



## **FISHER ENGINEERING LTD.**

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40 Fairfield Road  
Lower Coverdale, New Brunswick E1J 0A2  
Phone: 506. 863. 1991

January 23, 2023

File: DS421

Crystale Harty  
Director Environmental Impact Assessment Branch  
Department of Environment  
20 McGloin Street  
PO Box 6000  
Fredericton, NB E3B 5H1

Attention: Ms. Harty:

***EIA Project Registration: Mixed Use Residential Development, Quispamsis NB***

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Enclosed is an electronic copy of the registration document for the above noted undertaking.

If you have any questions or require further details, please do not hesitate to contact the undersigned.

A handwritten signature in black ink that reads 'Michael Fisher'. The signature is written in a cursive style with a large initial 'M'.

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Michael Fisher, P. Eng.

MJF

Enclosures

cc: Mr. Andrew Dunn

**EIA Registration**  
**Mixed Use Residential Development Quispamsis NB**

TABLE OF CONTENTS

	<u>Page</u>
1 THE PROPONENT .....	1
2 THE UNDERTAKING.....	1
3 DESCRIPTION OF THE EXISTING ENVIRONMENT .....	4
4 SUMMARY OF ENVIRONMENTAL IMPACTS.....	7
5 SUMMARY OF PROPOSED MITIGATION .....	7
6 PUBLIC INVOLVEMENT .....	8
7 APPROVAL OF THE UNDERTAKING .....	9
8 FUNDING .....	9
9 SIGNATURE.....	9

APPENDIX

- A FIGURES
- B SITE PHOTOS AND SUPPORTING INFORMATION
- C REZONING AGREEMENT
- D ACCDC REPORT
- E WSSA APPLICATION

# EIA Registration

## Mixed Use Residential Development Quispamsis NB

Pursuant to Section 5(2) of  
The Environmental Impact Assessment Regulation 87-83  
Clean Environment Act

### 1 The Proponent

**Name:** 697800 NB Corp. c/o Andrew Dunn /A.E. Dunn Consulting

**Address:** 62 Chamberlain Road, Quispamsis, NB E2G 1C1

**Principal Contact Person for Purposes of EIA:**

Andrew Dunn

(506) 870-0797, Andrew.dunn@yahoo.ca

and

Michael Fisher, Fisher Engineering Ltd. (506) 863-1991.

michael@fisherengineeringltd.com

**Property Ownership:** Queen Construction Ltd.

11 Kensington Ave. Quispamsis, NB E2E 2T8

### 2 The Undertaking

**Name:** Mixed Use Residential Development – PID 00251462

**Project Overview:** The proposed project includes a maximum of four two storey multi-unit buildings with each building have 12 units, maximum of 8 single family dwellings and maximum of 16 semi-detached dwellings units. An amendment to the Municipality of Quispamsis zoning by-law No. 038 was approved and registered on October 19, 2022. The amendment approved the rezoning of the subject property from Single or Two Family dwellings (R1) to Multiple Residential (R2). The proposed project will be constructed in Phases with the first Phase to include the construction of a new municipal road, two of the multi-unit dwellings along with the creation of seven new single family dwelling lots. The second Phase of the development will be the construction of two additional multi-unit dwellings and the third Phase will be the completion of the municipal roadwork to allow for the creation of the 10 semi-detached residential lots and the 1 remaining single family dwelling lot.

The proponent plans to maintain ownership of the two lots for the multi-unit dwellings and sell the individual lots for the single and semi-detached homes.

**Purpose/Rationale/Need:** The proponent has developed similar multi-unit dwellings in recent years in the surrounding communities and he is having excellent response to this potential development. He does not anticipate any issues with being able to rent the four buildings based on the demographics. The proponent has recently constructed other rental units in the subject and neighbouring communities of Hampton and Rothsay which have targeted the 55+ age group. The proponent has found that there is a lack of rental units for that targeted age group in and around this area.

**Project Location:** The project is located at 160 Pettingill Road in Quispamsis, NB. The subject property is in a mixed commercial and residential area of Quispamsis. The site is bordered by Pettingill Road to the north and west south and Heritage Way to the south. Primarily single-family dwellings are located adjacent the subject property except for Des Pionniers School located to the east and the Kennebecasis Community Funeral Home located southwest of the subject property. North of Pettingill Road are additional single family dwellings along with another school and a church.

The Town of Quispamsis provides municipal sewer services to the site. The subject property and surrounding developments rely on private wells for potable domestic water. The subject property is identified by Service New Brunswick as PID 00251462. The subject property is ~8.87 hectares in area.

**Siting Considerations:** The project location was chosen because of the proximity and view of Ritchie Lake. The existing topography of the site is a complement to the proposed four town house buildings that the proponent is planning. The proximity to Main Street, which offers many conveniences including grocery, coffee shops, and restaurants is also an added incentive.

The project site is not located within 30 metres of a wetland nor is the project located within Zone A or Zone B of a protected coastal area. The GeoNB mapping is shown in Appendix A.

**Physical Components and Dimensions of the Project:** A conceptual plan showing the proposed development and associated physical components is presented in Appendix A. The proposed municipal road network will be constructed to Town of Quispamsis municipal standards. The overall project will include the construction of approximately 500m of municipal roads and associated infrastructure. This work will be completed in three Phases with the first phase to include approximately 135m of road work to get to the location of the proposed lots for the four town house buildings. The second phase of the road work will include a connection to the existing adjacent Heritage way development to the south and the final phase will include the section of road for the semi-detached lots along the northern portion of the property. The roads within the subdivision will be paved as per Town standards. Each individual phase will require detail engineering plans to be reviewed and approved by the Town's engineering department prior to any construction. There will be sidewalks installed and all electrical will be on overhead power poles provide by New Brunswick Power. Water will be provided by individual wells for the single and semi-detached lots with two wells proposed for the four town house buildings. Sanitary services will be municipal with new main lines and laterals installed during the various Phases of construction. Storm water management will be required on this project with all of the storm water runoff being

directed toward a stormwater retention pond to be constructed on the lower portion of the property. The stormwater retention pond will be sized to ensure a net zero increase in peak storm water from the entire site. To account for climate change the historic 1 in 100yr storm event will be increased by 20%, which is the current industry standard.

**Construction Details:**

Construction for Phase I includes: building a section of municipal road, including the installation of sanitary and storm main line and laterals, curb, sidewalk, all the gravels and asphalt. Work also includes the construction of a storm water retention pond along with a pedestrian connection to the adjacent Town of Quispamsis recreational trail. The proposed pond is located at the lower portion of the site, which allows for the collection of surface water from the entire site prior to discharging onto Town land. The pond will be sized to account for the overall development of the property, which will include the four multi-unit buildings, 8 single family dwellings and 10 semi-detached lots. For Phase I of this development, there will be minimal clearing required to gain access to the proposed construction site as the area was previously used as staging during construction activities on adjacent properties. In addition, Phase I will include the construction of two of the four town house buildings so there will be site development work associated with that including digging for the foundations, pouring the concrete walls and floors, backfilling around the foundation and installing the driveways and parking areas. As part of the development, erosion and sedimentation measures will be required to be implemented by the contractor. These items will include but not limited to sedimentation fence, erosion control check dams, sedimentation ponds and stabilized entrances to the construction site.

**Operation and Maintenance Details:** The proposed overall development, four 12-unit town houses, 8 single family residential lots and 10 semidetached lots within the development will be connected to the Town of Quispamsis municipal sanitary and storm systems and will be provided domestic water via private wells.

Since the subdivision will be serviced with individual private wells the New Brunswick Department of Environment (NBDELG) require that a groundwater exploration program be completed, which will show that the surrounding aquifer can support the proposed development. The exploration program will follow the NBDELG Water Supply Assessment Guideline. The exploration program will consist of drilling test wells at strategic locations across the property and performing a 24hr pumping test. The pumping test data will be analyzed to determine the long-term sustainability of the aquifer. Pumping test will be conducted as outlined in the guideline and will be performed during February/March of 2023 when groundwater recharge is minimal. The estimated water requirement for the proposed development is 59.4m<sup>3</sup>/day (9.08 igpm). A WSSA application to complete the hydrogeological assessment for this development is attached is Appendix E.

**Project Related Documents:** Attached there are the construction plans for the style of town house buildings being proposed on the two lots, WSSA application, rezoning amendment, recently completed traffic study, and approval from the current owner for the proponent to undertake this EIA on this property. Proponent currently has an agreed purchase and sale on the property with one of the main conditions that the property gets approval for the lots to construct the four town houses.

### 3 Description of the Existing Environment

#### Physical and Natural Features:

- The study area is located within the drainage area of Ritchie Lake and within 3 kilometres of the Kennebecasis River. Regionally, the ground surface slopes southeast toward the Ritchie Lake. Across the subject property, the ground slopes aggressively southeasterly toward the adjacent recreational trail and rail line that run along the easterly property boundary eventually discharging into a large wetland located east of the rail line. The wetland drains into Ritchie Lake.
- 1:10,000-scale mapping indicates that the surface elevation across the development area is ranges between approximately 90m and 50 metres above mean sea level. Surface water drainage across the majority of the proposed development area is southeast toward the adjacent recreational trail and rail line.
- Shallow groundwater flow across the property is expected to follow the local topography, which slopes toward the mapped wetland located east of the rail line. Deeper groundwater likely flows in a similar southeasterly direction toward the wetland/Ritchie Lake. The area to the north and west that could potentially contribute groundwater to the study area is primarily residential with the main water consumers being the neighbouring schools.
- Surficial geology maps indicate that the area is underlain by late Wisconsinan age morainal sediments consisting of blanket and veneer of mainly stoney till (more than 35% of clasts pebble-sized and larger), loamy lodgement till, minor ablation till, minor silt, sand, gravel, and boulders generally greater than 1.5m thick (Rampton, 1984).
- The regional bedrock geology is mapped as Carboniferous stratified rock belonging to the Mabou group, which is a subbasin of the Maritimes Carboniferous Basin. Mapping indicates that within the Mabou Group the site falls within the Kennebecasis Formation, which consists mainly of reddish brown, conglomerate and sandstone; minor mudstone (Barr. S.M. and White. C.E. 2001).
- There are no municipal wells, municipal wellfields, or protected watersheds within 500 metres of the subject property. Surrounding properties rely on private wells to supply potable water. Within 500 metres of the investigated area there are approximately 100 groundwater users.
- A mixed forest of young intolerant hardwood and softwood species of trees covers the majority of the property outside the area for Phase I. The main species identified were White Birch, Spruce, and Poplar trees. The site is well drained and no wetlands as described by the NBDELG were observed on the site. NBDELG defines a wetland as “an area that is seasonally covered or saturated with water, creating soil conditions that promote the growth of water tolerant vegetation”.

- The Town of Quispamsis has municipal wastewater collection and treatment. There was an existing sanitary lateral at the property line off the main line adjacent the recreational trail and also off Pettingill Road. It is suspected that the lateral off Pettingill will be extended onto property for the municipal infrastructure for the adjacent single family and semi-detached lots and that the lateral adjacent the recreational trail will be used for the four multi-unit buildings. However, additional discussions will be completed with the Town during the detailed design work phase on the road construction.
- There were no potential wetlands identified on the NB Department of Natural Resources and Energy Development (DNRED) and GEONB mapping on the property. Due to the time of year, a wetland delineation / presence absence survey is unable to be completed. To supplement that at this time, Theo Popma from Overdale Environmental Inc. was asked to comment on the potential likelihood of wetlands on the property based on lidar mapping. Mr. Popma stated that "I can comment that, of the situations I usually encounter, the terrain at PID 00251462 is of the lowest likelihood for the presence of wetland of any relevant extent. The fact that the Lidar changes color from grey to green over the short course of the width of the PID is something I never see. It can only mean a steep slope. I wouldn't comment on water-drainage patterns in the vicinity since there may be seepage on the downhill slope, but there appears to be nowhere for it to accumulate. There is a visible stream well outside the eastern PID boundary where this appears to be happening."

A copy of the correspondence is attached in the appendix.

- The Atlantic Canada Conservation Data Centre reported the following considered rare or endangered species within 5km of the subject property:
  - 38 records of 14 vascular flora and 3 records of 3 nonvascular flora that are considered rare or endangered species.
  - 29 records of 16 vertebrate, 9 records of 3 invertebrate fauna

The following table lists the species within 5km of the site with records that have classifications within Species at Risk Act (SARA) and/or provincial species at risk legislation; designated, under review or identified as candidate species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Scientific Name	Common Name	COSEWIC	SARA	Prov Legal
Rangifer tarandus pop. 2	Caribou - Atlantic-Gasp	Endangered	Endangered	Extirpated
Hirundo rustica	Barn Swallow	Special Concern	Threatened	Threatened
Chordeiles minor	Common Nighthawk	Special Concern	Threatened	Threatened
Cardellina canadensis	Canada Warbler	Special Concern	Threatened	Threatened
Puma concolor pop. 1	Cougar - Eastern population			Endangered
Alasmidonta undulata	Monarch	Endangered	Special Concern	Special Concern

- There ACCDC identified two location-sensitive species potentially intersecting the study area. These included the Wood Turtle and Bald Eagle. Due to the presence of the existing rail line, recreational trail, several ditches and aggressive slope between the nearby wetland area and the subject property, the potential for the migration of the wood turtle specie onto the subject property is unlikely. However, all personnel will be made a ware of the possibility and to notify DNRED in the event of a sighting.
- The Atlantic Canada Conservation Data Centre reported that in the vicinity of the study area there are 2 biologically significant areas and one managed area. These include Minister’s Face Nature Preserve, Kennebecasis River and Palmer Brook. These areas are located over 3km from the subject property.

The following are some of the references and personnel that were contacted and used in order to gather information regarding the physical and natural features of the subject and surrounding properties.

1. Atlantic Canada Conservation Data Centre -ACCDC
2. Environment Canada Species at Risk website - <http://www.sararegistry.gc.ca>
3. COSEWIC. 2005. Canadian Species at Risk. Committee on the Status of Endangered Wildlife in Canada. Web site: <http://www.cosewic.gc.ca>
4. Canadian Wildlife Service website - <http://www.naturecanada.ca>
5. Department of Environment Government website – designated wellfields - <http://www.gnb.ca/0009/0371/0001/0003.html>, and protected watersheds - <http://www.gnb.ca/0009/0371/0004/0003.html>.
6. The *Climate Data* website (<https://climatedata.ca/analyze/>), Historical intensity-duration-frequency (IDF) curve data for Saint John, New Brunswick
7. Mike Steeves, ER Steeves Well Drilling.
8. Mark Morrison, Town of Quispamsis Engineering Department.
9. Theo Popma, Overdale Environmental

**Cultural Features:** There are no reported or observed cultural features on the subject site or adjacent properties.

**Existing and Historic Land Uses:** Historical information was obtained through a review of historical aerial photos (1945 through 2013 and google). Historical records indicate the subject property has been vacant and treed. There was disturbance including tree cutting and soil removal completed to the centre and lower section of the property where the proposed first Phase of the development is planned. This work was completed within the last 6 years when the adjacent residential development on Heritage Way was completed along the municipal infrastructure upgrading work to the sanitary main line adjacent the rail line was completed. The centre portion of the site is currently significantly disturbed with exposed rocks and boulders present. Access to this area is easily made via an existing gravel road off Pettingill Road. Pettingill Road is visible in all the aerial photos along with the adjacent rail line.

## 4 Summary of Environmental Impacts

Potential environmental impacts associated with this project include the following:

- Construction activities will require soil disturbance for municipal road building along with the stie development work for the construction on the four town house buildings. The area where the proposed town house buildings/ storm water retention pond and a portion of the Phase I municipal road network was previously cut and grubbed as part of construction activities completed in the past by the current owner. Soil disturbances increase the potential for erosion and sediment release especially at this site due to the site topography.
- Throughout the construction period there is a potential for an accidental release of hazardous materials such as fuels or lubricants from the earthwork machines or the delivery vehicles.
- Impacts to the atmospheric environment include changes to air quality and noise in the construction phase of the project. Potential impacts to air quality are commonly caused by emissions from equipment or vehicles as well as by dust. Noise impacts are commonly caused by equipment as well as by activities such as blasting. There are no blasting activities proposed or required. Atmospheric environment impacts to human health may include:
  - impacts to air quality (dust or fumes including NOx, SOx, and PM2.5)
  - increased noise from construction or operations
- The proponent will ensure that activities comply with the Migratory Birds Convention Act (MBCA) and regulations. The Migratory Birds Convention Act (MBCA) protects most bird species in Canada.

As for all projects, there is there is a possibility of identifying archaeological resources during construction/extraction.

## 5 Summary of Proposed Mitigation

The potential environmental impacts listed in Section 4 are discussed further below along with any proposed mitigation.

1. Accidental release of hazardous materials: In order to minimize the risk of a release of hazardous materials the following best management practices will be employed during any onsite work.
  - No refuelling of equipment will take place on site.
  - Except for fuel tanks, petroleum products will not be stored onsite.
  - Any required maintenance work would be performed offsite.

Any spills or leaks from machinery will be promptly contained and cleaned up. Actions may involve ditching, blocking drainage pathways, and using absorbent materials. In addition, any spills or leaks will be reported to the 24-hour environmental emergencies reporting system (1-800-565-1633) and to the NBDELG Regional Office in Saint John (506-658-2558).

2. Erosion and Sediment Release: On site erosion and sediment control measures are currently being employed at the site. These include sedimentation fence, temporary check dams, ensuring that exposed soil is stabilized as soon as possible and that all structures are routinely inspected especially prior to and immediately after a rain fall event.
3. Proponent will ensure that equipment used on site is in good working order to minimize air borne contaminates. Any contractor that arrives on site with equipment in disrepair will be required to exit the site and not return until the equipment is in proper working order. The proponent also realizes that the site is bordered by an existing residential community. Construction activities will be carried out during normal business hours and all trades will be required to be respectful of the surrounding neighbourhood. The proponent is the project manager for this project also so he is a constant presence on site throughout the development. As such, any issues on a day to day basis can be addressed immediately.
4. For Phase I/II of this development, minimal tree cutting is required as the area where the proposed lots for the four town house buildings will be located is currently cleared. In addition, the area where the proposed stormwater retention and sedimentation pond will be located is cleared. A small number of trees will have to be cut to allow for the widening of the existing driveway where the construction of the municipal road leading to the proposed lots will occur. With this work being already completed it reduces the possibility of damaging migratory birds nesting sites. There is still potential, however, and the proponent will ensure that contractors are aware and report any nesting activities. Some species of migratory birds, including the SARA-listed (Threatened) Common Nighthawk, may be attracted to cleared areas for nesting. Should there be a delay between clearing and other construction/operation activities, ground nesters may be attracted to previously cleared areas for nesting. In such a case, nest surveys may be carried out successfully by skilled and experienced observers using appropriate methodology. Should any nests or unfledged chicks be discovered, it is expected that these would be protected by an appropriate-sized buffer.
5. All of the onsite contractors will be made aware of the potential for an accidental discovery of archaeological resources. In the event of an accidental discovery of archaeological resources they are to cease work immediately in the vicinity of the find and contact the Archaeology and Heritage Branch at (506) 453-3115 who will assist in determining possible mitigation and next steps to be taken.

## 6 Public Involvement

The following stakeholders and right holders will be contacted directly via a letter in order to obtain input on the project:

- Elected officials, Town of Quispamsis, First Nation representatives, residents bordering the community within 100m and the Kennebecasis Watershed Restoration Committee.

The letter will outline the scope of the project and will include a schematic of the development. Contact information for any comments will also be provided. The public will be given thirty days to provide comments. Once the comments have been received, a report will be prepared regarding the public's input. The report will be submitted within sixty days of project registration.

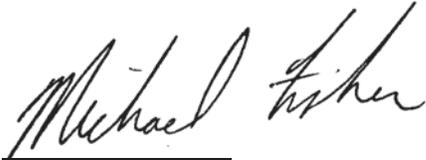
## 7 Approval of the Undertaking

Approval will be required from the New Brunswick Department of Environment and Local Government for the use of two wells with a capacity greater than 50m<sup>3</sup>/day for the town house buildings. Following approval from the NBDELG, and that the conditions in the rezoning are met, the Town will issue construction and building permits.

## 8 Funding

No applications for a grant or loan of capital funds from a government agency have or will be submitted. 697800 NB Corp. will be funding the project.

## 9 Signature



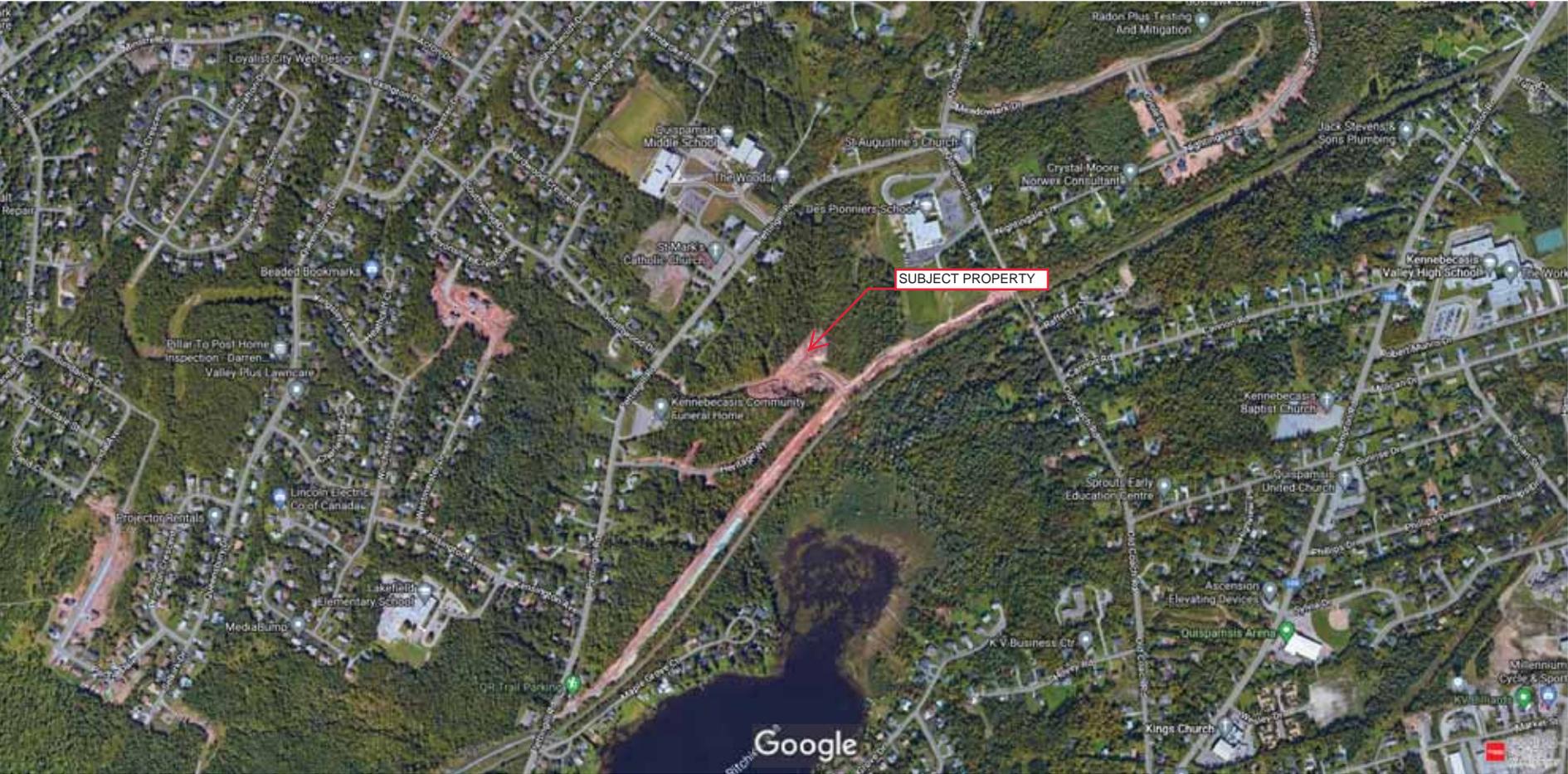
Michael Fisher, P.Eng

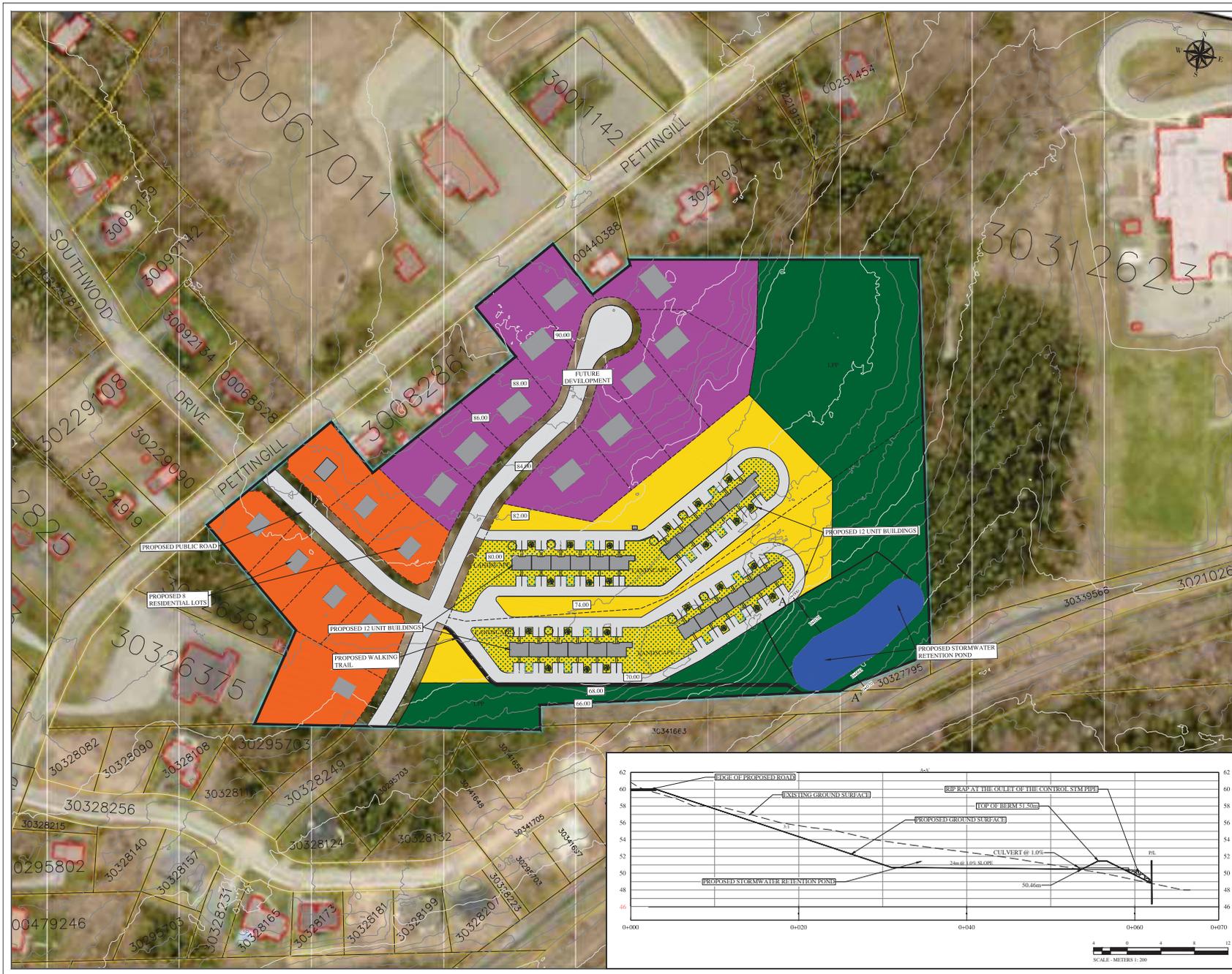
January 23, 2023

Date

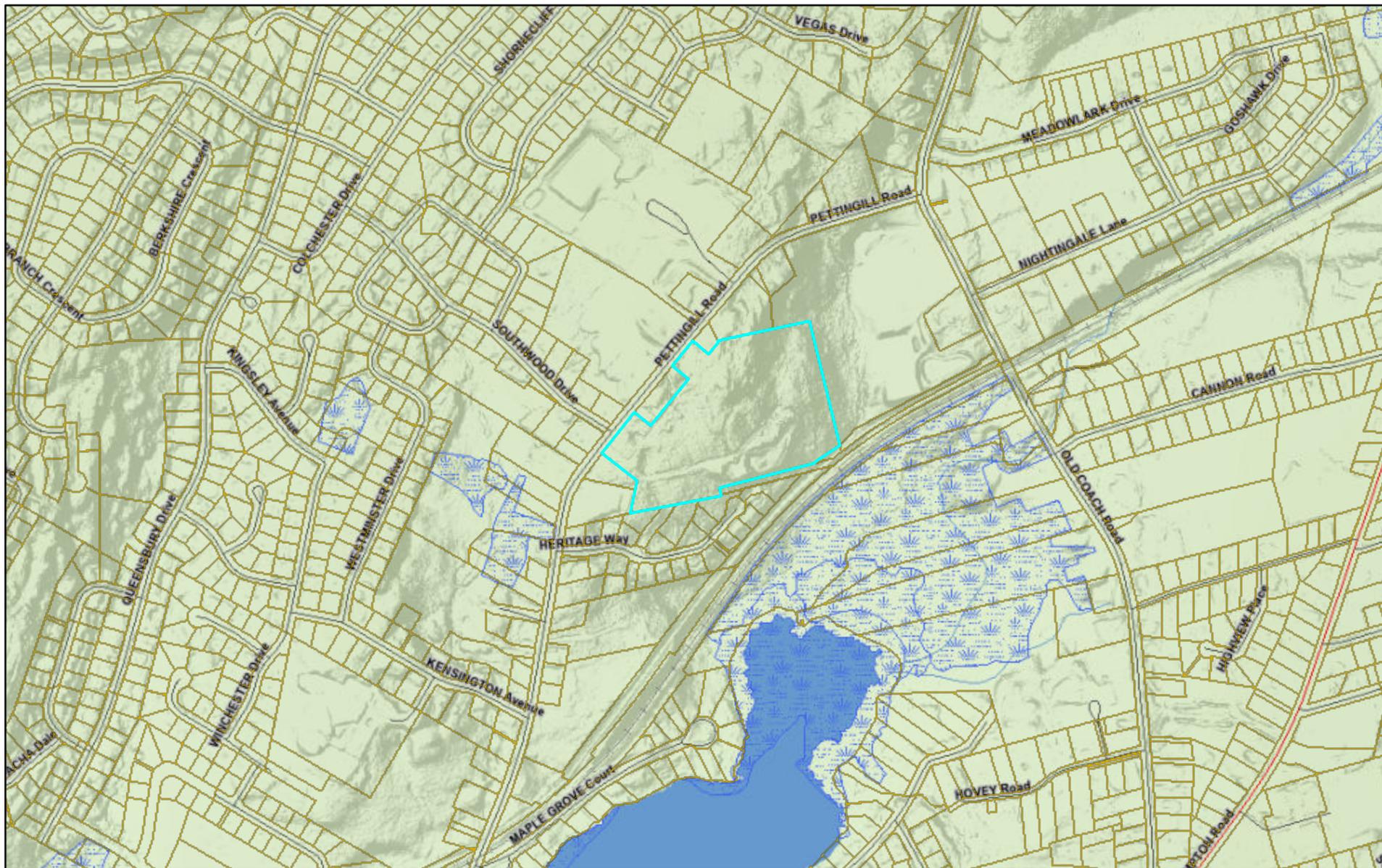
## **APPENDIX A**

### **FIGURES**





# GeoNB Map Viewer

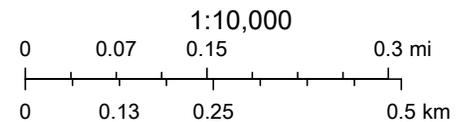


1/16/2023, 9:42:15 AM

 parcels

 Large Scale

Year of Photography



Service New Brunswick, Department of Environment and Local Government /  
Ministère de l'Environnement et des Gouvernements locaux

GeoNB

This map is a graphical representation which approximates the size, configuration and location of features. This map is not intended to be used for legal descriptions or to calculate exact dimensions or area.

## **APPENDIX B**

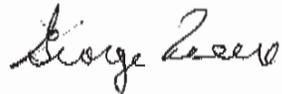
### **SITE PHOTOS AND SUPPORTING INFORMATION**

January 17, 2023

To Whom it May Concern,

I, George Queen, as the President of Queen Construction Ltd. and owner (seller) of vacant land on Pettingill Rd.- PID# 00251462, give permission to 697800 NB Corp. (purchaser) to do an EIA (Environmental Impact Assessment) on the property.

Sincerely yours,

A handwritten signature in cursive script that reads "George Queen".

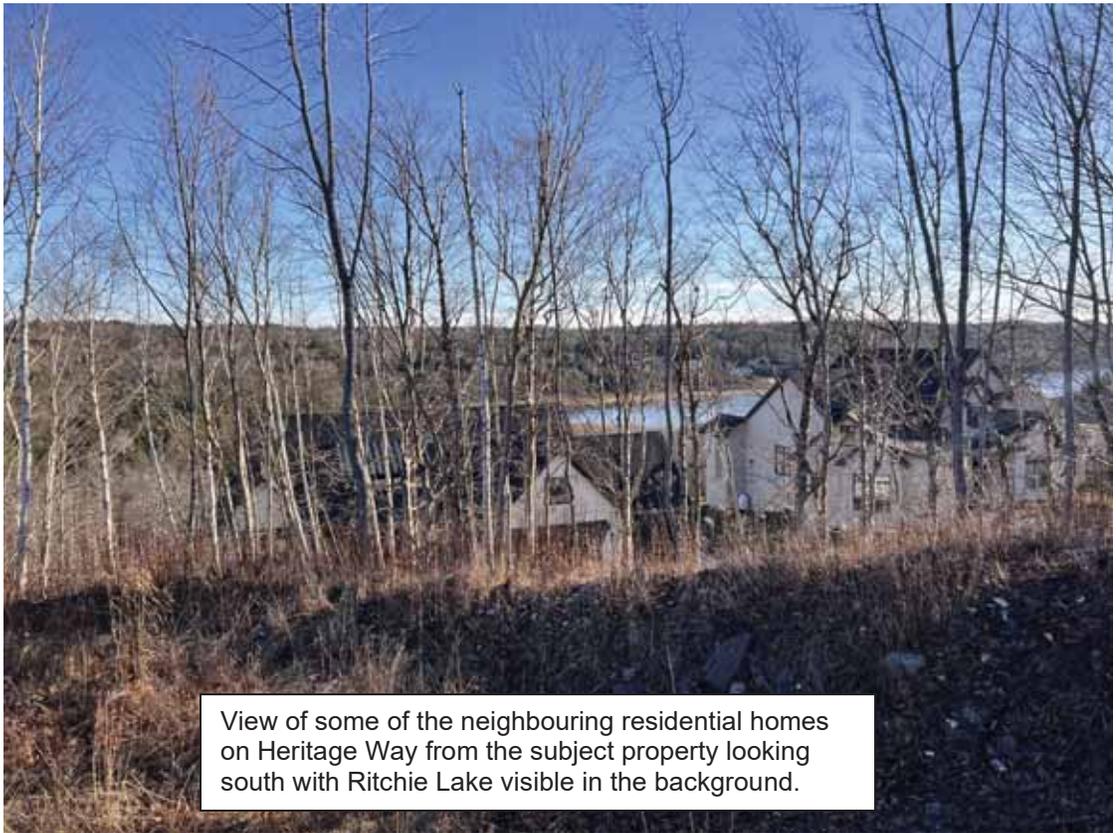
George Queen



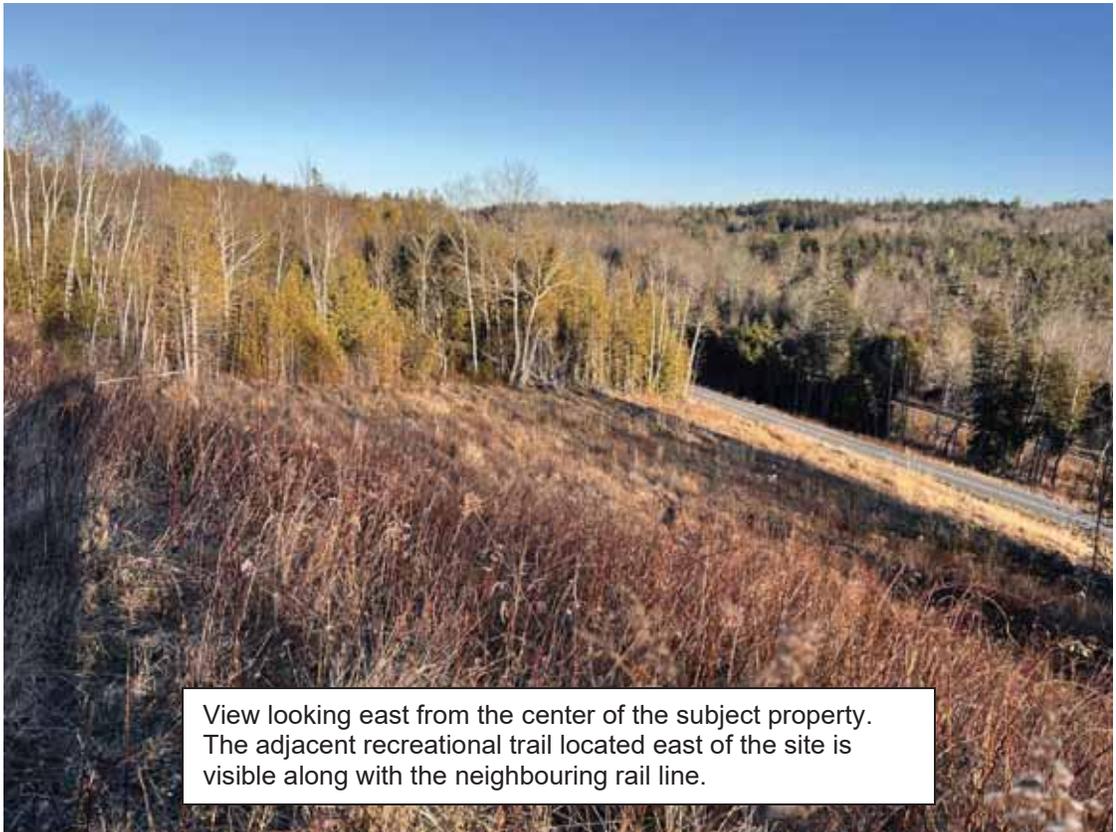
View of subject property looking northeast at the centre of the property where the proposed 4 Town house buildings are proposed.



View of some of the soil disturbance and the existing gravel access road off Pettingill Road.



View of some of the neighbouring residential homes on Heritage Way from the subject property looking south with Ritchie Lake visible in the background.



View looking east from the center of the subject property. The adjacent recreational trail located east of the site is visible along with the neighbouring rail line.

**From:** [tpopma@nb.sympatico.ca](mailto:tpopma@nb.sympatico.ca)  
**To:** [michael@fisherengineeringltd.com](mailto:michael@fisherengineeringltd.com)  
**Subject:** RE: Quispamsis - Lidar  
**Date:** December-06-22 11:22:54 AM

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Hi Mike,

I can comment that, of the situations I usually encounter, the terrain at PID 00251462 is of the lowest likelihood for the presence of wetland of any relevant extent. The fact that the Lidar changes color from grey to green over the short course of the width of the PID is something I never see. It can only mean a steep slope. I wouldn't comment on water-drainage patterns in the vicinity since there may be seepage on the downhill slope, but there appears to be nowhere for it to accumulate. There is a visible stream well outside the eastern PID boundary where this appears to be happening. Theo

Theo Popma MSc.  
Overdale Environmental Inc.  
96 Norwood St. Suite 224  
Moncton, NB  
E1C 6L9  
506-227-7605  
[tpopma@nb.sympatico.ca](mailto:tpopma@nb.sympatico.ca)

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**From:** michael@fisherengineeringltd.com <michael@fisherengineeringltd.com>  
**Sent:** Tuesday, December 6, 2022 10:15 AM  
**To:** tpopma@nb.sympatico.ca  
**Subject:** Quispamsis - Lidar

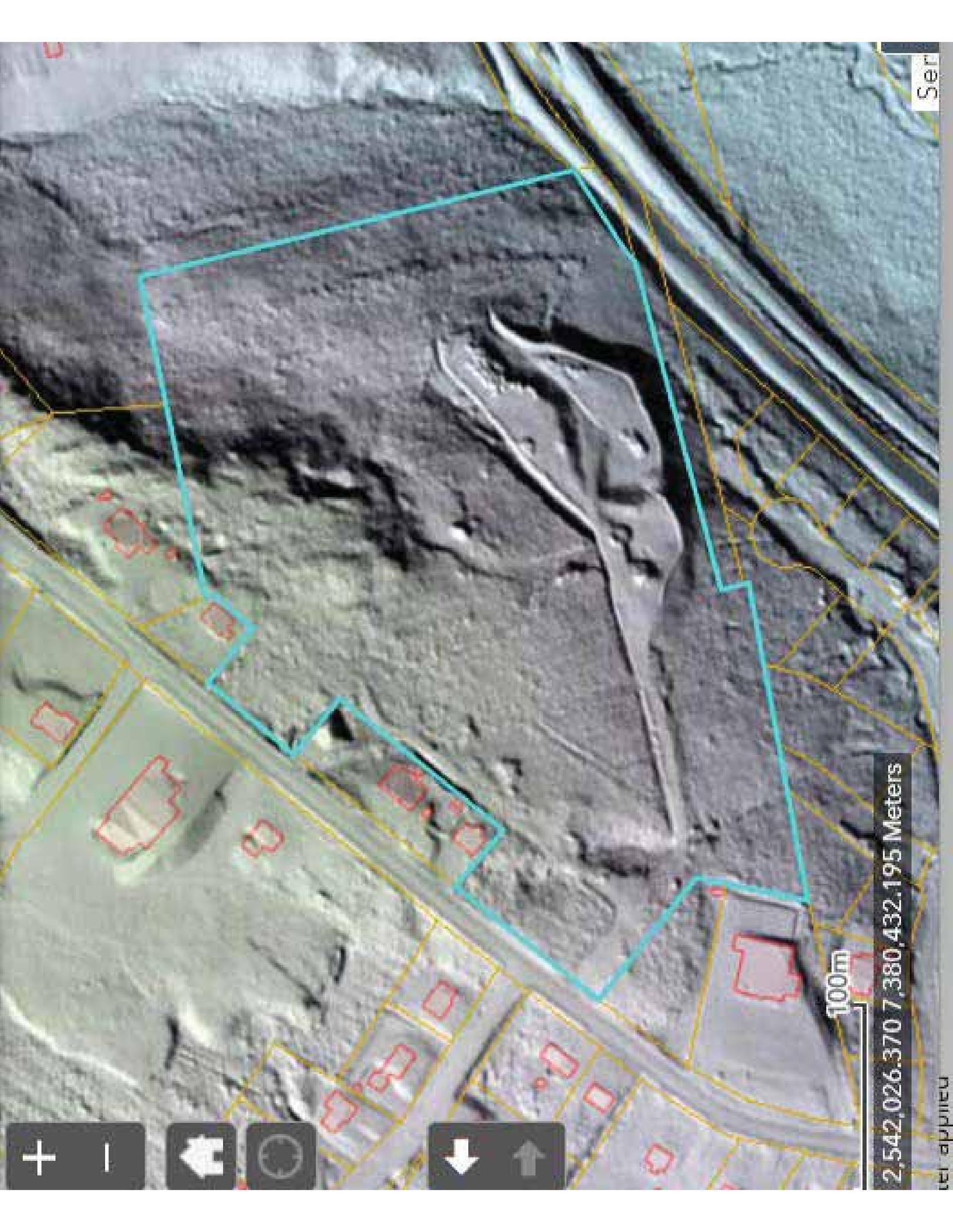
Theo,

As discussed can you take a moment can review the lidar mapping for PID 00251462. I'm putting together a EIA registration document early in the new year for the attached project and was looking for a comment on potential P/A based on the lidar alone from someone with your designation.

Thanks

**Michael Fisher, P.Eng**  
Fisher Engineering Ltd.  
40 Fairfield Road  
Lower Coverdale, NB  
E1J 0A2  
506-863-1991 (p)

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Ser

2,542,026.370 7,380,432.195 Meters

100m



not applied



1km

2,543,723.2727,380,210,288 Meters

Inter-Appined

54

**APPENDIX C**  
**REZONING AGREEMENT**



Office of the Clerk    Town of Quispamsis  
12 Landing Court | Quispamsis, NB | E2E 4R2  
T: 506 849 5738 | F: 506 849 5799 | [csnow@quispamsis.ca](mailto:csnow@quispamsis.ca)

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October 12, 2022

Mr. Andrew Dunn  
62 Chamberlain Road  
Quispamsis, NB E2G 1C1

Dear Mr. Dunn:

**RE: Zoning By-law No. 038-38 - PID No. 251462 -160 Pettingill Road  
Single & Two Family (R1) to Multiple Residential (R2)  
Mixed-Use Residential Development**

I am pleased to confirm the Quispamsis Town Council at its September 20, 2022 Regular Meeting, gave third and final reading to Zoning By-law Amendment No. 038-38.

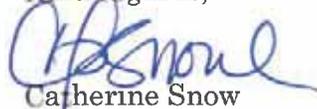
This Zoning By-law Amendment rezones PID No. 251462, with Civic No. 160 Pettingill Road, from Single and Two Family Residential (R1) to Multiple Residential (R2), subject to the terms and conditions of a Section 59, *Community Planning Act* agreement.

I have issued a true certified copy of the By-law Amendment and associated Section 59 Community Planning Act Agreement to Service New Brunswick to file in the Kings County Registry Office. Once registered, the By-law becomes valid. When we receive the returned copy from Service New Brunswick bearing the registry information, I will send you a complete package of these documents.

For next steps, please contact the Municipal Planning Officer, Dwight Colbourne, at [dcolbourne@quispamsis.ca](mailto:dcolbourne@quispamsis.ca)

Trusting the above responds favourably to your rezoning application, and we wish you much success with your Mixed-Use Residential Development.

Kind regards,

  
Catherine Snow  
Town Clerk

cc: Dwight Colbourne, Municipal Planning Officer  
Trevor Murray, Building Inspector  
Chrissy Scott, GIS Technician

**AMENDMENT NO. 038-38  
TO ZONING BY-LAW NO. 038  
A BY-LAW OF THE MUNICIPALITY OF QUISPAMISIS RESPECTING  
ZONING**

**BE IT ENACTED** by the Council of the town of Quispamsis that Zoning By-Law No. 038, a By-law of the Municipality of Quispamsis Respecting Zoning, is hereby amended as follows:

By rezoning the following property from “Residential (R1)” to “Multiple Residential” (R2), subject to the property owner entering into a development agreement pursuant to the provisions of Section 59 of the *Community Planning Act, 2017, Ch. 19*:

A parcel of land, identified as PID No.: 251462, with Civic No. 160 Pettingill Road, consisting of approximately 8.9 hectares, (21.9 acres), with access off the Pettingill Road, and situated across from Southwood Drive and adjacent to Heritage Way.

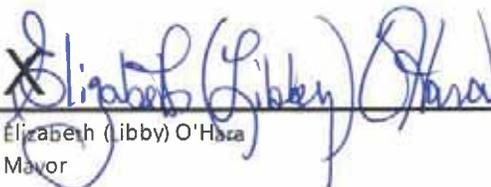
**READ FIRST TIME: June 21, 2022**

**READ SECOND TIME: July 19, 2022**

**READ THIRD TIME AND ENACTED: September 20, 2022**

S E A L



 X   
Elizabeth (Libby) O'Hara X Catherine Snow  
Mayor Town Clerk

# Schedule "A"



Sources:  
SMB Property Fabric March 2022  
Quispamsis Orthophotography 2020

160 Pettingill Road  
Orthography Map

0 80 100  
Meters  
Date: 5/3/2022

**SOLEMN DECLARATION  
PROVINCE OF NEW BRUNSWICK  
COUNTY OF KINGS**

**I, Catherine P. Snow, of the Town of Quispamsis in the County of Kings and Province of New Brunswick, DO SOLEMNLY DECLARE:**

1. THAT I am the Town Clerk for the Town of Quispamsis, and have personal knowledge of the facts herein declared;
2. AND That the requirements of Sections 110 and 111 of the *Community Planning Act* have been complied with in respect to By-law Amendment No. 038-38; A By-law of the Municipality of Quispamsis Respecting Zoning pursuant to Section 53 of the *Community Planning Act* of New Brunswick. Said By-law Amendment 038-38 was duly passed at a Regular Meeting of the Council of the Town of Quispamsis on September 20, 2022.

AND, I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and virtue of the Evidence Act.

DECLARED before me at  
the town of Quispamsis,  
in the County of Kings,  
and the Province of New  
Brunswick, this 18 day of  
October A.D., 2022.

}  
}   
} \_\_\_\_\_  
} Catherine P. Snow  
} Town Clerk  
}

  
\_\_\_\_\_  
Commissioner of Oaths

**Lisa A. MacInnis  
Commissioner of Oaths  
My Commission Expires  
December 31, 2025**

**AGREEMENT**

*Land Titles Act, S.N.B. 1981, c.L-1.1, s.26*

Parcel Identifier: **00251462**

Owner: **ANDREW DUNN**  
62 Chamberlain Road  
Quispamsis, New Brunswick  
E2G 1C1

Municipality: **QUISPAMSIS**  
12 Landing Court  
Quispamsis, New Brunswick  
E2E 4R2

The recitals attached hereto as Schedule "D" form part of this agreement.

The Owner and Municipality covenant and agree as set out in Schedule "C", affecting the specified parcel.

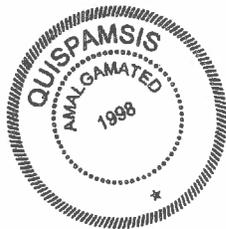
Dated: September 15, 2022.

**WITNESS**

  
\_\_\_\_\_

  
\_\_\_\_\_ **ANDREW DUNN**

**QUISPAMSIS**



  
Per: **ELIZABETH O'HARA-Mayor**

  
Per: **CATHERINE SNOW-Clerk**

**SCHEDULE "D"**

**WHEREAS** the Owner will be the owner of lands located at 160 Pettingill Road, in the Municipality, being the Town of Quispamsis (the "Town"), which lands are more particularly described as having PID 00251462 (hereinafter called the "Lands");

**AND WHEREAS** the Owner desires to have the said lands zoned from a Single or Two Family Dwelling (R1) to Multiple Residential (R2) to permit uses in accordance with the proposal submitted by it to the Council of the Town;

**AND WHEREAS** the Town has taken steps to re-zone the said lands pursuant to Section 59 of the *Community Planning Act* to permit the use of the said lands in accordance with the proposal upon the terms and conditions hereinafter set forth.

## SCHEDULE "C"

**NOW THEREFORE THIS AGREEMENT WITNESSETH** that when and so soon as the Zoning By-law is amended, the said Lands and any building or structure thereon shall be developed and used in accordance with the terms of this Agreement and the Town's By-Laws;

### **DEVELOPMENT**

1. In consideration of the mutual covenants and agreements herein contained, the Owner (hereinafter referred to as the "Developer") hereby covenants and agrees with the Town as follows:
  - (a) The Lands shall be developed in accordance with the Development Plans filed with and approved by the Town (the "Development"). Without limiting the foregoing, the Lands shall be developed in accordance with the Plans attached to this Agreement as Schedule "B". A maximum of seventy-two (72) dwelling units shall be permitted on the Lands. Where there is a substantial change in the building design or building location, in the opinion of the Development Officer, revised Development Plans shall be submitted for the approval of the Town.

### **LAND USE**

2.
  - (a) All uses of the Lands pursuant to this Agreement shall conform with the provisions of the Municipality's Zoning By-law in effect at the time of execution of this Agreement, except as otherwise provided herein.
  - (b) The Lands may be developed for the following main uses:
    - (i) Four (4) two-story Multiple Residential buildings, the size and design of which shall be as shown on the Plans filed in accordance with Section 1(a);
    - (ii) Maximum of eight (8) single detached dwelling units;
    - (iii) Maximum of sixteen (16) semi-detached dwelling units;
    - (iv) Lands for public purposes; and
    - (v) Any uses incidental thereto.
  - (c) The use set out in (b)(i) shall be developed in accordance with R2 Zoning By-law requirements unless otherwise provided herein.
  - (d) Conversion of a Multiple Residential Building to a Condominium use shall require approval of Council of the Town and be subject to such further terms and conditions Council may require.
  - (e) The Developer shall comply with the specific architectural covenants in building construction as agreed to and approved by the Town.

**PLANS, BONDING & PHASING**

3. (a) Prior to the commencement of any work on the "Development" (saving only surveying, the making of soil or water tests or similar preliminary tests on the lands), and prior to making application to the Town for the issuance of a building permit, the Developer shall:
- (i) Submit to the Town, for the Town's approval, building plans, site plans, street plans, parking plans, municipal sanitary and water system design plans, storm water management plans, sewerage distribution plans, and landscaping plans for the Development. The Stormwater Management Plan must achieve a balanced pre and post Development flows or better.
  - (ii) Submit a Hydrogeological Report and Environmental Impact Assessment satisfactory to the Town.
  - (iii) Submit a Traffic Study for the Development satisfactory to the Town.
  - (iv) Submit a geotechnical study regarding slope stabilization along the Q. R. Trail
  - (v) Prior to work commencing on site and prior to application for a building permit, provide security in form satisfactory to the Town in favour of the Town in the amount of **FOUR HUNDRED FORTY-SEVEN THOUSAND TWO HUNDRED SIXTY EIGHT DOLLAR AND ZERO CENTS (\$447,268.00)** to assure the construction of the Development in accordance with the plans and specifications submitted under Paragraph 3 hereof as well as the covenants and agreements contained in this agreement.

The completion security for Phase 1 of the Development will be allocated as follows:

Roadways .....	\$298,050.00
Landscaping .....	\$79,860.00
Parking Areas .....	\$34,358.00
Sanitary & Storm Sewer.....	\$20,000.00
Active Transportation Connection (Trail)	\$5,000.00
Buffers .....	\$5,000.00
Project completion .....	\$5,000.00
<b>TOTAL.....</b>	<b>\$447,268.00</b>

- (b) It is agreed that security requirements for a subsequent Phase shall be determined prior to the issuance of the applicable building permit related thereto. The Developer agrees that the Town may allocate the security provided with respect to Phase 1 to a subsequent phase and the Developer will facilitate the necessary amendments by the issuer of the bonding.
- (c) The Developer shall, in the event that the Development does not substantially proceed prior to December 31, 2023, restore the Lands to an attractive natural state, such restoration to be completed within six (6) months of the date last mentioned.
- (d) Prior to the commencement of any work on the development (saving only surveying, the making of soil and or similar preliminary tests on the

lands), the Developer shall, if the town has approved the items submitted under Paragraph 3, make application to the Town for the issuance of a building permit for Phase 1 by submitting to the Town such plans to be submitted for the issuance of such a building permit (including engineering plans in connection with the requirements of Paragraph 10(a)), together with application fees.

- (e) Upon issuance of the building permit by the Town, the Developer shall commence construction of Phase 1 of the Development in accordance with the plans and specifications filed with the Town under Paragraph 3 hereof.
- (f) The Developer shall adhere to the following timetable:
  - (i) Make necessary building permit application to the Town for construction of Phase 1 of the Development by June 2023;
  - (ii) Complete construction of Phase 1 of the Development as per the plans filed with the Town within twenty-four (24) months of said application;
  - (iii) Complete construction of all streets and parking areas in the Development to base asphalt layer within twenty-four (24) months of the date of issuance of a building permit and complete all final seal coats within twenty-four (24) months of permanent issuance;
  - (iv) Make necessary building permit application for Phase 2 of the Development by June 2025;
  - (v) All aspects of the Development shall be completed by June 2027.
- (g) Notwithstanding anything contained in this Agreement to the contrary, the Town may, at its sole discretion (which discretion shall not be unreasonably withheld), upon application by the Developer, reduce the principal amount of the completion security to an amount that is sufficient to complete the works herein undertaken by the Developer.
- (h) Upon failure of the Developer to meet a time limit herein the Town may, with written notice to the Developer, claim against the security provided and use the monies for the completion of the required works (notice shall be deemed to be given three (3) days after being mailed to the Developer at it's last known address). A resolution of Council to the effect that a claim is to be made due to there being a default under the terms of this Agreement shall be adequate proof of such default for purposes of making a claim against the security provided. Failure to provide renewal of letters of credit at least thirty (30) days prior to their expiry shall constitute default for purposes of making a claim against the security provided.
- (i) Upon substantial completion of the requirements of Paragraph 3(f) by the Developer in accordance with the plans and specifications submitted under Paragraph 3 and the terms, conditions and requirements of this agreement, the Town shall (subject to the terms of Paragraphs 3(b), 10(b) and 10(c)) forthwith return the said completion bonds to the Developer.

## **UTILITIES & BUFFERS**

4. The Developer agrees that all primary utility cables to the boundary of the development shall be permitted to be overhead. In addition, the Developer shall grant such utility easements to the Town as may be necessary from time-to-time.
5. The Developer shall develop and submit to the Town a landscaping plan (which will include grass, shrubbery and trees) in keeping with the landscaping and aesthetics of the area in which the development is situated. The Developer shall comply with the landscape plan in completion of the development. Without limiting the foregoing, the plan shall show all buffer areas, the density and coverage of each buffer area and identify areas which need to be enhanced.
6. The Developer shall construct a minimum 5 metre wide buffer composed of trees, hedges or fences which is in the Town's opinion, sufficient to screen buildings, parking areas and lighting of the development from adjacent residential development all as shown on the plan filed with the Town. Such Buffer is to be increased and enhanced where possible.

## **INFRASTRUCTURE**

7. The Developer shall obtain any requisite Province of New Brunswick approvals for the diversion of any natural watercourses or for work within 30 metres of the edge of any watercourse.
8. The Developer shall be responsible for pollution and pipe breakage within the boundaries of the Development during construction and within the boundaries of the multi-unit building properties thereafter. The Developer shall also be responsible for pollution and pipe breakage within the road right-of-way until the infrastructure is vested in the Town.
9.
  - (a) The Developer shall connect each building in the Development to the Town's sanitary sewer system and pay all costs associated with and required to effect same.
  - (b) Water meters shall be installed to determine the actual water usage if required by the Provincial Environment Impact Assessment report.
  - (c) The Developer shall comply with the applicable Town By-laws relating to the foregoing.
10.
  - (a) The Developer shall construct all roads, streets and parking lots shown on the Development plans to Town construction and design standards and specifications and connect the sanitary sewer facilities of all buildings on the said lands prior to their use or occupancy, to the Town's sewer collection system and shall pay all costs of materials, labour and services associated with and required to effect same whether or not the work involved or materials supplied are so supplied on or off the said lands. Without limiting the foregoing, the Developer shall complete and be responsible for all manhole installations, video inspections and preliminary surveys as are required by the Town. The Developer shall obtain in form satisfactory to the Town any written legal easements from neighbouring property owners, which are required and ensure they are registered and assignable to the Town. The Developer shall grant the Town all easements required by the Town for sanitary sewer and storm sewer and water distribution lines.

- (b) When the Town has, by resolution, accepted final completion of the works required by Paragraph 10(a), located within the municipal right of way or on easements vested to the town, they shall automatically vest in the Town. Prior to the time of such resolution, the Developer agrees that it shall maintain the said works. Subsequent to the said Resolution, the Developer agrees that it shall maintain all the services and works for a period of one(1) year. If any defect or faulty material, or bad workmanship shall be discovered during the said one(1) year maintenance period, the Developer shall repair such defects and make good such bad workmanship and faulty material within thirty (30) days after written notice from the Town, and upon failure to do so the Town may perform such work and the costs so incurred shall be paid forthwith by the Developer. If a defect in any of the works is discovered within one (1) year, the Town Engineer shall reinspect and if approved, issue a certificate with respect to the repair of the defective work and such work shall be deemed to be guaranteed by the Developer for a further period of one (1) year from the date of the new certificate.
- (c) Upon final completion of the work set out in Paragraph 10(a) by the Developer to the satisfaction of the Town within the time periods hereinbefore mentioned, the Town shall forthwith release to the Developer seventy-five per cent (75%) of that portion of the security posted as security for the requirements of Paragraph 10(a). If no defects occur or are found in the work as provided for the Paragraph 10(b) hereof, the remaining twenty-five per cent (25%) of the security posted will be released at the end of one year from the date of final completion.

#### **ACCESS & SIGNAGE**

- 11. Access to the Development shall be as shown on plans approved by and filed with the Town.
- 12. The design of all signs, both temporary and permanent, shall be in accordance with the Town's By-Laws in effect from time-to-time (or as negotiated as a variance to such by-laws) and shall, when necessary, be subject to the approval of the Planning Advisory Committee.

#### **GENERAL**

- 13. (a) Fire protection systems are to be installed on the development and in each building therein in accordance with applicable Provincial government requirements. Emergency plans approved by the Fire Marshall and local Fire Department, are to be developed and maintained for the safety of all residents of the Development.
- (b) The Developer shall comply with the PAC Notice of Decision conditions dated May 27, 2022, herein attached in Schedule "A".
- (c) The Developer shall comply with CN Railway proximity guidelines.
- (d) The Developer shall ensure this Agreement is requested on Title immediately following registration of the Transfer of PID 00251762 to him.

14. The Developer shall make adequate arrangements for ongoing maintenance and upkeep of the multiple residential Buildings and Lands and for garbage removal.
15.
  - (a) Except for the construction of the Development and the associated works aforementioned, the lands shall not be subdivided or developed further without the approval of Council of the Town and such further development shall be subject to such By-Laws as may then be in force in the Town.
  - (b) Until the Development is complete, the Developer shall maintain the remaining undeveloped portions of the lands in an attractive natural state.
16. The Developer shall also do and shall well and truly observe, perform fulfill and keep all the by-laws of the Town, and which by or on the part of the Developer, its successors and assigns, are or ought to be observed, performed, fulfilled and kept within such time and in such manner and install respects, as in the said by-laws are mentioned or required, according to the true intent and meaning of the by-laws.
17. It is acknowledged by the Developer that this Agreement constitutes an agreement as contemplated under Section 59(1)(b) of the Community Planning Act and should the land or a building or structure to which this Agreement pertains be developed or used contrary to the provisions of this Agreement, or if the Developer fails to meet a time limit prescribed herein, the Town may cancel both this Agreement and the resolution authorizing the re-zoning of the lands to which this Agreement pertains and, pursuant to Section 59(6) of the said Act, the said lands shall, upon notice of such cancellation being filed in the Office of the Registrar of Deeds in and for the County of Kings, revert to the type of zone under which it fell before re-zoning.
18. This Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

## **SCHEDULE "A"**



Town of Quispamsis

25 843 1174 516 144 1174

### **NOTICE OF DECISION 160 Pettingill Road – Rezoning**

TO: C. P. Snow, Town Clerk  
Town of Quispamsis  
12 Landing Court  
Quispamsis, NB E2E 4R2

TAKE NOTICE that a decision of the Quispamsis Planning Advisory Committee was rendered in the matter of your request pursuant to the provisions of the *Community Planning Act of New Brunswick*.

#### ***1. Matter requested:***

Written views for Council in the amendment of the Zoning By-law No. 038 for the Rezoning of PID 251462 (160 Pettingill Road) from Single or Two-Family Dwelling (R1) to Multiple Residential (R2) – Mixed Residential Use Development for the purpose of four (4) Multiple-Unit Buildings, Semi-Detached and Single Detached Dwellings.

#### ***2. Date, Place of Consideration of Request:***

Date: May 24, 2022

Planning Advisory Committee Meeting, Council Chambers

#### ***3. Decision of Committee:***

That the Planning Advisory Committee support Council in their decision of the Rezoning of PID 251462 (160 Pettingill Road) from Single or Two-Family Dwelling (R1) to Multiple Residential (R2) – Mixed Residential Use Development for the purpose of four (4) Multiple-Unit Buildings, Semi-Detached and Single Detached Dwellings subject to the following terms and conditions:

1. A full comprehensive traffic study for the Southwood Drive/Pettingill Road and future access to the proposed development;
2. The completion of an Environmental Impact Assessment prior to final development and permitting approvals from the Town;
3. An engineered design Stormwater Management Plan and Drainage system stamped by a registered Professional Engineer licensed to practice in the Province of New Brunswick is to be completed and submitted for each phase of the development;
4. A geotechnical report regarding slope stabilization for that portion of the development along the QR Trail;

*...continued on page 2 of 2*

5. The proposed development shall be forwarded to CN Railway for review and comment as it relates to development near their rail infrastructure;
6. A site design showing the creation of the buffering zone as it relates to the neighboring residential (R1) zones must be approved by the Town prior to construction;
7. The development must include pedestrian trail connection to the QR trail as well as consideration to connection to the École des pionniers trail located at 250 Quispamsis Road;
8. Street lighting installation at the entrance to the development shall be installed;
9. All building lights to be downward directed;
10. The Developer is to enter into a Development Agreement with the Town of Quispamsis;
11. The Developer shall undertake to complete the work for each approved phase within a period of two (2) years following approval, and the development schedule is to be included in the Development Agreement;
12. The lands shall be developed in accordance with the most recently dated Building and Development Plans filed with and approved by the Town for each phase; and
13. If the Development does not substantially proceed within six (6) months of the date of approval for each phase, the Developer shall restore the lands to an attractive natural state, and such restoration is to be completed within sixty (60) days.

**4. Other:**

The Planning Advisory Support is only for the Council's review of the amendment to the Zoning By-law No. 038 for the Rezoning of PID 251462 (160 Pettingill Road) from Single or Two-Family Dwelling (R1) to Multiple Residential (R2) – Mixed Residential Use Development for the purpose of four (4) Multiple-Unit Buildings, Semi-Detached and Single Detached Dwellings.

DATED this 27<sup>th</sup> day of May A.D., 2022.

Cc: Planning Department, Town of Quispamsis

  
Violet Brown, Secretary  
Quispamsis Planning Advisory Committee



Form 45

AFFIDAVIT OF CORPORATE EXECUTION

Land Titles Act, S.N.B. 1981, c.L-1.1, s.55

Deponent: CATHERINE SNOW
12 Landing Court
Quispamsis, New Brunswick
E2E 4R2

Office Held by Deponent: Clerk

Corporation: QUISPAMSIS

Other Officer Who Executed the Instrument: ELIZABETH O'HARA
12 Landing Court
Quispamsis, New Brunswick
E2E 4R2

Office Held by Other Officer Who Executed the Instrument: Mayor

Place of Execution: Quispamsis, New Brunswick

Date of Execution: Sept. 15, 2022.

I, CATHERINE SNOW, the deponent, make oath and say:

- 1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;
2. That the attached instrument was executed by me and Elizabeth O'Hara, the other officer specified above, as the officers duly authorized to execute the instrument on behalf of the corporation;
3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;
4. That the instrument was executed at the place and on the date specified above;
5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN TO at
in the County of Kings and
Province of New Brunswick, on
The 15 day of Sept, 2022.

BEFORE ME:
[Signature]

Commissioner of Oaths
Lisa A. Macinnis
Commissioner of Oaths
My Commission Expires
December 31, 2025

[Signature]
CATHERINE SNOW

**AFFIDAVIT OF EXECUTION**

**Land Titles Act, S.N.B. 1981, c.L-1.1, s.55**

Subscribing Witness: Vicki Brown (name)

9/12 Harding Court (address)  
Quispamsis NB  
E2E 4R2

Person Who Executed the Instrument: Andrew Dunn

Place of Execution: Quispamsis , New Brunswick

Date of Execution: September 15, 2022.

I, Vicki Brown, the subscribing witness, make oath and say:

1. That I was personally present and saw the attached instrument duly executed by the parties specified and that I am the subscribing witness;
2. That the person (s) who executed the instrument is/are known to me / the person's identity has been proven to my satisfaction;
3. That the instrument was executed at the place and on the date specified above;
4. That at the time of execution of the instrument I was of the full age of majority; and
5. That the person(s) who executed the instrument is/are, in my belief, of the age of majority.

SWORN TO at Quispamsis )  
County of Kings and Province )  
New Brunswick, on the 15th )  
day of September 2022. )

BEFORE ME: )

Andrea K Bennett )  
Commissioner of Oaths, )

Vicki Brown

**Andrea K. Bennett**  
**Commissioner of Oaths**  
**My Commission Expires**  
**December 31, 2024**

**APPENDIX D**  
**ACCDC REPORT**

# DATA REPORT 7463: Quispamsis, NB

Prepared 14 October 2022  
by J. Churchill, Conservation Data  
Analyst

## 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 (AC CDC; [www.accdc.com](http://www.accdc.com)) 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 AC CDC 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 AC CDC is supported by 6 federal agencies and 4 provincial governments, as well as through outside grants and data processing fees.

Upon request and for a fee, the AC CDC 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 AC CDC includes locations of managed areas with some level of protection, and known sites of ecological interest or sensitivity.

### 1.1 DATA LIST

Included datasets:

<u>Filename</u>	<u>Contents</u>
QuispamsisNB_7463ob.xls	Rare or legally-protected Flora and Fauna in your study area
QuispamsisNB_7463ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area
QuispamsisNB_7463msa.xls	Managed and Biologically Significant Areas in your study area
QuispamsisNB_7463ff_py.xls	Rare Freshwater Fish in your study area (DFO database)

## 1.2 RESTRICTIONS

The AC CDC 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 AC CDC data, recipients assent to the following limits of use:

- 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.
- Data is restricted to use by the specified Data User; any third party requiring data must make its own data request.
- The AC CDC 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.
- AC CDC data responses are restricted to the data in our Data System at the time of the data request.
- 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.
- AC CDC data responses are not to be construed as exhaustive inventories of taxa in an area.
- The absence of a taxon cannot be inferred by its absence in an AC CDC data response.

## 1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides metadata for the data provided.

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

<b>Plants, Lichens, Ranking Methods, All other Inquiries</b>	Sean Blaney	Senior Scientist / Executive Director	(506) 364-2658	<a href="mailto:sean.blaney@accdc.ca">sean.blaney@accdc.ca</a>
<b>Animals (Fauna)</b>	John Klymko	Zoologist	(506) 364-2660	<a href="mailto:john.klymko@accdc.ca">john.klymko@accdc.ca</a>
<b>Data Management, GIS</b>	James Churchill	Conservation Data Analyst / Field Biologist		<a href="mailto:james.churchill@accdc.ca">james.churchill@accdc.ca</a>
<b>Billing</b>	Jean Breau	Financial Manager / Executive Assistant	(506) 364-2657	<a href="mailto:jean.breau@accdc.ca">jean.breau@accdc.ca</a>

Questions on the biology of Federal Species at Risk can be directed to AC CDC: (506) 364-2658, 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.

**New Brunswick.** For information about rare taxa, protected areas, game animals, deer yards, old growth forests, archeological sites, fish habitat etc., or to determine if location-sensitive species (section 4.3) occur near your study site, please contact Hubert Askanas, Energy and Resource Development: (506) 453-5873.

**Nova Scotia.** For information about Species at Risk or general questions about Nova Scotia location-sensitive species please contact the Biodiversity Program at [biodiversity@novascotia.ca](mailto:biodiversity@novascotia.ca). For questions about protected areas, game animals, deer yards, old growth forests, archeological sites, fish habitat etc., or to determine if location-sensitive species (section 4.3) occur near your study site please contact a Regional Biologist:

<b>DIGB, ANNA, KING</b>	Emma Vost	(902) 670-8187	<a href="mailto:Emma.Vost@novascotia.ca">Emma.Vost@novascotia.ca</a>
<b>SHEL, YARM</b>	Sian Wilson	(902) 930-2978	<a href="mailto:Sian.Wilson@novascotia.ca">Sian.Wilson@novascotia.ca</a>
<b>QUEE, LUNE</b>	Peter Kydd	(902) 523-0969	<a href="mailto:Peter.Kydd@novascotia.ca">Peter.Kydd@novascotia.ca</a>
<b>HALI, HANT</b>	Shavonne Meyer	(902) 893-0816	<a href="mailto:Shavonne.Meyer@novascotia.ca">Shavonne.Meyer@novascotia.ca</a>
<b>Central Region</b>	Jolene Laverty	(902) 324-8953	<a href="mailto:Jolene.Laverty@novascotia.ca">Jolene.Laverty@novascotia.ca</a>
<b>COLC, CUMB</b>	Kimberly George	(902) 890-1046	<a href="mailto:Kimberly.George@novascotia.ca">Kimberly.George@novascotia.ca</a>
<b>ANTI, GUYS</b>	Harrison Moore	(902) 497-4119	<a href="mailto:Harrison.Moore@novascotia.ca">Harrison.Moore@novascotia.ca</a>
<b>INVE, VICT</b>	Maureen Cameron-MacMillan	(902) 295-2554	<a href="mailto:Maureen.Cameron-MacMillan@novascotia.ca">Maureen.Cameron-MacMillan@novascotia.ca</a>
<b>CAPE, RICH, PICT</b>	Elizabeth Walsh	(902) 563-3370	<a href="mailto:Elizabeth.Walsh@novascotia.ca">Elizabeth.Walsh@novascotia.ca</a>

**Prince Edward Island.** For information about rare taxa, protected areas, game animals, fish habitat etc., please contact Garry Gregory, PEI Department of Environment, Energy and Climate Action: (902) 569-7595.

## 2.0 RARE AND ENDANGERED SPECIES

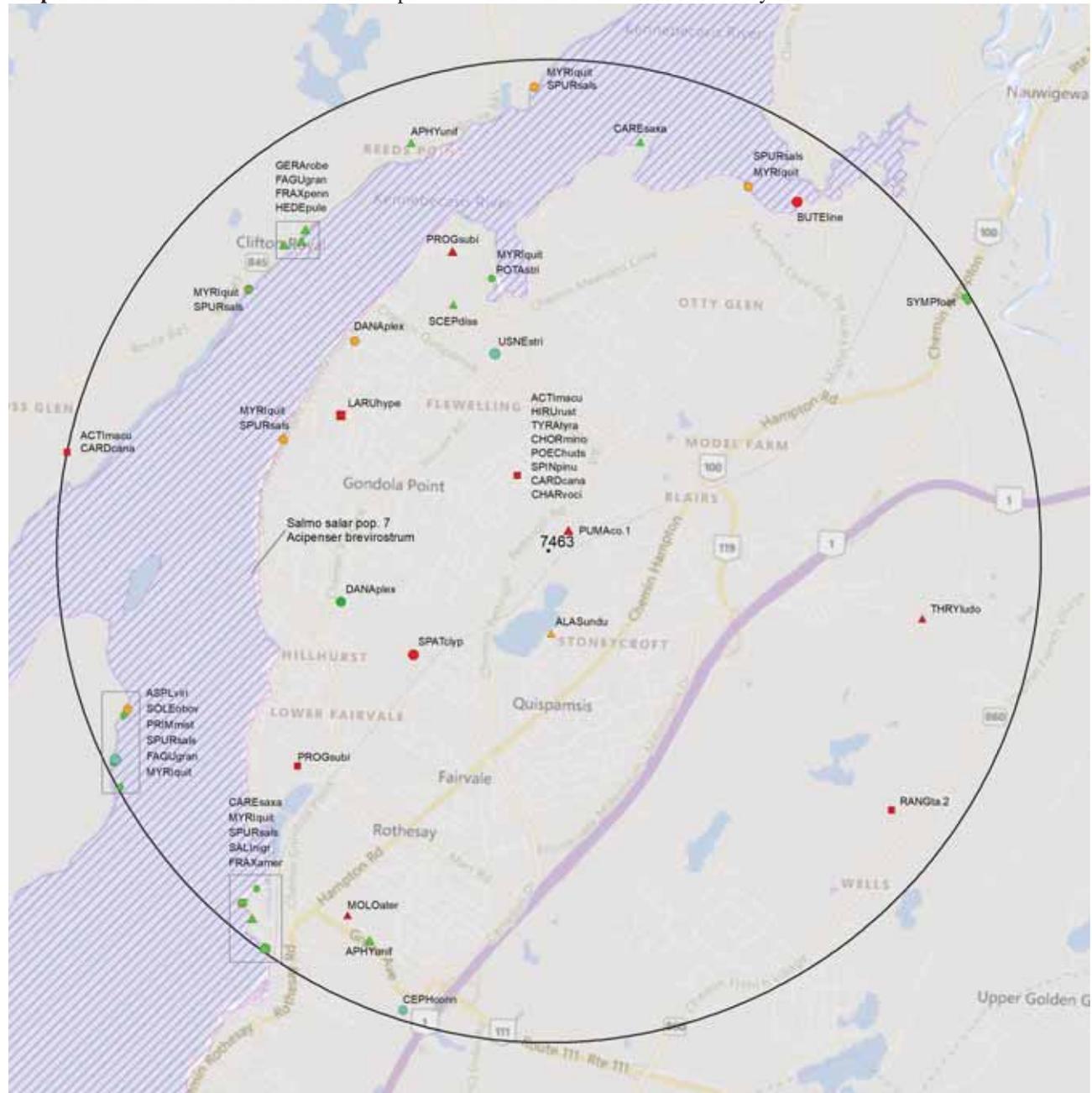
### 2.1 FLORA

The study area contains 38 records of 14 vascular, 3 records of 3 nonvascular flora (Map 2 and attached: \*ob.xls), excluding 'location-sensitive' species.

### 2.2 FAUNA

The study area contains 29 records of 16 vertebrate, 9 records of 3 invertebrate fauna (Map 2 and attached data files - see 1.1 Data List), excluding 'location-sensitive' species. 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 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

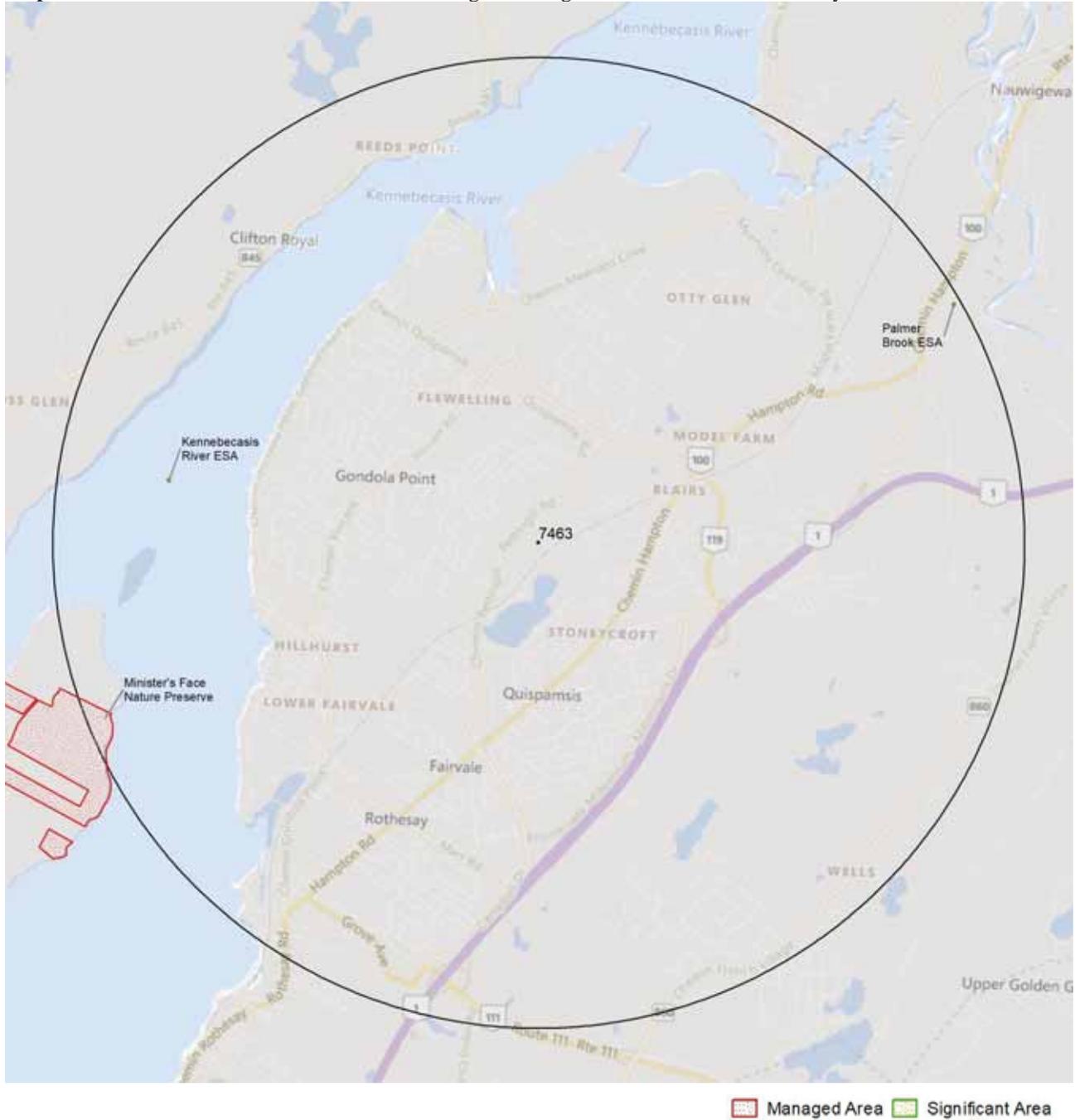
#### 3.1 MANAGED AREAS

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

#### 3.2 SIGNIFICANT AREAS

The GIS scan identified 2 biologically significant sites in the vicinity of the study area (Map 3 and attached file: \*msa.xls).

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



## 4.0 RARE SPECIES LISTS

Rare and/or endangered taxa (excluding “location-sensitive” species, section 4.3) within the study 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 ( $\pm$  the precision, in km, of the record). [P] = vascular plant, [N] = nonvascular plant, [A] = vertebrate animal, [I] = invertebrate animal, [C] = community. Note: records are from attached files \*ob.xls/\*ob.shp only.

### 4.1 FLORA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N	<i>Solenostoma obovatum</i>	Egg Flapwort				S1S2	1	4.9 $\pm$ 0.0
N	<i>Fuscocephaloziopsis connivens</i>	Forcipated Pincerwort				S1S3	1	4.9 $\pm$ 0.0
N	<i>Usnea strigosa</i>	Bushy Beard Lichen				S3S4	1	2.1 $\pm$ 0.0
P	<i>Carex saxatilis</i>	Russet Sedge				S1	11	4.3 $\pm$ 0.0
P	<i>Potamogeton strictifolius</i>	Straight-leaved Pondweed				S1	1	2.8 $\pm$ 0.0
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	1	4.1 $\pm$ 1.0
P	<i>Aphyllon uniflorum</i>	One-flowered Broomrape				S2S3	4	4.4 $\pm$ 0.0
P	<i>Myriophyllum quitense</i>	Andean Water Milfoil				S3	9	2.8 $\pm$ 0.0
P	<i>Fraxinus pennsylvanica</i>	Red Ash				S3	1	4.0 $\pm$ 1.0
P	<i>Primula mistassinica</i>	Mistassini Primrose				S3	1	5.0 $\pm$ 0.0
P	<i>Salix nigra</i>	Black Willow				S3	1	4.8 $\pm$ 1.0
P	<i>Symplocarpus foetidus</i>	Eastern Skunk Cabbage				S3	2	4.9 $\pm$ 0.0
P	<i>Sceptridium dissectum</i>	Dissected Moonwort				S3	1	2.7 $\pm$ 0.0
P	<i>Fagus grandifolia</i>	American Beech				S3S4	2	4.0 $\pm$ 1.0
P	<i>Geranium robertianum</i>	Herb Robert				S3S4	1	4.1 $\pm$ 1.0
P	<i>Fraxinus americana</i>	White Ash				S3S4	1	5.0 $\pm$ 0.0
P	<i>Asplenium viride</i>	Green Spleenwort				S3S4	2	4.9 $\pm$ 0.0

### 4.2 FAUNA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Rangifer tarandus pop. 2</i>	Caribou - Atlantic-Gasp [r-sie population	Endangered	Endangered	Extirpated	SX	1	4.4 $\pm$ 5.0
A	<i>Hirundo rustica</i>	Barn Swallow	Special Concern	Threatened	Threatened	S2B	1	0.8 $\pm$ 5.0
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S3B,S4M	2	0.8 $\pm$ 5.0
A	<i>Cardellina canadensis</i>	Canada Warbler	Special Concern	Threatened	Threatened	S3S4B	6	0.8 $\pm$ 5.0
A	<i>Buteo lineatus</i>	Red-shouldered Hawk	Not At Risk			S1S2B	1	4.4 $\pm$ 0.0
A	<i>Puma concolor pop. 1</i>	Cougar - Eastern population	Data Deficient		Endangered	SU	1	0.3 $\pm$ 1.0
A	<i>Thryothorus ludovicianus</i>	Carolina Wren				S1	1	3.9 $\pm$ 0.0
A	<i>Progne subis</i>	Purple Martin				S1B	2	3.2 $\pm$ 1.0
A	<i>Larus hyperboreus</i>	Glaucous Gull				S2N	2	2.5 $\pm$ 14.0
A	<i>Spinus pinus</i>	Pine Siskin				S3	1	0.8 $\pm$ 5.0
A	<i>Spatula clypeata</i>	Northern Shoveler				S3B	1	1.7 $\pm$ 0.0
A	<i>Charadrius vociferus</i>	Killdeer				S3B	2	0.8 $\pm$ 5.0
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S3B	1	4.2 $\pm$ 0.0
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3S4	3	0.8 $\pm$ 5.0
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3S4B	1	0.8 $\pm$ 5.0
A	<i>Actitis macularia</i>	Spotted Sandpiper				S3S4B,S4M	3	0.8 $\pm$ 5.0
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Special Concern	S2S3?B	2	2.2 $\pm$ 0.0
I	<i>Alasmidonta undulata</i>	Triangle Floater				S3	1	0.8 $\pm$ 0.0
I	<i>Spurwinkia salsa</i>	Saltmarsh Hydrobe				S3	6	2.9 $\pm$ 0.0

### 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 with “YES”.

#### New Brunswick

Scientific Name	Common Name	SARA	Prov Legal Prot	Known within the Study Site?
<i>Chrysemys picta picta</i>	Eastern Painted Turtle	Special Concern		No
<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	No
<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	YES
<i>Haliaeetus leucocephalus</i>	Bald Eagle		Endangered	YES
<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Endangered	No
<i>Cicindela marginipennis</i>	Cobblestone Tiger Beetle	Endangered	Endangered	No
<i>Coenonympha nipisiquit</i>	Maritime Ringlet	Endangered	Endangered	No
<i>Bat hibernaculum</i> or bat species occurrence		[Endangered] <sup>1</sup>	[Endangered] <sup>1</sup>	No

<sup>1</sup> *Myotis lucifugus* (Little Brown Myotis), *Myotis septentrionalis* (Long-eared Myotis), and *Perimyotis subflavus* (Tri-colored Bat or Eastern Pipistrelle) are all Endangered under the Federal Species at Risk Act and the NB Species at Risk Act.

### 4.4 SOURCE BIBLIOGRAPHY

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

# recs	CITATION
17	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
12	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
9	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2003.
7	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
7	Sollows, M.C., 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
4	eBird. 2014. eBird Basic Dataset. Version: EBD_relNov-2014. Ithaca, New York. Nov 2014. Cornell Lab of Ornithology, 25036 recs.
4	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs. <a href="https://doi.org/10.1037/arc0000014">https://doi.org/10.1037/arc0000014</a> .
3	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
3	Hinds, H.R. 1999. Connell Herbarium Database. University New Brunswick, Fredericton, 131 recs.
2	Erskine, A.J. 1999. Maritime Nest Records Scheme (MNRS) 1937-1999. Canadian Wildlife Service, Sackville, 313 recs.
2	Hinds, H.R. 1986. Notes on New Brunswick plant collections. Connell Memorial Herbarium, unpubl, 739 recs.
2	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
1	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
1	Chapman-Lam, C.J. 2022. Atlantic Canada Conservation Data Centre 2021 botanical fieldwork. Atlantic Canada Conservation Data Centre, 15099 recs.
1	Dept of Fisheries & Oceans. 2001. Atlantic Salmon Maritime provinces overview for 2000. DFO.
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1	iNaturalist. 2020. iNaturalist butterfly records selected for the Maritimes Butterfly Atlas. iNaturalist.
1	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
1	Litvak, M.K. 2001. Shortnose Sturgeon records in four NB rivers. UNB Saint John NB. Pers. comm. to K. Bredin, 6 recs.
1	Nature Trust of New Brunswick (NTNB). 2020. Nature Preserves and Conservation Easements (Received: 18 September, 2020). NTNB.
1	Porter, Caitlin. 2021. Field data for 2020 in various locations across the Maritimes. Atlantic Canada Conservation Data Centre, 3977 records.
1	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.
1	Sollows, M.C., 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.

## 5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 54683 records of 158 vertebrate and 1896 records of 76 invertebrate fauna; 8540 records of 344 vascular, 2495 records of 238 nonvascular flora (attached: \*ob100km.xls).

Taxa within 100 km of the study site that are rare and/or endangered in the province in which the study site occurs (including “location-sensitive” species). All ranks correspond to the province in which the study site falls, even for out-of-province records. Taxa are 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 ( $\pm$  the precision, in km, of the record).

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	193	6.8 $\pm$ 1.0	NB
A	<i>Myotis septentrionalis</i>	Northern Myotis	Endangered	Endangered	Endangered	S1	35	7.8 $\pm$ 1.0	NB
A	<i>Perimyotis subflavus</i>	Tricolored Bat	Endangered	Endangered	Endangered	S1	43	20.5 $\pm$ 0.0	NB
A	<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Endangered	Endangered	Endangered	S1	5	80.7 $\pm$ 0.0	NB
A	<i>Osmerus mordax pop. 2</i>	Rainbow Smelt - Lake Utopia Large-bodied population	Endangered	Threatened	Threatened	S1	2	69.8 $\pm$ 10.0	NB
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	29	17.4 $\pm$ 0.0	NB
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	4	74.3 $\pm$ 0.0	NB
A	<i>Dermodochelys coriacea pop. 2</i>	Leatherback Sea Turtle - Atlantic population	Endangered	Endangered	Endangered	S1S2N	4	19.1 $\pm$ 50.0	NB
A	<i>Salmo salar pop. 1</i>	Atlantic Salmon - Inner Bay of Fundy population	Endangered	Endangered	Endangered	S2	619	16.9 $\pm$ 0.0	NB
A	<i>Salmo salar pop. 7</i>	Atlantic Salmon - Outer Bay of Fundy population	Endangered		Endangered	SNR	423	16.1 $\pm$ 0.0	NB
A	<i>Rangifer tarandus pop. 2</i>	Caribou - Atlantic-Gasp -sie population	Endangered	Endangered	Extirpated	SX	3	4.4 $\pm$ 5.0	NB
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened	Threatened	S1B	47	9.3 $\pm$ 7.0	NB
A	<i>Asio flammeus</i>	Short-eared Owl	Threatened	Special Concern	Special Concern	S1S2B	18	36.3 $\pm$ 0.0	NB
A	<i>Ixobrychus exilis</i>	Least Bittern	Threatened	Threatened	Threatened	S1S2B	36	11.8 $\pm$ 5.0	NB
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened	Threatened	S1S2B	153	9.3 $\pm$ 7.0	NB
A	<i>Hydrobates leucorhous</i>	Leach's Storm-Petrel	Threatened			S1S2B	25	47.4 $\pm$ 0.0	NB
A	<i>Antrostomus vociferus</i>	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S2B	82	9.4 $\pm$ 7.0	NB
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Threatened	Threatened	S2B	14	26.9 $\pm$ 1.0	NB
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened		S2B	1022	5.4 $\pm$ 7.0	NB
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2S3	2473	4.0 $\pm$ 1.0	NB
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Threatened	S2S3B,S2M	999	7.1 $\pm$ 7.0	NB
A	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Threatened		Threatened	S3B,S3N	3	10.1 $\pm$ 0.0	NB
A	<i>Tringa flavipes</i>	Lesser Yellowlegs	Threatened			S3M	543	16.8 $\pm$ 0.0	NB
A	<i>Limosa haemastica</i>	Hudsonian Godwit	Threatened			S3M	76	25.2 $\pm$ 0.0	NB
A	<i>Anguilla rostrata</i>	American Eel	Threatened		Threatened	S4N	6879	10.1 $\pm$ 0.0	NB
A	<i>Coturnicops noveboracensis</i>	Yellow Rail	Special Concern	Special Concern	Special Concern	S1?B,SUM	3	42.5 $\pm$ 7.0	NB
A	<i>Histrionicus histrionicus pop. 1</i>	Harlequin Duck - Eastern population	Special Concern	Special Concern	Endangered	S1B,S1S2N,S2M	129	48.8 $\pm$ 17.0	NB
A	<i>Hirundo rustica</i>	Barn Swallow	Special Concern	Threatened	Threatened	S2B	1445	0.8 $\pm$ 5.0	NB
A	<i>Balaenoptera physalus</i>	Fin Whale	Special Concern	Special Concern		S2S3	17	24.6 $\pm$ 0.0	NB
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Special Concern	S2S3B,S3M	137	12.1 $\pm$ 0.0	NB
A	<i>Bucephala islandica</i>	Barrow's Goldeneye	Special Concern	Special Concern	Special Concern	S2S3N,S3M	59	6.6 $\pm$ 0.0	NB
A	<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	Special Concern	Special Concern	Special Concern	S3	12	5.5 $\pm$ 0.0	NB
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Special Concern	S3	103	11.2 $\pm$ 0.0	NB
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Special Concern	S3B	1023	5.1 $\pm$ 5.0	NB
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B	456	5.1 $\pm$ 5.0	NB
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Special Concern	Threatened	Threatened	S3B	1799	7.1 $\pm$ 7.0	NB
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern	Special Concern		S3B,S3S4N,SUM	363	7.1 $\pm$ 7.0	NB
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S3B,S4M	412	0.8 $\pm$ 5.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Phalaropus lobatus</i>	Red-necked Phalarope	Special Concern	Special Concern		S3M	117	14.0 ± 0.0	NB
A	<i>Podiceps auritus</i>	Horned Grebe	Special Concern	Special Concern	Special Concern	S3N	163	17.5 ± 1.0	NB
A	<i>Cardellina canadensis</i>	Canada Warbler	Special Concern	Threatened	Threatened	S3S4B	958	0.8 ± 5.0	NB
A	<i>Phocoena phocoena</i>	Harbour Porpoise	Special Concern		Spec.Concern	S4	210	18.5 ± 0.0	NB
A	<i>Chrysemys picta picta</i>	Eastern Painted Turtle	Special Concern	Special Concern		S4	111	14.0 ± 1.0	NB
A	<i>Anarhichas lupus</i>	Atlantic Wolffish	Special Concern	Special Concern	Special Concern	SNR	1	97.3 ± 0.0	NB
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk			S1?	12	70.0 ± 0.0	NB
A	<i>Fulica americana</i>	American Coot	Not At Risk			S1B	17	17.7 ± 0.0	NB
A	<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius	Not At Risk	Special Concern	Endangered	S1B,S3M	491	5.0 ± 0.0	NB
A	<i>Bubo scandiacus</i>	Snowy Owl	Not At Risk			S1N,S2S3M	20	7.6 ± 0.0	NB
A	<i>Accipiter cooperii</i>	Cooper's Hawk	Not At Risk			S1S2B	20	24.1 ± 7.0	NB
A	<i>Buteo lineatus</i>	Red-shouldered Hawk	Not At Risk			S1S2B	47	4.4 ± 0.0	NB
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk			S1S2B,SUM	3	24.4 ± 0.0	NB
A	<i>Sorex dispar</i>	Long-tailed Shrew	Not At Risk			S2	2	22.2 ± 1.0	NB
A	<i>Chlidonias niger</i>	Black Tern	Not At Risk			S2B	344	11.0 ± 7.0	NB
A	<i>Podiceps grisegena</i>	Red-necked Grebe	Not At Risk			S2N,S3M	295	21.8 ± 9.0	NB
A	<i>Globicephala melas</i>	Long-finned Pilot Whale	Not At Risk			S2S3	3	19.6 ± 1.0	NB
A	<i>Desmognathus fuscus pop. 2</i>	Northern Dusky Salamander - Quebec / New Brunswick population	Not At Risk			S3	55	13.9 ± 1.0	
A	<i>Megaptera novaeangliae</i>	Humpback Whale	Not At Risk			S3	15	78.9 ± 0.0	NB
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B,SUM	222	10.3 ± 7.0	NB
A	<i>Lagenorhynchus acutus</i>	Atlantic White-sided Dolphin	Not At Risk			S3S4	1	19.6 ± 1.0	NB
A	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Not At Risk		Endangered	S4	1411	0.8 ± 5.0	NB
A	<i>Lynx canadensis</i>	Canada Lynx	Not At Risk		Endangered	S4	18	11.2 ± 1.0	NB
A	<i>Canis lupus</i>	Grey Wolf	Not At Risk		Extirpated	SX	4	18.5 ± 1.0	NB
A	<i>Puma concolor pop. 1</i>	Cougar - Eastern population	Data Deficient		Endangered	SU	112	0.3 ± 1.0	NB
A	<i>Calidris canutus rufa</i>	Red Knot rufa subspecies - Tierra del Fuego / Patagonia wintering population	E,SC	Endangered	Endangered	S2M	192	17.0 ± 0.0	
A	<i>Morone saxatilis</i>	Striped Bass	E,SC			S3S4B,S3S4N	8647	19.3 ± 10.0	NB
A	<i>Odobenus rosmarus pop. 5</i>	Atlantic Walrus - Nova Scotia - Newfoundland - Gulf of St Lawrence population	X			SX	1	82.1 ± 5.0	NS
A	<i>Thryothorus ludovicianus</i>	Carolina Wren				S1	34	3.9 ± 0.0	NB
A	<i>Salvelinus alpinus</i>	Arctic Char				S1	3	54.3 ± 0.0	NB
A	<i>Vireo flavifrons</i>	Yellow-throated Vireo				S1?B	16	18.6 ± 1.0	NB
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs				S1?B,S4S5M	883	14.0 ± 0.0	NB
A	<i>Aythya americana</i>	Redhead				S1B	8	16.2 ± 0.0	NB
A	<i>Gallinula galeata</i>	Common Gallinule				S1B	40	17.8 ± 1.0	NB
A	<i>Grus canadensis</i>	Sandhill Crane				S1B	14	12.5 ± 0.0	NB
A	<i>Bartramia longicauda</i>	Upland Sandpiper				S1B	52	36.7 ± 0.0	NB
A	<i>Phalaropus tricolor</i>	Wilson's Phalarope				S1B	52	13.1 ± 0.0	NB
A	<i>Leucophaeus atricilla</i>	Laughing Gull				S1B	50	16.4 ± 0.0	NB
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S1B	55	55.4 ± 0.0	NB
A	<i>Uria aalge</i>	Common Murre				S1B	79	35.9 ± 15.0	NB
A	<i>Alca torda</i>	Razorbill				S1B	60	25.4 ± 0.0	NB
A	<i>Fratercula arctica</i>	Atlantic Puffin				S1B	94	35.9 ± 15.0	NB
A	<i>Progne subis</i>	Purple Martin				S1B	248	3.2 ± 1.0	NB
A	<i>Aythya marila</i>	Greater Scaup				S1B,S2N,S4M	42	11.9 ± 7.0	NB
A	<i>Oxyura jamaicensis</i>	Ruddy Duck				S1B,S2S3M	53	15.2 ± 0.0	NB
A	<i>Aythya affinis</i>	Lesser Scaup				S1B,S4M	201	9.3 ± 0.0	NB
A	<i>Eremophila alpestris</i>	Horned Lark				S1B,S4N,S5M	41	21.8 ± 5.0	NB
A	<i>Sterna paradisaea</i>	Arctic Tern				S1B,SUM	56	26.5 ± 0.0	NB
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				S1N,S2M	34	17.0 ± 0.0	NB
A	<i>Branta bernicla</i>	Brant				S1N,S2S3M	125	23.4 ± 0.0	NB
A	<i>Calidris alba</i>	Sanderling				S1N,S3S4M	432	17.0 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Butorides virescens</i>	Green Heron				S1S2B	29	16.2 ± 7.0	NB
A	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron				S1S2B	30	17.8 ± 1.0	NB
A	<i>Empidonax traillii</i>	Willow Flycatcher				S1S2B	140	9.2 ± 5.0	NB
A	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow				S1S2B	22	30.9 ± 7.0	NB
A	<i>Troglodytes aedon</i>	House Wren				S1S2B	29	7.4 ± 0.0	NB
A	<i>Calidris bairdii</i>	Baird's Sandpiper				S1S2M	69	16.8 ± 0.0	NB
A	<i>Melanitta americana</i>	American Scoter				S1S2N,S3M	310	16.9 ± 0.0	NB
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2B	569	5.4 ± 7.0	NB
A	<i>Cistothorus palustris</i>	Marsh Wren				S2B	399	9.1 ± 0.0	NB
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S2B	130	12.9 ± 7.0	NB
A	<i>Poocetes gramineus</i>	Vesper Sparrow				S2B	99	21.9 ± 7.0	NB
A	<i>Mareca strepera</i>	Gadwall				S2B,S3M	166	11.4 ± 0.0	NB
A	<i>Tringa solitaria</i>	Solitary Sandpiper				S2B,S4S5M	169	15.7 ± 4.0	NB
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S2B,S4S5N,S4S5M	47	18.0 ± 0.0	NB
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2N	148	19.3 ± 3.0	NB
A	<i>Somateria spectabilis</i>	King Eider				S2N	15	35.4 ± 0.0	NB
A	<i>Larus hyperboreus</i>	Glaucous Gull				S2N	143	2.5 ± 9.0	NB
A	<i>Melanitta perspicillata</i>	Surf Scoter				S2N,S4M	81	19.4 ± 8.0	NB
A	<i>Melanitta deglandi</i>	White-winged Scoter				S2N,S4M	34	54.2 ± 17.0	NB
A	<i>Asio otus</i>	Long-eared Owl				S2S3	20	23.0 ± 7.0	NB
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker				S2S3	14	60.0 ± 0.0	NB
A	<i>Toxostoma rufum</i>	Brown Thrasher				S2S3B	98	23.0 ± 7.0	NB
A	<i>Icterus galbula</i>	Baltimore Oriole				S2S3B	243	7.1 ± 7.0	NB
A	<i>Somateria mollissima</i>	Common Eider				S2S3B,S2S3N,S4M	1068	9.2 ± 5.0	NB
A	<i>Larus delawarensis</i>	Ring-billed Gull				S2S3B,S4N,S5M	348	5.8 ± 1.0	NB
A	<i>Pluvialis dominica</i>	American Golden-Plover				S2S3M	184	16.8 ± 0.0	NB
A	<i>Calcarius lapponicus</i>	Lapland Longspur				S2S3N,SUM	28	18.4 ± 0.0	NB
A	<i>Larus marinus</i>	Great Black-backed Gull				S3	505	9.2 ± 5.0	NB
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3	57	32.4 ± 7.0	NB
A	<i>Loxia curvirostra</i>	Red Crossbill				S3	161	15.8 ± 0.0	NB
A	<i>Spinus pinus</i>	Pine Siskin				S3	421	0.8 ± 5.0	NB
A	<i>Prosopium cylindraceum</i>	Round Whitefish				S3	1	62.5 ± 0.0	NB
A	<i>Salvelinus namaycush</i>	Lake Trout				S3	4	31.3 ± 0.0	NB
A	<i>Sorex maritimensis</i>	Maritime Shrew				S3	2	83.0 ± 0.0	NS
A	<i>Spatula clypeata</i>	Northern Shoveler				S3B	202	1.7 ± 0.0	NB
A	<i>Charadrius vociferus</i>	Killdeer				S3B	828	0.8 ± 5.0	NB
A	<i>Tringa semipalmata</i>	Willet				S3B	135	20.4 ± 8.0	NB
A	<i>Cephus grylle</i>	Black Guillemot				S3B	411	21.8 ± 20.0	NB
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3B	202	7.1 ± 7.0	NB
A	<i>Myiarchus crinitus</i>	Great Crested Flycatcher				S3B	371	8.3 ± 0.0	NB
A	<i>Piranga olivacea</i>	Scarlet Tanager				S3B	127	8.3 ± 0.0	NB
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S3B	930	5.4 ± 7.0	NB
A	<i>Passerina cyanea</i>	Indigo Bunting				S3B	120	8.2 ± 0.0	NB
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S3B	323	4.2 ± 0.0	NB
A	<i>Setophaga tigrina</i>	Cape May Warbler				S3B,S4S5M	170	11.5 ± 7.0	NB
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3B,S4S5N,S5M	245	15.7 ± 7.0	NB
A	<i>Anas acuta</i>	Northern Pintail				S3B,S5M	61	12.9 ± 7.0	NB
A	<i>Anser caerulescens</i>	Snow Goose				S3M	7	24.7 ± 1.0	NB
A	<i>Numerius phaeopus hudsonicus</i>	Whimbrel				S3M	139	16.8 ± 0.0	NB
A	<i>Arenaria interpres</i>	Ruddy Turnstone				S3M	347	16.8 ± 0.0	NB
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper				S3M	1083	16.8 ± 0.0	NB
A	<i>Calidris melanotos</i>	Pectoral Sandpiper				S3M	294	16.8 ± 0.0	NB
A	<i>Limnodromus griseus</i>	Short-billed Dowitcher				S3M	558	16.8 ± 0.0	NB

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A	<i>Phalaropus fulicarius</i>	Red Phalarope				S3M	54	47.4 ± 0.0	NB
A	<i>Bucephala albeola</i>	Bufflehead				S3N	764	6.6 ± 0.0	NB
A	<i>Calidris maritima</i>	Purple Sandpiper				S3N	215	23.7 ± 15.0	NB
A	<i>Uria lomvia</i>	Thick-billed Murre				S3N,S3M	45	34.2 ± 8.0	NB
A	<i>Perisoreus canadensis</i>	Canada Jay				S3S4	418	7.1 ± 7.0	NB
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3S4	322	0.8 ± 5.0	NB
A	<i>Eptesicus fuscus</i>	Big Brown Bat				S3S4	52	14.0 ± 1.0	NB
A	<i>Synaptomys cooperi</i>	Southern Bog Lemming				S3S4	95	16.1 ± 1.0	NB
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3S4B	698	0.8 ± 5.0	NB
A	<i>Vireo gilvus</i>	Warbling Vireo				S3S4B	268	7.1 ± 7.0	NB
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B,S4M	907	0.8 ± 5.0	NB
A	<i>Melospiza lincolni</i>	Lincoln's Sparrow				S3S4B,S4M	383	7.1 ± 7.0	NB
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3S4B,S5M	1027	7.1 ± 7.0	NB
A	<i>Setophaga striata</i>	Blackpoll Warbler				S3S4B,S5M	66	22.0 ± 7.0	NB
A	<i>Pluvialis squatarola</i>	Black-bellied Plover				S3S4M	672	16.8 ± 0.0	NB
A	<i>Morus bassanus</i>	Northern Gannet				SHB	509	21.0 ± 0.0	NB
	<i>Quercus macrocarpa</i> - <i>Acer rubrum</i> / <i>Onoclea sensibilis</i> - <i>Carex arcta</i> Forest	Bur Oak - Red Maple / Sensitive Fern - Northern Clustered Sedge Forest				S2	1	53.4 ± 0.0	
C	<i>Acer saccharinum</i> / <i>Onoclea sensibilis</i> - <i>Lysimachia terrestris</i> Forest	Silver Maple / Sensitive Fern - Swamp Yellow Loosestrife Forest				S3	1	55.6 ± 0.0	NB
C	<i>Acer saccharum</i> - <i>Fraxinus americana</i> / <i>Polystichum acrostichoides</i> Forest	Sugar Maple - White Ash / Christmas Fern Forest				S3S4	1	7.8 ± 0.0	NB
I	<i>Bombus bohemicus</i>	Ashton Cuckoo Bumble Bee	Endangered	Endangered		S1	15	12.6 ± 5.0	NB
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Special Concern	S2S3?B	413	2.2 ± 0.0	NB
I	<i>Bombus affinis</i>	Rusty-patched Bumble Bee	Endangered	Endangered		SH	1	80.0 ± 5.0	NB
I	<i>Bombus suckleyi</i>	Suckley's Cuckoo Bumble Bee	Threatened			SH	1	21.7 ± 5.0	NB
I	<i>Gomphurus ventricosus</i>	Skillet Clubtail	Special Concern	Endangered	Endangered	S2	99	40.6 ± 0.0	NB
I	<i>Cicindela marginipennis</i>	Cobblestone Tiger Beetle	Special Concern	Endangered	Endangered	S2S3	185	49.8 ± 0.0	NB
I	<i>Ophiogomphus howei</i>	Pygmy Snaketail	Special Concern	Special Concern	Special Concern	S2S3	15	67.8 ± 0.0	NB
I	<i>Alasmidonta varicosa</i>	Brook Floater	Special Concern	Special Concern	Special Concern	S3	8	85.2 ± 1.0	NB
I	<i>Lampsilis cariosa</i>	Yellow Lampmussel	Special Concern	Special Concern	Special Concern	S3	104	14.4 ± 0.0	NB
I	<i>Bombus terricola</i>	Yellow-banded Bumble Bee	Special Concern	Special Concern		S4	188	16.1 ± 0.0	NB
I	<i>Coccinella transversoguttata richardsoni</i>	Transverse Lady Beetle	Special Concern			SH	18	19.1 ± 1.0	NB
I	<i>Appalachina sayana sayana</i>	Spike-lip Crater Snail	Not At Risk			S3?	2	10.7 ± 1.0	NB
I	<i>Conotrachelus juglandis</i>	Butternut Curculio				S1	3	75.7 ± 0.0	NB
I	<i>Haematopota rara</i>	Shy Cleg				S1	1	79.7 ± 1.0	NB
I	<i>Tharsalea dorcas</i>	Dorcas Copper				S1	1	83.0 ± 0.0	NB
I	<i>Erora laeta</i>	Early Hairstreak				S1	5	83.0 ± 7.0	NB
I	<i>Polites origenes</i>	Crossline Skipper				S1?	8	34.3 ± 0.0	NB
I	<i>Icaricia saepiolus</i>	Greenish Blue				S1S2	7	65.7 ± 0.0	NB
I	<i>Pachydiplax longipennis</i>	Blue Dasher				S1S2	3	55.7 ± 0.0	NB
I	<i>Cicindela ancocisconensis</i>	Appalachian Tiger Beetle				S2	1	98.4 ± 0.0	NB
I	<i>Encyclops caeruleus</i>	Cerulean Long-horned Beetle				S2	1	80.5 ± 0.0	NB
I	<i>Scaphinotus viduus</i>	Bereft Snail-eating Beetle				S2	2	21.9 ± 0.0	NB
I	<i>Brachyleptura circumdata</i>	Dark-shouldered Long-horned Beetle				S2	6	57.7 ± 0.0	NB
I	<i>Satyrrium calanus</i>	Banded Hairstreak				S2	27	25.3 ± 0.0	NB
I	<i>Satyrrium calanus falacer</i>	Falacer Hairstreak				S2	1	77.2 ± 1.0	NB
I	<i>Strymon melinus</i>	Gray Hairstreak				S2	7	33.5 ± 0.0	NB
I	<i>Ophiogomphus colubrinus</i>	Boreal Snaketail				S2S3	39	49.6 ± 1.0	NB
I	<i>Sphaeroderus nitidicollis</i>	Polished Snail-eating Beetle				S3	1	57.8 ± 0.0	NB
I	<i>Lepturopsis biforis</i>	Two-spotted Long-horned				S3	1	19.1 ± 1.0	NB

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	<i>Orthosoma brunneum</i>	Beetle Moist Long-horned Beetle				S3	3	55.0 ± 5.0	NB
	<i>Elaphrus americanus</i>	Boreal Elaphrus Beetle				S3	2	64.0 ± 0.0	NB
	<i>Semanotus terminatus</i>	Light Long-horned Beetle				S3	1	74.3 ± 0.0	NB
	<i>Desmocerus palliatus</i>	Elderberry Borer				S3	9	19.1 ± 1.0	NB
	<i>Agonum excavatum</i>	Excavated Harp Ground Beetle				S3	1	64.0 ± 0.0	NB
	<i>Clivina americana</i>	America Pedunculate Ground Beetle				S3	1	64.0 ± 0.0	NB
	<i>Harpalus fulvilabris</i>	Fulvia Harpaline Beetle				S3	1	99.8 ± 0.0	NB
	<i>Olisthopus parmatus</i>	Tawny-bordered Harp Ground Beetle				S3	1	57.8 ± 0.0	NB
	<i>Tachys scitulus</i>	Handsome Riverbank Ground Beetle				S3	1	64.0 ± 0.0	NB
	<i>Carabus serratus</i>	Serrated Ground Beetle				S3	1	69.7 ± 0.0	NB
	<i>Coccinella hieroglyphica kirbyi</i>	a Ladybird Beetle				S3	1	19.1 ± 1.0	NB
	<i>Hippodamia parenthesis</i>	Parenthesis Lady Beetle				S3	6	19.1 ± 1.0	NB
	<i>Stenocorus vittiger</i>	Shrub Long-horned Beetle				S3	1	63.9 ± 0.0	NB
	<i>Gnathacmaeops pratensis</i>	Meadow Flower Longhorn Beetle				S3	5	19.1 ± 1.0	NB
	<i>Pogonocherus mixtus</i>	Mixed-spotted Flatface Sawyer				S3	1	19.1 ± 1.0	NB
	<i>Badister neopulchellus</i>	Red-black Spotted Beetle				S3	1	64.0 ± 0.0	NB
	<i>Calathus gregarius</i>	Gregarious Harp Ground Beetle				S3	1	75.2 ± 1.0	NB
	<i>Gonotropis dorsalis</i>	Birch Fungus Weevil				S3	1	74.3 ± 0.0	NB
	<i>Naemia seriata</i>	Seaside Lady Beetle				S3	9	36.2 ± 0.0	NB
	<i>Beckerus appressus</i>	Compressed Click Beetle				S3	1	70.3 ± 0.0	NB
	<i>Saperda lateralis</i>	Red-edged Long-horned Beetle				S3	2	24.3 ± 0.0	NB
	<i>Trachysida aspera</i>	Rough Flower Longhorn Beetle				S3	1	94.2 ± 0.0	NB
	<i>Epargyreus clarus</i>	Silver-spotted Skipper				S3	17	20.7 ± 0.0	NB
	<i>Hesperia sassacus</i>	Indian Skipper				S3	18	34.3 ± 1.0	NB
	<i>Euphyes bimacula</i>	Two-spotted Skipper				S3	13	35.2 ± 0.0	NB
	<i>Satyrium acadica</i>	Acadian Hairstreak				S3	14	19.0 ± 5.0	NB
	<i>Plebejus idas</i>	Northern Blue				S3	8	52.4 ± 0.0	NB
	<i>Plebejus idas empetri</i>	Crowberry Blue				S3	36	29.5 ± 2.0	NB
	<i>Argynnis aphrodite</i>	Aphrodite Fritillary				S3	31	19.0 ± 5.0	NB
	<i>Boloria bellona</i>	Meadow Fritillary				S3	58	27.4 ± 0.0	NB
	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S3	34	19.0 ± 5.0	NB
	<i>Gomphurus vastus</i>	Cobra Clubtail				S3	123	19.4 ± 0.0	NB
	<i>Celithemis martha</i>	Martha's Pennant				S3	9	15.4 ± 0.0	NB
	<i>Ladona exusta</i>	White Corporal				S3	6	51.3 ± 0.0	NB
	<i>Enallagma pictum</i>	Scarlet Bluet				S3	3	15.1 ± 0.0	NB
	<i>Ischnura kellicotti</i>	Lilypad Forktail				S3	8	31.4 ± 0.0	NB
	<i>Arigomphus furcifer</i>	Lilypad Clubtail				S3	22	46.2 ± 0.0	NB
	<i>Alasmidonta undulata</i>	Triangle Floater				S3	51	0.8 ± 0.0	NB
	<i>Atlanticoncha ochracea</i>	Tidewater Mucket				S3	154	12.7 ± 0.0	NB
	<i>Striatura ferrea</i>	Black Striate Snail				S3	1	78.8 ± 1.0	NB
	<i>Neohelix albolabris</i>	Whitelip Snail				S3	2	37.4 ± 0.0	NB
	<i>Spurwinkia salsa</i>	Saltmarsh Hydrobe				S3	34	2.9 ± 0.0	NB
	<i>Pantala hymenaea</i>	Spot-Winged Glider				S3B	8	31.0 ± 1.0	NB
	<i>Bombus griseocollis</i>	Brown-belted Bumble Bee				S3S4	3	48.2 ± 5.0	NB
	<i>Lanthus vernalis</i>	Southern Pygmy Clubtail				S3S4	1	74.4 ± 0.0	NB
	<i>Somatochlora forcipata</i>	Forcinate Emerald				S3S4	18	70.8 ± 0.0	NB
	<i>Somatochlora tenebrosa</i>	Clamp-Tipped Emerald				S3S4	10	72.8 ± 0.0	NB

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N	<i>Erioderma mollissimum</i>	Graceful Felt Lichen	Endangered	Endangered	Endangered	SH	2	72.6 ± 1.0	NB
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	SH	3	82.3 ± 0.0	NS
N	<i>Pannaria lurida</i>	Wrinkled Shingle Lichen	Threatened	Threatened		S1?	10	74.5 ± 0.0	NB
N	<i>Anzia colpodes</i>	Black-foam Lichen	Threatened	Threatened		S1S2	11	54.1 ± 0.0	NB
N	<i>Fuscopannaria leucosticta</i>	White-rimmed Shingle Lichen	Threatened			S2	16	26.0 ± 0.0	NB
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened	Threatened		S2S3	724	67.7 ± 0.0	NB
N	<i>Pectenia plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Special Concern	S1	391	25.6 ± 0.0	NB
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	28	8.9 ± 0.0	NB
N	<i>Imbricium muehlenbeckii</i>	Muehlenbeck's Bryum Moss				S1	1	18.6 ± 1.0	NB
N	<i>Dicranoweisia crispula</i>	Mountain Thatch Moss				S1	1	79.7 ± 0.0	NB
N	<i>Didymodon rigidulus</i> var. <i>gracilis</i>	a moss				S1	1	75.5 ± 1.0	NB
N	<i>Sphagnum macrophyllum</i>	Sphagnum				S1	4	27.4 ± 0.0	NB
N	<i>Coscinodon cribrosus</i>	Sieve-Toothed Moss				S1	1	20.8 ± 0.0	NB
N	<i>Syntrichia ruralis</i>	a Moss				S1	1	51.1 ± 0.0	NB
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen				S1	13	77.2 ± 0.0	NS
N	<i>Cladonia straminea</i>	Reptilian Pixie-cup Lichen				S1	5	68.7 ± 1.0	NB
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen				S1	7	72.1 ± 0.0	NB
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S1	2	99.8 ± 0.0	NS
N	<i>Peltigera malacea</i>	Veinless Pelt Lichen				S1	1	71.3 ± 1.0	NB
N	<i>Bryoria bicolor</i>	Electrified Horsehair Lichen				S1	1	71.3 ± 1.0	NB
N	<i>Hygrobiella laxifolia</i>	Lax Notchwort				S1?	1	68.8 ± 1.0	NB
N	<i>Bartramia ithyphylla</i>	Straight-leaved Apple Moss				S1?	2	68.8 ± 0.0	NB
N	<i>Pseudocalliergon trifarium</i>	Three-ranked Spear Moss				S1?	1	26.2 ± 0.0	NB
N	<i>Dichelyma falcatum</i>	a Moss				S1?	2	27.6 ± 1.0	NB
N	<i>Dicranum bonjeanii</i>	Bonjean's Broom Moss				S1?	1	79.2 ± 1.0	NB
N	<i>Dicranum condensatum</i>	Condensed Broom Moss				S1?	1	79.5 ± 0.0	NB
N	<i>Entodon brevisetus</i>	a Moss				S1?	1	76.9 ± 10.0	NB
N	<i>Oxyrrhynchium hians</i>	Light Beaked Moss				S1?	4	48.6 ± 0.0	NB
N	<i>Homomallium adnatum</i>	Adnate Hairy-gray Moss				S1?	3	76.9 ± 10.0	NB
N	<i>Plagiothecium latebricola</i>	Alder Silk Moss				S1?	2	26.3 ± 0.0	NB
N	<i>Niphotrichum ericoides</i>	Dense Rock Moss				S1?	1	86.3 ± 3.0	NB
N	<i>Rhytidium rugosum</i>	Wrinkle-leaved Moss				S1?	2	50.9 ± 0.0	NB
N	<i>Splachnum pensylvanicum</i>	Southern Dung Moss				S1?	1	73.7 ± 1.0	NB
N	<i>Platylomella lescurii</i>	a Moss				S1?	1	88.9 ± 1.0	NB
N	<i>Enchylium tenax</i>	Soil Tarpaper Lichen				S1?	1	77.7 ± 0.0	NS
N	<i>Ephebe hispidula</i>	Dryside Rockshag Lichen				S1?	1	81.7 ± 0.0	NS
N	<i>Ephebe perspinulosa</i>	Thread Lichen				S1?	1	83.6 ± 0.0	NS
N	<i>Euopsis granatina</i>	Lesser Rockbud Lichen				S1?	1	78.6 ± 1.0	NS
N	<i>Heterodermia squamulosa</i>	Scaly Fringe Lichen				S1?	14	26.1 ± 0.0	NB
N	<i>Pertusaria propinqua</i>	a Lichen				S1?	2	71.3 ± 1.0	NB
N	<i>Pilophorus fibula</i>	New England Matchstick Lichen				S1?	1	57.8 ± 0.0	NB
N	<i>Rhizocarpon umbilicatum</i>	a Lichen				S1?	2	68.8 ± 1.0	NB
N	<i>Spilonema revertens</i>	Rock Hairball Lichen				S1?	4	80.5 ± 0.0	NS
N	<i>Peltigera venosa</i>	Fan Pelt Lichen				S1?	2	10.5 ± 0.0	NB
N	<i>Cladonia oricola</i>	Cladonia Lichen				S1?	2	40.8 ± 0.0	NB
N	<i>Cephalozia spinigera</i>	Spiny Threadwort				S1S2	2	98.4 ± 0.0	NB
N	<i>Odontoschisma francisci</i>	Holt's Notchwort				S1S2	4	75.5 ± 1.0	NB
N	<i>Harpanthus flotovianus</i>	Great Mountain Flapwort				S1S2	2	69.7 ± 1.0	NB
N	<i>Pallavicinia lyellii</i>	Lyell's Ribbonwort				S1S2	3	23.5 ± 1.0	NB
N	<i>Radula tenax</i>	Tenacious Scalewort				S1S2	1	80.2 ± 0.0	NB
N	<i>Reboulia hemisphaerica</i>	Purple-margined Liverwort				S1S2	2	75.4 ± 0.0	NB
N	<i>Solenostoma obovatum</i>	Egg Flapwort				S1S2	2	4.9 ± 0.0	NB
N	<i>Brachythecium acuminatum</i>	Acuminate Ragged Moss				S1S2	5	45.1 ± 100.0	NB
N	<i>Ptychostomum salinum</i>	Saltmarsh Bryum				S1S2	2	54.8 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Pseudocampyllum radicale</i>	Long-stalked Fine Wet Moss				S1S2	1	80.6 ± 1.0	NB
N	<i>Tortula obtusifolia</i>	a Moss				S1S2	1	35.4 ± 0.0	NB
N	<i>Distichium inclinatum</i>	Inclined Iris Moss				S1S2	5	75.4 ± 0.0	NB
N	<i>Ditrichum pallidum</i>	Pale Cow-hair Moss				S1S2	3	64.0 ± 1.0	NB
N	<i>Drummondia prorepens</i>	a Moss				S1S2	1	93.8 ± 0.0	NS
N	<i>Sphagnum platyphyllum</i>	Flat-leaved Peat Moss				S1S2	2	84.2 ± 0.0	NS
N	<i>Timmia norvegica</i>	a moss				S1S2	3	36.6 ± 0.0	NB
N	<i>Timmia norvegica</i> var. <i>excurrens</i>	a moss				S1S2	1	75.4 ± 0.0	NB
N	<i>Tomentypnum falcifolium</i>	Sickle-leaved Golden Moss				S1S2	1	46.8 ± 1.0	NB
N	<i>Tortella humilis</i>	Small Crisp Moss				S1S2	7	68.9 ± 0.0	NB
N	<i>Pseudotaxiphyllum distichaceum</i>	a Moss				S1S2	3	54.8 ± 1.0	NB
N	<i>Hamatocaulis vernicosus</i>	a Moss				S1S2	3	18.0 ± 100.0	NB
N	<i>Haplocladium microphyllum</i>	Tiny-leaved Haplocladium Moss				S1S2	1	74.3 ± 3.0	NS
N	<i>Umbilicaria vellea</i>	Grizzled Rocktripe Lichen				S1S2	1	75.5 ± 1.0	NB
N	<i>Pilophorus cereolus</i>	Powdered Matchstick Lichen				S1S2	2	57.8 ± 0.0	NB
N	<i>Peltigera scabrosa</i>	Greater Toad Pelt Lichen				S1S2	4	79.5 ± 1.0	NB
N	<i>Calyptogeia neesiana</i>	Nees' Pouchwort				S1S3	1	7.2 ± 1.0	NB
N	<i>Fuscocephaloziopsis connivens</i>	Forcipated Pincerwort				S1S3	1	4.9 ± 0.0	NB
N	<i>Cephaloziella elachista</i>	Spurred Threadwort				S1S3	1	26.4 ± 5.0	NB
N	<i>Porella pinnata</i>	Pinnate Scalewort				S1S3	1	13.1 ± 1.0	NB
N	<i>Tritomaria scitula</i>	Mountain Notchwort				S1S3	1	82.3 ± 1.0	NB
N	<i>Amphidium mougeotii</i>	a Moss				S2	14	5.5 ± 1.0	NB
N	<i>Anomodon viticulosus</i>	a Moss				S2	8	5.3 ± 1.0	NB
N	<i>Cirriphyllum piliferum</i>	Hair-pointed Moss				S2	4	54.2 ± 0.0	NB
N	<i>Cynodontium strumiferum</i>	Strumose Dogtooth Moss				S2	1	96.1 ± 8.0	NB
N	<i>Dicranella palustris</i>	Drooping-Leaved Fork Moss				S2	10	30.0 ± 100.0	NB
N	<i>Didymodon ferrugineus</i>	Rusty Beard Moss				S2	2	6.6 ± 1.0	NB
N	<i>Ditrichum flexicaule</i>	Flexible Cow-hair Moss				S2	1	5.5 ± 1.0	NB
N	<i>Anomodon tristis</i>	a Moss				S2	4	75.4 ± 10.0	NB
N	<i>Hygrohypnum bestii</i>	Best's Brook Moss				S2	6	58.4 ± 0.0	NB
N	<i>Hypnum pratense</i>	Meadow Plait Moss				S2	1	23.4 ± 0.0	NB
N	<i>Isoetecium myosuroides</i>	Slender Mouse-tail Moss				S2	6	5.5 ± 1.0	NB
N	<i>Meesia triquetra</i>	Three-ranked Cold Moss				S2	2	45.1 ± 100.0	NB
N	<i>Physcomitrium immersum</i>	a Moss				S2	7	13.1 ± 1.0	NB
N	<i>Platydictya jungermannioides</i>	False Willow Moss				S2	4	56.4 ± 0.0	NB
N	<i>Pohlia elongata</i>	Long-necked Nodding Moss				S2	10	68.9 ± 0.0	NB
N	<i>Seligeria calcarea</i>	Chalk Brittle Moss				S2	3	5.5 ± 1.0	NB
N	<i>Seligeria recurvata</i>	a Moss				S2	2	90.7 ± 1.0	NB
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss				S2	8	23.5 ± 1.0	NB
N	<i>Sphagnum flexuosum</i>	Flexuous Peatmoss				S2	2	76.6 ± 0.0	NB
N	<i>Tayloria serrata</i>	Serrate Trumpet Moss				S2	8	27.2 ± 1.0	NB
N	<i>Tetradontium brownianum</i>	Little Georgia				S2	7	74.9 ± 1.0	NB
N	<i>Tetraplodon mnioides</i>	Entire-leaved Nitrogen Moss				S2	3	48.1 ± 0.0	NB
N	<i>Thamnobryum alleghaniense</i>	a Moss				S2	20	36.5 ± 0.0	NB
N	<i>Tortula mucronifolia</i>	Mucronate Screw Moss				S2	1	20.4 ± 0.0	NB
N	<i>Ulota phyllantha</i>	a Moss				S2	7	54.8 ± 1.0	NB
N	<i>Anomobryum julaceum</i>	Slender Silver Moss				S2	5	40.5 ± 0.0	NB
N	<i>Usnea ceratina</i>	Warty Beard Lichen				S2	2	70.8 ± 0.0	NB
N	<i>Cladonia macrophylla</i>	Fig-leaved Lichen				S2	3	78.0 ± 1.0	NB
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S2	12	67.0 ± 0.0	NB
N	<i>Leptogium milligranum</i>	Stretched Jellyskin Lichen				S2	2	54.3 ± 0.0	NB
N	<i>Nephroma laevigatum</i>	Mustard Kidney Lichen				S2	13	59.5 ± 0.0	NB
N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen				S2	4	10.6 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Andreaea rothii</i>	Dusky Rock Moss				S2?	6	20.9 ± 0.0	NB
N	<i>Anomodon minor</i>	Blunt-leaved Anomodon Moss				S2?	1	83.2 ± 1.0	NB
N	<i>Ptychostomum pallescens</i>	Tall Clustered Bryum				S2?	2	19.6 ± 1.0	NB
N	<i>Dichelyma capillaceum</i>	Hairlike Dichelyma Moss				S2?	1	77.4 ± 3.0	NB
N	<i>Dicranum spurium</i>	Spurred Broom Moss				S2?	6	41.9 ± 0.0	NB
N	<i>Hygrohypnum montanum</i>	a Moss				S2?	2	52.8 ± 1.0	NB
N	<i>Schistostega pennata</i>	Luminous Moss				S2?	3	30.0 ± 100.0	NB
N	<i>Seligeria diversifolia</i>	a Moss				S2?	2	40.5 ± 0.0	NB
N	<i>Sphagnum angermanicum</i>	a Peatmoss				S2?	3	45.0 ± 10.0	NB
N	<i>Trichodon cylindricus</i>	Cylindric Hairy-teeth Moss				S2?	2	90.7 ± 10.0	NB
N	<i>Plagiomnium rostratum</i>	Long-beaked Leafy Moss				S2?	7	36.5 ± 0.0	NB
N	<i>Ramalina labiosorediata</i>	Chalky Ramalina Lichen				S2?	1	78.5 ± 1.0	NB
N	<i>Collema leptaleum</i>	Crumpled Bat's Wing Lichen				S2?	3	54.1 ± 0.0	NB
N	<i>Imshaugia placodioides</i>	Eyed Starburst Lichen				S2?	1	99.1 ± 0.0	NS
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen				S2?	1	71.7 ± 1.0	NB
N	<i>Ptychostomum cernuum</i>	Swamp Bryum				S2S3	3	18.8 ± 4.0	NB
N	<i>Buxbaumia aphylla</i>	Brown Shield Moss				S2S3	2	93.1 ± 15.0	NB
N	<i>Calliergonella cuspidata</i>	Common Large Wetland Moss				S2S3	17	8.5 ± 0.0	NB
N	<i>Drepanocladus polygamus</i>	Polygamous Hook Moss				S2S3	1	71.6 ± 0.0	NB
N	<i>Palustriella falcata</i>	Curled Hook Moss				S2S3	3	5.5 ± 1.0	NB
N	<i>Didymodon rigidulus</i>	Rigid Screw Moss				S2S3	11	18.7 ± 0.0	NB
N	<i>Ephemerum serratum</i>	a Moss				S2S3	5	50.8 ± 0.0	NB
N	<i>Fissidens bushii</i>	Bush's Pocket Moss				S2S3	6	18.7 ± 0.0	NB
N	<i>Hypnum cupressiforme var. filiforme</i>	a Moss				S2S3	1	83.7 ± 0.0	NS
N	<i>Isopterygiopsis pulchella</i>	Neat Silk Moss				S2S3	8	74.7 ± 0.0	NB
N	<i>Neckera complanata</i>	a Moss				S2S3	7	5.5 ± 1.0	NB
N	<i>Orthotrichum elegans</i>	Showy Bristle Moss				S2S3	3	80.7 ± 2.0	NB
N	<i>Pohlia prolifera</i>	Cottony Nodding Moss				S2S3	4	75.1 ± 1.0	NB
N	<i>Codriophorus fascicularis</i>	Clustered Rock Moss				S2S3	4	68.8 ± 0.0	NB
N	<i>Bucklandiella affinis</i>	Lesser Rock Moss				S2S3	12	68.8 ± 0.0	NB
N	<i>Saelania glaucescens</i>	Blue Dew Moss				S2S3	2	79.7 ± 0.0	NB
N	<i>Scorpidium scorpioides</i>	Hooked Scorpion Moss				S2S3	4	8.5 ± 0.0	NB
N	<i>Seligeria campylopoda</i>	a Moss				S2S3	1	18.0 ± 100.0	NB
N	<i>Sphagnum centrale</i>	Central Peat Moss				S2S3	7	68.9 ± 0.0	NB
N	<i>Sphagnum subfulvum</i>	a Peatmoss				S2S3	4	46.8 ± 1.0	NB
N	<i>Taxiphyllum deplanatum</i>	Imbricate Yew-leaved Moss				S2S3	3	54.8 ± 1.0	NB
N	<i>Zygodon viridissimus</i>	a Moss				S2S3	5	79.6 ± 1.0	NB
N	<i>Schistidium agassizii</i>	Elf Bloom Moss				S2S3	6	68.9 ± 0.0	NB
N	<i>Loeskeobryum brevirostre</i>	a Moss				S2S3	16	5.5 ± 1.0	NB
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2S3	7	49.3 ± 0.0	NB
N	<i>Sphaerophorus globosus</i>	Northern Coral Lichen				S2S3	13	11.5 ± 0.0	NB
N	<i>Cetrariella delisei</i>	Snowbed Icelandmoss Lichen				S2S3	2	98.3 ± 0.0	NB
N	<i>Cladonia acuminata</i>	Scantily Clad Pixie Lichen				S2S3	2	72.6 ± 1.0	NB
N	<i>Cladonia ramulosa</i>	Bran Lichen				S2S3	4	76.3 ± 1.0	NB
N	<i>Cladonia sulphurina</i>	Greater Sulphur-cup Lichen				S2S3	5	71.1 ± 0.0	NB
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen				S2S3	1	70.1 ± 1.0	NB
N	<i>Polychidium muscicola</i>	Eyed Mossthorns Woollybear Lichen				S2S3	11	18.9 ± 0.0	NB
N	<i>Cynodontium tenellum</i>	Delicate Dogtooth Moss				S3	1	54.8 ± 1.0	NB
N	<i>Hypnum curvifolium</i>	Curved-leaved Plait Moss				S3	16	68.8 ± 0.0	NB
N	<i>Tortella fragilis</i>	Fragile Twisted Moss				S3	1	75.4 ± 0.0	NB
N	<i>Schistidium maritimum</i>	a Moss				S3	10	54.8 ± 1.0	NB
N	<i>Hymenostylium</i>	Curve-beak Beardless Moss				S3	9	75.1 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>recurvirostrum</i>								
N	<i>Collema nigrescens</i>	Blistered Tarpaper Lichen			S3		1	82.7 ± 3.0	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen			S3		8	49.5 ± 0.0	NB
N	<i>Normandina pulchella</i>	Rimmed Elf-ear Lichen			S3		20	71.3 ± 1.0	NB
N	<i>Cladonia farinacea</i>	Farinose Pixie Lichen			S3		5	78.0 ± 1.0	NB
N	<i>Cladonia strepsilis</i>	Olive Cladonia Lichen			S3		5	14.4 ± 0.0	NB
N	<i>Hypotrachyna catawbiensis</i>	Powder-tipped Antler Lichen			S3		26	74.5 ± 0.0	NB
N	<i>Scytinium lichenoides</i>	Tattered Jellyskin Lichen			S3		16	6.0 ± 0.0	NB
N	<i>Nephroma bellum</i>	Naked Kidney Lichen			S3		3	70.3 ± 1.0	NB
N	<i>Peltigera degenii</i>	Lustrous Pelt Lichen			S3		13	71.0 ± 1.0	NB
N	<i>Leptogium laceroides</i>	Short-bearded Jellyskin Lichen			S3		7	76.5 ± 1.0	NB
N	<i>Peltigera membranacea</i>	Membranous Pelt Lichen			S3		45	9.7 ± 0.0	NB
N	<i>Cladonia botrytes</i>	Wooden Soldiers Lichen			S3		1	98.3 ± 0.0	NB
N	<i>Cladonia carneola</i>	Crowned Pixie-cup Lichen			S3		2	78.0 ± 1.0	NB
N	<i>Cladonia deformis</i>	Lesser Sulphur-cup Lichen			S3		9	68.7 ± 1.0	NB
N	<i>Aulacomnium androgynum</i>	Little Groove Moss			S3?		13	5.5 ± 1.0	NB
N	<i>Ptychostomum inclinatum</i>	Blunt-tooth Thread Moss			S3?		2	74.3 ± 3.0	NS
N	<i>Dicranella rufescens</i>	Red Forklet Moss			S3?		2	75.4 ± 0.0	NB
N	<i>Rhytidiadelphus loreus</i>	Lanky Moss			S3?		4	73.1 ± 0.0	NB
N	<i>Sphagnum lescurii</i>	a Peatmoss			S3?		9	5.0 ± 0.0	NB
N	<i>Sphagnum inundatum</i>	a Sphagnum			S3?		2	16.0 ± 0.0	NB
N	<i>Rostania occultata</i>	Crusted Tarpaper Lichen			S3?		5	83.0 ± 3.0	NS
N	<i>Cystocoleus ebeneus</i>	Rockgossamer Lichen			S3?		1	78.5 ± 0.0	NS
N	<i>Scytinium subtile</i>	Appressed Jellyskin Lichen			S3?		10	26.6 ± 0.0	NB
N	<i>Peltigera neckeri</i>	Black-saddle Pelt Lichen			S3?		1	70.5 ± 5.0	NB
N	<i>Stereocaulon subcoralloides</i>	Coralloid Foam Lichen			S3?		1	78.5 ± 1.0	NB
N	<i>Anomodon rugelii</i>	Rugel's Anomodon Moss			S3S4		2	83.7 ± 0.0	NS
N	<i>Barbula convoluta</i>	Lesser Bird's-claw Beard Moss			S3S4		2	81.4 ± 0.0	NS
N	<i>Brachytheciastrum velutinum</i>	Velvet Ragged Moss			S3S4		4	69.9 ± 1.0	NB
N	<i>Calliergon giganteum</i>	Giant Spear Moss			S3S4		1	83.9 ± 0.0	NS
N	<i>Dicranella cerviculata</i>	a Moss			S3S4		5	54.8 ± 1.0	NB
N	<i>Dicranella varia</i>	a Moss			S3S4		1	98.5 ± 3.0	NS
N	<i>Dicranum majus</i>	Greater Broom Moss			S3S4		25	48.1 ± 0.0	NB
N	<i>Dicranum leioneuron</i>	a Dicranum Moss			S3S4		1	74.0 ± 0.0	NB
N	<i>Encalypta ciliata</i>	Fringed Extinguisher Moss			S3S4		1	75.6 ± 0.0	NB
N	<i>Fissidens bryoides</i>	Lesser Pocket Moss			S3S4		5	6.1 ± 5.0	NB
N	<i>Elodium blandowii</i>	Blandow's Bog Moss			S3S4		2	14.0 ± 0.0	NB
N	<i>Heterocladium dimorphum</i>	Dimorphous Tangle Moss			S3S4		5	78.9 ± 0.0	NB
N	<i>Isopterygiopsis muelleriana</i>	a Moss			S3S4		24	5.5 ± 1.0	NB
N	<i>Myurella julacea</i>	Small Mouse-tail Moss			S3S4		5	5.5 ± 1.0	NB
N	<i>Orthotrichum speciosum</i>	Showy Bristle Moss			S3S4		3	85.0 ± 0.0	NS
N	<i>Physcomitrium pyriforme</i>	Pear-shaped Urn Moss			S3S4		9	48.0 ± 0.0	NB
N	<i>Pogonatum dentatum</i>	Mountain Hair Moss			S3S4		3	54.8 ± 1.0	NB
N	<i>Sphagnum torreyanum</i>	a Peatmoss			S3S4		5	32.7 ± 0.0	NB
N	<i>Sphagnum austinii</i>	Austin's Peat Moss			S3S4		2	32.4 ± 1.0	NB
N	<i>Sphagnum contortum</i>	Twisted Peat Moss			S3S4		2	8.2 ± 0.0	NB
N	<i>Sphagnum quinquefarium</i>	Five-ranked Peat Moss			S3S4		5	5.5 ± 1.0	NB
N	<i>Splachnum rubrum</i>	Red Collar Moss			S3S4		1	25.9 ± 1.0	NB
N	<i>Tetraphis geniculata</i>	Geniculate Four-tooth Moss			S3S4		14	24.9 ± 0.0	NB
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss			S3S4		3	20.7 ± 0.0	NB
N	<i>Weissia controversa</i>	Green-Cushioned Weissia			S3S4		6	5.0 ± 1.0	NB
N	<i>Abietinella abietina</i>	Wiry Fern Moss			S3S4		2	75.4 ± 0.0	NB
N	<i>Trichostomum tenuirostre</i>	Acid-Soil Moss			S3S4		9	18.7 ± 0.0	NB
N	<i>Pannaria rubiginosa</i>	Brown-eyed Shingle Lichen			S3S4		15	26.6 ± 0.0	NB
N	<i>Pseudocyphellaria holarctica</i>	Yellow Specklebelly Lichen			S3S4		74	19.7 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen				S3S4	12	68.7 ± 1.0	NB
N	<i>Hypogymnia vittata</i>	Slender Monk's Hood Lichen				S3S4	27	68.8 ± 1.0	NB
N	<i>Scytinium teretiusculum</i>	Curly Jellyskin Lichen				S3S4	5	48.7 ± 0.0	NB
N	<i>Montanelia panniformis</i>	Shingled Camouflage Lichen				S3S4	5	71.3 ± 1.0	NB
N	<i>Cladonia terrae-novae</i>	Newfoundland Reindeer Lichen				S3S4	5	40.8 ± 0.0	NB
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen				S3S4	5	14.4 ± 0.0	NB
N	<i>Xylopsora friesii</i>	a Lichen				S3S4	1	75.5 ± 1.0	NB
N	<i>Nephroma parile</i>	Powdery Kidney Lichen				S3S4	39	8.0 ± 0.0	NB
N	<i>Nephroma resupinatum</i>	a lichen				S3S4	1	85.0 ± 0.0	NS
N	<i>Protopannaria pezizoides</i>	Brown-gray Moss-shingle Lichen				S3S4	37	11.5 ± 0.0	NB
N	<i>Parmelia fertilis</i>	Fertile Shield Lichen				S3S4	2	7.9 ± 0.0	NB
N	<i>Usnea strigosa</i>	Bushy Beard Lichen				S3S4	14	2.1 ± 0.0	NB
N	<i>Fuscopannaria soorediata</i>	a Lichen				S3S4	2	84.8 ± 1.0	NB
N	<i>Stereocaulon condensatum</i>	Granular Soil Foam Lichen				S3S4	9	67.3 ± 0.0	NB
N	<i>Stereocaulon paschale</i>	Easter Foam Lichen				S3S4	1	77.9 ± 1.0	NS
N	<i>Pannaria conoplea</i>	Mealy-rimmed Shingle Lichen				S3S4	31	67.0 ± 0.0	NB
N	<i>Physcia tenella</i>	Fringed Rosette Lichen				S3S4	2	11.0 ± 0.0	NB
N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen				S3S4	39	20.1 ± 0.0	NB
N	<i>Peltigera neopolydactyla</i>	Undulating Pelt Lichen				S3S4	11	70.1 ± 1.0	NB
N	<i>Cladonia cariosa</i>	Lesser Ribbed Pixie Lichen				S3S4	3	80.1 ± 1.0	NB
N	<i>Hypocenomyce scalaris</i>	Common Clam Lichen				S3S4	1	78.5 ± 1.0	NB
N	<i>Grimmia anodon</i>	Toothless Grimmiid Moss				SH	2	18.1 ± 10.0	NB
N	<i>Leucodon brachypus</i>	a Moss				SH	6	77.2 ± 0.0	NB
N	<i>Thelia hirtella</i>	a Moss				SH	1	45.1 ± 100.0	NB
N	<i>Cyrto-hypnum minutulum</i>	Tiny Cedar Moss				SH	3	73.2 ± 10.0	NB
P	<i>Juglans cinerea</i>	Butternut	Endangered	Endangered	Endangered	S1	180	14.0 ± 1.0	NB
P	<i>Polemonium vanbruntiae</i>	Van Brunt's Jacob's-ladder	Threatened	Threatened	Threatened	S1	74	50.9 ± 0.0	NB
P	<i>Fraxinus nigra</i>	Black Ash	Threatened			S3S4	270	5.6 ± 0.0	NB
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Endangered	S1	26	24.9 ± 0.0	NB
P	<i>Symphotrichum anticostense</i>	Anticosti Aster	Special Concern	Special Concern	Endangered	S3	6	18.7 ± 0.0	NB
P	<i>Pterospora andromedea</i>	Woodland Pinedrops			Endangered	S1	19	87.5 ± 0.0	NB
P	<i>Cryptotaenia canadensis</i>	Canada Honewort				S1	1	48.9 ± 1.0	NB
P	<i>Antennaria parlinii ssp. fallax</i>	Parlin's Pussytoes				S1	7	38.2 ± 1.0	NB
P	<i>Antennaria howellii ssp. petaloidea</i>	Pussy-Toes				S1	2	20.7 ± 5.0	NB
P	<i>Bidens discoidea</i>	Swamp Beggarticks				S1	4	58.0 ± 0.0	NB
P	<i>Pseudognaphalium obtusifolium</i>	Eastern Cudweed				S1	7	70.6 ± 0.0	NB
P	<i>Helianthus decapetalus</i>	Ten-rayed Sunflower				S1	14	89.9 ± 0.0	NB
P	<i>Hieracium paniculatum</i>	Panicled Hawkweed				S1	17	27.5 ± 0.0	NB
P	<i>Barbarea orthoceras</i>	American Yellow Rocket				S1	1	41.9 ± 1.0	NB
P	<i>Cardamine parviflora</i>	Small-flowered Bittercress				S1	19	13.0 ± 0.0	NB
P	<i>Cardamine concatenata</i>	Cut-leaved Toothwort				S1	3	72.0 ± 0.0	NB
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S1	33	5.1 ± 0.0	NB
P	<i>Draba cana</i>	Lance-leaved Draba				S1	10	87.4 ± 0.0	NB
P	<i>Draba glabella</i>	Rock Whitlow-Grass				S1	14	5.5 ± 1.0	NB
P	<i>Mononeuria groenlandica</i>	Greenland Stitchwort				S1	2	31.6 ± 0.0	NB
P	<i>Chenopodium simplex</i>	Maple-leaved Goosefoot				S1	13	55.1 ± 1.0	NB
P	<i>Blitum capitatum</i>	Strawberry-Blite				S1	4	18.5 ± 1.0	NB
P	<i>Suaeda rolandii</i>	Roland's Sea-Blite				S1	3	81.7 ± 0.0	NB
P	<i>Hypericum virginicum</i>	Virginia St. John's-wort				S1	2	15.4 ± 0.0	NB
P	<i>Corema conradii</i>	Broom Crowberry				S1	28	20.6 ± 10.0	NB
P	<i>Vaccinium boreale</i>	Northern Blueberry				S1	2	49.9 ± 0.0	NB
P	<i>Vaccinium corymbosum</i>	Highbush Blueberry				S1	2	91.2 ± 1.0	NS

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P	<i>Hylodesmum glutinosum</i>	Large Tick-trefoil			S1		14	94.4 ± 0.0	NS
P	<i>Lespedeza capitata</i>	Round-headed Bush-clover			S1		11	54.7 ± 0.0	NB
P	<i>Gentiana rubricaulis</i>	Purple-stemmed Gentian			S1		5	62.9 ± 0.0	NB
P	<i>Lomatogonium rotatum</i>	Marsh Felwort			S1		3	80.5 ± 0.0	NB
P	<i>Proserpinaca pectinata</i>	Comb-leaved Mermaidweed			S1		2	53.0 ± 0.0	NB
P	<i>Pycnanthemum virginianum</i>	Virginia Mountain Mint			S1		4	18.5 ± 0.0	NB
P	<i>Polygonum douglasii</i>	Douglas Knotweed			S1		1	51.4 ± 0.0	NB
P	<i>Lysimachia quadrifolia</i>	Whorled Yellow Loosestrife			S1		14	12.8 ± 0.0	NB
P	<i>Primula laurentiana</i>	Laurentian Primrose			S1		51	69.1 ± 0.0	NB
P	<i>Crataegus jonesiae</i>	Jones' Hawthorn			S1		6	78.0 ± 1.0	NB
P	<i>Potentilla canadensis</i>	Canada Cinquefoil			S1		2	74.5 ± 0.0	NB
P	<i>Rubus flagellaris</i>	Northern Dewberry			S1		7	24.0 ± 1.0	NB
P	<i>Galium brevipes</i>	Limestone Swamp Bedstraw			S1		2	18.7 ± 0.0	NB
P	<i>Saxifraga paniculata</i> ssp. <i>laestadii</i>	Laestadius' Saxifrage			S1		47	5.1 ± 10.0	NB
P	<i>Agalinis tenuifolia</i>	Slender Agalinis			S1		9	74.1 ± 0.0	NB
P	<i>Gratiola lutea</i>	Golden Hedge-hyssop			S1		2	30.7 ± 0.0	NB
P	<i>Pedicularis canadensis</i>	Canada Lousewort			S1		4	70.8 ± 0.0	NB
P	<i>Viola sagittata</i> var. <i>ovata</i>	Arrow-Leaved Violet			S1		44	77.4 ± 0.0	NS
P	<i>Carex atlantica</i> ssp. <i>atlantica</i>	Atlantic Sedge			S1		1	56.2 ± 0.0	NB
P	<i>Carex backii</i>	Rocky Mountain Sedge			S1		9	50.6 ± 0.0	NB
P	<i>Carex merritt-feraldii</i>	Merritt Fernald's Sedge			S1		3	86.1 ± 0.0	NB
P	<i>Carex salina</i>	Saltmarsh Sedge			S1		2	21.9 ± 1.0	NB
P	<i>Carex scirpoidea</i>	Scirpuslike Sedge			S1		6	48.5 ± 0.0	NB
P	<i>Carex waponahkikensis</i>	Dawn-land Sedge			S1		1	99.8 ± 0.0	NB
P	<i>Carex sterilis</i>	Sterile Sedge			S1		2	84.5 ± 2.0	NB
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge			S1		13	22.1 ± 0.0	NB
P	<i>Carex saxatilis</i>	Russet Sedge			S1		14	4.3 ± 10.0	NB
P	<i>Cyperus diandrus</i>	Low Flatsedge			S1		7	74.1 ± 1.0	NB
P	<i>Rhynchospora capillacea</i>	Slender Beakrush			S1		3	91.0 ± 0.0	NB
P	<i>Scirpus pendulus</i>	Hanging Bulrush			S1		6	51.2 ± 0.0	NB
P	<i>Sisyrinchium angustifolium</i>	Narrow-leaved Blue-eyed-grass			S1		14	22.0 ± 1.0	NB
P	<i>Juncus greenii</i>	Greene's Rush			S1		1	64.4 ± 0.0	NB
P	<i>Juncus subtilis</i>	Creeping Rush			S1		1	31.7 ± 5.0	NB
P	<i>Allium canadense</i>	Canada Garlic			S1		11	18.8 ± 0.0	NB
P	<i>Goodyera pubescens</i>	Downy Rattlesnake-Plantain			S1		16	61.8 ± 0.0	NB
P	<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	North American White Adder's-mouth			S1		2	78.6 ± 0.0	NS
P	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid			S1		27	56.3 ± 0.0	NB
P	<i>Platanthera macrophylla</i>	Large Round-Leaved Orchid			S1		11	40.6 ± 0.0	NB
P	<i>Spiranthes casei</i>	Case's Ladies'-Tresses			S1		6	87.7 ± 0.0	NB
P	<i>Bromus pubescens</i>	Hairy Wood Brome Grass			S1		6	53.2 ± 0.0	NB
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass			S1		37	26.4 ± 0.0	NB
P	<i>Danthonia compressa</i>	Flattened Oat Grass			S1		20	51.3 ± 1.0	NB
P	<i>Dichanthelium dichotomum</i>	Forked Panic Grass			S1		1	9.1 ± 1.0	NB
P	<i>Glyceria obtusa</i>	Atlantic Manna Grass			S1		3	52.5 ± 0.0	NB
P	<i>Sporobolus compositus</i>	Rough Dropseed			S1		17	90.0 ± 1.0	NB
P	<i>Potamogeton friesii</i>	Fries' Pondweed			S1		6	20.8 ± 5.0	NB
P	<i>Potamogeton nodosus</i>	Long-leaved Pondweed			S1		8	47.3 ± 0.0	NB
P	<i>Potamogeton strictifolius</i>	Straight-leaved Pondweed			S1		2	2.8 ± 0.0	NB
P	<i>Xyris difformis</i>	Bog Yellow-eyed-grass			S1		5	15.4 ± 0.0	NB
P	<i>Asplenium ruta-muraria</i> var. <i>cryptolepis</i>	Wallrue Spleenwort			S1		4	5.1 ± 0.0	NB
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern			S1		1	50.6 ± 1.0	NB
P	<i>Dryopteris clintoniana</i>	Clinton's Wood Fern			S1		1	97.4 ± 0.0	NB

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P	<i>Dryopteris filix-mas</i> ssp. <i>brittonii</i>	Britton's Male Fern				S1	2	98.4 ± 1.0	NB
P	<i>Huperzia selago</i>	Northern Firmoss				S1	1	77.9 ± 1.0	NS
P	<i>Sceptridium oneidense</i>	Blunt-lobed Moonwort				S1	4	54.2 ± 0.0	NB
P	<i>Sceptridium rugulosum</i>	Rugulose Grapefern				S1	1	90.3 ± 1.0	NB
P	<i>Selaginella rupestris</i>	Rock Spikemoss				S1	40	50.7 ± 1.0	NB
P	<i>Cuscuta campestris</i>	Field Dodder				S1?	3	54.0 ± 5.0	NB
P	<i>Polygonum aviculare</i> ssp. <i>neglectum</i>	Narrow-leaved Knotweed				S1?	4	78.0 ± 0.0	NB
P	<i>Alisma subcordatum</i>	Southern Water Plantain				S1?	4	11.6 ± 0.0	NB
P	<i>Carex laxiflora</i>	Loose-Flowered Sedge				S1?	2	78.1 ± 7.0	NS
P	<i>Wolffia columbiana</i>	Columbian Watermeal				S1?	7	56.3 ± 0.0	NB
P	<i>Euphrasia farlowii</i>	Farlow's Eyebright				S1S2	1	87.7 ± 1.0	NB
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses				S1S2	8	52.4 ± 0.0	NB
P	<i>Potamogeton bicupulatus</i>	Snailseed Pondweed				S1S2	5	37.2 ± 0.0	NB
P	<i>Eriophorum russeolum</i> ssp. <i>albidum</i>	Smooth-fruited Russet Cottongrass				S1S3	4	91.0 ± 0.0	NB
P	<i>Spiranthes cernua</i>	Nodding Ladies'-Tresses				S1S3	28	53.5 ± 1.0	NB
P	<i>Spiranthes arcisepala</i>	Appalachian Ladies'-tresses				S1S3	12	27.8 ± 0.0	NB
P	<i>Neottia bifolia</i>	Southern Twayblade			Endangered	S2	20	69.7 ± 0.0	NB
P	<i>Sanicula trifoliata</i>	Large-Fruited Sanicle				S2	1	16.6 ± 5.0	NB
P	<i>Sanicula odorata</i>	Clustered Sanicle				S2	1	96.4 ± 0.0	NB
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S2	14	68.5 ± 0.0	NB
P	<i>Betula minor</i>	Dwarf White Birch				S2	1	97.5 ± 0.0	NB
P	<i>Atriplex glabriuscula</i> var. <i>franktonii</i>	Frankton's Saltbush				S2	7	34.3 ± 1.0	NB
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort				S2	3	60.3 ± 0.0	NB
P	<i>Viburnum dentatum</i>	Southern Arrow-Wood				S2	2	79.6 ± 0.0	NB
P	<i>Viburnum dentatum</i> var. <i>lucidum</i>	Northern Arrow-Wood				S2	2	74.6 ± 0.0	NB
P	<i>Astragalus eucosmus</i>	Elegant Milk-vetch				S2	10	6.2 ± 0.0	NB
P	<i>Quercus macrocarpa</i>	Bur Oak				S2	177	16.9 ± 1.0	NB
P	<i>Nuphar x rubrodisca</i>	Red-disk Yellow Pond-lily				S2	13	14.0 ± 0.0	NB
P	<i>Polygaloides paucifolia</i>	Fringed Milkwort				S2	19	57.1 ± 1.0	NB
P	<i>Persicaria amphibia</i> var. <i>emersa</i>	Long-root Smartweed				S2	61	9.4 ± 0.0	NB
P	<i>Micranthes virginensis</i>	Early Saxifrage				S2	14	87.6 ± 0.0	NB
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort				S2	5	14.9 ± 5.0	NB
P	<i>Carex cephaloidea</i>	Thin-leaved Sedge				S2	2	99.2 ± 0.0	NB
P	<i>Carex albicans</i> var. <i>emmonsii</i>	White-tinged Sedge				S2	9	22.7 ± 0.0	NB
P	<i>Cyperus lupulinus</i> ssp. <i>macilentus</i>	Hop Flatsedge				S2	69	50.0 ± 0.0	NB
P	<i>Calypso bulbosa</i> var. <i>americana</i>	Calypso				S2	7	8.0 ± 0.0	NB
P	<i>Coeloglossum viride</i>	Long-bracted Frog Orchid				S2	10	18.8 ± 5.0	NB
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	4	5.3 ± 1.0	NB
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid				S2	4	72.6 ± 0.0	NB
P	<i>Festuca subverticillata</i>	Nodding Fescue				S2	2	82.8 ± 1.0	NS
P	<i>Puccinellia nutkaensis</i>	Alaska Alkaligrass				S2	7	26.4 ± 1.0	NB
P	<i>Diphasiastrum sitchense</i>	Sitka Ground-cedar				S2	1	99.9 ± 5.0	NB
P	<i>Schizaea pusilla</i>	Little Curlygrass Fern				S2	32	32.4 ± 0.0	NB
P	<i>Coryphopteris simulata</i>	Bog Fern				S2	32	56.2 ± 0.0	NB
P	<i>Toxicodendron radicans</i> var. <i>radicans</i>	Eastern Poison Ivy				S2?	14	14.6 ± 0.0	NB
P	<i>Symphyotrichum novi-belgii</i> var. <i>crenifolium</i>	New York Aster				S2?	8	18.6 ± 0.0	NB

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P	<i>Humulus lupulus</i> var. <i>lupuloides</i>	Common Hop				S2?	4	76.8 ± 0.0	NB
P	<i>Rubus x recurvicaulis</i>	arching dewberry				S2?	5	6.7 ± 5.0	NB
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2S3	3	95.6 ± 0.0	NB
P	<i>Symphotrichum racemosum</i>	Small White Aster				S2S3	11	17.0 ± 0.0	NB
P	<i>Alnus serrulata</i>	Smooth Alder				S2S3	12	34.3 ± 0.0	NB
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S2S3	2	6.4 ± 0.0	NB
P	<i>Gentiana linearis</i>	Narrow-Leaved Gentian				S2S3	5	80.1 ± 5.0	NB
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	58	4.1 ± 1.0	NB
P	<i>Aphyllon uniflorum</i>	One-flowered Broomrape				S2S3	17	4.4 ± 1.0	NB
P	<i>Polygala senega</i>	Seneca Snakeroot				S2S3	2	99.2 ± 1.0	NB
P	<i>Persicaria careyi</i>	Carey's Smartweed				S2S3	17	9.1 ± 5.0	NB
P	<i>Hepatica americana</i>	Round-lobed Hepatica				S2S3	37	36.8 ± 1.0	NB
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S2S3	6	25.0 ± 0.0	NB
P	<i>Cephalanthus occidentalis</i>	Common Buttonbush				S2S3	22	46.3 ± 0.0	NB
P	<i>Galium obtusum</i>	Blunt-leaved Bedstraw				S2S3	6	18.7 ± 0.0	NB
P	<i>Euphrasia randii</i>	Rand's Eyebright				S2S3	20	37.7 ± 0.0	NB
P	<i>Dirca palustris</i>	Eastern Leatherwood				S2S3	16	56.9 ± 1.0	NB
P	<i>Phryma leptostachya</i>	American Lopseed				S2S3	4	93.2 ± 1.0	NB
P	<i>Verbena urticifolia</i>	White Vervain				S2S3	17	87.5 ± 2.0	NB
P	<i>Viola novae-angliae</i>	New England Violet				S2S3	15	13.3 ± 0.0	NB
P	<i>Carex comosa</i>	Bearded Sedge				S2S3	7	82.3 ± 0.0	NS
P	<i>Carex rostrata</i>	Narrow-leaved Beaked Sedge				S2S3	2	16.5 ± 0.0	NB
P	<i>Carex vacillans</i>	Estuarine Sedge				S2S3	3	86.9 ± 1.0	NB
P	<i>Juncus ranarius</i>	Seaside Rush				S2S3	1	18.7 ± 0.0	NB
P	<i>Allium tricoccum</i>	Wild Leek				S2S3	62	7.7 ± 0.0	NB
P	<i>Corallorhiza maculata</i> var. <i>occidentalis</i>	Spotted Coralroot				S2S3	13	66.2 ± 1.0	NB
P	<i>Corallorhiza maculata</i> var. <i>maculata</i>	Spotted Coralroot				S2S3	8	30.4 ± 1.0	NB
P	<i>Elymus canadensis</i>	Canada Wild Rye				S2S3	18	18.7 ± 0.0	NB
P	<i>Piptatheropsis canadensis</i>	Canada Ricegrass				S2S3	6	47.0 ± 0.0	NB
P	<i>Puccinellia phryganodes</i> ssp. <i>neoarctica</i>	Creeping Alkali Grass				S2S3	10	51.1 ± 0.0	NB
P	<i>Poa glauca</i>	Glaucous Blue Grass				S2S3	18	20.8 ± 2.0	NB
P	<i>Piptatheropsis pungens</i>	Slender Ricegrass				S2S3	5	80.6 ± 0.0	NB
P	<i>Potamogeton vaseyi</i>	Vasey's Pondweed				S2S3	6	20.8 ± 1.0	NB
P	<i>Isoetes tuckermanii</i> ssp. <i>acadiensis</i>	Acadian Quillwort				S2S3	9	56.6 ± 0.0	NB
P	<i>Panax trifolius</i>	Dwarf Ginseng				S3	31	23.1 ± 0.0	NB
P	<i>Artemisia campestris</i> ssp. <i>caudata</i>	Tall Wormwood				S3	152	18.7 ± 0.0	NB
P	<i>Artemisia campestris</i>	Field Wormwood				S3	5	56.7 ± 0.0	NB
P	<i>Nabalus racemosus</i>	Glaucous Rattlesnakeroot				S3	76	6.6 ± 1.0	NB
P	<i>Solidago racemosa</i>	Racemose Goldenrod				S3	14	89.2 ± 0.0	NB
P	<i>Tanacetum bipinnatum</i> ssp. <i>huronense</i>	Lake Huron Tansy				S3	25	9.2 ± 1.0	NB
P	<i>Ionactis linariifolia</i>	Flax-leaved Aster				S3	1	85.1 ± 0.0	NB
P	<i>Pseudognaphalium macounii</i>	Macoun's Cudweed				S3	7	20.8 ± 0.0	NB
P	<i>Impatiens pallida</i>	Pale Jewelweed				S3	10	48.9 ± 0.0	NB
P	<i>Turritis glabra</i>	Tower Mustard				S3	2	18.7 ± 0.0	NB
P	<i>Arabis pycnocarpa</i>	Cream-flowered Rockcross				S3	24	12.9 ± 1.0	NB
P	<i>Cardamine maxima</i>	Large Toothwort				S3	47	8.3 ± 0.0	NB
P	<i>Boechera stricta</i>	Drummond's Rockcross				S3	25	16.5 ± 0.0	NB
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S3	25	18.7 ± 0.0	NB
P	<i>Sagina nodosa</i> ssp. <i>borealis</i>	Knotted Pearlwort				S3	2	38.1 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S3	15	25.6 ± 0.0	NB
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S3	10	18.7 ± 0.0	NB
P	<i>Oxybasis rubra</i>	Red Goosefoot				S3	4	16.8 ± 1.0	NB
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath				S3	4	18.7 ± 0.0	NB
P	<i>Cornus obliqua</i>	Silky Dogwood				S3	100	12.7 ± 0.0	NB
P	<i>Lonicera oblongifolia</i>	Swamp Fly Honeysuckle				S3	1	34.0 ± 6.0	NB
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S3	13	86.2 ± 0.0	NB
P	<i>Viburnum lentago</i>	Nannyberry				S3	15	73.6 ± 0.0	NB
P	<i>Rhodiola rosea</i>	Roseroot				S3	130	5.0 ± 1.0	NB
P	<i>Astragalus alpinus</i>	Alpine Milk-vetch				S3	2	18.7 ± 0.0	NB
P	<i>Astragalus alpinus var. brunetianus</i>	Alpine Milk-Vetch				S3	3	89.3 ± 0.0	NB
P	<i>Oxytropis campestris var. johannensis</i>	Field Locoweed				S3	36	6.0 ± 50.0	NB
P	<i>Bartonia paniculata</i>	Branched Bartonia				S3	1	56.3 ± 0.0	NB
P	<i>Bartonia paniculata ssp. iodandra</i>	Branched Bartonia				S3	39	32.4 ± 0.0	NB
P	<i>Gentianella amarella ssp. acuta</i>	Northern Gentian				S3	3	19.9 ± 0.0	NB
P	<i>Geranium bicknellii</i>	Bicknell's Crane's-bill				S3	23	15.7 ± 0.0	NB
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S3	18	18.0 ± 0.0	NB
P	<i>Myriophyllum humile</i>	Low Water Milfoil				S3	9	58.7 ± 1.0	NB
P	<i>Myriophyllum quitense</i>	Andean Water Milfoil				S3	71	2.8 ± 0.0	NB
P	<i>Proserpinaca palustris</i>	Marsh Mermaidweed				S3	25	18.1 ± 0.0	NB
P	<i>Utricularia resupinata</i>	Inverted Bladderwort				S3	19	10.7 ± 1.0	NB
P	<i>Fraxinus pennsylvanica</i>	Red Ash				S3	145	4.0 ± 1.0	NB
P	<i>Rumex pallidus</i>	Seabeach Dock				S3	11	18.8 ± 0.0	NB
P	<i>Rumex occidentalis</i>	Western Dock				S3	1	75.8 ± 1.0	NB
P	<i>Podostemum ceratophyllum</i>	Horn-leaved Riverweed				S3	8	51.9 ± 0.0	NB
P	<i>Primula mistassinica</i>	Mistassini Primrose				S3	13	5.0 ± 0.0	NB
P	<i>Pyrola minor</i>	Lesser Pyrola				S3	6	43.4 ± 1.0	NB
P	<i>Anemone multifida</i>	Cut-leaved Anemone				S3	1	91.8 ± 0.0	NB
P	<i>Clematis occidentalis</i>	Purple Clematis				S3	31	14.5 ± 5.0	NB
P	<i>Ranunculus flabellaris</i>	Yellow Water Buttercup				S3	18	29.4 ± 0.0	NB
P	<i>Amelanchier canadensis</i>	Canada Serviceberry				S3	22	5.1 ± 1.0	NB
P	<i>Crataegus scabrada</i>	Rough Hawthorn				S3	9	5.7 ± 0.0	NB
P	<i>Rubus occidentalis</i>	Black Raspberry				S3	25	16.4 ± 0.0	NB
P	<i>Salix candida</i>	Sage Willow				S3	2	96.2 ± 1.0	NB
P	<i>Salix myricoides</i>	Bayberry Willow				S3	7	70.6 ± 0.0	NB
P	<i>Salix nigra</i>	Black Willow				S3	182	4.8 ± 1.0	NB
P	<i>Salix interior</i>	Sandbar Willow				S3	34	18.7 ± 0.0	NB
P	<i>Comandra umbellata</i>	Bastard's Toadflax				S3	2	18.7 ± 0.0	NB
P	<i>Agalinis purpurea var. parviflora</i>	Small-flowered Purple False Foxglove				S3	11	5.3 ± 1.0	NB
P	<i>Viola adunca</i>	Hooked Violet				S3	12	18.7 ± 0.0	NB
P	<i>Symplocarpus foetidus</i>	Eastern Skunk Cabbage				S3	82	4.9 ± 0.0	NB
P	<i>Carex adusta</i>	Lesser Brown Sedge				S3	12	18.6 ± 1.0	NB
P	<i>Carex arcta</i>	Northern Clustered Sedge				S3	55	18.7 ± 0.0	NB
P	<i>Carex conoidea</i>	Field Sedge				S3	24	5.8 ± 1.0	NB
P	<i>Carex garberi</i>	Garber's Sedge				S3	4	5.8 ± 0.0	NB
P	<i>Carex granularis</i>	Limestone Meadow Sedge				S3	7	48.9 ± 5.0	NB
P	<i>Carex gynocrates</i>	Northern Bog Sedge				S3	1	51.3 ± 1.0	NB
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S3	5	25.0 ± 0.0	NB
P	<i>Carex livida</i>	Livid Sedge				S3	2	6.6 ± 0.0	NB
P	<i>Carex ormostachya</i>	Necklace Spike Sedge				S3	10	45.4 ± 1.0	NB
P	<i>Carex plantaginea</i>	Plantain-Leaved Sedge				S3	5	73.6 ± 0.0	NB
P	<i>Carex prairea</i>	Prairie Sedge				S3	1	97.4 ± 5.0	NS

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P	<i>Carex rosea</i>	Rosy Sedge				S3	36	5.7 ± 0.0	NB
P	<i>Carex sprengei</i>	Longbeak Sedge				S3	4	44.5 ± 0.0	NB
P	<i>Carex tenuiflora</i>	Sparse-Flowered Sedge				S3	2	81.1 ± 10.0	NB
P	<i>Carex vaginata</i>	Sheathed Sedge				S3	1	94.7 ± 0.0	NB
P	<i>Cyperus esculentus</i>	Perennial Yellow Nutsedge				S3	2	56.2 ± 0.0	NB
P	<i>Cyperus esculentus</i> var. <i>leptostachyus</i>	Perennial Yellow Nutsedge				S3	84	16.6 ± 0.0	NB
P	<i>Cyperus squarrosus</i>	Awed Flatsedge				S3	46	13.4 ± 0.0	NB
P	<i>Eriophorum gracile</i>	Slender Cottongrass				S3	9	23.6 ± 0.0	NB
P	<i>Blysmopsis rufa</i>	Red Bulrush				S3	3	18.7 ± 0.0	NB
P	<i>Elodea nuttallii</i>	Nuttall's Waterweed				S3	7	13.1 ± 0.0	NB
P	<i>Juncus vaseyi</i>	Vasey Rush				S3	6	76.4 ± 0.0	NB
P	<i>Najas gracillima</i>	Thread-Like Naiad				S3	11	54.0 ± 0.0	NB
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S3	8	11.1 ± 1.0	NB
P	<i>Neottia auriculata</i>	Auricled Twayblade				S3	9	24.0 ± 1.0	NB
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	63	20.1 ± 0.0	NB
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid				S3	13	11.2 ± 2.0	NB
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S3	14	6.0 ± 0.0	NB
P	<i>Agrostis mertensii</i>	Northern Bent Grass				S3	1	87.7 ± 1.0	NB
P	<i>Bromus latiglumis</i>	Broad-Grumed Brome				S3	23	48.7 ± 2.0	NB
P	<i>Dichanthelium linearifolium</i>	Narrow-leaved Panic Grass				S3	14	39.6 ± 0.0	NB
P	<i>Leersia virginica</i>	White Cut Grass				S3	42	29.1 ± 0.0	NB
P	<i>Muhlenbergia richardsonis</i>	Mat Muhly				S3	9	90.0 ± 0.0	NB
P	<i>Schizachyrium scoparium</i>	Little Bluestem				S3	54	13.4 ± 0.0	NB
P	<i>Zizania aquatica</i>	Southern Wild Rice				S3	2	18.7 ± 0.0	NB
P	<i>Zizania aquatica</i> var. <i>aquatica</i>	Eastern Wild Rice				S3	5	26.3 ± 0.0	NB
P	<i>Adiantum pedatum</i>	Northern Maidenhair Fern				S3	18	18.7 ± 0.0	NB
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S3	26	18.7 ± 0.0	NB
P	<i>Anchistea virginica</i>	Virginia chain fern				S3	13	80.4 ± 0.0	NB
P	<i>Dryopteris goldieana</i>	Goldie's Woodfern				S3	7	92.6 ± 5.0	NB
P	<i>Woodsia alpina</i>	Alpine Cliff Fern				S3	12	5.1 ± 0.0	NB
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S3	67	24.3 ± 1.0	NB
P	<i>Isoetes tuckermanii</i> ssp. <i>tuckermanii</i>	Tuckerman's Quillwort				S3	27	26.2 ± 1.0	NB
P	<i>Diphasiastrum x sabinifolium</i>	Savin-leaved Ground-cedar				S3	19	18.7 ± 0.0	NB
P	<i>Huperzia appressa</i>	Mountain Firmoss				S3	38	16.8 ± 1.0	NB
P	<i>Scopridium dissectum</i>	Dissected Moonwort				S3	29	2.7 ± 0.0	NB
P	<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Narrow Triangle Moonwort				S3	16	18.7 ± 0.0	NB
P	<i>Botrychium simplex</i>	Least Moonwort				S3	8	70.3 ± 0.0	NB
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S3	10	20.7 ± 1.0	NB
P	<i>Selaginella selaginoides</i>	Low Spikemoss				S3	12	20.8 ± 6.0	NB
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S3?	16	6.5 ± 1.0	NB
P	<i>Crataegus succulenta</i>	Fleshy Hawthorn				S3?	1	80.6 ± 5.0	NB
P	<i>Platanthera hookeri</i>	Hooker's Orchid				S3?	32	16.2 ± 0.0	NB
P	<i>Bidens hyperborea</i>	Estuary Beggarticks				S3S4	1	18.7 ± 0.0	NB
P	<i>Solidago altissima</i>	Tall Goldenrod				S3S4	5	5.8 ± 1.0	NB
P	<i>Symphotrichum boreale</i>	Boreal Aster				S3S4	13	5.0 ± 1.0	NB
P	<i>Betula pumila</i>	Bog Birch				S3S4	22	18.7 ± 0.0	NB
P	<i>Mertensia maritima</i>	Sea Lungwort				S3S4	43	18.5 ± 0.0	NB
P	<i>Subularia aquatica</i> ssp. <i>americana</i>	American Water Awlwort				S3S4	14	42.7 ± 0.0	NB
P	<i>Lobelia cardinalis</i>	Cardinal Flower				S3S4	283	18.7 ± 0.0	NB
P	<i>Callitriche hermaphroditica</i>	Northern Water-starwort				S3S4	10	10.7 ± 1.0	NB
P	<i>Viburnum edule</i>	Squashberry				S3S4	17	18.7 ± 0.0	NB
P	<i>Crassula aquatica</i>	Water Pygmyweed				S3S4	3	30.4 ± 0.0	NB
P	<i>Penthorum sedoides</i>	Ditch Stonecrop				S3S4	92	14.2 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Elatine americana</i>	American Waterwort				S3S4	7	6.3 ± 0.0	NB
P	<i>Hedysarum americanum</i>	Alpine Hedysarum				S3S4	3	7.2 ± 0.0	NB
P	<i>Fagus grandifolia</i>	American Beech				S3S4	328	4.0 ± 1.0	NB
P	<i>Geranium robertianum</i>	Herb Robert				S3S4	54	4.1 ± 1.0	NB
P	<i>Stachys hispida</i>	Smooth Hedge-Nettle				S3S4	12	8.0 ± 0.0	NB
P	<i>Stachys pilosa</i>	Hairy Hedge-Nettle				S3S4	7	11.4 ± 0.0	NB
P	<i>Teucrium canadense</i>	Canada Germander				S3S4	3	81.9 ± 5.0	NS
P	<i>Utricularia radiata</i>	Little Floating Bladderwort				S3S4	38	25.7 ± 0.0	NB
P	<i>Utricularia gibba</i>	Humped Bladderwort				S3S4	31	16.2 ± 0.0	NB
P	<i>Fraxinus americana</i>	White Ash				S3S4	208	5.0 ± 0.0	NB
P	<i>Epilobium strictum</i>	Downy Willowherb				S3S4	21	8.4 ± 0.0	NB
P	<i>Fallopia scandens</i>	Climbing False Buckwheat				S3S4	47	7.1 ± 0.0	NB
P	<i>Littorella americana</i>	American Shoreweed				S3S4	26	7.7 ± 0.0	NB
P	<i>Thalictrum confine</i>	Northern Meadow-rue				S3S4	88	5.9 ± 0.0	NB
P	<i>Drymocallis arguta</i>	Tall Wood Beauty				S3S4	32	6.1 ± 0.0	NB
P	<i>Rosa palustris</i>	Swamp Rose				S3S4	50	6.7 ± 5.0	NB
P	<i>Rubus pensilvanicus</i>	Pennsylvania Blackberry				S3S4	29	19.1 ± 0.0	NB
P	<i>Sanguisorba canadensis</i>	Canada Burnet				S3S4	17	76.7 ± 0.0	NB
P	<i>Galium boreale</i>	Northern Bedstraw				S3S4	7	14.0 ± 1.0	NB
P	<i>Galium labradoricum</i>	Labrador Bedstraw				S3S4	6	68.7 ± 0.0	NB
P	<i>Salix pedicellaris</i>	Bog Willow				S3S4	52	18.1 ± 0.0	NB
P	<i>Geocalaon lividum</i>	Northern Comandra				S3S4	15	15.3 ± 0.0	NB
P	<i>Parnassia glauca</i>	Fen Grass-of-Parnassus				S3S4	2	18.7 ± 0.0	NB
P	<i>Agalinis neoscotica</i>	Nova Scotia Agalinis				S3S4	21	32.9 ± 0.0	NB
P	<i>Ulmus americana</i>	White Elm				S3S4	177	5.0 ± 1.0	NB
P	<i>Boehmeria cylindrica</i>	Small-spike False-nettle				S3S4	57	58.1 ± 0.0	NB
P	<i>Juniperus horizontalis</i>	Creeping Juniper				S3S4	29	18.7 ± 0.0	NB
P	<i>Carex capillaris</i>	Hairlike Sedge				S3S4	24	11.4 ± 0.0	NB
P	<i>Carex eburnea</i>	Bristle-leaved Sedge				S3S4	18	16.0 ± 0.0	NB
P	<i>Carex exilis</i>	Coastal Sedge				S3S4	111	5.9 ± 0.0	NB
P	<i>Carex haydenii</i>	Hayden's Sedge				S3S4	97	12.7 ± 0.0	NB
P	<i>Carex lupulina</i>	Hop Sedge				S3S4	94	12.5 ± 0.0	NB
P	<i>Carex tenera</i>	Tender Sedge				S3S4	63	14.3 ± 0.0	NB
P	<i>Carex wiegandii</i>	Wiegand's Sedge				S3S4	146	22.9 ± 0.0	NB
P	<i>Carex recta</i>	Estuary Sedge				S3S4	12	34.7 ± 0.0	NB
P	<i>Carex atratifomis</i>	Scabrous Black Sedge				S3S4	2	18.7 ± 0.0	NB
P	<i>Cladium mariscoides</i>	Smooth Twigrush				S3S4	60	8.5 ± 0.0	NB
P	<i>Cyperus dentatus</i>	Toothed Flatsedge				S3S4	229	7.5 ± 5.0	NB
P	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush				S3S4	9	5.8 ± 0.0	NB
P	<i>Rhynchospora capitellata</i>	Small-headed Beakrush				S3S4	22	50.8 ± 0.0	NB
P	<i>Trichophorum clintonii</i>	Clinton's Clubrush				S3S4	50	11.4 ± 0.0	NB
P	<i>Bolboschoenus fluviatilis</i>	River Bulrush				S3S4	59	8.9 ± 0.0	NB
P	<i>Triglochin gaspensis</i>	Gasp  – Arrowgrass				S3S4	20	25.1 ± 1.0	NB
P	<i>Lilium canadense</i>	Canada Lily				S3S4	99	6.8 ± 2.0	NB
P	<i>Triantha glutinosa</i>	Sticky False-Asphodel				S3S4	10	5.8 ± 0.0	NB
P	<i>Corallorhiza maculata</i>	Spotted Coralroot				S3S4	28	15.3 ± 1.0	NB
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3S4	19	5.1 ± 0.0	NB
P	<i>Neottia cordata</i>	Heart-leaved Twayblade				S3S4	16	18.7 ± 0.0	NB
P	<i>Platanthera obtusata</i>	Blunt-leaved Orchid				S3S4	30	16.2 ± 2.0	NB
P	<i>Calamagrostis pickeringii</i>	Pickering's Reed Grass				S3S4	148	6.6 ± 0.0	NB
P	<i>Calamagrostis stricta</i>	Slim-stemmed Reed Grass				S3S4	8	16.3 ± 0.0	NB
P	<i>Eragrostis pectinacea</i>	Tufted Love Grass				S3S4	16	11.6 ± 0.0	NB
P	<i>Stuckenia filiformis</i>	Thread-leaved Pondweed				S3S4	7	7.3 ± 0.0	NB
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed				S3S4	11	7.3 ± 0.0	NB
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S3S4	35	14.4 ± 0.0	NB
P	<i>Xyris montana</i>	Northern Yellow-Eyed-Grass				S3S4	66	8.2 ± 0.0	NB
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S3S4	4	9.8 ± 1.0	NB
P	<i>Asplenium viride</i>	Green Spleenwort				S3S4	23	4.9 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Dryopteris fragrans</i>	Fragrant Wood Fern				S3S4	65	18.7 ± 0.0	NB
P	<i>Equisetum palustre</i>	Marsh Horsetail				S3S4	11	5.8 ± 0.0	NB
P	<i>Polypodium appalachianum</i>	Appalachian Polypody				S3S4	35	17.1 ± 1.0	NB
P	<i>Montia fontana</i>	Water Blinks				SH	3	77.8 ± 1.0	NB
P	<i>Solidago caesia</i>	Blue-stemmed Goldenrod				SX	2	18.5 ± 1.0	NB
P	<i>Celastrus scandens</i>	Climbing Bittersweet				SX	2	90.5 ± 100.0	NB
P	<i>Carex swanii</i>	Swan's Sedge				SX	80	77.9 ± 0.0	NS

## 5.1 SOURCE BIBLIOGRAPHY (100 km)

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

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391	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
376	Blaney, C.S. & Mazerolle, D.M. 2011. NB WTF Fieldwork on Magaguadavic & Lower St Croix Rivers. Atlantic Canada Conservation Data Centre, 4585 recs.
376	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
344	Blaney, C.S. 2020. Sean Blaney 2020 field data. Atlantic Canada Conservation Data Centre, 4407 records.
334	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs. <a href="https://doi.org/10.1037/arc0000014">https://doi.org/10.1037/arc0000014</a> .
306	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
300	McNeil, Jeffie. 2022. Wood Turtle GPS Tracking data, 2021. Mersey Tobetic Research Institute.
296	Chapman-Lam, C.J. 2021. Atlantic Canada Conservation Data Centre 2020 botanical fieldwork. Atlantic Canada Conservation Data Centre, 17309 recs.
296	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre, 907 recs.
269	Churchill, J.L. 2019. Atlantic Canada Conservation Data Centre Fieldwork 2019. Atlantic Canada Conservation Data Centre.
251	Eaton, S. 2014. Nova Scotia Wood Turtle Database. Environment and Climate Change Canada, 4843 recs.
246	Belliveau, A.G. 2020. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2019, 2020. E.C. Smith Herbarium.
245	Sollows, M.C., 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
244	Mazerolle, D.M. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
217	Mazerolle, D.M. 2020. Atlantic Canada Conservation Data Centre botanical fieldwork 2019. Atlantic Canada Conservation Data Centre.
204	Goltz, J.P. 2012. Field Notes, 1989-2005. , 1091 recs.
199	Nature Trust of New Brunswick. 2021. Nature Trust of New Brunswick site inventory data submitted in April 2021. Nature Trust of New Brunswick, 2189 records.
198	Churchill, J.L.; Klymko, J.D. 2016. Bird Species at Risk Inventory on the Acadia Research Forest, 2016. Atlantic Canada Conservation Data Centre, 1043 recs.
189	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.

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185	Chapman-Lam, C.J. 2022. Atlantic Canada Conservation Data Centre 2021 botanical fieldwork. Atlantic Canada Conservation Data Centre, 15099 recs.
184	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
176	Blaney, C.S.; Mazerolle, D.M.; Klymko, J.; Spicer, C.D. 2006. Fieldwork 2006. Atlantic Canada Conservation Data Centre. Sackville NB, 8399 recs.
173	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
173	Mazerolle, D.M. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 13515 recs.
172	Riley, J. 2020. Digby County lichen observations. Pers. comm. to J.L. Churchill.
170	Klymko, J. 2019. Atlantic Canada Conservation Data Centre zoological fieldwork 2018. Atlantic Canada Conservation Data Centre.
168	Klymko, J. 2020. Atlantic Canada Conservation Data Centre zoological fieldwork 2019. Atlantic Canada Conservation Data Centre.
165	Phinney, Lori. 2020. Pre- and post White-nose Syndrome bat acoustic monitoring, NS. Mersey Tobeatic Research Institute, 1279 recs.
163	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
163	Tranquilla, L. 2015. Maritimes Marsh Monitoring Project 2015 data. Bird Studies Canada, Sackville NB, 5062 recs.
161	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
160	Parks Canada. 2010. Specimens in or near National Parks in Atlantic Canada. Canadian National Museum, 3925 recs.
159	Hinds, H.R. 1986. Notes on New Brunswick plant collections. Connell Memorial Herbarium, unpubl, 739 recs.
157	iNaturalist. 2018. iNaturalist Data Export 2018. iNaturalist.org and iNaturalist.ca, Web site: 11700 recs.
148	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.
144	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
144	Epworth, W. 2012. Species at Risk records, 2009-11. Fort Folly Habitat Recovery Program, 162 recs.
141	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
131	Riley, J. 2019. Digby County lichen observations. Pers. comm. to J.L. Churchill, 50 recs.
127	Bishop, G. & Papoulias, M.; Arnold (Chaplin), M. 2005. Grand Lake Meadows field notes, Summer 2005. New Brunswick Federation of Naturalists, 1638 recs.
127	Blaney, C.S.; Mazerolle, D.M. 2012. Fieldwork 2012. Atlantic Canada Conservation Data Centre, 13,278 recs.
118	Clayden, S. Digitization of Wolfgang Maass Nova Scotia forest lichen collections, 1964-2004. New Brunswick Museum. 2018.
118	Stewart, J.I. 2010. Peregrine Falcon Surveys in New Brunswick, 2002-09. Canadian Wildlife Service, Sackville, 58 recs.
116	Richardson, Leif. 2018. Maritimes Bombus records from various sources. Richardson, Leif.
110	Bateman, M.C. 2001. Coastal Waterfowl Surveys Database, 1965-2001. Canadian Wildlife Service, Sackville, 667 recs.
107	Benedict, B. Connell Herbarium Specimen Database Download 2004. Connell Memorial Herbarium, University of New Brunswick. 2004.
107	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
106	Sollows, M.C. 2008. NBM Science Collections databases: herpetiles. New Brunswick Museum, Saint John NB, download Jan. 2008, 8636 recs.
104	iNaturalist. 2020. iNaturalist butterfly records selected for the Maritimes Butterfly Atlas. iNaturalist.
103	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
102	Blaney, C.S.; Spicer, C.D.; Popma, T.M.; Hanel, C. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 2252 recs.
100	Boyne, A.W. 2000. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 168 recs.
96	Sabine, D.L. 2005. 2001 Freshwater Mussel Surveys. New Brunswick Dept of Natural Resources & Energy, 590 recs.
90	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
86	Erskine, A.J. 1999. Maritime Nest Records Scheme (MNRS) 1937-1999. Canadian Wildlife Service, Sackville, 313 recs.
85	Blaney, C.S. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
84	Belliveau, A.G. 2018. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2018. E.C. Smith Herbarium, 6226 recs.
84	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2015. Atlantic Canada Conservation Data Centre Fieldwork 2015. Atlantic Canada Conservation Data Centre, # recs.
79	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.
78	Beardmore, T. 2017. Wood turtle data: observations May 2017. Nashwaaksis Stream, NB. Natural Resources Canada, 78 records.
78	O'Malley, Z., Z.G. Compson, J.M. Orlófske, D.J. Baird, R.A. Curry, and W.A. Monk. 2021. Riparian and in channel habitat properties linked to dragonfly emergence. Scientific Reports, 10(17665):1-12.
78	Porter, Caitlin. 2021. Field data for 2020 in various locations across the Maritimes. Atlantic Canada Conservation Data Centre, 3977 records.
76	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
72	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2014. Atlantic Canada Conservation Data Centre Fieldwork 2014. Atlantic Canada Conservation Data Centre, # recs.
67	Cowie, Faye. 2007. Surveyed Lakes in New Brunswick. Canadian Rivers Institute, 781 recs.
67	Honeyman, K. 2019. Unique Areas Database, 2018. J.D. Irving Ltd.
64	Belliveau, A.G., Churchill, J.L. 2019. Compilation of flora and fauna observation records from Isle Haute, Nova Scotia. Acadia University; Atlantic Canada Conservation Data Centre, 522 recs.
64	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: <a href="http://luxor.acadiau.ca/library/Herbarium/project/">http://luxor.acadiau.ca/library/Herbarium/project/</a> . 582 recs.
62	Klymko, J. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre.
62	Robinson, S.L. 2015. 2014 field data.
60	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 333.
59	Klymko, John. 2022. Atlantic Canada Conservation Data Centre zoological fieldwork 2021. Atlantic Canada Conservation Data Centre.
58	McAlpine, D.F. 1998. NBM Science Collections: Wood Turtle records. New Brunswick Museum, Saint John NB, 329 recs.
56	Brazner, J. 2016. Nova Scotia Forested Wetland Bird Surveys. Nova Scotia Department of Lands and Forestry.
55	Klymko, J.J.D. 2016. 2015 field data. Atlantic Canada Conservation Data Centre.
52	Blaney, C.S. 2019. Sean Blaney 2019 field data. Atlantic Canada Conservation Data Centre, 4407 records.
50	McLean, K. 2020. Species occurrence records from Clean Annapolis River Project fieldwork in 2020. Clean Annapolis River Project, 206 records.
49	Neily, T.H. 2019. Tom Neily NS Bryophyte records (2009-2013). T.H. Neily, Atlantic Canada Conservation Data Centre, 1029 specimen records.

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49	Speers, L. 2008. Butterflies of Canada database: New Brunswick 1897-1999. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 2048 recs.
49	Wisniowski, C. & Dowding, A. 2019. NB species occurrence data for 2016-2018. Nature Trust of New Brunswick.
48	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
48	Sabine, M. 2016. Black Ash records from the NB DNR Forest Development Survey. New Brunswick Department of Natural Resources.
44	McNeil, J.A. 2016. Blandings Turtle ( <i>Emydoidea blandingii</i> ), Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ), Wood Turtle ( <i>Glyptemys insculpta</i> ), and Snapping Turtle ( <i>Chelydra serpentina</i> ) sightings, 2016. Mersey Tobeatic Research Institute, 774 records.
44	Paquet, Julie. 2019. Atlantic Canada Shorebird Survey ACSS database for 2019. Environment Canada, Canadian Wildlife Service.
41	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
41	McAlpine, D.F. 1998. NBM Science Collections databases to 1998. New Brunswick Museum, Saint John NB, 241 recs.
41	Patrick, Allison. 2021. Animal and plant records from NCC properties from 2019 and 2020. Nature Conservancy Canada.
41	Thomas, A.W. 1996. A preliminary atlas of the butterflies of New Brunswick. New Brunswick Museum.
41	Wissink, R. 2006. Fundy National Park Digital Database. Parks Canada, 41 recs.
40	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
38	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2009. New Brunswick Dept Natural Resources, 19 recs (14 active).
38	McLean, K. 2019. Wood Turtle observations . Clean Annapolis River Project.
37	Porter, Caitlin. 2020. Observations for 26 EcoGifts sites in southwest New Brunswick. Atlantic Canada Conservation Data Centre, 1073 records.
36	Cowie, F. 2007. Electrofishing Population Estimates 1979-98. Canadian Rivers Institute, 2698 recs.
36	Wisniowski, C. & Dowding, A. 2020. NB species occurrence data for 2020. Nature Trust of New Brunswick.
35	Blaney, C.S.; Mazerolle, D.M. 2010. Fieldwork 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 15508 recs.
32	McNeil, J.A. 2018. Wood Turtle records, 2018. Mersey Tobeatic Research Institute, 68 recs.
31	Jobin, C. & Clow, A., Van Dijk, J. 2019. Eastern Waterfan data, Mount Allison Fundy Field Camp 2019. Chapman, C.J. (ed.) Fundy National Park and Mount Allison University, 31 recs.
31	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
31	Scott, F.W. 2002. Nova Scotia Herpetofauna Atlas Database. Acadia University, Wolfville NS, 8856 recs.
30	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
29	Mazerolle, D.M. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
28	Klymko, J.J.D.; Robinson, S.L. 2014. 2013 field data. Atlantic Canada Conservation Data Centre.
28	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
27	East Coast Aquatics Inc. 2021. Species at Risk records from Spicer North Mountain Quarry Expansion Environmental Assessment. East Coast Aquatics, 44 records.
27	Robinson, Sarah. 2022. Winter bird observations at Woodward's Cove, NB. CBCL.
26	Hinds, H.R. 1999. Connell Herbarium Database. University New Brunswick, Fredericton, 131 recs.
25	Benedict, B. Connell Herbarium Specimens, Digital photos. University New Brunswick, Fredericton. 2005.
24	Beardmore, T. 2017. 2017 Butternut observations. Natural Resources Canada.
24	Spicer, C.D. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 211 recs.
23	Mills, E. Connell Herbarium Specimens, 1957-2009. University New Brunswick, Fredericton. 2012.
22	McLean, K. 2020. Wood Turtle observations . Clean Annapolis River Project.
22	Sollows, M.C., 2009. NBM Science Collections databases: Coccinellid & Cerambycid Beetles. New Brunswick Museum, Saint John NB, download Feb. 2009, 569 recs.
21	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
21	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
21	Pike, E., Tingley, S. & Christie, D.S. 2000. Nature NB Listserve. University of New Brunswick, listserv.unb.ca/archives/naturenb. 68 recs.
21	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.
20	Chapman, C.J. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 11171 recs.
20	McLean, K. 2019. Species At Risk observations. Clean Annapolis River Project.
19	Staicer, C. 2021. Additional compiled Nova Scotia Species at Risk bird records, 2005-2020. Dalhousie University.
18	Basquill, S.P., Porter, C. 2019. Bryophyte and lichen specimens submitted to the E.C. Smith Herbarium. NS Department of Lands and Forestry.
18	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.
18	Tingley, S. (compiler). 2001. Butterflies of New Brunswick . Web site: www.geocities.com/Yosemite/8425/buttrfly. 142 recs.
18	Wilhelm, S.I. et al. 2019. Colonial Waterbird Database. Canadian Wildlife Service.
17	Epworth, W. 2013. Species at Risk records, 2013. Fort Folly Habitat Recovery Program, 27 recs.
17	Munro, Marian K. Tracked lichen specimens, Nova Scotia Provincial Museum of Natural History Herbarium. Atlantic Canada Conservation Data Centre. 2019.
16	Klymko, J.J.D. 2016. 2014 field data. Atlantic Canada Conservation Data Centre.
16	LaPaix, R.W.; Crowell, M.J.; MacDonald, M.; Neily, T.D.; Quinn, G. 2017. Stantec Nova Scotia rare plant records, 2012-2016. Stantec Consulting.
15	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2000.
15	Caissie, A. Herbarium Records. Fundy National Park, Alma NB. 1961-1993.
15	Clayden, S.R. 2005. Confidential supplement to Status Report on Ghost Antler Lichen ( <i>Pseudevernia cladonia</i> ). Committee on the Status of Endangered Wildlife in Canada, 27 recs.
15	Sabine, M. 2016. NB DNR staff incidental Black Ash observations. New Brunswick Department of Natural Resources.
15	Toms, B. 2018. Bat Species data from www.batconservation.ca for Nova Scotia. Mersey Tobeatic Research Institute, 547 Records.
14	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
14	Haugthian, S.R. 2018. Description of <i>Fuscopannaria leucosticta</i> field work in 2017. New Brunswick Museum, 314 recs.
14	Webster, R.P. 2004. Lepidopteran Records for National Wildlife Areas in New Brunswick. Webster, 1101 recs.

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13	G.Proulx, R. Newell, A. Mills, D. Bayne. 2018. <i>Selaginella rupestris</i> records, Digby Co. Nova Scotia Lands and Forestry, 1387601 recs.
12	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 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.
12	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
12	McAlpine, D.F. 1983. Status & Conservation of Solution Caves in New Brunswick. New Brunswick Museum, Publications in Natural Science, no. 1, 28pp.
12	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.
11	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
11	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2010. New Brunswick Dept Natural Resources, 16 recs (11 active).
11	Westwood, A., Staicer, C. 2016. Nova Scotia landbird Species at Risk observations. Dalhousie University.
11	Wissink, R. 2000. Rare Plants of Fundy: maps. Parks Canada, 20 recs.
10	Amirault, D.L. & Stewart, J. 2007. Piping Plover Database 1894-2006. Canadian Wildlife Service, Sackville, 3344 recs, 1228 new.
10	Edsall, J. 2001. Lepidopteran records in New Brunswick, 1997-99. , Pers. comm. to K.A. Bredin. 91 recs.
10	Mersey Tobeatic Research Institute. 2021. 2020 Monarch records from the MTRI monitoring program. Mersey Tobeatic Research Institute, 72 records.
10	Neily, T. H. 2018. Lichen and Bryophyte records, AEI 2017-2018. Tom Neily; Atlantic Canada Conservation Data Centre.
10	Neily, T.H. Tom Neily NS Sphagnum records (2009-2014). T.H. Neily, Atlantic Canada Conservation Data Centre. 2019.
10	Noseworthy, J. 2013. Van Brunt's Jacob's-ladder observations along tributary of Dipper Harbour Ck. Nature Conservancy of Canada, 10 recs.
10	Shortt, R. UNB specimen data for various tracked species formerly considered secure. Connell Memorial Herbarium, UNB, Fredericton NB. 2019.
10	Spicer, C.D. 2001. Powerline Corridor Botanical Surveys, Charlotte & Saint John Counties. A M E C International, 1269 recs.
10	Wisniowski, C. 2018. Optimizing wood turtle conservation in New Brunswick through collaboration, strategic planning, and landowner outreach. Nature Trust of New Brunswick, 10 records.
9	Blaxley, Megan; Vinson, Neil. 2020. <i>Peltigera hydrothyria</i> records from a tributary of Lake Brook, Fundy National Park. Chapman-Lam, Colin J. (ed.) Fundy National Park, 9.
9	Bredin, K.A. 2001. WTF Project: Freshwater Mussel Fieldwork in Freshwater Species data. Atlantic Canada Conservation Data Centre, 101 recs.
9	Doucet, D.A. & Edsall, J.; Brunelle, P.-M. 2007. Miramichi Watershed Rare Odonata Survey. New Brunswick ETF & WTF Report, 1211 recs.
9	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
9	Shortt, R. Connell Herbarium Black Ash specimens. University New Brunswick, Fredericton. 2019.
9	Zinck, M. & Roland, A.E. 1998. Roland's Flora of Nova Scotia. Nova Scotia Museum, 3rd ed., rev. M. Zinck; 2 Vol., 1297 pp.
8	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
8	Doucet, D.A. 2008. Fieldwork 2008: Odonata. ACCDC Staff, 625 recs.
8	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
8	Hinds, H.R. 1992. Rare Vascular Plants of Fundy National Park. , 10 recs.
8	Huble, Nicole. 2022. Monarch ( <i>Danaus plexippus</i> ) records submitted to MTRI from the 2021 field season. Mersey Tobeatic Research Institute.
8	King, Amelia. 2020. Belleisle Watershed Coalition Turtle Watch Data. Belleisle Watershed Coalition.
8	Klymko, J. Dataset of butterfly records at the New Brunswick Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2016.
8	Litvak, M.K. 2001. Shortnose Sturgeon records in four NB rivers. UNB Saint John NB. Pers. comm. to K. Bredin, 6 recs.
8	McNeil, Jeffie. 2022. 2021 Turtle Records. Mersey Tobeatic Research Institute.
8	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-03-18]. Mersey Tobeatic Research Institute.
8	Parker, M.S.R. 2011. Hampton Wind Farm 2010: significant floral/faunal observations. , 13 recs.
8	Richardson, D., Anderson, F., Cameron, R., McMullin, T., Clayden, S. 2014. Field Work Report on Black Foam Lichen ( <i>Anzia colpodis</i> ). COSEWIC.
8	Webster, R.P. 2006. Survey for Suitable Salt Marshes for the Maritime Ringlet, New Populations of the Cobblestone Tiger Beetle, & New Localities of Three Rare Butterfly Species. New Brunswick WTF Report, 28 recs.
8	Webster, R.P. Atlantic Forestry Centre Insect Collection, Maritimes butterfly records. Natural Resources Canada. 2014.
8	Young, Elva. 2019. <i>Epargyreus clarus</i> records from Charlotte County. Young, Elva, pers. comm.
7	McNeil, J.A. 2019. Snapping Turtle records, 2019. Mersey Tobeatic Research Institute.
7	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J; ONHIC, 487 recs.
6	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
6	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
6	Speers, L. 2001. Butterflies of Canada database. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 190 recs.
6	Webster, R.P. Database of R.P. Webster butterfly collection. 2017.
5	Cameron, R.P. 2018. <i>Degelia plumbea</i> records. Nova Scotia Environment.
5	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
5	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
5	Hicklin, P.W. 1999. The Maritime Shorebird Survey Newsletter. Calidris, No. 7. 6 recs.
4	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
4	Clayden, S.R. 2012. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 57 recs.
4	Cronin, P. & Ayer, C.; Dube, B.; Hooper, W.C.; LeBlanc, E.; Madden, A.; Pettigrew, T.; Seymour, P. 1998. Fish Species Management Plans (draft). NB DNRE Internal Report. Fredericton, 164pp.
4	LaPaix, R.W. 2014. Trans-Canada Energy East Pipeline Environmental Assessment, Records from 2013-14. Stantec Consulting, 5 recs.
4	Layberry, R.A. 2012. Lepidopteran records for the Maritimes, 1974-2008. Layberry Collection, 1060 recs.
4	Majka, C.G. & McCorquodale, D.B. 2006. The Coccinellidae (Coleoptera) of the Maritime Provinces of Canada: new records, biogeographic notes, and conservation concerns. Zootaxa. Zootaxa, 1154: 49–68. 7 recs.
4	Marshall, L. 1998. Atlantic Salmon: Southwest New Brunswick outer-Fundy SFA 23. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-13. 6 recs.
4	Moldowan, Patrick <i>Chrysemys picta</i> records from COSEWIC status report. pers. comm. 2021.
4	NS DNR. 2017. Black Ash records from NS DNR Permanent Sample Plots (PSPs), 1965-2016. NS Dept of Natural Resources.

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4	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
4	Patrick, A.; Horne, D.; Noseworthy, J. et. al. 2017. Field data for Nova Scotia and New Brunswick, 2015 and 2017. Nature Conservancy of Canada.
4	Phinney, Lori; Toms, Brad; et. al. 2016. Bank Swallows (Riparia riparia) in Nova Scotia: inventory and assessment of colonies. Merset Tobeiatc Research Institute, 25 recs.
4	Sabine, M. 2016. Black Ash records from NB DNR permanent forest sampling Plots. New Brunswick Department of Natural Resources, 39 recs.
3	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of <i>C. insculpta</i> sightings. Acadia University, Wolfville NS, 88 recs.
3	Bateman, M.C. 2000. Waterfowl Brood Surveys Database, 1990-2000 . Canadian Wildlife Service, Sackville, unpublished data. 149 recs.
3	Belliveau, A.G. 2021. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2021. E.C. Smith Herbarium.
3	Bishop, G. 2012. Field data from September 2012 Anticosti Aster collection trip. , 135 rec.
3	Blaney, C.S.; Spicer, C.D.; Rothfels, C. 2004. Fieldwork 2004. Atlantic Canada Conservation Data Centre. Sackville NB, 1343 recs.
3	Catling, P.M. 1981. Taxonomy of autumn-flowering <i>Spiranthes</i> species of southern Nova Scotia in Can. J. Bot. , 59:1250-1273. 30 recs.
3	Clayden, S.R. 2006. <i>Pseudevernia claudia</i> records. NB Museum. Pers. comm. to S. Blaney, Dec, 4 recs.
3	Clayden, S.R. 2020. Email to Sean Blaney regarding <i>Pilophorus cereus</i> and <i>P. fibula</i> at Fidele Lake area, Charlotte County, NB. pers. comm., 2 records.
3	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
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**APPENDIX E**  
**WSSA APPLICATION**

**Water Supply Source Assessment  
Step One Application  
Mixed Use Residential Development,  
Quispamsis, NB**

**Pursuant to Section 3(5) of  
The Water Quality Regulation 82-126  
Clean Environment Act**

**Please answer the following questions:**

**1) Name of proponent:** 697800 NB Corp.

**2) The proposed water supply is to be used for what purpose?**

Two wells will provide potable water to four proposed town houses each with 12 units, individual wells will provide potable water to the additional 18 residential building lots.

**3) Required water quantity (in m<sup>3</sup>/day):**

The estimated water requirement for the proposed 18 residential building lots (8SF, 10 SD) is 37.8 m<sup>3</sup>/day (5.78 igpm), which is based on a per person water usage of 450 Litres per day and an average of 3 people per household which is higher than the 2016 census data for New Brunswick that has an average household size of 2.3.

For the four multi-unit buildings on the two proposed lots, the proponent has existing buildings in neighbouring Towns of Hampton and Rothsay and also one in Quispamsis with metered water. The units are of similar size (2 bedroom c/w individual laundry) with the same target client aged at 55+. All of these buildings have meters on the water consumption.

The average daily water usage from the apartment buildings ranged from 9.8 to 10.6m<sup>3</sup>/day which equates to 260 to 280L/day/unit.

Based on actual water usage data from similar sized and equipped units housing the same targeted client, the NBDELG standard of 450L/day/person is too high for this portion of the development based on actual consumption data. For the four multi-unit buildings, a value of 450 L/day/unit would be a more realistic approach, which is still over 40% higher than the actual consumption data.

Based on this data, the estimated water requirement for the proposed two multi-unit residential lots for the proposed four 12 unit townhouse buildings is 21.6m<sup>3</sup>/day, 0.45m<sup>3</sup>/day/unit x 48 units = 21.6m<sup>3</sup>/day.

Combined, the estimated water requirement for the entire project is **59.4m<sup>3</sup>/day**, (21.6m<sup>3</sup>/day + 37.8m<sup>3</sup>/day).

**4) List alternate water supply sources in area (including municipal systems):**

The surrounding areas rely on individual wells to provide groundwater for their potable water supply. The nearest municipal system (Town of Hampton) infrastructure ends approximately 2.5km from the site. According to the Town's Engineering, there are no plans within the next ten years to extend the municipal water service to this area.

**5) Outline proposed work schedule:**

The exploration program will consist of drilling two test wells on the future lots for the town house buildings and performing a 24 hour pump test. Two test wells will be drilled during the winter of 2023 (TW23-1 and TW23-3). The proposed drilling sites are shown on the attached figure.

If conditions permit (i.e. minimal recharge conditions) a 24hr pump test will be performed in the winter of 2023. The intent is to pump either TW23-1 or TW23-2 and monitor the response in the other test well along with a minimum of one existing well. A step-test (three 0.5-hour steps) will be completed at the beginning of the tests to determine the optimum pumping rates. Depending on the response from the observation wells during the tests, additional pump test may be required to characterize the surrounding aquifer across the site. Reporting will be completed once the pumping tests are performed.

**6) Discuss area hydrogeology as it relates to the project requirements:**

The regional bedrock geology is mapped as Carboniferous stratified rock belonging to the Mabou group, which is a subbasin of the Maritimes Carboniferous Basin. Mapping indicates that within the Mabou Group the site falls within the Kennebecasis Formation, which consists mainly of reddish brown, conglomerate and sandstone; minor mudstone (Barr. S.M. and White. C.E. 2001).

Available domestic well logs from within a 500m radius of the site are summarized in the attached Table A1. Ninety one well logs were available for review. Well yields range from 0.78 to 196m<sup>3</sup>/day with a median yield of 26 m<sup>3</sup>/day (4.0 igpm). Well depths range from 4.6 to 194.1m.

According to Mike Steeves of E.R. Steeves, properties surrounding Ritchie Lake at lower elevations have much deeper wells <152m and low yields. As you go further away from the Lake and raise in elevation, yields and depths increase and decrease respectively. Mr. Steeves stated that their shop was originally at the location of the adjacent funeral home property. The well at that neighbouring property is approximate 60m deep with an estimated safe yield that exceeds 20igpm. Mr. Steeves stated that he would expect yields across this proposed site to be similar too their former shop/existing funeral home.

**7) Identify any existing pollution or contamination hazards within a (minimum) 500 m radius of the proposed drill targets. If groundwater use problems (quantity or quality) have occurred in the past, then these should be identified. Historical land use that might pose a contamination hazard (i.e. tannery, industrial, disposal, etc.) should also be flagged:**

Approximately 100 residential properties are located within a 500 m radius of the development. There do not appear to be any potential sources of contamination on adjacent properties that would be considered up gradient from the site. Historically the site was vacant and forested.

Water quality in the area overall is generally fair. Elevated levels of iron, manganese, uranium and turbidity have been encountered at concentrations above their Health Canada drinking water guidelines in groundwater wells within 500m of the subject property. Groundwater samples will be collected from the pumping well at the middle and end of the pumping test (i.e. at 12 and 24h). As per the WSSA guidelines, the water quality analysis will include general chemistry, trace metals, and microbiology (total coliforms and E.coli).

**8) Identify any watercourse(s) (stream, brook, river, wetland, etc.) within 30 m of the proposed drill targets.**

There are no watercourses or delineated wetlands within 30 m of any of the proposed drill targets. GeoNB mapping and lidar mapping was used to assist in locating the proposed drill targets.

**9) Identify site supervisory personnel involved in the source development (municipal officials, consultants and drillers):**

The source development consultant is FISHER ENGINEERING LTD.

**10) Attach a 1:10000 map and/or recent air photo clearly identifying the following:**

- **proposed drill targets**
- **domestic or production wells within a 500 m radius from the drill target**
- **any potential hazards identified in question 7**

Refer to the attached Figure.

**11) Attach a land use / zoning map of the area (if any). Superimpose drill targets on this map.**

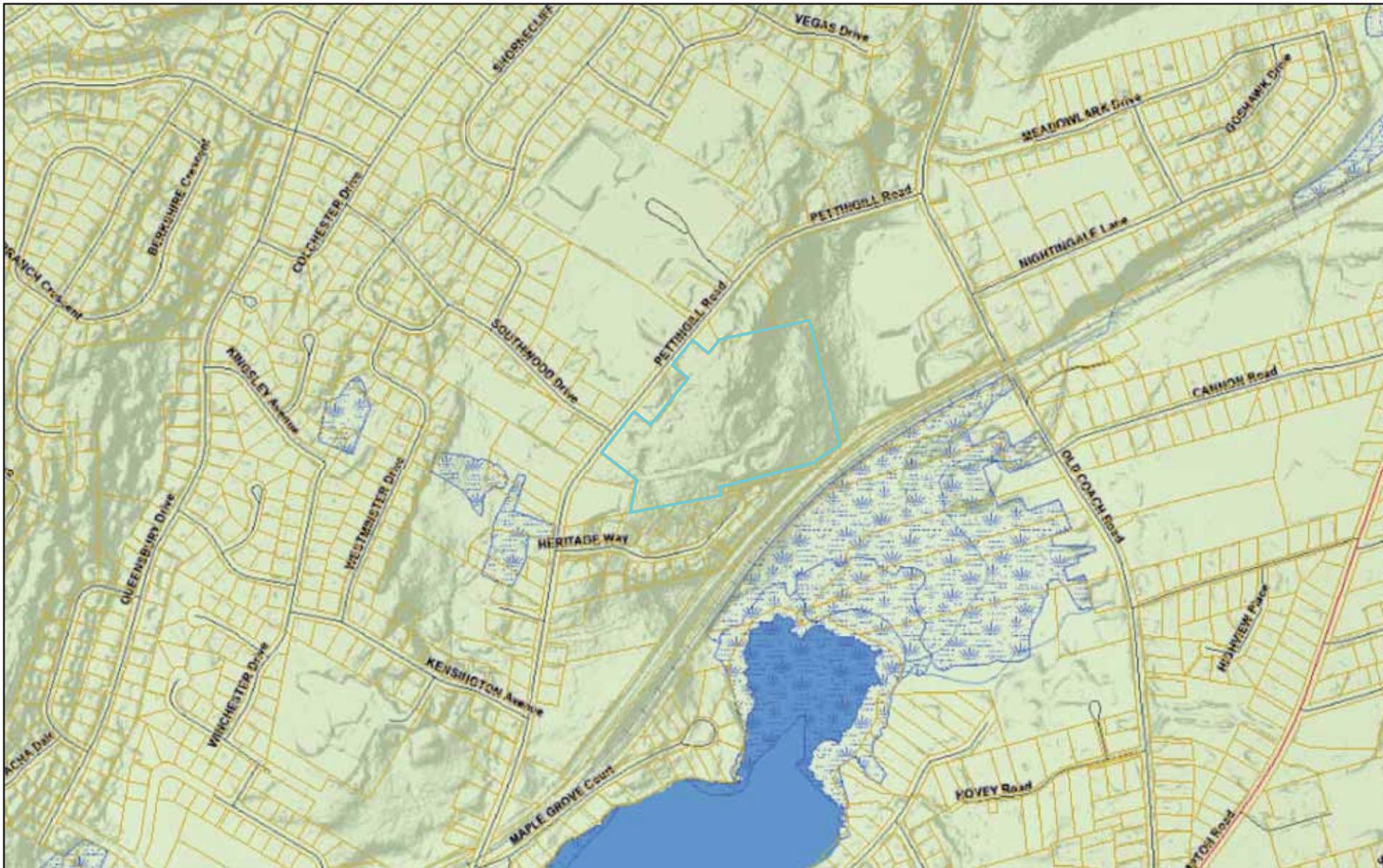
The proposed development falls within the Town of Quispamsis. The subject property was recently rezoned as per the attached rezoning amendment from R1 to R2 to permit the proposed multi use residential. Surrounding land is currently zoned R1 or Institutional (INST) for the schools and church.

**Enclosures**

DS421/Water Supply Source Assessment Application.doc



# GeoNB Map Viewer

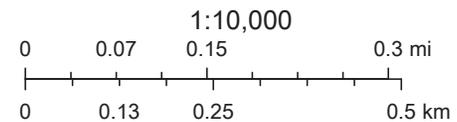


1/16/2023, 9:42:15 AM

 parcels

 Large Scale

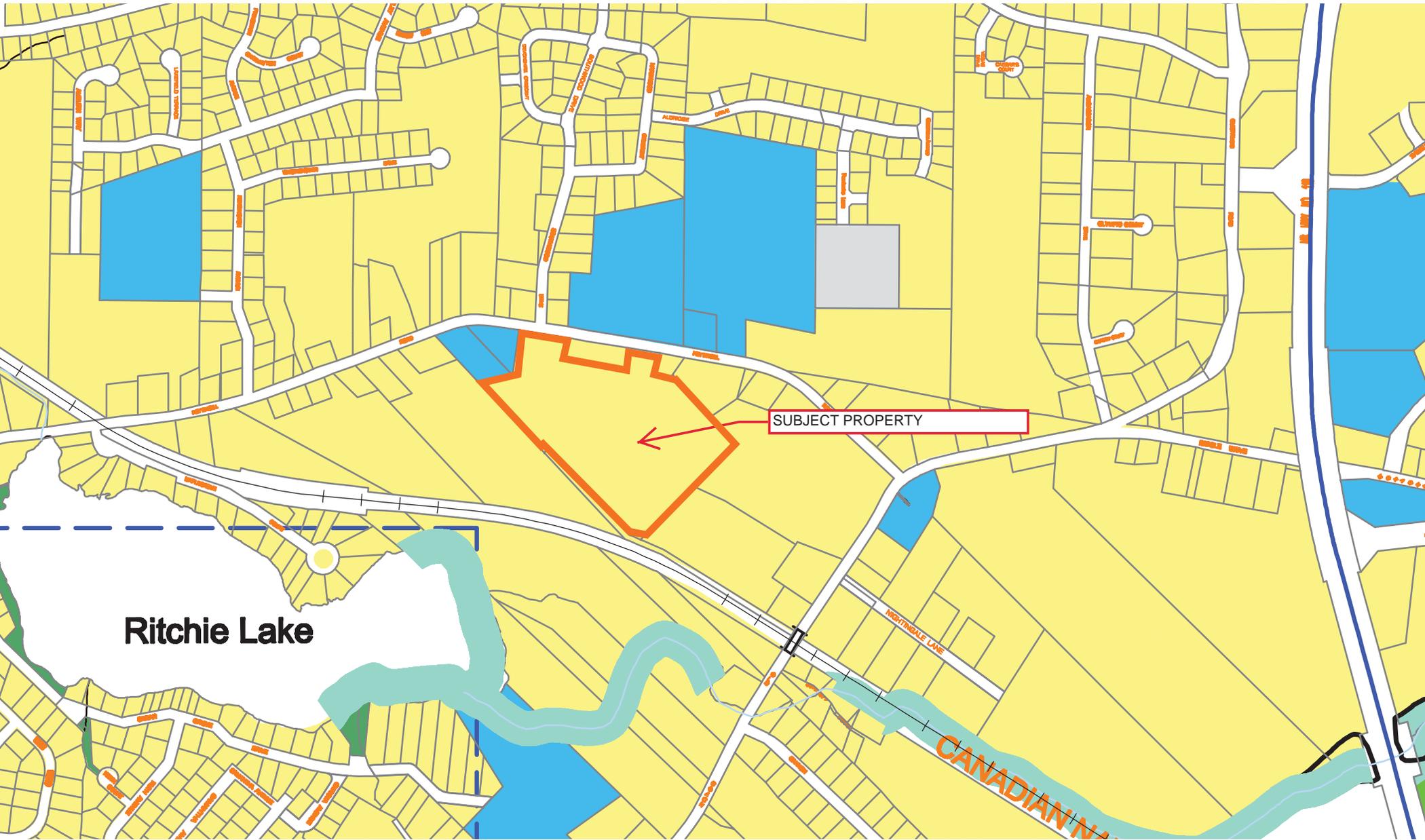
Year of Photography



Service New Brunswick, Department of Environment and Local Government /  
Ministère de l'Environnement et des Gouvernements locaux

GeoNB

This map is a graphical representation which approximates the size, configuration and location of features. This map is not intended to be used for legal descriptions or to calculate exact dimensions or area.



SUBJECT PROPERTY

Ritchie Lake

CANADIAN N...

Table 1 NBDELG Water Quality Results, 500m Radius of PID 00251462

Parameter	NB DWQG	unit	Sample																		
			<0.025	<0.025	<0.025	<0.025	0.028	0.033	<0.025	0.002	<0.025	0.075	0.12	<0.025	0.22	<0.025	0.056	<0.025	<0.025	0.043	<0.025
Aluminium	2.9	mg/L	<0.025	<0.025	<0.025	<0.025	0.028	0.033	<0.025	0.002	<0.025	0.075	0.12	<0.025	0.22	<0.025	0.056	<0.025	<0.025	0.043	<0.025
Alkanity		mg/L	102	92.5	90.2	118	128	104	86.3	104	136	108	110	277	135	146	103	99.8	139	99	190
Arsenic	10	µg/L	<1.5	1.7	<1.5	<1.5	<1.5	<1.5	2	1	<1.5	2.6	<1.5	<1.5	2	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Boron	5	mg/L	0.025	0.025	<0.01	<0.01	0.02	0.01	0.039	0.042	0.018	0.039	0.014	<0.01	0.012	0.026	0.285	0.074	0.012	0.017	0.016
Barium	2	mg/L	<0.01	0.105	0.043	0.078	0.165	0.112	0.088	0.235	0.187	0.149	0.305	0.239	0.298	0.024	0.024	0.133	0.061	<0.01	0.484
Bromine	10	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	0.171	<0.1	0.126	<0.1	<0.1	0.176	<0.1	
Calcium		mg/L	<0.1	31.5	33.9	46.1	47.2	35.4	13.4	35.1	60.4	24.8	101	148	66.2	67.6	2.29	17.4	62.9	42.1	100
Cadmium	7	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloride	250	mg/L	15.3	11	2.57	4.25	4.64	6.37	4.97	46.2	29.3	8.64	173	226	51.7	32	12.9	3.16	20.8	16.6	152
Conductivity			280	238	233	276	301	231	200	376	391	254	790	1300	461	428	332	250	361	297	866
Chromium	50	µg/L	<10	<10	<10	<10	13	<10	<10	<10	<10	<10	<10	32	10	14	<10	<10	<10	<10	1
Copper	1000	µg/L	<10	<10	<10	33	<10	<10	<10	9	<10	<10	<10	<10	<10	<10	<10	<10	<10	21	4
E-coli				Ab	Ab	Ab	Ab	Ab	Ab		Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
Fluoride	1.5	mg/L	0.101	0.117	<0.1	<0.1	<0.1	<0.1	0.188	0.11	<0.1	0.385	0.105	<0.1	<0.1	<0.1	1.56	0.181	<0.1	<0.1	0.07
Iron	0.3	mg/L	<0.02	0.089	0.132	0.139	<b>0.53</b>	0.083	0.044	<0.02	0.019	0.116	<b>0.44</b>	0.025	0.175	0.056	<b>0.91</b>	0.035	<0.02	<b>0.44</b>	<0.02
Hardness		mg/L	0.65	84.1	93.1	126	129	103	34.6	91.1	167	67.8	301	405	195	194	6.44	45.8	175	121	307
Potassium		mg/L	<0.1	0.36	0.58	0.8	1.24	0.3	0.2	0.3	0.4	0.6	0.9	0.9	1	0.1	0.3	0.4	0.3	0.3	1
Magnesium		mg/L	<0.1	1.35	2.06	2.64	2.65	3.44	0.27	0.84	3.92	1.44	12	8.58	7.14	6.22	0.18	0.54	4.45	3.74	13.9
Manganese	0.02/0.12	mg/L	<0.005	<0.005	0.011	<b>0.04</b>	<b>0.15</b>	<0.005	<0.005	0.003	0.005	<b>0.07</b>	0.008	<0.005	<0.005	<b>0.07</b>	0.012	<0.005	<0.005	<b>0.07</b>	<0.005
Sodium	200	mg/L	65.3	16.8	3.24	4.04	11.4	6.47	27.1	39.8	19.3	27.4	27.9	94.3	15	10.2	71.5	39.6	6.73	14.7	34.3
Nitrite	3	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate	10	mg/L	0.21	0.13	<0.05	<0.05	<0.05	<0.05	<0.05		0.42	<0.05	1.9	2.8	1.4	<0.05	<0.05	<0.05	0.6	<0.05	
Nitrite + Nitrate	10	mg/L	0.26	0.18	<0.05	<0.05	<0.05	0.08	<0.05	1.33	0.47	0.05	2	2.8	1.4	<0.05	<0.05	<0.05	0.65	<0.05	1.81
Lead	5	µg/L	<1	<1	<1	<1	1.1	1.6	<1	0.1	<1	1.8	1.8	<1	1.7	<1	<1	<1	<1	4.9	0.1
pH	6.5-10.5		8.2	8.1	8.1	8.1	8.0	8.0	8.4	8.1	8.1	8.1	8.0	7.4	8.0	8.0	9.2	8.4	8.0	8.1	7.6
Antimony	6	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Selenium	5	µg/L	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1
Sulphate	500	mg/L	12	10.3	19.7	18.5	17.2	10.6	10.1	10	14.7	20	12.1	21.7	10	19	30.4	15.9	14.6	19.6	11
Total Dissolved Solids	500	mg/L	155	128	117	148	162	126	108	202	212	149	402	<b>678.4</b>	239	223	182	137	196	157	436
Titanium		µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Turbidity	1	NTU	0.09	0.75	<b>5.0</b>	<b>1.9</b>	<b>9.1</b>	<b>1.9</b>	0.2	0.1	0.2	<b>21.9</b>	<b>30.0</b>	0.74	<b>6.3</b>	0.25	<b>8.4</b>	0.2	0.2	<b>3.2</b>	0.1
Uranium	20	µg/L	<b>21.0</b>	14	1.8	3	1.6	8.4	18	<b>36.6</b>	<b>26.0</b>	<0.5	7.4	0.7	3.6	12	<0.5	<0.5	7.9	3.6	9.4
Zinc	5000	µg/L	<5	<5	<5	<5	<5	<5	<5	2	<5	<5	6	<5	11	<5	<5	<5	<5	24	13

NB DWG - New Brunswick Drinking Water Guidelines

Value does not meet applicable guideline

Table 1 NBDELG Water Quality Results, 500m Radius of PID 00251462

Parameter	NB DWQG	unit	Sample												
			0.015	0.008	0.034	0.14	0.094	<0.025	<0.025	<0.025	0.044	<0.025	<0.025	0.039	<0.025
Aluminium	2.9	mg/L	0.015	0.008	0.034	0.14	0.094	<0.025	<0.025	<0.025	0.044	<0.025	<0.025	0.039	<0.025
Alkanity		mg/L	16	84	86	271	157	230	144	290	113	120	99.9	84.8	121
Arsenic	10	µg/L	<1.5	<1.5	1	1.4	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	1.8	<1.5
Boron	5	mg/L	0.041	0.032	0.098	<0.2	<0.2	<0.2	<0.2	0.059	0.046	0.031	0.034	0.017	
Barium	2	mg/L	0.131	0.173	0.011	0.487	0.3	0.309	0.295	0.361	<0.01	0.286	0.084	<0.01	0.23
Bromine	10	mg/L					<0.1	<0.1	<0.1	0.141	<0.1	<0.1	2.78	<0.1	<0.1
Calcium		mg/L	31.3	43.9	1.36	85.7	72.1	82.6	79.8	133	<0.1	84.1	30.4	<0.1	44.8
Cadmium	7	µg/L	<0.5	<0.5	<0.5	0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloride	250	mg/L	149	121	6.4	72.4	39.1	52.7	93.2	49	7.47	142	20.4	10.3	18.9
Conductivity			578	600	215	732	467	596	660	751	281	763	283	214	337
Chromium	50	µg/L	<1	<1	<1	20	<10	<10	11	46	<10	<10	<10	<10	<10
Copper	1000	µg/L	<10	2	<10	<10	43	15	<10	45	<10	14	<10	<10	<10
E-coli				Ab	Ab						Ab	Ab		Ab	Ab
Fluoride	1.5	mg/L	0.19	0.2	0.39	0.393	0.073	<0.1	<0.1	<0.1	0.207	0.123	<0.1	0.237	<0.1
Iron	0.3	mg/L	<0.02	<0.02	<b>0.43</b>	<b>0.89</b>	<b>0.62</b>	<b>0.41</b>	0.07	<b>0.99</b>	0.06	0.21	<b>0.31</b>	0.177	0.299
Hardness		mg/L	85.5	119	3.5	242.8	209.2	222.7	276	366	0.65	235.2	79.6	0.65	121
Potassium		mg/L	0.47	0.47	0.21	1.25	1.15	0.73	1.23	0.74	0.14	0.943	0.46	<0.1	0.4
Magnesium		mg/L	1.78	2.34	0.02	7	7.08	4	18.5	8.36	<0.1	6.11	0.89	<0.1	2.12
Manganese	0.02/0.12	mg/L	0.002	<0.005	0.006	<b>1.03</b>	0.016	<b>0.08</b>	<b>0.12</b>	<b>0.68</b>	<0.005	<b>0.06</b>	<b>0.02</b>	<0.005	<0.005
Sodium	200	mg/L	65.1	67.6	44	60.2	13.2	36.1	19.3	14.9	65.8	58.3	28.5	51.1	18.3
Nitrite	3	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate	10	mg/L				0	2.55	0	<0.05	0.19	<0.05	<0.05	0.15	0.11	0.21
Nitrite + Nitrate	10	mg/L	0.09	0.1	<0.05	<0.05	2.6	<0.05	<0.05	0.19	<0.05	0.08	0.2	0.16	0.26
Lead	5	µg/L	<1	<1	<1	3.7	4.29	1.4	<1	3.6	<1	2.24	<1	<1	<1
pH	6.5-10.5		6.8	7.3	8.9	7.3	7.9	7.8	7.6	7.3	8.3	8.2	8.0	8.1	8.1
Antimony	6	µg/L	<1	<1	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Selenium	5	µg/L	<1	<1	<1	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Sulphate	500	mg/L	<1	<1	11	14.5	17	14.4	22.4	19.5	15.7	17.7	13.2	11.3	13.4
Total Dissolved Solids	500	mg/L	258	287	116				321	402	158	382	155	125	172
Titanium		µg/L	<1	<1	<1	2.9	<1	<1	<1	<1	<1	<1	<1	<1	<1
Turbidity	1	NTU	0.5	0.1	<b>3.2</b>	<b>6.3</b>	<b>4.3</b>	<b>2.7</b>	0.2	<b>3.6</b>	<b>4.1</b>	<b>3.2</b>	<b>4.8</b>	<b>2.2</b>	<b>5.6</b>
Uranium	20	µg/L	<0.5	<0.5	<0.5						1.1	3.99	18	14	19
Zinc	5000	µg/L	1	6	<5	52	40	19	13	32	<5	22	<5	<5	12

NB DWG - New Brunswick Drinking Water Guidelines

Value does not meet applicable guideline

Table A1 Well Log Summary 500m Radius of PID 00251462

Report ID	Date Drilled	Well	Casing	Rock	Yield
		Depths (ft)			igpm
14	10/23/2001	180	35	30	7
1104	11/05/2002	125	40	5	5
1132	09/06/2002	250	40	4	2
1135	09/11/2002	380	40	6	1.5
1163	08/29/2003	75	46	38	10
1167	09/08/2003	175	40	16	3
1230	05/08/2003	280	76	57	1.5
1806	06/24/2002	85	28		20
7596	12/04/2003	150	63	12	4
8766	01/12/2004	150	42	12	5
8767	01/12/2004	175	42	8	11
9257	10/26/2004	275	40	15	0.5
9301	09/02/2004	225	23	17	6
9342	04/05/2004	225	42	12	2
9363	05/20/2004	250	42	6	11
9446	05/12/2006	185	40	32	3
11260	06/23/2005	200	40	15	2
11264	07/12/2005	250	42	20	3
11275	08/19/2005	200	63	25	2
11281	06/15/2005	420	82	78	0.25
11318	12/01/2004	200	40	20	7
11324	08/19/2005	150	63	8	10
11582	01/05/2005	200	40	26	8
11590	03/16/2005	204	40	16	3
12691	10/25/2005	225	40	16	5
14764	07/31/2008	175	31	20	8
15146	09/01/2006	200	40	8	2
15147	09/05/2006	300	40	15	0.25
15161	06/05/2006	150	40	15	8
15541	07/03/2007	185	80	32	20
15643	09/21/2007	185	23	20	5
15828	08/03/2007	340	104	95	1
15854	03/07/2008	175	29	15	5
15855	03/09/2008	150	33	21	5
16219	07/09/2007	250	20	12	3
16221	07/11/2007	175	20	8	10
16227	11/15/2007	150	20	8	9
18104	10/02/2006	300	81	70	0.5
18443	11/21/2007	200	20	11	
18511	02/01/2007	275	40	15	2
18535	05/14/2007	250	1	18	5
18615	06/07/2007	235	40	15	5
24049	10/28/2009	15	20		14
26543	08/30/2011	420	28	23	0.5
28036	01/06/2009	300	32	22	5
28097	11/26/2008	200	20	16	3
28338	09/16/2009		60		12
29893	08/21/2014	225	40	22	4.5
35969	05/31/2018	250	41	13	6
36877	04/05/2018	380	40	6	0.75

Table A1 Well Log Summary 500m Radius of PID 00251462

Report ID	Date Drilled	Well	Casing	Rock	Yield
		Depths (ft)			igpm
36899	08/06/2018	340	48	30	0.5
36909	07/03/2018	250	28	17	4
37103	08/10/2020	340	59	48	1.75
37197	11/08/2018	140	70		30
37197	11/08/2018	140	70		30
37197	11/08/2018	140	70		30
37869	07/13/2017	425	52	24	0.25
37870	07/14/2017	200	20	8	6
37873	07/21/2017	375	40		0.5
38094	10/04/2016	225	40		4.5
40544	07/22/2020	350	20	12	1.75
41453	11/10/2021		58		4
41493	10/18/2021		38		25
41975	08/12/2019	635	40	35	2
42157	12/17/2018	620	38	34	0.5
42165	03/05/2019	220	77	35	5
42168	04/26/2019	500	43	28	0.4
42169	05/03/2019	637	20	28	0.25
42179	05/09/2019	200	38	33	6.25
42186	05/24/2019	250	72	8	5
42493	12/12/2019	200	22	18	4
42701	12/17/2020	460	71	65	0.12
42716	04/01/2021	225	92	8	10
43443	06/09/2021	470	41	65	0.25
44502	01/08/2021	350	20	85	1.5
44506	01/19/2021	580	20	24	0.33
44549	12/01/2020	200	40	11	10
45091	05/21/2021	200	80	3	6
90054500	12/01/1994	150	20	35	3
90443400	11/07/1995	300	20	70	2
90556600	10/21/1996	150	167	10	3
90976800	09/09/1997	70	40	6	8
91105600	06/15/1998	300	40	160	2
91569100	10/07/1999	100	34	30	5
91720100	04/14/2000	250	40	8	7
91780500	09/09/1999	303	42	180	1.5
91869800	04/26/2001	240	40	55	4
91876800	05/16/2001	300		30	1
92301400	04/17/2002	300			1
92336600	06/05/2002	200		12	4
92336700	06/05/2002	190		8	4.5

Max	637	167	180	30
Min	15	1	3	0.12
Average	253	44	28	6
Median	225	40	18	4