Bark used to make boxes, coffins and other containers Bark used to make canoes Bark used to make dishes and cooking utensils Bark used to make house coverings	Speck and Dexter (1951) Speck and Dexter (1951) Rousseau (1948) Speck and Dexter (1951) Speck and Dexter (1951)
	Yellow birch	<i>Betula alleghaniensis</i>		Branches used as straps and thongs	Wallis and Wallis 1960
	Birch	<i>Betula spp.</i>	Various depending on species	Bark used to make torches for night fishing Bark used to make trumpets for calling game Bark used to construct containers, boxes, and cups Bark sheets used in wigwam construction	Speck and Dexter (1951) Speck and Dexter (1951) Wallis and Wallis 1955 Nova Scotia Museum factsheet, ND.
	Beaked hazel	<i>Corylus cornuta</i>		Basketry	Wallis and Wallis 1955
	American beech	<i>Fagus grandifolia</i>	Fertile uplands, rarely in swamps	Used to make snowshoe frames	Speck and Dexter (1951)
	White ash	<i>Fraxinus americana</i>	Intervale forests, low ground, and open woods	Used to make axe and knife handles	Speck and Dexter (1951)
Wiskoq	Black ash	<i>Fraxinus nigra</i>	Low ground, damp woods and swamps	Used to make basketware	Speck and Dexter (1951)
	Stiff marsh bedstraw/ small bedstraw	<i>Galium tinctorium</i>	Low-lying areas, brooks, marshes, and bogs	Roots used to make a red dye for porcupine quills	Speck and Dexter (1951)
Kjimskiku	Sweetgrass	<i>Hierochloe odorata</i>	Moist heavy soils, generally in the upper reaches of tidal marshes	Used to make baskets Used to make mats	Speck and Dexter (1951) Speck and Dexter (1951)
	Red cedar	<i>Juniperus sp.</i>	Various, depending on species	Wood used for kindling and fuel	Speck and Dexter (1951)
Apu'tam'kie'jit	Eastern larch/ tamarack	<i>Larix laricina</i>	Bogs and wet depressions in forests	Wood used for kindling and fuel	Speck and Dexter (1951)
Kawatkw	White spruce (cat spruce)	<i>Picea glauca</i>	Old fields and along the coast	Boughs used to make beds. Wood used for kindling and fuel	Speck and Dexter (1951) Speck and Dexter (1951)
Kawatkw	Black spruce (bog spruce)	<i>Picea mariana</i>	Bogs, swamps and poorly drained areas	Boughs used to make beds. Roots used as sewing material for canoe birch bark product Wood used for kindling and fuel	Speck and Dexter (1951) Speck and Dexter (1951) Speck and Dexter (1951)
	Eastern white pine	<i>Pinus strobus</i>	Bogs, swamps and poorly drained areas	Wood used for kindling and fuel	Speck and Dexter (1951)
	Spruce	<i>Picea spp.</i>	See White and/or Black Spruce	Poles for wigwam construction Root used as twine, for sewing	Nova Scotia Museum factsheet, ND Wallis and Wallis (1955)
	Willow	<i>Salix spp.</i>	Various, depending on species	Leaves used as tobacco	Speck and Dexter (1951)
	Canada yew	<i>Taxus canadensis</i>	Cool damp woods, ravines, climax coniferous woods, and wooded swamps.	Leaves used to make a green dye	Speck (1917)

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source
	Eastern white cedar	<i>Thuja occidentalis</i>	Lakesides and swamps or old pastures	Used to make arrow shafts Used to make canoe slats Wood used for kindling and fuel Woven into bags and mats Inner bark used as twine, for sewing	Speck and Dexter (1951) Speck and Dexter (1951) Speck and Dexter (1951) Nova Scotia Museum factsheet, ND Wallis and Wallis 1955
	Basswood ²	<i>Tilia sp.</i>	Not native to NS	Bark woven into bags and mats	Nova Scotia Museum factsheet, ND
	Eastern hemlock	<i>Tsuga canadensis</i>	Northern slopes or ravines	Bark used to make a dye Wood used for kindling and fuel.	Speck and Dexter (1951) Speck and Dexter (1951)
	Cattails	<i>Typha spp.</i>	Marshes, wet depressions	Woven into bags and mats	Nova Scotia Museum factsheet, ND

APPENDIX B

Table B.1: Native Plant Species Traditionally Consumed by Nova Scotia Mi'Kmaq Reported from the Greenfield, Kemptown and/or Limerock Sites.

Table B.2: Native Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi'kmaq Reported from the Greenfield, Kemptown and/or Limerock Sites.

Table B.3: Other Useful Native Plant Species Traditionally Used by Nova Scotia Mi'Kmaq Reported from the Greenfield, Kemptown and/or Limerock Sites.

Table B.1: Native Plant Species Traditionally Consumed by Nova Scotia Mi'kmaq Reported from the Greenfield, Kempton and/or Limerock Sites.

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source	Observed on Site?		
						Greenfield	Kempton	Limerock
Stoqn	Balsam fir	<i>Abies balsamea</i>	Various	Bark used for beverage	Speck and Dexter 1951, Lacey 1977	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Mimkutaqo'q	Striped maple/ moosewood/Mountain Maple	<i>Acer pensylvanicum</i>	Rocky woods, rich deciduous forests, wooded slopes and along streams	Bark used to make tea	Speck and Dexter 1951, 1952, Lacey 1977, Wallis and Wallis 1955	Observed June 2013		Observed July 2013
Snawey	Sugar maple	<i>Acer saccharum</i>	Well-drained soils	Sap boiled into syrup, and a beverage tea was made from the bark and twigs, Used as cooking broth	Speck and Dexter 1951, Stoddard 1962			Observed July 2013
	Serviceberry	<i>Amelanchier laevis</i>				Observed June 2013		Observed June 2013 Observed July 2013
Wopapa'kjukal	Wild sarsaparilla	<i>Aralia nudicaulis</i>	Dry woodlands and old forests	Used to make a beverage.	Speck and Dexter 1951	Observed June 2013	Observed June 2013 Observed July 2013	Observed June 2013
Nimnoqn	Yellow birch	<i>Betula alleghaniensis</i>	Various	Drank sap, rendered it into syrup and sugar, made tea from the twigs	Waugh 1916, Stoddard 1962, Lacey 1977.	Observed June 2013 Observed July 2013		Observed June 2013
	Lambsquarters, Pigweed or Goosefoot	<i>Chenopodium album and closely related species</i>	A weed of cultivated and waste ground	Leaves and plants eaten as green, edible greens and seeds. The young plants were cooked as a potherb	Speck and Dexter 1951, 1952	Observed July 2013		
Wjuklje'manaqsi	Red osier dogwood/ red willow	<i>Cornus sericea ssp. sericea</i>	The edges of intervals, brook sides, wet meadows, and ditches along roadsides. Most common in rich, alkaline soils	Mi'kmaq people made a tea from the bark of dogwood (probably this species)	Wallis and Wallis 1955			Observed June 2013
Malipqwanj	Beaked hazelnut	<i>Corylus cornuta</i>	Dry and open woods. Sometimes in climax forests, scattered along roadside thickets, along edges of fields and along margins of woods.	Nuts used	Speck and Dexter 1951, 1952, Stoddard 1962	Observed July 2013		Observed June 2013 Observed July 2013
	American beech	<i>Fagus grandifolia</i>	Fertile uplands, rarely in swamps	Nuts used	Speck and Dexter 1951, 1952			Observed June 2013 Observed July 2013
Atuomkminaqsi	Virginia and Woodland Strawberries	<i>Fragaria virginiana , F. vesca</i>	Old fields and road sides	Berries used fresh or preserved, or made into beverage	Speck and Dexter 1951, 1952, Adney 1944, Rousseau 1945	Observed June 2012 Observed July 2013	Observed June 2013	Observed July 2013
Ka'qaju'mannaqsi	Wintergreen, Teaberry, or Checkerberry	<i>Gaultheria procumbens</i>	Woods, barrens, pastures	Berries eaten, Mi'kmaq were said to make juice from the berries	Stoddard 1962, Speck and Dexter 1952, Lacey 1977		Observed June 2013 Observed July 2013	Observed June 2013
Eskitmukewey	Indian Cucumber root	<i>Medeola virginiana</i>	Open deciduous woods, usually scattered on well-drained slopes.	Edible root	Unama'ki 2012, MacKinnon <i>et al.</i> 2009			Observed June 2013
	Partridge berry	<i>Mitchella repens</i>	Moist places, forest ground cover	Berries were eaten fresh or preserved. Used the plant for a beverage tea	Speck 1917, Speck and Dexter 1951, 1952,	Observed June 2013		Observed June 2013
Kawatkw	White spruce (cat spruce)	<i>Picea glauca</i>	Old fields and along the coast	Bark used for beverage and medicine	Speck and Dexter 1951, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977	Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Kawatkw	Black spruce (bog spruce)	<i>Picea mariana</i>	Bogs, swamps and poorly drained areas	The bark of black spruce was used to make a beverage or medicinal tea by the Mi'kmaq of the Maritimes	Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
	Eastern white pine	<i>Pinus strobus</i>	Bogs, swamps and poorly drained areas	Bark used for beverage, Inner bark grated and eaten	Speck and Dexter 1951, Wallis and Wallis 1955, Lacey 1977		Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
Miti	Trembling aspen (poplar)	<i>Populus tremuloides</i>	Damp soils	Inner bark eaten , leaf buds and catkins high in vitamin C	Unama'ki 2012, MacKinnon <i>et al.</i> 2009	Observed June 2013	Observed July 2013	Observed June 2013
	Wild cherries	<i>Prunus spp.</i>	Thickets, clearings and open woods	Boiled cherry twigs and bark for tea	Stoddard 1962, Lacey 1977, Speck and Dexter 1951, 1952, Adney 1944	Observed July 2013 (<i>P.pennsylvanica</i>)	Observed July 2013 (<i>P.pennsylvanica</i>)	
	Oak	<i>Quercus sp.</i>	In light or well drained soils and granitic areas	Nuts used	Speck and Dexter 1951, 1952			Observed June 2013 (<i>Q. rubra</i>)
	Labrador tea	<i>Rhododendron (syn. Ledum) groenlandicum</i>	Bogs, wooded swamps, wet barrens, and poorly-drained clearings and pastures	The leaves, and sometimes the whole leafy twigs and flowers, of both species were used, fresh or dried, for tea	Speck 1917, Speck and Dexter 1951,1952, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977		Observed June 2013	

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source	Observed on Site?		
						Greenfield	Kemptown	Limerock
	Wild gooseberry/ currant	<i>Ribes</i> spp.	Various, depending on species	Fruit	Speck and Dexter 1951, 1952	Observed July 2013 (<i>R. glandulosum</i>)	Observed July 2013 (<i>R. hirtellum</i>)	Observed June 2013 (<i>R. glandulosum</i> , <i>R. hirtellum</i>)
Ajioqjominaqsi	Canada blackberry	<i>Rubus canadensis</i>	Clearing, thickets, and the edges of woods.	Berries used fresh or preserved, made into beverage	Waugh 1916, Speck and Dexter 1951, 1952, Arnason <i>et al.</i> 1981	Observed June 2013	Observed July 2013	Observed June 2013
Klitawmanaqsi'k	Red raspberry	<i>Rubus idaeus</i>	Roadsides, deforested land, talus slopes, and rocky ground	Berries used fresh or dried, juice made from berries	Speck and Dexter 1951, 1952, Stoddard 1962	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013
	Bramble	<i>Rubus</i> sp.	Various, depending on species	Fruit & beverage	Speck and Dexter 1951, 1952	Observed July 2013 (<i>R. pubescens</i> , <i>allegghaniensis</i>)	Observed July 2013 (<i>R. hispida</i> , <i>R. setosus</i> ,	Observed July 2013 (<i>R. Allegheniensis</i>)
	Curly dock	<i>Rumex crispus</i>	Waste places, cultivated ground, roadsides and around dwellings	Young leaves used as cooked vegetable	MacKinnon <i>et al.</i> 2009	Observed June 2013	Observed July 2013	Observed June 2013
Pukulu'skwimanaqsi'l	Red elderberry	<i>Sambucus racemosa</i>	Meadows, wet places, rocky hillsides and along streams. In rich soils	The juicy, tart berries were eaten fresh or dried for winter storage	Speck and Dexter 1951, 1952	Observed June 2013 Observed July 2013		Observed June 2013
	Common dandelion	<i>Taraxacum officinale</i>	An aggressive weed in lawns, pastures, and even cultivated soil.	Young leaves eaten raw or cooked	Rousseau 1945, Speck and Dexter 1951, 1952		Observed June 2013 Observed July 2013	Observed June 2013
	Eastern hemlock	<i>Tsuga canadensis</i>	Lakesides and swamps or old pastures, northern slopes or ravines	The inner bark of was grated and eaten by the Mi'kmaq of the Maritimes, and the bark was also used as a beverage and medicinal tea	Speck and Dexter 1951, Wallis and Wallis 1955, Stoddard 1962, Lacey 1977			Observed June 2013
	Blueberries, bilberries, cranberries	<i>Vaccinium</i> spp.	Various, depending on species	Berries used fresh or dried and also the Mi'kmaq made juice from blueberries and bilberries for drinking, but did not state which species were involved.	Speck and Dexter 1951, 1952, Adney 1944, Lacey 1977	Observed July 2013 (<i>V. angustifolium</i> , <i>V. myrtilloides</i>)	Observed June 2013 Observed July 2013 (<i>V. angustifolium</i> , <i>V. myrtilloides</i> , <i>V. oxycoccus</i>)	
	Large -fruited Cranberry	<i>Vaccinium macrocarpon</i>	Bogs	Berries eaten fresh	Waugh 1916, Speck and Dexter 1951, 1952, Stoddard 1962, Black 1980		Observed June 2013	
Poqomannaqsi	Foxberry (mountain cranberry)	<i>Vaccinium. vitis-idaea</i>	Cooler regions, such as exposed, coastal headlands and barrens	Berries	Unama'ki 2012, MacKinnon <i>et al.</i> 2009		Observed July 2013 (<i>V. angustifolium</i>)	
E'psemusi	American mountain ash (mountain ash)	<i>Sorbus americana</i>	Open woods and along hedgerows	Berries used fresh or preserved	Unama'ki 2012, MacKinnon <i>et al.</i> 2009		Observed June 2013	Observed June 2013
Jikjawiknejewimusi'l	Common wild rose	<i>Rosa virginiana</i>						Observed June 2013 Observed July 2013

Table B.2: Native Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi'kmaq Reported from the Greenfield, Kempton and/or Limerock Sites.

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources	Greenfield	Kempton	Limerock
Stoqn	Balsam Fir	<i>Abies balsamea</i>	Various	Buds, cones and inner bark used to treat diarrhea Gum used to make dressing to treat burns Gum used as cold remedy Cones used to treat colic Gum and sap used to treat bruises, sores, and wounds Buds used as a laxative Gum used to treat fractures Inner bark boiled and used to treat sores and swelling Used to prevent colds and influenza Tea from cones and tops used to relieve colic, asthma and tuberculosis Sap used to treat stomach ulcers Bark used to treat gonorrhea	Chandler <i>et al.</i> (1979) Wallis (1922) Lacey (1993)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Mimkutaqo'q	Striped maple/ moosewood	<i>Acer pensylvanicum</i>	Rocky woods, rich deciduous forests, wooded slopes and along streams	Wood used to treat "spitting blood" Bark used to treat colds and coughs Wood used to treat kidney trouble Bark used to treat "grippe" Unspecified plant parts used to treat "trouble with the limbs" Wood used to treat gonorrhea	Chandler <i>et al.</i> (1979) Wallis (1922)	Observed June 2013		Observed July 2013
	Maple	<i>Acer sp.</i>	Various, depending on species	Bark used externally to treat cold and congestion, as well as swollen limbs.	Lacey (1993)	Observed July 2013 (<i>A. rubrum</i>)	Observed July 2013 (<i>A. rubrum</i>)	Observed July 2013 (<i>A. rubrum</i>)
	Common Yarrow	<i>Achillea millefolium</i>	Disturbed areas, old fields, meadows, roadsides and sandy shores. Acidic soils	Tea from plant used to treat fevers. Plant pulverized and used externally on bruises, sprains and swellings Dried, powdered bark or green leaves rubbed over swellings, bruises, and sprains Herb used to treat colds Decoction of plant taken with milk to cause a sweat to treat colds	Lacey (1993) Wallis (1922) Chandler <i>et al.</i> (1979)			Observed June 2013 Observed July 2013
Tupsi	Speckled Alder	<i>Alnus incana</i>	Low ground in alluvial soils	Bark used to treat ulcerated mouth	Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013		Observed June 2013 Observed July 2013
Tupsi	Alder	<i>Alnus spp.</i>	Low ground in alluvial soils	Bark used to treat bleeding Bark used to treat hemorrhage of lungs Bark used to treat fever Bark used to treat dislocations and fractures Bark used to treat diphtheria Bark used as painkiller to treat cramps Bark used to treat retching Bark used to treat rheumatism Bark used as a physic Bark used to treat wounds Bark and leaves used to treat fevers and festers Tea from bark used to treat neuralgic pain Bark and leaves used externally to treat festering wounds	Chandler <i>et al.</i> (1979) Lacey (1993)			Observed June 2013 (<i>A. viridis</i>) Observed July 2013 (<i>A. viridis</i>)
	Everlasting	<i>Antennaria sp</i> or <i>Anaphalis sp</i>	Pastures, old fields, roadsides, borders of woods	Smoked, used spiritually	Lacey (1993)			

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources	Greenfield	Kemptown	Limerock
Wopapa'kjukal	Wild Sarsaparilla	<i>Aralia nudicaulis</i>	Dry woodlands and old forests	Used externally to treat wounds Root can be used to treat colds, coughs, and flu	Lacey (1993) Chandler <i>et al.</i> (1979)	Observed June 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
Nimnoqn	Yellow Birch	<i>Betula alleghaniensis</i>	Various	Wood used as a hot-water bottle Bark used to treat rheumatism Bark is also chewed for nourishment Tea from bark used to relieve indigestion , treat stomach cramps and diarrhea	Chandler <i>et al.</i> (1979) Lacey (1993) Lacey (1977)	Observed June 2013 Observed July 2013		Observed July 2013
	Gray Birch	<i>Betula populifolia</i>	On light soils, in pastures, burnt-over land, and barrens	Inner bark used to treat infected cuts. Inner bark used as an emetic.	Chandler <i>et al.</i> (1979)	Observed June 2013	Observed June 2013 Observed July 2013	Observed July 2013
	Yellow Clintonia/Bride's Bonnet	<i>Clintonia borealis</i>	Deciduous to mixed woods	Root juice taken with water to treat "gravel" (kidney stones)	Speck (1917)		Observed July 2013	
Wisawtaqji'jkl	Goldthread	<i>Coptis trifolia</i>	Coniferous forests, swamps, hummocks on bogs, and roadside banks	Herb used to treat sore or chapped lips and mouth ulcers Roots used to treat sore eyes Roots used to treat stomach medicine Roots chewed to treat unspecified medicinal use Used to promote an appetite	Chandler <i>et al.</i> (1979) Lacey (1977) Speck and Dexter (1951) Lacey (1993)	Observed July 2013	Observed July 2013	Observed July 2013
Wso'qmanaqsi'l	Bunchberry/ Dwarf Dogwood	<i>Cornus canadensis</i>	Various	Leaf tea used to treat bed wetting and kidney ailments Berries, roots and leaves used to treat seizures Used to treat kidney ailments Used to treat stomach problems Leaves were applied to wounds to stop bleeding and promote healing	Lacey (1977) Chandler <i>et al.</i> (1979) Lacey (1993)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
Wjkulje'manaqsi	Red Osier Dogwood/ Red Willow	<i>Cornus sericea ssp. Sericea</i>	The edges of intervals, brook sides, wet meadows, and ditches along roadsides. Most common in rich, alkaline soils	Herb used to treat headache Herb used to treat sore eyes Herb used to treat catarrh Herb used to treat sore throat	Chandler <i>et al.</i> (1979)			Observed June 2013 Observed July 2013
	Dogwood	<i>Cornus spp.</i>	Various	Smoke used spiritually with parts of other plants such as willows	Lacey (1993)			Observed July 2013 (<i>C. alternifolia</i>)
	Pink Lady's Slipper	<i>Cypripedium acaule</i>	Acid soil in dry or wet woods; open areas	Tea of roots used to treat nervousness Tea of roots used treat tuberculosis	Chandler <i>et al.</i> (1979) Lacey (1993)		Observed June 2013 Observed July 2013	Observed June 2013
	Queen Anne's Lace, Wild Carrot	<i>Daucus carota</i>	Hayfields and along roadsides	Leaves used as a purgative	Chandler <i>et al.</i> (1979) Wallis (1922)			Observed June 2013 Observed July 2013
	Common Boneset	<i>Eupatorium perfoliatum</i>	Wet shores, meadows, the edge of swamps and bogs, along ditches and streams	Used to treat stomach ulcers Used to treat colds Used to treat arthritic pain Used to treat kidney trouble Used to treat spitting blood Used to treat gonorrhoea	Lacey (1993) Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources	Greenfield	Kemptown	Limerock
	American Beech	<i>Fagus grandifolia</i>	Fertile uplands, rarely in swamps Dry forest ridges and hilltops, scattered elsewhere	Leaves used to treat chancre Tea from leaves used to treat tuberculosis and other chest ailments Leaves used to sooth nerves and stomach	Chandler <i>et al.</i> (1979) Lacey (1993)			Observed June 2013 Observed July 2013
Atuomkminaqsi	Virginia and Woodland Strawberries	<i>Fragaria virginiana</i> , <i>F. Vesca</i>	Old fields and road sides	Parts of plant used to treat irregular menstruation Tea from plant used as a good general tonic Tea from plant used to treat dysentery Tea from plant used to treat weakness of the intestines Tea from plant used to treat infections of the urinary organs Leaves used to treat stomach cramps	Chandler <i>et al.</i> (1979) Lacey (1993)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
	White Ash	<i>Fraxinus americana</i>	Intevale forests, low grounds and open woods	Leaves used to treat cleansing after childbirth.	Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013		
Kna'ji'jk	Creeping Snowberry	<i>Gaultheria hispidula</i>	Mossy woodland knolls, barrens, and mature bogs, usually in partial shade	Decoction of leaves or whole plant taken to treat unspecified purpose	Speck (1917)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	
Ka'qaju'mannaqsi	Wintergreen, Teaberry, or Checkerberry	<i>Gaultheria procumbens</i>	Woods, barrens, pastures	Used to prevent and treat heart attack Tea from plant thins and regulates the blood to prevent blood clots	Lacey (1993)		Observed June 2013 Observed July 2013	Observed June 2013
	Jewelweed	<i>Impatiens capensis</i>	Moist open places, wet ground, along brooks and ditches, and in wet thickets. Prefers alluvial ground where organic matter and nutrient content are high	Herbs used to treat jaundice	Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013		
	Sheep Laurel/ lambkill	<i>Kalmia angustifolia</i>	Open ground	Roasted leaves used to treat colds Herb used to treat pain, swellings and sprains Poultice of crushed leaves bound to head to treat headache Herb used to treat swellings, pain and sprains Infusion of leaves considered valuable as a "non-specific remedy" Plant is boiled and used as bathing solution to reduce swelling, ease pain of rheumatism and treat sore legs and feet Plant considered very poisonous	Black 1980 Wallis (1922) Chandler <i>et al.</i> (1979) Speck (1917) Lacey (1993)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013
Apu'tam'kie'jit	Eastern Larch (Tamarack)	<i>Larix laricina</i>	Bogs and wet depressions in forests	Bark used to treat colds Boughs brewed into tea and used to treat Sores and swelling, and as a diuretic Bark used to treat physical weakness Tea from bark and twigs used to treat colds and influenza Bark was used externally to treat festering wounds Bark used to treat consumption Bark used to treat gonorrhoea	Speck (1917) Chandler <i>et al.</i> (1979) Lacey (1993)		Observed June 2013 Observed July 2013	
	Clubmoss	<i>Lycopodium sp.</i>	Various species, mostly found in wooded areas	Herb used to treat fever	Chandler <i>et al.</i> (1979)			Observed July 2013 (<i>L. annotinum</i> & <i>L. dendroideum</i>)
Plamwipkl	Mint (Field Mint)	<i>Mentha arvensis</i>	Rich, damp soil	Herb used to treat children with an upset stomach Herb used to treat croup	Chandler <i>et al.</i> (1979)			Observed June 2013
	Common Buckbean	<i>Menyanthes trifoliata</i>	Stagnant pools and bogs	Strong decoction of root taken to treat unspecified purpose	Speck (1917)			

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources	Greenfield	Kemptown	Limerock
	Partridge Berry	<i>Mitchella repens</i>	Moist places, forest ground cover	Used in the late stages of pregnancy to ease the pain of childbirth	Lacey (1993)	Observed June 2013		Observed June 2013
Kljimanaqsi	Northern Bayberry	<i>Morella (syn. Myrica) pensylvanica</i>	Coastal, on headlands and beaches. Occasionally in bogs and on heavier soils	Tea, berries, bark, leaves used as exhilarant Plant used to treat headache Root poultice used to treat inflammation Powdered root used to treat arthritic and rheumatic pain Tea from dried roots and leaves used to treat mouth infections Roots pounded, soaked in hot water to treat inflammation	Wallis (1922) Lacey (1993)			Observed June 2013 Observed July 2013
Kawatkw	White Spruce (Cat Spruce)	<i>Picea glauca</i>	Old fields and along the coast	Bark used to treat a variety of symptoms	Lacey (1993)	Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Kawatkw	Black Spruce (Bog Spruce)	<i>Picea mariana</i>	Bogs, swamps and poorly drained areas	Bark used as a cough remedy Bark used to prepare a salve to treat cuts and wounds. Gum used to treat scabs and sores Parts of plant used to treat stomach trouble Bark, leaves and stems used to treat scurvy Bark is chewed to treat laryngitis	Chandler <i>et al.</i> (1979) Lacey (1993) Wallis (1922)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
	Eastern White Pine	<i>Pinus strobus</i>	Bogs, swamps and poorly drained areas	Tea from bark, needles and twigs used to treat colds and coughs Tea from bark, needles and twigs used to treat kidney problems Bark used to treat wounds Sap used to treat hemorrhaging Boiled inner bark used to treat sores and swellings Plant parts used to treat kidney trouble Bark, leaves and stems used to treat grippe Inner bark, bark and leaves used to treat scurvy	Lacey (1993) Chandler <i>et al.</i> (1979) Speck (1917)		Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
Wijikanipkl	Common Plantain	<i>Plantago major</i>	Disturbed areas	Used to draw out poison from wounds and sores Used to treat stomach ulcers	Lacey (1993)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
	Christmas Fern	<i>Polystichum acrostichoides</i>	Moist woods, cool ravines, wooded banks and thickets	Roots used to treat hoarseness	Chandler <i>et al.</i> (1979)			Observed June 2013
	Poplar	<i>Populus spp.</i>	Various	Tea from bark used to treat colds and influenza Tea from bark used to treat worms	Lacey (1993) Lacey (1977)	Observed July 2013 (<i>P. grandidentata</i>)	Observed July 2013 (<i>P. grandidentata</i>)	Observed July 2013 (<i>P. grandidentata</i>)
Miti	Trembling Aspen (Poplar)	<i>Populus tremuloides</i>	Damp soils	Bark used to treat colds Bark used to stimulate the appetite	Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013
Maskwe'smanaqsi	Pin Cherry	<i>Prunus pensylvanica</i>	Clearings, thickets, and the edges of fields on light soils	Wood used to treat chafed skin and prickly heat Bark used to treat erysipelas	Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	
Luimanaqsi	Common Chokecherry	<i>Prunus virginiana</i>	Roadsides, fencerows, edges of intervals, and the edges of woods	Bark used to treat diarrhea	Chandler <i>et al.</i> (1979), Lacey (1993)			Observed June 2013

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources	Greenfield	Kemptown	Limerock
	Bracken	<i>Pteridium aquilinum</i>	Pastures, old fields, roadsides, borders of woods	Fronds of plant used as stimulant to treat weak babies and old people	Chandler <i>et al.</i> (1979)		Observed June 2013 Observed July 2013 (<i>var. latiusculum</i>)	Observed June 2013
	Northern Red Oak	<i>Quercus rubra</i>	In light or well-drained soils and granitic areas	Bark and roots used to treat diarrhea	Chandler <i>et al.</i> (1979)			Observed June 2013
	Tall Buttercup	<i>Ranunculus acris</i>	Fields, meadows, and roadsides, mainly in heavy or moist soil,	Herbs used to treat headache Leaves used to treat headaches	Chandler <i>et al.</i> (1979)	Observed June 2013		Observed June 2013 Observed July 2013
	Buttercup	<i>Ranunculus sp.</i>	Various	Scent or juice from leaves applied to nostrils said to cure headache Used to treat cancer	Lacey (1993)		Observed July 2013 (<i>R. repens</i>)	Observed July 2013 (<i>R. repens</i>)
Apuistekie'ji'jit	Labrador Tea	<i>Rhododendron (syn. Ledum) groenlandicum</i>	Bogs, wooded swamps, wet barrens, and poorly-drained clearings and pastures	Leaves used to treat the common cold Tea brewed from leaves used as diuretic Leaves used to treat scurvy Leaves used to treat asthma Tea from leaves used as a tonic to treat variety of kidney ailments Infusion of leaves taken to treat a "beneficial effect on the system"	Chandler <i>et al.</i> (1979) Speck (1917) Lacey (1993)		Observed June 2013 Observed July 2013	
Ajioqjominaqsi	Common Blackberry	<i>Rubus alleghaniensis</i>	Sandy ground, old fields, open woodlands, and clearings	Berry used to treat diarrhoea Tea from runners used to as stomach medicine Tea from leaves and berries used to treat sores in mouth and throat	Lacey (1993)	Observed June 2013 Observed July 2013		Observed June 2013 Observed July 2013
	Bristly Dewberry/ Swamp Dewberry	<i>Rubus hispida</i>	Peat bogs, but often on roadsides, damp hollows and barrens	Roots used to treat cough Roots used to treat fever Roots used to treat consumption/Tuberculosis	Chandler <i>et al.</i> (1979)		Observed June 2013 Observed July 2013	
Klitawmanaqsi'k	Red Raspberry	<i>Rubus idaeus</i>	Roadsides, deforested land, talus slopes, and rocky ground	Leaves and roots used to treat rheumatism Berries are a good general tonic	Lacey (1993)	Observed July 2013	Observed July 2013 (ssp <i>strigosus</i>)	
	Dwarf Red Blackberry/ Dwarf Raspberry	<i>Rubus pubescens var. Pubescens</i>	Low-lying boggy land, talus slopes, and often growing luxuriantly under bushes in open woods	Parts of plant used to treat irregular menstruation	Chandler <i>et al.</i> (1979)	Observed July 2013		
	Blackberry, Raspberry	<i>Rubus spp.</i>	Various, depending on species	Tea from runners used to treat stomach issues	Lacey (1977)		Observed July 2013 (<i>R. setosus</i>)	
	Curly Dock	<i>Rumex crispus</i>	Waste places, cultivated ground, roadsides and around dwellings	Infusion of roots used as a purgative Roots used as a purgative Infusion of roots, hemlock, parsley and Prince's pine used to treat "cold in bladder"	Mechling (1959) Chandler <i>et al.</i> (1979)		Observed July 2013	
Lmu'ji'jmnaqsi	Pussy Willow	<i>Salix discolor</i>	On low ground, in wet pastures, in damp, open woods, and along the edges of swamps	Bark used externally to treat bruises, and skin cancer Tea from bark also used to treat colds and kidney ailments	Lacey (1993)		Observed July 2013	Observed July 2013
	Heartleaf Willow	<i>Salix eriocephala</i>	Riverbanks and out on gravel bars. Bottomlands	Bark used to treat colds Bark used to stimulate the appetite Bark used to treat blisters	Chandler <i>et al.</i> (1979)		Observed July 2013	Observed July 2013
Pukulu'skwimanaqsi'l	Red Elderberry	<i>Sambucus racemosa</i>	Meadows, wet places, rocky hillsides and along streams. In rich soils	Barked used to treat emetic and cathartic purposes	Lacey (1993) Chandler <i>et al.</i> (1979)	Observed June 2013 Observed July 2013		
	Clover	<i>Trifolium pratense</i>	Fields and roadsides	Tea from plant used to treat fevers	Lacey (1993)	Observed June 2013		

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Medicinal Use	Sources	Greenfield	Kemptown	Limerock
	Eastern Hemlock	<i>Tsuga canadensis</i>	Northern slopes or ravines	Tea from bark and stems used to treat colds, coughs, "grippe" and influenza Inner bark used to treat diarrhea Inner bark used to treat chapped skin Parts of plant used to treat bowel, stomach and internal troubles Roots and stems used to treat "cold in kidney." And "cold in bladder" Bark used to treat grippe Inner bark used to treat scurvy	Lacey (1993) Chandler <i>et al.</i> (1979) Wallis (1922)			Observed June 2013 Observed July 2013
	Narrow-leaved Cattail	<i>Typha angustifolia</i>	Brackish swales near the coast, inland swamps, ditches, along streams	Roots used to treat gravel	Chandler <i>et al.</i> (1979)		Observed June 2013 Observed July 2013	
	Broadleaf Cattail	<i>Typha latifolia</i>	Swamps, ponds, and ditches in estuaries above the salt water, occasionally in floating bogs.	Leaves used to treat sores	Chandler <i>et al.</i> (1979)	Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
Pkumanaqsi	Low Bush Blueberry	<i>Vaccinium angustifolium</i>	Headlands, peaty barrens, fields, dry soils, sandy areas	Leaves and roots used to treat rheumatism Berries a good general tonic	Lacey (1993)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	

Table B.3: Other Useful Native Plant Species Traditionally Used by Nova Scotia Mi'kmaq Reported from the Greenfield, Kempton and/or Limerock Sites.

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source	Greenfield	Kempton	Limerock
Stoqn	Balsam fir	<i>Abies balsamea</i>	Various	Wood used for kindling and fuel Boughs used to make beds	Speck and Dexter (1951), Unama'ki Institute of Natural Resources, 2012	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Mimkutaqo'q	Moosewood (striped maple)	<i>Acer pensylvanicum</i>	Rocky woods, rich deciduous forests, wooded slopes and along streams	Thin saplings used in wigwam construction	Nova Scotia Museum factsheet, ND	Observed June 2013		Observed July 2013
	Red maple	<i>Acer rubrum</i>	Swamps, alluvial soils, and moist uplands	Used to make basketware	Speck and Dexter (1951)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Snawey	Sugar maple	<i>Acer saccharum</i>	Well-drained soils	Used to make bows and arrows	Speck and Dexter (1951)			Observed July 2013
Tupsi	Alder	<i>Alnus spp.</i>	Low ground in alluvial soils	Bark used to make a dye	Speck and Dexter (1951)	Observed June 2013 (<i>A. incana</i>) Observed July 2013 (<i>A. incana</i>)		Observed July 2013 (<i>A. incana</i> & <i>viridis</i>)
Maskwi	White/paper birch	<i>Betula papyrifera</i>	Forests, especially on slopes	Bark used to make baskets Bark used to make boxes, coffins and other containers Bark used to make canoes Bark used to make dishes and cooking utensils Bark used to make house coverings	Speck and Dexter (1951) Speck and Dexter (1951) Rousseau (1948) Speck and Dexter (1951) Speck and Dexter (1951)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
	Yellow birch	<i>Betula alleghaniensis</i>		Branches used as straps and thongs	Wallis and Wallis 1960	Observed June 2013 Observed July 2013		Observed July 2013
	Birch	<i>Betula spp.</i>	Various depending on species	Bark used to make torches for night fishing Bark used to make trumpets for calling game Bark used to construct containers, boxes, and cups Bark sheets used in wigwam construction	Speck and Dexter (1951) Speck and Dexter (1951) Wallis and Wallis 1955 Nova Scotia Museum factsheet, ND.		Observed July 2013 (<i>B. populifolia</i>)	Observed July 2013 (<i>B. populifolia</i>)
	Beaked hazel	<i>Corylus cornuta</i>		Basketry	Wallis and Wallis 1955	Observed July 2013		Observed July 2013
	American beech	<i>Fagus grandifolia</i>	Fertile uplands, rarely in swamps	Used to make snowshoe frames	Speck and Dexter (1951)			Observed June 2013 Observed July 2013
	White ash	<i>Fraxinus americana</i>	Intervale forests, low ground, and open woods	Used to make axe and knife handles	Speck and Dexter (1951)	Observed June 2013 Observed July 2013		
Apu'tam'kie'jit	Eastern larch/ tamarack	<i>Larix laricina</i>	Bogs and wet depressions in forests	Wood used for kindling and fuel	Speck and Dexter (1951)		Observed July 2013	
Kawatkw	White spruce (cat spruce)	<i>Picea glauca</i>	Old fields and along the coast	Boughs used to make beds. Wood used for kindling and fuel	Speck and Dexter (1951) Speck and Dexter (1951)	Observed July 2013	Observed June 2013 Observed July 2013	Observed July 2013
Kawatkw	Black spruce (bog spruce)	<i>Picea mariana</i>	Bogs, swamps and poorly drained areas	Boughs used to make beds. Roots used as sewing material for canoe birch bark product Wood used for kindling and fuel	Speck and Dexter (1951) Speck and Dexter (1951) Speck and Dexter (1951)	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013
	Eastern white pine	<i>Pinus strobus</i>	Bogs, swamps and poorly drained areas	Wood used for kindling and fuel	Speck and Dexter (1951)		Observed June 2013 Observed July 2013	Observed June 2013 Observed July 2013

Mi'kmaq Name	Common Name	Scientific Name	Habitat	Mi'kmaq Traditional Use	Source	Greenfield	Kempton	Limerock
	Spruce	<i>Picea</i> spp.	See White and/or Black Spruce	Poles for wigwam construction Root used as twine, for sewing	Nova Scotia Museum factsheet, ND Wallis and Wallis (1955)		Observed July 2013 (<i>P. rubens</i>)	Observed July 2013 (<i>P. rubens</i>)
	Willow	<i>Salix</i> spp.	Various, depending on species	Leaves used as tobacco	Speck and Dexter (1951)		Observed July 2013 (<i>S. discolor</i> & <i>S. eriocephala</i>)	Observed July 2013 (<i>S. discolor</i> & <i>S. eriocephala</i>)
	Eastern hemlock	<i>Tsuga canadensis</i>	Northern slopes or ravines	Bark used to make a dye Wood used for kindling and fuel.	Speck and Dexter (1951)			Observed July 2013
	Cattails	<i>Typha</i> spp.	Marshes, wet depressions	Woven into bags and mats	Nova Scotia Museum factsheet, ND	Observed July 2013 (<i>T. latifolia</i>)	Observed July 2013 (<i>T. angustifolia</i> & <i>T. latifolia</i>)	Observed July 2013 (<i>T. latifolia</i>)



Communities,
Culture & Heritage

1741 Brunswick Street
Halifax, Nova Scotia
B3J 2R5

Tel: (902) 424-6475
Fax: (902) 424-0710

August 29, 2014

Laura de Boer
Davis MacIntyre and Associates
109 John Stewart Drive
Dartmouth, NS B2W 4J7

Dear Ms. De Boer:

**RE: Heritage Research Permit Report
A2014NS036 – Kemptown Wind Farm**

We have received and reviewed your report on work conducted under the terms of Heritage Research Permit A2014NS036 for an archaeological resource impact reconnaissance of the Kemptown Wind Farm.

The report details the archaeological resource impact assessment of the proposed Kemptown Wind Project study area near Kemptown, Colchester County, by Davis MacIntyre & Associates in May 2014. The assessment included background and historical research as well as field reconnaissance of the three turbine development. The assessment follows earlier assessment work in 2013. The purpose of the 2014 assessment was to determine the potential for archaeological resources within the development zone.

The only area of archaeological concern identified during the assessment was the region northwest of the stone wall near Turbine 2. The wall and piles of stone suggest agricultural activity in the form of field clearing and pasture construction. No house feature could be located and based on historical mapping the house could be located further north. Though the above features are considered to be of low archaeological significance, it could indicate more significant archaeological resources nearby. The remainder of the study area is found to be undulating ground, far from significant watercourses or other features that might attract human settlement. As such, it is not considered to be of elevated potential for either First Nations or historic European occupation.

Based on the above, it is recommended that the stone wall and the area to the northwest of the wall be avoided by heavy equipment during turbine construction if at all possible. The area surrounding the remaining two turbines showed no signs of archaeological resources or areas of elevated archaeological potential.

If the turbine or access road layout is significantly altered, it is recommended that the new layout be reassessed by a qualified archaeologist. In the unlikely event that any archaeological material is encountered during ground disturbance activities, all activity should stop and the Coordinator of Special Places contacted.

CCH staff finds the report acceptable as submitted. Please do not hesitate to contact me should you have any questions or concerns.

Sincerely,

Sean Weseloh McKeane
Coordinator, Special Places

cc: Lisa Fulton, Affinity Wind / RMS Energy



DATA REPORT 5234: Kemptown 2, NS

Prepared 10 June 2014
by J. Churchill, Data Manager

CONTENTS OF REPORT

1.0 Preface

- 1.1 Data List
- 1.2 Restrictions
- 1.3 Additional Information
- Map 1: Buffered Study Area

2.0 Rare and Endangered Species

- 2.1 Flora
- 2.2 Fauna
- Map 2: Flora and Fauna

3.0 Special Areas

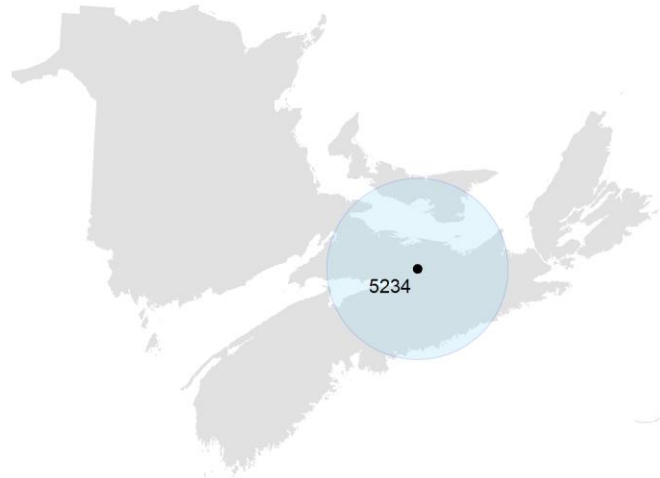
- 3.1 Managed Areas
- 3.2 Significant Areas
- Map 3: Special Areas

4.0 Rare Species Lists

- 4.1 Fauna
- 4.2 Flora
- 4.3 Location Sensitive Species
- 4.4 Source Bibliography

5.0 Rare Species within 100 km

- 5.1 Source Bibliography



Map 1. A 100 km buffer around the study area

1.0 PREFACE

The Atlantic Canada Conservation Data Centre (ACCDC) is part of a network of NatureServe data centres and heritage programs serving 50 states in the U.S.A, 10 provinces and 1 territory in Canada, plus several Central and South American countries. The NatureServe network is more than 30 years old and shares a common conservation data methodology. The ACCDC was founded in 1997, and maintains data for the jurisdictions of New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Although a non-governmental agency, the ACCDC is supported by 6 federal agencies and 4 provincial governments, as well as through outside grants and data processing fees. URL: www.ACCDC.com.

Upon request and for a fee, the ACCDC queries its database and produces customized reports of the rare and endangered flora and fauna known to occur in or near a specified study area. As a supplement to that data, the ACCDC includes locations of managed areas with some level of protection, and known sites of ecological interest or sensitivity.

1.1 DATA LIST

Included datasets:

Filename	Contents
Kemptown2NS_5234ob.xls	All Rare and legally protected <i>Flora and Fauna</i> within 5 km of your study area
Kemptown2NS_5234ob100km.xls	A list of Rare and legally protected <i>Flora and Fauna</i> within 100 km of your study area
Kemptown2NS_5234ma.xls	All <i>Managed Areas</i> in your study area
Kemptown2NS_5234sa.xls	All <i>Significant Natural Areas</i> in your study area
Kemptown2NS_5234ff.xls	Rare and common <i>Freshwater Fish</i> in your study area (DFO database)

1.2 RESTRICTIONS

The ACCDC makes a strong effort to verify the accuracy of all the data that it manages, but it shall not be held responsible for any inaccuracies in data that it provides. By accepting ACCDC data, recipients assent to the following limits of use:

- a) Data is restricted to use by trained personnel who are sensitive to landowner interests and to potential threats to rare and/or endangered flora and fauna posed by the information provided.
- b) Data is restricted to use by the specified Data User; any third party requiring data must make its own data request.
- c) The ACCDC requires Data Users to cease using and delete data 12 months after receipt, and to make a new request for updated data if necessary at that time.
- d) ACCDC data responses are restricted to the data in our Data System at the time of the data request.
- e) Each record has an estimate of locational uncertainty, which must be referenced in order to understand the record's relevance to a particular location. Please see attached Data Dictionary for details.
- f) ACCDC data responses are not to be construed as exhaustive inventories of taxa in an area.
- g) The absence of a taxon cannot be inferred by its absence in an ACCDC data response.

1.3 ADDITIONAL INFORMATION

The attached file DataDictionary 2.1.pdf provides metadata for the data provided.

Please direct any additional questions about ACCDC data to the following individuals:

Plants, Lichens, Ranking Methods, All other Inquiries

Sean Blaney, Botanist, Executive Director (effective 10 June, 2014)

Tel: (506) 364-2658

sblaney@mta.ca

Animals (Fauna)

John Klymko, Zoologist

Tel: (506) 364-2660

jklymko@mta.ca

Plant Communities

Sarah Robinson, Community Ecologist

Tel: (506) 364-2664

srobinson@mta.ca

Data Management, GIS

James Churchill, Data Manager

Tel: (902) 679-6146

jlchurchill@mta.ca

Billing

Cindy Spicer

Tel: (506) 364-2665

cspicer@mta.ca

Questions on the biology of Federal Species at Risk can be directed to ACCDC: (506) 364-2657, with questions on Species at Risk regulations to: Samara Eaton, Canadian Wildlife Service (NB and PE): (506) 364-5060 or Julie McKnight, Canadian Wildlife Service (NS): (902) 426-4196.

For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in New Brunswick, please contact Stewart Lusk, Natural Resources: (506) 453-7110.

For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in Nova Scotia, please contact Sherman Boates, NSDNR: (902) 679-6146. To determine if location-sensitive species (section 4.3) occur near your study site please contact a NSDNR Regional Biologist:

Western: Duncan Bayne

(902) 648-3536

baynedz@gov.ns.ca

Western: Donald Sam

(902) 634-7525

samdx@gov.ns.ca

Central: Shavonne Meyer

(902) 893-6353

meyersj@gov.ns.ca

Central: Kimberly George

(902) 893-5630

georgeka@gov.ns.ca

Eastern: Mark Pulsifer

(902) 863-7523

pulsifmd@gov.ns.ca

Eastern: Donald Anderson

(902) 295-3949

andersdg@gov.ns.ca

Eastern: Terry Power

(902) 563-3370

powertd@gov.ns.ca

For provincial information about rare taxa and protected areas, or information about game animals, fish habitat etc., in Prince Edward Island, please contact Rosemary Curley, PEI Dept. of Agriculture and Forestry: (902) 368-4807.

2.0 RARE AND ENDANGERED SPECIES

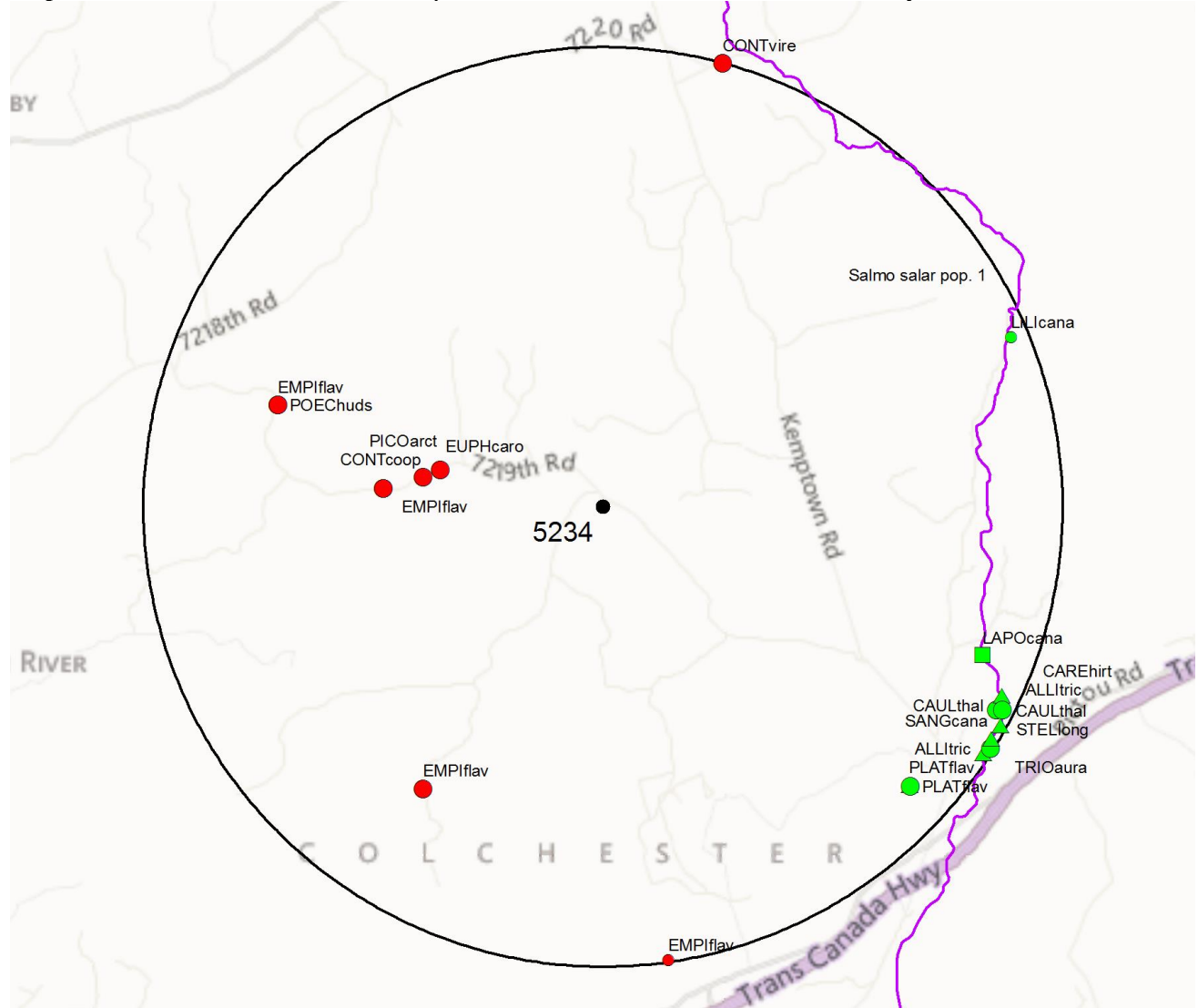
2.1 FLORA

A 5 km buffer around the study area contains 18 records of 9 vascular, no records of nonvascular flora (Map 2 and attached: *ob.xls).

2.2 FAUNA

A 5 km buffer around the study area contains 10 records of 6 vertebrate, no records of invertebrate fauna (Map 2 and attached data files - see 1.1 Data List). Please see section 4.3 to determine if “location-sensitive” species occur near your study site.

Map 2: Known observations of rare and/or protected flora and fauna within 5 km of the study area.



RESOLUTION

- 4.7 within 50s of kilometers
- 4.0 within 10s of kilometers
- 3.7 within 5s of kilometers
- △ 3.0 within kilometers
- △ 2.7 within 500s of meters
- ◇ 2.0 within 100s of meters
- ◇ 1.7 within 10s of meters

HIGHER TAXON

- vertebrate fauna
- invertebrate fauna
- vascular flora
- nonvascular flora

3.0 SPECIAL AREAS

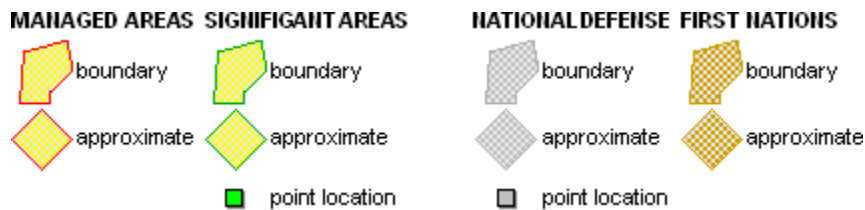
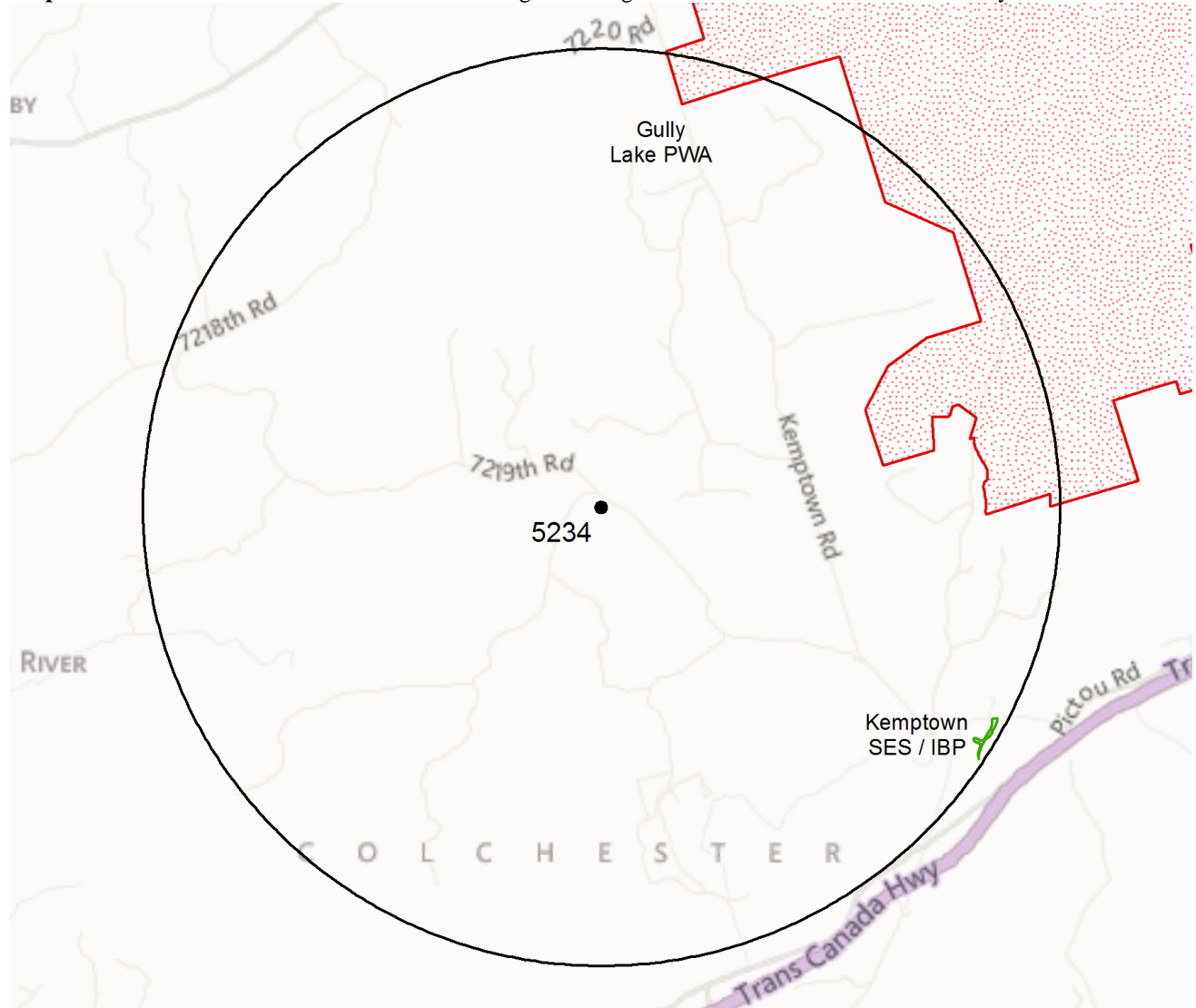
3.1 MANAGED AREAS

The GIS scan identified 1 managed area in the vicinity of the study area (Map 3 and attached file: *ma*.xls)

3.2 SIGNIFICANT AREAS

The GIS scan identified 1 biologically significant site in the vicinity of the study area (Map 3 and attached file: *sa*.xls)

Map 3: Boundaries and/or locations of known Managed and Significant Areas within 5 km of the study area.



4.0 RARE SPECIES LISTS

Rare and/or endangered taxa within the 5 km-buffered area listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation. [P] = vascular plant, [N] = nonvascular plant, [A] = vertebrate animal, [I] = invertebrate animal, [C] = community.

4.1 FLORA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Allium tricoccum</i>	Wild Leek				S1	2 May Be At Risk	4	4.8 ± 0.1
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2	2 May Be At Risk	6	4.8 ± 0.1
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S2	3 Sensitive	1	5.0 ± 0.15
P	<i>Platanthera flava</i>	Southern Rein-Orchid				S2	3 Sensitive	2	4.5 ± 0.1
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S2S3	3 Sensitive	1	4.8 ± 1.0
P	<i>Lilium canadense</i>	Canada Lily				S2S3	3 Sensitive	1	4.8 ± 0.01
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S3	3 Sensitive	1	4.9 ± 0.4
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	3 Sensitive	1	4.4 ± 10.0
P	<i>Sanguinaria canadensis</i>	Bloodroot				S3S4	4 Secure	1	4.9 ± 2.0

4.2 FAUNA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
A	<i>Salmo salar pop. 1</i>	Atlantic Salmon - Inner Bay of Fundy pop.	Endangered			S2		9	0 ± 0
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Threatened	Threatened	Threatened	S3B	1 At Risk	2	2.4 ± 0.15
A	<i>Salmo salar pop. 12</i>	Atlantic Salmon - Gaspé - Southern Gulf of St Lawrence pop.	Special Concern			S2		1	0 ± 0
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2S3B	2 May Be At Risk	1	2.0 ± 0.15
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern		Vulnerable	S3S4B	3 Sensitive	1	5.0 ± 0.15
A	<i>Poecile hudsonica</i>	Boreal Chickadee				S3	3 Sensitive	1	3.7 ± 0.15
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	3 Sensitive	1	1.8 ± 0.15
A	<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher				S3S4B	3 Sensitive	4	5.0 ± 0.03

4.3 LOCATION SENSITIVE SPECIES

The Department of Natural Resources in each Maritimes province considers a number of species “location sensitive”. Concern about exploitation of location-sensitive species precludes inclusion of precise coordinates in this report. Those intersecting your study area are indicated below.

Nova Scotia

Scientific Name	Common Name	SARA	Prov Legal Prot	Known within 5 km of Study Site?
<i>Fraxinus nigra</i>	Black Ash		Threatened	No
<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	No
<i>Emydoidea blandingii</i>	Blanding's Turtle - Nova Scotia pop.	Endangered	Vulnerable	No
<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Vulnerable	No
<i>Bat Hibernaculum</i>			[Endangered] ¹	No

¹ *Myotis lucifugus* (Little Brown Myotis), *Myotis septentrionalis* (Long-eared Myotis), and *Perimyotis subflavus* (Tri-colored Bat or Eastern Pipistrelle) are all Endangered under the NS Endangered Species Act.

4.4 SOURCE BIBLIOGRAPHY

The recipient of these data shall acknowledge the ACCDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

# recs	CITATION
9	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 400,000 recs.
5	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
5	Pronych, G. & Wilson, A. 1993. Atlas of Rare Vascular Plants in Nova Scotia. Nova Scotia Museum, Halifax NS, I:1-168, II:169-331. 1446 recs.
2	Newell, R. E. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University. 2013.
2	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: http://luxor.acadiau.ca/library/Herbarium/project/ . 582 recs.
1	Amiro, P.G. 1998. Atlantic Salmon Inner Bay of Fundy SFA 22 & part of 23. DFO Sci. SSR D3-12.
1	Benjamin, L.K. (compiler). 2002. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 32 spp, 683 recs.
1	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
1	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
1	Cameron, R.P. 2012. Additional rare plant records, 2009. , 7 recs.
1	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
1	NS DOE. Protected Areas
1	Staff, DNR 2007. Restricted & Limited Use Land Database (RLUL).

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 20020 records of 141 vertebrate and 1345 records of 98 invertebrate fauna; 5566 records of 466 vascular, 624 records of 88 nonvascular flora (attached: *ob100km.xls).

Rare and/or endangered taxa within the 100 km-buffered area listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation.

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered		Endangered	S1	1 At Risk	67	24.1 ± 0.5
A	<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	Endangered		Endangered	S1	1 At Risk	83	41.6 ± 0.1
A	<i>Perimyotis subflavus</i>	Eastern Pipistrelle	Endangered		Endangered	S1	1 At Risk	7	40.8 ± 5.0
A	<i>Morone saxatilis</i> pop. 2	Striped Bass- Bay of Fundy pop.	Endangered			S1	2 May Be At Risk	2	59.9 ± 0.5
A	<i>Charadrius melodius</i> ssp	Piping Plover melodius ssp	Endangered	Endangered	Endangered	S1B	1 At Risk	876	29.0 ± 0.1
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	1 At Risk	20	88.4 ± 0.5
A	<i>Dermodochelys coriacea</i> (Atlantic pop.)	Leatherback Sea Turtle - Atlantic pop.	Endangered	Endangered		S1S2N	1 At Risk	1	95.6 ± 1.0
A	<i>Salmo salar</i> pop. 1	Atlantic Salmon - Inner Bay of Fundy pop.	Endangered	Endangered		S2	2 May Be At Risk	26	6.1 ± 0.5
A	<i>Calidris canutus rufa</i>	Red Knot rufa ssp	Endangered		Endangered	S2S3M	1 At Risk	141	26.1 ± 0.5
A	<i>Colinus virginianus</i>	Northern Bobwhite	Endangered	Endangered				1	54.4 ± 0.15
A	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Threatened			S1?	2 May Be At Risk	3	46.1 ± 0.5
A	<i>Caprimulgus vociferus</i>	Whip-Poor-Will	Threatened	Threatened	Threatened	S1?B	1 At Risk	13	53.2 ± 7.07
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened			S1B	5 Undetermined	32	6.1 ± 7.07
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened			S1B	3 Sensitive	1	95.6 ± 7.07
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Special Concern	Endangered	S1S2B	1 At Risk	1	72.7 ± 7.07
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2	3 Sensitive	238	15.6 ± 1.0
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2S3B	1 At Risk	162	5.4 ± 7.07
A	<i>Hirundo rustica</i>	Barn Swallow	Threatened		Endangered	S3B	1 At Risk	1010	5.4 ± 7.07
A	<i>Wilsonia canadensis</i>	Canada Warbler	Threatened	Threatened	Endangered	S3B	1 At Risk	729	5.4 ± 7.07
A	<i>Chordeiles minor</i>	Common Nighthawk	Threatened	Threatened	Threatened	S3B	1 At Risk	360	8.9 ± 0.05
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Threatened	Threatened	Threatened	S3B	1 At Risk	842	2.4 ± 0.15
A	<i>Riparia riparia</i>	Bank Swallow	Threatened			S3B	2 May Be At Risk	488	8.5 ± 7.07
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened		Vulnerable	S3S4B	3 Sensitive	714	6.1 ± 7.07
A	<i>Anguilla rostrata</i>	American Eel	Threatened			S5	4 Secure	5	42.8 ± 0.5
A	<i>Ixobrychus exilis</i>	Least Bittern	Threatened	Threatened		SNRB	5 Undetermined	3	91.9 ± 0.15
A	<i>Morone saxatilis</i> pop. 1	Striped Bass- Southern Gulf of St Lawrence pop.	Special Concern			S1	2 May Be At Risk	1	95.2 ± 1.0
A	<i>Falco peregrinus</i> pop. 1	Peregrine Falcon - anatum/tundrius	Special Concern	Special Concern	Vulnerable	S1B	3 Sensitive	47	76.4 ± 0.5
A	<i>Passerculus sandwichensis princeps</i>	Savannah Sparrow princeps ssp	Special Concern	Special Concern		S1B	3 Sensitive	2	88.5 ± 0.15
A	<i>Bucephala islandica</i> (Eastern pop.)	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern		S1N	1 At Risk	4	45.4 ± 0.1
A	<i>Asio flammeus</i>	Short-eared Owl	Special Concern	Special Concern		S1S2	2 May Be At Risk	12	35.3 ± 7.07
A	<i>Histrionicus histrionicus</i> pop. 1	Harlequin Duck - Eastern pop.	Special Concern	Special Concern	Endangered	S2N	1 At Risk	12	86.5 ± 2.45
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2S3B	2 May Be At Risk	232	2.0 ± 0.15
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern		Vulnerable	S3S4B	3 Sensitive	717	5.0 ± 0.15
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S5	4 Secure	69	12.4 ± 0.01
A	<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	Special Concern			SNA	8 Accidental	1	94.9 ± 0.5
A	<i>Lithobates palustris</i>	Pickerel Frog	Not At Risk			S1	2 May Be At Risk	8	86.5 ± 0.05
A	<i>Sorex dispar</i>	Long-tailed Shrew	Not At Risk	Special Concern		S1	3 Sensitive	2	47.1 ± 0.2
A	<i>Accipiter cooperii</i>	Cooper's Hawk	Not At Risk			S1?B,SNAN	5 Undetermined	4	25.6 ± 7.07
A	<i>Fulica americana</i>	American Coot	Not At Risk			S1B	5 Undetermined	22	30.1 ± 7.07

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
A	<i>Chlidonias niger</i>	Black Tern	Not At Risk			S1B	2 May Be At Risk	15	91.8 ± 0.15
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk			S1B	5 Undetermined	8	16.3 ± 0.15
A	<i>Buteo lineatus</i>	Red-shouldered Hawk	Not At Risk	Special Concern		S2B	2 May Be At Risk	1	90.6 ± 1.0
A	<i>Globicephala melas</i>	Long-finned Pilot Whale	Not At Risk			S2S3		1	55.7 ± 100.0
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk			S3	4 Secure	24	26.6 ± 0.1
A	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Not At Risk		Reg.Endangere d	S3B	1 At Risk	4	87.0 ± 7.07
A	<i>Buteo jamaicensis</i>	Red-tailed Hawk	Not At Risk			S3B	4 Secure	29	62.2 ± 7.07
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B	3 Sensitive	325	26.3 ± 0.5
A	<i>Sialia sialis</i>	Eastern Bluebird	Not At Risk			S3B	3 Sensitive	55	14.9 ± 7.07
A	<i>Gavia immer</i>	Common Loon	Not At Risk			S3B,S4N	2 May Be At Risk	588	5.4 ± 7.07
A	<i>Accipiter gentilis</i>	Northern Goshawk	Not At Risk			S3S4	4 Secure	101	6.1 ± 7.07
A	<i>Puma concolor pop. 1</i>	Cougar - Eastern pop.	Data Deficient			SH	5 Undetermined	73	8.7 ± 1.0
A	<i>Alces americanus</i>	Moose			Endangered	S1	1 At Risk	36	14.4 ± 0.5
A	<i>Dryocopus pileatus</i>	Pileated Woodpecker				S1	3 Sensitive	13	62.2 ± 7.07
A	<i>Sitta carolinensis</i>	White-breasted Nuthatch				S1	2 May Be At Risk	7	75.5 ± 7.07
A	<i>Lasiurus cinereus</i>	Hoary Bat				S1	2 May Be At Risk	1	78.7 ± 0.5
A	<i>Sorex palustris</i>	American Water Shrew				S1?	4 Secure	1	81.7 ± 0.1
A	<i>Buteo platypterus</i>	Broad-winged Hawk				S1?B	4 Secure	3	59.0 ± 7.07
A	<i>Toxostoma rufum</i>	Brown Thrasher				S1?B	5 Undetermined	10	20.1 ± 7.07
A	<i>Vireo gilvus</i>	Warbling Vireo				S1?B	5 Undetermined	15	18.0 ± 7.07
A	<i>Tringa solitaria</i>	Solitary Sandpiper				S1?B,S4S5M	4 Secure	16	45.5 ± 0.5
A	<i>Larus delawarensis</i>	Ring-billed Gull				S1?B,S5N	4 Secure	32	54.5 ± 0.03
A	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron				S1B	2 May Be At Risk	1	98.4 ± 7.07
A	<i>Gallinula chloropus</i>	Common Moorhen				S1B	5 Undetermined	14	17.7 ± 7.07
A	<i>Bartramia longicauda</i>	Upland Sandpiper				S1B	3 Sensitive	16	87.2 ± 7.07
A	<i>Phalaropus tricolor</i>	Wilson's Phalarope				S1B	3 Sensitive	7	90.6 ± 1.0
A	<i>Progne subis</i>	Purple Martin				S1B	2 May Be At Risk	11	61.7 ± 7.07
A	<i>Cistothorus palustris</i>	Marsh Wren				S1B	5 Undetermined	12	91.7 ± 0.15
A	<i>Aythya marila</i>	Greater Scaup				S1B,S2N	4 Secure	1	96.2 ± 0.15
A	<i>Lophodytes cucullatus</i>	Hooded Merganser				S1B,S4M	4 Secure	2	91.6 ± 0.15
A	<i>Oxyura jamaicensis</i>	Ruddy Duck				S1B,S4N	4 Secure	5	89.3 ± 1.0
A	<i>Fratercula arctica</i>	Atlantic Puffin				S1B,S4S5N	3 Sensitive	2	90.1 ± 7.07
A	<i>Calidris minutilla</i>	Least Sandpiper				S1B,S5M	4 Secure	329	26.1 ± 0.5
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker				S1S2	5 Undetermined	5	65.4 ± 7.07
A	<i>Butorides virescens</i>	Green Heron				S1S2B	3 Sensitive	1	90.6 ± 1.0
A	<i>Passerina cyanea</i>	Indigo Bunting				S1S2B	5 Undetermined	14	22.8 ± 0.15
A	<i>Eremophila alpestris</i>	Horned Lark				S1S2B,S4N	4 Secure	7	37.7 ± 7.07
A	<i>Charadrius semipalmatus</i>	Semipalmated Plover				S1S2B,S5M	4 Secure	501	26.1 ± 0.5
A	<i>Loxia curvirostra</i>	Red Crossbill				S1S2B,SNAN	5 Undetermined	3	77.3 ± 7.07
A	<i>Asio otus</i>	Long-eared Owl				S2	2 May Be At Risk	36	27.8 ± 7.07
A	<i>Salmo salar</i>	Atlantic Salmon				S2	2 May Be At Risk	68	16.4 ± 50.0
A	<i>Vireo philadelphicus</i>	Philadelphia Vireo				S2?B	5 Undetermined	45	12.0 ± 0.15
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2B	2 May Be At Risk	97	53.1 ± 7.07
A	<i>Anas acuta</i>	Northern Pintail				S2B	2 May Be At Risk	51	24.4 ± 5.2
A	<i>Anas clypeata</i>	Northern Shoveler				S2B	2 May Be At Risk	44	35.9 ± 0.15
A	<i>Anas strepera</i>	Gadwall				S2B	2 May Be At Risk	56	27.6 ± 7.07
A	<i>Rallus limicola</i>	Virginia Rail				S2B	5 Undetermined	52	27.5 ± 7.07
A	<i>Empidonax traillii</i>	Willow Flycatcher				S2B	3 Sensitive	25	18.0 ± 7.07
A	<i>Myiarchus crinitus</i>	Great Crested Flycatcher				S2B	2 May Be At Risk	15	8.5 ± 7.07
A	<i>Piranga olivacea</i>	Scarlet Tanager				S2B	5 Undetermined	13	30.0 ± 7.07
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak				S2B,S4N	3 Sensitive	40	68.7 ± 7.07
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S2B,S4S5N	3 Sensitive	1	15.9 ± 0.15
A	<i>Bucephala clangula</i>	Common Goldeneye				S2B,S5N	4 Secure	94	29.5 ± 9.7
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				S2M,S1N	3 Sensitive	1	90.6 ± 1.0
A	<i>Sorex hoyi</i>	American Pygmy Shrew				S2S3	4 Secure	1	89.5 ± 5.0

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
A	<i>Cathartes aura</i>	Turkey Vulture				S2S3B	3 Sensitive	11	54.4 ± 0.15
A	<i>Tringa semipalmata</i>	Willet				S2S3B	2 May Be At Risk	595	27.5 ± 7.07
A	<i>Poocetes gramineus</i>	Vesper Sparrow				S2S3B	2 May Be At Risk	58	6.1 ± 7.07
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S2S3B	4 Secure	150	8.5 ± 7.07
A	<i>Icterus galbula</i>	Baltimore Oriole				S2S3B	2 May Be At Risk	59	27.5 ± 7.07
A	<i>Phalaropus lobatus</i>	Red-necked Phalarope				S2S3M	3 Sensitive	7	35.1 ± 0.5
A	<i>Poecile hudsonica</i>	Boreal Chickadee				S3	3 Sensitive	566	3.7 ± 0.15
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3?B	2 May Be At Risk	103	18.0 ± 7.07
A	<i>Dendroica tigrina</i>	Cape May Warbler				S3?B	3 Sensitive	142	8.5 ± 7.07
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S3?B,S5N	2 May Be At Risk	110	6.1 ± 7.07
A	<i>Podilymbus podiceps</i>	Pied-billed Grebe				S3B	3 Sensitive	152	6.1 ± 7.07
A	<i>Anas discors</i>	Blue-winged Teal				S3B	2 May Be At Risk	266	17.7 ± 7.07
A	<i>Anas americana</i>	American Wigeon				S3B	4 Secure	18	87.0 ± 7.07
A	<i>Sterna paradisaea</i>	Arctic Tern				S3B	2 May Be At Risk	34	83.5 ± 0.5
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S3B	2 May Be At Risk	298	6.1 ± 7.07
A	<i>Dumetella carolinensis</i>	Gray Catbird				S3B	2 May Be At Risk	406	6.1 ± 7.07
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S3B	4 Secure	45	35.3 ± 7.07
A	<i>Seiurus noveboracensis</i>	Northern Waterthrush				S3B	4 Secure	24	62.2 ± 7.07
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs				S3B,S5M	3 Sensitive	499	29.3 ± 0.5
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3B,S5N	4 Secure	76	27.5 ± 7.07
A	<i>Larus argentatus</i>	Herring Gull				S3B,S5N	4 Secure	26	53.1 ± 7.07
A	<i>Branta bernicla</i>	Brant				S3M	3 Sensitive	9	69.4 ± 0.3
A	<i>Pluvialis dominica</i>	American Golden-Plover				S3M	3 Sensitive	70	36.3 ± 0.5
A	<i>Numenius phaeopus hudsonicus</i>	Hudsonian Whimbrel				S3M	3 Sensitive	54	30.5 ± 0.5
A	<i>Limosa haemastica</i>	Hudsonian Godwit				S3M	3 Sensitive	50	34.4 ± 0.5
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper				S3M	3 Sensitive	475	26.1 ± 0.5
A	<i>Bucephala albeola</i>	Bufflehead				S3N	3 Sensitive	2	89.3 ± 1.0
A	<i>Calidris maritima</i>	Purple Sandpiper				S3N	3 Sensitive	21	41.8 ± 0.5
A	<i>Cephus grylle</i>	Black Guillemot				S3S4	4 Secure	60	33.8 ± 0.15
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	3 Sensitive	153	1.8 ± 0.15
A	<i>Perisoreus canadensis</i>	Gray Jay				S3S4	3 Sensitive	444	6.1 ± 7.07
A	<i>Cardinalis cardinalis</i>	Northern Cardinal				S3S4	4 Secure	38	14.0 ± 7.07
A	<i>Botaurus lentiginosus</i>	American Bittern				S3S4B	3 Sensitive	265	14.0 ± 7.07
A	<i>Charadrius vociferus</i>	Killdeer				S3S4B	3 Sensitive	627	5.4 ± 7.07
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B	3 Sensitive	683	5.4 ± 7.07
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3S4B	3 Sensitive	554	5.4 ± 7.07
A	<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher				S3S4B	3 Sensitive	554	2.4 ± 0.15
A	<i>Sayornis phoebe</i>	Eastern Phoebe				S3S4B	3 Sensitive	188	6.1 ± 7.07
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3S4B	3 Sensitive	325	6.1 ± 7.07
A	<i>Vermivora peregrina</i>	Tennessee Warbler				S3S4B	3 Sensitive	363	5.4 ± 7.07
A	<i>Dendroica castanea</i>	Bay-breasted Warbler				S3S4B	3 Sensitive	455	5.4 ± 7.07
A	<i>Dendroica striata</i>	Blackpoll Warbler				S3S4B	3 Sensitive	91	13.7 ± 7.07
A	<i>Wilsonia pusilla</i>	Wilson's Warbler				S3S4B	3 Sensitive	82	14.0 ± 7.07
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S3S4B	3 Sensitive	513	5.4 ± 7.07
A	<i>Passerella iliaca</i>	Fox Sparrow				S3S4B	4 Secure	55	39.3 ± 0.15
A	<i>Carduelis pinus</i>	Pine Siskin				S3S4B,S5N	3 Sensitive	356	5.4 ± 7.07
A	<i>Aythya americana</i>	Redhead				SHB,SNAM	4 Secure	2	93.1 ± 7.07
I	<i>Gomphus ventricosus</i>	Skillet Clubtail	Endangered	Endangered		S1	2 May Be At Risk	2	70.3 ± 0.5
I	<i>Barnea truncata</i>	Atlantic Mud-piddock	Threatened					1	52.7 ± 1.0
I	<i>Alasmidonta varicosa</i>	Brook Floater	Special Concern		Threatened	S1S2	3 Sensitive	16	35.0 ± 0.1
I	<i>Danaus plexippus</i>	Monarch	Special Concern	Special Concern		S2B	3 Sensitive	50	18.1 ± 1.0
I	<i>Lycaena hyllus</i>	Bronze Copper				S1	4 Secure	33	29.4 ± 0.05
I	<i>Satyrium acadica</i>	Acadian Hairstreak				S1	5 Undetermined	8	36.2 ± 1.0
I	<i>Satyrium liparops strigosum</i>	Striped Hairstreak				S1		1	82.9 ± 10.0
I	<i>Erora laeta</i>	Early Hairstreak				S1	2 May Be At Risk	1	81.3 ± 0.5
I	<i>Polygonia gracilis</i>	Hoary Comma				S1	3 Sensitive	2	18.1 ± 1.0
I	<i>Oeneis jutta</i>	Jutta Arctic				S1	2 May Be At Risk	16	64.1 ± 0.1

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
	<i>Ophiogomphus aspersus</i>	Brook Snaketail				S1	2 May Be At Risk	5	63.1 ± 0.1
	<i>Ophiogomphus mainensis</i>	Maine Snaketail				S1	2 May Be At Risk	3	43.9 ± 0.05
	<i>Aeshna subarctica</i>	Subarctic Darner				S1	2 May Be At Risk	6	67.5 ± 1.0
	<i>Basiaeschna janata</i>	Springtime Darner				S1	2 May Be At Risk	3	95.4 ± 1.0
	<i>Boyeria vinosa</i>	Fawn Darner				S1	2 May Be At Risk	2	88.3 ± 1.0
	<i>Dorocordulia lepida</i>	Petite Emerald				S1	2 May Be At Risk	4	67.5 ± 1.0
	<i>Neurocordulia michaeli</i>	Broadtailed Shadowdragon				S1		26	48.1 ± 0.05
	<i>Somatochlora brevicincta</i>	Quebec Emerald				S1	2 May Be At Risk	2	86.7 ± 0.1
	<i>Somatochlora cingulata</i>	Lake Emerald				S1	2 May Be At Risk	3	84.6 ± 0.1
	<i>Somatochlora forcipata</i>	Forcipate Emerald				S1	2 May Be At Risk	2	88.0 ± 1.0
	<i>Somatochlora franklini</i>	Delicate Emerald				S1	3 Sensitive	6	47.7 ± 1.0
	<i>Somatochlora incurvata</i>	Incurvate Emerald				S1	2 May Be At Risk	3	92.5 ± 1.0
	<i>Somatochlora minor</i>	Ocellated Emerald				S1	2 May Be At Risk	2	85.0 ± 0.1
	<i>Williamsonia fletcheri</i>	Ebony Boghaunter				S1	2 May Be At Risk	7	41.1 ± 0.5
	<i>Celithemis elisa</i>	Calico Pennant				S1	2 May Be At Risk	1	86.9 ± 0.1
	<i>Leucorrhinia frigida</i>	Frosted Whiteface				S1	2 May Be At Risk	2	86.9 ± 0.1
	<i>Sympetrum danae</i>	Black Meadowhawk				S1	2 May Be At Risk	6	81.7 ± 1.0
	<i>Calopteryx maculata</i>	Ebony Jewelwing				S1	2 May Be At Risk	1	90.7 ± 0.1
	<i>Coenagrion resolutum</i>	Taiga Bluet				S1	2 May Be At Risk	6	35.9 ± 0.1
	<i>Enallagma minusculum</i>	Little Bluet				S1	2 May Be At Risk	27	86.9 ± 0.1
	<i>Enallagma aspersum</i>	Azure Bluet				S1	2 May Be At Risk	5	67.5 ± 1.0
	<i>Enallagma signatum</i>	Orange Bluet				S1	2 May Be At Risk	1	79.8 ± 0.1
	<i>Chromagrion conditum</i>	Aurora Damsel				S1	2 May Be At Risk	2	63.4 ± 1.0
	<i>Leptodea ochracea</i>	Tidewater Mucket				S1	3 Sensitive	18	82.3 ± 0.5
	<i>Strophitus undulatus</i>	Creeper				S1	2 May Be At Risk	6	65.2 ± 1.0
	<i>Calophrys lanoraieensis</i>	Bog Elfin				S1S2	2 May Be At Risk	9	29.8 ± 0.01
	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S2	4 Secure	7	18.1 ± 1.0
	<i>Ophiogomphus rupinsulensis</i>	Rusty Snaketail				S1S2	2 May Be At Risk	19	62.5 ± 0.5
	<i>Somatochlora kennedyi</i>	Kennedy's Emerald				S1S2	2 May Be At Risk	5	88.2 ± 1.0
	<i>Stylurus scudderii</i>	Zebra Clubtail				S1S2	2 May Be At Risk	4	62.5 ± 0.5
	<i>Thorybes pylades</i>	Northern Cloudywing				S2	3 Sensitive	13	34.7 ± 0.01
	<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper				S2	4 Secure	16	51.1 ± 0.5
	<i>Amblyscirtes vialis</i>	Common Roadside-Skipper				S2	4 Secure	15	38.0 ± 1.0
	<i>Pieris oleracea</i>	Mustard White				S2	3 Sensitive	77	9.9 ± 1.0
	<i>Lycaena dospassosi</i>	Salt Marsh Copper				S2	1 At Risk	60	28.3 ± 0.1
	<i>Satyrium calanus</i>	Banded Hairstreak				S2	5 Undetermined	5	27.7 ± 1.0
	<i>Calophrys henrici</i>	Henry's Elfin				S2	4 Secure	6	50.4 ± 0.01
	<i>Calophrys niphon</i>	Eastern Pine Elfin				S2	4 Secure	7	84.7 ± 1.0
	<i>Boloria chariclea</i>	Arctic Fritillary				S2	3 Sensitive	5	19.2 ± 1.0
	<i>Polygonia comma</i>	Eastern Comma				S2	1 At Risk	1	97.5 ± 1.0
	<i>Polygonia satyrus</i>	Satyr Comma				S2	2 May Be At Risk	4	86.9 ± 0.1
	<i>Aglais milberti</i>	Milbert's Tortoiseshell				S2	4 Secure	10	33.8 ± 1.0
	<i>Gomphus descriptus</i>	Harpoon Clubtail				S2	3 Sensitive	2	46.2 ± 1.0
	<i>Gomphus spicatus</i>	Dusky Clubtail				S2	2 May Be At Risk	18	85.5 ± 0.1
	<i>Epiptera princeps</i>	Prince Baskettail				S2	3 Sensitive	16	41.1 ± 0.5
	<i>Leucorrhinia glacialis</i>	Crimson-Ringed Whiteface				S2	3 Sensitive	21	63.4 ± 1.0
	<i>Lestes eurinus</i>	Amber-Winged Spreadwing				S2	2 May Be At Risk	3	67.5 ± 1.0
	<i>Lampsilis radiata</i>	Eastern Lampmussel				S2	3 Sensitive	69	25.9 ± 0.1
	<i>Pantala flavescens</i>	Wandering Glider				S2B	2 May Be At Risk	1	80.4 ± 1.0
	<i>Pantala hymenaea</i>	Spot-Winged Glider				S2B	3 Sensitive	2	87.0 ± 1.0
	<i>Erynnis juvenalis</i>	Juvenal's Duskywing				S2S3	4 Secure	20	27.7 ± 1.0
	<i>Alasmidonta undulata</i>	Triangle Floater				S2S3	4 Secure	36	26.8 ± 0.9
	<i>Ancyloxypha numitor</i>	Least Skipper				S3	3 Sensitive	19	79.8 ± 0.01
	<i>Hesperia comma</i>	Common Branded Skipper				S3	4 Secure	43	24.7 ± 0.25
	<i>Euphyes vestris</i>	Dun Skipper				S3	3 Sensitive	9	73.4 ± 0.1
	<i>Satyrium liparops</i>	Striped Hairstreak				S3	5 Undetermined	6	49.1 ± 1.0
	<i>Celastrina neglecta</i>	Summer Azure				S3	3 Sensitive	2	85.1 ± 0.05

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
I	<i>Plebejus idas empetri</i>	Crowberry Blue				S3	4 Secure	1	91.6 ± 0.01
I	<i>Euphydryas phaeton</i>	Baltimore Checkerspot				S3	4 Secure	31	18.1 ± 1.0
I	<i>Polygonia faunus</i>	Green Comma				S3	4 Secure	17	18.1 ± 1.0
I	<i>Aglais milberti milberti</i>	Milbert's Tortoise Shell				S3		2	87.8 ± 0.1
I	<i>Lethe anthedon</i>	Northern Pearly-Eye				S3	4 Secure	60	11.7 ± 0.01
I	<i>Cordulegaster maculata</i>	Twin-Spotted Spiketail				S3	3 Sensitive	20	79.2 ± 1.0
I	<i>Lanthus parvulus</i>	Northern Pygmy Clubtail				S3	4 Secure	31	17.1 ± 5.0
I	<i>Ophiogomphus carolus</i>	Riffle Snaketail				S3	4 Secure	33	18.3 ± 0.01
I	<i>Aeshna clepsydra</i>	Mottled Darner				S3	4 Secure	10	64.6 ± 1.0
I	<i>Aeshna constricta</i>	Lance-Tipped Darner				S3	4 Secure	18	19.6 ± 1.0
I	<i>Aeshna eremita</i>	Lake Darner				S3	4 Secure	27	67.5 ± 1.0
I	<i>Boyeria graefiana</i>	Ocellated Darner				S3	3 Sensitive	9	39.6 ± 0.1
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3	3 Sensitive	6	69.7 ± 1.0
I	<i>Dorocordulia libera</i>	Racket-Tailed Emerald				S3	3 Sensitive	8	67.5 ± 1.0
I	<i>Epiheca spinigera</i>	Spiny Baskettail				S3	3 Sensitive	6	84.8 ± 1.0
I	<i>Somatochlora elongata</i>	Ski-Tailed Emerald				S3	4 Secure	8	66.4 ± 1.0
I	<i>Somatochlora tenebrosa</i>	Clamp-Tipped Emerald				S3	4 Secure	12	73.8 ± 1.0
I	<i>Somatochlora walshii</i>	Brush-Tipped Emerald				S3	4 Secure	6	67.5 ± 1.0
I	<i>Somatochlora williamsoni</i>	Williamson's Emerald				S3	4 Secure	3	92.8 ± 0.5
I	<i>Nannothemis bella</i>	Elfin Skimmer				S3	4 Secure	19	74.1 ± 1.0
I	<i>Sympetrum semicinctorum</i>	Band-Winged Meadowhawk				S3	3 Sensitive	7	73.7 ± 1.0
I	<i>Nehalennia gracilis</i>	Sphagnum Sprite				S3	3 Sensitive	25	63.4 ± 1.0
I	<i>Amphiagrion saucium</i>	Eastern Red Damselfly				S3	4 Secure	2	13.5 ± 0.01
I	<i>Polygonia interrogationis</i>	Question Mark				S3B	4 Secure	64	13.5 ± 0.01
I	<i>Vanessa virginiensis</i>	American Lady				S3B	8 Accidental	13	59.2 ± 0.01
I	<i>Feniseca tarquinius</i>	Harvester				S3S4	4 Secure	25	18.1 ± 1.0
I	<i>Callophrys polios</i>	Hoary Elfin				S3S4	4 Secure	9	77.6 ± 1.0
I	<i>Speyeria aphrodite</i>	Aphrodite Fritillary				S3S4	4 Secure	23	18.1 ± 1.0
I	<i>Polygonia progne</i>	Grey Comma				S3S4	4 Secure	27	18.1 ± 1.0
I	<i>Nymphalis antiopa</i>	Mourning Cloak				S3S4	3 Sensitive	6	81.3 ± 0.05
I	<i>Megisto cymela</i>	Little Wood-satyr				S3S4	4 Secure	8	50.8 ± 0.5
N	<i>Erioderma mollissimum</i>	Graceful Felt Lichen	Endangered		Endangered	S1S2	2 May Be At Risk	5	66.6 ± 0.1
N	<i>Erioderma pedicellatum (Atlantic pop.)</i>	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1S2	1 At Risk	338	55.6 ± 0.01
N	<i>Fissidens exilis</i>	Pygmy Pocket Moss	Special Concern			S1?	1 At Risk	3	83.5 ± 1.5
N	<i>Sclerophora peronella (Nova Scotia pop.)</i>	Frosted Glass-whiskers Lichen - Nova Scotia pop.	Special Concern	Special Concern		S1?		3	57.5 ± 0.01
N	<i>Degelia plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S2	4 Secure	23	25.3 ± 0.01
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	3 Sensitive	2	72.6 ± 0.01
N	<i>Aloina rigida</i>	Aloe-Like Rigid Screw Moss				S1	2 May Be At Risk	2	36.8 ± 0.1
N	<i>Bryhnia graminicolor</i>	a Moss				S1	2 May Be At Risk	2	77.7 ± 0.5
N	<i>Ditrichum rhynchostegium</i>	a Moss				S1	2 May Be At Risk	2	61.7 ± 0.3
N	<i>Bryohaplocladium microphyllum</i>	Tiny-leaved Haplocladium Moss				S1		1	35.3 ± 5.0
N	<i>Solorina saccata</i>	Woodland Owl Lichen				S1	2 May Be At Risk	4	91.4 ± 0.05
N	<i>Campyllum polygamum</i>	a Moss				S1?	2 May Be At Risk	2	88.9 ± 0.5
N	<i>Fontinalis antipyretica var. gigantea</i>	a Moss				S1?	5 Undetermined	1	97.6 ± 0.1
N	<i>Pohlia filum</i>	a Moss				S1?	5 Undetermined	4	60.7 ± 0.5
N	<i>Tetraphis geniculata</i>	Geniculate Four-tooth Moss				S1?	5 Undetermined	2	88.9 ± 0.5
N	<i>Atrichum tenellum</i>	Slender Smoothcap Moss				S1S2	5 Undetermined	2	92.9 ± 0.5
N	<i>Aulacomnium androgynum</i>	Little Groove Moss				S1S2	5 Undetermined	2	81.0 ± 0.8
N	<i>Campyllum chrysophyllum</i>	Golden Creeping Moss				S1S2	2 May Be At Risk	2	89.3 ± 0.5
N	<i>Campylostelium saxicola</i>	a Moss				S1S2	2 May Be At Risk	2	81.0 ± 0.8
N	<i>Dicranum spurium</i>	Spurred Broom Moss				S1S2	5 Undetermined	2	81.0 ± 0.8
N	<i>Orthotrichum stellatum</i>	a Moss				S1S2	5 Undetermined	2	77.7 ± 0.5
N	<i>Platydictya subtilis</i>	Bark Willow Moss				S1S2	2 May Be At Risk	2	81.0 ± 0.8
N	<i>Polytrichum formosum</i>	Bank Haircap Moss				S1S2	5 Undetermined	2	81.0 ± 0.8

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
N	<i>Pterigynandrum filiforme</i>	Capillary Wing Moss				S1S2	5 Undetermined	2	81.0 ± 0.8
N	<i>Fuscopannaria leucosticta</i>	Rimmed Shingles Lichen				S1S2	2 May Be At Risk	3	55.0 ± 0.01
N	<i>Leptogium lichenoides</i>	Tattered Jellyskin Lichen				S1S2	2 May Be At Risk	5	90.9 ± 0.05
N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen				S1S2	2 May Be At Risk	1	90.7 ± 0.05
N	<i>Leptogium subtile</i>	Appressed Jellyskin Lichen				S1S3	3 Sensitive	1	72.1 ± 0.01
N	<i>Weissia muhlenbergiana</i>	a Moss				S2?	3 Sensitive	1	96.9 ± 5.0
N	<i>Atrichum crispum</i>	a Moss				S2?	5 Undetermined	2	89.3 ± 0.5
N	<i>Brachythecium albicans</i>	Whitish Ragged Moss				S2?	4 Secure	2	81.0 ± 0.8
N	<i>Buxbaumia aphylla</i>	Brown Shield Moss				S2?	5 Undetermined	6	81.0 ± 0.8
N	<i>Calliergon giganteum</i>	Giant Spear Moss				S2?	3 Sensitive	2	94.3 ± 2.0
N	<i>Eurhynchium hians</i>	Light Beaked Moss				S2?	3 Sensitive	3	54.0 ± 25.0
N	<i>Fissidens taxifolius</i>	Yew-leaved Pocket Moss				S2?	3 Sensitive	1	96.9 ± 5.0
N	<i>Paludella squarrosa</i>	Tufted Fen Moss				S2?	3 Sensitive	1	85.2 ± 0.1
N	<i>Paraleucobryum longifolium</i>	Long-leaved Notchleaf Moss				S2?	3 Sensitive	4	81.0 ± 0.8
N	<i>Sematophyllum marylandicum</i>	a Moss				S2?	3 Sensitive	1	84.1 ± 3.0
N	<i>Sphagnum subnitens</i>	Lustrous Peat Moss				S2?	3 Sensitive	1	84.4 ± 2.0
N	<i>Timmia megapolitana</i>	Metropolitan Timmia Moss				S2?	3 Sensitive	1	71.4 ± 1.0
N	<i>Zygodon conoideus</i>	a Moss				S2?	3 Sensitive	1	77.9 ± 5.0
N	<i>Pseudobryum cinclidioides</i>	River Thyme Moss				S2?	3 Sensitive	2	88.9 ± 0.5
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2?	3 Sensitive	1	98.1 ± 5.0
N	<i>Amblystegium varium</i>	Willow Feather Moss				S2S3	5 Undetermined	2	77.7 ± 0.5
N	<i>Brachythecium populeum</i>	Matted Ragged Moss				S2S3	3 Sensitive	12	81.0 ± 0.8
N	<i>Dichodontium pellucidum</i>	Transparent Fork Moss				S2S3	3 Sensitive	6	92.9 ± 0.5
N	<i>Dicranella subulata</i>	Awl-leaved Forklet Moss				S2S3	5 Undetermined	5	78.0 ± 0.3
N	<i>Ephemerum serratum</i>	a Moss				S2S3	3 Sensitive	1	96.9 ± 5.0
N	<i>Fissidens bryoides</i>	Lesser Pocket Moss				S2S3	5 Undetermined	2	81.0 ± 0.8
N	<i>Heterocladium dimorphum</i>	Dimorphous Tangle Moss				S2S3	5 Undetermined	3	81.0 ± 0.8
N	<i>Hygroamblystegium tenax</i>	Fountain Feather Moss				S2S3	3 Sensitive	10	77.7 ± 0.5
N	<i>Leucodon andrewsianus</i>	a Moss				S2S3	3 Sensitive	1	95.0 ± 0.01
N	<i>Sphagnum warnstorffii</i>	Warnstorff's Peat Moss				S2S3	3 Sensitive	2	95.4 ± 0.01
N	<i>Sphagnum wulfianum</i>	Wulf's Peat Moss				S2S3	3 Sensitive	2	52.8 ± 0.1
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss				S2S3	3 Sensitive	1	84.4 ± 2.0
N	<i>Collema nigrescens</i>	Blistered Tarpaper Lichen				S2S3	3 Sensitive	4	60.6 ± 0.1
N	<i>Leptogium teretiussculum</i>	Beaded Jellyskin Lichen				S2S3	3 Sensitive	3	38.7 ± 0.01
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S2S3	3 Sensitive	13	53.4 ± 0.01
N	<i>Physconia detersa</i>	Bottlebrush Frost Lichen				S2S3	3 Sensitive	1	63.0 ± 0.01
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S2S3	3 Sensitive	2	60.5 ± 0.1
N	<i>Evernia prunastri</i>	Valley Oakmoss Lichen				S2S3	3 Sensitive	1	95.4 ± 2.0
N	<i>Dicranum viride</i>	Green Broom Moss				S2S4	5 Undetermined	6	81.0 ± 0.8
N	<i>Dicranum ontariense</i>	Ontario Broom Moss				S2S4	5 Undetermined	2	81.0 ± 0.8
N	<i>Leptodictyum riparium</i>	Kneiff's Feather Moss				S2S4	5 Undetermined	2	92.9 ± 0.5
N	<i>Mnium spinulosum</i>	a Moss				S2S4	5 Undetermined	2	88.9 ± 0.5
N	<i>Oncophorus wahlenbergii</i>	Wahlenberg's Spur Moss				S2S4	5 Undetermined	2	89.3 ± 0.5
N	<i>Plagiothecium cavifolium</i>	Round Silk Moss				S2S4	5 Undetermined	2	77.7 ± 0.5
N	<i>Pogonatum pensilvanicum</i>	a Moss				S2S4	5 Undetermined	5	81.0 ± 0.8
N	<i>Polytrichum ohioense</i>	Ohio Haircap Moss				S2S4	5 Undetermined	4	78.0 ± 0.3
N	<i>Sphagnum capillifolium</i>	Northern Peatmoss				S2S4	5 Undetermined	2	68.2 ± 0.5
N	<i>Sphagnum compactum</i>	Compact Peat Moss				S2S4	5 Undetermined	2	68.2 ± 0.5
N	<i>Sphagnum cuspidatum</i>	Feathery Peat Moss				S2S4	5 Undetermined	6	93.7 ± 0.5
N	<i>Sphagnum russowii</i>	Russow's Peat Moss				S2S4	5 Undetermined	8	61.7 ± 0.3
N	<i>Trematodon ambiguus</i>	a Moss				S2S4	5 Undetermined	4	61.7 ± 0.3
N	<i>Plagiomnium ciliare</i>	Toothed Leafy Moss				S2S4	5 Undetermined	4	81.0 ± 0.8
N	<i>Plagiomnium medium</i>	Common Leafy Moss				S2S4	5 Undetermined	8	77.7 ± 0.5
N	<i>Rhizomnium punctatum</i>	Dotted Leafy Moss				S2S4	5 Undetermined	6	81.0 ± 0.8
N	<i>Rhizomnium appalachianum</i>	Appalachian Leafy Moss				S2S4	5 Undetermined	6	88.9 ± 0.5
N	<i>Anzia colpodes</i>	Black-foam Lichen				S3?	3 Sensitive	2	60.0 ± 0.1
N	<i>Stictia fuliginosa</i>	Peppered Moon Lichen				S3?	3 Sensitive	10	53.4 ± 0.01

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
N	<i>Nephroma bellum</i>	Naked Kidney Lichen				S3?	3 Sensitive	1	26.4 ± 0.01
N	<i>Collema furfuraceum</i>	Blistered Tarpaper Lichen				S3?	3 Sensitive	2	53.4 ± 0.01
N	<i>Diphyscium foliosum</i>	a Moss				S3S4	5 Undetermined	2	81.0 ± 0.8
N	<i>Leptobryum pyriforme</i>	Golden Thread Moss				S3S4	4 Secure	2	81.0 ± 0.8
N	<i>Leucobryum glaucum</i>	White Pincushion Moss				S3S4	4 Secure	2	81.0 ± 0.8
N	<i>Orthotrichum obtusifolium</i>	Blunt-leaved Bristle Moss				S3S4	4 Secure	2	78.0 ± 0.3
N	<i>Pogonatum umigerum</i>	Urn Hair Moss				S3S4	4 Secure	6	78.0 ± 0.3
N	<i>Calliergon stramineum</i>	Straw Moss				S3S5	5 Undetermined	2	94.3 ± 2.0
P	<i>Juglans cinerea</i>	Butternut	Endangered	Endangered		SNA	7 Exotic	1	83.3 ± 0.01
P	<i>Bartonia paniculata ssp. paniculata</i>	Branched Bartonia	Threatened	Threatened		SNA		1	41.1 ± 10.0
P	<i>Lilaeopsis chinensis</i>	Eastern Lilaeopsis	Special Concern	Special Concern	Vulnerable	S2	3 Sensitive	16	60.2 ± 0.01
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Vulnerable	S2	3 Sensitive	13	43.3 ± 0.05
P	<i>Floerkea proserpinacoides</i>	False Mermaidweed	Not At Risk			S2	3 Sensitive	2	14.0 ± 7.07
P	<i>Cypripedium arietinum</i>	Ram's-Head Lady's-Slipper			Endangered	S1	1 At Risk	136	41.3 ± 0.01
P	<i>Angelica lucida</i>	Seaside Angelica				S1	2 May Be At Risk	1	58.7 ± 0.5
P	<i>Sanicula odorata</i>	Clustered Sanicle				S1	2 May Be At Risk	7	21.6 ± 10.0
P	<i>Zizia aurea</i>	Golden Alexanders				S1	2 May Be At Risk	39	9.9 ± 1.0
P	<i>Antennaria parlinii</i>	a Pussytoes				S1	2 May Be At Risk	8	21.2 ± 0.01
P	<i>Antennaria howellii ssp. canadensis</i>	Howell's Pussytoes				S1	2 May Be At Risk	1	75.5 ± 1.0
P	<i>Symphotrichum subulatum (non-Bathurst pop)</i>	Annual Saltmarsh Aster				S1	2 May Be At Risk	13	81.1 ± 0.1
P	<i>Bidens hyperborea</i>	Estuary Beggarticks				S1	2 May Be At Risk	3	61.0 ± 0.01
P	<i>Erigeron annuus</i>	Annual Fleabane				S1	5 Undetermined	3	69.8 ± 5.0
P	<i>Pseudognaphalium obtusifolium</i>	Eastern Cudweed				S1	2 May Be At Risk	2	80.5 ± 1.0
P	<i>Hieracium umbellatum</i>	Umbellate Hawkweed				S1	3 Sensitive	1	65.1 ± 5.0
P	<i>Packera schweinitziana</i>	Schweinitz's Groundsel				S1	2 May Be At Risk	2	94.8 ± 1.0
P	<i>Solidago juncea</i>	Early Goldenrod				S1	2 May Be At Risk	3	64.6 ± 1.0
P	<i>Ageratina altissima</i>	White Snakeroot				S1	2 May Be At Risk	2	96.1 ± 7.07
P	<i>Cynoglossum virginianum var. boreale</i>	Wild Comfrey				S1	2 May Be At Risk	3	91.6 ± 1.6
P	<i>Cardamine pratensis var. pratensis</i>	Cuckoo Flower				S1	2 May Be At Risk	5	12.6 ± 0.04
P	<i>Cardamine maxima</i>	Large Toothwort				S1	2 May Be At Risk	2	22.8 ± 0.01
P	<i>Cochlearia tridactylites</i>	Limestone Scurvy-grass				S1	2 May Be At Risk	1	98.1 ± 0.01
P	<i>Draba glabella</i>	Rock Whitlow-Grass				S1	2 May Be At Risk	1	97.3 ± 0.05
P	<i>Campanula rotundifolia</i>	Common Harebell				S1	5 Undetermined	1	90.3 ± 0.5
P	<i>Lobelia dortmanna</i>	Water Lobelia				S1	2 May Be At Risk	3	84.2 ± 5.0
P	<i>Lobelia spicata</i>	Pale-Spiked Lobelia				S1	2 May Be At Risk	8	37.7 ± 7.07
P	<i>Suaeda maritima ssp. richii</i>	White Sea-blite				S1	5 Undetermined	2	98.1 ± 1.0
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath				S1	2 May Be At Risk	5	47.8 ± 7.07
P	<i>Hypericum majus</i>	Large St John's-wort				S1	2 May Be At Risk	5	64.1 ± 0.01
P	<i>Hypericum mutilum</i>	Dwarf St John's-wort				S1	2 May Be At Risk	1	63.6 ± 0.01
P	<i>Crassula aquatica</i>	Water Pygmyweed				S1	2 May Be At Risk	1	98.9 ± 5.0
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S1	2 May Be At Risk	3	34.0 ± 1.5
P	<i>Drosera intermedia</i>	Spoon-Leaved Sundew				S1	2 May Be At Risk	2	84.8 ± 5.0
P	<i>Elatine americana</i>	American Waterwort				S1	2 May Be At Risk	1	69.2 ± 0.2
P	<i>Elatine minima</i>	Small Waterwort				S1	2 May Be At Risk	3	84.5 ± 1.0
P	<i>Desmodium canadense</i>	Canada Tick-trefoil				S1	2 May Be At Risk	20	10.4 ± 0.01
P	<i>Desmodium glutinosum</i>	Large Tick-Trefoil				S1	2 May Be At Risk	6	81.9 ± 0.01
P	<i>Dicentra cucullaria</i>	Dutchman's Breeches				S1	2 May Be At Risk	1	95.0 ± 1.0
P	<i>Ribes americanum</i>	Wild Black Currant				S1	5 Undetermined	4	18.7 ± 5.0
P	<i>Myriophyllum heterophyllum</i>	Variable-leaved Water Milfoil				S1	5 Undetermined	1	63.5 ± 0.01
P	<i>Myriophyllum tenellum</i>	Slender Water Milfoil				S1	2 May Be At Risk	1	87.3 ± 0.5
P	<i>Myriophyllum quitense</i>	Andean Water Milfoil				S1	5 Undetermined	1	92.7 ± 5.0
P	<i>Proserpinaca intermedia</i>	Intermediate Mermaidweed				S1	2 May Be At Risk	1	56.9 ± 0.9
P	<i>Hamamelis virginiana</i>	American Witch-Hazel				S1	2 May Be At Risk	5	68.2 ± 5.0
P	<i>Utricularia geminiscapa</i>	Twin-stemmed Bladderwort				S1	2 May Be At Risk	1	99.7 ± 10.0
P	<i>Nymphaea odorata</i>	Fragrant Water-lily				S1	2 May Be At Risk	4	66.9 ± 1.0
P	<i>Fraxinus pennsylvanica</i>	Red Ash				S1	2 May Be At Risk	4	64.0 ± 1.0

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Orobanche uniflora</i>	One-Flowered Broomrape				S1	2 May Be At Risk	1	79.5 ± 0.5
P	<i>Polygonum careyi</i>	Carey's Smartweed				S1	5 Undetermined	1	36.0 ± 3.0
P	<i>Polygonum fowleri</i>	Fowler's Knotweed				S1	5 Undetermined	2	82.5 ± 5.0
P	<i>Clematis occidentalis</i>	Purple Clematis				S1	2 May Be At Risk	3	93.4 ± 0.5
P	<i>Ranunculus pensylvanicus</i>	Pennsylvania Buttercup				S1	2 May Be At Risk	25	40.9 ± 0.01
P	<i>Amelanchier nantucketensis</i>	Nantucket Serviceberry				S1	2 May Be At Risk	1	92.7 ± 1.0
P	<i>Crataegus holmesiana</i>	Holmes' Hawthorn				S1	5 Undetermined	4	82.9 ± 5.0
P	<i>Dalibarda repens</i>	Dewdrop				S1	2 May Be At Risk	1	85.3 ± 5.0
P	<i>Rubus elegantulus</i>	Showy Blackberry				S1	5 Undetermined	2	93.3 ± 1.0
P	<i>Galium aparine</i>	Common Bedstraw				S1	7 Exotic	7	20.4 ± 0.01
P	<i>Dirca palustris</i>	Eastern Leatherwood				S1	2 May Be At Risk	47	49.8 ± 7.07
P	<i>Pilea pumila</i>	Dwarf Clearweed				S1	2 May Be At Risk	6	26.5 ± 0.01
P	<i>Viola canadensis</i>	Canada Violet				S1	0.1 Extirpated	2	14.0 ± 7.07
P	<i>Sagittaria graminea</i>	Grass-leaved Arrowhead				S1	2 May Be At Risk	3	87.0 ± 0.5
P	<i>Carex argyrantha</i>	Silvery-flowered Sedge				S1	2 May Be At Risk	3	74.9 ± 5.0
P	<i>Carex bromoides</i>	Bromelike Sedge				S1	2 May Be At Risk	4	95.5 ± 0.01
P	<i>Carex chordorrhiza</i>	Creeping Sedge				S1	2 May Be At Risk	28	91.7 ± 0.05
P	<i>Carex cumulata</i>	Dense Sedge				S1	2 May Be At Risk	1	85.0 ± 5.0
P	<i>Carex garberi</i>	Garber's Sedge				S1	2 May Be At Risk	4	9.7 ± 0.01
P	<i>Carex haydenii</i>	Hayden's Sedge				S1	2 May Be At Risk	3	18.5 ± 1.0
P	<i>Carex pellita</i>	Woolly Sedge				S1	2 May Be At Risk	12	10.8 ± 0.01
P	<i>Carex livida var. radicaulis</i>	Livid Sedge				S1	2 May Be At Risk	5	93.9 ± 0.01
P	<i>Carex plantaginea</i>	Plantain-Leaved Sedge				S1	2 May Be At Risk	3	12.7 ± 0.05
P	<i>Carex radiata</i>	Eastern Star Sedge				S1	2 May Be At Risk	2	89.9 ± 0.01
P	<i>Carex tinctoria</i>	Tinged Sedge				S1	2 May Be At Risk	1	96.7 ± 5.0
P	<i>Carex tuckermanii</i>	Tuckerman's Sedge				S1	2 May Be At Risk	19	26.5 ± 0.05
P	<i>Carex wiegandii</i>	Wiegand's Sedge				S1	2 May Be At Risk	3	41.0 ± 2.0
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge				S1	2 May Be At Risk	5	95.0 ± 0.01
P	<i>Cyperus lupulinus ssp. macilentus</i>	Hop Flatsedge				S1	2 May Be At Risk	7	41.7 ± 0.01
P	<i>Scirpus pedicellatus</i>	Stalked Bulrush				S1	5 Undetermined	6	30.5 ± 0.01
P	<i>Schoenoplectus subterminalis</i>	Water Bulrush				S1	2 May Be At Risk	2	86.1 ± 0.25
P	<i>Eriocaulon aquaticum</i>	White Buttons				S1	2 May Be At Risk	7	70.1 ± 1.0
P	<i>Elodea nuttallii</i>	Nuttall's Waterweed				S1	2 May Be At Risk	1	99.3 ± 1.0
P	<i>Iris prismatica</i>	Slender Blue Flag				S1	2 May Be At Risk	2	85.9 ± 1.5
P	<i>Juncus militaris</i>	Bayonet Rush				S1	3 Sensitive	2	87.3 ± 5.0
P	<i>Juncus vaseyi</i>	Vasey Rush				S1	2 May Be At Risk	3	10.8 ± 0.02
P	<i>Allium tricoccum</i>	Wild Leek				S1	2 May Be At Risk	10	4.8 ± 0.1
P	<i>Malaxis brachypoda</i>	White Adder's-Mouth				S1	2 May Be At Risk	3	72.1 ± 1.0
P	<i>Spiranthes cernua</i>	Nodding Ladies'-Tresses				S1	2 May Be At Risk	3	76.3 ± 1.0
P	<i>Bromus latiglumis</i>	Broad-Glumed Brome				S1	2 May Be At Risk	31	30.3 ± 0.01
P	<i>Catabrosa aquatica var. laurentiana</i>	Water Whorl Grass				S1	2 May Be At Risk	4	82.9 ± 5.0
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass				S1	2 May Be At Risk	19	29.4 ± 0.01
P	<i>Danthonia compressa</i>	Flattened Oat Grass				S1	2 May Be At Risk	1	82.0 ± 1.0
P	<i>Deschampsia caespitosa</i>	Tufted Hair Grass				S1	2 May Be At Risk	5	96.4 ± 0.01
P	<i>Elymus wiegandii</i>	Wiegand's Wild Rye				S1	2 May Be At Risk	22	23.4 ± 0.01
P	<i>Elymus hystrix var. bigeloviana</i>	Spreading Wild Rye				S1	2 May Be At Risk	10	41.3 ± 1.0
P	<i>Festuca subverticillata</i>	Nodding Fescue				S1	2 May Be At Risk	11	48.3 ± 1.0
P	<i>Oryzopsis asperifolia</i>	White-grained Mountain Rice				S1	2 May Be At Risk	1	90.5 ± 5.0
P	<i>Poa alsodes</i>	Grove Blue Grass				S1	2 May Be At Risk	1	97.2 ± 0.05
P	<i>Pontederia cordata</i>	Pickerelweed				S1	2 May Be At Risk	2	81.3 ± 5.0
P	<i>Stuckenia filiformis ssp. alpina</i>	Thread-leaved Pondweed				S1	2 May Be At Risk	1	99.3 ± 1.0
P	<i>Potamogeton oakesianus</i>	Oakes' Pondweed				S1	2 May Be At Risk	1	99.7 ± 10.0
P	<i>Potamogeton vaseyi</i>	Vasey's Pondweed				S1	2 May Be At Risk	1	81.0 ± 0.05
P	<i>Sparganium fluctuans</i>	Floating Burreed				S1	2 May Be At Risk	1	90.2 ± 2.0
P	<i>Adiantum pedatum</i>	Northern Maidenhair Fern				S1	2 May Be At Risk	8	19.5 ± 1.0
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S1	2 May Be At Risk	3	62.0 ± 0.01
P	<i>Isoetes lacustris</i>	Lake Quillwort				S1	2 May Be At Risk	4	84.8 ± 0.05

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Botrychium lunaria</i>	Common Moonwort				S1	2 May Be At Risk	3	96.3 ± 2.0
P	<i>Selaginella rupestris</i>	Rock Spikemoss				S1	2 May Be At Risk	1	91.3 ± 0.01
P	<i>Hieracium kalmii</i> var. <i>fasciculatum</i>	Kalm's Hawkweed				S1?	5 Undetermined	1	96.0 ± 1.0
P	<i>Solidago hispida</i>	Hairy Goldenrod				S1?	2 May Be At Risk	2	55.4 ± 7.07
P	<i>Atriplex acadiensis</i>	Maritime Saltbush				S1?	5 Undetermined	3	57.2 ± 7.07
P	<i>Chenopodium rubrum</i>	Red Pigweed				S1?	2 May Be At Risk	4	38.4 ± 0.5
P	<i>Suaeda rolandii</i>	Roland's Sea-Blite				S1?	2 May Be At Risk	4	63.0 ± 2.0
P	<i>Humulus lupulus</i> var. <i>lupuloides</i>	Common Hop				S1?	5 Undetermined	5	70.7 ± 5.0
P	<i>Crataegus robinsonii</i>	Robinson's Hawthorn				S1?	5 Undetermined	3	18.7 ± 5.0
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S1?	5 Undetermined	7	31.0 ± 5.0
P	<i>Crataegus chrysoarpa</i>	Fireberry Hawthorn				S1?	5 Undetermined	1	82.4 ± 5.0
P	<i>Rubus pensilvanicus</i>	Pennsylvania Blackberry				S1?	5 Undetermined	5	70.1 ± 5.0
P	<i>Viola sagittata</i> var. <i>ovata</i>	Arrow-Leaved Violet				S1?	0.1 Extirpated	5	78.6 ± 1.0
P	<i>Schoenoplectus robustus</i>	Sturdy Bulrush				S1?	5 Undetermined	2	45.0 ± 7.07
P	<i>Dichanthelium acuminatum</i> var. <i>lindheimeri</i>	Woolly Panic Grass				S1?	5 Undetermined	1	41.2 ± 0.05
P	<i>Puccinellia americana</i>	Seaside Alkali Grass				S1?	5 Undetermined	2	81.3 ± 5.0
P	<i>Thuja occidentalis</i>	Eastern White Cedar			Vulnerable	S1S2	1 At Risk	32	18.0 ± 0.2
P	<i>Rhus typhina</i>	Staghorn Sumac				S1S2	2 May Be At Risk	8	64.1 ± 5.0
P	<i>Arabis hirsuta</i> var. <i>pyncocarpa</i>	Western Hairy Rockcress				S1S2	2 May Be At Risk	1	76.3 ± 0.1
P	<i>Viburnum lantanoides</i>	Hobblebush				S1S2	2 May Be At Risk	5	68.0 ± 5.0
P	<i>Utricularia cornuta</i>	Horned Bladderwort				S1S2	2 May Be At Risk	1	84.8 ± 5.0
P	<i>Claytonia caroliniana</i>	Carolina Spring Beauty				S1S2	2 May Be At Risk	3	95.8 ± 5.0
P	<i>Anemone virginiana</i> var. <i>alba</i>	Virginia Anemone				S1S2	3 Sensitive	5	11.6 ± 5.0
P	<i>Hepatica nobilis</i> var. <i>obtusata</i>	Round-lobed Hepatica				S1S2	2 May Be At Risk	38	14.9 ± 0.01
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S1S2	2 May Be At Risk	16	91.8 ± 0.01
P	<i>Gratiola neglecta</i>	Clammy Hedge-Hyssop				S1S2	3 Sensitive	4	27.6 ± 7.07
P	<i>Carex bebbii</i>	Bebb's Sedge				S1S2	2 May Be At Risk	23	10.4 ± 0.01
P	<i>Carex lasiocarpa</i> var. <i>americana</i>	Slender Sedge				S1S2	2 May Be At Risk	2	63.5 ± 0.01
P	<i>Carex pensylvanica</i>	Pennsylvania Sedge				S1S2	5 Undetermined	3	53.2 ± 0.5
P	<i>Carex tenera</i>	Tender Sedge				S1S2	3 Sensitive	8	18.8 ± 1.5
P	<i>Carex recta</i>	Estuary Sedge				S1S2	3 Sensitive	4	77.7 ± 1.0
P	<i>Juncus greenii</i>	Greene's Rush				S1S2	2 May Be At Risk	7	42.4 ± 1.0
P	<i>Juncus stygius</i> ssp. <i>americanus</i>	Moor Rush				S1S2	3 Sensitive	12	93.4 ± 0.1
P	<i>Najas gracillima</i>	Thread-Like Naiad				S1S2	2 May Be At Risk	2	88.3 ± 0.45
P	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid				S1S2	4 Secure	2	23.8 ± 0.01
P	<i>Calamagrostis stricta</i> ssp. <i>stricta</i>	Slim-stemmed Reed Grass				S1S2	3 Sensitive	6	85.7 ± 7.07
P	<i>Dichanthelium depauperatum</i>	Starved Panic Grass				S1S2	2 May Be At Risk	5	62.2 ± 1.0
P	<i>Muhlenbergia glomerata</i>	Spiked Muhly				S1S2	2 May Be At Risk	1	98.7 ± 0.01
P	<i>Potamogeton alpinus</i>	Alpine Pondweed				S1S2	2 May Be At Risk	1	87.5 ± 5.0
P	<i>Potamogeton pulcher</i>	Spotted Pondweed				S1S2	2 May Be At Risk	3	42.7 ± 2.5
P	<i>Lycopodium obscurum</i>	Flat-branched Tree-clubmoss				S1S2	2 May Be At Risk	94	65.6 ± 0.1
P	<i>Huperzia selago</i>	Northern Firmoss				S1S3	5 Undetermined	8	10.9 ± 5.0
P	<i>Huperzia appalachiana</i>	Appalachian Fir-Clubmoss				S1S3	5 Undetermined	3	84.7 ± 5.0
P	<i>Conioselinum chinense</i>	Chinese Hemlock-parsley				S2	3 Sensitive	4	18.0 ± 5.0
P	<i>Osmorhiza claytonii</i>	Hairy Sweet Cicely				S2	2 May Be At Risk	1	80.4 ± 5.0
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2	2 May Be At Risk	22	18.6 ± 5.0
P	<i>Aralia racemosa</i>	American Spikenard				S2	2 May Be At Risk	1	96.7 ± 5.0
P	<i>Panax trifolius</i>	Dwarf Ginseng				S2	2 May Be At Risk	5	68.2 ± 5.0
P	<i>Bidens heterodoxa</i>	Connecticut Beggar-Ticks				S2	2 May Be At Risk	5	79.9 ± 1.0
P	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane				S2	3 Sensitive	5	41.0 ± 5.0
P	<i>Eupatorium perfoliatum</i>	Common Boneset				S2	3 Sensitive	3	63.8 ± 0.01
P	<i>Pseudognaphalium macounii</i>	Macoun's Cudweed				S2	2 May Be At Risk	4	71.2 ± 1.0
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S2	3 Sensitive	3	8.7 ± 7.07
P	<i>Iva frutescens</i> ssp. <i>oraria</i>	Big-leaved Marsh-elder				S2	3 Sensitive	6	92.1 ± 1.0
P	<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower				S2	3 Sensitive	19	5.0 ± 3.0
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort				S2	3 Sensitive	5	20.1 ± 7.07
P	<i>Symphotrichum undulatum</i>	Wavy-leaved Aster				S2	3 Sensitive	7	90.4 ± 0.1

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Symphotrichum subulatum</i>	Annual Saltmarsh Aster				S2	1 At Risk	2	91.9 ± 0.1
P	<i>Impatiens pallida</i>	Pale Jewelweed				S2	3 Sensitive	3	95.5 ± 7.07
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2	2 May Be At Risk	49	4.8 ± 0.1
P	<i>Betula pumila</i>	Bog Birch				S2	3 Sensitive	3	87.3 ± 0.05
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch				S2	3 Sensitive	19	49.8 ± 0.5
P	<i>Arabis drummondii</i>	Drummond's Rockcress				S2	3 Sensitive	10	10.8 ± 0.03
P	<i>Cardamine parviflora</i> var. <i>arenicola</i>	Small-flowered Bittercress				S2	3 Sensitive	2	97.3 ± 1.0
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S2	3 Sensitive	6	90.1 ± 0.1
P	<i>Minuartia groenlandica</i>	Greenland Stitchwort				S2	3 Sensitive	5	67.9 ± 0.15
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S2	3 Sensitive	7	73.1 ± 1.2
P	<i>Hudsonia ericoides</i>	Pinebarren Golden Heather				S2	3 Sensitive	1	99.4 ± 7.07
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S2	3 Sensitive	46	5.0 ± 0.15
P	<i>Shepherdia canadensis</i>	Soapberry				S2	3 Sensitive	71	88.4 ± 1.5
P	<i>Corema conradii</i>	Broom Crowberry				S2	3 Sensitive	2	70.1 ± 5.0
P	<i>Empetrum eamesii</i> ssp. <i>eamesii</i>	Pink Crowberry				S2	5 Undetermined	2	75.2 ± 5.0
P	<i>Gaylussacia bigeloviana</i>	Dwarf Huckleberry				S2	4 Secure	5	66.9 ± 1.0
P	<i>Vaccinium boreale</i>	Northern Blueberry				S2	2 May Be At Risk	4	80.0 ± 0.01
P	<i>Vaccinium caespitosum</i>	Dwarf Bilberry				S2	3 Sensitive	54	10.3 ± 0.03
P	<i>Chamaesyce polygonifolia</i>	Seaside Spurge				S2	3 Sensitive	7	59.3 ± 1.0
P	<i>Corydalis sempervirens</i>	Pale Corydalis				S2	3 Sensitive	5	85.7 ± 5.0
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S2	3 Sensitive	13	30.2 ± 0.1
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil				S2	3 Sensitive	10	31.3 ± 0.01
P	<i>Hippuris vulgaris</i>	Common Mare's-Tail				S2	3 Sensitive	1	75.9 ± 3.5
P	<i>Utricularia minor</i>	Lesser Bladderwort				S2	3 Sensitive	5	78.5 ± 5.0
P	<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	Broad-leaved Enchanter's Nightshade				S2	3 Sensitive	1	97.2 ± 0.05
P	<i>Oenothera fruticosa</i> ssp. <i>glauca</i>	Narrow-leaved Evening Primrose				S2	5 Undetermined	4	5.4 ± 7.07
P	<i>Polygonum arifolium</i>	Halberd-leaved Tearthumb				S2	3 Sensitive	25	41.4 ± 0.5
P	<i>Rumex salicifolius</i> var. <i>mexicanus</i>	Triangular-valve Dock				S2	3 Sensitive	2	57.6 ± 0.5
P	<i>Plantago rugelii</i>	Rugel's Plantain				S2	5 Undetermined	5	20.1 ± 7.07
P	<i>Primula mistassinica</i>	Mistassini Primrose				S2	3 Sensitive	16	11.0 ± 0.01
P	<i>Samolus valerandi</i> ssp. <i>parviflorus</i>	Seaside Brookweed				S2	3 Sensitive	13	46.5 ± 0.03
P	<i>Pyrola minor</i>	Lesser Pyrola				S2	3 Sensitive	3	13.9 ± 0.01
P	<i>Actaea pachypoda</i>	White Baneberry				S2	2 May Be At Risk	3	64.4 ± 0.01
P	<i>Anemone canadensis</i>	Canada Anemone				S2	2 May Be At Risk	1	90.7 ± 7.07
P	<i>Anemone quinquefolia</i>	Wood Anemone				S2	3 Sensitive	16	30.2 ± 0.1
P	<i>Anemone virginiana</i>	Virginia Anemone				S2	3 Sensitive	25	11.6 ± 0.01
P	<i>Anemone virginiana</i> var. <i>virginiana</i>	Virginia Anemone				S2	3 Sensitive	2	27.6 ± 7.07
P	<i>Caltha palustris</i>	Yellow Marsh Marigold				S2	3 Sensitive	1	54.7 ± 0.1
P	<i>Rubus chamaemorus</i>	Cloudberry				S2	4 Secure	1	78.5 ± 5.0
P	<i>Galium boreale</i>	Northern Bedstraw				S2	2 May Be At Risk	9	45.0 ± 5.0
P	<i>Galium labradoricum</i>	Labrador Bedstraw				S2	3 Sensitive	15	29.7 ± 0.01
P	<i>Salix pedicellaris</i>	Bog Willow				S2	3 Sensitive	37	30.2 ± 0.01
P	<i>Salix sericea</i>	Silky Willow				S2	2 May Be At Risk	1	72.2 ± 1.0
P	<i>Parnassia palustris</i> var. <i>parviflora</i>	Marsh Grass-of-Parnassus				S2	2 May Be At Risk	1	80.2 ± 1.5
P	<i>Saxifraga paniculata</i> ssp. <i>neogaea</i>	White Mountain Saxifrage				S2	3 Sensitive	1	97.2 ± 1.0
P	<i>Tiarella cordifolia</i>	Heart-leaved Foamflower				S2	3 Sensitive	217	8.5 ± 7.07
P	<i>Viola nephrophylla</i>	Northern Bog Violet				S2	3 Sensitive	8	7.1 ± 1.5
P	<i>Viola pubescens</i>	Downy Yellow Violet				S2	2 May Be At Risk	4	90.5 ± 3.5
P	<i>Juniperus horizontalis</i>	Creeping Juniper				S2	2 May Be At Risk	1	99.1 ± 3.5
P	<i>Pinus resinosa</i>	Red Pine				S2	3 Sensitive	1	70.5 ± 5.0
P	<i>Symplocarpus foetidus</i>	Eastern Skunk Cabbage				S2	3 Sensitive	90	87.6 ± 0.5
P	<i>Carex atlantica</i> ssp. <i>capillacea</i>	Atlantic Sedge				S2	5 Undetermined	8	45.2 ± 0.5
P	<i>Carex atratifomis</i>	Scabrous Black Sedge				S2	3 Sensitive	3	88.6 ± 1.0
P	<i>Carex capillaris</i>	Hairlike Sedge				S2	3 Sensitive	1	90.9 ± 0.1
P	<i>Carex castanea</i>	Chestnut Sedge				S2	2 May Be At Risk	1	74.1 ± 0.01

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Carex comosa</i>	Bearded Sedge				S2	3 Sensitive	6	25.6 ± 7.07
P	<i>Carex deflexa</i>	Northern Sedge				S2	3 Sensitive	2	82.9 ± 5.0
P	<i>Carex flava</i>	Yellow Sedge				S2	2 May Be At Risk	1	76.4 ± 5.0
P	<i>Carex hystericina</i>	Porcupine Sedge				S2	2 May Be At Risk	7	27.7 ± 0.03
P	<i>Carex limosa</i>	Mud Sedge				S2	2 May Be At Risk	2	83.5 ± 5.0
P	<i>Carex vacillans</i>	Estuarine Sedge				S2	3 Sensitive	1	98.5 ± 0.01
P	<i>Dulichium arundinaceum</i>	Three-Way Sedge				S2	3 Sensitive	7	70.1 ± 1.0
P	<i>Eriophorum gracile</i>	Slender Cottongrass				S2	3 Sensitive	34	18.5 ± 10.0
P	<i>Eriophorum viridicarinatum</i>	Green-keeled Cottongrass				S2	2 May Be At Risk	2	98.5 ± 0.05
P	<i>Trichophorum caespitosum</i>	Tufted Clubrush				S2	3 Sensitive	4	63.7 ± 0.01
P	<i>Vallisneria americana</i>	Wild Celery				S2	2 May Be At Risk	5	34.1 ± 1.0
P	<i>Allium schoenoprasum</i> var. <i>sibiricum</i>	Wild Chives				S2	2 May Be At Risk	1	20.1 ± 7.07
P	<i>Corallorhiza maculata</i>	Spotted Coralroot				S2	2 May Be At Risk	2	91.2 ± 5.0
P	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Yellow Lady's-slipper				S2	3 Sensitive	10	36.6 ± 7.07
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	3 Sensitive	3	94.6 ± 0.1
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S2	2 May Be At Risk	19	31.9 ± 0.01
P	<i>Goodyera pubescens</i>	Downy Rattlesnake-Plantain				S2	2 May Be At Risk	7	57.3 ± 1.0
P	<i>Goodyera repens</i>	Lesser Rattlesnake-plantain				S2	2 May Be At Risk	6	59.3 ± 1.0
P	<i>Goodyera tessellata</i>	Checkered Rattlesnake-Plantain				S2	2 May Be At Risk	3	68.3 ± 0.5
P	<i>Listera australis</i>	Southern Twayblade				S2	2 May Be At Risk	67	13.4 ± 0.01
P	<i>Listera convallarioides</i>	Broad-Leaved Twayblade				S2	2 May Be At Risk	1	96.7 ± 5.0
P	<i>Platanthera blephariglottis</i>	White Fringed Orchid				S2	3 Sensitive	8	58.5 ± 5.0
P	<i>Platanthera flava</i>	Southern Rein-Orchid				S2	3 Sensitive	5	4.5 ± 1.5
P	<i>Platanthera flava</i> var. <i>flava</i>	Southern Rein Orchid				S2	3 Sensitive	1	5.4 ± 7.07
P	<i>Platanthera macrophylla</i>	Large Round-Leaved Orchid				S2	3 Sensitive	11	11.8 ± 1.0
P	<i>Platanthera aquilonis</i>	Tall Northern Green Orchid				S2	3 Sensitive	4	63.7 ± 1.0
P	<i>Pogonia ophioglossoides</i>	Rose Pogonia				S2	3 Sensitive	1	87.4 ± 0.05
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2	2 May Be At Risk	25	10.3 ± 0.01
P	<i>Elymus trachycaulus</i>	Slender Wild Rye				S2	3 Sensitive	8	63.6 ± 0.01
P	<i>Muhlenbergia mexicana</i>	Mexican Muhly				S2	5 Undetermined	4	63.6 ± 0.01
P	<i>Piptatherum canadense</i>	Canada Rice Grass				S2	3 Sensitive	8	25.8 ± 1.5
P	<i>Potamogeton friesii</i>	Fries' Pondweed				S2	2 May Be At Risk	3	16.6 ± 5.0
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S2	3 Sensitive	4	93.4 ± 1.1
P	<i>Asplenium trichomanes-ramosum</i>	Green Spleenwort				S2	3 Sensitive	8	46.0 ± 7.07
P	<i>Woodwardia virginica</i>	Virginia Chain Fern				S2	2 May Be At Risk	7	66.9 ± 1.0
P	<i>Dryopteris fragrans</i> var. <i>remotiuscula</i>	Fragrant Wood Fern				S2	3 Sensitive	11	6.1 ± 7.07
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S2	3 Sensitive	2	38.5 ± 1.0
P	<i>Equisetum pratense</i>	Meadow Horsetail				S2	3 Sensitive	11	10.7 ± 0.1
P	<i>Botrychium matricariifolium</i>	Daisy-leaved Moonwort				S2	2 May Be At Risk	3	83.2 ± 5.0
P	<i>Botrychium multifidum</i>	Leathery Moonwort				S2	2 May Be At Risk	3	77.7 ± 5.0
P	<i>Toxicodendron radicans</i>	Poison Ivy				S2?	3 Sensitive	2	89.3 ± 1.5
P	<i>Hieracium canadense</i>	Canada Hawkweed				S2?	5 Undetermined	13	66.5 ± 3.5
P	<i>Hieracium kalmii</i>	Kalm's Hawkweed				S2?	5 Undetermined	5	16.9 ± 1.0
P	<i>Hieracium kalmii</i> var. <i>kalmii</i>	Kalm's Hawkweed				S2?	5 Undetermined	1	9.3 ± 5.0
P	<i>Symphotrichum boreale</i>	Boreal Aster				S2?	3 Sensitive	7	20.1 ± 7.07
P	<i>Symphotrichum novi-belgii</i> var. <i>crenifolium</i>	New York Aster				S2?	5 Undetermined	1	95.6 ± 0.5
P	<i>Ceratophyllum echinatum</i>	Prickly Hornwort				S2?	2 May Be At Risk	17	29.5 ± 0.01
P	<i>Epilobium coloratum</i>	Purple-veined Willowherb				S2?	3 Sensitive	5	43.0 ± 1.0
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry				S2?	5 Undetermined	1	74.3 ± 5.0
P	<i>Geum macrophyllum</i>	Large-Leaved Avens				S2?	4 Secure	2	95.9 ± 0.1
P	<i>Galium obtusum</i>	Blunt-leaved Bedstraw				S2?	4 Secure	1	91.4 ± 1.0
P	<i>Mimulus ringens</i>	Square-stemmed Monkeyflower				S2?	3 Sensitive	5	87.3 ± 5.0
P	<i>Carex aquatilis</i>	Water Sedge				S2?	2 May Be At Risk	3	84.2 ± 5.0
P	<i>Carex houghtoniana</i>	Houghton's Sedge				S2?	3 Sensitive	4	36.6 ± 1.2
P	<i>Carex peckii</i>	White-Tinged Sedge				S2?	2 May Be At Risk	3	14.1 ± 0.1

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Eleocharis tenuis</i>	Slender Spikerush				S2?	3 Sensitive	1	82.5 ± 5.0
P	<i>Eleocharis ovata</i>	Ovate Spikerush				S2?	3 Sensitive	10	7.1 ± 0.4
P	<i>Triglochin palustris</i>	Marsh Arrowgrass				S2?	2 May Be At Risk	2	64.6 ± 1.0
P	<i>Juncus canadensis</i>	Canada Rush				S2?	3 Sensitive	2	58.5 ± 5.0
P	<i>Juncus dudleyi</i>	Dudley's Rush				S2?	3 Sensitive	39	5.4 ± 0.01
P	<i>Dichanthelium linearifolium</i>	Narrow-leaved Panic Grass				S2?	3 Sensitive	5	10.8 ± 0.03
P	<i>Sparganium americanum</i>	American Burreed				S2?	5 Undetermined	2	87.3 ± 0.8
P	<i>Zannichellia palustris</i>	Horned Pondweed				S2?	2 May Be At Risk	3	82.9 ± 5.0
P	<i>Fraxinus nigra</i>	Black Ash			Threatened	S2S3	3 Sensitive	111	12.1 ± 0.01
P	<i>Asclepias incarnata ssp. pulchra</i>	Swamp Milkweed				S2S3	5 Undetermined	8	49.6 ± 1.0
P	<i>Cirsium muticum</i>	Swamp Thistle				S2S3	3 Sensitive	2	96.5 ± 5.0
P	<i>Petasites frigidus var. palmatus</i>	Northern Sweet Coltsfoot				S2S3	3 Sensitive	1	80.3 ± 5.0
P	<i>Symphotrichum ciliolatum</i>	Fringed Blue Aster				S2S3	3 Sensitive	11	26.6 ± 0.05
P	<i>Betula pumila var. pumila</i>	Bog Birch				S2S3	3 Sensitive	1	96.6 ± 1.0
P	<i>Honckenya peploides</i>	Seabeach Sandwort				S2S3	3 Sensitive	1	78.3 ± 0.05
P	<i>Honckenya peploides ssp. robusta</i>	Seabeach Sandwort				S2S3	3 Sensitive	2	60.8 ± 5.0
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S2S3	4 Secure	5	90.6 ± 1.0
P	<i>Stellaria alsine</i>	Trailing Stitchwort				S2S3	3 Sensitive	6	80.0 ± 2.0
P	<i>Stellaria borealis</i>	Boreal Stitchwort				S2S3	2 May Be At Risk	4	60.1 ± 5.0
P	<i>Suaeda calceoliformis</i>	Horned Sea-blite				S2S3	4 Secure	14	38.8 ± 4.0
P	<i>Hypericum dissimulatum</i>	Disguised St John's-wort				S2S3	3 Sensitive	4	45.2 ± 1.0
P	<i>Empetrum eamesii ssp. atropurpureum</i>	Pink Crowberry				S2S3	3 Sensitive	1	99.2 ± 7.07
P	<i>Halenia deflexa</i>	Spurred Gentian				S2S3	3 Sensitive	1	96.2 ± 1.0
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	3 Sensitive	9	38.8 ± 5.0
P	<i>Polygala sanguinea</i>	Blood Milkwort				S2S3	3 Sensitive	19	11.4 ± 0.01
P	<i>Polygonum buxiforme</i>	Small's Knotweed				S2S3	5 Undetermined	6	20.1 ± 7.07
P	<i>Polygonum punctatum</i>	Dotted Smartweed				S2S3	3 Sensitive	2	81.1 ± 0.1
P	<i>Polygonum punctatum var. confertiflorum</i>	Dotted Smartweed				S2S3	3 Sensitive	2	95.1 ± 0.1
P	<i>Polygonum ramosissimum</i>	Bushy Knotweed				S2S3	3 Sensitive	7	72.3 ± 0.2
P	<i>Rumex maritimus</i>	Sea-Side Dock				S2S3	3 Sensitive	10	72.3 ± 0.2
P	<i>Rumex fueginus</i>	Tierra del Fuego Dock				S2S3	3 Sensitive	1	82.7 ± 5.0
P	<i>Rumex persicarioides</i>	Peach-leaved Dock				S2S3	3 Sensitive	1	78.4 ± 5.0
P	<i>Geum canadense</i>	White Avens				S2S3	3 Sensitive	1	93.3 ± 1.0
P	<i>Rosa carolina</i>	Carolina Rose				S2S3	3 Sensitive	3	79.1 ± 5.0
P	<i>Populus balsamifera</i>	Balsam Poplar				S2S3	3 Sensitive	2	80.4 ± 5.0
P	<i>Salix pellita</i>	Satiny Willow				S2S3	5 Undetermined	8	29.9 ± 0.3
P	<i>Veronica serpyllifolia ssp. humifusa</i>	Thyme-Leaved Speedwell				S2S3	3 Sensitive	1	66.2 ± 0.01
P	<i>Carex adusta</i>	Lesser Brown Sedge				S2S3	3 Sensitive	6	19.5 ± 0.5
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S2S3	3 Sensitive	44	4.8 ± 1.0
P	<i>Carex mackenziei</i>	Mackenzie's Sedge				S2S3	2 May Be At Risk	2	78.5 ± 5.0
P	<i>Carex tonsa var. rugosperma</i>	Deep Green Sedge				S2S3	3 Sensitive	1	98.9 ± 5.0
P	<i>Carex stricta</i>	Tussock Sedge				S2S3	2 May Be At Risk	5	63.5 ± 0.01
P	<i>Carex swanii</i>	Swan's Sedge				S2S3	3 Sensitive	1	96.0 ± 0.5
P	<i>Carex trisperma var. billingsii</i>	Three-Seed Sedge				S2S3	3 Sensitive	2	64.2 ± 0.01
P	<i>Carex vulpinoidea</i>	Fox Sedge				S2S3	3 Sensitive	2	78.7 ± 5.0
P	<i>Carex tonsa</i>	Deep Green Sedge				S2S3	3 Sensitive	2	63.8 ± 0.01
P	<i>Eleocharis olivacea</i>	Yellow Spikerush				S2S3	3 Sensitive	6	29.2 ± 0.01
P	<i>Eleocharis parvula</i>	Dwarf Spikerush				S2S3	3 Sensitive	4	81.2 ± 0.1
P	<i>Iris setosa var. canadensis</i>	Hooker's Iris				S2S3	5 Undetermined	2	96.6 ± 5.0
P	<i>Juncus filiformis</i>	Thread Rush				S2S3	3 Sensitive	5	58.5 ± 5.0
P	<i>Lemna trisulca</i>	Star Duckweed				S2S3	3 Sensitive	2	97.7 ± 0.2
P	<i>Lilium canadense</i>	Canada Lily				S2S3	3 Sensitive	101	4.8 ± 0.01
P	<i>Coeloglossum viride var. virescens</i>	Long-bracted Frog Orchid				S2S3	2 May Be At Risk	1	46.5 ± 0.05
P	<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper				S2S3	3 Sensitive	498	31.8 ± 0.01
P	<i>Malaxis unifolia</i>	Green Adder's-Mouth				S2S3	3 Sensitive	5	78.3 ± 5.0
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses				S2S3	3 Sensitive	3	10.4 ± 0.5
P	<i>Spiranthes romanzoffiana</i>	Hooded Ladies'-Tresses				S2S3	3 Sensitive	6	72.1 ± 5.0

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Alopecurus aequalis</i>	Short-awned Foxtail				S2S3	3 Sensitive	25	14.1 ± 1.0
P	<i>Calamagrostis stricta</i>	Slim-stemmed Reed Grass				S2S3	3 Sensitive	6	86.2 ± 0.5
P	<i>Calamagrostis stricta var. stricta</i>	Slim-stemmed Reed Grass				S2S3	3 Sensitive	3	97.5 ± 0.01
P	<i>Distichlis spicata</i>	Salt Grass				S2S3	4 Secure	13	72.5 ± 0.2
P	<i>Glyceria borealis</i>	Northern Manna Grass				S2S3	3 Sensitive	1	86.6 ± 5.0
P	<i>Panicum tuckermanii</i>	Tuckerman's Panic Grass				S2S3	3 Sensitive	13	40.8 ± 0.01
P	<i>Poa glauca</i>	Glaucon Blue Grass				S2S3	3 Sensitive	2	82.0 ± 1.0
P	<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed				S2S3	3 Sensitive	25	53.3 ± 0.01
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S2S3	2 May Be At Risk	5	8.5 ± 7.07
P	<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed				S2S3	3 Sensitive	23	31.5 ± 0.01
P	<i>Lycopodium hickeyi</i>	Hickey's Tree-clubmoss				S2S3	2 May Be At Risk	1	64.4 ± 0.02
P	<i>Lycopodium lagopus</i>	One-cone clubmoss				S2S3	3 Sensitive	1	65.2 ± 0.02
P	<i>Lycopodiella inundata</i>	Northern Bog Clubmoss				S2S3	4 Secure	5	63.8 ± 0.01
P	<i>Botrychium lanceolatum var. angustisegmentum</i>	Lance-Leaf Grape-Fern				S2S3	3 Sensitive	8	14.0 ± 1.0
P	<i>Botrychium simplex</i>	Least Moonwort				S2S3	3 Sensitive	5	45.1 ± 0.01
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S2S3	3 Sensitive	6	13.2 ± 0.01
P	<i>Hydrocotyle americana</i>	American Marsh Pennywort				S3	3 Sensitive	6	82.5 ± 5.0
P	<i>Sanicula marilandica</i>	Maryland Sanicle				S3	4 Secure	2	96.7 ± 5.0
P	<i>Asclepias incarnata</i>	Swamp Milkweed				S3	4 Secure	49	29.1 ± 0.01
P	<i>Asclepias incarnata ssp. incarnata</i>	Swamp Milkweed				S3	4 Secure	1	70.5 ± 0.2
P	<i>Bidens connata</i>	Purple-stemmed Beggarticks				S3	3 Sensitive	6	76.4 ± 5.0
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane				S3	3 Sensitive	14	37.6 ± 0.01
P	<i>Hieracium paniculatum</i>	Panicled Hawkweed				S3	4 Secure	6	9.6 ± 0.01
P	<i>Megalodonta beckii</i>	Water Beggarticks				S3	3 Sensitive	18	29.9 ± 10.0
P	<i>Packera paupercula</i>	Balsam Groundsel				S3	4 Secure	33	10.4 ± 0.1
P	<i>Xanthium strumarium</i>	Rough Cocklebur				S3	4 Secure	1	78.3 ± 0.05
P	<i>Xanthium strumarium var. canadense</i>	Rough Cocklebur				S3	4 Secure	13	58.3 ± 3.5
P	<i>Eurybia radula</i>	Low Rough Aster				S3	3 Sensitive	1	63.7 ± 0.01
P	<i>Rorippa palustris</i>	Bog Yellowcress				S3	5 Undetermined	2	86.2 ± 5.0
P	<i>Rorippa palustris ssp. palustris</i>	Bog Yellowcress				S3	5 Undetermined	1	82.9 ± 5.0
P	<i>Campanula aparinoides</i>	Marsh Bellflower				S3	3 Sensitive	40	10.3 ± 0.03
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S3	3 Sensitive	17	4.9 ± 0.4
P	<i>Viburnum edule</i>	Squashberry				S3	3 Sensitive	2	14.8 ± 0.01
P	<i>Empetrum eamesii</i>	Pink Crowberry				S3	3 Sensitive	1	99.4 ± 7.07
P	<i>Vaccinium corymbosum</i>	Highbush Blueberry				S3	4 Secure	1	91.8 ± 0.01
P	<i>Vaccinium vitis-idaea ssp. minus</i>	Mountain Cranberry				S3	4 Secure	2	72.1 ± 5.0
P	<i>Bartonia virginica</i>	Yellow Bartonia				S3	4 Secure	1	72.2 ± 7.07
P	<i>Geranium bicknellii</i>	Bicknell's Crane's-bill				S3	4 Secure	9	41.7 ± 2.0
P	<i>Proserpinaca palustris</i>	Marsh Mermaidweed				S3	4 Secure	12	30.3 ± 0.01
P	<i>Proserpinaca palustris var. crebra</i>	Marsh Mermaidweed				S3	4 Secure	20	30.3 ± 0.01
P	<i>Proserpinaca pectinata</i>	Comb-leaved Mermaidweed				S3	3 Sensitive	5	40.2 ± 1.0
P	<i>Teucrium canadense</i>	Canada Germander				S3	3 Sensitive	11	38.4 ± 5.0
P	<i>Monotropa hypopithys</i>	Pinesap				S3	4 Secure	5	77.7 ± 1.0
P	<i>Nuphar lutea ssp. pumila</i>	Small Yellow Pond-lily				S3	4 Secure	1	99.7 ± 1.0
P	<i>Epilobium strictum</i>	Downy Willowherb				S3	3 Sensitive	15	18.3 ± 5.0
P	<i>Epifagus virginiana</i>	Beechdrops				S3	3 Sensitive	4	80.0 ± 0.05
P	<i>Polygonum pensylvanicum</i>	Pennsylvania Smartweed				S3	4 Secure	19	14.0 ± 7.07
P	<i>Polygonum scandens</i>	Climbing False Buckwheat				S3	3 Sensitive	38	12.3 ± 0.01
P	<i>Moneses uniflora</i>	One-flowered Wintergreen				S3	4 Secure	12	60.1 ± 3.5
P	<i>Pyrola asarifolia</i>	Pink Pyrola				S3	4 Secure	11	8.2 ± 0.01
P	<i>Ranunculus gmelinii</i>	Gmelin's Water Buttercup				S3	4 Secure	55	24.0 ± 5.0
P	<i>Rhamnus alnifolia</i>	Alder-leaved Buckthorn				S3	3 Sensitive	49	30.3 ± 0.01
P	<i>Agrimonia gryposepala</i>	Hooked Agrimony				S3	4 Secure	86	10.4 ± 0.01
P	<i>Amelanchier canadensis</i>	Canada Serviceberry				S3	4 Secure	7	89.7 ± 1.0
P	<i>Rosa palustris</i>	Swamp Rose				S3	4 Secure	25	29.2 ± 0.01
P	<i>Salix petiolaris</i>	Meadow Willow				S3	4 Secure	31	8.0 ± 0.01

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Geocaulon lividum</i>	Northern Comandra				S3	3 Sensitive	6	50.7 ± 0.01
P	<i>Agalinis neoscotica</i>	Nova Scotia Agalinis				S3	4 Secure	2	92.0 ± 0.01
P	<i>Limosella australis</i>	Southern Mudwort				S3	3 Sensitive	21	47.6 ± 0.01
P	<i>Ulmus americana</i>	White Elm				S3	3 Sensitive	3	88.7 ± 3.5
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	3 Sensitive	34	4.4 ± 10.0
P	<i>Verbena hastata</i>	Blue Vervain				S3	4 Secure	108	10.4 ± 0.01
P	<i>Viola renifolia</i>	Kidney-leaved White Violet				S3	4 Secure	3	70.3 ± 3.5
P	<i>Carex eburnea</i>	Bristle-leaved Sedge				S3	3 Sensitive	19	38.2 ± 0.1
P	<i>Carex lupulina</i>	Hop Sedge				S3	4 Secure	27	26.3 ± 0.5
P	<i>Carex ormostachya</i>	Necklace Spike Sedge				S3	4 Secure	1	91.4 ± 1.0
P	<i>Carex rosea</i>	Rosy Sedge				S3	4 Secure	31	9.6 ± 1.9
P	<i>Eleocharis nitida</i>	Quill Spikerush				S3	4 Secure	4	65.5 ± 7.07
P	<i>Triglochin gaspensis</i>	Gasp Arrowgrass				S3	4 Secure	1	93.8 ± 0.01
P	<i>Juncus subcaudatus</i> var. <i>planisepalus</i>	Woods-Rush				S3	3 Sensitive	11	34.2 ± 3.0
P	<i>Calopogon tuberosus</i>	Tuberous Grass Pink				S3	4 Secure	5	70.1 ± 5.0
P	<i>Corallorhiza trifida</i>	Early Coralroot				S3	4 Secure	31	14.7 ± 0.01
P	<i>Platanthera clavellata</i>	Club Spur Orchid				S3	3 Sensitive	12	60.4 ± 5.0
P	<i>Platanthera dilatata</i>	White Bog Orchid				S3	3 Sensitive	3	84.3 ± 5.0
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	4 Secure	97	9.7 ± 0.01
P	<i>Platanthera hookeri</i>	Hooker's Orchid				S3	4 Secure	6	41.8 ± 0.1
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid				S3	4 Secure	33	9.4 ± 0.01
P	<i>Dichanthelium clandestinum</i>	Deer-tongue Panic Grass				S3	4 Secure	153	50.5 ± 5.0
P	<i>Sparganium natans</i>	Small Burreed				S3	4 Secure	15	20.1 ± 5.0
P	<i>Xyris montana</i>	Northern Yellow-Eyed-Grass				S3	4 Secure	1	98.7 ± 3.0
P	<i>Deparia acrostichoides</i>	Silvery Glade Fern				S3	3 Sensitive	9	77.7 ± 0.5
P	<i>Polystichum acrostichoides</i>	Christmas Fern				S3	4 Secure	1	85.3 ± 5.0
P	<i>Equisetum variegatum</i>	Variiegated Horsetail				S3	4 Secure	38	9.7 ± 0.01
P	<i>Isoetes acadensis</i>	Acadian Quillwort				S3	3 Sensitive	4	33.6 ± 1.0
P	<i>Botrychium dissectum</i>	Cut-leaved Moonwort				S3	4 Secure	8	17.5 ± 5.0
P	<i>Botrychium virginianum</i>	Rattlesnake Fern				S3	4 Secure	3	82.2 ± 5.0
P	<i>Osmunda regalis</i> var. <i>spectabilis</i>	Royal Fern				S3	4 Secure	3	85.0 ± 5.0
P	<i>Schizaea pusilla</i>	Little Curlygrass Fern				S3	4 Secure	2	84.3 ± 1.0
P	<i>Antennaria howellii</i> ssp. <i>petaloidea</i>	Pussy-Toes				S3?	4 Secure	3	83.6 ± 5.0
P	<i>Lactuca canadensis</i>	Canada Lettuce				S3?	3 Sensitive	7	63.5 ± 0.01
P	<i>Amelanchier stolonifera</i>	Running Serviceberry				S3?	4 Secure	5	29.5 ± 2.0
P	<i>Amelanchier laevis</i>	Smooth Serviceberry				S3?	5 Undetermined	9	67.9 ± 5.0
P	<i>Potentilla canadensis</i>	Canada Cinquefoil				S3?	5 Undetermined	1	38.4 ± 5.0
P	<i>Juniperus communis</i> var. <i>depressa</i>	Common Juniper				S3?	5 Undetermined	5	85.8 ± 5.0
P	<i>Carex cryptolepis</i>	Hidden-scaled Sedge				S3?	4 Secure	9	30.8 ± 0.01
P	<i>Carex tribuloides</i>	Blunt Broom Sedge				S3?	4 Secure	5	24.9 ± 0.5
P	<i>Carex foenea</i>	Fernald's Hay Sedge				S3?	4 Secure	14	26.7 ± 0.5
P	<i>Elodea canadensis</i>	Canada Waterweed				S3?	4 Secure	15	7.1 ± 0.3
P	<i>Agrostis perennans</i>	Upland Bent Grass				S3?	3 Sensitive	5	81.3 ± 0.01
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed				S3?	3 Sensitive	12	7.4 ± 1.0
P	<i>Lycopodium sabinifolium</i>	Ground-Fir				S3?	4 Secure	6	26.7 ± 0.1
P	<i>Lycopodium sitchense</i>	Sitka Clubmoss				S3?	4 Secure	4	11.7 ± 5.0
P	<i>Lycopodium tristachyum</i>	Blue Groundcedar				S3?	3 Sensitive	9	59.9 ± 0.1
P	<i>Polypodium appalachianum</i>	Appalachian Polypody				S3?	5 Undetermined	11	9.8 ± 0.01
P	<i>Angelica atropurpurea</i>	Purple-stemmed Angelica				S3S4	4 Secure	4	30.5 ± 0.01
P	<i>Atriplex franktonii</i>	Frankton's Saltbush				S3S4	4 Secure	5	33.4 ± 2.5
P	<i>Ribes triste</i>	Swamp Red Currant				S3S4	4 Secure	1	89.1 ± 0.01
P	<i>Myriophyllum sibiricum</i>	Siberian Water Milfoil				S3S4	4 Secure	5	30.5 ± 0.01
P	<i>Utricularia gibba</i>	Humped Bladderwort				S3S4	4 Secure	6	50.0 ± 0.01
P	<i>Sanguinaria canadensis</i>	Bloodroot				S3S4	4 Secure	88	4.9 ± 2.0
P	<i>Polygonum robustius</i>	Stout Smartweed				S3S4	4 Secure	6	30.4 ± 0.01
P	<i>Crataegus succulenta</i>	Fleshy Hawthorn				S3S4	5 Undetermined	2	89.2 ± 5.0
P	<i>Lindernia dubia</i>	Yellow-seeded False Pimperel				S3S4	4 Secure	28	23.0 ± 0.01

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
P	<i>Tsuga canadensis</i>	Eastern Hemlock				S3S4	4 Secure	25	60.1 ± 0.1
P	<i>Carex lacustris</i>	Lake Sedge				S3S4	3 Sensitive	6	74.0 ± 0.03
P	<i>Carex pallescens</i>	Pale Sedge				S3S4	4 Secure	2	80.7 ± 3.5
P	<i>Eleocharis obtusa</i>	Blunt Spikerush				S3S4	4 Secure	11	58.6 ± 3.5
P	<i>Eriophorum chamissonis</i>	Russet Cotton-Grass				S3S4	4 Secure	80	70.7 ± 5.0
P	<i>Sisyrinchium angustifolium</i>	Narrow-leaved Blue-eyed-grass				S3S4	4 Secure	58	29.1 ± 0.01
P	<i>Juncus acuminatus</i>	Sharp-Fruit Rush				S3S4	3 Sensitive	4	63.9 ± 2.0
P	<i>Juncus nodosus</i>	Knotted Rush				S3S4	4 Secure	9	59.7 ± 3.5
P	<i>Juncus pelocarpus</i>	Brown-Fruited Rush				S3S4	4 Secure	4	84.4 ± 3.5
P	<i>Luzula parviflora</i>	Small-flowered Woodrush				S3S4	4 Secure	4	61.3 ± 0.01
P	<i>Spirodela polyrrhiza</i>	Great Duckweed				S3S4	4 Secure	10	81.9 ± 0.1
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3S4	4 Secure	15	33.3 ± 1.0
P	<i>Dichanthelium spretum</i>	Eaton's Witchgrass				S3S4	4 Secure	1	78.9 ± 0.5
P	<i>Trisetum spicatum</i>	Narrow False Oats				S3S4	4 Secure	11	10.3 ± 0.03
P	<i>Potamogeton foliosus</i>	Leafy Pondweed				S3S4	3 Sensitive	2	80.3 ± 5.0
P	<i>Potamogeton foliosus ssp. foliosus</i>	Leafy Pondweed				S3S4	3 Sensitive	1	87.5 ± 5.0
P	<i>Stuckenia pectinata</i>	Sago Pondweed				S3S4	4 Secure	1	90.8 ± 1.0
P	<i>Cystopteris bulbifera</i>	Bulblet Bladder Fern				S3S4	4 Secure	94	10.9 ± 0.05
P	<i>Equisetum hyemale var. affine</i>	Common Scouring-rush				S3S4	4 Secure	32	10.8 ± 0.1
P	<i>Equisetum scirpoides</i>	Dwarf Scouring-Rush				S3S4	4 Secure	49	11.3 ± 0.01
P	<i>Lycopodium complanatum</i>	Northern Clubmoss				S3S4	4 Secure	9	24.7 ± 0.16
P	<i>Lycopodiella appressa</i>	Southern Bog Clubmoss				S3S4	4 Secure	3	16.1 ± 1.0
P	<i>Lactuca hirsuta var. sanguinea</i>	Hairy Lettuce				SH	0.1 Extirpated	3	81.3 ± 5.0
P	<i>Ranunculus hispidus var. caricetorum</i>	Bristly Buttercup				SH	2 May Be At Risk	1	97.4 ± 5.0

5.1 SOURCE BIBLIOGRAPHY (100 km)

The recipient of these data shall acknowledge the ACCDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

# recs	CITATION
10746	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 400,000 recs.
4139	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
2774	Morrison, Guy. 2011. Maritime Shorebird Survey (MSS) database. Canadian Wildlife Service, Ottawa, 15939 surveys. 86171 recs.
623	Cameron, E. 2008. Canadian Gypsum Co. survey 2007-08. Conestoga-Rovers & Assoc., 623 recs.
485	Blaney, C.S.; Mazerolle, D.M. 2010. Fieldwork 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 15508 recs.
469	Amirault, D.L. & Stewart, J. 2007. Piping Plover Database 1894-2006. Canadian Wildlife Service, Sackville, 3344 recs, 1228 new.
467	Blaney, C.S.; Mazerolle, D.M. 2012. Fieldwork 2012. Atlantic Canada Conservation Data Centre, 13,278 recs.
385	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
342	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
340	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
330	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
328	Catling, P.M., Erskine, D.S. & MacLaren, R.B. 1985. The Plants of Prince Edward Island with new records, nomenclatural changes & corrections & deletions, 1st Ed. Research Branch, Agriculture Canada, Ottawa, Publication 1798. 22pp.
298	Blaney, C.S. & Spicer, C.D.; Popma, T.M.; Basquill, S.P. 2003. Vascular Plant Surveys of Northumberland Strait Rivers & Amherst Area Peatlands. Nova Scotia Museum Research Grant, 501 recs.
265	Blaney, C.S. & Mazerolle, D.M. 2011. Field data from NCC properties at Musquash Harbour NB & Goose Lake NS. Atlantic Canada Conservation Data Centre, 1739 recs.
252	Klymko, J.J.D. 2014. Maritimes Butterfly Atlas, 2012 submissions. Atlantic Canada Conservation Data Centre, 8552 records.
227	Blaney, C.S.; Mazerolle, D.M.; Hill, N.M. 2011. Nova Scotia Crown Share Land Legacy Trust Fieldwork. Atlantic Canada Conservation Data Centre, 5022 recs.
213	LaPaix, R.W.; Crowell, M.J.; MacDonald, M. 2011. Stantec rare plant records, 2010-11. Stantec Consulting, 334 recs.
211	Neily, T.M. & Pepper, C.; Toms, B. 2013. Nova Scotia lichen location database. Mersey Tobeatic Research Institute, 1301 records.
204	Newell, R. E. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University. 2013.
202	Pronych, G. & Wilson, A. 1993. Atlas of Rare Vascular Plants in Nova Scotia. Nova Scotia Museum, Halifax NS, I:1-168, II:169-331. 1446 recs.

# recs	CITATION
201	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
177	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
172	Scott, F.W. 2002. Nova Scotia Herpetofauna Atlas Database. Acadia University, Wolfville NS, 8856 recs.
170	Bryson, I. 2013. Nova Scotia rare plant records. CBCL Ltd., 180 records.
168	Hicks, Andrew. 2009. Coastal Waterfowl Surveys Database, 2000-08. Canadian Wildlife Service, Sackville, 46488 recs (11149 non-zero).
159	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
146	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
145	Pepper, C. 2013. 2013 rare bird and plant observations in Nova Scotia. , 181 records.
142	Klymko, J.J.D. 2012. Maritimes Butterfly Atlas, 2010 and 2011 records. Atlantic Canada Conservation Data Centre, 6318 recs.
127	Glen, W. 1991. 1991 Prince Edward Island Forest Biomass Inventory Data. PEI Dept of Energy and Forestry, 10059 recs.
126	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: http://luxor.acadiau.ca/library/Herbarium/project/ . 582 recs.
85	Belland, R.J. 2010. Database of Prince Edward Island moss specimens. Devonian Botanic Garden, University of Alberta, 748 recs.
82	Belland, R.J. 2012. PEI moss records from Devonian Botanical Garden. DBG Cryptogam Database, Web site: https://secure.devonian.ualberta.ca/bryo_search.php 748 recs.
82	Zinck, M. & Roland, A.E. 1998. Roland's Flora of Nova Scotia. Nova Scotia Museum, 3rd ed., rev. M. Zinck; 2 Vol., 1297 pp.
79	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.
79	Burns, L. 2013. Personal communication concerning bat occurrence on PEI. Winter 2013. Pers. comm.
77	Erskine, D. 1960. The plants of Prince Edward Island, 1st Ed. Research Branch, Agriculture Canada, Ottawa., Publication 1088. 1238 recs.
73	Scott, Fred W. 1998. Updated Status Report on the Cougar (Puma Concolor cougar) [Eastern population]. Committee on the Status of Endangered Wildlife in Canada, 298 recs.
71	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
66	Amirault, D.L. & McKnight, J. 2003. Piping Plover Database 1991-2003. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
64	Blaney, C.S.; Mazerolle, D.M.; Oberdorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
64	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.
62	Blaney, C.S.; Spicer, C.D.; Popma, T.M.; Hanel, C. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 2037 recs.
60	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
59	Cameron, R.P. 2009. Erioderma pedicellatum database, 1979-2008. Dept Environment & Labour, 103 recs.
58	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
53	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
47	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 717 recs.
46	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
46	Blaney, C.S.; Spicer, C.D.; Rothfels, C. 2004. Fieldwork 2004. Atlantic Canada Conservation Data Centre. Sackville NB, 1343 recs.
45	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
45	Curley, F.R. 2005. PEF&W Collection 2003-04. PEI Fish & Wildlife Div., 716 recs.
37	Cameron, E. 2007. Canadian Gypsum Co. survey 2005-07. Dillon Consulting Ltd, 40 recs.
36	Spicer, C.D. & Harries, H. 2001. Mount Allison Herbarium Specimens. Mount Allison University, 128 recs.
35	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
34	Hall, R.A. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 189 recs.
32	Popma, T.M. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 113 recs.
31	Cameron, R.P. 2011. Lichen observations, 2011. Nova Scotia Environment & Labour, 731 recs.
30	Harding, R.W. 2008. Harding Personal Insect Collection 1999-2007. R.W. Harding, 309 recs.
29	Benjamin, L.K. 2011. NSDNR fieldwork & consultant reports 1997, 2009-10. Nova Scotia Dept Natural Resources, 85 recs.
29	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
28	Pepper, Chris. 2012. Observations of breeding Canada Warbler's along the Eastern Shore, NS. Pers. comm. to S. Blaney, Jan. 20, 28 recs.
27	Blaney, C.S.; Mazerolle, D.M.; Klymko, J; Spicer, C.D. 2006. Fieldwork 2006. Atlantic Canada Conservation Data Centre. Sackville NB, 8399 recs.
27	Hall, R.A. 2001. S. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
27	Stevens, C. 1999. Cam Stevens field data from PEI vegetation plots. Sent along with specimens to C.S. Blaney. UNB masters research project, 732 recs.
26	Belliveau, A. 2013. Rare species records from Nova Scotia. Mersey Tobeatic Research Institute, 296 records.
26	Neily, T.H. 2010. Erioderma Pedicellatum records 2005-09. Mersey Tobiatic Research Institute, 67 recs.
25	Sollows, M.C., 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
23	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs.
22	Nelly, T.H. 2006. Cypripedium arietinum in Hants Co. Pers. comm. to C.S. Blaney. 22 recs, 22 recs.
22	Powell, B.C. 1967. Female sexual cycles of Chrysemy spicta & Clemmys insculpta in Nova Scotia. Can. Field-Nat., 81:134-139. 26 recs.

# recs	CITATION
20	Basquill, S.P. 2012. 2012 rare vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
20	Stewart, J.I. 2010. Peregrine Falcon Surveys in New Brunswick, 2002-09. Canadian Wildlife Service, Sackville, 58 recs.
19	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
18	Neily, T.H. 2012. 2012 Erioderma pedicellatum records in Nova Scotia.
18	Pulsifer, M.D. 2002. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 369 recs.
17	Gilhen, J. 1984. Amphibians & Reptiles of Nova Scotia, 1st Ed. Nova Scotia Museum, 164pp.
15	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of <i>C. insculpta</i> sightings. Acadia University, Wolfville NS, 88 recs.
15	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
14	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
13	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
12	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
12	Cameron, R.P. 2012. Rob Cameron 2012 vascular plant data. NS Department of Environment, 30 recs.
12	Doucet, D.A. 2009. Census of Globally Rare, Endemic Butterflies of Nova Scotia Gulf of St Lawrence Salt Marshes. Nova Scotia Dept of Natural Resources, Species at Risk, 155 recs.
12	Giberson, D. 2008. UPEI Insect Collection. University of Prince Edward Island, 157 recs.
12	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (<i>Isoetes prototypus</i>). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
11	Bateman, M.C. 2001. Coastal Waterfowl Surveys Database, 1965-2001. Canadian Wildlife Service, Sackville, 667 recs.
11	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2003.
11	Curley, F.R. 2007. PEF&W Collection. PEI Fish & Wildlife Div., 199 recs.
10	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
10	Benjamin, L.K. (compiler). 2002. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 32 spp, 683 recs.
10	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
10	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
10	Webster, R.P. & Edsall, J. 2007. 2005 New Brunswick Rare Butterfly Survey. Environmental Trust Fund, unpublished report, 232 recs.
9	Benjamin, L.K. 2006. <i>Cyripedium arietinum</i> . Pers. comm. to D. Mazerolle. 9 recs, 9 recs.
9	Cameron, R.P. 2005. <i>Erioderma pedicellatum</i> unpublished data. NS Dept of Environment, 9 recs.
9	Cameron, R.P. 2006. <i>Erioderma pedicellatum</i> 2006 field data. NS Dept of Environment, 9 recs.
9	O'Neil, S. 1998. Atlantic Salmon: Northumberland Strait Nova Scotia part of SFA 18. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-08. 9 recs.
9	Spicer, C.D. 2004. Specimens from CWS Herbarium, Mount Allison Herbarium Database. Mount Allison University, 5939 recs.
8	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
8	Layberry, R.A. 2012. Lepidopteran records for the Maritimes, 1974-2008. Layberry Collection, 1060 recs.
8	Smith, M.E.M. 2008. AgCan Collection. Agriculture Canada, Charlottetown PE, 44 recs.
7	Benjamin, L.K. 2009. Boreal Felt Lichen, Mountain Avens, Orchid and other recent records. Nova Scotia Dept Natural Resources, 105 recs.
7	Cameron, B. 2006. <i>Hepatica americana</i> Survey at Scotia Mine Site in Gays River, and Discovery of Three Yellow-listed Species. Conestoga-Rovers and Associates, (a consulting firm), october 25. 7 recs.
7	MacQuarrie, K. 1991-1999. Site survey files, maps. Island Nature Trust, Charlottetown PE, 60 recs.
7	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
6	Hall, R. 2008. Rare plant records in old fieldbook notes from Truro area. Pers. comm. to C.S. Blaney. 6 recs, 6 recs.
6	Matthew Smith. 2010. Field trip report from Avon Caving Club outlining the discovery of <i>Cyripedium arietinum</i> and <i>Hepatica nobilis</i> populations. Public Works and Government Services Canada.
6	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J.; ONHIC, 487 recs.
5	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
5	Cameron, R.P. 2009. Nova Scotia nonvascular plant observations, 1995-2007. Nova Scotia Dept Natural Resources, 27 recs.
5	Erskine, A.J. 1999. Maritime Nest Records Scheme (MNRS) 1937-1999. Canadian Wildlife Service, Sackville, 313 recs.
5	Harris, P. 2004. Plant records from 1997-2003. Island Nature Trust, Charlottetown PE, 71 recs.
5	Plissner, J.H. & Haig, S.M. 1997. 1996 International piping plover census. US Geological Survey, Corvallis OR, 231 pp.
5	Sabine, D.L. 2013. Dwaine Sabine butterfly records, 2009 and earlier.
5	Speers, L. 2001. Butterflies of Canada database. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 190 recs.
4	Belland, R.J. 2012. PEI moss records from New York Botanical Garden. NYBG Virtual Herbarium, Web site: http://sciweb.nybg.org/science2/vii2.asp 135 recs.
4	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
4	Bredin, K.A. 2002. NS Freshwater Mussel Fieldwork. Atlantic Canada Conservation Data Center, 30 recs.
4	Brunelle, P.-M. (compiler). 2010. ADIP/MDDS Odonata Database: NB, NS Update 1900-09. Atlantic Dragonfly Inventory Program (ADIP), 935 recs.
4	Cameron, R.P. 2012. Additional rare plant records, 2009. , 7 recs.
4	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.

# recs	CITATION
4	Daury, R.W. & Bateman, M.C. 1996. The Barrow's Goldeneye (<i>Bucephala islandica</i>) in the Atlantic Provinces and Maine. Canadian Wildlife Service, Sackville, 47pp.
4	Forsythe, B. 2006. <i>Cypripedium arietinum</i> at Meadow Pond, Hants Co. Pers. comm. to C.S. Blaney. 4 recs, 4 recs.
4	Frittaion, C. 2012. NSNT 2012 Field Observations. Nova Scotia Nature Trust, Pers comm. to S. Blaney Feb. 7, 34 recs.
4	Godbout, V. 2002. SAR Inventory: Birds in Fort Beauséjour NHS. Parks Canada, Atlantic, SARINV02-01. 202 recs.
4	Harding, R.W. 2012. Pickerel Frog observations 2004-12. Pers. comm. to J. Klymko, Sep. 6, 4 recs, photos.
4	Kelly, Glen 2004. Botanical records from 2004 PEI Forestry fieldwork. Dept of Environment, Energy & Forestry, 71 recs.
4	New York Botanical Garden. 2010. American Bryophyte Catalog, Prince Edward Island specimens. C.V. Starr Virtual Herbarium. Online database. http://sciweb.nybg.org/science2/hcol/bryo/index.asp . Accessed February 2010., Web site: 135 recs.
4	O'Neil, S. 1998. Atlantic Salmon: Eastern Shore Nova Scotia SFA 20. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-10. 4 recs.
4	Robinson, S.L. 2011. 2011 ND dune survey field data. Atlantic Canada Conservation Data Centre, 2715 recs.
4	Sollows, M.C. 2008. NBM Science Collections databases: herpetiles. New Brunswick Museum, Saint John NB, download Jan. 2008, 8636 recs.
3	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
3	Doubt, J. 2013. Email to Sean Blaney with Nova Scotia records of <i>Fissidens exilis</i> at Canadian Museum of Nature. pers. comm., 3 records.
3	Edsall, J. 2001. Lepidopteran records in New Brunswick, 1997-99. , Pers. comm. to K.A. Bredin. 91 recs.
3	Hinds, H.R. 1986. Notes on New Brunswick plant collections. Connell Memorial Herbarium, unpubl, 739 recs.
3	Mazerolle, D.M. 2005. Bouctouche Irving Eco-Centre rare coastal plant fieldwork results 2004-05. Irving Eco-centre, la Dune du Bouctouche, 174 recs.
3	Neily, T.H. 2013. Email communication to Sean Blaney regarding <i>Listera australis</i> observations made from 2007 to 2011 in Nova Scotia. , 50.
3	Newell, R. E., MacKinnon, C. M. & Kennedy, A. C. 2006. Botanical Survey of Boot Island National Wildlife Area, Nova Scotia, 2004. Canadian Wildlife Service, Atlantic Region, Technical Report Series Number 450. 3 recs.
3	Standley, L.A. 2002. <i>Carex haydenii</i> in Nova Scotia. , Pers. comm. to C.S. Blaney. 4 recs.
3	Williams, M. Cape Breton University Digital Herbarium. Cape Breton University Digital Herbarium. 2013.
2	Amirault, D.L. 1997-2000. Unpublished files. Canadian Wildlife Service, Sackville, 470 recs.
2	Amirault, D.L. 2003. 2003 Peregrine Falcon Survey. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
2	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
2	Benedict, B. Connell Herbarium Specimens, Digital photos. University New Brunswick, Fredericton. 2005.
2	Boyne, A.W. & Grecian, V.D. 1999. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 23 recs.
2	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
2	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
2	Dibblee, R.L. 1999. PEI Cormorant Survey. Prince Edward Island Fisheries, Aquaculture & Environment, 1p. 21 recs.
2	Goltz, J.P. 2012. Field Notes, 1989-2005. , 1091 recs.
2	Kelly, G. 2005. <i>Fraxinus nigra</i> . Dept of Agriculture, Fisheries, Aquaculture & Forestry. Pers. comm. to C.S. Blaney, Mar. 2, 11 recs.
2	Macaulay, M. Notes on newly discovered <i>Hepatica nobilis</i> var. <i>obtusa</i> population in Cumberland Co. NS. Pers. comm. to S. Blaney, 1 rec.
2	Macaulay, M. 2008. Email to Sean Blaney regarding rich hardwood floodplain site at Howards Pool, Wallace River, NS.
2	MacQuarrie, K. 2003. Field Observation Form. , 2pp.
2	Munro, M. 2003. <i>Caulophyllum thalictroides</i> & <i>Carex hirtifolia</i> at Herbert River, Brooklyn, NS. , Pers. comm. to C.S. Blaney. 2 recs.
2	Munro, M. 2003. <i>Dirca palustris</i> & <i>Hepatica nobilis</i> var. <i>obtusa</i> at Cogmagun River, NS. , Pers. comm. to C.S. Blaney. 2 recs.
2	Neily, P.D. Plant Specimens. Nova Scotia Dept Natural Resources, Truro. 2006.
2	Neily, T.H.; Smith, C.; Whitman, E. 2011. NCC Logging Lake (Halifax Co. NS) properties baseline survey data. Nature Conservancy of Canada, 2 recs.
2	Newell, R.E. 2006. Rare plant observations in Digby Neck. Pers. comm. to S. Blaney, 6 recs.
2	Sabine, D.L. 2012. Bronze Copper records, 2003-06. New Brunswick Dept of Natural Resources, 5 recs.
2	Sollows, M.C., 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
2	Speers, L. 2008. Butterflies of Canada database: New Brunswick 1897-1999. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 2048 recs.
2	Tingley, S. (compiler). 2001. Butterflies of New Brunswick. , Web site: www.geocities.com/Yosemite/8425/buttrfly . 142 recs.
1	Amirault, D.L. 2005. 2005 Peregrine Falcon Survey. Canadian Wildlife Service, Sackville, unpublished data. 27 recs.
1	Amiro, Peter G. 1998. Atlantic Salmon: Inner Bay of Fundy SFA 22 & part of SFA 23. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-12. 4 recs.
1	Basquill, S. P. 2008. Nova Scotia Dept of Natural Resources.
1	Basquill, S.P. 2009. 2009 field observations. Nova Scotia Dept of Natural Resources.
1	Basquill, S.P. 2012. 2012 Bryophyte specimen data. Nova Scotia Department of Natural Resources, 37 recs.
1	Benedict, B. Connell Herbarium Specimen Database Download 2004. Connell Memorial Herbarium, University of New Brunswick. 2004.
1	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2000.
1	Benjamin, L.K. 2003. <i>Cypripedium arietinum</i> in Cogmagun River NS. Pers. comm. to S. Blaney, 1 rec.
1	Blaney, C.S. & Whittam, R.M. 2003. Botanical & freshwater mussel observations at Lake Killarney, Cumberland Co., NS - Sept. 27, 2003. Atlantic Canada Conservation Data Centre, 3 recs.

# recs	CITATION
1	Cairns, D. 1998. Atlantic Salmon: Prince Edward Island SFA 17. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-07. 1 rec.
1	Cameron, A.W. 1958. Mammals in the Islands in the Gulf of St Lawrence. Natl. Mus. Can. Bull. , 154:1-165. 2 recs.
1	Clayden, S.R. 2006. Pseudevernia cladonia records. NB Museum. Pers. comm. to S. Blaney, Dec, 4 recs.
1	Crowell, A. 2004. Cypridium arietinum in Weir Brook, Hants Co. Pers. comm. to S. Blaney, 1 rec.
1	Curley, F. R. Plant specimens given to AC CDC. PEI Dept Environment, Energy and Forestry . 2010.
1	Curley, F.R. 2003. Glen Kelly records for Betula pumila & Asclepias syriaca on PEI. , Pers. comm. to C.S. Blaney. 9 recs.
1	Donell, R. 2008. Rare plant records from rare coastal plant project. Bouctouche Dune Irving Eco-centre. Pers. comm. to D.M. Mazerolle, 50 recs.
1	Doucet, D.A. ACCDC Reference Collection. Atlantic Canada Conservation Data Centre, Sackville NB. 2008.
1	Erskine, D.S. First Myriophyllum tenellum collection for PEI, specimen at DAO herbarium. Agriculture Canada, Research Branch. 1956.
1	Fraser, M. 2003. Fort Amherst Field Observations. Pers. comm., 2pp, 3 recs.
1	Gagnon, J. 2003. Prince Edward Island plant records. Societe de la faune et des parcs Quebec, 13 recs.
1	Gagnon, J. 2004. Specimen data from 2002 visit to Prince Edward Island. , 104 recs.
1	Harris, P. & Blaney, C.S. 2003. SAR Inventory: Plants in Port-La-Joye NHS & Fort Amherst NHS. Parks Canada, Atlantic, SARINV03-23. 4 recs.
1	Jacques Whitford Ltd. 2003. Cananda Lily location. Pers. Comm. to S. Blaney. 2pp, 1 rec, 1 rec.
1	Klymko, J.J.D. 2010. Miscellaneous observations reported to ACCDC (zoology). Pers. comm. from various persons, 3 recs.
1	LaPaix, R.; Parker, M. 2013. email to Sean Blaney regarding Listera australis observations near Kearney Lake. East Coast Aquatics, 2.
1	Lautenschlager, R.A. 2010. Miscellaneous observations reported to ACCDC (zoology). Pers. comm. from various persons, 2 recs.
1	McAlpine, D.F. 1998. NBM Science Collections databases to 1998. New Brunswick Museum, Saint John NB, 241 recs.
1	Mills, Pamela. 2007. Iva frutescens records. Nova Scotia Dept of Natural Resources, Wildlife Div. Pers. comm. to S. Basquil, 4 recs.
1	Morrison, Annie. 2010. NCC Properties Fieldwork: June-August 2010. Nature Conservancy Canada, 508 recs.
1	Neily, T.H. 2004. Hepatica nobilis var. obtusa record for Falmouth NS. Pers. comm. to C.S. Blaney, 1 rec.
1	Newell, R.E. 2004. Hepatica nobilis var. obtusa record. Pers. comm. to S. Blaney, 1 rec.
1	Oakley, D. 2012. Pickerel Frog observation 2008. Pers. comm. to J. Klymko. email record, 1 photo.
1	Popma, K. 2001. Phalarope & other bird observations in Westmorland Co. , Pers. comm. to K.A. Bredin. 5 recs.
1	Robinson, C.B. 1907. Early intervale flora of eastern Nova Scotia. Transactions of the Nova Scotia Institute of Science, 10:502-506. 1 rec.
1	Thomas, H.H., Jones, G.S. & Diblee, R.L. 1980. Sorex palustris on Prince Edward Island. Can. Field Nat., vol 94:329-331. 2 recs.
1	Whittam, R.M. 1999. Status Report on the Roseate Tern (update) in Canada. Committee on the Status of Endangered Wildlife in Canada, 36 recs.

November 21st, 2011

Lisa Fulton
c/o Affinity Renewables Inc.
796 Dan Fraser Road
RR# # Greenhill, NS B0K 2A0

Dear Ms. Fulton:

**RE: Environment Screening 11-09-07c
East Mountain Wind Project
Affinity Renewables Inc.**

Further to your request of September 7th, 2011, staff of the Heritage Division have reviewed their files for reference to the presence of heritage resources in the study area. Please be aware that our information is not comprehensive, in that it is incomplete and of varying degrees of accuracy with respect to the precise location and condition of heritage resources.

Archaeological and Historical Site Remains

Staff notes that there are no recorded archaeological sites on file within the study area. There are three recorded sites immediately to the north and just outside the study area. There is also a recorded site to the south east of the study area. It is also notable that the Debert and Belmont Palaeo-Indian archaeology sites are within 15 to 20 km of the study area. Historic maps also indicate settlement.

Staff recommends that an assessment for archaeological resources takes place.

Botany

Staff have reviewed the records for plant species-at-risk and report that the following species-at-risk are found or may be expected within the footprint as outlined in the request in the East Mountain area:

Allium tricoccum (provincially Red-listed)
Alopecurus aequalis (provincially Yellow-listed)
Anemone virginiana, var. alba (provincially Yellow-listed)
Botrychium lanceolatum, var. angustsegmentum (provincially Yellow-listed)
Carex garberi (provincially Red-listed)
Carex hirtifolia (provincially Red-listed)
Carex plantaginea (provincially Red-listed)
Caulophyllum thalictroides (provincially Red-listed)
Cinna arundinacea (provincially Red-listed)

Desmodium canadense (provincially Yellow-listed)
Dryopteris fragrans (provincially Yellow-listed)
Equisetum pratense (provincially Yellow-listed)
Floerkea prserpinacoides (provincially Yellow-listed)
Laportea canadensis (provincially Yellow-listed)
Lilium canadense (provincially Yellow-listed)
Platanthera flava, var. flava (provincially Yellow-listed)
Polygala sanguinea (provincially Yellow-listed)
Triosteum aurantiacum (provincially Yellow-listed)
Viola nephrophylla (provincially Yellow-listed)
Zizia aurea (provincially Yellow-listed)

The presence/absence of these species should be determined during field assessment and reported in any submission. Staff recommendation is that field assessment be conducted during the growing season or when the identity can be determined to species or variety.

Zoology

Staff do not have records for the footprint outlined. However, staff do have records for species of significance within the general area:

Grooved Fingernail Clam (*Sphaerium similie*)
Blue-spotted Salamander (*Ambystoma laterale*) - popyloid populations
Eastern Red-back Salamander (*Plethodon cinereus*) *erethrystic forma*

There are nesting records for the following bird species of concern:

Boblink (*Dolichonyx oryzivorus*) - provincially Yellow-listed
Canada Warbler (*Wilsonia canadensis*) - provincially Yellow-listed
Boreal Chickadee (*Parus hudsonicus*) - provincially Yellow-listed
Barn Swallow (*Hirundo rustica*) - provincially Yellow-listed
Olive-sided Flycatcher (*Contopus borealis*) - provincially Yellow-listed
Chimney Swift (*Chaetura pelagica*) - provincially Yellow-listed

Staff also notes that there are potential bat hibernation sites in the vicinity of the footprint associated with abandoned mine sites.

Palaeontology

Staff notes that this project will disrupt rocks of either the Parrsboro Formation of the Cumberland Group, or rocks from the Pictou Group, or possibly both. The Pictou Group contains known fossils of the invertebrate *Arthropleura* sp. (particularly trace fossils of *Arthropleura* sp.), as well as numerous plant fossils. There is also a slight chance vertebrate fossils may be encountered, fish in particular. The Parrsboro Formation contains known vertebrate trackways and known vertebrate jaws. There is potential for other types of fossils to be found.

Page 3
L. Fulton
November 21st, 2011

In the event that fossils are found during construction, work should stop and contact be made with the Heritage Division.

If you have any questions, please contact me at 424-6475.

Sincerely,

A handwritten signature in blue ink, appearing to read 'L. Bennett', written in a cursive style.

Laura Bennett,
Coordinator, Special Places

