Environmental Impact Assessment Registration Document

New private well development project for new residential complex – Rue de L'Espoir, Cap-Pelé, NB

705052 NB INC.
Final EIA Registration Document - Version 0B

March 21, 2022
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ENGLOBE

705052 NB INC.

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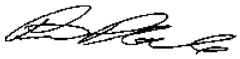

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Production team

705052 NB INC.

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Revisions and publications log

REVISION No.	DATE	DESCRIPTION
0A	March 10, 2022	Preliminary version published for Owner review
0B	March 21, 2022	Final EIA Registration Document

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Table of Contents

APPENDICES

Registration Form

PURSUANT TO SECTION 5 (2) OF
THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATION 87-83
CLEAN ENVIRONMENT ACT

1 The Proponent

Name of Proponent: 705052 NB INC.
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1.1 Property ownership

This project is located on PID 00845701, in Cap-Pelé, NB. The land is owned by the Proponent, 705052 NB INC.

2 The Undertaking

2.1 Name of the Undertaking

705052 NB INC. - New private well development project for new residential complex – Rue de L'Espoir, Cap-Pelé, NB.

2.2 Project overview

The Proponent (705052 NB INC.) proposes to construct one (1) new 18-unit apartment building by subdividing a portion of PID 00845701. The project is in the Village of Cap-Pelé, where only sanitary and storm serving is available (there is no municipal water system in the Village of Cap-Pelé). Therefore, current and future water servicing is based on drilling potable water wells for each individual building or building complex.

Although the Proponent is planning to construct only one (1) new 18-unit apartment building in this current Development Phase, future planning was considered and resulted in envisioning that additional buildings could be added later. As shown on Figure 05 (Appendix D), the Proponent future planning includes adding two (2) 18-unit and one (1) 12-unit apartment buildings on PID 00845701, for a total of three (3) potential new buildings in the future.

This Environmental Impact Assessment (EIA) Registration Document is being submitted in accordance with Schedule A of the NBDELG Guide to Environmental Assessment since the theoretical combined daily water volumes required for the future planning on PID 0084570 is expected to exceed 50 cu.m.

The following work will be undertaken by the Proponent for the first 18-unit apartment building (current development phase):

- +- 80 m chip seal road extension with ditch.
- New sanitary gravity system to existing municipal infrastructure.
- New storm drainage system to existing municipal infrastructure.
- Extension of existing overhead power supply (NB Power).
- Construction of one (1) new water potable well and one (1) observation well.

Rue de L'Espoir was originally constructed by the Village of Cap-Pelé in 2011. The new street was built from Acadie Road (NB Route 133) on approximately 290 m and included new storm and sanitary systems (including piping and one (1) new sanitary lift station). To date, the following buildings have been constructed (by various Private Developers and Owners) along Rue de L'Espoir:

- Multi-residential dwellings (2 x 4-unit buildings) – 2 existing wells
- Apartment building (12 units) – 1 existing well
- Pharmacy – 1 existing well
- Level 2 senior's home facility with a total of 75 beds – 2 existing wells (1 for consumption and 1 for fire protection (to fill the cistern / Fire Reservoir)

2.3 Purpose / rationale / need for the Undertaking

The work proposed herein is required to evaluate the potential for a reliable water source for the proposed 18-unit apartment building and future buildings on PID 00845701 (along Rue de L'Espoir, in Cap-Pelé, NB).

A "do-nothing" approach is not acceptable in this case since there are no other water supply sources currently available for the proposed apartment building.

Therefore, drilling of a groundwater production well and related infrastructure is required to provide access to a reliable water system that meets the current standards.

2.4 Project location

The proposed development is located in southeastern New Brunswick, in the Village of Cap-Pelé, along the Northumberland Strait, and approximately 35 km northeast of Moncton. It is in the County of Westmoreland and is part of the Parish of Botsford.

As identified in Section 1, the proposed site is located on the property defined as PID 00845701. Two (2) preliminary drilling targets (1 well for Apartment Building #1 and 1 observation well (well for future Apartment Building #3) have been identified based on the location of the proposed and future buildings.

Based on our review of available published data and discussions with Eastern Well Drillers Ltd. of Shediac, NB (Local Well Drilling Company involved in the construction of many wells in the area), the aquifer beneath is known to be very prolific. Therefore, it is not anticipated that specific locations (i.e. targeting structure) will be required for each well. The exact location of each well will be selected to avoid specific site features, (drainage structures, sanitary and storm services, hydro poles…) and meeting the minimum set back distance as a described in the NBDELG Guide for Residential Well Drilling.

The proposed drill locations are shown in Figure 05 (Appendix D). The figure shows the preliminary location of the proposed test well drilling target (Proposed Well #1 for Apartment Building #1) and for the proposed observation well (Future Building #3) and preliminary location of future wells (For Future Apartment Buildings #1 and #2) over an existing aerial photograph. The figure also shows existing wells within a 500-meter radius of the proposed building area.

The latitude and longitude of the center of each of the identified test well target and observation well (current phase only) are as follows (approximately, to be confirmed on-site):

- PID 00845701:
  - Test Well #1 (for the proposed Apartment Building #1) -

    Latitude: 46.21921866, Longitude: -64.28342087
  - Observation Well (Future Apartment Building #3 Site) -

    Latitude: 46.21989107, Longitude: -64.28396658

A 1:25,000 scale map (Figure 04) showing the proposed site in reference to the existing features is also included in Appendix B.

2.5 Siting considerations

2.5.1 General site considerations

The proposed Test Well site has been established based on the location of the proposed new Apartment Building (Building #1) and the Observation Well location is based on the future Apartment Building #3. Preliminary locations have been selected to avoid future infrastructure that could negatively affect the wells.

All existing and future wells noted above have been shown on Figure 05 (Appendix D), including tables to properly shown the distances between each well.

A preliminary site visit was carried out by Englobe Corp. Senior Hydrogeologist (Mr. Jeff Meadows) and no signs of pollution or contamination hazards were noted nearby the proposed drill targets (refer to attached NBDELG Letter dated December 3, 2021, in Appendix E).

As shown in the attached WSSA Initial Application (Appendix A), the proposed drilling targets are not within 30 m of any Wetland and Watercourse according to the NBDELG delineation fabric.

In addition, a desktop assessment of unmapped wetlands and watercourses was conducted based on the findings of a Wetland Presence / Absence Report prepared for the subject parcel in 2021 and supplemented with a review of publicly available information. The 2021 Report has been included in Appendix F and the assessment suggests a low likelihood of wetlands or watercourses within the project footprint, except for the area to the north of the PID along Friel Brook to the north of the site.

For additional information on the geology and hydrogeology of the area, please refer to the WSSA Initial Application in Appendix A of this document.

2.5.2 Other location considered

No other locations were chosen as alternate areas to drill as this area of the Village of Cap-Pelé is well known to have ample groundwater supplies in the bedrock aquifer beneath. The wells are to be drilled near the planned apartment buildings.

2.5.3 Zoning

The project (PID 00845701) is in “Institutional Services” Zone of the Village where multi-residential construction is permitted. Currently, there are multi-residential units and a Senior’s Home Health Care Facility along Rue de L’Espoir St. (adjacent to the proposed site). Therefore, there are no concerns with the Zoning for this project.

2.5.4 Proximity to wetlands and watercourses

As shown on the attached figures in Appendix A from GeoNB’s delineation fabric, the proposed drilling targets are not within 30 m of any mapped wetlands. However, in 2021, a site-specific wetland assessment was performed by Overdale Environmental Inc., and wetland conditions were found (atypical conditions) at the northernmost boundary of the survey area. This area is located more than 130m to the north of the proposed observation well and more than 190m away from the proposed Well #1, and therefore, it will not be impacted by the current project. The complete Wetland Presence / Absence Report can be found in Appendix F.

2.6 Physical components and dimensions of the project

2.6.1 Land requirements

Approximately 2,800 sq.m. of land will be required for the construction of the new 18-unit Apartment Building. To construct future buildings, it will be required to create new individual lots by subdividing PID 00845701. Wells will be drilled in strategic locations on each lot to avoid new infrastructure associated with the construction of the new buildings. Therefore, no additional land is required to construct the wells.

2.7 Construction details

As soon as the EIA Registration Document and WSSA Initial Application are approved, the drilling of the test holes will be immediately undertaken.

The following schedule has been developed for the drilling, testing and construction phases of the new wells (including one (1) observation well). As noted, approximately eight (8) working weeks are estimated after the initial EIA Review to the end of the WSSA Final Report Review.

Component	Approx. duration (weeks)	Anticipated completion date
EIA Registration, WSSA Initial Application, and Review	8	May 20, 2022
Preliminary Site Work for Drilling Equipment	1	May 27, 2022
Preliminary Drilling. Preliminary Well Construction and Pump Testing	3	June 17, 2022
WSSA Final Assessment	2	July 1, 2022
WSSA Final Review and Certificate of Determination	2	July 15, 2022

The estimated hours of construction will be from Monday to Friday from 7:00 A.M. to 7:00 P.M. except during the constant rate pumping where the work is 24 hrs/day.

The following equipment is anticipated to be used for the construction procedures:

- Earthwork: Excavators, dozers, dump trucks, concrete trucks, compaction equipment.
- Well Drilling: Well drilling equipment, pumps, and generators.

Potential sources of pollutants during the construction period are anticipated to include:

- Exhaust and other emissions from construction equipment.
- Noise from construction equipment.
- Water for drilling. The run-off water from the drilling operation will be controlled by the installation of erosion control structures. Typical installation for a drilling site includes the excavation of a drilling ditch, installation of erosion control structures (silt fencing and hay bales), and utilization of the existing wooded land where possible to minimize the effect on nearby streams.
- Silt from disturbed surface areas. This will be minimized by requiring the contractor to install silt fences and other erosion protection devices around the work area and to reinstate disturbed areas as soon as is practical.

- Petroleum hydrocarbons from possible leaks, spills, or accidents from construction equipment and vehicles. This will be minimized by requiring the Contractor to have spill kits on-site and to conduct daily inspections of his equipment. No refueling or maintenance of vehicles will occur within 30 m of watercourses.

All waste generated during construction will be stored in containers and removed off-site by the Contractor. The following sequence and procedures are recommended during the construction process:

1. Mobilization and installation of environmental protection devices.
2. Construction access pads for drilling equipment (imported sandstone/pit run material).
3. Mobilization of drilling equipment and installation of environmental erosion control structures.
4. Drilling of wells (one (1) well and one (1) observation well).
5. <u>If unsuccessful:</u>
   - Abandonment of test wells and casing as per NBDELG guidelines.
   - Clean-up, property restoration, and demobilization.
6. <u>If successful:</u>
   - Final construction of the wells (casing installation).
   - Step pumping tests and constant rate pumping tests including installation of environmental control structures as required for selected pumping rate.
   - Clean-up, property restoration, and demobilization.

As a result of previous land use and current construction activities, it is anticipated that only minor work will be required on each site to construct the access pads for the drilling equipment where a limited amount of Imported Material (sandstone, granular and / or pit run materials) will be required.

2.8 Operation and maintenance details

Limited operation and maintenance are expected to operate a water potable well for the purpose of servicing an apartment building. During the initial pumping test, water will be sampled to confirm if it is suitable for consumption and if treatment is required. Based on adjacent wells in the area, extensive treatment is not expected to be required. Therefore, Operation and Maintenance costs will be limited to the well pump and treatment if required.

2.9 Future modification, extensions, or abandonment

At this time, the Proponent (705052 NB INC.) anticipates that only three (3) future buildings could be added on PID 00845701 (two (2) 18-unit and one (1) 12-unit Apartment Buildings) following this Development Phase. As indicated in the WSSA Initial Application in Appendix A, it is proposed to drill one (1) well for the new 18-unit apartment building and one (1) observation well. Wells for the future proposed buildings will not be drilled at this time.

The topography of the site is downgradient towards Friel Brook, and, as a result, major investments would be required to extend the sanitary system (lift station, forcemain…) and the road network to develop the remaining land in the future. Therefore, at this time, the Proponent does not foresee developing the remnant of PID 00845701 further than what is being proposed in this EIA Registration Document (construction of one (1) 18-unit apartment building now and future planning for two (2) 18-unit and one (1) 12-unit apartment buildings).

Although it is unlikely that the Proponent extend the sanitary and road systems, it could be foreseeable that the Village of Cap-Pelé could eventually undertake such an important project, and at that time, additional multi-residential units could be constructed by the Proponent. However, based on preliminary discussions between the Proponent and the Village, it is unlikely that a project of this magnitude would be undertaken over the next 10 years. Therefore, future development opportunities on PID 00845701 will be affected by the Village's ability to extend the existing municipal systems. Thus, additional developments other than what is being proposed in this EIA Registration Document are not expected on PID 00845701.

2.10 Project-related documents

The following project-related documents are appended:

Water Supply Source Assessment Initial Application prepared by Englobe Corp.
Wetland Presence / Absence Report: Cap-Pelé, N.B., December 8, 2022 – Overdale Environment Inc.
Atlantic Canada Conservation Data Centre (ACCDC) Report – December 20, 2021

3 Description of the existing environment

3.1 Physical and natural features

As noted in the previous sections, the proposed drilling areas are not within 30 m of a Wetland or Watercourse according to GeoNB's delineation and as indicated in the 2021 Wetland Presence / Absence Report prepared by Overdale Environmental Inc.

The complete description of the geology and hydrogeology of the area is available in the WSSA Initial Application in Appendix A of this document. Additional soil information will be obtained following the preliminary investigations during the drilling of two (2) test holes.

Site Topography and General Surface Drainage Regime:

The approximate elevations (Geodetic Datum CGVD28 based on Provincial LiDAR mapping) at the proposed locations are as follows:

- 12.149m for Test Well 22-01 (Proposed 18-unit apartment building)
- 9.164m for Observation Well 22-04 (Future 12-unit apartment building)

Based on a review of regional (1:25,000) scale topographic mapping, the ground surface elevation in the study area slopes to the north-northwest towards Friel Brook at a gradient of approximately 2 to 3% or less. The existing ground surface elevation is on the order of 12 m asl for the southern developed portion of the subject property and estimated to be less than 5 m asl for the northern undeveloped portion of the site in the vicinity of Friel Brook.

There are no watercourses on the subject property, but Friel Brook is located at the northern boundary of the subject property (at this point only the southern half of this property is being developed). This watercourse flows northwest and discharges into the Northumberland Strait. There are a series of three (3) sewage lagoons located about 475 m to the east of the site (Village of Cap-Pelé's municipal sewage treatment facility (aerated lagoon with U-V disinfection system)).

A review of the New Brunswick Department of Energy and Resource Development (NBDERD) wetlands layer indicates that a provincially significant wetland (i.e. coastal marsh) is located along Friel Brook and the northern boundary of the subject property. However, as previously noted herein, the 30 m regulated wetland buffer associated with this wetland is situated approximately 250 m north-northwest of the developed portion of the subject property. Significant Fish/Wildlife Populations or Habitats: As indicated above, the required infrastructure for the proposed WSSA already exists and no additional ground disturbances are planned. The well drilling will occur on the developed portion of the subject property, which would generally not be expected to represent suitable habitat for area mammals and birds.

The Atlantic Canada Conservation Data Centre (ACCDC) was requested to search their databases for a 5 km buffer around the existing study area around PID # 00845701 to complete a screening level assessment of the nature and extent of potential ecological receptors in the study area. The results of the ACCDC data request are provided in Appendix G. It is important to note that this data only provides information on the potential presence of rare flora or fauna in the vicinity of the proposed areas of development.

The 5 km buffer contained eight (8) records of five (5) vascular flora and no records of any non-vascular flora. Similarly, one hundred ninety-two (192) records of thirty (30) vertebrate fauna and eleven (11) records of four (4) invertebrate fauna were identified. The majority of the vertebrate fauna observations within the 5 km area were bird sightings. Wood turtles were not noted to be present in the study area. The above noted flora and fauna observations within the study area were assigned proximity estimates ranging from 0.5 km ± 0 km to 5.0 km ± 0 km.

Finally, the records review identified no (0) managed areas (MA) and no Environmentally Significant Areas (ESAs). Managed areas typically have some degree of protected status and ESAs may or may not have legal status.

With the exception of the Bald Eagle, no species classified as endangered under the Provincial Endangered Species Act were identified in the ACCDC data. To minimize the potential for exploitation or disturbance, no co-ordinate information was provided for the Bald Eagle as the New Brunswick Department of Energy and Resource Development (NBDERD) considers this to be a “location sensitive” species. The Bald Eagle typically nests in a tall tree near coastal areas. As such, the developed portion of the subject property upon which the WSSA will take place would not be expected to represent suitable habitat for this species, and this species are not known to be present in close proximity to the subject site.

Environmentally Sensitive Areas:

No environmental sensitive areas (e.g. NB Protected Areas, Protected Natural Areas, etc.) are located in the general vicinity of the site based on desktop review of New Brunswick Crown Lands Conservation Areas mapping and other sources. Furthermore, it is noted that the site is not located near any Wellfield Protected Area or Watershed Protected Area.

It is also noted that the results of the ACCDC records review within 5 km of the proposed undertaking did not reveal the presence of any environmentally sensitive areas.

As shown in Figure 05 (Appendix D), there are several private wells located within 500 meters of each proposed test well.

3.2 Cultural features

The project site is currently developed, and multiple building types have been constructed over the past decade (Multi-Residential Units, Healthcare and Commercial Buildings). Surrounding land use is a mixture of Commercial / Industrial Facilities along with many Residential Properties. All the required infrastructure for the proposed well testing activities under the WSSA process currently exist.

A municipal park owned and operated by the Village of Cap-Pelé is located roughly 2 km northeast of the subject property. The *Parc de L'Aboiteau* which includes a popular recreational beach is also situated about 3 km northwest of the site. An arena is located about 800 m east of the site.

There are no other known cultural features at or in the immediate vicinity of the proposed project.

3.3 Existing and historic land uses

The two (2) drill targets (well for the new 18-unit apartment building and observation well located near the future 12-unit apartment building) are located within the Village's limits with some adjacent developed land and some wooded areas, with commercial to the south. Figure 02 (Appendix A) shows the subject property with a 500m radius from the proposed test hole zones.

As noted in the WSSA Initial Application (Appendix A), from the preliminary desktop analyses completed to date, we do not anticipate any water quality concerns due to the surrounding land use, but this will be confirmed during the preliminary drilling investigations.

There is no indication that there were previous developments on this site that may have been of cultural or historic interest.

4 Summary of environmental impacts and mitigation

To proceed with the drilling of the new wells (one (1) test well and one (1) observation well), the following construction activities are anticipated:

- Installation of environmental protection structures (such as silt fences and erosion control structures).
- Construction of access pads for drilling equipment (using imported sandstone and or local pit run materials).
- Drilling of new wells.
- Constant rate pumping test.

The well connection and accessories will be done by the Owner as part of the construction of the apartment building.

The attached Coastal Flooding Map from GeoNB (Appendix C) shows the mapped floodplain for the Cap-Pelé area in the year 2100 is 3.50m (CGVD2013).

As noted below, the proposed test holes elevations are above the Coastal Flood level of 3.50 meters.:

- 12.149m for Test Well 22-01 (Proposed 18-unit apartment building)
- 9.164m for Observation Well 22-04 (Future 12-unit apartment building)

It is anticipated that the proposed work will have little effect on the surrounding environmental features. As noted in the previous section, the proposed drilling targets are not within 30 m of any mapped wetland according to GeoNB's delineation fabric and as noted in the 2021 Wetland Presence / Absence Assessment.

Existing wells are located within 500m of the proposed new wells. Considerations have been included in the WSSA Initial Application (Appendix A) to mitigate potential effects on existing wells.

5 Summary of proposed mitigation

Different mitigation measures will be used throughout the project to minimize environmental impacts as follows:

- Disturbed areas will be reinstated as soon as is practical, silt fences and other erosion protection devices around excavations and stockpiles will also be used until they are fully grown.
- Construction will be limited to the requirements of the drilling equipment.
- A setback of 30 meters from wetlands and watercourses will be respected. A WAWA permit application will be submitted if construction is required within the 30m buffer zone of a wetland or watercourse (not anticipated to be required for this project).
- Well Drilling activities will be done by a Licenced Well Drilling Company and in accordance with the NBDELG Guide for Residential Well Drilling.
- The Contractors will be responsible to have on-site leak and spill prevention equipment prior to commencement of any work. In the event of a spill, the contaminated soils will be removed from the site and disposed of at an approved decontamination site. Any spills will be reported to the DELG Local Regional Office during business hours or to the Canadian Coast Guard's 24-hour reporting system after-hours.
- The Contractors will be responsible to provide machinery in good working condition.

5.1 Fauna and flora desktop study

The project is located in the Eastern Lowlands Ecoregion and it is specifically located in the Kouchibouguac Ecodistrict, which stretches from Miramichi Bay to Cape Tourmentine. This area is dominated by river estuaries, sand dunes and peat bogs. Most of the property appears to have been a temperate mixed forest that is currently cleared. Tree species include dominance of red maple (Acer rubrum), trembling aspen (Populus tremuloides) and Choke Cherry (Prunus virginiana).

A Species at Risk (SAR) assessment will be conducted at the project site and will include a review of Atlantic Canada Conservation Data Centre (ACCDC) reports prepared for the project area and a field survey to identify SAR (and their critical habitats) protected under federal and provincial Species at Risk Acts.

Preliminary exploratory activities are not anticipated to generate significant disturbance to site flora or fauna. Some disturbance of vegetation is expected at the well site but will be limited construction of new access pads for the drilling equipment and related environmental structures. As such, if required, the SAR survey will be conducted following the initial exploratory project stage during the appropriate field season. However, the following mitigation measures will be taken by Englobe and their subcontractors during the course of the project to ensure native flora and fauna are protected:

- If encountered, wildlife is not to be handled, touched, or harassed. Wildlife will be provided ample space to vacate the worksite on their own accord. Encounters with wildlife will be documented and reported to the client.
- Machinery will be operated on existing access roads and trails, where possible, to prevent unnecessary disturbance of vegetation, tree root zones and soils.

— Only trees and vegetation necessary for construction will be removed.
— Signs, notices, posters, etc. will not be affixed to trees or other vegetation; and
— Exhaust fumes from all equipment will be directed away from tree canopies.

6 Public and First Nations Involvement Process

The typical steps to involve the Public and First Nations are outline below. Confirmation from the NBDELG will be required to ensure that the following steps (or if additional steps) are required for this specific project.

The minimum public and First Nations consultation requirements outlined in Appendix C of the Provincial EIA registration guide will be followed (NBDELG, 2018). Stakeholders include the owners of all properties which adjoin the existing property, PID 00845701 (i.e. the subject property). A public notice containing the information specified in the registration guide will be delivered to the above noted stakeholders, in addition to the local Member of the Legislative Assembly (MLA) and the Village of Cap-Pelé, after registering the undertaking under the Provincial EIA process.

Although no First Nation communities are located within the immediate study area, a project notification/information letter will be prepared and submitted to nearby First Nation communities (i.e. Bouctouche First Nation and Fort Folly First Nation) and the Aboriginal Affairs Secretariat in accordance with provincial Duty to Consult requirements.

Following the completion of the consultation process, a summary report on the public and First Nation involvement will be prepared and submitted to NBDELG in accordance with the EIA process requirements.

Following the preliminary drilling investigations and constant rate pump testing, any landowners affected outside the identified properties will be contacted. At that time, 705052 NB INC. will prepare an overall public notice to inform the general public and any stakeholders of the details of the project.

A Public Consultation will be held and a report summarizing the discussions and related topics will be done per the EIA Guidelines. The summary-report will be provided to the NBDELG for review and approval.

7 Approval of Undertaking

The following technical approvals are anticipated as being required for this project:

— Approval under the EIA Legislation from the NBDELG.
— Approval of the Initial Application and Hydrogeological Study under the NBDELG Water Supply Source Assessment.
— For the construction of the wells, the contractor will be required to obtain the drilling permit from the NBDELG before undertaking the drilling operations.

8 Funding

The development is being completed by private developer 705052 NB INC.

9 Signature

Mr. Pierre LeBlanc Owner 705052 NB INC.	Date

8 Funding

The development is being completed by private developer 705052 NB INC.

9 Signature

Pierre LeBlanc   dotloop verified [illegible]   March, 24, 2022

Mr. Pierre LeBlanc
Owner
705052 NB INC.

Date

Appendix A
Water Supply Source Assessment - Initial Application

Including Englobe Corp. Figures 01 to 03

ENGLOBE

Water Supply Source Assessment Initial Application

Please provide the following information:

1. **Name of Proponent:** 705052 NB INC. (Mr. Pierre LeBlanc)

2. **Location of drill targets (including property PID) and purpose of the proposed water supply.**

   The Proponent (705052 NB INC.) proposes to construct one (1) new 18-unit apartment building by subdividing a portion of PID 00845701. This development property is located along rue de L'Espoir in Cap-Pelé, roughly 200 m north of the Highway 133, and just north of the current development.

   The project is in the Village of Cap-Pelé, where only sanitary and storm serving is available (there is no municipal water system in the Village of Cap-Pelé). Therefore, current, and future water servicing is based on drilling potable water wells for each individual building or building complex.

   Although the Proponent is planning to construct only one (1) new 18-unit apartment building in this current Development Phase, future planning was considered and resulted in envisioning that additional buildings could be added later. As shown on Figure 01 (Appendix A), the Proponent future planning includes adding two (2) 18-unit and one (1) 12-unit apartment buildings on PID 00845701, for a total of three (3) potential new buildings in the future.

   This document outlines the potable water well design and development including the Environmental Impact Assessment (EIA) required for the current well (one (1) well for Apartment Building #1), with considerations for future buildings.

3. **Required water quantity (in m^3/day) and/or required pumping rate.**

   The required water quantity (in m^3/day) has been calculated in accordance with the WSSA Guidelines, assuming two (2) bedrooms per apartment. Therefore, for each apartment, the following average daily consumption and peak demand rate have been calculated:

   Average Daily Consumption:

   - 450 L/day per person X 3 persons per apartment (# bedrooms + 1 person) = 1,350 L/day per apartment

   Peak Demand Rate:

   - 3.75 L/min/person for 120 minutes = 3.75 L/min/person X 120 minutes X 3 person/apartment = 1,350 L/apartment (over 120 minutes)

   The following values have been calculated using the above Average Daily Consumption and Peak Demand Rate:

   Phase 1 (current proposed development project):

   - Average Daily Consumption = 1,350 L/day per apartment X 18 apartments = 24,300 L/day (24.3 m^3/day)

- Peak Demand Rate = 1,350 L/apartment X 18 apartments = 24,300 L (over 120 minutes) =202.5 L/min

Therefore, conceptually, the following water volumes would be required to accommodate the future buildings on PID 00845701:

Proposed Building	Average Daily Consumption (L/day)	Peak Demand Rate (L/min)
Phase 1 - Building #1 (1 X 18 Unit)	24.3	202.5
Future Building #1 (Conceptual) (1 X 18 Unit)	24.3	202.5
Future Building #2 (Conceptual) (1 X 18 Unit)	24.3	202.5
Future Building #3 (Conceptual) (1 X 12 Unit)	16.2	135.0
Total	**89.1**	**751.5**

As shown on Figure 01 (Appendix A), it is foreseeable that the future buildings would be constructed near each other, and therefore, it is suggested that the new well and future wells be considered as one “waterworks” for the purpose of this WSSA Initial Application.

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

The project is in the Village of Cap-Pelé, where only sanitary and storm serving is available (there is no municipal water system in the Village of Cap-Pelé). Therefore, current, and future water servicing is based on drilling potable water wells for each individual building or building complex.

No other locations were chosen as alternate areas to drill as this area of the Village of Cap-Pelé is well known to have ample groundwater supplies in the bedrock aquifer beneath. The wells are to be drilled near the planned apartment buildings.

The proposed drill target is located on the south portion of the PID (adjacent to the proposed location for the proposed 18-unit apartment building (building #1). This PID is underlain by Late Carboniferous to Permian-age sediments belonging to the Pictou Group. Smith, and Fyffe (2006) describe these rocks as medium- to fine-grained, terrestrial, clastic rocks (Pictou Group - Richibucto Formations). The 1:50,000 scale map for the area describes the Richibucto Formation as “grey to brownish red, commonly micaeous, lithic and arkosic sandstone, pebbly sandstone and intraformational mudstone-clast conglomerate, brownish red to brick-red and lesser grey, siltstone and mudstone: minor intraformational limestone-cobble conglomerate and thin, laterally extensive limestone beds: minor thin coal seams (Smith, E.A. (compiler) 2007).

A review of regional scale surficial geology mapping indicates the study area is situated near the boundary between two (2) geologic units. The northern portion of the study area adjacent to the coast and along portions of Friel Brook and the Tedish River are mapped as being underlain by blankets and plains comprised of sand, silt, some gravel, and clay (Rampton et al., 1984). Where present, this unit ranges from 0.5 m to 3.0 m in thickness. South of this area, the study area is underlain by a 0.5 m to 3 m thick blanket of loamy lodgment till, minor ablation till, silt, sand, gravel and rubble (Rampton et al., 1984). Overlying this material is a thin, discontinuous veneer of sand, some gravel and silt and rare clay. Where present, the thickness of the above noted unit is typically less than 0.5 m.

5. Outline the proposed hydrogeological testing and work schedule.

It is proposed to drill one (1) Test Well and one (1) Observation Well for the purpose of establishing the total available yield of this waterworks (conceptually, three (3) additional buildings could be added in the future on PID 00845701). The proposed Test Well site has been established based on the location of the new Apartment Building (Building #1) and the Observation Well location is based on the future Apartment Building #3 (Refer to Figure 01 in Appendix A). Wells will be drilled in strategic locations on each lot to avoid new infrastructure associated with the construction of the new buildings.

It is the intent of the Owner to start drilling as soon as possible at the proposed test site to determine the preliminary yield and quality. It is understood that the exploratory drilling may not be started until after approval of the EIA Registration Document and Initial Application has been received from the NBDELG.

In accordance with the Water Supply Source Assessment Guidelines (April 2017), the following schedule has been developed for the drilling, testing and construction phases of the new well and observation well to establish the ground water profile.

Component	Approx. duration (weeks)	Anticipated completion date
EIA Registration, WSSA Initial Application, and Review	8	May 20, 2022
Preliminary Site Work for Drilling Equipment	1	May 27, 2022
Preliminary Drilling. Preliminary Well Construction and Pump Testing	3	June 17, 2022
WSSA Final Assessment	2	July 1, 2022
WSSA Final Review and Certificate of Determination	2	July 15, 2022

Based on our review of available well construction information and hydrogeology of the area, it is expected that the proposed target depth below ground surface for the test well should be between 30 and 50m.

The drilling program is based on the following work:

- The initial Test Well for Apartment Building #1 will be used (if successful) to confirm the total available yield for this “waterworks” (total water required for current and future phases).
- A new well will be drilled near the proposed Future Apartment Building #3 and will be used as an observation well during the constant rate test.
- Nearby adjacent wells will be monitored during the drilling program and constant rate test. At this preliminary stage, it is proposed to use the following wells for monitoring purposes (refer to Figure 05 in Appendix D of the EIA Registration Document for location and distances to the proposed new wells):
    - Existing well at apartment building (in operation, adjacent to the proposed new 18-unit building)
    - Existing fire protection well at the Level 2 senior’s home facility (not in operation – for emergencies only)

If the planned test well is found to be successful, step drawdown testing and a constant rate pumping test will be undertaken, in accordance with the Water Supply Source Assessment Guidelines (April 2017), including required water sampling. This is proposed to be completed by June 17, 2022. A 24-hour constant rate pumping test is proposed for this residential type well. Although, it is expected to pump the well at +- 751.5 L/min for the purpose of simulating the Peak Demand for the complete future “waterworks”, each future well would be required to manage between 135 L/min to 202.5 L/min, as previously noted.

The results of the constant rate pumping test will be used to calculate the safe yield of the test well for the complete “waterworks” and correlation factors will be applied to confirm the safe yield of all wells (total of four (4) wells). During the constant rate test, water level fluctuations will be

monitored in the new well, new observation well and two (2) nearby by wells using Solinst Leveloggers (plus Barologger), and electric water level tapes as a backup and way of calibrating the Levelogger data.

Upon completion of the aquifer testing, a report will be prepared in accordance with the Water Supply Source Assessment Guidelines (April 2017), outlining the methods used, field data, and relevant information used to provide conclusions and recommendations. The drawdown and recovery data will be analyzed using commercially available software (AquiferTest, Version 8.0, by Waterloo Hydrogeologic). The report will also include a discussion of long-term sustainable yields of the well and future wells (for the three (3) potential additional buildings) and impacts on surrounding water supplies, if any.

6. **Identify any existing pollution or contamination hazards within a minimum radius of 500 m from the proposed drill targets. Historical land use that might pose a contamination hazard (i.e. tannery, industrial, waste disposal, etc.) should also be discussed.**

To the best of our knowledge, there are no visible indications of existing pollution or contamination hazards within a 500 m radius of the proposed drill targets. A request was made to DELG on December 1, 2021, File No. 100-05-R3. Four (4) PIDs had additional information under the gazette Status. These were PIDs 00844589 (2559 Chemin Acadie), 70666151 (just listed as “Rue Donnelle”), PID 70410089 (2604 Chemin Acadie) and 00845701 (“Rue Acadie”, the subject site).

Based on this request, there was a record of a Ministerial Order or Remediation Order related to PID 70410089 which was served on Downeast Plastics Ltd. (2598 Chemin Acadie) on January 29, 2019. This order was rescinded on April 30, 2019. There was no other information provided. There were no records of Ministerial Orders or Remediation Orders related to the other three PID numbers.

NBDELG records indicate that there is one (1) petroleum storage tank registered with the Department, under the Petroleum Product Storage and Handling Regulation, for PID 70410089 (and several have been removed – see below). There were no other petroleum storage tanks registered for the remaining three PIDS. NBDELG have no records in their database of any remedial activity or contamination for these four (4) PIDs. These four (4) PIDs are not registered with the Department as a PCB Storage site. There are no records of landfill sites or former dumpsites located near these four PID numbers.

PID 70410089

The NBDELG response reported the following information with respect to petroleum tanks:

- Two (2) 4,546-L steel ASTs, both containing furnace oil that were installed in 1987 and bother were removed on October 18, 2000 (from Site # 2606).
- One (1) 45,640-L secondary containment steel AST containing furnace oil that was installed in 2000 and was removed on September 15, 2017 (Site # 7447).
- One (1) 68,191-L secondary containment steel AST containing furnace oil that was installed in 2004 and was removed on April 10, 2017 (Site # 7447).
- One (1) 9,100-L double walled steel AST containing furnace oil that was installed in 2017 and was removed on June 12, 2018 (Site # 7447).
- One (1) active 45,460-L double-walled steel AST containing furnace oil that was installed in 2018.

Based on the information provided by NBDELG for the adjacent property (PID 70410089), various tanks have been installed and removed and there is currently one active AST tank and there is also a history of UST use on the property. The active AST tank poses a low risk as there was no reported contamination associated with the tanks.

All pertinent information has been included in Appendix D.

7. **Identify any groundwater use problems (quantity or quality) that have occurred in the area.**

   There are no known groundwater problems in the immediate area, except for elevated manganese in some of the nearby wells.

8. **Identify any watercourse(s) (stream, brook, river, wetland, etc.) within 60 m of the proposed drill targets.**

   Development:

   Figure 02 (Appendix B) shows one watercourse within 500 m of the immediate vicinity of the proposed wells, Friel Brook.

   A Wetland Presence/Absence survey was conducted by Overdale Environmental Inc. (delineator Theo Popma, M.Sc.) on October 28, 2021 for PID 00845701. The assessment was intended to survey a small portion of PID 00845701 as well as the edge of the neighbouring PID along the shared boundary. Wetland conditions (atypical conditions) were identified in the low-lying, disturbed area at the northern edge of the study area (more than 190m away from the proposed Well #1 and 130m to the north of the proposed observation well). Upland conditions dominate the southern portion of the study area (the area that was delineated).

   Therefore, watercourses and wetlands are not located near the current project. The complete Wetland Presence / Absence Report can be found in Appendix F of the EIA Registration Document.

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

   Englobe Corp.:

   Senior Project Engineer – Julien Babin, P.Eng.

   Senior Advisor and EIA Lead – Pierre Plourde, P.Eng.

   Senior Hydrogeologist – John Hart, B.Sc.

   Senior Hydrogeologist – Jeff Meadows M.Eng., P.Geo.

   Well Drillers: Eastern Well Drillers

   Jacques LeBlanc

10. **Attach a 1:10 000 map and/or recent air photo clearly identifying the following:**

    - Proposed location of drill targets and property PID.
    - Domestic or production wells within a 500 m radius from the drill target(s).
    - Any potential hazards identified in question 7.

    The attached Figure 02 (Appendix B) includes a recent aerial surface overlain with available property information. The proposed drill target areas are clearly identified; The 500 m buffer zone around the drill target, adjacent brooks, and existing wells within a 500 m radius of the drill targets (location of domestic wells are approximate but collected from the DELG database) are shown on the drawing.

Existing well sites recorded on the NB Online Well Log System have been shown for reference. There were 9 wells located around the proposed drilling location (within a 500 m radius of the site). The estimated safe yields of these wells varied from 45.5 to 273 L/s.

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

The project (PID 00845701) is in “Institutional Services” Zone of the Village of Cap-Pelé where multi-residential construction is permitted. Currently, there are multi-residential units and a Senior’s Home Health Care Facility along Rue de L’Espoir St. (adjacent to the proposed site). Therefore, there are no concerns with the Zoning for this project. Refer to Figure 03, in Appendix C where proposed drilling targets for Well #1 and an Observation Well have been identified, including potential targets for Future Buildings (Buildings, #1, #2 and #3).

12. **Contingency plan for open loop earth energy systems.**

N/A.

Submit WSSA Initial Application:

c/o Manager

Department of Environment and Local Government

Environmental Assessment Section

Tel: (506) 444-5382

Fax: (506) 453-2627

Mailing Address:

P.O. Box 6000

Fredericton, New Brunswick

E3B 5H1

Physical Address:

20 McGloin Street, Marysville Place

Fredericton, New Brunswick

E3A 5T8

References:

Rampton, V. N., R. C. Gauthier, J. Thibault and A. A. Seaman, 1984. Quaternary Geology of New Brunswick, Geological Survey of Canada, Memoir 416.

Smith, E.A. (compiler) 2007). Bedrock geology of the Port Elgin area (NTS 21 I/01). New Brunswick Department of Natural Resources, Minerals, Policy and Planning Division. Plate 2007-47.

Appendices:

Appendix A	Figure 01 – Proposed Drilling Sites for New Water Supply Well and Nearby Existing Wells
Appendix B	Figure 02 – Location of Proposed Wells, Existing Wells and Watercourses and Wetlands
Appendix C	Figure 03 - Zoning Map
Appendix D	NBDELG Property Based Environmental Information Letter

Appendix A
Figure 01 – Proposed Drilling Sites for New Water Supply Well and Nearby Existing Wells

ENGLOBE

Legend / Notes:

LEGEND

- 500m Radius Circle
- Provincially Significant Wetland
- Regulated Wetland
- Existing Well Locations
- Proposed Wells
- Proposed Property Lines
- Proposed ROW
- ROW Lines
- **Upland Data Points**
- **Wetland Data Points**

Project Location:

CAP PELE, NB

Project Title:

L'ESPOIR STREET

Map Title:

PROPOSED DRILLING SITES FOR NEW WATER SUPPLY WELL AND NEARBY EXISTING WELLS

Map ID:

MAP No: **FIG01**
PAGE No: **1 of 1**
SCALE: 1:1000

Revision:

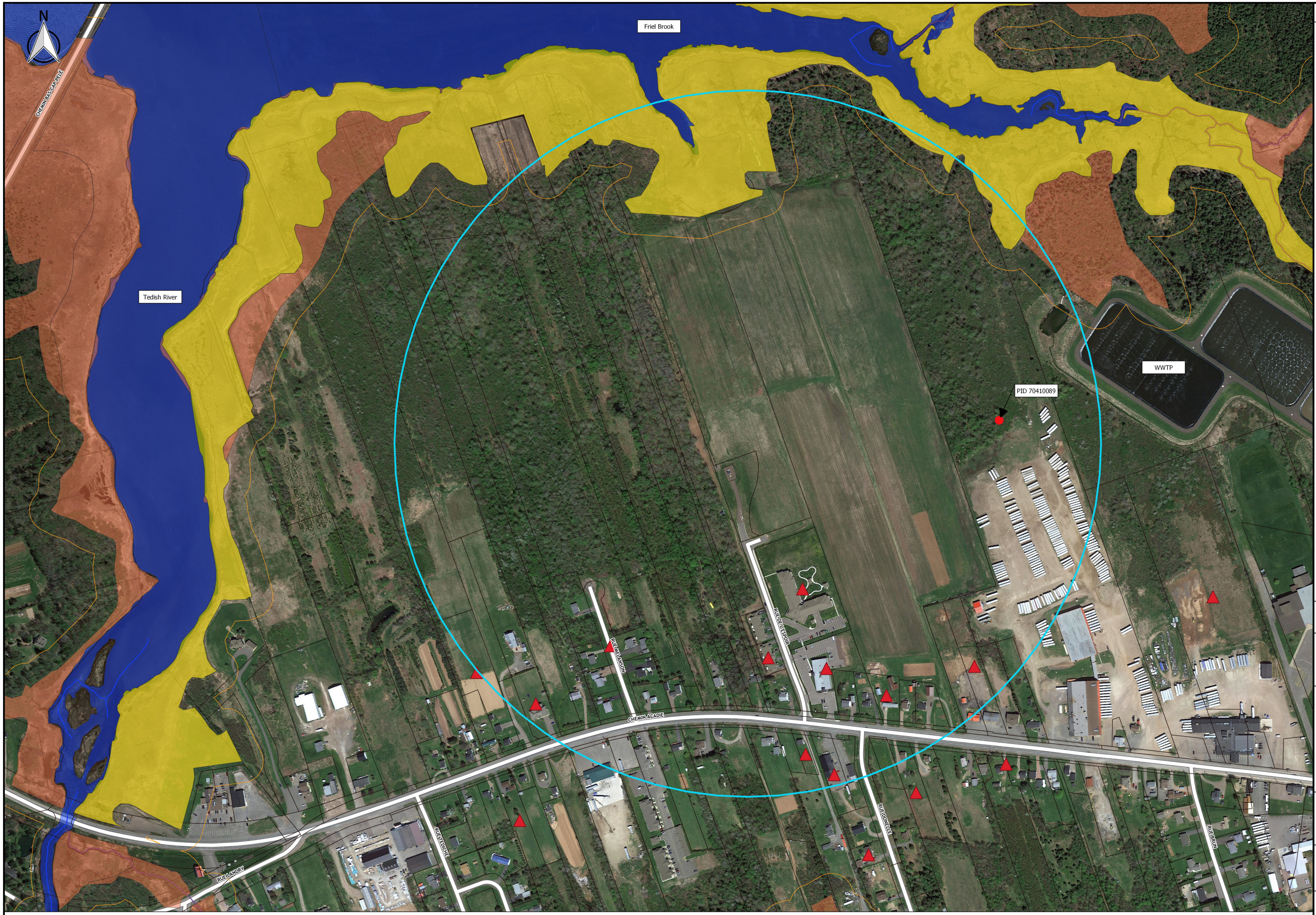
DATE: 02/23/2022 BY: AC
PROJ No: 2105019 APPR: JM
REV: A - ISSUED FOR REVIEW

Project CRS: NAD83(CSRS) / New Brunswick Stereographic, EPSG:2953
LiDAR dataset: Contains information licenced under the GeoNB Open Data Licence.
LiDAR DEM year(s): 2017, 2018 Vertical Datum: cgvd2013 (source), cgvd28 (converted)(+ 0.581)
Layout Name: 2105019 EIA Fig01 Proposed Drilling Sites
Project Path: O:\2021\2105019 Rue de L'espoir Ext - EIA Project\2105019 EIA L'Espoir Street.qgz

50 0 50 100 150 200 250 m

Appendix B
Figure 02 – Location of Proposed Wells, Existing Wells and Watercourses and Wetlands

ENGLOBE



Project CRS: NAD83(CSRS) / New Brunswick Stereographic, EPSG:2953
LiDAR dataset: Contains information licenced under the GeoNB Open Data Licence.
LiDAR DEM year(s): 2017, 2018 Vertical Datum: cgvd2013 (source), cgvd28 (converted)(+ 0.581)
Layout Name: 2105019 EIA Fig02 Location of Wells
Project Path: O:\2021\2105019 Rue de L'espoir Ext - EIA Project2105019 EIA L'Espoir Street.qgz

100 0 100 200 300 400 500 m

Legend / Notes:

LEGEND

- 500m Radius Circle
- Provincially Significant Wetland
- Regulated Wetland
- Existing Well Locations

Contamination Hazards

- Existing Pollution or Contamination Hazards Within a Minimum Radius of 500m from the Proposed Drill Targets (Petroleum Storage Site)

Project Location:

CAP PELE, NB

Project Title:

L'ESPOIR STREET

Map Title:

LOCATION OF PROPOSED WELLS, EXISTING WELLS, WATERCOURSES AND WETLANDS

Map ID:

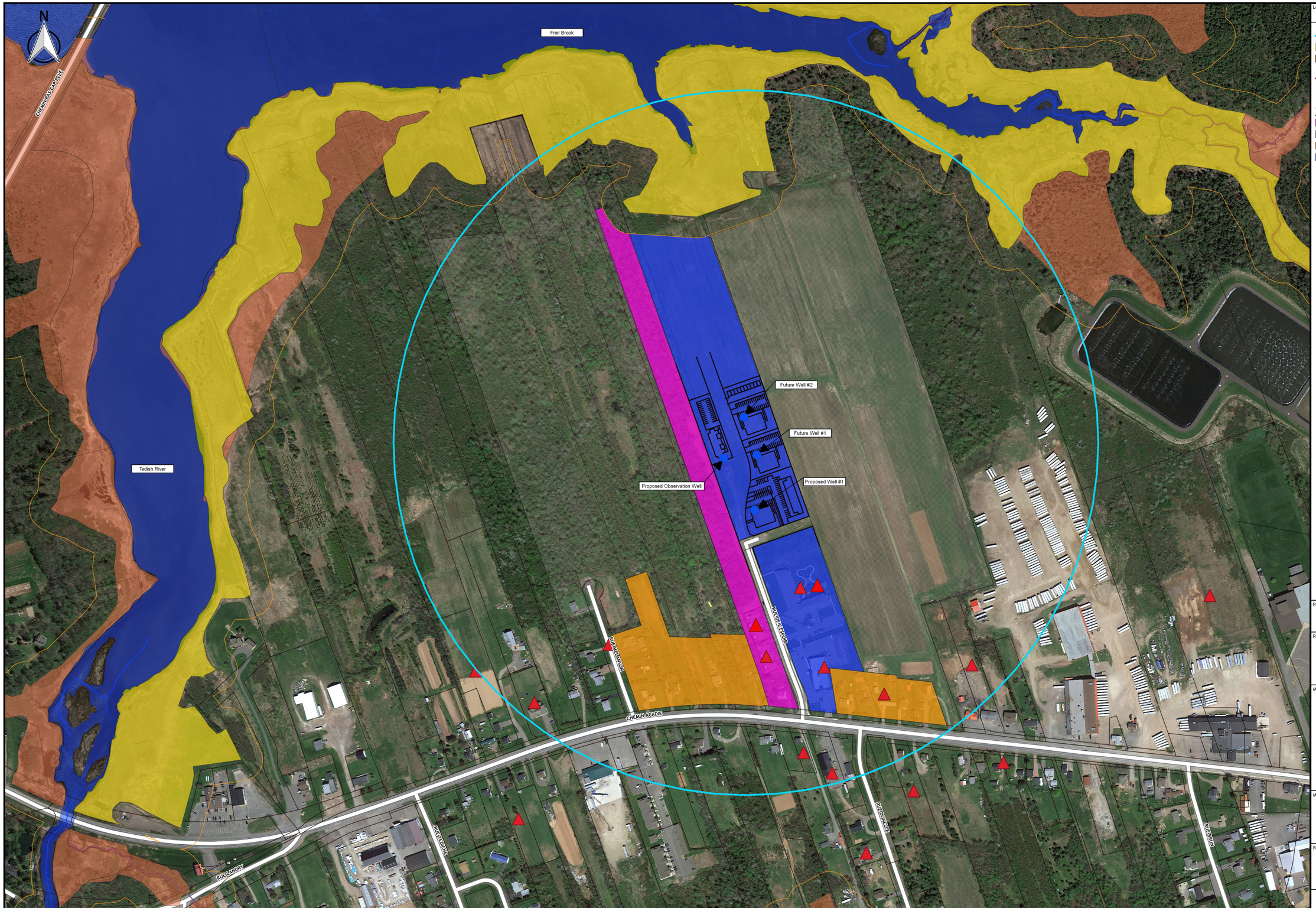
MAP No: **FIG02**
PAGE No: **1 of 1**
SCALE: 1:2500

Revision:

DATE: 03/12/2021 BY: AC
PROJ No: 2105019 APPR: JM
REV: A - ISSUED FOR REVIEW

Appendix C
Figure 03 - Zoning Map

ENGLOBE



Legend / Notes:

LEGEND

- 500m Radius Circle
- Provincially Significant Wetland
- Regulated Wetland
- Existing Well Locations
- Proposed and Future Wells

Zoning

- Zoning - General Commercial
- Zoning - Resource Development
- Zoning - Residential
- Zoning - Institutional Services

Project CRS: NAD83(CSRS) / New Brunswick Stereographic, EPSG:2953
LiDAR dataset: Contains information licenced under the GeoNB Open Data Licence.
LiDAR DEM year(s): 2017, 2018 Vertical Datum: cgvd2013 (source), cgvd28 (converted)(+ 0.581)
Layout Name: 2105019 EIA Fig03 Zoning Map
Project Path: O:\2021\2105019 Rue de L'espoir Ext - EIA Project2105019 EIA L'Espoir Street.qgz

100 0 100 200 300 400 500 m

Project Location:

CAP PELE, NB

Project Title:

L'ESPOIR STREET

Map Title:

ZONING MAP

Map ID:

MAP No: **FIG03**
PAGE No: **1 of 1**
SCALE: 1:2500

Revision:

DATE: 03/12/2021 BY: AC
PROJ No: 2105019 APPR: JM
REV: A - ISSUED FOR REVIEW

Appendix D
NBDELG Property Based Environmental Information Letter

ENGLOBE

December 3, 2021
File No.: 100-05-R3

Englobe Corp.
215 Horsman Road
Moncton, NB E1E 0A2
Attention: Jeff Meadows

Your Ref #: Project 02015019

RE: PID#: 00844589, 70666151, 70410089 & 00845701

In response to your request for property-based environmental information regarding the above noted properties, please be advised that a search of related departmental electronic databases has been conducted *with the information provided*, and the following information was found.

Information pertaining to a Ministerial Order/Remediation Order relating to **PID# 70410089** served on **Downeast Plastics Ltd.** on **2019/01/29**, then rescinded on **2019/04/30**. No records of Ministerial Orders or Remediation Orders were found for the remaining PID numbers, using our current search process.

Petroleum storage tank information related to **PID# 70410089** is attached. With respect to the remaining PID numbers, our records indicate that there are no petroleum storage tanks registered with the Department, under the Petroleum Product Storage and Handling Regulation.

We have no records in our database of any remedial activity or contamination for this PID number.

These PID numbers are not registered with the Department as a PCB Storage site.

We have no records of landfill sites or former dumpsites located near these PID numbers.

The absence of departmental records in this search does not necessarily indicate that the sites have not been subject to environmental incidents. The information is accurate in that it provides a factual reflection of what is contained in departmental databases. The files themselves may or may not be complete.

As an example, in the case of underground petroleum storage tanks, the files accurately reflect all those that were registered with the program; there may be underground storage tanks that were not registered and of which the Department has no knowledge. Likewise, there may be incidents of spills of which the Department was not informed or which pre-date Departmental records. "Remediation Site Management System" was established in the early 2000's and does not contain a complete history of past spills or remediation efforts. Furthermore, if the properties have been recently altered, the PID#'s provided may not correspond with those contained in departmental files and thus on the databases.

Any persons intending to purchase or occupy the property should make their own independent determination of the environmental condition of the property and the extent of responsibility and liability, if any, that may arise from taking ownership or occupancy.

Authorizations Branch

Enclosures: 1

/lr

Petroleum Storage
(PID 70410089)

PID #: 70410089	Site #: 2606	Address:	DOWNEAST PLASTICS LTD 2598 CHEMIN ACADIE CAP-PELE

Tank Information

Current Status	Removed
Date Out of Service	2000-10-18
Installation Date	1987
Tank Size	4546 L
Location	Above Ground
Constructed Of	Steel
Substance Stored	Furnace Oil

Current Status	Removed
Date Out of Service	2000-10-18
Installation Date	1987
Tank Size	4546 L
Location	Above Ground
Constructed Of	Steel
Substance Stored	Furnace Oil

PID #: 70410089	Site #: 7447	Address:	DOWNEAST PLASTICS LTD 2598 CHEMIN ACADIE CAP-PELE

Tank Information

Current Status	Removed
Date Out of Service	2017-09-15
Installation Date	2000
Tank Size	45640 L
Location	Above Ground
Constructed Of	Secondary Containment Steel
Substance Stored	Furnace Oil

Current Status	Removed
Date Out of Service	2017-04-10
Installation Date	2004
Tank Size	68191 L
Location	Above Ground
Constructed Of	Secondary Containment Steel
Substance Stored	Furnace Oil

Current Status	Removed
Date Out of Service	2018-06-12
Installation Date	2017
Tank Size	9100 L
Location	Above Ground
Constructed Of	Double Wall Steel
Substance Stored	Furnace Oil

Current Status	Active
Date Out of Service	
Installation Date	2018
Tank Size	45460 L
Location	Above Ground
Constructed Of	Double Wall Steel
Substance Stored	Furnace Oil

Appendix B
Englobe Corp. Figure 04 - 1:25,000 scale map and location plan

ENGLOBE

N

AREA OF WORK
500m RADIUS

NORTHUMBERLAND

WESTMORLAND

Cap Pelé
Packing Plant
Bas-Cap-Pelé
Community Hall
Fagan Point
(GULF OF ST LAWRE
(GOLFE DU SAINT-LA
Trailer Park
L'Aboiteau
Friel
Dupuis Corner
Trailer Pk
Motel
Sawmill
Ball Park
Sewage
Arena
Junk Yard
Cap-Pelé
Trans Sta
Dump
Trois-Ruisseaux
Leger Brook
Motel
Trailer Pk
Robichaud
Tanks
Surface Condition Unknown
Gallant Settlement
Kouchibouguac
Botsford Portage
Tedish
Little Cape Brook
Community Hall
River
Saint-André-de-Shédiac
LeBlanc
Cormier-Village
Community Hall
Lake
Poucette Lake
Brook
Copp Brook
Shemogue
Square Lake
Kinnear
River
Haute-Aboujagane
Ball Park
Cemetery
Drisdelle
Avard

Project CRS: NAD83(CSRS) / New Brunswick Stereographic, EPSG:2953
LiDAR dataset: Contains information licenced under the GeoNB Open Data Licence.
LiDAR DEM year(s): 2017, 2018 Vertical Datum: cgvd2013 (source), cgvd28 (converted)(+ 0.581)
Layout Name: 2105019 EIA Fig04 Overall Plan
Project Path: O:\2021\2105019 Rue de L'espoir Ext - EIA Project\2105019 EIA L'Espoir Street.qgz

1,000 0 1,000 2,000 3,000 4,000 5,000 m

Legend / Notes:

LEGEND

- 500m Radius Circle
- Provincially Significant Wetland
- Regulated Wetland
- Existing Well Locations
- Cap Pele Village Limits

Project Location:
CAP PELE, NB

Project Title:
L'ESPOIR STREET

Map Title:
OVERALL LOCATION PLAN

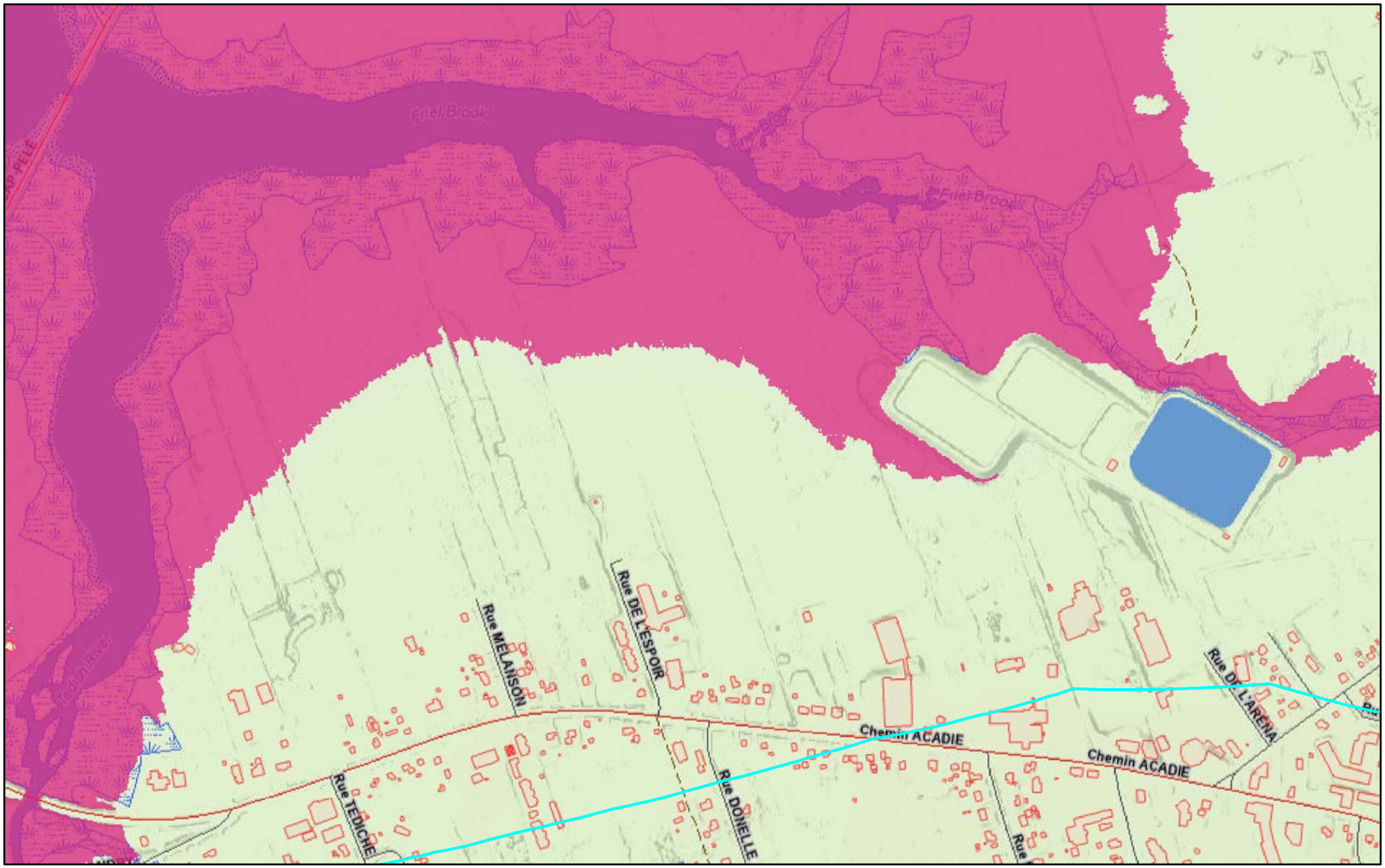
Map ID:
MAP No: **FIG04**
PAGE No: **1 of 1**
SCALE: 1:25000

Revision:
DATE: 03/12/2021 BY: AC
PROJ No: 2105019 APPR: JM
REV: A - ISSUED FOR REVIEW

Appendix C
GeoNB Coastal Flooding Map

ENGLOBE

Coastal Flooding Cap-Pele



3/9/2022, 3:30:19 PM

1:9,028

0 0.07 0.15 0.3 mi

0 0.1 0.2 0.4 km

NB Coastal Zones Data

Buildings

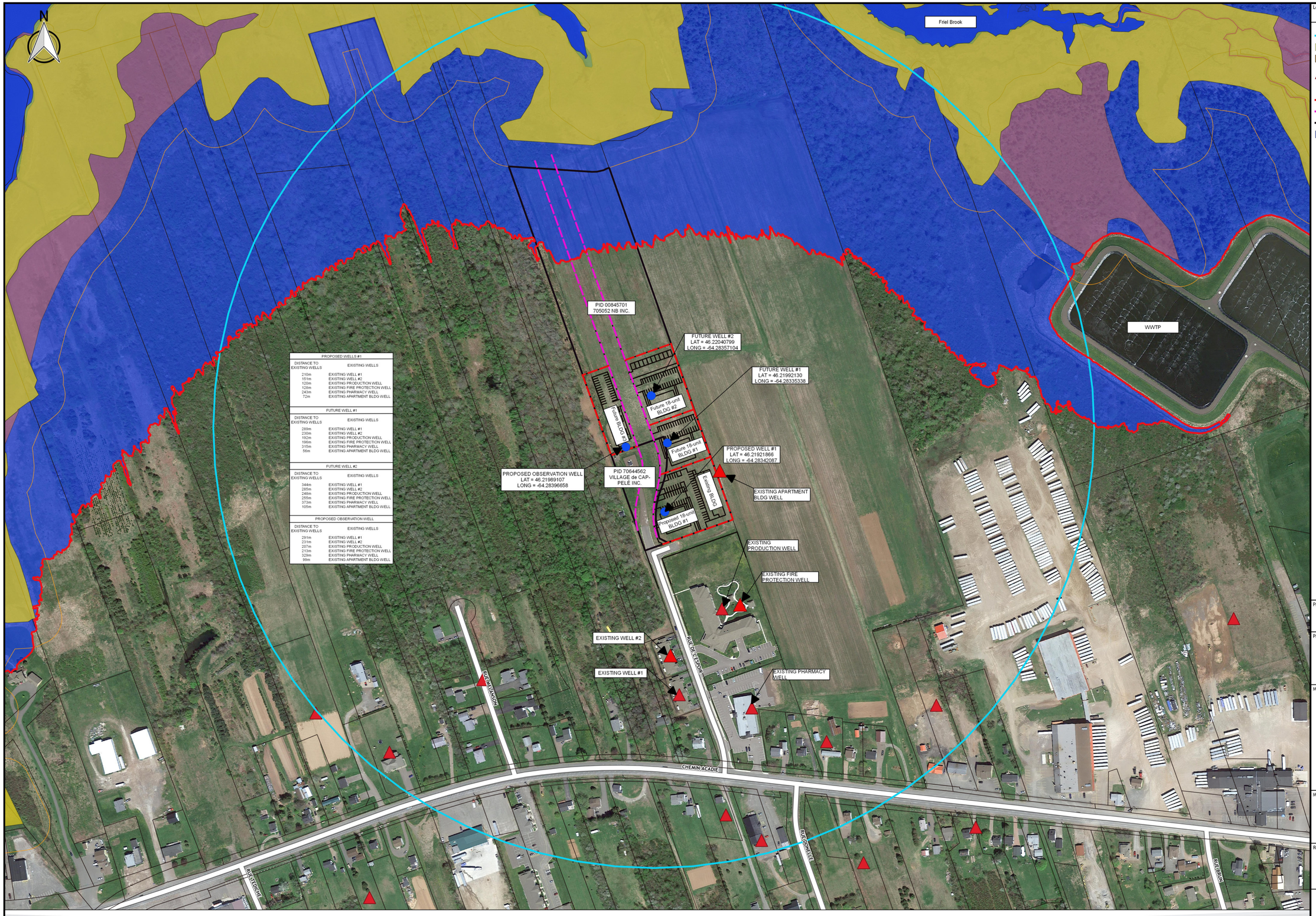
2100 Flood with Climate Change, 1 in 100 year (1% Annual Exceedance Probability)

High : 312.951

Low : 2.14335

Service New Brunswick, Service New Brunswick / Service Nouveau-

GeoNB



Project CRS: NAD83(CSRS) / New Brunswick Stereographic, EPSG:2953
LiDAR dataset: Contains information licenced under the GeoNB Open Data Licence.
LiDAR DEM year(s): 2017, 2018 Vertical Datum: cgvd2013 (source), cgvd28 (converted)(+ 0.581)
Layout Name: 2105019 EIA Fig05 Flood Plain
Project Path: O:\2021\2105019 Rue de L'espoir Ext - EIA Project\2105019 EIA L'Espoir Street.qgz

50 0 50 100 150 200 250 m

Legend / Notes:

LEGEND

- 500m Radius Circle
- Provincially Significant Wetland
- Regulated Wetland
- Existing Well Locations
- Proposed Wells
- Proposed Property Lines
- Proposed ROW
- ROW Lines
- Coastal Flooding Elevation 3.5m (CGVD13)

Project Location:

CAP PELE, NB

Project Title:

L'ESPOIR STREET

Map Title:

PROPOSED DEVELOPMENT, NEW WELL LOCATIONS AND COASTAL FLOODING

Map ID:

MAP No: **FIG05**
PAGE No: **1 of 1**
SCALE: 1:2000

Revision:

DATE: 02/23/2022 BY: AC
PROJ No: 2105019 APPR: JM
REV: A - ISSUED FOR REVIEW

Appendix D Englobe Corp. Figure 05 – Proposed Development, New Well Locations and Coastal Flooding

ENGLOBE

N

PROPOSED WELLS #1

DISTANCE TO EXISTING WELLS	EXISTING WELLS
210m	EXISTING WELL #1
151m	EXISTING WELL #2
120m	EXISTING PRODUCTION WELL
128m	EXISTING FIRE PROTECTION WELL
243m	EXISTING PHARMACY WELL
72m	EXISTING APARTMENT BLDG WELL

FUTURE WELL #1

DISTANCE TO EXISTING WELLS	EXISTING WELLS
289m	EXISTING WELL #1
230m	EXISTING WELL #2
192m	EXISTING PRODUCTION WELL
196m	EXISTING FIRE PROTECTION WELL
315m	EXISTING PHARMACY WELL
56m	EXISTING APARTMENT BLDG WELL

FUTURE WELL #2

DISTANCE TO EXISTING WELLS	EXISTING WELLS
344m	EXISTING WELL #1
285m	EXISTING WELL #2
248m	EXISTING PRODUCTION WELL
256m	EXISTING FIRE PROTECTION WELL
373m	EXISTING PHARMACY WELL
105m	EXISTING APARTMENT BLDG WELL

PROPOSED OBSERVATION WELL

DISTANCE TO EXISTING WELLS	EXISTING WELLS
291m	EXISTING WELL #1
231m	EXISTING WELL #2
207m	EXISTING PRODUCTION WELL
212m	EXISTING FIRE PROTECTION WELL
329m	EXISTING PHARMACY WELL
99m	EXISTING APARTMENT BLDG WELL

PID 00845701
705052 NB INC.

FUTURE WELL #2
LAT = 46.22040799
LONG = -64.28357104

FUTURE WELL #1
LAT = 46.21992130
LONG = -64.28335338

Future 18-unit BLDG #2

Future BLDG #3

Future 18-unit BLDG #1

PROPOSED WELL #1
LAT = 46.21921866
LONG = -64.28342087

PROPOSED OBSERVATION WELL
LAT = 46.21989107
LONG = -64.28396658

PID 70644562
VILLAGE de CAP-PELE INC.

Existing BLDG

Proposed 18-unit BLDG #1

EXISTING APARTMENT BLDG WELL

EXISTING PRODUCTION WELL

EXISTING FIRE PROTECTION WELL

EXISTING WELL #2

EXISTING WELL #1

EXISTING PHARMACY WELL

RUE MELANSON

RUE DE L'ESPOIR

CHEMIN ACADIE

RUE DES ERABLES

RUE ROBICHEAU

RUE BERNIN

Project CRS: NAD83(CSRS) / New Brunswick Stereographic, EPSG:2953
LiDAR dataset: Contains information licenced under the GeoNB Open Data Licence.
LiDAR DEM year(s): 2017, 2018 Vertical Datum: cgvd2013 (source), cgvd28 (converted)(+ 0.581)
Layout Name: 2105019 EIA Fig05 Flood Plain
Project Path: O:\2021\2105019 Rue de L'espoir Ext - EIA Project\2105019 EIA L'Espoir Street.qgz

50 0 50 100 150 200 250 m

Legend / Notes:

LEGEND

- 500m Radius Circle
- Provincially Significant Wetland
- Regulated Wetland
- Existing Well Locations
- Proposed Wells
- Proposed Property Lines
- Proposed ROW
- ROW Lines
- Coastal Flooding Elevation 3.5m (CGVD13)

Project Location:

CAP PELE, NB

Project Title:

L'ESPOIR STREET

Map Title:

PROPOSED DEVELOPMENT, NEW WELL LOCATIONS AND COASTAL FLOODING

Map ID:

MAP No: **FIG05**
PAGE No: **1 of 1**
SCALE: 1:2000

Revision:

DATE: 02/23/2022 BY: AC
PROJ No: 2105019 APPR: JM
REV: A - ISSUED FOR REVIEW

Appendix E NBDELG Property Based Environmental Information Letter

ENGLOBE

December 3, 2021
File No.: 100-05-R3

Englobe Corp.
215 Horsman Road
Moncton, NB E1E 0A2
Attention: Jeff Meadows

Your Ref #: Project 02015019

RE: PID#: 00844589, 70666151, 70410089 & 00845701

In response to your request for property-based environmental information regarding the above noted properties, please be advised that a search of related departmental electronic databases has been conducted *with the information provided*, and the following information was found.

Information pertaining to a Ministerial Order/Remediation Order relating to **PID# 70410089** served on **Downeast Plastics Ltd.** on **2019/01/29**, then rescinded on **2019/04/30**. No records of Ministerial Orders or Remediation Orders were found for the remaining PID numbers, using our current search process.

Petroleum storage tank information related to **PID# 70410089** is attached. With respect to the remaining PID numbers, our records indicate that there are no petroleum storage tanks registered with the Department, under the Petroleum Product Storage and Handling Regulation.

We have no records in our database of any remedial activity or contamination for this PID number.

These PID numbers are not registered with the Department as a PCB Storage site.

We have no records of landfill sites or former dumpsites located near these PID numbers.

The absence of departmental records in this search does not necessarily indicate that the sites have not been subject to environmental incidents. The information is accurate in that it provides a factual reflection of what is contained in departmental databases. The files themselves may or may not be complete.

As an example, in the case of underground petroleum storage tanks, the files accurately reflect all those that were registered with the program; there may be underground storage tanks that were not registered and of which the Department has no knowledge. Likewise, there may be incidents of spills of which the Department was not informed or which pre-date Departmental records. "Remediation Site Management System" was established in the early 2000's and does not contain a complete history of past spills or remediation efforts. Furthermore, if the properties have been recently altered, the PID#'s provided may not correspond with those contained in departmental files and thus on the databases.

Any persons intending to purchase or occupy the property should make their own independent determination of the environmental condition of the property and the extent of responsibility and liability, if any, that may arise from taking ownership or occupancy.

Authorizations Branch

Enclosures: 1

/lr

Petroleum Storage
(PID 70410089)

PID #: 70410089	Site #: 2606	Address:	DOWNEAST PLASTICS LTD 2598 CHEMIN ACADIE CAP-PELE

Tank Information

Current Status	Removed
Date Out of Service	2000-10-18
Installation Date	1987
Tank Size	4546 L
Location	Above Ground
Constructed Of	Steel
Substance Stored	Furnace Oil

Current Status	Removed
Date Out of Service	2000-10-18
Installation Date	1987
Tank Size	4546 L
Location	Above Ground
Constructed Of	Steel
Substance Stored	Furnace Oil

PID #: 70410089	Site #: 7447	Address:	DOWNEAST PLASTICS LTD 2598 CHEMIN ACADIE CAP-PELE

Tank Information

Current Status	Removed
Date Out of Service	2017-09-15
Installation Date	2000
Tank Size	45640 L
Location	Above Ground
Constructed Of	Secondary Containment Steel
Substance Stored	Furnace Oil

Current Status	Removed
Date Out of Service	2017-04-10
Installation Date	2004
Tank Size	68191 L
Location	Above Ground
Constructed Of	Secondary Containment Steel
Substance Stored	Furnace Oil

Current Status	Removed
Date Out of Service	2018-06-12
Installation Date	2017
Tank Size	9100 L
Location	Above Ground
Constructed Of	Double Wall Steel
Substance Stored	Furnace Oil

Current Status	Active
Date Out of Service	
Installation Date	2018
Tank Size	45460 L
Location	Above Ground
Constructed Of	Double Wall Steel
Substance Stored	Furnace Oil

Appendix F Wetland Presence / Absence Report: Cap-Pelé, N.B., December 8, 2021 – Overdale Environment Inc.

ENGLOBE

WETLAND PRESENCE/ABSENCE REPORT: CAP-PELE, NB

December 8, 2021

For

Englobe
attn: Jeff Meadows
1077 St. George Blvd., Suite 400,
Moncton, NB
E1E 4C9

By

Theo Popma MSc. (Wetland Delineator) at Overdale Environmental Inc.
342 Highfield Street
Moncton, NB
E1C 5R6
tpopma@nb.sympatico.ca
www.Overdale.net
506-227-7605

Figures:	Appendix A
Datapoint and Site Photos:	Appendix B
Wetland Data Sheets:	Appendix C
Background Information:	Appendix D
Google Earth Files:	Attachment

Introduction

A Wetland Presence/Absence survey was conducted on PID 00845701 (Figure 1) by Theo Popma of Overdale Environmental Inc. on October 28, 2021. Mr. Popma is a recognized wetland delineator in the province of New Brunswick. Weather conditions were cloudy with strong winds and temperatures around 10C (5C at night). No killing frost had yet bee observed. There had been rain recently.

The assessment was intended to survey a small portion of PID 00845701 as well as the edge of the neighboring PID along the shared boundary.

Results

See Figure 3 for diagrams of wetland sampling locations.

Site photos and photos at each datapoint location are shown in Appendix B. Datasheets are shown in Appendix C.

Datapoints are summarized in Table 1, below.

	Dominant Vegetation Species				Hydrology			Soil			FINAL
DP	Tree	Shrub	Herb	W/U	1°	2°	W/U	Indicator	W/U	DP	W/U
1	none	none	Saltwater Cordgrass	W	wt, sat	geo	W	DM	W	1	W
2	none	Meadowsweet	Timothy	W		geo	U	none	U	2	U
3	Red Maple	Trembling Aspen	Red Raspberry	W	sat	stunted	W	None	U	3	U
4	Red Maple	Choke Cherry	Wood Fern	W		stunt, micro	W	None	U	4	U
5	Red Maple	Trembling Aspen	Manna Grass	W	sat, wt		W	DM	W	5	W

Discussion:

The study area is completely disturbed within the property boundaries, having been bull-dozed fairly recently. On the neighbouring PID to the west there is still intact forest all along the edge of the shared property boundary. A culvert feeds a ditch that runs the length of this boundary and was found to contain about 6 inches of water at the time of the survey. Habitat within approximately 5m of the ditch has been cut and is regenerating with shrubs and saplings.

The site slopes gently downwards to the north. Wetland conditions were found at the northernmost boundary of the survey area in the shrubby and cleared habitats. All wetland areas are considered to be atypical. Hydric soil indicators were, at times, obscured by pieces of brush from the clearing process. Stratification was sometimes also obscured from excavation of the ditch. In general, hydric soils were depleted with low chromas and fit the Depleted Matrix hydric soil profile.

Upland indicators were identified in the clearing just upslope of these wet areas, The shrubs and in the forest were also ruled out as wetland where there was a slight increase in elevation. This suggests that poor drainage is contributing to saturation of disturbed soils in the lower lying areas. Forested and lawn areas to the south were found to be lacking in any wetland indicators, with the exception of a few facultative plants.

The site lies approximately 200m from a large coastal estuary. this entire area has been cleared for agriculture. It should also be noted that an additional apartment unit has been added on the which does not appear on the 2021 Google Earth aerial photo.

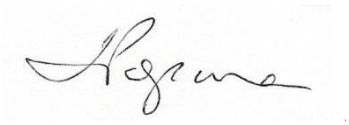
Conclusion:

Wetland conditions were identified in the low-lying, disturbed area at the northern edge of the study area. Upland conditions dominate the southern portion of the study area and of the neighboring forested property.

Closing

We trust this information meets your current needs. Please feel free to contact us via telephone at (506) 227-7605 or by email at tpopma@nb.sympatico.ca with any questions or comments.

Sincerely,



Theo Popma BSc, MSc.
President, Overdale Environmental Inc.

APPENDIX A

FIGURES

APPENDIX A: FIGURES

Figure 1. Survey Area

Figure 1	Survey Location	White Line: PID Red Line: Survey Area	Overdale Environmental Inc.

Figure 2. GeoNB Wetlands Map

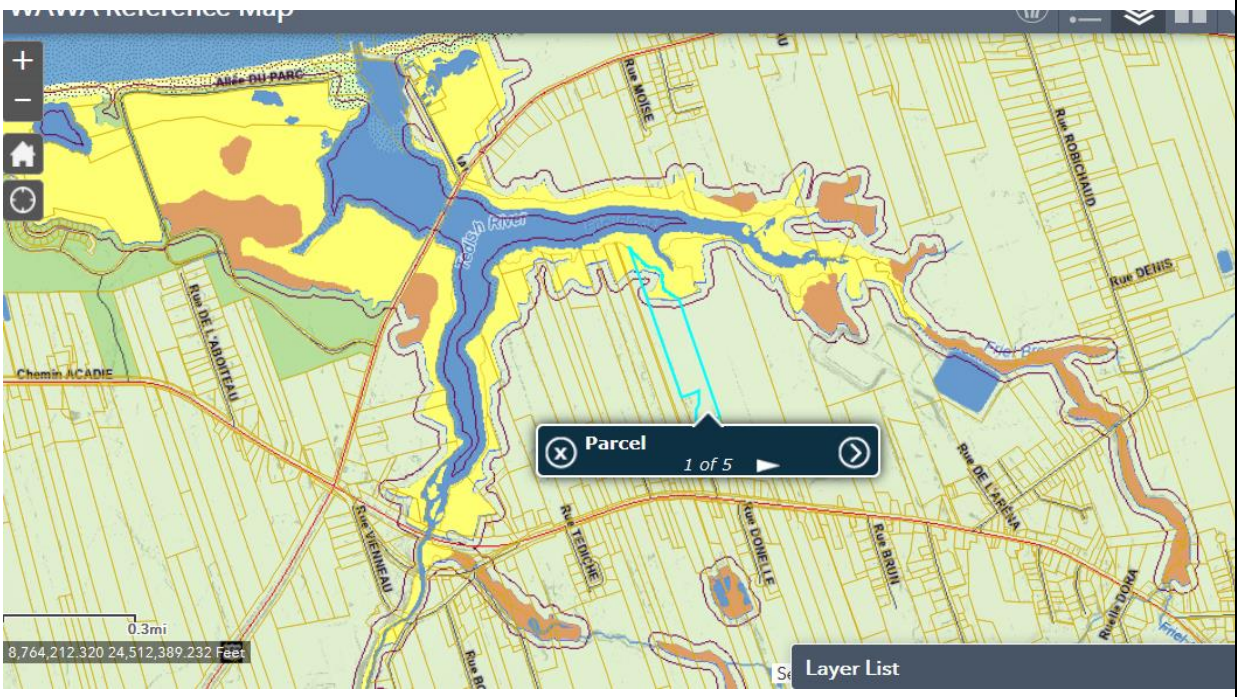


Figure 2	GeoNB Wetland Map	Cap Pele; Englobe	Overdale Environmental Inc.

Figure 3. Wetland Delineation Schematic.

Figure 3	Wetland Schematic	White Points: Upland Datapoints Blue Points: Wetland Datapoints White Line: PID Boundary Red Line: Survey Area	

APPENDIX B

DATAPOINT and SITE PHOTOS

Datapoint 1	Wetland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 1	Wetland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 2	Upland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 2	Upland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 3	Upland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 3	Upland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 4	Upland	Cap Pele; Englobe	Overdale Environmental Inc.

Datapoint 5	Wetland	Cap Pele; Englobe	Overdale Environmental Inc.

Site Photo 1	Culvert	Cap Pele; Englobe	Overdale Environmental Inc.

Site Photo 2	Drainage pattern in disturbed area	Cap Pele; Englobe	Overdale Environmental Inc.

Site Photo 3	Active Ditch	Cap Pele; Englobe	Overdale Environmental Inc.

Site Photo 4	Nearby Upland	Cap Pele; Englobe	Overdale Environmental Inc.

APPENDIX C

WETLAND DATASHEETS

Project Site:	Cap Pele		Date:	Oct. 28, 2021	Sample Point:	1	Page	1	WPT #:	1700
Client/owner:	Englobe		Field Investigator(s):	Theo Popma						
County:	Westmorland		Coordinates:	2670991.476, 7471387.770						
PID 845701			Do normal environmental conditions exist on-site?			Yes		No	x	

If no, explain: late in season for delineation but weather is typical for season

Atypical Situation? Yes [x] No [ ] Explain: clearing, ditching, road, residence, infilling

Is this a potential **Problem Area?** Yes [ ] No [x] Explain:

Wetland Determination

(Check One Only For Each Criteria)

Dominant Hydrophytic Vegetation (50/20 rule)	Yes	x	No	
Wetland Hydrology	Yes	x	No	
Hydric Soils	Yes	x	No	

Wetland Type:

Rational for Determination:

Wetland Determination

[x] **YES** [ ] **NO**

Vegetation

	Tree Stratum: (Plot size: 9m2)	%Cover		Dominant Species	Indicator Status
1	*none*				
2					
3					
4					
5					
6					
		0	=	**Total Cover**	
	Shrub Stratum: (Plot size: 5m2)				
1	*none*				
2					
3					
4					
5					
		0	=	**Total Cover**	
	Herb Stratum: (Plot Size: 1m2)				
1	*Spartina pectinata*	10		x	*facw+*
	Euthamia caroliniana	10		x	*obl*
3	*Solidago canadensis*	10		x	*fac*
4	*Gnaphalium uliginosum*	10		x	*fac*
5	*Ranunculus repens*	10		x	*fac*
		50	=	**Total Cover**	

Comments

Dominance Test Worksheet:

# of Dominant Species that are OBL,FACW,FAC:	5
Total # of Dominant Species across all strata:	5
% of Dominant Species that are OBL,FACW,FAC:	100

Prevalence Index Worksheet:

	Total %Cover of:	Multiply by:	
OBL Species		x 1 =	0
FACW Species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
ULP Species		x 5 =	0
Column Totals:	0		0

Hydrophytic Vegetation Indicators:

- [ ] Rapid Test for Hydrolic Vegetation
- [x] Dominance Test is >50%
- [ ] Prevalence Index is≤3.0[1]
- [ ] Morphological Adaptations[1](explain)
- [ ] Problematic Hydrophytic Vegetation[1](explain)

[1]Indicators of hydric soil and weland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** x **No**

Hydrology Sample Point: 1 Page 2

Primary Hydrological Indicators: (minimum of one is required; check all that apply)

x	Surface Water (A1)		Water Stained Leaves (B9)
x	High Water Table (A2)		Aquatic Fauna (B13)
x	Saturation (A3)		Marl Deposits (B15)
	Watermarks		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat of Crust (B4)		Recent Iron reduction in tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators: (minimum of two required)

	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1)
	Drainage Patterns (B10)	x	Geomorphic Position (D2)
	Moss Trim Lines (B16)		Shallow Aquitard (D3)
	Dry-Season Water Table (C2)		Microtopographic Relief (D4)
	Crayfish Burrows (C8)		FAC-Neutral Test (D5)
	Saturation Visible on Aerial Imagery (C9)		

A	OBL, FACW	0	
B	UPL, FACU	0	

A>B:=hydric

Field Observations:

Surface Water Present?	Yes x	No	Depth	2	
Saturation Present?	Yes x	No	Depth	0	
Watertable Present?	Yes x	No	Depth	10	**Hydrology Present?** **Yes** x **No**

Comments:

Soil Profile

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth(cm)	Matrix Color(moist)	Matrix %	Redox Features Color(moist)	Redox Features %	Redox Features Type[1]	Loc[2]	Texture	Remarks
3cm	organic							
3cm -	10YR 4/2	90	10YR 3/3	10				

[1]Type:C=Concentration,D=Depletion,RM=Reduced Matrix,CS=Covered or Coated Sand Grains.2Location:PL=Pore Lining,M=Matrix

Hydric Soil Indicators:

	Histic Epipedon (A2)		Stripped Matrix (S6)		Coast Prairie Redox (A16)
	Black Histic (A3)		Dark Surfaces (S7)		5cm Mucky Peat or Peat (S3)
	Hydrogen Sulfide (A4)		Polyvalue Below Surface (S8)		Iron-Manganese Masses (F12)
	Stratified Layers (A5)		Thin Dark Surface (S9)		Piedmont Floodplain Soils (F19)
	Depleted Below Dark Surface (A11)		Loamy Gleyed Matrix (F2)		Red Parent Material (F21)
	Thick Dark Surface (A12)	x	Depleted Matrix (F3)		Very Shallow Dark Surface (F22)
	Sandy Mucky Mineral (S1)		Redox Dark Surface (F6)		Other (explain)
	5cm Mucky Peat or Peat (S3)		Depleted Dark Surface (F7)		
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)		

Restrictive Layer Type (if observed Depth: **Hydric Soil Present?** **Yes** x **No**

Comments:

Project Site:	Cap Pele		Date:	Oct. 28, 2021		Sample Point:	2	Page	1	WPT #:	1701
Client/owner:	Englobe		Field Investigator(s):	Theo Popma							
County:	Westmorland		Coordinates:	2671000.246, 7471352.984							
PID 845701			Do normal environmental conditions exist on-site?			Yes		No	x		

If no, explain: late in season for delineation but weather is typical for season

Atypical Situation? Yes x No Explain: clearing, ditching, road, residence, infilling

Is this a potential **Problem Area?** Yes No x Explain:

Wetland Determination

(Check One Only For Each Criteria)

Dominant Hydrophytic Vegetation (50/20 rule)	Yes	x	No	
Wetland Hydrology	Yes		No	x
Hydric Soils	Yes		No	x

Wetland Determination

YES | x | NO

Wetland Type:

Rational for Determination:

Vegetation

	Tree Stratum: (Plot size: 9m2)	%Cover	Dominant Species	Indicator Status
1	*none*			
2				
3				
4				
5				
6				
		0 =	**Total Cover**	
	Shrub Stratum: (Plot size: 5m2)			
1	*Rosa virginiana*	5	x	*fac*
2	*Spiraea alba*	5	x	*fac*
3				
4				
5				
		10 =	**Total Cover**	
	Herb Stratum: (Plot Size: 1m2)			
1	*Spartina pectinata*	5		*facw+*
2	*Phleum pratense*	10	x	*facu*
3	*Poa palustris*	15	x	*fac*
4	*Euthamia graminifolia*	5		*fac*
5	*Trifolium repens*	5		*facu*
		40 =	**Total Cover**	

Comments

Dominance Test Worksheet:

# of Dominant Species that are OBL,FACW,FAC: 3

Total # of Dominant Species across all strata: 4

% of Dominant Species that are OBL,FACW,FAC: 75

Prevalence Index Worksheet:

	Total %Cover of:	Multiply by:	
OBL Species		x 1 =	0
FACW Species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
ULP Species		x 5 =	0
Column Totals:	0		0

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrolic Vegetation
- x Dominance Test is >50%
- ___ Prevalence Index is≤3.0[1]
- ___ Morphological Adaptations[1](explain)
- ___ Problematic Hydrophytic Vegetation[1](explain)

[1]Indicators of hydric soil and weland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** x **No**

Hydrology Sample Point: 2 Page 1

Primary Hydrological Indicators: (minimum of one is required; check all that apply)

	Surface Water (A1)		Water Stained Leaves (B9)
	High Water Table (A2)		Aquatic Fauna (B13)
	Saturation (A3)		Marl Deposits (B15)
	Watermarks		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat of Crust (B4)		Recent Iron reduction in tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators: (minimum of two required)

	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1)
	Drainage Patterns (B10)	x	Geomorphic Position (D2)
	Moss Trim Lines (B16)		Shallow Aquitard (D3)
	Dry-Season Water Table (C2)		Microtopographic Relief (D4)
	Crayfish Burrows (C8)		FAC-Neutral Test (D5)
	Saturation Visible on Aerial Imagery (C9)		

A	OBL, FACW	0
B	UPL, FACU	0

A>B:=hydric

Field Observations:

Surface Water Present?	Yes		No	x	Depth
Saturation Present?	Yes		No	x	Depth
Watertable Present?	Yes		No	x	Depth

Hydrology Present? Yes ___ No x

Comments:

Soil Profile

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth(cm)	Matrix Color(moist)	Matrix %	Redox Features Color(moist)	Redox Features %	Redox Features Type[1]	Loc[2]	Texture	Remarks
1cm	organic							
1cm -	7.5YR 4/3	50	10YR 4/2	50				

[1]Type:C=Concentration,D=Depletion,RM=Reduced Matrix,CS=Covered or Coated Sand Grains.2Location:PL=Pore Lining,M=Matrix

Hydric Soil Indicators:

	Histic Epipedon (A2)		Stripped Matrix (S6)		
	Black Histic (A3)		Dark Surfaces (S7)		Coast Prairie Redox (A16)
	Hydrogen Sulfide (A4)		Polyvalue Below Surface (S8)		5cm Mucky Peat or Peat (S3)
	Stratified Layers (A5)		Thin Dark Surface (S9)		Iron-Manganese Masses (F12)
	Depleted Below Dark Surface (A11)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	Thick Dark Surface (A12)		Depleted Matrix (F3)		Red Parent Material (F21)
	Sandy Mucky Mineral (S1)		Redox Dark Surface (F6)		Very Shallow Dark Surface (F22)
	5cm Mucky Peat or Peat (S3)		Depleted Dark Surface (F7)		Other (explain)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)		

Restrictive Layer Type (if observed Depth:

Hydric Soil Present? Yes ___ No x

Comments:

Project Site:	Cap Pele		Date:	Oct. 28, 2021		Sample Point:	3	Page	1	WPT #:	1702
Client/owner:	Englobe		Field Investigator(s):	Theo Popma							
County:	Westmorland		Coordinates:	2670907.063, 7471331.358							
PID 845701			Do normal environmental conditions exist on-site?				Yes		No	x	

If no, explain: late in season for delineation but weather is typical for season

Atypical Situation? Yes x No Explain: clearing, ditching, road, residence, infilling

Is this a potential **Problem Area?** Yes No x Explain:

Wetland Determination

(Check One Only For Each Criteria)

Dominant Hydrophytic Vegetation (50/20 rule)	Yes	x	No	
Wetland Hydrology	Yes	x	No	
Hydric Soils	Yes		No	x

Wetland Determination

YES | x | NO

Wetland Type:

Rational for Determination:

Vegetation

	Tree Stratum: (Plot size: 9m2)	%Cover	Dominant Species	Indicator Status
1	*Acer rubrum*	5	x	*fac*
2	*Populus tremuloides*	10	x	*fac*
3				
4				
5				
6				
		15	= **Total Cover**	
	Shrub Stratum: (Plot size: 5m2)			
1	*Acer rubrum*	5		*fac*
2	*Populus tremuloides*	10	x	*fac*
3	*Betula populifolia*	10	x	*fac*
4	*Viburnum opulus*	5		*facw*
5	*Betula papyrifera*	5		*facu*
		35	= **Total Cover**	
	Herb Stratum: (Plot Size: 1m2)			
1	*Rubus idaeus*	10	x	*fac*
2	*Carex gynandra*	5		*facw*
3	*Doellingeria umbellata*	10	x	*fac*
4	*Potentilla simplex*	10	x	*upl*
5				
		35	= **Total Cover**	

Comments

Dominance Test Worksheet:

# of Dominant Species that are OBL,FACW,FAC: 6

Total # of Dominant Species across all strata: 7

% of Dominant Species that are OBL,FACW,FAC: 85.7

Prevalence Index Worksheet:

	Total %Cover of:	Multiply by:	
OBL Species		x 1 =	0
FACW Species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
ULP Species		x 5 =	0
Column Totals:	0		0

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrolic Vegetation
- x Dominance Test is >50%
- ___ Prevalence Index is≤3.0[1]
- ___ Morphological Adaptations[1](explain)
- ___ Problematic Hydrophytic Vegetation[1](explain)

[1]Indicators of hydric soil and weland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** x **No**

Hydrology Sample Point: 3 Page 1

Primary Hydrological Indicators: (minimum of one is required; check all that apply)

	Surface Water (A1)		Water Stained Leaves (B9)
	High Water Table (A2)		Aquatic Fauna (B13)
x	Saturation (A3)		Marl Deposits (B15)
	Watermarks		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat of Crust (B4)		Recent Iron reduction in tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators: (minimum of two required)

	Surface Soil Cracks (B6)	x	Stunted or Stressed Plants (D1)
	Drainage Patterns (B10)		Geomorphic Position (D2)
	Moss Trim Lines (B16)		Shallow Aquitard (D3)
	Dry-Season Water Table (C2)		Microtopographic Relief (D4)
	Crayfish Burrows (C8)		FAC-Neutral Test (D5)
	Saturation Visible on Aerial Imagery (C9)		

A	OBL, FACW	0
B	UPL, FACU	0

A>B:=hydric

Field Observations:

Surface Water Present?	Yes		No	x	Depth
Saturation Present?	Yes	x	No		Depth 0
Watertable Present?	Yes		No	x	Depth

Hydrology Present? **Yes** x **No**

Comments:

Soil Profile

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth(cm)	Matrix Color(moist)	%	Redox Features Color(moist)	%	Type[1]	Loc[2]	Texture	Remarks
1cm	organic							
1cm - 21cm	7.5YR 3/2							
21cm - 30cm	10YR 4/2	80	10YR 3/3	20				
30 -	10YR 3/3							

[1]Type:C=Concentration,D=Depletion,RM=Reduced Matrix,CS=Covered or Coated Sand Grains.2Location:PL=Pore Lining,M=Matrix

Hydric Soil Indicators:

	Histic Epipedon (A2)		Stripped Matrix (S6)		
	Black Histic (A3)		Dark Surfaces (S7)		Coast Prairie Redox (A16)
	Hydrogen Sulfide (A4)		Polyvalue Below Surface (S8)		5cm Mucky Peat or Peat (S3)
	Stratified Layers (A5)		Thin Dark Surface (S9)		Iron-Manganese Masses (F12)
	Depleted Below Dark Surface (A11)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	Thick Dark Surface (A12)		Depleted Matrix (F3)		Red Parent Material (F21)
	Sandy Mucky Mineral (S1)		Redox Dark Surface (F6)		Very Shallow Dark Surface (F22)
	5cm Mucky Peat or Peat (S3)		Depleted Dark Surface (F7)		Other (explain)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)		

Restrictive Layer Type (if observed Depth:

Hydric Soil Present? **Yes** **No** x

Comments:

Project Site:	Cap Pele		Date:	Oct. 28, 2021		Sample Point:	4	Page	1	WPT #:	1703
Client/owner:	Englobe		Field Investigator(s):	Theo Popma							
County:	Westmorland		Coordinates:	2670890.491, 7471319.440							
PID 845701			Do normal environmental conditions exist on-site?				Yes		No	x	

If no, explain: late in season for delineation but weather is typical for season

Atypical Situation? Yes x No Explain: clearing, ditching, road, residence, infilling

Is this a potential **Problem Area?** Yes No x Explain:

Wetland Determination

(Check One Only For Each Criteria)

Dominant Hydrophytic Vegetation (50/20 rule)	Yes	x	No	
Wetland Hydrology	Yes	x	No	
Hydric Soils	Yes		No	x

Wetland Type:

Rational for Determination:

Wetland Determination

YES | x | **NO**

Vegetation

	Tree Stratum: (Plot size: 9m2)	%Cover	Dominant Species	Indicator Status
1	*Acer rubrum*	30	x	*fac*
2	*Picea glauca*	5		*fac*
3				
4				
5				
6				
		35	= **Total Cover**	
	Shrub Stratum: (Plot size: 5m2)			
1	*Prunus virginiana*	5	x	*fac*
2	*Ilex verticillata*	5	x	*facw+*
3	*Acer rubrum*	5	x	*fac*
4	*Viburnum nudum*	5	x	*fac*
5				
		20	= **Total Cover**	
	Herb Stratum: (Plot Size: 1m2)			
1	*Dryopteris intermedia*	15	x	*fac*
2	*Rubus idaeus*	5		*fac*
3	*Streptopus lanceolatus*	5		*fac*
4	*Trientalis borealis*	5		*fac*
5	*Onoclea sensibilis*	5		*facw*
		35	= **Total Cover**	

Comments

Dominance Test Worksheet:

# of Dominant Species that are OBL,FACW,FAC: 5

Total # of Dominant Species across all strata: 6

% of Dominant Species that are OBL,FACW,FAC: 83.3

Prevalence Index Worksheet:

	Total %Cover of:	Multiply by:	
OBL Species		x 1 =	0
FACW Species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
ULP Species		x 5 =	0
Column Totals:	0		0

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrolic Vegetation
- x Dominance Test is >50%
- ___ Prevalence Index is≤3.0[1]
- ___ Morphological Adaptations[1](explain)
- ___ Problematic Hydrophytic Vegetation[1](explain)

[1]Indicators of hydric soil and weland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** x **No**

Hydrology Sample Poin 4 Page 2

Primary Hydrological Indicators: (minimum of one is required; check all that apply)

	Surface Water (A1)		Water Stained Leaves (B9)
	High Water Table (A2)		Aquatic Fauna (B13)
	Saturation (A3)		Marl Deposits (B15)
	Watermarks		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat of Crust (B4)		Recent Iron reduction in tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators: (minimum of two required)

	Surface Soil Cracks (B6)	x	Stunted or Stressed Plants (D1)
	Drainage Patterns (B10)		Geomorphic Position (D2)
	Moss Trim Lines (B16)		Shallow Aquitard (D3)
	Dry-Season Water Table (C2)	x	Microtopographic Relief (D4)
	Crayfish Burrows (C8)		FAC-Neutral Test (D5)
	Saturation Visible on Aerial Imagery (C9)		

A	OBL, FACW	0
B	UPL, FACU	0

A>B:=hydric

Field Observations:

Surface Water Present?	Yes		No	x	Depth
Saturation Present?	Yes		No	x	Depth
Watertable Present?	Yes		No	x	Depth

Hydrology Present? **Yes** x **No**

Comments:

Soil Profile

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth(cm)	Matrix		Redox Features				
	Color(moist)	%	Color(moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 2cm	organic							
2cm -	7.5YR 3/2							

[1]Type:C=Concentration,D=Depletion,RM=Reduced Matrix,CS=Covered or Coated Sand Grains.2Location:PL=Pore Lining,M=Matrix

Hydric Soil Indicators:

	Histic Epipedon (A2)		Stripped Matrix (S6)		
	Black Histic (A3)		Dark Surfaces (S7)		Coast Prairie Redox (A16)
	Hydrogen Sulfide (A4)		Polyvalue Below Surface (S8)		5cm Mucky Peat or Peat (S3)
	Stratified Layers (A5)		Thin Dark Surface (S9)		Iron-Manganese Masses (F12)
	Depleted Below Dark Surface (A11)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	Thick Dark Surface (A12)		Depleted Matrix (F3)		Red Parent Material (F21)
	Sandy Mucky Mineral (S1)		Redox Dark Surface (F6)		Very Shallow Dark Surface (F22)
	5cm Mucky Peat or Peat (S3)		Depleted Dark Surface (F7)		Other (explain)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)		

Restrictive Layer Type (if observed Depth:

Hydric Soil Present? **Yes** **No** x

Comments:

Project Site:	Cap Pele		Date:	Oct. 28, 2021		Sample Point:	5	Page	1	WPT #:	1704
Client/owner:	Englobe		Field Investigator(s):	Theo Popma							
County:	Westmorland		Coordinates:	2670898.468, 7471368.150							
PID 845701			Do normal environmental conditions exist on-site?				Yes		No	x	

If no, explain: late in season for delineation but weather is typical for season

Atypical Situation? Yes [x] No [ ] Explain: clearing, ditching, road, residence, infilling

Is this a potential **Problem Area?** Yes [ ] No [x] Explain:

Wetland Determination

(Check One Only For Each Criteria)

Dominant Hydrophytic Vegetation (50/20 rule)	Yes	x	No	
Wetland Hydrology	Yes	x	No	
Hydric Soils	Yes	x	No	

Wetland Determination

[x] **YES** [ ] **NO**

Wetland Type: partially forested wetland

Rational for Determination: shrub and sapling dominated

Vegetation

	Tree Stratum: (Plot size: 9m2)	%Cover	Dominant Species	Indicator Status
1	*Acer rubrum*	5	x	*fac*
2				
3				
4				
5				
6				
		5	= **Total Cover**	
	Shrub Stratum: (Plot size: 5m2)			
1	*Populus tremuloides*	10	x	*fac*
2	*Betula populifolia*	10	x	*fac*
3	*Betula papyrifera*	10	x	*facu*
4	*Rosa virginiana*	10	x	*fac*
5	*Ilex verticillata*	10	x	*facw+*
		50	= **Total Cover**	
	Herb Stratum: (Plot Size: 1m2)			
1	*Glyceria canadensis*	10	x	*obl*
2	*Doellingeria umbellata*	10	x	*fac*
3	*Onoclea sensibilis*	10	x	*facw*
4	*Rubus pubescens*	10	x	*fac*
5				
		40	= **Total Cover**	

Comments

Dominance Test Worksheet:

# of Dominant Species that are OBL,FACW,FAC:	8
Total # of Dominant Species across all strata:	10
% of Dominant Species that are OBL,FACW,FAC:	80

Prevalence Index Worksheet:

	Total %Cover of:	Multiply by:	
OBL Species		x 1 =	0
FACW Species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
ULP Species		x 5 =	0
Column Totals:	0		0

Hydrophytic Vegetation Indicators:

- [ ] Rapid Test for Hydrolic Vegetation
- [x] Dominance Test is >50%
- [ ] Prevalence Index is≤3.0[1]
- [ ] Morphological Adaptations[1](explain)
- [ ] Problematic Hydrophytic Vegetation[1](explain)

[1]Indicators of hydric soil and weland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** x **No**

Hydrology Sample Point: 4 Pag 2

Primary Hydrological Indicators: (minimum of one is required; check all that apply)

___	Surface Water (A1)	___	Water Stained Leaves (B9)
x	High Water Table (A2)	___	Aquatic Fauna (B13)
x	Saturation (A3)	___	Marl Deposits (B15)
___	Watermarks	___	Hydrogen Sulfide Odor (C1)
___	Sediment Deposits (B2)	___	Oxidized Rhizospheres on Living Roots (C3)
___	Drift Deposits (B3)	___	Presence of Reduced Iron (C4)
___	Algal Mat of Crust (B4)	___	Recent Iron reduction in tilled Soils (C6)
___	Iron Deposits (B5)	___	Thin Muck Surface (C7)
___	Inundation Visible on Aerial Imagery (B7)	___	Other (Explain in Remarks)
___	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators: (minimum of two required)

___	Surface Soil Cracks (B6)	___	Stunted or Stressed Plants (D1)
___	Drainage Patterns (B10)	___	Geomorphic Position (D2)
___	Moss Trim Lines (B16)	___	Shallow Aquitard (D3)
___	Dry-Season Water Table (C2)	___	Microtopographic Relief (D4)
___	Crayfish Burrows (C8)	___	FAC-Neutral Test (D5)
___	Saturation Visible on Aerial Imagery (C9)		

A	OBL, FACW	0
B	UPL, FACU	0

A>B:=hydric

Field Observations:

Surface Water Present?	Yes ___	No x	Depth ___		
Saturation Present?	Yes x	No ___	Depth 0		
Watertable Present?	Yes x	No ___	Depth 20	**Hydrology Present?**	**Yes** x **No** ___

Comments:

Soil Profile

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth(cm)	Matrix		Redox Features				
	Color(moist)	%	Color(moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 7cn	organic							
7cm -	7.5YR 4/2	90	7.5YR 3/3					

[1]Type:C=Concentration,D=Depletion,RM=Reduced Matrix,CS=Covered or Coated Sand Grains.2Location:PL=Pore Lining,M=Matrix

Hydric Soil Indicators:

___	Histic Epipedon (A2)	___	Stripped Matrix (S6)		
___	Black Histic (A3)	___	Dark Surfaces (S7)	___	Coast Prairie Redox (A16)
___	Hydrogen Sulfide (A4)	___	Polyvalue Below Surface (S8)	___	5cm Mucky Peat or Peat (S3)
___	Stratified Layers (A5)	___	Thin Dark Surface (S9)	___	Iron-Manganese Masses (F12)
___	Depleted Below Dark Surface (A11)	___	Loamy Gleyed Matrix (F2)	___	Piedmont Floodplain Soils (F19)
___	Thick Dark Surface (A12)	x	Depleted Matrix (F3)	___	Red Parent Material (F21)
___	Sandy Mucky Mineral (S1)	___	Redox Dark Surface (F6)	___	Very Shallow Dark Surface (F22)
___	5cm Mucky Peat or Peat (S3)	___	Depleted Dark Surface (F7)	___	Other (explain)
___	Sandy Gleyed Matrix (S4)	___	Redox Depressions (F8)		

Restrictive Layer Type (if observed Depth: **Hydric Soil Present?** **Yes** x **No** ___

Comments:

grubbing from disturbance present at 15cm

APPENDIX D

BACKGROUND INFORMATION

APPENDIX D: BACKGROUND INFORMATION

Legislation

These identified wetlands are subject to the *Watercourse and Wetland Alteration Regulation* (REG # 90-80), of the New Brunswick *Clean Water Act.* Any proposed alteration within these areas or within the 30 meter regulated upland buffer requires permitting through the Department of Environment, Watercourse and Wetlands Alteration Program. These areas may also be subject to *Environmental Impact Assessment* (REG 87-83) of the New Brunswick *Clean Environment Act* and other *Acts* and Regulations. It is the responsibility of the proponent to ensure that all regulatory requirements are met prior to development within these areas.

Methodology

Surveys were conducted according to the guidelines established by NBDELG based on the US Army Corps of Engineer Wetland Delineation Manual (1987), Field Indicators of Hydric Soils in the United States and Lichvar, 2005. The Flora of NB (Hinds, 2000) was consulted for plant identification.

Datapoints were analyzed for soil, hydrology and vegetation characteristics at several different locations (Figure 3). Color of soil strata are described in terms of texture, ‘value’ and ‘chroma’ according to a Munsell Soil Color Chart. The wetland delineation line was then completed by walking with a handheld Garmin 64ST GPS unit.

Datapoint locations and boundary-flag positions are provided as an attachment to this digital document as a Google Earth File. Coordinates are in UTM NAD83.

Wetland habitat was identified by establishing the presence of dominating hydric vegetation, of hydric soils and of hydrological markers such as surface water, soil saturation and channeling. The wetland edge was identified with paired Data Points (DPs) (wetland and upland) which straddled the boundary. Data sheets are included in Appendix C.

Sources:

The Canadian Wetland Classification System, 2nd ed. 1997. National Wetlands Working Group. Wetlands Research Center, University of Waterloo, ONT.
Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
Field Indicators of Hydric Soils in the United States. 2006.
Hinds, H. 2000. The Flora of New Brunswick.
Lichvar, R., 2005. Wetland Identification, Delineation and Classification. Humbolt Field Research Institute, Steuben, ME, USA.
U.S. Army Corps of Engineers. 200X. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-0X-XX. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
US Army Corps of Engineer Wetland Delineation Manual. 1987.
US Department of Fish and Wildlife. 1988. National List of Plant Species that occur in Wetlands
Regional Supplement to the Corps of Engineers Wetland Delineation Manual:Atlantic and Gulf Coastal Plain Region. 2010

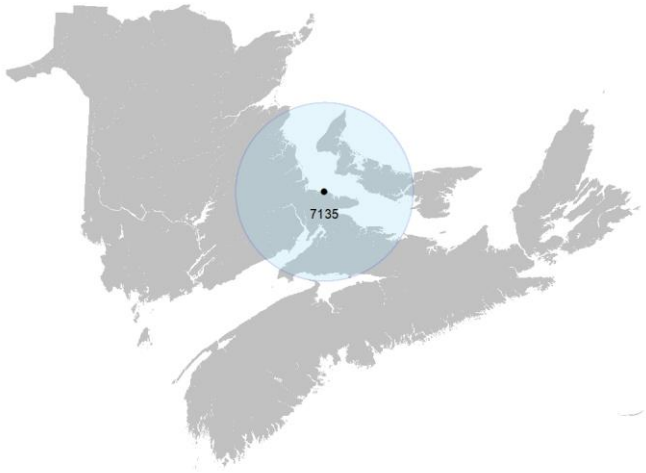
Appendix G Atlantic Canada Conservation Data Centre (ACCDC) Report - December 20, 2021

eNGLOBe

DATA REPORT 7135: Cap Pele PID 00845701, NB

Prepared 20 December 2021
by J. Churchill, Data Manager

CONTENTS OF REPORT



Map 1. A 100 km buffer around the study area

1.0 PREFACE

The Atlantic Canada Conservation Data Centre (AC CDC; 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:

Filename	Contents
CpPelePid008NB_7135ob.xls	Rare or legally-protected Flora and Fauna in your study area
CpPelePid008NB_7135ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area

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:

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

Plants, Lichens, Ranking Methods, All other Inquiries
Sean Blaney
Senior Scientist / Executive Director
(506) 364-2658
sean.blaney@accdc.ca

Animals (Fauna)
John Klymko
Zoologist
(506) 364-2660
john.klymko@accdc.ca

Plant Communities
Caitlin Porter
Botanist / Community Ecologist
(902) 719-4815
caitlin.porter@accdc.ca

Data Management, GIS
James Churchill
Conservation Data Analyst / Field Biologist
(902) 679-6146
james.churchill@accdc.ca

Billing
Jean Breau
Financial Manager / Executive Assistant
(506) 364-2657
jean.breau@accdc.ca

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.

For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in New Brunswick, please contact Hubert Askanas, Energy and Resource Development: (506) 453-5873.

For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in Nova Scotia, please contact Donna Hurlburt, NS DLF: (902) 679-6886. To determine if location-sensitive species (section 4.3) occur near your study site please contact a NS DLF Regional Biologist:

Western: Emma Vost
(902) 670-8187
Emma.Vost@novascotia.ca

Western: Sarah Spencer
(902) 541-0081
Sarah.Spencer@novascotia.ca

Central: Shavonne Meyer
(902) 893-0816
Shavonne.Meyer@novascotia.ca

Central: Kimberly George
(902) 890-1046
Kimberly.George@novascotia.ca

Eastern: Harrison Moore
(902) 497-4119
Harrison.Moore@novascotia.ca

Eastern: Maureen Cameron-MacMillan
(902) 295-2554
Maureen.Cameron-MacMillan@novascotia.ca

Eastern: Elizabeth Walsh
(902) 563-3370
Elizabeth.Walsh@novascotia.ca

For provincial information about rare taxa and protected areas, or information about game animals, fish habitat etc., in Prince Edward Island, please contact Garry Gregory, PEI Dept. of Communities, Land and Environment: (902) 569-7595.

2.0 RARE AND ENDANGERED SPECIES

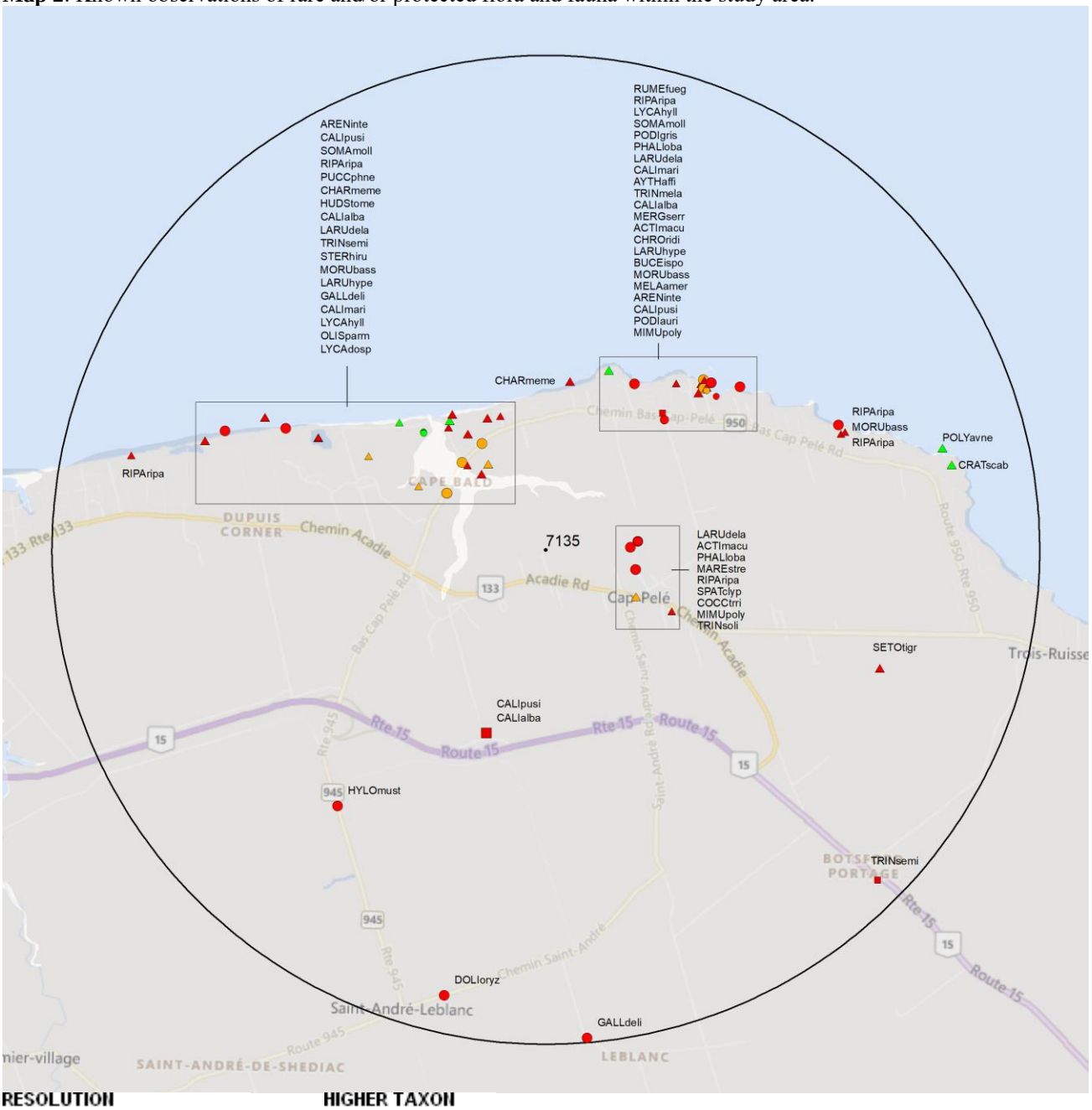
2.1 FLORA

The study area contains 8 records of 5 vascular, no records of nonvascular flora (Map 2 and attached: *ob.xls).

2.2 FAUNA

The study area contains 192 records of 30 vertebrate, 11 records of 4 invertebrate fauna (Map 2 and attached data files - see 1.1 Data List). Please see section 4.3 to determine if 'location-sensitive' species occur near your study site.

Map 2: Known observations of rare and/or protected flora and fauna within 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

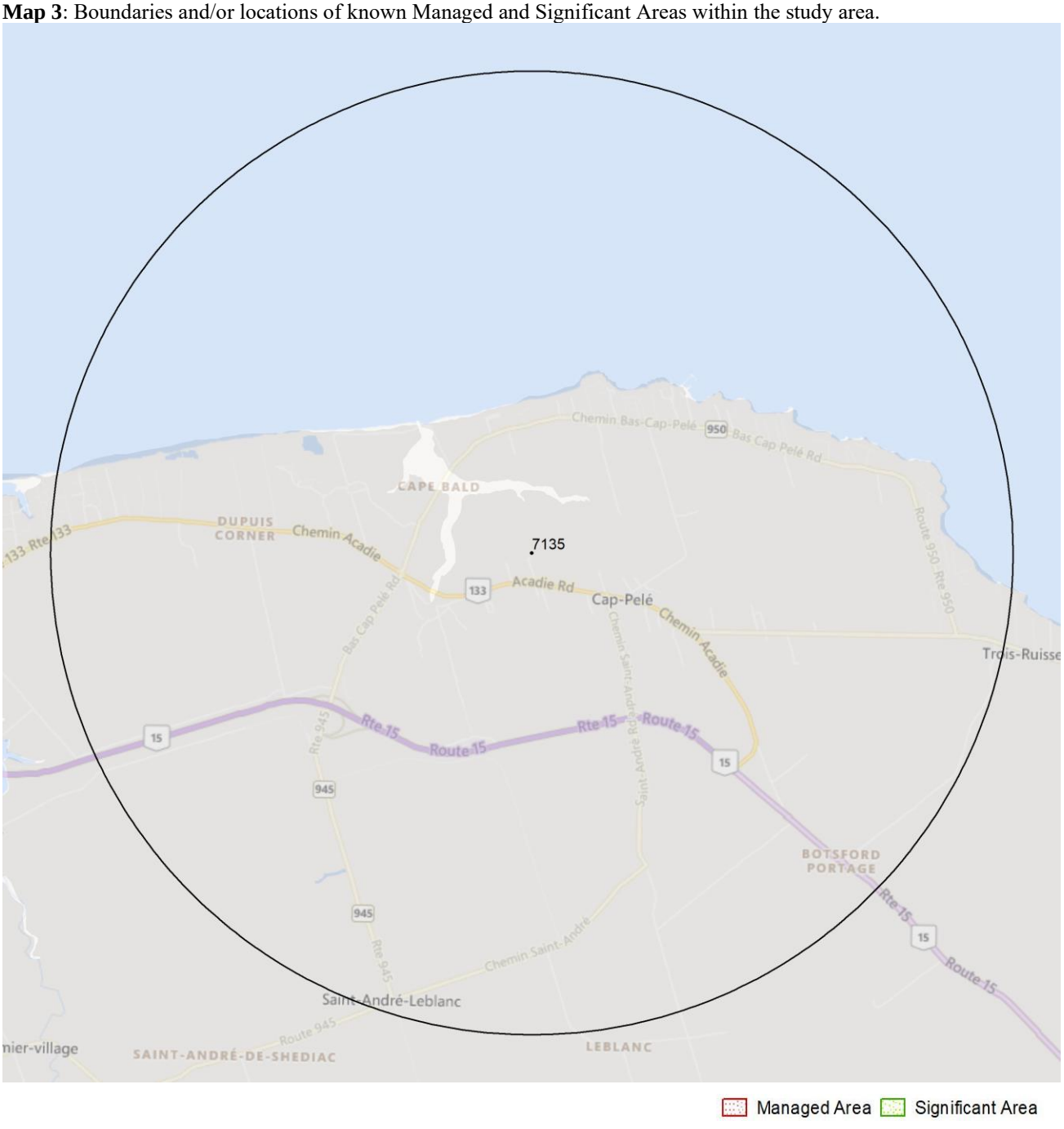
- vertebrate fauna
- invertebrate fauna
- vascular flora
- nonvascular flora

3.0 SPECIAL AREAS

3.1 MANAGED AREAS
The GIS scan identified no managed areas in the vicinity of the study area (Map 3).

3.2 SIGNIFICANT AREAS
The GIS scan identified no biologically significant sites in the vicinity of the study area (Map 3).

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 (± 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)
P	*Polygonum aviculare ssp. neglectum*	Narrow-leaved Knotweed				S1?	1	4.1 ± 1.0
P	*Crataegus scabrida*	Rough Hawthorn				S2	1	4.2 ± 1.0
P	*Puccinellia phryganodes ssp. neoarctica*	Creeping Alkali Grass				S2	1	1.6 ± 1.0
P	*Hudsonia tomentosa*	Woolly Beach-heath				S3	4	1.7 ± 0.0
P	*Rumex fueginus*	Tierra del Fuego Dock				S3S4	1	1.9 ± 1.0

4.2 FAUNA

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	*Charadrius melodus melodus*	Piping Plover melodus ssp	Endangered	Endangered	Endangered	S1B,S1M	5	1.7 ± 1.0
A	*Hylocichla mustelina*	Wood Thrush	Threatened	Threatened	Threatened	S1S2B,S1S2M	2	3.3 ± 0.0
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened		S2S3B,S2S3M	28	0.9 ± 0.0
A	*Dolichonyx oryzivorus*	Bobolink	Threatened	Threatened	Threatened	S3B,S3M	1	4.6 ± 0.0
A	*Bucephala islandica (Eastern pop.)*	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern	Special Concern	S2M,S2N	3	2.3 ± 0.0
A	*Phalaropus lobatus*	Red-necked Phalarope	Special Concern	Special Concern		S3M	3	0.9 ± 0.0
A	*Podiceps auritus*	Horned Grebe	Special Concern	Special Concern	Special Concern	S4N,S4M	3	2.1 ± 0.0
A	*Sterna hirundo*	Common Tern	Not At Risk			S3B,SUM	4	1.4 ± 1.0
A	*Podiceps grisegena*	Red-necked Grebe	Not At Risk			S3M,S2N	3	2.3 ± 0.0
A	*Tringa melanoleuca*	Greater Yellowlegs				S1?B,S5M	1	2.4 ± 0.0
A	*Aythya affinis*	Lesser Scaup				S1B,S4M	1	2.3 ± 0.0
A	*Chroicocephalus ridibundus*	Black-headed Gull				S1N,S2M	1	2.1 ± 0.0
A	*Mimus polyglottos*	Northern Mockingbird				S2B,S2M	4	1.4 ± 0.0
A	*Mareca strepera*	Gadwall				S2B,S3M	4	0.9 ± 0.0
A	*Tringa solitaria*	Solitary Sandpiper				S2B,S5M	3	0.9 ± 0.0
A	*Larus hyperboreus*	Glaucous Gull				S2N,S2M	24	2.3 ± 0.0
A	*Spatula clypeata*	Northern Shoveler				S2S3B,S2S3M	5	0.9 ± 0.0
A	*Tringa semipalmata*	Willet				S3B,S3M	5	1.5 ± 1.0
A	*Somateria mollissima*	Common Eider				S3B,S4M,S3N	4	1.6 ± 0.0
A	*Setophaga tigrina*	Cape May Warbler				S3B,S4S5M	1	3.6 ± 2.0
A	*Mergus serrator*	Red-breasted Merganser				S3B,S5M,S4S5N	1	2.3 ± 0.0
A	*Arenaria interpres*	Ruddy Turnstone				S3M	4	2.3 ± 0.0
A	*Melanitta americana*	Black Scoter				S3M,S1S2N	8	2.2 ± 0.0
A	*Calidris maritima*	Purple Sandpiper				S3M,S3N	2	2.3 ± 0.0
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	6	0.9 ± 0.0
A	*Gallinago delicata*	Wilson's Snipe				S3S4B,S5M	2	2.6 ± 0.0
A	*Larus delawarensis*	Ring-billed Gull				S3S4B,S5M	11	0.9 ± 0.0
A	*Calidris pusilla*	Semipalmated Sandpiper				S3S4M	7	1.9 ± 47.0
A	*Calidris alba*	Sanderling				S3S4M,S1N	36	1.9 ± 47.0
A	*Morus bassanus*	Northern Gannet				SHB,S5M	10	2.2 ± 0.0
I	*Coccinella transversoguttata richardsoni*	Transverse Lady Beetle	Special Concern			SH	1	1.0 ± 1.0
I	*Olisthopus parmatus*	a Ground Beetle				S3	1	2.0 ± 0.0
I	*Lycaena hyllus*	Bronze Copper				S3	5	1.0 ± 1.0
I	*Lycaena dospassosi*	Salt Marsh Copper				S3	4	1.2 ± 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?
Chrysemys picta picta	Eastern Painted Turtle	Special Concern		No
Chelydra serpentina	Snapping Turtle	Special Concern	Special Concern	No
Glyptemys insculpta	Wood Turtle	Threatened	Threatened	No
Haliaeetus leucocephalus	**Bald Eagle**		**Endangered**	**YES**
Falco peregrinus pop. 1	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Endangered	No
Cicindela marginipennis	Cobblestone Tiger Beetle	Endangered	Endangered	No
Coenonympha nipisiquit	Maritime Ringlet	Endangered	Endangered	No
Bat hibernaculum or bat species occurrence		[Endangered][1]	[Endangered][1]	No

1 *Myotis lucifugus* (Little Brown Myotis), *Myotis septentrionalis* (Long-eared Myotis), and *Perimyotis subflavus* (Tri-colored Bat or Eastern Pipistrelle) are all Endangered under the 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
153	eBird. 2014. eBird Basic Dataset. Version: EBD_relNov-2014. Ithaca, New York. Nov 2014. Cornell Lab of Ornithology, 25036 recs.
15	eBird. 2020. eBird Basic Dataset. Version: EBD_relNov-2019. Ithaca, New York. Nov 2019, Cape Breton Bras d'Or Lakes Watershed subset. Cornell Lab of Ornithology.
9	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
6	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
4	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
4	MacDonald, E.C. 2018. CWS Piping Plover Census, 2010-2017. Canadian Wildlife Service, 672 recs.
3	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
2	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
2	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2003.
2	Robinson, S.L. 2010. Fieldwork 2009 (dune ecology). Atlantic Canada Conservation Data Centre. Sackville NB, 408 recs.
1	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
1	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
1	Klymko, J. 2021. Atlantic Canada Conservation Data Centre zoological fieldwork 2020. Atlantic Canada Conservation Data Centre.
1	Klymko, J. Dataset of butterfly records at the New Brunswick Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2016.
1	Majka, C. 2009. Université de Moncton Insect Collection: Carabidae, Cerambycidae, Coccinellidae. Université de Moncton, 540 recs.
1	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
1	Mazerolle, D. 2003. Assessment of Seaside Pinweed (Lechea maritima var. subcylindrica) in Southeastern New Brunswick. Irving Eco-centre, la Dune du Bouctouche, 18 recs.
1	Mazerolle, D.M. 2005. Bouctouche Irving Eco-Centre rare coastal plant fieldwork results 2004-05. Irving Eco-centre, la Dune du Bouctouche, 174 recs.
1	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
1	Pardieck, K.L., Ziolkowski Jr., D.J., Lutmerding, M., Aponte, V.I., and Hudson, M-A.R. 2020. North American Breeding Bird Survey Dataset 1966 - 2019: U.S. Geological Survey data release, https://doi.org/10.5066/P9J6QUF6
1	Webster, R.P. & Edsall, J. 2007. 2005 New Brunswick Rare Butterfly Survey. Environmental Trust Fund, unpublished report, 232 recs.

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 70564 records of 140 vertebrate and 1231 records of 71 invertebrate fauna; 7982 records of 283 vascular, 1992 records of 193 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 (± 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	*Myotis lucifugus*	Little Brown Myotis	Endangered	Endangered	Endangered	S1	74	36.6 ± 0.0	NB
A	*Myotis septentrionalis*	Northern Long-eared Myotis	Endangered	Endangered	Endangered	S1	60	42.6 ± 1.0	NB
A	*Perimyotis subflavus*	Eastern Pipistrelle	Endangered	Endangered	Endangered	S1	11	47.1 ± 0.0	NB
A	*Charadrius melodus melodus*	Piping Plover melodus ssp	Endangered	Endangered	Endangered	S1B,S1M	3094	1.7 ± 1.0	NB
A	*Dermochelys coriacea (Atlantic pop.)*	Leatherback Sea Turtle - Atlantic pop.	Endangered	Endangered	Endangered	S1S2N	5	9.2 ± 1.0	NB
A	*Salmo salar pop. 1*	Atlantic Salmon - Inner Bay of Fundy pop.	Endangered	Endangered	Endangered	S2	615	44.5 ± 1.0	NB
A	*Salmo salar pop. 7*	Atlantic Salmon - Outer Bay of Fundy pop.	Endangered		Endangered	SNR	395	57.3 ± 0.0	NB
A	*Rangifer tarandus pop. 2*	Woodland Caribou (Atlantic-Gasp ├⌐sie pop.)	Endangered	Endangered	Extirpated	SX	2	60.5 ± 1.0	NB
A	*Lanius ludovicianus*	Loggerhead Shrike	Endangered	Endangered		SXB,SXM	1	42.4 ± 0.0	NB
A	*Sturnella magna*	Eastern Meadowlark	Threatened	Threatened	Threatened	S1B,S1M	33	28.1 ± 1.0	NB
A	*Ixobrychus exilis*	Least Bittern	Threatened	Threatened	Threatened	S1S2B,S1S2M	18	28.5 ± 0.0	NB
A	*Hylocichla mustelina*	Wood Thrush	Threatened	Threatened	Threatened	S1S2B,S1S2M	59	3.3 ± 0.0	NB
A	*Asio flammeus*	Short-eared Owl	Threatened	Special Concern	Special Concern	S2B,S2M	57	29.1 ± 1.0	NB
A	*Antrostomus vociferus*	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S2B,S2M	16	38.1 ± 7.0	NB
A	*Catharus bicknelli*	Bicknell's Thrush	Threatened	Threatened	Threatened	S2B,S2M	8	37.5 ± 2.0	NB
A	*Oceanodroma leucorhoa*	Leach's Storm-Petrel	Threatened			S2B,SUM	1	7.6 ± 0.0	NB
A	*Glyptemys insculpta*	Wood Turtle	Threatened	Threatened	Threatened	S2S3	490	14.7 ± 0.0	NB
A	*Chaetura pelagica*	Chimney Swift	Threatened	Threatened	Threatened	S2S3B,S2M	154	15.5 ± 7.0	NB
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened		S2S3B,S2S3M	3593	0.9 ± 0.0	NB
A	*Acipenser oxyrinchus*	Atlantic Sturgeon	Threatened		Threatened	S3	1	61.0 ± 1.0	NB
A	*Dolichonyx oryzivorus*	Bobolink	Threatened	Threatened	Threatened	S3B,S3M	2027	4.6 ± 0.0	NB
A	*Limosa haemastica*	Hudsonian Godwit	Threatened			S3S4M	874	10.8 ± 0.0	NB
A	*Anguilla rostrata*	American Eel	Threatened		Threatened	S4	6994	35.3 ± 0.0	NB
A	*Tringa flavipes*	Lesser Yellowlegs	Threatened			S4M	2796	10.8 ± 0.0	NB
A	*Coturnicops noveboracensis*	Yellow Rail	Special Concern	Special Concern	Special Concern	S1?B,SUM	5	28.1 ± 1.0	NB
A	*Histrionicus histrionicus pop. 1*	Harlequin Duck - Eastern pop.	Special Concern	Special Concern	Endangered	S1B,S1S2N,S2M	6	37.1 ± 0.0	NB
A	*Hirundo rustica*	Barn Swallow	Special Concern	Threatened	Threatened	S2B,S2M	1491	5.8 ± 7.0	NB
A	*Bucephala islandica (Eastern pop.)*	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern	Special Concern	S2M,S2N	118	2.3 ± 0.0	NB
A	*Salmo salar pop. 12*	Atlantic Salmon - Gaspe - Southern Gulf of St Lawrence pop.	Special Concern		Special Concern	S2S3	17	34.0 ± 1.0	NS
A	*Balaenoptera physalus*	Fin Whale	Special Concern	Special Concern		S2S3	1	78.0 ± 1.0	NB
A	*Chelydra serpentina*	Snapping Turtle	Special Concern	Special Concern	Special Concern	S3	5	28.0 ± 0.0	NB
A	*Euphagus carolinus*	Rusty Blackbird	Special Concern	Special Concern	Special Concern	S3B,S3M	111	18.3 ± 0.0	NB
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B,S3M	587	11.2 ± 0.0	NB
A	*Cardellina canadensis*	Canada Warbler	Special Concern	Threatened	Threatened	S3B,S3M	591	5.8 ± 7.0	NB
A	*Coccothraustes vespertinus*	Evening Grosbeak	Special Concern	Special Concern		S3B,S3S4N,SUM	341	14.8 ± 7.0	NB
A	*Chordeiles minor*	Common Nighthawk	Special Concern	Threatened	Threatened	S3B,S4M	202	14.8 ± 7.0	NB
A	*Phalaropus lobatus*	Red-necked Phalarope	Special Concern	Special Concern		S3M	28	0.9 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Phocoena phocoena*	Harbour Porpoise	Special Concern		Spec.Concern	S4	4	49.4 ± 0.0	NB
A	*Chrysemys picta picta*	Eastern Painted Turtle	Special Concern			S4	20	44.2 ± 0.0	NB
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Special Concern	S4B,S4M	820	5.8 ± 7.0	NB
A	*Podiceps auritus*	Horned Grebe	Special Concern	Special Concern	Special Concern	S4N,S4M	52	2.1 ± 0.0	NB
A	*Hemidactylium scutatum*	Four-toed Salamander	Not At Risk			S1?	6	73.1 ± 0.0	NS
A	*Falco peregrinus pop. 1*	Peregrine Falcon - anatum/tundrius	Not At Risk	Special Concern	Endangered	S1B,S3M	295	7.6 ± 0.0	NB
A	*Bubo scandiacus*	Snowy Owl	Not At Risk			S1N,S2S3M	54	11.0 ± 0.0	NB
A	*Accipiter cooperii*	Cooper's Hawk	Not At Risk			S1S2B,S1S2M	5	28.2 ± 5.0	NB
A	*Fulica americana*	American Coot	Not At Risk			S1S2B,S1S2M	62	20.6 ± 7.0	NB
A	*Aegolius funereus*	Boreal Owl	Not At Risk			S1S2B,SUM	13	25.4 ± 0.0	NB
A	*Sorex dispar*	Long-tailed Shrew	Not At Risk			S2	5	59.8 ± 1.0	NB
A	*Buteo lineatus*	Red-shouldered Hawk	Not At Risk			S2B,S2M	13	30.3 ± 0.0	NB
A	*Chlidonias niger*	Black Tern	Not At Risk			S2B,S2M	187	11.3 ± 1.0	NB
A	*Lynx canadensis*	Canadian Lynx	Not At Risk		Endangered	S3	16	47.0 ± 1.0	NB
A	*Desmognathus fuscus - Quebec / New Brunswick population*	Northern Dusky Salamander - Quebec / New Brunswick population	Not At Risk			S3	1	89.4 ± 0.0	NB
A	*Sterna hirundo*	Common Tern	Not At Risk			S3B,SUM	855	1.4 ± 1.0	NB
A	*Podiceps grisegena*	Red-necked Grebe	Not At Risk			S3M,S2N	51	2.3 ± 0.0	NB
A	*Lagenorhynchus acutus*	Atlantic White-sided Dolphin	Not At Risk			S3S4	4	46.0 ± 1.0	NB
A	*Haliaeetus leucocephalus*	Bald Eagle	Not At Risk		Endangered	S4	1482	2.6 ± 0.0	NB
A	*Canis lupus*	Gray Wolf	Not At Risk		Extirpated	SX	1	87.9 ± 100.0	NB
A	*Puma concolor pop. 1*	Eastern Cougar	Data Deficient		Endangered	SNA	109	24.7 ± 1.0	NB
A	*Calidris canutus rufa*	Red Knot rufa subspecies	E,SC	Endangered	Endangered	S2M	1235	10.8 ± 0.0	NB
A	*Morone saxatilis*	Striped Bass	E,SC			S3	8640	61.0 ± 0.0	NB
A	*Thryothorus ludovicianus*	Carolina Wren				S1	13	21.1 ± 0.0	NB
A	*Vireo flavifrons*	Yellow-throated Vireo				S1?B,S1?M	4	43.8 ± 0.0	NB
A	*Tringa melanoleuca*	Greater Yellowlegs				S1?B,S5M	4467	2.4 ± 0.0	NB
A	*Aythya americana*	Redhead				S1B,S1M	10	35.6 ± 7.0	NB
A	*Gallinula galeata*	Common Gallinule				S1B,S1M	55	34.4 ± 0.0	NB
A	*Antigone canadensis*	Sandhill Crane				S1B,S1M	19	17.0 ± 7.0	NB
A	*Bartramia longicauda*	Upland Sandpiper				S1B,S1M	58	24.3 ± 7.0	NB
A	*Phalaropus tricolor*	Wilson's Phalarope				S1B,S1M	65	10.8 ± 0.0	NB
A	*Leucophaeus atricilla*	Laughing Gull				S1B,S1M	9	7.6 ± 0.0	NB
A	*Progne subis*	Purple Martin				S1B,S1M	78	16.0 ± 7.0	NB
A	*Oxyura jamaicensis*	Ruddy Duck				S1B,S2S3M	110	15.5 ± 0.0	NB
A	*Aythya affinis*	Lesser Scaup				S1B,S4M	174	2.3 ± 0.0	NB
A	*Aythya marila*	Greater Scaup				S1B,S4M,S2N	20	15.5 ± 1.0	NB
A	*Eremophila alpestris*	Horned Lark				S1B,S4N,S5M	68	11.3 ± 1.0	NB
A	*Sterna paradisaea*	Arctic Tern				S1B,SUM	44	26.7 ± 7.0	NB
A	*Fratercula arctica*	Atlantic Puffin				S1B,SUN,SUM	3	45.4 ± 0.0	NB
A	*Chroicocephalus ridibundus*	Black-headed Gull				S1N,S2M	16	2.1 ± 0.0	NB
A	*Branta bernicla*	Brant				S1N,S2S3M	36	11.3 ± 1.0	NB
A	*Butorides virescens*	Green Heron				S1S2B,S1S2M	8	35.8 ± 0.0	NB
A	*Nycticorax nycticorax*	Black-crowned Night-heron				S1S2B,S1S2M	5	18.4 ± 0.0	NB
A	*Empidonax traillii*	Willow Flycatcher				S1S2B,S1S2M	73	23.5 ± 0.0	NB
A	*Stelgidopteryx serripennis*	Northern Rough-winged Swallow				S1S2B,S1S2M	6	37.3 ± 0.0	NB
A	*Troglodytes aedon*	House Wren				S1S2B,S1S2M	12	26.7 ± 7.0	NB
A	*Rissa tridactyla*	Black-legged Kittiwake				S1S2B,S4N,S5M	2	33.7 ± 0.0	NB
A	*Calidris bairdii*	Baird's Sandpiper				S1S2M	116	11.3 ± 2.0	NB
A	*Cistothorus palustris*	Marsh Wren				S2B,S2M	82	22.9 ± 1.0	NB
A	*Mimus polyglottos*	Northern Mockingbird				S2B,S2M	139	1.4 ± 0.0	NB
A	*Toxostoma rufum*	Brown Thrasher				S2B,S2M	27	21.4 ± 7.0	NB
A	*Pooecetes gramineus*	Vesper Sparrow				S2B,S2M	123	21.4 ± 7.0	NB
A	*Mareca strepera*	Gadwall				S2B,S3M	441	0.9 ± 0.0	NB
A	*Pinicola enucleator*	Pine Grosbeak				S2B,S4S5N,S4S5	47	13.6 ± 7.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Tringa solitaria*	Solitary Sandpiper				S2B,S5M	203	0.9 ± 0.0	NB
A	*Anser caerulescens*	Snow Goose				S2M	24	15.5 ± 1.0	NB
A	*Phalacrocorax carbo*	Great Cormorant				S2N,S2M	166	19.2 ± 1.0	NB
A	*Somateria spectabilis*	King Eider				S2N,S2M	4	11.3 ± 1.0	NB
A	*Larus hyperboreus*	Glaucous Gull				S2N,S2M	94	2.3 ± 0.0	NB
A	*Asio otus*	Long-eared Owl				S2S3	28	27.9 ± 7.0	NB
A	*Picoides dorsalis*	American Three-toed Woodpecker				S2S3	20	44.8 ± 0.0	PE
A	*Spatula clypeata*	Northern Shoveler				S2S3B,S2S3M	473	0.9 ± 0.0	NB
A	*Myiarchus crinitus*	Great Crested Flycatcher				S2S3B,S2S3M	25	16.6 ± 7.0	NB
A	*Petrochelidon pyrrhonota*	Cliff Swallow				S2S3B,S2S3M	514	5.1 ± 0.0	NB
A	*Pluvialis dominica*	American Golden-Plover				S2S3M	376	11.3 ± 1.0	NB
A	*Calcarius lapponicus*	Lapland Longspur				S2S3N,SUM	43	11.3 ± 1.0	NB
A	*Cepphus grylle*	Black Guillemot				S3	61	21.1 ± 7.0	PE
A	*Loxia curvirostra*	Red Crossbill				S3	142	12.2 ± 7.0	NB
A	*Spinus pinus*	Pine Siskin				S3	400	5.8 ± 7.0	NB
A	*Salvelinus namaycush*	Lake Trout				S3	1	54.8 ± 0.0	NB
A	*Sorex maritimensis*	Maritime Shrew				S3	140	33.7 ± 1.0	NB
A	*Eptesicus fuscus*	Big Brown Bat				S3	10	34.5 ± 10.0	NB
A	*Cathartes aura*	Turkey Vulture				S3B,S3M	147	11.9 ± 4.0	NB
A	*Rallus limicola*	Virginia Rail				S3B,S3M	345	15.5 ± 7.0	NB
A	*Charadrius vociferus*	Killdeer				S3B,S3M	1138	5.8 ± 7.0	NB
A	*Tringa semipalmata*	Willet				S3B,S3M	2315	1.5 ± 1.0	NB
A	*Coccyzus erythropthalmus*	Black-billed Cuckoo				S3B,S3M	134	7.4 ± 7.0	NB
A	*Vireo gilvus*	Warbling Vireo				S3B,S3M	64	9.1 ± 0.0	NB
A	*Piranga olivacea*	Scarlet Tanager				S3B,S3M	34	28.4 ± 0.0	NB
A	*Passerina cyanea*	Indigo Bunting				S3B,S3M	40	43.0 ± 7.0	NB
A	*Molothrus ater*	Brown-headed Cowbird				S3B,S3M	297	5.8 ± 7.0	NB
A	*Icterus galbula*	Baltimore Oriole				S3B,S3M	101	19.2 ± 1.0	NB
A	*Somateria mollissima*	Common Eider				S3B,S4M,S3N	220	1.6 ± 0.0	NB
A	*Setophaga tigrina*	Cape May Warbler				S3B,S4S5M	320	3.6 ± 2.0	NB
A	*Anas acuta*	Northern Pintail				S3B,S5M	175	5.8 ± 7.0	NB
A	*Mergus serrator*	Red-breasted Merganser				S3B,S5M,S4S5N	328	2.3 ± 0.0	NB
A	*Arenaria interpres*	Ruddy Turnstone				S3M	1907	2.3 ± 0.0	NB
A	*Phalaropus fulicarius*	Red Phalarope				S3M	6	52.6 ± 0.0	NB
A	*Melanitta americana*	Black Scoter				S3M,S1S2N	286	2.2 ± 0.0	NB
A	*Bucephala albeola*	Bufflehead				S3M,S2N	130	8.9 ± 0.0	NB
A	*Calidris maritima*	Purple Sandpiper				S3M,S3N	110	2.3 ± 0.0	NB
A	*Uria lomvia*	Thick-billed Murre				S3N,S3M	1	95.8 ± 0.0	NS
A	*Synaptomys cooperi*	Southern Bog Lemming				S3S4	25	66.6 ± 1.0	NB
A	*Tyrannus tyrannus*	Eastern Kingbird				S3S4B,S3S4M	571	5.8 ± 7.0	NB
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	1130	0.9 ± 0.0	NB
A	*Gallinago delicata*	Wilson's Snipe				S3S4B,S5M	1182	2.6 ± 0.0	NB
A	*Larus delawarensis*	Ring-billed Gull				S3S4B,S5M	448	0.9 ± 0.0	NB
A	*Setophaga striata*	Blackpoll Warbler				S3S4B,S5M	75	16.6 ± 7.0	NB
A	*Pluvialis squatarola*	Black-bellied Plover				S3S4M	3893	5.4 ± 12.0	NB
A	*Calidris pusilla*	Semipalmated Sandpiper				S3S4M	4022	1.9 ± 47.0	NB
A	*Calidris melanotos*	Pectoral Sandpiper				S3S4M	603	10.8 ± 0.0	NB
A	*Calidris alba*	Sanderling				S3S4M,S1N	2439	1.9 ± 47.0	NB
A	*Morus bassanus*	Northern Gannet				SHB,S5M	213	2.2 ± 0.0	NB
I	*Bombus (Psithyrus) bohemicus*	Gypsy Cuckoo Bumble Bee	Endangered	Endangered		S1	16	30.1 ± 5.0	NB
I	*Gomphus ventricosus*	Skillet Clubtail	Endangered	Endangered	Endangered	S1S2	1	98.7 ± 0.0	NB
I	*Danaus plexippus*	Monarch	Endangered	Special Concern	Special Concern	S3B,S3M	214	15.6 ± 1.0	NB
I	*Alasmidonta varicosa*	Brook Floater	Special Concern	Special Concern	Special Concern	S2	38	44.7 ± 1.0	NB
I	*Bombus terricola*	Yellow-banded Bumblebee	Special Concern	Special Concern		S3?	183	32.0 ± 0.0	NB
I	*Coccinella transversoguttata*	Transverse Lady Beetle	Special Concern			SH	31	1.0 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
	richardsoni								
I	*Erora laeta*	Early Hairstreak				S1	2	43.9 ± 1.0	NB
I	*Leucorrhinia patricia*	Canada Whiteface				S1	10	82.3 ± 1.0	NB
I	*Plebejus saepiolus*	Greenish Blue				S1S2	3	70.3 ± 7.0	NB
I	*Satyrium calanus falacer*	Banded Hairstreak				S2	1	90.1 ± 0.0	PE
I	*Strymon melinus*	Grey Hairstreak				S2	1	53.0 ± 2.0	NB
I	*Somatochlora brevicincta*	Quebec Emerald				S2	2	53.3 ± 0.0	NB
I	*Somatochlora tenebrosa*	Clamp-Tipped Emerald				S2	9	25.2 ± 1.0	NB
I	*Ladona exusta*	White Corporal				S2	2	69.0 ± 0.0	NB
I	*Coenagrion interrogatum*	Subarctic Bluet				S2	2	98.9 ± 1.0	NB
I	*Ischnura posita*	Fragile Forktail				S2	5	20.8 ± 0.0	NB
I	*Chrysops delicatulus*	a Horse Fly				S2S3	1	99.0 ± 1.0	NB
I	*Callophrys henrici*	Henry's Elfin				S2S3	10	13.8 ± 0.0	NB
I	*Psyrassa unicolor*	a Longhorned Beetle				S3	1	32.0 ± 0.0	NB
I	*Elaphrus americanus*	a Ground Beetle				S3	1	68.2 ± 0.0	NB
I	*Agonum crenistriatum*	a Ground Beetle				S3	1	40.0 ± 1.0	NB
I	*Agonum consimile*	a Ground Beetle				S3	1	40.0 ± 1.0	NB
I	*Lachnocrepis parallela*	a Ground Beetle				S3	1	62.1 ± 0.0	NB
I	*Dyschirius setosus*	a Ground Beetle				S3	3	62.1 ± 0.0	NB
I	*Harpalus fulvilabris*	a Ground Beetle				S3	1	67.4 ± 0.0	NB
I	*Olisthopus parmatus*	a Ground Beetle				S3	1	2.0 ± 0.0	NB
I	*Amara pallipes*	a Ground Beetle				S3	2	40.0 ± 1.0	NB
I	*Carabus maeander*	a Ground Beetle				S3	1	40.0 ± 1.0	NB
I	*Carabus serratus*	a Ground Beetle				S3	1	44.4 ± 1.0	NB
I	*Hippodamia parenthesis*	Parenthesis Lady Beetle				S3	14	35.7 ± 0.0	NB
I	*Xylotrechus undulatus*	a Longhorned Beetle				S3	2	31.1 ± 1.0	NB
I	*Calathus gregarius*	a Ground Beetle				S3	1	89.2 ± 1.0	NB
I	*Gonioctena americana*	a Leaf Beetle				S3	1	62.8 ± 0.0	NB
I	*Naemia seriata*	a Ladybird beetle				S3	9	50.3 ± 0.0	NB
I	*Beckerus appressus*	A Click Beetle				S3	1	91.7 ± 0.0	NB
I	*Saperda lateralis*	a Longhorned Beetle				S3	1	40.4 ± 0.0	NS
I	*Trachysida aspera*	a Longhorned Beetle				S3	1	73.8 ± 0.0	NB
I	*Dicerca caudata*	Tailed Jewel Borer				S3	1	11.5 ± 0.0	NB
I	*Enoclerus muttkowskii*	a Checkered Beetle				S3	2	44.4 ± 0.0	NB
I	*Hesperia sassacus*	Indian Skipper				S3	4	80.3 ± 7.0	NB
I	*Euphyes bimacula*	Two-spotted Skipper				S3	15	14.7 ± 0.0	NB
I	*Papilio brevicauda bretonensis*	Short-tailed Swallowtail				S3	13	39.0 ± 0.0	NB
I	*Lycaena hyllus*	Bronze Copper				S3	171	1.0 ± 1.0	NB
I	*Lycaena dospassosi*	Salt Marsh Copper				S3	151	1.2 ± 0.0	NB
I	*Satyrium acadica*	Acadian Hairstreak				S3	16	16.6 ± 7.0	NB
I	*Callophrys polios*	Hoary Elfin				S3	7	14.1 ± 0.0	NB
I	*Plebejus idas*	Northern Blue				S3	6	93.5 ± 0.0	NS
I	*Plebejus idas empetri*	Crowberry Blue				S3	28	29.3 ± 0.0	NB
I	*Speyeria aphrodite*	Aphrodite Fritillary				S3	16	41.4 ± 0.0	NB
I	*Boloria chariclea*	Arctic Fritillary				S3	9	37.8 ± 7.0	NB
I	*Polygonia satyrus*	Satyr Comma				S3	6	37.6 ± 0.0	NS
I	*Polygonia gracilis*	Hoary Comma				S3	2	80.5 ± 2.0	NB
I	*Nymphalis l-album*	Compton Tortoiseshell				S3	13	41.7 ± 10.0	NB
I	*Gomphaeschna furcillata*	Harlequin Darner				S3	6	35.8 ± 0.0	NB
I	*Dorocordulia lepida*	Petite Emerald				S3	3	68.7 ± 1.0	PE
I	*Somatochlora cingulata*	Lake Emerald				S3	4	86.3 ± 1.0	NB
I	*Somatochlora forcipata*	Forcipate Emerald				S3	8	44.3 ± 0.0	NB
I	*Williamsonia fletcheri*	Ebony Boghaunter				S3	20	26.2 ± 0.0	NB
I	*Lestes eurinus*	Amber-Winged Spreadwing				S3	33	53.0 ± 1.0	NB
I	*Lestes vigilax*	Swamp Spreadwing				S3	1	79.8 ± 0.0	NS
I	*Enallagma signatum*	Orange Bluet				S3	2	32.4 ± 0.0	NB
I	*Stylurus scudderi*	Zebra Clubtail				S3	7	41.4 ± 0.0	NB

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I	*Alasmidonta undulata*	Triangle Floater				S3	25	61.1 ± 1.0	NB
I	*Leptodea ochracea*	Tidewater Mucket				S3	29	24.5 ± 1.0	NB
I	*Pantala hymenaea*	Spot-Winged Glider				S3B,S3M	6	29.1 ± 0.0	NB
I	*Collops vittatus*	Banded Soft-winged Flower Beetle				S3S4	1	50.6 ± 3.0	NB
I	*Hemicrepidius memnonius*	a Click Beetle				S3S4	3	32.0 ± 0.0	NB
I	*Bolitophagus corticola*	a Darkling Beetle				S3S4	1	32.0 ± 0.0	NB
I	*Satyrium liparops*	Striped Hairstreak				S3S4	40	23.1 ± 0.0	NB
I	*Satyrium liparops strigosum*	Striped Hairstreak				S3S4	4	41.5 ± 0.0	NB
I	*Cupido comyntas*	Eastern Tailed Blue				S3S4	3	65.1 ± 0.0	NB
N	*Erioderma mollissimum*	Graceful Felt Lichen	Endangered	Endangered	Endangered	SH	1	96.8 ± 1.0	NB
N	*Peltigera hydrothyria*	Eastern Waterfan	Threatened	Threatened		S1	789	54.0 ± 0.0	NB
N	*Pannaria lurida*	Wrinkled Shingle Lichen	Threatened	Threatened		S1?	5	18.5 ± 1.0	NB
N	*Anzia colpodes*	Black-foam Lichen	Threatened	Threatened		S1S2	14	33.4 ± 0.0	NB
N	*Fuscopannaria leucosticta*	White-rimmed Shingle Lichen	Threatened			S2	10	38.8 ± 0.0	PE
N	*Pectenia plumbea*	Blue Felt Lichen	Special Concern	Special Concern	Special Concern	S1	1	38.3 ± 0.0	PE
N	*Pseudevernia cladonia*	Ghost Antler Lichen	Not At Risk			S2S3	2	88.4 ± 0.0	NB
N	*Aloina rigida*	Aloe-Like Rigid Screw Moss				S1	2	55.2 ± 0.0	NB
N	*Arrhenopterum heterostichum*	One-sided Groove Moss				S1	2	86.8 ± 0.0	NB
N	*Campylostelium saxicola*	a Moss				S1	3	73.3 ± 0.0	PE
N	*Dicranoweisia crispula*	Mountain Thatch Moss				S1	1	86.8 ± 0.0	NB
N	*Didymodon rigidulus var. gracilis*	a moss				S1	1	94.0 ± 1.0	NB
N	*Zygodon viridissimus var. viridissimus*	a Moss				S1	1	88.5 ± 0.0	NB
N	*Enchylium tenax*	Soil Tarpaper Lichen				S1	1	49.0 ± 0.0	PE
N	*Sticta fuliginosa*	Peppered Moon Lichen				S1	2	79.6 ± 0.0	NS
N	*Cladonia straminea*	Reptilian Pixie-cup Lichen				S1	5	81.1 ± 1.0	NB
N	*Coccocarpia palmicola*	Salted Shell Lichen				S1	1	81.1 ± 1.0	NB
N	*Peltigera malacea*	Veinless Pelt Lichen				S1	2	57.7 ± 0.0	PE
N	*Bryoria bicolor*	Electrified Horsehair Lichen				S1	1	94.1 ± 1.0	NB
N	*Hygrobiella laxifolia*	Lax Notchwort				S1?	1	95.8 ± 1.0	NB
N	*Atrichum angustatum*	Lesser Smoothcap Moss				S1?	1	93.8 ± 5.0	NS
N	*Bartramia ithyphylla*	Straight-leaved Apple Moss				S1?	2	87.6 ± 1.0	NB
N	*Dicranum bonjeanii*	Bonjean's Broom Moss				S1?	3	85.9 ± 4.0	PE
N	*Dicranum condensatum*	Condensed Broom Moss				S1?	3	57.8 ± 0.0	PE
N	*Entodon brevisetus*	a Moss				S1?	1	99.6 ± 10.0	NB
N	*Homomallium adnatum*	Adnate Hairy-gray Moss				S1?	4	76.5 ± 1.0	NB
N	*Plagiothecium latebricola*	Alder Silk Moss				S1?	3	80.9 ± 0.0	NB
N	*Rhytidium rugosum*	Wrinkle-leaved Moss				S1?	1	93.9 ± 1.0	NB
N	*Seligeria recurvata*	a Moss				S1?	3	70.7 ± 15.0	NB
N	*Timmia megapolitana*	Metropolitan Timmia Moss				S1?	3	91.8 ± 1.0	NS
N	*Rhizomnium pseudopunctatum*	Felted Leafy Moss				S1?	1	84.1 ± 0.0	NB
N	*Heterodermia squamulosa*	Scaly Fringe Lichen				S1?	18	99.9 ± 0.0	NS
N	*Cephaloziella spinigera*	Spiny Threadwort				S1S2	2	91.7 ± 0.0	NB
N	*Odontoschisma francisci*	Holt's Notchwort				S1S2	4	78.8 ± 0.0	NB
N	*Harpanthus flotovianus*	Great Mountain Flapwort				S1S2	2	82.6 ± 1.0	NB
N	*Jungermannia obovata*	Egg Flapwort				S1S2	1	88.3 ± 0.0	NB
N	*Odontoschisma sphagni*	Bog-Moss Flapwort				S1S2	1	92.9 ± 0.0	NB
N	*Pallavicinia lyellii*	Lyell's Ribbonwort				S1S2	1	99.6 ± 1.0	NB
N	*Radula tenax*	Tenacious Scalewort				S1S2	1	88.3 ± 0.0	NB
N	*Reboulia hemisphaerica*	Purple-margined Liverwort				S1S2	1	94.1 ± 0.0	NB
N	*Brachythecium acuminatum*	Acuminate Ragged Moss				S1S2	2	89.8 ± 2.0	NB
N	*Ptychostomum salinum*	Saltmarsh Bryum				S1S2	1	93.4 ± 1.0	NB
N	*Distichium inclinatum*	Inclined Iris Moss				S1S2	5	94.0 ± 1.0	NB

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N	*Ditrichum pallidum*	Pale Cow-hair Moss				S1S2	1	98.2 ± 1.0	NB
N	*Drummondia prorepens*	a Moss				S1S2	1	88.6 ± 0.0	NB
N	*Hygrohypnum bestii*	Best's Brook Moss				S1S2	5	86.1 ± 1.0	NB
N	*Seligeria brevifolia*	a Moss				S1S2	4	88.3 ± 0.0	NB
N	*Timmia norvegica*	a moss				S1S2	2	94.2 ± 0.0	NB
N	*Timmia norvegica var. excurrens*	a moss				S1S2	1	94.2 ± 0.0	NB
N	*Tortella humilis*	Small Crisp Moss				S1S2	7	88.6 ± 1.0	NB
N	*Pseudotaxiphyllum distichaceum*	a Moss				S1S2	2	31.2 ± 1.0	NB
N	*Umbilicaria vellea*	Grizzled Rocktripe Lichen				S1S2	1	93.7 ± 1.0	NB
N	*Pilophorus cereolus*	Powdered Matchstick Lichen				S1S2	2	60.5 ± 5.0	NB
N	*Peltigera scabrosa*	Greater Toad Pelt Lichen				S1S2	4	79.8 ± 1.0	NB
N	*Anaptychia crinalis*	Hanging Fringed Lichen				S1S2	2	85.9 ± 4.0	PE
N	*Tritomaria scitula*	Mountain Notchwort				S1S3	1	84.6 ± 1.0	NB
N	*Amphidium mougeotii*	a Moss				S2	11	85.0 ± 0.0	NB
N	*Anomodon viticulosus*	a Moss				S2	2	83.5 ± 10.0	NB
N	*Cirriphyllum piliferum*	Hair-pointed Moss				S2	3	79.0 ± 1.0	NB
N	*Dicranella palustris*	Drooping-Leaved Fork Moss				S2	7	82.6 ± 1.0	NB
N	*Didymodon ferrugineus*	Rusty Beard Moss				S2	1	93.8 ± 0.0	NB
N	*Anomodon tristis*	a Moss				S2	4	88.9 ± 0.0	NB
N	*Hypnum pratense*	Meadow Plait Moss				S2	1	53.4 ± 0.0	PE
N	*Isopterygiopsis pulchella*	Neat Silk Moss				S2	7	86.2 ± 1.0	NB
N	*Orthotrichum speciosum*	Showy Bristle Moss				S2	14	38.1 ± 0.0	PE
N	*Platydictya jungermannioides*	False Willow Moss				S2	4	70.7 ± 15.0	NB
N	*Pohlia elongata*	Long-necked Nodding Moss				S2	14	86.8 ± 0.0	NB
N	*Pohlia sphagnicola*	a moss				S2	1	83.0 ± 0.0	NB
N	*Seligeria calcarea*	Chalk Brittle Moss				S2	2	82.6 ± 0.0	NB
N	*Sphagnum centrale*	Central Peat Moss				S2	7	47.4 ± 0.0	PE
N	*Sphagnum flexuosum*	Flexuous Peatmoss				S2	3	73.8 ± 10.0	NB
N	*Tayloria serrata*	Serrate Trumpet Moss				S2	7	65.8 ± 100.0	NB
N	*Tetrodontium brownianum*	Little Georgia				S2	13	47.4 ± 0.0	NS
N	*Thamnobryum alleghaniense*	a Moss				S2	23	52.4 ± 0.0	NB
N	*Ulota phyllantha*	a Moss				S2	4	94.2 ± 0.0	NB
N	*Anomobryum julaceum*	Slender Silver Moss				S2	3	94.0 ± 1.0	NB
N	*Cladonia macrophylla*	Fig-leaved Lichen				S2	3	87.0 ± 1.0	NB
N	*Leptogium milligranum*	Stretched Jellyskin Lichen				S2	23	18.3 ± 0.0	NB
N	*Nephroma laevigatum*	Mustard Kidney Lichen				S2	26	38.1 ± 0.0	PE
N	*Anacamptodon splachnoides*	a Moss				S2?	2	68.8 ± 1.0	NB
N	*Andreaea rothii*	a Moss				S2?	5	84.8 ± 1.0	NB
N	*Anomodon minor*	Blunt-leaved Anomodon Moss				S2?	1	82.9 ± 1.0	NB
N	*Ptychostomum pallescens*	Tall Clustered Bryum				S2?	1	84.2 ± 100.0	NB
N	*Dichelyma capillaceum*	Hairlike Dichelyma Moss				S2?	1	99.5 ± 3.0	NB
N	*Dicranum spurium*	Spurred Broom Moss				S2?	1	73.3 ± 0.0	PE
N	*Hygrohypnum montanum*	a Moss				S2?	1	85.9 ± 1.0	NB
N	*Sphagnum angermanicum*	a Peatmoss				S2?	2	90.2 ± 0.0	NB
N	*Trichodon cylindricus*	Cylindric Hairy-teeth Moss				S2?	2	70.7 ± 15.0	NB
N	*Plagiomnium rostratum*	Long-beaked Leafy Moss				S2?	4	93.5 ± 0.0	NB
N	*Ramalina labiosorediata*	Chalky Ramalina Lichen				S2?	1	90.6 ± 1.0	NB
N	*Collema leptaleum*	Crumpled Bat's Wing Lichen				S2?	13	37.9 ± 0.0	PE
N	*Imshaugia placorodia*	Eyed Starburst Lichen				S2?	1	47.3 ± 0.0	PE
N	*Nephroma arcticum*	Arctic Kidney Lichen				S2?	2	87.3 ± 0.0	NS
N	*Ptychostomum cernuum*	Swamp Bryum				S2S3	1	94.2 ± 0.0	NB
N	*Buxbaumia aphylla*	Brown Shield Moss				S2S3	2	73.3 ± 0.0	PE
N	*Calliergonella cuspidata*	Common Large Wetland Moss				S2S3	2	41.3 ± 0.0	PE

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N	*Drepanocladus polygamus*	Polygamous Hook Moss				S2S3	3	49.8 ± 0.0	PE
N	*Palustriella falcata*	a Moss				S2S3	2	95.1 ± 0.0	NB
N	*Didymodon rigidulus*	Rigid Screw Moss				S2S3	8	89.8 ± 2.0	NB
N	*Ephemerum serratum*	a Moss				S2S3	1	39.1 ± 0.0	PE
N	*Orthotrichum elegans*	Showy Bristle Moss				S2S3	3	45.9 ± 0.0	PE
N	*Pohlia proligera*	Cottony Nodding Moss				S2S3	14	70.7 ± 15.0	NB
N	*Codriophorus fascicularis*	Clustered Rock Moss				S2S3	3	86.8 ± 0.0	NB
N	*Racomitrium affine*	a Moss				S2S3	1	83.5 ± 1.0	NB
N	*Saelania glaucescens*	Blue Dew Moss				S2S3	2	86.8 ± 0.0	NB
N	*Sphagnum subfulvum*	a Peatmoss				S2S3	3	50.3 ± 0.0	PE
N	*Taxiphyllum deplanatum*	Imbricate Yew-leaved Moss				S2S3	2	88.6 ± 1.0	NB
N	*Zygodon viridissimus*	a Moss				S2S3	3	38.2 ± 0.0	PE
N	*Schistidium agassizii*	Elf Bloom Moss				S2S3	3	83.5 ± 1.0	NB
N	*Loeskeobryum brevirostre*	a Moss				S2S3	12	85.0 ± 0.0	NB
N	*Cyrtomnium hymenophylloides*	Short-pointed Lantern Moss				S2S3	6	82.8 ± 0.0	NB
N	*Cetrariella delisei*	Snowbed Icelandmoss Lichen				S2S3	2	82.7 ± 0.0	NB
N	*Cladonia acuminata*	Scantily Clad Pixie Lichen				S2S3	2	93.7 ± 1.0	NB
N	*Cladonia ramulosa*	Bran Lichen				S2S3	4	89.3 ± 1.0	NB
N	*Cladonia sulphurina*	Greater Sulphur-cup Lichen				S2S3	5	78.9 ± 1.0	NB
N	*Dendriscocaulon umhausense*	a lichen				S2S3	1	89.2 ± 0.0	NB
N	*Parmeliopsis ambigua*	Green Starburst Lichen				S2S3	2	85.9 ± 4.0	PE
N	*Sphaerophorus globosus*	Northern Coral Lichen				S2S3	9	80.4 ± 0.0	NB
N	*Hypnum curvifolium*	Curved-leaved Plait Moss				S3	9	39.9 ± 0.0	PE
N	*Tortella fragilis*	Fragile Twisted Moss				S3	1	94.2 ± 0.0	NB
N	*Schistidium maritimum*	a Moss				S3	6	84.1 ± 0.0	NB
N	*Hymenostylium recurvirostre*	Hymenostylium Moss				S3	7	74.0 ± 0.0	NS
N	*Collema nigrescens*	Blistered Tarpaper Lichen				S3	5	49.9 ± 0.0	PE
N	*Solorina saccata*	Woodland Owl Lichen				S3	6	93.7 ± 1.0	NB
N	*Ahtiana aurescens*	Eastern Candlewax Lichen				S3	3	39.0 ± 0.0	PE
N	*Normandina pulchella*	Rimmed Elf-ear Lichen				S3	8	88.2 ± 0.0	NS
N	*Cladonia farinacea*	Farinose Pixie Lichen				S3	6	77.3 ± 0.0	PE
N	*Hypotrachyna catawbiensis*	Powder-tipped Antler Lichen				S3	2	93.8 ± 0.0	NB
N	*Scytinium lichenoides*	Tattered Jellyskin Lichen				S3	6	93.7 ± 1.0	NB
N	*Nephroma bellum*	Naked Kidney Lichen				S3	7	76.4 ± 0.0	NS
N	*Peltigera degenii*	Lustrous Pelt Lichen				S3	3	90.1 ± 1.0	NB
N	*Usnea strigosa*	Bushy Beard Lichen				S3	39	16.1 ± 0.0	NB
N	*Stereocaulon condensatum*	Granular Soil Foam Lichen				S3	8	70.2 ± 0.0	NB
N	*Leptogium laceroides*	Short-bearded Jellyskin Lichen				S3	9	38.1 ± 0.0	PE
N	*Peltigera membranacea*	Membranous Pelt Lichen				S3	23	30.2 ± 0.0	NB
N	*Cladonia botrytes*	Wooden Soldiers Lichen				S3	4	45.7 ± 0.0	PE
N	*Cladonia carneola*	Crowned Pixie-cup Lichen				S3	2	87.7 ± 0.0	NB
N	*Cladonia deformis*	Lesser Sulphur-cup Lichen				S3	8	87.0 ± 1.0	NB
N	*Aulacomnium androgynum*	Little Groove Moss				S3?	10	52.6 ± 0.0	PE
N	*Ptychostomum inclinatum*	Blunt-tooth Thread Moss				S3?	2	84.6 ± 0.0	PE
N	*Dicranella rufescens*	Red Forklet Moss				S3?	1	94.2 ± 0.0	NB
N	*Rhytidiadelphus loreus*	Lanky Moss				S3?	3	83.3 ± 0.0	NS
N	*Sphagnum lescurii*	a Peatmoss				S3?	7	30.5 ± 0.0	NS
N	*Scytinium subtile*	Appressed Jellyskin Lichen				S3?	15	26.0 ± 0.0	PE
N	*Rostania occultata*	Crusted Tarpaper Lichen				S3?	2	47.1 ± 0.0	PE
N	*Stereocaulon subcoralloides*	Coralloid Foam Lichen				S3?	1	90.6 ± 1.0	NB
N	*Barbula convoluta*	Lesser Bird's-claw Beard Moss				S3S4	1	86.3 ± 15.0	NB
N	*Brachytheciastrum velutinum*	Velvet Ragged Moss				S3S4	3	46.6 ± 0.0	PE
N	*Calliergon giganteum*	Giant Spear Moss				S3S4	1	47.4 ± 0.0	PE

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N	*Dicranella cerviculata*	a Moss				S3S4	4	77.1 ± 0.0	NS
N	*Dicranella varia*	a Moss				S3S4	2	38.5 ± 0.0	PE
N	*Dicranum majus*	Greater Broom Moss				S3S4	26	73.3 ± 0.0	PE
N	*Dicranum leioneuron*	a Dicranum Moss				S3S4	2	15.9 ± 0.0	NB
N	*Encalypta ciliata*	Fringed Extinguisher Moss				S3S4	1	93.8 ± 0.0	NB
N	*Fissidens bryoides*	Lesser Pocket Moss				S3S4	6	47.9 ± 0.0	PE
N	*Elodium blandowii*	Blandow's Bog Moss				S3S4	1	39.8 ± 0.0	PE
N	*Heterocladium dimorphum*	Dimorphous Tangle Moss				S3S4	7	73.3 ± 0.0	PE
N	*Isopterygiopsis muelleriana*	a Moss				S3S4	18	48.9 ± 0.0	PE
N	*Myurella julacea*	Small Mouse-tail Moss				S3S4	2	94.2 ± 0.0	NB
N	*Physcomitrium pyriforme*	Pear-shaped Urn Moss				S3S4	2	36.1 ± 0.0	NB
N	*Pogonatum dentatum*	Mountain Hair Moss				S3S4	5	77.1 ± 0.0	NS
N	*Sphagnum compactum*	Compact Peat Moss				S3S4	7	37.1 ± 0.0	NB
N	*Sphagnum quinquefarium*	Five-ranked Peat Moss				S3S4	2	74.3 ± 0.0	NB
N	*Sphagnum torreyanum*	a Peatmoss				S3S4	1	62.7 ± 0.0	NB
N	*Sphagnum austinii*	Austin's Peat Moss				S3S4	1	30.5 ± 0.0	NS
N	*Sphagnum contortum*	Twisted Peat Moss				S3S4	1	62.7 ± 0.0	NB
N	*Tetraphis geniculata*	Geniculate Four-tooth Moss				S3S4	13	47.0 ± 0.0	PE
N	*Tetraplodon angustatus*	Toothed-leaved Nitrogen Moss				S3S4	1	86.8 ± 0.0	NB
N	*Weissia controversa*	Green-Cushioned Weissia				S3S4	3	94.2 ± 0.0	PE
N	*Abietinella abietina*	Wiry Fern Moss				S3S4	2	94.2 ± 0.0	NB
N	*Trichostomum tenuirostre*	Acid-Soil Moss				S3S4	4	86.8 ± 0.0	NB
N	*Rauiella scita*	Smaller Fern Moss				S3S4	1	84.0 ± 0.0	NB
N	*Pannaria rubiginosa*	Brown-eyed Shingle Lichen				S3S4	15	38.3 ± 0.0	PE
N	*Pseudocyphellaria holarctica*	Yellow Specklebelly Lichen				S3S4	81	18.2 ± 0.0	NB
N	*Ramalina thrausta*	Angelhair Ramalina Lichen				S3S4	12	53.3 ± 0.0	NS
N	*Hypogymnia vittata*	Slender Monk's Hood Lichen				S3S4	24	79.8 ± 1.0	NB
N	*Scytinium teretiusculum*	Curly Jellyskin Lichen				S3S4	13	37.9 ± 0.0	PE
N	*Montanelia panniformis*	Shingled Camouflage Lichen				S3S4	5	81.9 ± 1.0	NB
N	*Cladonia floerkeana*	Gritty British Soldiers Lichen				S3S4	4	92.7 ± 1.0	NB
N	*Vahliella leucophaea*	Shelter Shingle Lichen				S3S4	18	52.6 ± 0.0	NB
N	*Xylopsora friesii*	a Lichen				S3S4	1	93.7 ± 1.0	NB
N	*Nephroma parile*	Powdery Kidney Lichen				S3S4	16	65.3 ± 0.0	NB
N	*Protopannaria pezizoides*	Brown-gray Moss-shingle Lichen				S3S4	25	38.3 ± 0.0	PE
N	*Stereocaulon paschale*	Easter Foam Lichen				S3S4	1	30.2 ± 1.0	NB
N	*Pannaria conoplea*	Mealy-rimmed Shingle Lichen				S3S4	31	38.4 ± 0.0	PE
N	*Physcia tenella*	Fringed Rosette Lichen				S3S4	7	37.8 ± 0.0	PE
N	*Anaptychia palmulata*	Shaggy Fringed Lichen				S3S4	23	47.0 ± 0.0	PE
N	*Peltigera neopolydactyla*	Undulating Pelt Lichen				S3S4	9	46.3 ± 0.0	PE
N	*Cladonia cariosa*	Lesser Ribbed Pixie Lichen				S3S4	4	35.0 ± 0.0	NB
N	*Hypocenomyce scalaris*	Common Clam Lichen				S3S4	1	90.6 ± 1.0	NB
N	*Dermatocarpon luridum*	Brookside Stippleback Lichen				S3S4	111	43.3 ± 0.0	NB
N	*Leucodon brachypus*	a Moss				SH	12	80.5 ± 0.0	NB
N	*Splachnum luteum*	Yellow Collar Moss				SH	1	84.2 ± 100.0	NB
P	*Juglans cinerea*	Butternut	Endangered	Endangered	Endangered	S1	32	51.1 ± 0.0	PE
P	*Symphyotrichum laurentianum*	Gulf of St Lawrence Aster	Threatened	Threatened	Endangered	S1	86	77.7 ± 0.0	NB
P	*Fraxinus nigra*	Black Ash	Threatened			S4S5	501	6.7 ± 0.0	NB
P	*Isoetes prototypus*	Prototype Quillwort	Special Concern	Special Concern	Endangered	S2	13	82.0 ± 0.0	NS
P	*Lechea maritima var. subcylindrica*	Beach Pinweed	Special Concern	Special Concern	Special Concern	S2	972	36.9 ± 0.0	NB
P	*Symphyotrichum subulatum (Bathurst pop)*	Bathurst Aster - Bathurst pop.	Not At Risk		Endangered	S2	20	64.3 ± 0.0	NB
P	*Antennaria howellii ssp.*	Pussy-Toes				S1	7	58.2 ± 5.0	PE

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	petaloidea								
P	*Pseudognaphalium obtusifolium*	Eastern Cudweed				S1	29	45.3 ± 5.0	NB
P	*Hieracium robinsonii*	Robinson's Hawkweed				S1	12	81.9 ± 0.0	NB
P	*Solidago multiradiata*	Multi-rayed Goldenrod				S1	19	49.7 ± 0.0	NB
P	*Symphyotrichum subulatum (non-Bathurst pop)*	Annual Saltmarsh Aster				S1	12	35.6 ± 0.0	NB
P	*Betula michauxii*	Michaux's Dwarf Birch				S1	3	98.5 ± 0.0	NB
P	*Draba arabisans*	Rock Whitlow-Grass				S1	6	78.8 ± 0.0	NB
P	*Draba glabella*	Rock Whitlow-Grass				S1	3	93.9 ± 0.0	NB
P	*Draba incana*	Twisted Whitlow-grass				S1	4	94.3 ± 0.0	PE
P	*Stellaria crassifolia*	Fleshy Stitchwort				S1	3	19.0 ± 5.0	NB
P	*Chenopodiastrum simplex*	Maple-leaved Goosefoot				S1	5	72.5 ± 1.0	NB
P	*Suaeda rolandii*	Roland's Sea-Blite				S1	14	18.3 ± 0.0	NB
P	*Hypericum virginicum*	Virginia St. John's-wort				S1	2	30.4 ± 0.0	NS
P	*Corema conradii*	Broom Crowberry				S1	28	57.6 ± 0.0	PE
P	*Vaccinium boreale*	Northern Blueberry				S1	5	22.7 ± 1.0	NB
P	*Vaccinium corymbosum*	Highbush Blueberry				S1	1	43.3 ± 0.0	NS
P	*Vaccinium uliginosum*	Alpine Bilberry				S1	1	80.7 ± 1.0	PE
P	*Euphorbia polygonifolia*	Seaside Spurge				S1	30	33.6 ± 0.0	NB
P	*Proserpinaca pectinata*	Comb-leaved Mermaidweed				S1	2	78.4 ± 5.0	NS
P	*Primula laurentiana*	Laurentian Primrose				S1	14	89.6 ± 3.0	NB
P	*Ranunculus sceleratus*	Cursed Buttercup				S1	1	88.3 ± 100.0	NB
P	*Amelanchier fernaldii*	Fernald's Serviceberry				S1	3	53.0 ± 5.0	NS
P	*Dryas integrifolia*	Entire-leaved Mountain Avens				S1	15	48.6 ± 3.0	NB
P	*Rubus flagellaris*	Northern Dewberry				S1	3	52.7 ± 1.0	NB
P	*Geum fragarioides*	Barren Strawberry				S1	1	40.7 ± 1.0	NB
P	*Salix myrtillifolia*	Blueberry Willow				S1	25	49.1 ± 0.0	NB
P	*Saxifraga paniculata ssp. laestadii*	Laestadius' Saxifrage				S1	14	93.3 ± 0.0	NB
P	*Agalinis purpurea var. parviflora*	Small-flowered Purple False Foxglove				S1	60	17.4 ± 0.0	NB
P	*Viola sagittata var. ovata*	Arrow-Leaved Violet				S1	2	86.8 ± 1.0	PE
P	*Carex annectens*	Yellow-Fruited Sedge				S1	3	10.0 ± 0.0	NB
P	*Carex atlantica ssp. atlantica*	Atlantic Sedge				S1	7	14.7 ± 0.0	NB
P	*Carex backii*	Rocky Mountain Sedge				S1	2	71.9 ± 0.0	NB
P	*Carex merritt-fernaldii*	Merritt Fernald's Sedge				S1	1	72.5 ± 0.0	NB
P	*Carex rariflora*	Loose-flowered Alpine Sedge				S1	1	94.2 ± 0.0	PE
P	*Carex sterilis*	Sterile Sedge				S1	1	82.4 ± 2.0	NB
P	*Scirpus pendulus*	Hanging Bulrush				S1	8	28.8 ± 0.0	NS
P	*Sisyrinchium angustifolium*	Narrow-leaved Blue-eyed-grass				S1	3	52.0 ± 5.0	NS
P	*Juncus greenei*	Greene's Rush				S1	11	33.6 ± 5.0	PE
P	*Juncus stygius ssp. americanus*	Moor Rush				S1	16	31.9 ± 5.0	NB
P	*Goodyera pubescens*	Downy Rattlesnake-Plantain				S1	12	71.9 ± 0.0	NB
P	*Malaxis monophyllos var. brachypoda*	North American White Adder's-mouth				S1	6	48.1 ± 0.0	PE
P	*Malaxis monophyllos*	White Adder's-mouth				S1	1	75.2 ± 0.0	NB
P	*Platanthera flava*	Southern Rein-Orchid				S1	1	75.2 ± 0.0	NB
P	*Platanthera macrophylla*	Large Round-Leaved Orchid				S1	7	31.1 ± 0.0	NB
P	*Bromus pubescens*	Hairy Wood Brome Grass				S1	1	82.1 ± 0.0	NB
P	*Calamagrostis stricta ssp. inexpansa*	Slim-stemmed Reed Grass				S1	3	28.8 ± 1.0	NB
P	*Catabrosa aquatica*	Water Whorl Grass				S1	10	79.8 ± 5.0	PE
P	*Danthonia compressa*	Flattened Oat Grass				S1	19	32.7 ± 0.0	NB

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P	*Festuca subverticillata*	Nodding Fescue				S1	7	87.5 ± 0.0	NS
P	*Potamogeton friesii*	Fries' Pondweed				S1	20	36.5 ± 0.0	NB
P	*Dryopteris filix-mas ssp. brittonii*	Britton's Male Fern				S1	2	60.4 ± 1.0	NB
P	*Schizaea pusilla*	Little Curlygrass Fern				S1	1	89.9 ± 0.0	NB
P	*Bidens heterodoxa*	Connecticut Beggar-Ticks				S1?	14	62.5 ± 0.0	PE
P	*Polygonum aviculare ssp. neglectum*	Narrow-leaved Knotweed				S1?	4	4.1 ± 1.0	NB
P	*Coryphopteris simulata*	Bog Fern				S1S2	8	80.8 ± 0.0	NB
P	*Cuscuta cephalanthi*	Buttonbush Dodder				S1S3	6	6.6 ± 0.0	NB
P	*Eriophorum russeolum ssp. albidum*	Smooth-fruited Russet Cottongrass				S1S3	10	29.3 ± 1.0	NB
P	*Spiranthes arcisepala*	Appalachian Ladies'-tresses				S1S3	7	35.4 ± 0.0	NB
P	*Spiranthes incurva*	Sphinx Ladies'-tresses				S1S3	1	51.9 ± 0.0	NB
P	*Neottia bifolia*	Southern Twayblade			Endangered	S2	29	15.3 ± 0.0	NB
P	*Osmorhiza longistylis*	Smooth Sweet Cicely				S2	7	70.3 ± 1.0	NS
P	*Ionactis linariifolia*	Flax-leaved Aster				S2	1	76.9 ± 5.0	NB
P	*Pseudognaphalium macounii*	Macoun's Cudweed				S2	41	46.8 ± 0.0	PE
P	*Impatiens pallida*	Pale Jewelweed				S2	1	78.7 ± 0.0	PE
P	*Boechera stricta*	Drummond's Rockcress				S2	8	71.7 ± 0.0	NB
P	*Sagina nodosa*	Knotted Pearlwort				S2	2	62.3 ± 0.0	PE
P	*Sagina nodosa ssp. borealis*	Knotted Pearlwort				S2	5	60.5 ± 0.0	PE
P	*Stellaria longifolia*	Long-leaved Starwort				S2	9	30.1 ± 2.0	NB
P	*Atriplex glabriuscula var. franktonii*	Frankton's Saltbush				S2	7	23.1 ± 0.0	NB
P	*Oxybasis rubra*	Red Goosefoot				S2	13	20.9 ± 0.0	NB
P	*Hypericum x dissimulatum*	Disguised St. John's-wort				S2	3	48.5 ± 0.0	PE
P	*Triosteum aurantiacum*	Orange-fruited Tinker's Weed				S2	7	68.4 ± 0.0	NB
P	*Viburnum lentago*	Nannyberry				S2	1	89.7 ± 0.0	NB
P	*Viburnum recognitum*	Northern Arrow-Wood				S2	2	32.1 ± 0.0	NB
P	*Shepherdia canadensis*	Soapberry				S2	42	46.1 ± 0.0	NB
P	*Gentiana linearis*	Narrow-Leaved Gentian				S2	1	72.9 ± 50.0	NB
P	*Myriophyllum humile*	Low Water Milfoil				S2	1	89.5 ± 1.0	NB
P	*Proserpinaca palustris*	Marsh Mermaidweed				S2	2	79.5 ± 1.0	NS
P	*Hedeoma pulegioides*	American False Pennyroyal				S2	3	62.4 ± 1.0	NS
P	*Nuphar x rubrodisca*	Red-disk Yellow Pond-lily				S2	20	21.1 ± 1.0	NB
P	*Aphyllon uniflorum*	One-flowered Broomrape				S2	4	78.1 ± 0.0	PE
P	*Persicaria careyi*	Carey's Smartweed				S2	2	30.1 ± 2.0	NB
P	*Anemone parviflora*	Small-flowered Anemone				S2	9	49.1 ± 0.0	NB
P	*Hepatica americana*	Round-lobed Hepatica				S2	3	81.2 ± 0.0	NS
P	*Ranunculus flabellaris*	Yellow Water Buttercup				S2	1	66.6 ± 0.0	NB
P	*Crataegus scabrida*	Rough Hawthorn				S2	3	4.2 ± 1.0	NB
P	*Crataegus succulenta*	Fleshy Hawthorn				S2	6	35.5 ± 0.0	PE
P	*Salix candida*	Sage Willow				S2	6	80.8 ± 0.0	PE
P	*Agalinis neoscotica*	Nova Scotia Agalinis				S2	1	36.5 ± 0.0	NS
P	*Euphrasia randii*	Rand's Eyebright				S2	5	36.7 ± 0.0	PE
P	*Dirca palustris*	Eastern Leatherwood				S2	1	42.6 ± 1.0	NB
P	*Sagittaria montevidensis ssp. spongiosa*	Spongy Arrowhead				S2	67	59.6 ± 0.0	NB
P	*Symplocarpus foetidus*	Eastern Skunk Cabbage				S2	128	12.8 ± 18.0	NB
P	*Carex comosa*	Bearded Sedge				S2	5	27.3 ± 0.0	NB
P	*Carex granularis*	Limestone Meadow Sedge				S2	10	10.1 ± 0.0	NB
P	*Carex gynocrates*	Northern Bog Sedge				S2	1	89.4 ± 0.0	PE
P	*Carex hirtifolia*	Pubescent Sedge				S2	13	64.8 ± 0.0	NS
P	*Carex livida*	Livid Sedge				S2	9	28.9 ± 0.0	NS
P	*Carex plantaginea*	Plantain-Leaved Sedge				S2	3	95.6 ± 0.0	NB
P	*Carex prairea*	Prairie Sedge				S2	1	94.0 ± 0.0	PE

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P	*Carex rostrata*	Narrow-leaved Beaked Sedge				S2	2	69.5 ± 5.0	NB
P	*Carex tenuiflora*	Sparse-Flowered Sedge				S2	9	32.8 ± 0.0	NS
P	*Carex albicans var. emmonsii*	White-tinged Sedge				S2	22	11.6 ± 0.0	NB
P	*Eriophorum gracile*	Slender Cottongrass				S2	51	16.1 ± 0.0	NB
P	*Blysmopsis rufa*	Red Bulrush				S2	35	36.0 ± 0.0	PE
P	*Juncus vaseyi*	Vasey Rush				S2	12	39.7 ± 0.0	NB
P	*Allium tricoccum*	Wild Leek				S2	3	64.4 ± 0.0	NS
P	*Galearis rotundifolia*	Small Round-leaved Orchid				S2	3	94.5 ± 0.0	NB
P	*Calypso bulbosa var. americana*	Calypso				S2	3	75.9 ± 5.0	NB
P	*Coeloglossum viride*	Long-bracted Frog Orchid				S2	6	58.9 ± 10.0	NB
P	*Cypripedium parviflorum var. makasin*	Small Yellow Lady's-Slipper				S2	2	65.8 ± 0.0	NB
P	*Goodyera oblongifolia*	Menzies' Rattlesnake-plantain				S2	2	47.9 ± 0.0	PE
P	*Spiranthes lucida*	Shining Ladies'-Tresses				S2	1	76.2 ± 1.0	NB
P	*Spiranthes ochroleuca*	Yellow Ladies'-tresses				S2	17	22.7 ± 0.0	NB
P	*Elymus canadensis*	Canada Wild Rye				S2	1	50.7 ± 1.0	NB
P	*Piptatheropsis canadensis*	Canada Ricegrass				S2	4	55.3 ± 10.0	NB
P	*Puccinellia phryganodes ssp. neoarctica*	Creeping Alkali Grass				S2	2	1.6 ± 1.0	NB
P	*Poa glauca*	Glaucous Blue Grass				S2	9	85.7 ± 0.0	NS
P	*Puccinellia nutkaensis*	Alaska Alkaligrass				S2	2	12.9 ± 1.0	NB
P	*Zizania aquatica var. aquatica*	Eastern Wild Rice				S2	4	62.6 ± 0.0	NS
P	*Piptatheropsis pungens*	Slender Ricegrass				S2	5	66.9 ± 5.0	NB
P	*Potamogeton vaseyi*	Vasey's Pondweed				S2	1	32.5 ± 0.0	PE
P	*Asplenium trichomanes*	Maidenhair Spleenwort				S2	8	68.2 ± 0.0	NB
P	*Anchistea virginica*	Virginia chain fern				S2	23	32.7 ± 0.0	NS
P	*Woodsia alpina*	Alpine Cliff Fern				S2	4	82.5 ± 0.0	NB
P	*Diphasiastrum sitchense*	Sitka Ground-cedar				S2	4	34.9 ± 0.0	NB
P	*Selaginella selaginoides*	Low Spikemoss				S2	8	91.2 ± 0.0	NB
P	*Toxicodendron radicans var. radicans*	Eastern Poison Ivy				S2?	7	31.0 ± 5.0	NB
P	*Symphyotrichum novi-belgii var. crenifolium*	New York Aster				S2?	5	25.8 ± 0.0	NB
P	*Humulus lupulus var. lupuloides*	Common Hop				S2?	1	71.0 ± 5.0	NB
P	*Crataegus macrosperma*	Big-Fruit Hawthorn				S2?	3	36.8 ± 0.0	NB
P	*Rubus x recurvicaulis*	arching dewberry				S2?	5	26.4 ± 0.0	NB
P	*Galium obtusum*	Blunt-leaved Bedstraw				S2?	7	36.0 ± 1.0	NB
P	*Salix myricoides*	Bayberry Willow				S2?	1	49.2 ± 1.0	NB
P	*Carex vacillans*	Estuarine Sedge				S2?	4	10.6 ± 0.0	NB
P	*Platanthera huronensis*	Fragrant Green Orchid				S2?	3	91.1 ± 0.0	NB
P	*Solidago altissima*	Tall Goldenrod				S2S3	3	36.9 ± 0.0	NB
P	*Callitriche hermaphroditica*	Northern Water-starwort				S2S3	9	45.4 ± 0.0	PE
P	*Elatine americana*	American Waterwort				S2S3	6	28.9 ± 0.0	NB
P	*Bartonia paniculata*	Branched Bartonia				S2S3	1	62.3 ± 0.0	NS
P	*Bartonia paniculata ssp. iodandra*	Branched Bartonia				S2S3	4	87.3 ± 0.0	NB
P	*Geranium robertianum*	Herb Robert				S2S3	84	44.5 ± 0.0	PE
P	*Myriophyllum quitense*	Andean Water Milfoil				S2S3	1	93.6 ± 5.0	PE
P	*Epilobium coloratum*	Purple-veined Willowherb				S2S3	31	11.7 ± 1.0	NB
P	*Rumex persicarioides*	Peach-leaved Dock				S2S3	22	44.6 ± 1.0	NB
P	*Rumex pallidus*	Seabeach Dock				S2S3	6	35.2 ± 0.0	PE
P	*Rubus pensilvanicus*	Pennsylvania Blackberry				S2S3	38	31.1 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Galium labradoricum*	Labrador Bedstraw				S2S3	30	35.1 ± 0.0	NB
P	*Carex adusta*	Lesser Brown Sedge				S2S3	8	37.0 ± 0.0	NB
P	*Scirpus atrovirens*	Dark-green Bulrush				S2S3	2	35.3 ± 0.0	PE
P	*Corallorhiza maculata var. occidentalis*	Spotted Coralroot				S2S3	14	44.4 ± 10.0	NB
P	*Corallorhiza maculata var. maculata*	Spotted Coralroot				S2S3	4	79.1 ± 0.0	NS
P	*Neottia auriculata*	Auricled Twayblade				S2S3	1	95.0 ± 0.0	NB
P	*Spiranthes cernua*	Nodding Ladies'-Tresses				S2S3	20	16.7 ± 0.0	NB
P	*Eragrostis pectinacea*	Tufted Love Grass				S2S3	6	40.2 ± 0.0	NB
P	*Stuckenia filiformis*	Thread-leaved Pondweed				S2S3	5	20.4 ± 1.0	NB
P	*Potamogeton praelongus*	White-stemmed Pondweed				S2S3	30	32.3 ± 0.0	NS
P	*Isoetes tuckermanii ssp. acadiensis*	Acadian Quillwort				S2S3	1	94.6 ± 1.0	NS
P	*Ophioglossum pusillum*	Northern Adder's-tongue				S2S3	7	43.6 ± 50.0	NS
P	*Panax trifolius*	Dwarf Ginseng				S3	38	22.0 ± 0.0	NB
P	*Artemisia campestris ssp. caudata*	Tall Wormwood				S3	10	61.8 ± 0.0	PE
P	*Artemisia campestris*	Field Wormwood				S3	3	96.2 ± 0.0	NB
P	*Bidens hyperborea*	Estuary Beggarticks				S3	33	48.4 ± 0.0	NB
P	*Erigeron hyssopifolius*	Hyssop-leaved Fleabane				S3	74	47.2 ± 1.0	NB
P	*Nabalus racemosus*	Glaucous Rattlesnakeroot				S3	2	75.2 ± 0.0	PE
P	*Symphyotrichum boreale*	Boreal Aster				S3	19	36.3 ± 0.0	PE
P	*Betula pumila*	Bog Birch				S3	111	36.0 ± 0.0	PE
P	*Arabis pycnocarpa*	Cream-flowered Rockcress				S3	8	20.9 ± 0.0	NB
P	*Cardamine maxima*	Large Toothwort				S3	3	57.7 ± 0.0	PE
P	*Subularia aquatica ssp. americana*	American Water Awlwort				S3	2	90.9 ± 0.0	NB
P	*Stellaria humifusa*	Saltmarsh Starwort				S3	15	19.0 ± 5.0	NB
P	*Ceratophyllum echinatum*	Prickly Hornwort				S3	36	8.7 ± 1.0	NB
P	*Hudsonia tomentosa*	Woolly Beach-heath				S3	430	1.7 ± 0.0	NB
P	*Cornus obliqua*	Silky Dogwood				S3	2	87.1 ± 0.0	NB
P	*Crassula aquatica*	Water Pygmyweed				S3	6	71.9 ± 0.0	NB
P	*Rhodiola rosea*	Roseroot				S3	60	78.2 ± 0.0	NB
P	*Penthorum sedoides*	Ditch Stonecrop				S3	25	65.4 ± 0.0	NB
P	*Elatine minima*	Small Waterwort				S3	1	91.2 ± 0.0	NB
P	*Geranium bicknellii*	Bicknell's Crane's-bill				S3	16	37.0 ± 0.0	NB
P	*Myriophyllum farwellii*	Farwell's Water Milfoil				S3	9	30.4 ± 1.0	NB
P	*Myriophyllum verticillatum*	Whorled Water Milfoil				S3	14	29.7 ± 1.0	NB
P	*Teucrium canadense*	Canada Germander				S3	128	13.0 ± 0.0	NB
P	*Nuphar microphylla*	Small Yellow Pond-lily				S3	7	29.7 ± 1.0	NB
P	*Epilobium hornemannii*	Hornemann's Willowherb				S3	4	93.4 ± 1.0	NB
P	*Epilobium hornemannii ssp. hornemannii*	Hornemann's Willowherb				S3	1	93.7 ± 0.0	NB
P	*Epilobium strictum*	Downy Willowherb				S3	36	7.1 ± 1.0	NB
P	*Polygala sanguinea*	Blood Milkwort				S3	20	7.0 ± 0.0	NB
P	*Persicaria arifolia*	Halberd-leaved Tearthumb				S3	139	14.3 ± 0.0	NB
P	*Persicaria punctata*	Dotted Smartweed				S3	46	29.0 ± 0.0	NS
P	*Fallopia scandens*	Climbing False Buckwheat				S3	72	27.2 ± 0.0	PE
P	*Samolus parviflorus*	Seaside Brookweed				S3	120	19.3 ± 0.0	NB
P	*Pyrola minor*	Lesser Pyrola				S3	6	33.5 ± 0.0	NS
P	*Clematis occidentalis*	Purple Clematis				S3	11	47.6 ± 0.0	NS
P	*Ranunculus gmelinii*	Gmelin's Water Buttercup				S3	53	26.7 ± 0.0	NB
P	*Thalictrum confine*	Northern Meadow-rue				S3	1	67.8 ± 1.0	PE
P	*Amelanchier canadensis*	Canada Serviceberry				S3	35	16.7 ± 0.0	NB
P	*Rosa palustris*	Swamp Rose				S3	4	27.8 ± 0.0	NB
P	*Rubus occidentalis*	Black Raspberry				S3	1	50.3 ± 0.0	NB
P	*Sanguisorba canadensis*	Canada Burnet				S3	17	86.5 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Galium boreale*	Northern Bedstraw				S3	8	43.1 ± 5.0	NS
P	*Salix pedicellaris*	Bog Willow				S3	60	16.1 ± 0.0	NB
P	*Salix interior*	Sandbar Willow				S3	1	51.8 ± 1.0	NB
P	*Comandra umbellata*	Bastard's Toadflax				S3	69	11.5 ± 0.0	NB
P	*Limosella australis*	Southern Mudwort				S3	87	24.3 ± 1.0	NB
P	*Pilea pumila*	Dwarf Clearweed				S3	85	25.9 ± 0.0	PE
P	*Viola adunca*	Hooked Violet				S3	2	72.3 ± 0.0	NB
P	*Viola nephrophylla*	Northern Bog Violet				S3	5	49.7 ± 0.0	PE
P	*Carex arcta*	Northern Clustered Sedge				S3	3	68.7 ± 20.0	NB
P	*Carex capillaris*	Hairlike Sedge				S3	9	55.6 ± 0.0	NS
P	*Carex chordorrhiza*	Creeping Sedge				S3	63	28.0 ± 0.0	NB
P	*Carex conoidea*	Field Sedge				S3	5	10.0 ± 0.0	NB
P	*Carex eburnea*	Bristle-leaved Sedge				S3	16	65.8 ± 100.0	NB
P	*Carex exilis*	Coastal Sedge				S3	1	78.6 ± 0.0	NS
P	*Carex garberi*	Garber's Sedge				S3	1	20.9 ± 0.0	NB
P	*Carex haydenii*	Hayden's Sedge				S3	4	22.9 ± 0.0	NB
P	*Carex lupulina*	Hop Sedge				S3	6	52.3 ± 3.0	NS
P	*Carex michauxiana*	Michaux's Sedge				S3	14	29.4 ± 0.0	NS
P	*Carex ormostachya*	Necklace Spike Sedge				S3	4	36.0 ± 1.0	NB
P	*Carex rosea*	Rosy Sedge				S3	8	87.4 ± 1.0	NS
P	*Carex tenera*	Tender Sedge				S3	12	29.1 ± 0.0	NB
P	*Carex tuckermanii*	Tuckerman's Sedge				S3	26	45.4 ± 0.0	NS
P	*Carex wiegandii*	Wiegand's Sedge				S3	144	14.3 ± 0.0	NB
P	*Carex recta*	Estuary Sedge				S3	21	33.1 ± 0.0	NB
P	*Carex atratiformis*	Scabrous Black Sedge				S3	3	87.2 ± 0.0	NS
P	*Cyperus dentatus*	Toothed Flatsedge				S3	1	58.3 ± 1.0	NB
P	*Cyperus esculentus var. leptostachyus*	Perennial Yellow Nutsedge				S3	1	86.5 ± 0.0	NB
P	*Eleocharis intermedia*	Matted Spikerush				S3	1	95.0 ± 0.0	NB
P	*Eleocharis quinqueflora*	Few-flowered Spikerush				S3	1	88.3 ± 0.0	PE
P	*Rhynchospora fusca*	Brown Beakrush				S3	9	29.6 ± 0.0	NS
P	*Trichophorum clintonii*	Clinton's Clubrush				S3	25	92.6 ± 0.0	NB
P	*Bolboschoenus fluviatilis*	River Bulrush				S3	4	32.6 ± 1.0	NB
P	*Schoenoplectus torreyi*	Torrey's Bulrush				S3	1	36.8 ± 0.0	NB
P	*Lemna trisulca*	Star Duckweed				S3	30	28.8 ± 0.0	NB
P	*Cypripedium reginae*	Showy Lady's-Slipper				S3	40	18.1 ± 0.0	NB
P	*Liparis loeselii*	Loesel's Twayblade				S3	68	21.1 ± 0.0	NB
P	*Platanthera blephariglottis*	White Fringed Orchid				S3	457	10.0 ± 0.0	NB
P	*Platanthera grandiflora*	Large Purple Fringed Orchid				S3	62	16.2 ± 0.0	NB
P	*Bromus latiglumis*	Broad-Glumed Brome				S3	25	61.2 ± 0.0	NS
P	*Calamagrostis pickeringii*	Pickering's Reed Grass				S3	31	58.5 ± 0.0	NB
P	*Dichanthelium depauperatum*	Starved Panic Grass				S3	7	58.9 ± 0.0	NB
P	*Potamogeton obtusifolius*	Blunt-leaved Pondweed				S3	37	26.2 ± 0.0	NB
P	*Xyris montana*	Northern Yellow-Eyed-Grass				S3	209	14.6 ± 0.0	NB
P	*Zannichellia palustris*	Horned Pondweed				S3	53	9.4 ± 0.0	NB
P	*Cryptogramma stelleri*	Steller's Rockbrake				S3	1	93.5 ± 0.0	NS
P	*Asplenium viride*	Green Spleenwort				S3	18	72.1 ± 1.0	NB
P	*Dryopteris fragrans*	Fragrant Wood Fern				S3	63	80.4 ± 0.0	NB
P	*Woodsia glabella*	Smooth Cliff Fern				S3	52	80.8 ± 0.0	NB
P	*Isoetes tuckermanii ssp. tuckermanii*	Tuckerman's Quillwort				S3	2	87.3 ± 0.0	NB
P	*Diphasiastrum x sabinifolium*	Savin-leaved Ground-cedar				S3	20	33.9 ± 0.0	NB
P	*Huperzia appressa*	Mountain Firmoss				S3	14	83.3 ± 1.0	NS
P	*Sceptridium dissectum*	Dissected Moonwort				S3	8	29.8 ± 2.0	NB
P	*Botrychium lanceolatum ssp. angustisegmentum*	Narrow Triangle Moonwort				S3	17	31.6 ± 0.0	NB
P	*Botrychium simplex*	Least Moonwort				S3	7	33.3 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Polypodium appalachianum*	Appalachian Polypody				S3	26	50.5 ± 0.0	PE
P	*Crataegus submollis*	Quebec Hawthorn				S3?	2	90.8 ± 7.0	NS
P	*Mertensia maritima*	Sea Lungwort				S3S4	5	55.5 ± 0.0	NB
P	*Suaeda calceoliformis*	Horned Sea-blite				S3S4	46	6.6 ± 0.0	NB
P	*Myriophyllum sibiricum*	Siberian Water Milfoil				S3S4	34	47.7 ± 0.0	NS
P	*Utricularia gibba*	Humped Bladderwort				S3S4	4	9.7 ± 0.0	NB
P	*Rumex fueginus*	Tierra del Fuego Dock				S3S4	161	1.9 ± 1.0	NB
P	*Rubus chamaemorus*	Cloudberry				S3S4	164	31.2 ± 1.0	NB
P	*Geocaulon lividum*	Northern Comandra				S3S4	40	27.9 ± 0.0	NB
P	*Juniperus horizontalis*	Creeping Juniper				S3S4	52	45.1 ± 0.0	PE
P	*Cladium mariscoides*	Smooth Twigrush				S3S4	7	8.7 ± 1.0	NB
P	*Eriophorum russeolum*	Russet Cottongrass				S3S4	288	9.4 ± 0.0	NB
P	*Eriophorum russeolum ssp. russeolum*	Russet Cottongrass				S3S4	41	22.0 ± 0.0	NB
P	*Triglochin gaspensis*	Gasp ├⌐ Arrowgrass				S3S4	74	9.3 ± 0.0	NB
P	*Spirodela polyrhiza*	Great Duckweed				S3S4	36	30.1 ± 0.0	NB
P	*Corallorhiza maculata*	Spotted Coralroot				S3S4	31	31.2 ± 0.0	NS
P	*Calamagrostis stricta*	Slim-stemmed Reed Grass				S3S4	39	19.3 ± 2.0	NB
P	*Calamagrostis stricta ssp. stricta*	Slim-stemmed Reed Grass				S3S4	32	32.3 ± 0.0	NS
P	*Distichlis spicata*	Salt Grass				S3S4	107	10.5 ± 0.0	NB
P	*Potamogeton oakesianus*	Oakes' Pondweed				S3S4	8	9.7 ± 0.0	NB
P	*Polygonum oxyspermum ssp. raii*	Ray's Knotweed				SH	4	84.2 ± 20.0	PE
P	*Montia fontana*	Water Blinks				SH	2	19.2 ± 1.0	NB
P	*Brachyelytrum erectum*	Bearded Shorthusk				SH	2	30.1 ± 2.0	NB
P	*Agalinis maritima*	Saltmarsh Agalinis				SX	2	73.5 ± 50.0	NB

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.

# recs	CITATION
19125	Morrison, Guy. 2011. Maritime Shorebird Survey (MSS) database. Canadian Wildlife Service, Ottawa, 15939 surveys. 86171 recs.
16411	Epworth, W. 2016. Species at Risk records, 2014-2016. Fort Folly Habitat Recovery Program, 38 recs.
6066	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
5837	eBird. 2014. eBird Basic Dataset. Version: EBD_relNov-2014. Ithaca, New York. Nov 2014. Cornell Lab of Ornithology, 25036 recs.
5291	Paquet, Julie. 2018. Atlantic Canada Shorebird Survey (ACSS) database 2012-2018. Environment Canada, Canadian Wildlife Service.
3214	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
2772	Pardieck, K.L., Ziolkowski Jr., D.J., Lutmerding, M., Aponte, V.I., and Hudson, M-A.R. 2020. North American Breeding Bird Survey Dataset 1966 - 2019: U.S. Geological Survey data release, https://doi.org/10.5066/P9J6QUF6
1807	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
1792	Berrigan, L. 2019. Maritimes Marsh Monitoring Project 2013, 2014, 2016, 2017, and 2018 data. Bird Studies Canada, Sackville, NB.
1348	Parks Canada. 2021. PEI National Park Bank swallow nest records from 2010-2019. Parks Canada, 1535 records.
1208	eBird. 2020. eBird Basic Dataset. Version: EBD_relNov-2019. Ithaca, New York. Nov 2019, Cape Breton Bras d'Or Lakes Watershed subset. Cornell Lab of Ornithology.
831	Amirault, D.L. & Stewart, J. 2007. Piping Plover Database 1894-2006. Canadian Wildlife Service, Sackville, 3344 recs, 1228 new.
752	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2015. Atlantic Canada Conservation Data Centre Fieldwork 2015. Atlantic Canada Conservation Data Centre, # recs.
724	Chapman-Lam, C.J. 2021. Atlantic Canada Conservation Data Centre 2020 botanical fieldwork. Atlantic Canada Conservation Data Centre, 17309 recs.
658	Chapman, C.J. 2019. Atlantic Canada Conservation Data Centre 2019 botanical fieldwork. Atlantic Canada Conservation Data Centre, 11729 recs.
508	Blaney, C.S.; Mazerolle, D.M. 2012. Fieldwork 2012. Atlantic Canada Conservation Data Centre, 13,278 recs.
435	Beaudet, A. 2007. Piping Plover Records in Kouchibouguac NP, 1982-2005. Kouchibouguac National Park, 435 recs.
413	Blaney, C.S. 2020. Sean Blaney 2020 field data. Atlantic Canada Conservation Data Centre, 4407 records.
374	Mazerolle, D.M. 2021. South Richibucto Dune Beach pinweed observations from 2019. Parks Canada, 387 records.
331	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
320	Paquet, Julie. 2019. Atlantic Canada Shorebird Survey ACSS database for 2019. Environment Canada, Canadian Wildlife Service.

# recs	CITATION
316	Tranquilla, L. 2015. Maritimes Marsh Monitoring Project 2015 data. Bird Studies Canada, Sackville NB, 5062 recs.
290	Gravel, Mireille. 2010. Coordonnées GPS et suivi des tortues marquées, 2005-07. Kouchibouguac National Park, 480 recs.
269	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
254	Blaney, C.S. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
251	MacDonald, E.C. 2018. Piping Plover nest records from 2010-2017. Canadian Wildlife Service.
249	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2003.
247	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
221	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.
201	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
200	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 recs.
200	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.
199	Blaney, C.S.; Mazerolle, D.M. 2010. Fieldwork 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 15508 recs.
197	Mazerolle, D.M. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
194	Belliveau, A.G. 2020. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2019, 2020. E.C. Smith Herbarium.
191	Mazerolle, D.M. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
189	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
188	Blaney, C.S. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 6719 recs.
185	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
176	Amirault, D.L. & McKnight, J. 2003. Piping Plover Database 1991-2003. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
170	Catling, P.M., Erskine, D.S. & MacLaren, R.B. 1985. The Plants of Prince Edward Island with new records, nomenclatural changes & corrections & deletions, 1st Ed. Research Branch, Agriculture Canada, Ottawa, Publication 1798. 22pp.
163	Hicks, Andrew. 2009. Coastal Waterfowl Surveys Database, 2000-08. Canadian Wildlife Service, Sackville, 46488 recs (11149 non-zero).
163	Parks Canada. 2010. Specimens in or near National Parks in Atlantic Canada. Canadian National Museum, 3925 recs.
162	Epworth, W. 2012. Species at Risk records, 2009-11. Fort Folly Habitat Recovery Program, 162 recs.
150	Island Nature Trust. 2016. Farmland birds project. Mader, Shannon (ed.) .
144	Blaney, C.S.; Mazerolle, D.M.; Klymko, J; Spicer, C.D. 2006. Fieldwork 2006. Atlantic Canada Conservation Data Centre. Sackville NB, 8399 recs.
144	MacDonald, E.C. 2018. CWS Piping Plover Census, 2010-2017. Canadian Wildlife Service, 672 recs.
142	Patrick, A.; Horne, D.; Noseworthy, J. et. al. 2017. Field data for Nova Scotia and New Brunswick, 2015 and 2017. Nature Conservancy of Canada.
142	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs. https://doi.org/10.1037/arc0000014.
138	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
131	iNaturalist. 2018. iNaturalist Data Export 2018. iNaturalist.org and iNaturalist.ca, Web site: 11700 recs.
122	Mazerolle, D.M. 2005. Bouctouche Irving Eco-Centre rare coastal plant fieldwork results 2004-05. Irving Eco-centre, la Dune du Bouctouche, 174 recs.
120	Porter, Caitlin. 2021. Field data for 2020 in various locations across the Maritimes. Atlantic Canada Conservation Data Centre, 3977 records.
119	Churchill, J.L.; Klymko, J.D. 2015. Chignecto and Tintamarre National Wildlife Area Bird Surveys 2015. Atlantic Canada Conservation Data Centre, 2238 recs.
116	Blaney, C.S. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre.
115	McAlpine, D.F. 1998. NBM Science Collections databases to 1998. New Brunswick Museum, Saint John NB, 241 recs.
107	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
105	Mazerolle, David. 2020. Botanical fieldwork 2020. Parks Canada.
97	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
95	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
93	Burns, L. 2013. Personal communication concerning bat occurrence on PEI. Winter 2013. Pers. comm.
92	Ayles, P. 2006. Prince Edward Island National Park Digital Database. Parks Canada, 179 recs.
92	Stewart, J.I. 2010. Peregrine Falcon Surveys in New Brunswick, 2002-09. Canadian Wildlife Service, Sackville, 58 recs.
91	Tremblay, E. 2006. Kouchibouguac National Park Digital Database. Parks Canada, 105 recs.
89	Richardson, Leif. 2018. Maritimes Bombus records from various sources. Richardson, Leif.
84	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
83	PEI National Park. 2019. SAR and Bombus records from PEI NP from the 2019 field season. Moody, Allison (ed.) PEI National Park, 158 recs.
80	Spicer, C.D. & Harries, H. 2001. Mount Allison Herbarium Specimens. Mount Allison University, 128 recs.
77	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
74	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
70	Hinds, H.R. 1986. Notes on New Brunswick plant collections. Connell Memorial Herbarium, unpubl, 739 recs.
70	Neily, T.H. 2017. Maritmes Lichen and Bryophyte records. Atlantic Canada Conservation Data Centre, 1015 recs.
69	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
68	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
68	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
68	Scott, Fred W. 1998. Updated Status Report on the Cougar (Puma Concolor couguar) [Eastern population]. Committee on the Status of Endangered Wildlife in Canada, 298 recs.
67	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
64	Arsenault, M. 2019. Cormorant colony nest counts. PE Department of Communities, Land, and Environment.
62	Churchill, J.L.; Walker, J. 2017. Species at Risk Surveys at Correctional Services Canada Properties in Nova Scotia and New Brunswick. Atlantic Canada Conservation Data Centre.

# recs	CITATION
62	Sharkie, R., MacQuarrie, K., Fraser, M. 2003. A Floral Inventory of the Western Section of Prince Edward Island National Park and adjacent Crown lands. Parks Canada Agency, v + 106 pp.
60	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
56	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
55	Neily, Tom. 2020. Lichen surveys for PEI Forested Landscapes Priority Place. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 158 records.
53	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
48	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre, 907 recs.
48	Honeyman, K. 2019. Unique Areas Database, 2018. J.D. Irving Ltd.
47	iNaturalist. 2020. iNaturalist butterfly records selected for the Maritimes Butterfly Atlas. iNaturalist.
46	Blaney, C.S & Spicer, C.D.; Popma, T.M.; Basquill, S.P. 2003. Vascular Plant Surveys of Northumberland Strait Rivers & Amherst Area Peatlands. Nova Scotia Museum Research Grant, 501 recs.
46	Chapman, C.J. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 11171 recs.
46	MacDonald, M. 2008. PEI Power Corridor Floral Surveys, 2004-08. Jacques Whitford Ltd, 2238 recs (979 rare).
45	Erskine, A.J. 1999. Maritime Nest Records Scheme (MNRS) 1937-1999. Canadian Wildlife Service, Sackville, 313 recs.
45	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 333.
43	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2014. Atlantic Canada Conservation Data Centre Fieldwork 2014. Atlantic Canada Conservation Data Centre, # recs.
41	Mazerolle, D.M. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 13515 recs.
41	Mazerolle, D.M. 2020. Atlantic Canada Conservation Data Centre botanical fieldwork 2019. Atlantic Canada Conservation Data Centre.
41	Wissink, R. 2006. Fundy National Park Digital Database. Parks Canada, 41 recs.
40	Curley, F.R. 2005. PEF&W Collection 2003-04. PEI Fish & Wildlife Div., 716 recs.
39	Klymko, J.J.D. 2016. 2015 field data. Atlantic Canada Conservation Data Centre.
39	Majka, C. 2009. Université de Moncton Insect Collection: Carabidae, Cerambycidae, Coccinellidae. Université de Moncton, 540 recs.
38	Klymko, J. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre.
38	LaPaix, R.W.; Crowell, M.J.; MacDonald, M.; Neily, T.D.; Quinn, G. 2017. Stantec Nova Scotia rare plant records, 2012-2016. Stantec Consulting.
38	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
38	Thomas, P. 2018. CSC Dorchester Bobolink Survey. Environment Canada, Canadian Wildlife Service.
37	Parks Canada. 2021. PEI National Park 2020 Species at Risk records. Parks Canada, 40 records.
37	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.
36	Scott, F.W. 2002. Nova Scotia Herpetofauna Atlas Database. Acadia University, Wolfville NS, 8856 recs.
34	Donell, R. 2008. Rare plant records from rare coastal plant project. Bouctouche Dune Irving Eco-centre. Pers. comm. to D.M. Mazerolle, 50 recs.
34	Robinson, S.L. 2010. Fieldwork 2009 (dune ecology). Atlantic Canada Conservation Data Centre. Sackville NB, 408 recs.
33	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
33	Erskine, D. 1960. The plants of Prince Edward Island, 1st Ed. Research Branch, Agriculture Canada, Ottawa., Publication 1088. 1238 recs.
33	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: http://luxor.acadiau.ca/library/Herbarium/project/. 582 recs.
32	Clayden, S. Digitization of Wolfgang Maass Nova Scotia forest lichen collections, 1964-2004. New Brunswick Museum. 2018.
32	Klymko, J. 2021. Atlantic Canada Conservation Data Centre zoological fieldwork 2020. Atlantic Canada Conservation Data Centre.
32	Wallace, S. 2020. Stewardship Department species occurrence data on NTNB preserves. Nature Trust of New Brunswick.
31	Benedict, B. Connell Herbarium Specimen Database Download 2004. Connell Memorial Herbarium, University of New Brunswick. 2004.
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	Sollows, M.C,. 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
30	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
29	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
29	Sollows, M.C,. 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
27	Askanas, H. 2016. New Brunswick Wood Turtle Database. New Brunswick Department of Energy and Resource Development.
26	Canadian Wildlife Service, Atlantic Region. 2010. Piping Plover censuses 2006-09. , 35 recs.
24	Bateman, M.C. 2001. Coastal Waterfowl Surveys Database, 1965-2001. Canadian Wildlife Service, Sackville, 667 recs.
24	Coursol, F. 2005. Dataset from New Brunswick fieldwork for Eriocaulon parkeri COSEWIC report. Coursol, Pers. comm. to C.S. Blaney, Aug 26. 110 recs.
24	Goltz, J.P. 2012. Field Notes, 1989-2005. , 1091 recs.
24	Tingley, S. (compiler). 2001. Butterflies of New Brunswick. , Web site: www.geocities.com/Yosemite/8425/buttrfly. 142 recs.
23	Belland, R.J. 2012. PEI moss records from Devonian Botanical Garden. DBG Cryptogam Database, Web site: https://secure.devonian.ualberta.ca/bryo_search.php 748 recs.
23	Blaney, C.S.; Spicer, C.D.; Rothfels, C. 2004. Fieldwork 2004. Atlantic Canada Conservation Data Centre. Sackville NB, 1343 recs.
23	Chiasson, R. 2018. Breeding bird observations from NBWTF project. pers. comm. to S. Blaney.
23	Epworth, W. 2013. Species at Risk records, 2013. Fort Folly Habitat Recovery Program, 27 recs.
23	Robinson, S.L. 2015. 2014 field data.
22	Plissner, J.H. & Haig, S.M. 1997. 1996 International piping plover census. US Geological Survey, Corvallis OR, 231 pp.
21	Bryson, I. 2013. Nova Scotia rare plant records. CBCL Ltd., 180 records.
20	Beardmore, T. 2017. 2017 Butternut observations. Natural Resources Canada.
20	Kouchibouguac National Park, Natural Resource Conservation Sec. 1988. The Resources of Kouchibouguac National Park. Beach, H. (ed.) , 90 recs.
19	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
19	Hinds, H.R. 1999. Connell Herbarium Database. University New Brunswick, Fredericton, 131 recs.
19	McMullin, R.T. 2015. Prince Edward Island's lichen biodiversity and proposed conservation status in a report prepared for the province of PEI. Biodiversity Institute of Ontario Herbarium, University of Guelph, 776

# recs	CITATION
	records.
19	Patrick, Allison. 2021. Animal and plant records from NCC properties from 2019 and 2020. Nature Conservancy Canada.
19	Pike, E., Tingley, S. & Christie, D.S. 2000. Nature NB Listserve. University of New Brunswick, listserv.unb.ca/archives/naturenb. 68 recs.
19	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.
18	Gagnon, J. 2004. Specimen data from 2002 visit to Prince Edward Island. , 104 recs.
18	Klymko, J. Dataset of butterfly records at the New Brunswick Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2016.
17	Blaney, C.S.; Spicer, C.D.; Popma, T.M.; Hanel, C. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 2252 recs.
17	Grandtner, M.M. 1971. Ecological Study of the Interior Dunes of West Brackley Beach, Prince Edward Island National Park. Parks Canada, 1: 70. 41 recs.
17	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
17	Mazerolle, D. 2003. Assessment of Seaside Pinweed (Lechea maritima var. subcylindrica) in Southeastern New Brunswick. Irving Eco-centre, la Dune du Bouctouche, 18 recs.
16	Klymko, J.J.D.; Robinson, S.L. 2014. 2013 field data. Atlantic Canada Conservation Data Centre.
15	Belland, R.J. 1992. The Bryophytes of Kouchibouguac National Park. Parks Canada, Kouchibouguac NP, 101 pp. + map.
15	Edsall, J. 2001. Lepidopteran records in New Brunswick, 1997-99. , Pers. comm. to K.A. Bredin. 91 recs.
14	Caissie, A. Herbarium Records. Fundy National Park, Alma NB. 1961-1993.
14	Churchill, J.L., Klymko, J.D.D. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre.
14	Mazerolle, M.J., Drolet, B., & Desrochers, A. 2001. Small Mammal Responses to Peat Mining of Southeastern Canadian Bogs. Can. J. Zool., 79:296-302. 21 recs.
14	Morton, L.D. & Savoie, M. 1983. The Mammals of Kouchibouguac National Park. Parks Canada Report prep. by Canadian Wildlife Service, Sackville, NB, Vols 1-4. 14 recs.
14	Thomas, A.W. 1996. A preliminary atlas of the butterflies of New Brunswick. New Brunswick Museum.
14	Zinck, M. & Roland, A.E. 1998. Roland's Flora of Nova Scotia. Nova Scotia Museum, 3rd ed., rev. M. Zinck; 2 Vol., 1297 pp.
13	Eaton, S. 2014. Nova Scotia Wood Turtle Database. Environment and Climate Change Canada, 4843 recs.
13	Walker, J. 2017. Bird inventories at French River, NS, and Memramcook, NB, for Nature Conservancy of Canada. Pers. comm. to AC CDC.
13	Wissink, R. 2000. Rare Plants of Fundy: maps. Parks Canada, 20 recs.
12	Blaney, C.S. 2019. Sean Blaney 2019 field data. Atlantic Canada Conservation Data Centre, 4407 records.
12	Hall, R.A. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 189 recs.
12	NatureServe Canada. 2018. iNaturalist Butterfly Data Export . iNaturalist.org and iNaturalist.ca.
12	Speers, L. 2008. Butterflies of Canada database: New Brunswick 1897-1999. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 2048 recs.
12	Webster, R.P. 2004. Lepidopteran Records for National Wildlife Areas in New Brunswick. Webster, 1101 recs.
12	Wilhelm, S.I. et al. 2019. Colonial Waterbird Database. Canadian Wildlife Service.
11	Doucet, D.A. 2009. Census of Globally Rare, Endemic Butterflies of Nova Scotia Gulf of St Lawrence Salt Marshes. Nova Scotia Dept of Natural Resources, Species at Risk, 155 recs.
11	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (Isoetes prototypus). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
11	McAlpine, D.F. 1983. Status & Conservation of Solution Caves in New Brunswick. New Brunswick Museum, Publications in Natural Science, no. 1, 28pp.
11	Webster, R.P. & Edsall, J. 2007. 2005 New Brunswick Rare Butterfly Survey. Environmental Trust Fund, unpublished report, 232 recs.
10	Bateman, M.C. 2000. Waterfowl Brood Surveys Database, 1990-2000 . Canadian Wildlife Service, Sackville, unpublished data. 149 recs.
10	eBird. 2021. eBird Basic Dataset. Version: EBD_relOct-2020. Ithaca, New York. Oct 2020, Prince Edward Island Bird SAR subset. Cornell Lab of Ornithology.
10	Hall, R.A. 2001. S.. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
10	Klymko, J. 2019. Atlantic Canada Conservation Data Centre zoological fieldwork 2018. Atlantic Canada Conservation Data Centre.
10	Klymko, J.J.D. 2016. 2014 field data. Atlantic Canada Conservation Data Centre.
10	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
10	Tremblay, E. 2001. Kouchibouguacis River Freshwater Mussel Data. Parks Canada, Kouchibouguac NP, 45 recs.
9	Amirault, D.L. 2000. Piping Plover Surveys, 1983-2000. Canadian Wildlife Service, Sackville, unpublished data. 70 recs.
9	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
9	Curley, F.R. 2007. PEF&W Collection. PEI Fish & Wildlife Div., 199 recs.
9	Godbout, V. 2002. SAR Inventory: Birds in Fort Beauséjour NHS. Parks Canada, Atlantic, SARINV02-01. 202 recs.
9	Hinds, H.R. 1997. Vascular Plants of Cocagne Island. Connell Herbarium, UNB.
9	Mawhinney, K. & Seutin, G. 2001. Lepidoptera Survey of the Salt Marshes of of Kouchibouguac National Park. Parks Canada Unpublished Report, 5p. 9 recs.
9	McAlpine, D.F. 1998. NBM Science Collections: Wood Turtle records. New Brunswick Museum, Saint John NB, 329 recs.
9	Richardson, D., Anderson, F., Cameron, R, McMullin, T., Clayden, S. 2014. Field Work Report on Black Foam Lichen (Anzia colpodes). COSEWIC.
9	Sabine, D.L. 2013. Dwaine Sabine butterfly records, 2009 and earlier.
9	Westwood, A., Staicer, C. 2016. Nova Scotia landbird Species at Risk observations. Dalhousie University.
8	Basquill, S.P. 2010. Plant data from Prince Edward Island National Park Forest Community Plots. Atlantic Canada Conservation Data Centre, 150 records.
8	Harris, P. 2004. Plant records from 1997-2003. Island Nature Trust, Charlottetown PE, 71 recs.
8	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
8	Native Council of Prince Edward Island. 2019. Bat species and Bank Swallow observations at St. Chrysostome Wildlife Management Area, PEI. Native Council of Prince Edward Island.
8	Popma, T.M. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 113 recs.
8	Staicer, C. & Bliss, S.; Achenbach, L. 2017. Occurrences of tracked breeding birds in forested wetlands. , 303 records.
7	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2000.
7	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
7	Glen, W. 1991. 1991 Prince Edward Island Forest Biomass Inventory Data. PEI Dept of Energy and Forestry, 10059 recs.

# recs	CITATION
7	Guignion, M; Ristau, C.; Lemon, D. 1995. The distribution & abundance of the Gulf of St. Lawrence Aster, Aster laurentianus in Prince Edward Island National Park. Can. Field-Nat, 109:462-464. 10 recs.
7	Haughian, S.R. 2018. Description of Fuscopannaria leucosticta field work in 2017. New Brunswick Museum, 314 recs.
7	Hinds, H.R. 1992. Rare Vascular Plants of Fundy National Park. , 10 recs.
7	Holder, M.L.; Kingsley, A.L. 2000. Kinglsey and Holder observations from 2000 field work.
7	McNeil, J.A. 2016. Blandings Turtle (Emydoidea blandingii), Eastern Ribbonsnake (Thamnophis sauritus), Wood Turtle (Glyptemys insculpta), and Snapping Turtle (Chelydra serpentina) sightings, 2016. Mersey Tobeatic Research Institute, 774 records.
7	NS DNR. 2017. Black Ash records from NS DNR Permanent Sample Plots (PSPs), 1965-2016. NS Dept of Natural Resources.
6	Belland, R.J. 2012. PEI moss records from New York Botanical Garden. NYBG Virtual Herbarium, Web site: http://sciweb.nybg.org/science2/vii2.asp 135 recs.
6	Bredin, K.A. 2001. WTF Project: Freshwater Mussel Fieldwork in Freshwater Species data. Atlantic Canada Conservation Data Centere, 101 recs.
6	Cowie, F. 2007. Electrofishing Population Estimates 1979-98. Canadian Rivers Institute, 2698 recs.
6	Daury, R.W. & Bateman, M.C. 1996. The Barrow's Goldeneye (Bucephala islandica) in the Atlantic Provinces and Maine. Canadian Wildlife Service, Sackville, 47pp.
6	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
6	Elward, D. 2017. 2015-2016 Freshwater Mussel Inventories in the Bouctouche Watershed. Southeastern Anglers Association, 6 recs.
6	Gowan, S. 1980. The Lichens of Kouchibouguac National Park, Parts I (Macrolichens) & II (Microlichens). National Museum of Natural Sciences. Ottawa, ON, 7 recs.
6	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
6	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
6	Morrison, Annie. 2010. NCC Properties Fieldwork: June-August 2010. Nature Conservancy Canada, 508 recs.
6	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
6	Munro, Marian K. Tracked lichen specimens, Nova Scotia Provincial Museum of Natural History Herbarium. Atlantic Canada Conservation Data Centre. 2019.
6	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.
6	Neily, T.H. 2019. Tom Neily NS Bryophyte records (2009-2013). T.H. Neily, Atlantic Canada Conservation Data Centre, 1029 specimen records.
6	Ogden, K. Nova Scotia Museum butterfly specimen database. Nova Scotia Museum. 2017.
6	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J; ONHIC, 487 recs.
6	Shortt, R. Connell Herbarium Black Ash specimens. University New Brunswick, Fredericton. 2019.
5	Basset, I.J. & Crompton, C.W. 1978. The Genus Suaeda (Chenopodiaceae) in Canada. Canadian Journal of Botany, 56: 581-591.
5	Bastien, D. 2017. Rare Peatland plant observations. Pers. comm. to H. Askanas, New Brunswick Department of Energy and Resource Development.
5	Benedict, B. Connell Herbarium Specimens, Digital photos. University New Brunswick, Fredericton. 2005.
5	Cameron, R.P. 2013. 2013 rare species field data. Nova Scotia Department of Environment, 71 recs.
5	Cameron, R.P. 2014. 2013-14 rare species field data. Nova Scotia Department of Environment, 35 recs.
5	Dibblee, R.L. 1999. PEI Cormorant Survey. Prince Edward Island Fisheries, Aquaculture & Environment, 1p. 21 recs.
5	Doucet, D.A. & Edsall, J.; Brunelle, P.-M. 2007. Miramichi Watershed Rare Odonata Survey. New Brunswick ETF & WTF Report, 1211 recs.
5	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2009. New Brunswick Dept Natural Resources, 19 recs (14 active).
5	Neily, T.H. & Pepper, C.; Toms, B. 2018. Nova Scotia lichen database [as of 2018-03]. Mersey Tobeatic Research Institute.
5	Ogden, J. NS DNR Butterfly Collection Dataset. Nova Scotia Department of Natural Resources. 2014.
5	Powell, B.C. 1967. Female sexual cycles of Chrysemy spicta & Clemmys insculpta in Nova Scotia. Can. Field-Nat., 81:134-139. 26 recs.
5	Sollows, M.C. 2008. NBM Science Collections databases: herpetiles. New Brunswick Museum, Saint John NB, download Jan. 2008, 8636 recs.
5	Toms, B. 2018. Bat Species data from www.batconservation.ca for Nova Scotia. Mersey Tobeatic Research Institute, 547 Records.
5	Zahavich, J.L. 2020. Canada Warbler, Olive-sided Flycatcher and Eastern Wood-Pewee observations, Prince Edward Island, 2017-2019. Island Nature Trust.
4	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
4	Dept of Fisheries & Oceans. 1999. Status of Wild Striped Bass, & Interaction between Wild & Cultured Striped Bass in the Maritime Provinces. , Science Stock Status Report D3-22. 13 recs.
4	e-Butterfly. 2018. Selected Maritimes butterfly records from 2016 and 2017. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
4	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
4	Godbout, V. 2000. Recherche de l'Aster du St-Laurent (Aster laurentianus) et du Satyre des Maritimes (Coenonympha nepisiquit) au Parc national Kouchibouguac et a Dune du Bouctouche, N-B. Irving Eco-centre, 23 pp.
4	Hicklin, P.W. 1995. The Maritime Shorebird Survey Newsletter. Calidris, No. 3. 6 recs.
4	Mazerolle, D. 2003. Assessment and Rehabilitation of the Gulf of St Lawrence Aster (Symphyotrichum laurentianum) in Southeastern New Brunswick. Irving Eco-centre, la Dune du Bouctouche, 13 recs.
4	Phillips, B. 2017. Emails to John Klymko regarding Eastern Waterfan (Peltigera hydrothyria) occurrences in Fundy National Park. Fundy Biosphere Reserve, 3 recs.
4	Popma, K. 2001. Phalarope & other bird observations in Westmorland Co. , Pers. comm. to K.A. Bredin. 5 recs.
4	Prince Edward Island National Park. 2014. Prince Edward Island National Park Herbarium. Parks Canada Agency, PEINP, 39 recs.
4	Sabine, D.L. 2012. Bronze Copper records, 2003-06. New Brunswick Dept of Natural Resources, 5 recs.
3	Benjamin, L.K. 2009. Boreal Felt Lichen, Mountain Avens, Orchid and other recent records. Nova Scotia Dept Natural Resources, 105 recs.
3	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
3	Boyne, A.W. & Grecian, V.D. 1999. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 23 recs.
3	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
3	Cowie, Faye. 2007. Surveyed Lakes in New Brunswick. Canadian Rivers Institute, 781 recs.
3	Ferguson, D.C. 1954. The Lepidoptera of Nova Scotia. Part I, macrolepidoptera. Proceedings of the Nova Scotian Institute of Science, 23(3), 161-375.
3	Gagnon, E. Herbarium from 2017 Plant Systematics class. Université de Moncton. 2017.
3	Gagnon, J. 2003. Prince Edward Island plant records. Societe de la faune et des parcs Quebec, 13 recs.
3	Gautreau-Daigle, H. 2007. Rare plant records from peatland surveys. Coastal Zones Research Institute, Shippagan NB. Pers. comm. to D.M. Mazerolle, 39 recs.

# recs	CITATION
3	Gautreau, R. 2005. Betula michauxii occurrence on Bog 324, near Baie-Ste-Anne, NB. Pers. comm. to C.S. Blaney, 3 recs.
3	Gauvin, J.M. 1979. Etude de la vegetation des marais sales du parc national Kouchibouguac, N-B. M.Sc. Thesis, Universite de Moncton, 248 pp.
3	Giberson, D. 2008. UPEI Insect Collection. University of Prince Edward Island, 157 recs.
3	Giroux, P. 2013. Personal communication concerning species at risk in and around PEI NP, PE. Winter 2013. Pers. comm.
3	Godbout, Valerié. 2010. Étude de l'Aster du Saint-Laurent dans le parc national Kouchibouguac, 2000-04. Parks Canada, 3 recs.
3	Golder Associates. 2018. Dorchester wind turbine bat detections. Owens, Luke, Firman, Mitch, Melcher, Heather (ed.) Golder Associates Ltd.
3	Grondin, P. & Blouin, J-L., Bouchard, D.; et al. 1981. Description et cartographie de la vegetation du cordon littoral. Parc National de Kouchibouguac. Le Groupe Dryade, 57 pp.
3	Holder, M. & Kingsley, A.L. 2000. Peatland Insects in NB & NS: Results of surveys in 10 bogs during summer 2000. Atlantic Canada Conservation Data Centre, Sackville, 118 recs.
3	Houle, F; Haber, E. 1990. Status of the Gulf of St. Lawrence Aster, Aster laurentianus (Asteraceae) in Canada. Can. Field-Nat, 104:455-459. 3 recs.
3	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2010. New Brunswick Dept Natural Resources, 16 recs (11 active).
3	Klymko, J. Univeriste de Moncton insect collection butterfly record dataset. Atlantic Canada Conservation Data Centre. 2017.
3	Klymko, J.J.D. 2011. Insect fieldwork & submissions, 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 742 recs.
3	Klymko, J.J.D. 2012. Insect field work & submissions. Atlantic Canada Conservation Data Centre, 852 recs.
3	MacQuarrie, K. 1991-1999. Site survey files, maps. Island Nature Trust, Charlottetown PE, 60 recs.
3	MacQuarrie, K. and R. Sharkie. 2004. Plant lists for selected areas at Brackley and Dalvay, Prince Edward Island National Park. Island Nature Trust, 168 recs.
3	Majka, C.G. 2008. Lepidoptera at St Patricks, 1993-2007. Pers. comm. to R. Curley, 8 Jan. 29 recs, 29 recs.
3	McLelland, Don. 2020. Orchid observations at Enmore River, PEI. Don McLelland. Pers. comm. to C.S. Blaney.
3	Neily, T.H. Tom Neily NS Sphagnum records (2009-2014). T.H. Neily, Atlantic Canada Conservation Data Centre. 2019.
3	Nye, T. 2002. Wood Turtle observations in Westmorland, Queens Cos. , Pers. com. to S.H. Gerriets, Dec. 3. 3 recs.
3	Parker, M. 2016. Wood turtle (Glyptemys insculpta) Visual Surveys at Black, Wallace, Musquodobit and Sackville Rivers, Nova Scotia. East Coast Aquatics Inc., 3 records.
3	Richardson, D., Anderson, F., Cameron, R, Pepper, C., Clayden, S. 2015. Field Work Report on the Wrinkled Shingle lichen (Pannaria lurida). COSEWIC.
3	Sabine, M. 2016. Black Ash records from NB DNR permanent forest sampling Plots. New Brunswick Department of Natural Resources, 39 recs.
3	Stevens, C. 1999. Cam Stevens field data from PEI vegetation plots. Sent along with specimens to C.S. Blaney. UNB masters research project, 732 recs.
3	Thompson, R. 2018. Williamsdale Quarry Expansion Project, NS, Environmental Assessment rare plants. Dexter Construction Company Limited.
3	Zahavich, J. 2018. Canada Warbler and Olive-sided Flycatcher records 2018. Island Nature Trust, 14 recs.
2	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of C. insculpta sightings. Acadia University, Wolfville NS, 88 recs.
2	Amirault, D.L. 1997-2000. Unpublished files. Canadian Wildlife Service, Sackville, 470 recs.
2	Amirault, D.L. 2003. 2003 Peregrine Falcon Survey. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
2	Basquill, S.P., Porter, C. 2019. Bryophyte and lichen specimens submitted to the E.C. Smith Herbarium. NS Department of Lands and Forestry.
2	Belliveau, A.G. 2014. Plant Records from Southern and Central Nova Scotia. Atlantic Canada Conservation Data Centre, 919 recs.
2	Boyne, A.W. 2000. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 168 recs.
2	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
2	Clayden, S.R. 2020. Email to Sean Blaney regarding Pilophorus cereus and P. fibula at Fidele Lake area, Charlotte County, NB. pers. comm., 2 records.
2	Donelle, R. 2007. Bouctouche Dune Rare Coastal Plant Data. Irving Eco-centre, la Dune du Bouctouche, 2 recs.
2	Fernald, M.L. 1914. Some annual halophytic asters of the maritime provinces. Rhodora, 16:57-61. 2 recs.
2	Freudenstein, John V. 1997. A Monograph of Corallorhiza (Orchidaceae). Harvard Papers in Botany, 1:5-51.
2	Gilhen, J. 1984. Amphibians & Reptiles of Nova Scotia, 1st Ed. Nova Scotia Museum, 164pp.
2	Godbout, V. 2001. Recherche de l'Aster du St-Laurent (Symphyotrichum laurentianum) dans les marais sales du sud-est du Nouveau-Brunswick. Irving Eco-centre, la Dune du Bouctouche, 23 pp.
2	Harding, R.W. 2008. Harding Personal Insect Collection 1999-2007. R.W. Harding, 309 recs.
2	Houle, F. & Haber, E. 1990. Status of the Gulf of St. Lawrence Aster, Aster laurentianus (Asteraceae) in Canada. Canadian Field-Naturalist, 104:455-459. 2 recs.
2	Kelly, G. 2005. Fraxinus nigra. Dept of Agricuture, Fisheries, Aquaculture & Forestry. Pers. comm. to C.S. Blaney, Mar. 2, 11 recs.
2	Klymko, J. Partial database of the Agriculture Canada Charlottetown Research Station Insect Collection butterfly specimens. Atlantic Canada Conservation Data Centre. 2016.
2	Macaulay, M. Notes on newly discovered Hepatica nobilis var. obtusa population in Cumberland Co. NS. Pers. comm. to S. Blaney, 1 rec.
2	NatureServe Canada. 2018. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
2	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-03-18]. Mersey Tobeatic Research Institute.
2	O'Neil, S. 1998. Atlantic Salmon: Northumberland Strait Nova Scotia part of SFA 18. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-08. 9 recs.
2	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.
2	Porter, C.J.M. 2014. Field work data 2007-2014. Nova Scotia Nature Trust, 96 recs.
2	Sabine, M. 2016. NB DNR staff incidental Black Ash observations. New Brunswick Department of Natural Resources.
2	Smith, M.E.M. 2008. AgCan Collection. Agriculture Canada, Charlottetown PE, 44 recs.
2	Speers, L. 2001. Butterflies of Canada database. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 190 recs.
2	Toner, M. 2001. Lynx Records 1973-2000. NB Dept of Natural Resources, 29 recs.
2	Webster, R.P. Database of R.P. Webster butterfly collection. 2017.
1	Amirault, D.L. 2005. 2005 Peregrine Falcon Survey. Canadian Wildlife Service, Sackville, unpublished data. 27 recs.
1	Barney, T. 2020. Text message to Sean Blaney from Ted Barney with photograph of large Snapping Turtle at White Birch Impoundment, Westmorland Co., NB. pers. comm., 1 record.
1	Belliveau, A.G. 2018. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2018. E.C. Smith Herbarium, 6226 recs.
1	Belliveau, A.G. E.C. Smith Herbarium Specimen Database 2019. E.C. Smith Herbarium, Acadia University. 2019.
1	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
1	Blaney, C.S. 1999. Fieldwork 1999. Atlantic Canada Conservation Data Centre. Sackville NB, 292 recs.

# recs	CITATION
1	Blaney, C.S. 2014. 2014 Bank Swallow colony observation, Westcock, NB. Atlantic Canada Conservation Data Centre.
1	Blaney, C.S. 2019. Atlantic Canada Conservation Data Centre Fieldwork 2019. Atlantic Canada Conservation Data Centre.
1	Bouchard, A. Herbier Marie-Victorin. Universite de Montreal, Montreal QC. 1999.
1	Bredin, K.A. 2000. NB & NS Bog Project, fieldwork. Atlantic Canada Conservation Data Centre, Sackville, 1 rec.
1	Bredin, K.A. 2002. NB Freshwater Mussel Fieldwork. Atlantic Canada Conservation Data Centere, 30 recs.
1	Calhoun, J.C. Butterfly records databased at the McGuire Center for Lepidoptera and Biodiversity. Calhoun, J.C. 2020.
1	Chapman, C.N. (Cody). 2020. Nova Scotia Black Ash (Fraxinus nigra) field observations by Confederacy of Mainland Mi'kmaq. Forestry Program, Confederacy of Mainland Mi'kmaq.
1	Chaput, G. 1999. Atlantic Salmon: Miramichi & SFA 16 Rivers. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-05. 6 recs.
1	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
1	Clavette, A., and others. 2013. Peregrine Falcon nesting information from NatureNB listserv. NatureNB.
1	Clayden, S.R. 2005. Confidential supplement to Status Report on Ghost Antler Lichen (Pseudevernia cladonia). Committee on the Status of Endangered Wildlife in Canada, 27 recs.
1	Clayden, S.R. 2012. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 57 recs.
1	Cormier, R. 2019. Wood Turtle observation. pers. comm. to J.L. Churchill.
1	COSEWIC (Committee on the Status of Wildlife in Canada). 2013. COSEWIC Assessment and Status Report on the Eastern Waterfan Peltigera hydrothyria in Canada. COSEWIC, 46 pp.
1	Curley, F.R. Two rare aquatic plant specimens collected by F.R. Curley in PEI and given to D.M. Mazerolle. retired provincial biologist. 2015.
1	Desilets-Starrak, J. 2015. Wood Turtle record. Pers. comm. to E. Tremblay, Parks Canada.
1	Doucet, D.A. 2007. Fieldwork 2007: Insects (minus Odonata). ACCDC Staff, 1 rec.
1	Doucet, D.A. 2007. PEI National Park Odonata Survey. Parks Canada, PEI National Park, 1 rec.
1	Doucet, D.A. 2008. Fieldwork 2008: Odonata. ACCDC Staff, 625 recs.
1	Doucet, D.A. 2008. Wood Turtle Records 2002-07. Pers. comm. to S. Gerriets, 7 recs, 7 recs.
1	Doucet, D.A. ACCDC Reference Collection. Atlantic Canada Conservation Data Centre, Sackville NB. 2008.
1	Duffy, L.-A. 2002. Prince Edward Island National Park Butterfly Survey. Heritage Protection, Prince Edward Island National Park.
1	Edsall, J. 2007. Lepidopteran Records from Halls Creek, 1994-2000. Edsall, 43 recs.
1	Elizabeth Spence. 2020. Email from Elizabeth Spence to John Klymko about the occurrence of a Wood Turtle in Westmorland County, New Brunswick. Pers. comm.
1	Gerriets, S.H. 1997-2001. Element Occurrence Database. Atlantic Canada Conservation Data Centre, Sackville NB, 1 rec.
1	Goltz, J.P. 2007. Field Notes: Listera australis at Kouchibouguac National Park. , 7 recs.
1	Hill, N.M. 1994. Status report on the Long's bulrush Scirpus longii in Canada. Committee on the Status of Endangered Wildlife in Canada, 7 recs.
1	Hinds, H.R. 2000. Rare plants of Fundy in Rare Plants of Fundy: maps. Wissink, R. (ed.) Parks Canada, 2 recs.
1	Kelly, Glen 2004. Botanical records from 2004 PEI Forestry fieldwork. Dept of Environment, Energy & Forestry, 71 recs.
1	Kirkland, G.L. Jr. & Schmidt, D.F. 1982. Abundance, habitat, reproduction & morphology of forest-dwelling small mammals of NS & south-eastern NB. Can. Field-Nat., 96(2): 156-162. 1 rec.
1	Kirkland, G.L. Jr., Schmidt, D.F. & Kirkland, C.J. 1979. First record of the long-tailed shrew (Sorex dispar) in New Brunswick. Can. Field-Nat., 93: 195-198. 1 rec.
1	Klymko, J. 2020. Atlantic Canada Conservation Data Centre zoological fieldwork 2019. Atlantic Canada Conservation Data Centre.
1	Klymko, J.J.D. 2010. Miscellaneous observations reported to ACCDC (zoology). Pers. comm. from various persons, 3 recs.
1	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
1	LaFlamme, C. 2008. Disovery of Goodyera pubescens at Springdale, NB. Amec Earth and Environmental. Pers. comm. to D.M. Mazerolle, 1 rec.
1	Lajeunesse, D. et al. 2002. PEINP Collection. Parks Canada, PEI National Park, 9 recs.
1	Lantz, Joan; Lantz, Keith . 2015. eBird record of Sandhill Crane from Chapman Settlement, NS. eBirg.org.
1	Layberry, R.A. 2012. Lepidopteran records for the Maritimes, 1974-2008. Layberry Collection, 1060 recs.
1	Loo, J. & MacDougall, A. 1994. GAP analysis: Summary Report. Fundy Model Forest, 2 recs.
1	MacAuley, M. 2020. Email to Sean Blaney regarding Agalinis paupercula var. parviflora at Malagash Station, NS. pers. comm., 2 records.
1	MacPhail, V. Bee and syrphid specimens from MSc research. Pers. comm., J. Klymko. 2006.
1	Madden, A. 1998. Wood Turtle records in northern NB. New Brunswick Dept of Natural Resources & Energy, Campbellton, Pers. comm. to S.H. Gerriets. 16 recs.
1	Majka, C.G. 1967. The butterflies of Albert County. Bulletin of the Moncton Naturalists Club, 13-20.
1	McAlpine, D.F. & Collingwood, L. 1989. Rare Salamander Survey in Fundy National Park. Fundy National Park, Internal Documents, 1 rec.
1	McAlpine, D.F. 1983. Species Record Cards. Fundy National Park, Library, 1 rec.
1	McLellan, N. 2013. Discovery of extensive Nuphar lutea ssp. rubrodisca population at Tyne Valley. Ducks Unlimited, 1 record.
1	Miller, D.G. 2013. Peregrine Falcon nesting information from birdingnewbrunswick.ca. birdingnewbrunswick.ca.
1	Mills, E. Connell Herbarium Specimens, 1957-2009. University New Brunswick, Fredericton. 2012.
1	Mills, Elizabeth and Bishop, Gart. 2020. Cuscuta cephalanthi record, Grand-Barachois, NB. Chapman-Lam, Colin J. (ed.) pers. comm., 1.
1	Novak, Pam. 2017. Email to John Klymko regarding Chelydra serpentina record.
1	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
1	Parker, M. 2018. East Coast Aquatics ACCDC 2018 Report. East Coast Aquatics, 12 records.
1	Rankin, Andrew. 2017. Second-ever N.S. sighting: Big brown bat turns up in Oxford. The Chronicle Herald online edition (Herald News).
1	Sabine, D.L. 2005. 2001 Freshwater Mussel Surveys. New Brunswick Dept of Natural Resources & Energy, 590 recs.
1	Sabine, M. 2016. Black Ash records from the NB DNR Forest Development Survey. New Brunswick Department of Natural Resources.
1	Simpson, D. Collection sites for Black Ash seed lots preserved at the National Tree Seed Centre in Fredericton NB. National Tree Seed Centre, Canadian Forest Service. 2016.
1	Smith, M. 2013. Email to Sean Blaney regarding Schizaea pusilla at Caribou Plain Bog, Fundy NP. pers. comm., 1 rec.
1	Sollows, M.C,. 2009. NBM Science Collections databases: Coccinellid & Cerambycid Beetles. New Brunswick Museum, Saint John NB, download Feb. 2009, 569 recs.

# recs	CITATION
1	Spicer, C.D. 2004. Specimens from CWS Herbarium, Mount Allison Herbarium Database. Mount Allison University, 5939 recs.
1	Standley, L.A. 2002. Carex haydenii in Nova Scotia. , Pers. comm. to C.S. Blaney. 4 recs.
1	Steeves, R. 2004. Goodyera pubescens occurrence from Colpitts Brook, Albert Co. , Pers. comm. to C.S. Blaney. 1 rec.
1	te Raa, J. 2016. Island Naturalist. Nature PEI, 219.
1	Tremblay, E., Craik, S.R., Titman, R.D., Rousseau, A. & Richardson, M.J. 2006. First Report of Black Terns Breeding on a Coastal Barrier Island. Wilson Journal of Ornithology, 118(1):104-106. 1 rec.
1	Vinison, Neil. 2018. Record of Saxifraga paniculata from Fundy NP, emailed to S. Blaney 19 July 2018. Pers. comm.
1	Vinson, N. 2018. Email to S. Blaney regarding new occurrence of Saxifraga paniculata on Point Wolfe River. Parks Canada, 1 record.
1	Vinson, N. 2019. Eastern Waterfan record from Long Reach Brook, Fundy National Park, June 12, 2019. Parks Canada Agency, Fundy National Park, 1 record.
1	Vinson, Neil. 2016. Emails to Sean Blaney regarding yellow flower (Primula veris) and coastal habitat leaf rosettes (Primula laurentiana) in Fundy National Park. pers. comm., 2 rec.
1	White, S. 2019. Notable species sightings, 2018. East Coast Aquatics.
1	Wilson, G. 2013. 2013 Snapping Turtle email report, Wentworth, NS. Pers. comm.
1	Wissink, R. 2000. Four-toed Salamander Survey results, 2000. Fundy National Park, Internal Documents, 1 rec.
1	Young, A.D., Titman, R.D. 1986. Costs and benefits to Red-breasted Mergansers nesting in tern and gull colonies. Can. J. Zool., 64: 2339-2343.
1	Zahavich, J. 2017. Canada Warbler and Olive-sided Flycatcher records 2017. Island Nature Trust, 14 recs.