

Appendix A

AC CDC Report

DATA REPORT 6215: Upham East 2, NB

Prepared 1 October 2018
by J. Churchill, Data Manager

CONTENTS OF REPORT

1.0 Preface

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

2.0 Rare and Endangered Species

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

3.0 Special Areas

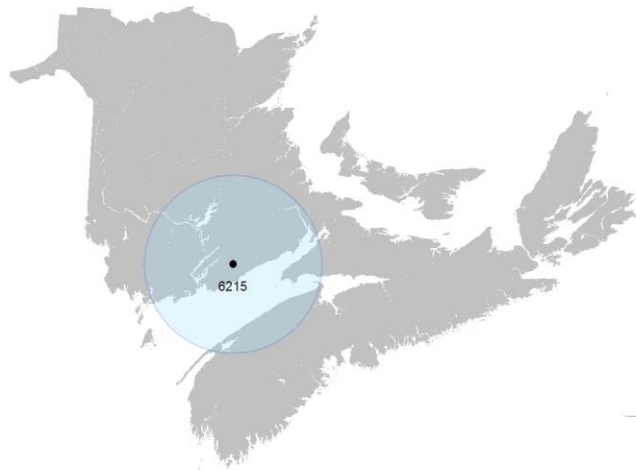
- 3.1 Managed Areas
- 3.2 Significant Areas
- Map 3: Special Areas

4.0 Rare Species Lists

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

5.0 Rare Species within 100 km

- 5.1 Source Bibliography



Map 1. A 100 km buffer around the study area

1.0 PREFACE

The Atlantic Canada Conservation Data Centre (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
Uphame2NB_6215ob.xls	All Rare and legally protected <i>Flora and Fauna</i> in your study area
Uphame2NB_6215ob100km.xls	A list of Rare and legally protected <i>Flora and Fauna</i> within 100 km of your study area
Uphame2NB_6215sa.xls	All <i>Significant Natural Areas</i> in your study area
Uphame2NB_6215ff.xls	Rare and common <i>Freshwater Fish</i> in your study area (DFO database)

1.2 RESTRICTIONS

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

- 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

Tel: (506) 364-2658

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Animals (Fauna)

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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: Duncan Bayne
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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

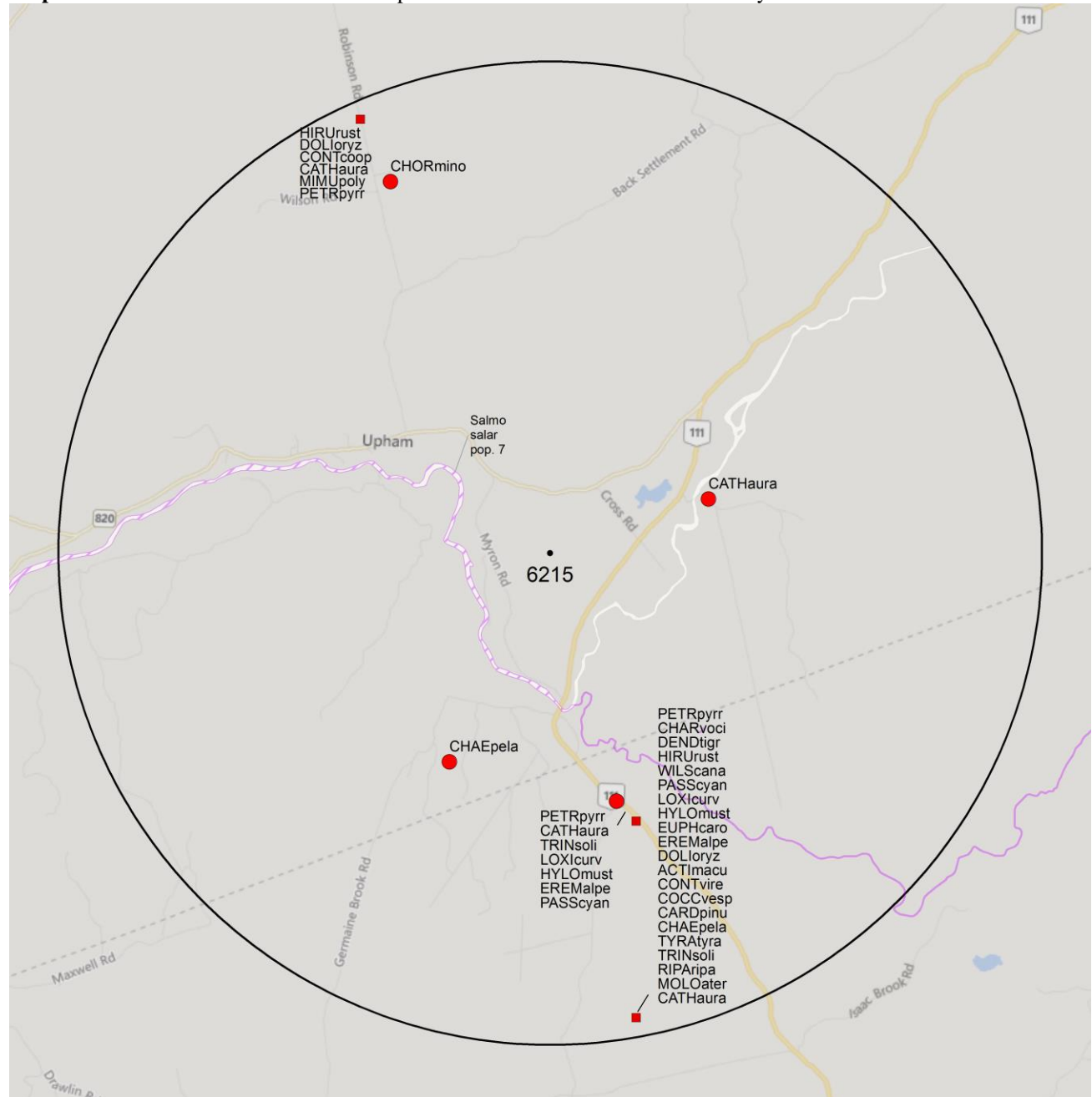
2.1 FLORA

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

2.2 FAUNA

The study area contains 45 records of 24 vertebrate, no records of invertebrate fauna (Map 2 and attached data files - see 1.1 Data List). Please see section 4.3 to determine if 'location-sensitive' species occur near your study site.

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

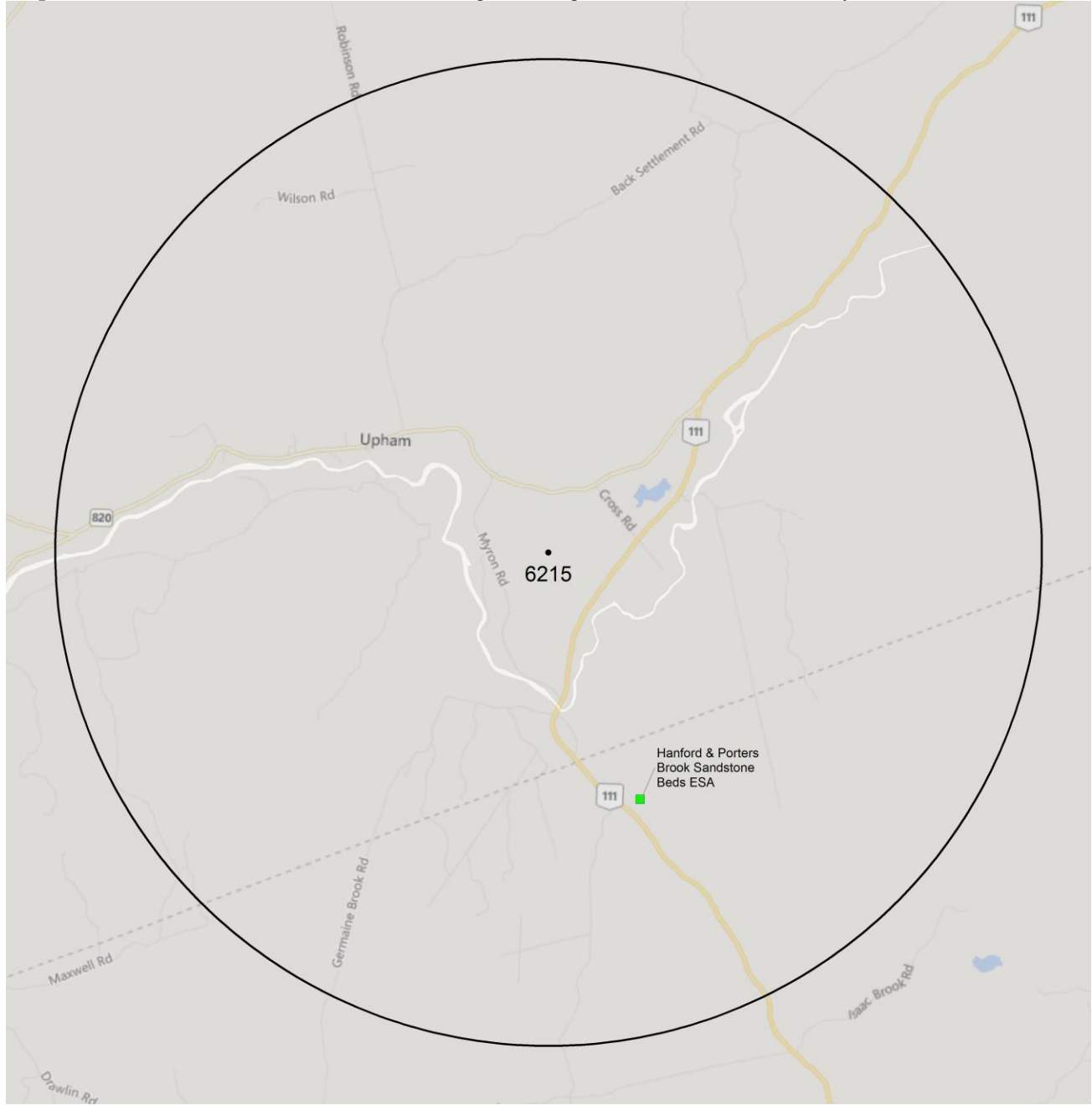
3.1 MANAGED AREAS

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






3.2 SIGNIFICANT AREAS

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

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



MANAGED AREAS SIGNIFIKAINT AREAS

-  boundary
-  approximate
-  boundary
-  approximate
-  point location

4.0 RARE SPECIES LISTS

Rare and/or endangered taxa (excluding “location-sensitive” species, section 4.3) within the study area listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation (\pm the precision, in km, of the record). [P] = vascular plant, [N] = nonvascular plant, [A] = vertebrate animal, [I] = invertebrate animal, [C] = community. Note: records are from attached files *ob.xls/*ob.shp only.

4.1 FLORA

Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
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4.2 FAUNA

Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
A <i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened	Threatened	S1S2B,S1S2M	2 May Be At Risk	2	2.9 \pm 7.0
A <i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Threatened	S2B,S2M	3 Sensitive	3	4.8 \pm 4.0
A <i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Threatened	S2S3B,S2M	1 At Risk	2	2.4 \pm 0.0
A <i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened		S2S3B,S2S3M	3 Sensitive	1	4.8 \pm 7.0
A <i>Wilsonia canadensis</i>	Canada Warbler	Threatened	Threatened	Threatened	S3B,S3M	1 At Risk	2	4.8 \pm 7.0
A <i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	Threatened	Threatened	S3B,S3M	3 Sensitive	2	4.8 \pm 4.0
A <i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Special Concern	S3B,S3M	2 May Be At Risk	1	4.8 \pm 7.0
A <i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B,S3M	1 At Risk	1	4.8 \pm 4.0
A <i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern			S3B,S3S4N,SUM	3 Sensitive	1	4.8 \pm 7.0
A <i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S3B,S4M	1 At Risk	1	4.1 \pm 0.0
A <i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Special Concern	S4B,S4M	4 Secure	1	4.8 \pm 7.0
A <i>Eremophila alpestris</i>	Horned Lark				S1B,S4N,S5M	2 May Be At Risk	2	2.9 \pm 7.0
A <i>Mimus polyglottos</i>	Northern Mockingbird				S2B,S2M	3 Sensitive	1	4.8 \pm 4.0
A <i>Tringa solitaria</i>	Solitary Sandpiper				S2B,S5M	4 Secure	2	2.9 \pm 7.0
A <i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B,S2S3M	3 Sensitive	4	2.6 \pm 0.0
A <i>Loxia curvirostra</i>	Red Crossbill				S3	4 Secure	2	2.9 \pm 7.0
A <i>Carduelis pinus</i>	Pine Siskin				S3	4 Secure	2	4.8 \pm 7.0
A <i>Cathartes aura</i>	Turkey Vulture				S3B,S3M	4 Secure	6	1.7 \pm 0.0
A <i>Charadrius vociferus</i>	Killdeer				S3B,S3M	3 Sensitive	2	4.8 \pm 7.0
A <i>Passerina cyanea</i>	Indigo Bunting				S3B,S3M	4 Secure	2	2.9 \pm 7.0
A <i>Molothrus ater</i>	Brown-headed Cowbird				S3B,S3M	2 May Be At Risk	1	4.8 \pm 7.0
A <i>Dendroica tigrina</i>	Cape May Warbler				S3B,S4S5M	4 Secure	1	4.8 \pm 7.0
A <i>Tyrannus tyrannus</i>	Eastern Kingbird				S3S4B,S3S4M	3 Sensitive	1	4.8 \pm 7.0
A <i>Actitis macularius</i>	Spotted Sandpiper				S3S4B,S5M	4 Secure	2	4.8 \pm 7.0

4.3 LOCATION SENSITIVE SPECIES

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

New Brunswick

Scientific Name	Common Name	SARA	Prov Legal Prot	Known within the Study Site?
<i>Chrysemys picta picta</i>	Eastern Painted Turtle			No
<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	No
<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	No
<i>Haliaeetus leucocephalus</i>	Bald Eagle		Endangered	YES
<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Endangered	No
<i>Cicindela marginipennis</i>	Cobblestone Tiger Beetle	Endangered	Endangered	No
<i>Coenonympha nipisiquit</i>	Maritime Ringlet	Endangered	Endangered	No
<i>Bat Hibernaculum</i>		[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
23	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
16	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
6	eBird. 2014. eBird Basic Dataset. Version: EBD_relNov-2014. Ithaca, New York. Nov 2014. Cornell Lab of Ornithology, 25036 recs.
2	Dept of Fisheries & Oceans. 2001. Atlantic Salmon Maritime provinces overview for 2000. DFO.
1	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc.

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 25293 records of 147 vertebrate and 1212 records of 84 invertebrate fauna; 5278 records of 334 vascular, 793 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 (\pm the precision, in km, of the record).

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	1 At Risk	65	16.6 \pm 1.0	NB
A	<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	Endangered	Endangered	Endangered	S1	1 At Risk	23	18.9 \pm 1.0	NB
A	<i>Perimyotis subflavus</i>	Eastern Pipistrelle	Endangered	Endangered	Endangered	S1	1 At Risk	19	11.9 \pm 0.0	NB
A	<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Endangered	Endangered	Endangered	S1		1	92.5 \pm 50.0	NS
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1?B,S1?M	1 At Risk	2	71.9 \pm 0.0	NS
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus ssp	Endangered	Endangered	Endangered	S1B,S1M	1 At Risk	36	39.4 \pm 0.0	NB
A	<i>Dermochelys coriacea</i> (Atlantic pop.)	Leatherback Sea Turtle - Atlantic pop.	Endangered	Endangered	Endangered	S1S2N	1 At Risk	3	38.7 \pm 50.0	NB
A	<i>Salmo salar pop. 1</i>	Atlantic Salmon - Inner Bay of Fundy pop.	Endangered	Endangered	Endangered	S2	2 May Be At Risk	80	6.8 \pm 50.0	NB
A	<i>Calidris canutus rufa</i>	Red Knot rufa ssp	Endangered		Endangered	S2M	1 At Risk	385	39.3 \pm 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Rangifer tarandus pop. 2</i>	Woodland Caribou (Atlantic-Gasp -rsie pop.)	Endangered	Endangered	Extirpated	SX	0.1 Extirpated	4	20.8 ± 1.0	NB
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened	Threatened	S1B,S1M	2 May Be At Risk	53	8.7 ± 7.0	NB
A	<i>Ixobrychus exilis</i>	Least Bittern	Threatened	Threatened	Threatened	S1S2B,S1S2M	1 At Risk	32	25.3 ± 7.0	NB
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened	Threatened	S1S2B,S1S2M	2 May Be At Risk	134	2.9 ± 7.0	NB
A	<i>Caprimulgus vociferus</i>	Whip-Poor-Will	Threatened	Threatened	Threatened	S2B,S2M	1 At Risk	77	34.0 ± 7.0	NB
A	<i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Threatened	S2B,S2M	3 Sensitive	1101	4.8 ± 7.0	NB
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Special Concern	Threatened	S2B,S2M	1 At Risk	10	21.4 ± 7.0	NB
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2S3	1 At Risk	320	16.8 ± 1.0	NB
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Threatened	S2S3B,S2M	1 At Risk	424	2.4 ± 0.0	NB
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Threatened	S2S3B,S2S3M	3 Sensitive	429	4.8 ± 7.0	NB
A	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Threatened		Threatened	S3	4 Secure	4	65.3 ± 1.0	NB
A	<i>Wilsonia canadensis</i>	Canada Warbler	Threatened	Threatened	Threatened	S3B,S3M	1 At Risk	746	4.8 ± 7.0	NB
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	Threatened	Threatened	S3B,S3M	3 Sensitive	1139	4.8 ± 7.0	NB
A	<i>Anguilla rostrata</i>	American Eel	Threatened		Threatened	S4	4 Secure	111	17.3 ± 0.0	NB
A	<i>Osmerus mordax pop. 2</i>	Lake Utopia Smelt large-bodied pop.	Threatened		Threatened			2	96.3 ± 10.0	NB
A	<i>Coturnicops noveboracensis</i>	Yellow Rail	Special Concern	Special Concern	Special Concern	S1?B,SUM	2 May Be At Risk	4	50.4 ± 7.0	NB
A	<i>Histrionicus histrionicus pop. 1</i>	Harlequin Duck - Eastern pop.	Special Concern	Special Concern	Endangered	S1B,S1S2N,S2M	1 At Risk	60	64.8 ± 4.0	NS
A	<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius	Special Concern	Special Concern	Endangered	S1B,S3M	1 At Risk	475	15.1 ± 0.0	NB
A	<i>Asio flammeus</i>	Short-eared Owl	Special Concern	Special Concern	Special Concern	S2B,S2M	3 Sensitive	23	50.9 ± 0.0	NB
A	<i>Bucephala islandica (Eastern pop.)</i>	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern	Special Concern	S2M,S2N	3 Sensitive	46	24.8 ± 0.0	NB
A	<i>Balaenoptera physalus</i>	Fin Whale - Atlantic pop.	Special Concern	Special Concern	Special Concern	S2S3		3	33.8 ± 0.0	NB
A	<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	Special Concern	Special Concern	Special Concern	S3	3 Sensitive	6	20.9 ± 0.0	NB
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Special Concern	S3	3 Sensitive	21	13.4 ± 1.0	NB
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Special Concern	S3B,S3M	2 May Be At Risk	112	4.8 ± 7.0	NB
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B,S3M	1 At Risk	430	4.8 ± 4.0	NB
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern			S3B,S3S4N,SUM	3 Sensitive	298	4.8 ± 7.0	NB
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S3B,S4M	1 At Risk	356	4.1 ± 0.0	NB
A	<i>Phalaropus lobatus</i>	Red-necked Phalarope	Special Concern			S3M	3 Sensitive	12	17.8 ± 0.0	NB
A	<i>Phocoena phocoena (NW Atlantic pop.)</i>	Harbour Porpoise - Northwest Atlantic pop.	Special Concern	Threatened		S4		22	38.4 ± 0.0	NB
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Special Concern	S4B,S4M	4 Secure	680	4.8 ± 7.0	NB
A	<i>Podiceps auritus</i>	Horned Grebe	Special Concern		Special Concern	S4N,S4M	4 Secure	70	19.0 ± 0.0	NB
A	<i>Odobenus rosmarus rosmarus</i>	Atlantic Walrus	Special Concern		Extirpated	SX		1	81.2 ± 5.0	NS
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk			S1?	5 Undetermined	13	43.3 ± 0.0	NB
A	<i>Bubo scandiacus</i>	Snowy Owl	Not At Risk			S1N,S2S3M	4 Secure	13	23.5 ± 0.0	NB
A	<i>Accipiter cooperii</i>	Cooper's Hawk	Not At Risk			S1S2B,S1S2M	2 May Be At Risk	13	9.8 ± 9.0	NB
A	<i>Fulica americana</i>	American Coot	Not At Risk			S1S2B,S1S2M	3 Sensitive	32	49.8 ± 7.0	NB
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk			S1S2B,SUM	2 May Be At Risk	2	20.9 ± 0.0	NB
A	<i>Sorex dispar</i>	Long-tailed Shrew	Not At Risk	Special Concern		S2	3 Sensitive	5	46.5 ± 1.0	NB
A	<i>Buteo lineatus</i>	Red-shouldered Hawk	Not At Risk	Special Concern		S2B,S2M	2 May Be At Risk	37	20.8 ± 0.0	NB
A	<i>Chlidonias niger</i>	Black Tern	Not At Risk			S2B,S2M	3 Sensitive	139	14.0 ± 0.0	NB
A	<i>Globicephala melas</i>	Long-finned Pilot Whale	Not At Risk			S2S3		3	22.7 ± 0.0	NB
A	<i>Lynx canadensis</i>	Canadian Lynx	Not At Risk		Endangered	S3	1 At Risk	13	23.3 ± 1.0	NB
A	<i>Desmognathus fuscus</i>	Northern Dusky Salamander	Not At Risk			S3	3 Sensitive	43	38.8 ± 1.0	NB
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B,SUM	3 Sensitive	112	15.3 ± 0.0	NB
A	<i>Podiceps grisegena</i>	Red-necked Grebe	Not At Risk			S3M,S2N	3 Sensitive	51	17.1 ± 2.0	NB
A	<i>Lagenorhynchus acutus</i>	Atlantic White-sided Dolphin	Not At Risk			S3S4		2	39.4 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Not At Risk		Endangered	S4	1 At Risk	1015	1.0 ± 0.0	NB
A	<i>Canis lupus</i>	Gray Wolf	Not At Risk		Extirpated	SX	0.1 Extirpated	3	28.2 ± 1.0	NB
A	<i>Puma concolor pop. 1</i>	Eastern Cougar	Data Deficient		Endangered	SNA	5 Undetermined	110	12.0 ± 1.0	NB
A	<i>Morone saxatilis</i>	Striped Bass	E,E,SC			S3	2 May Be At Risk	38	41.2 ± 10.0	NB
A	<i>Salvelinus alpinus</i>	Arctic Char				S1	3 Sensitive	3	28.2 ± 0.0	NB
A	<i>Vireo flavifrons</i>	Yellow-throated Vireo				S1?B,S1?M	8 Accidental	17	42.1 ± 1.0	NB
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs				S1?B,S5M	4 Secure	1014	15.9 ± 0.0	NB
A	<i>Aythya americana</i>	Redhead				S1B,S1M	8 Accidental	8	40.2 ± 7.0	NB
A	<i>Gallinula chloropus</i>	Common Moorhen				S1B,S1M	3 Sensitive	38	27.5 ± 7.0	NB
A	<i>Grus canadensis</i>	Sandhill Crane				S1B,S1M	8 Accidental	10	19.8 ± 7.0	NB
A	<i>Bartramia longicauda</i>	Upland Sandpiper				S1B,S1M	3 Sensitive	49	23.6 ± 0.0	NB
A	<i>Phalaropus tricolor</i>	Wilson's Phalarope				S1B,S1M	3 Sensitive	51	16.2 ± 0.0	NB
A	<i>Leucophaeus atricilla</i>	Laughing Gull				S1B,S1M	3 Sensitive	9	15.9 ± 0.0	NB
A	<i>Progne subis</i>	Purple Martin				S1B,S1M	2 May Be At Risk	213	12.8 ± 7.0	NB
A	<i>Thryothorus ludovicianus</i>	Carolina Wren				S1B,S1M	8 Accidental	14	23.2 ± 0.0	NB
A	<i>Oxyura jamaicensis</i>	Ruddy Duck				S1B,S2S3M	4 Secure	64	16.2 ± 0.0	NB
A	<i>Uria aalge</i>	Common Murre				S1B,S3N,S3M	4 Secure	7	52.0 ± 15.0	NB
A	<i>Aythya affinis</i>	Lesser Scaup				S1B,S4M	4 Secure	205	16.2 ± 0.0	NB
A	<i>Aythya marila</i>	Greater Scaup				S1B,S4M,S2N	4 Secure	34	31.2 ± 7.0	NB
A	<i>Eremophila alpestris</i>	Horned Lark				S1B,S4N,S5M	2 May Be At Risk	43	2.9 ± 7.0	NB
A	<i>Sterna paradisaea</i>	Arctic Tern				S1B,SUM	2 May Be At Risk	3	9.1 ± 0.0	NB
A	<i>Fratercula arctica</i>	Atlantic Puffin				S1B,SUN,SUM	3 Sensitive	7	52.0 ± 15.0	NB
A	<i>Branta bernicla</i>	Brant				S1N, S2S3M	4 Secure	40	19.0 ± 0.0	NB
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				S1N,S2M	3 Sensitive	7	15.4 ± 0.0	NB
A	<i>Butorides virescens</i>	Green Heron				S1S2B,S1S2M	3 Sensitive	17	38.0 ± 0.0	NB
A	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron				S1S2B,S1S2M	3 Sensitive	8	38.3 ± 1.0	NB
A	<i>Empidonax traillii</i>	Willow Flycatcher				S1S2B,S1S2M	3 Sensitive	106	10.5 ± 7.0	NB
A	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow				S1S2B,S1S2M	2 May Be At Risk	11	50.4 ± 7.0	NB
A	<i>Troglodytes aedon</i>	House Wren				S1S2B,S1S2M	5 Undetermined	20	16.9 ± 0.0	NB
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S1S2B,S4N,S5M	4 Secure	2	82.6 ± 7.0	NB
A	<i>Calidris bairdii</i>	Baird's Sandpiper				S1S2M	3 Sensitive	54	39.3 ± 0.0	NB
A	<i>Cistothorus palustris</i>	Marsh Wren				S2B,S2M	3 Sensitive	113	27.8 ± 0.0	NB
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S2B,S2M	3 Sensitive	145	4.8 ± 4.0	NB
A	<i>Toxostoma rufum</i>	Brown Thrasher				S2B,S2M	3 Sensitive	61	25.3 ± 7.0	NB
A	<i>Poocetes gramineus</i>	Vesper Sparrow				S2B,S2M	2 May Be At Risk	91	9.8 ± 5.0	NB
A	<i>Anas strepera</i>	Gadwall				S2B,S3M	4 Secure	132	16.2 ± 0.0	NB
A	<i>Alca torda</i>	Razorbill				S2B,S3N,S3M	4 Secure	4	52.0 ± 15.0	NB
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S2B,S4S5N,S4S5M	3 Sensitive	29	44.0 ± 7.0	NB
A	<i>Tringa solitaria</i>	Solitary Sandpiper				S2B,S5M	4 Secure	172	2.9 ± 7.0	NB
A	<i>Oceanodroma leucorhoa</i>	Leach's Storm-Petrel				S2B,SUM	3 Sensitive	4	54.9 ± 0.0	NB
A	<i>Chen caerulescens</i>	Snow Goose				S2M	4 Secure	6	19.0 ± 0.0	NB
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2N,S2M	4 Secure	30	19.0 ± 0.0	NB
A	<i>Somateria spectabilis</i>	King Eider				S2N,S2M	4 Secure	5	19.0 ± 0.0	NB
A	<i>Larus hyperboreus</i>	Glaucous Gull				S2N,S2M	4 Secure	129	15.8 ± 6.0	NB
A	<i>Asio otus</i>	Long-eared Owl				S2S3	5 Undetermined	17	39.9 ± 7.0	NB
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker				S2S3	3 Sensitive	12	43.2 ± 0.0	NB
A	<i>Salmo salar</i>	Atlantic Salmon				S2S3	2 May Be At Risk	41	22.8 ± 0.0	NB
A	<i>Anas clypeata</i>	Northern Shoveler				S2S3B,S2S3M	4 Secure	247	10.5 ± 7.0	NB
A	<i>Myiarchus crinitus</i>	Great Crested Flycatcher				S2S3B,S2S3M	3 Sensitive	224	10.5 ± 7.0	NB
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B,S2S3M	3 Sensitive	500	2.6 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Pluvialis dominica</i>	American Golden-Plover				S2S3M	3 Sensitive	125	17.8 ± 0.0	NB
A	<i>Calcarius lapponicus</i>	Lapland Longspur				S2S3N,SUM	3 Sensitive	21	16.3 ± 0.0	NB
A	<i>Cephus grylle</i>	Black Guillemot				S3	4 Secure	82	18.3 ± 7.0	NB
A	<i>Loxia curvirostra</i>	Red Crossbill				S3	4 Secure	148	2.9 ± 7.0	NB
A	<i>Carduelis pinus</i>	Pine Siskin				S3	4 Secure	358	4.8 ± 7.0	NB
A	<i>Prosopium cylindraceum</i>	Round Whitefish				S3	4 Secure	1	71.8 ± 0.0	NB
A	<i>Salvelinus namaycush</i>	Lake Trout				S3	3 Sensitive	3	57.7 ± 0.0	NB
A	<i>Sorex maritimensis</i>	Maritime Shrew				S3	4 Secure	1	78.6 ± 0.0	NS
A	<i>Eptesicus fuscus</i>	Big Brown Bat				S3	3 Sensitive	39	27.8 ± 1.0	NB
A	<i>Cathartes aura</i>	Turkey Vulture				S3B,S3M	4 Secure	272	1.7 ± 0.0	NB
A	<i>Rallus limicola</i>	Virginia Rail				S3B,S3M	3 Sensitive	156	10.5 ± 7.0	NB
A	<i>Charadrius vociferus</i>	Killdeer				S3B,S3M	3 Sensitive	761	4.8 ± 7.0	NB
A	<i>Tringa semipalmata</i>	Willet				S3B,S3M	3 Sensitive	67	17.8 ± 0.0	NB
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3B,S3M	4 Secure	162	5.3 ± 7.0	NB
A	<i>Vireo gilvus</i>	Warbling Vireo				S3B,S3M	4 Secure	227	16.9 ± 0.0	NB
A	<i>Piranga olivacea</i>	Scarlet Tanager				S3B,S3M	4 Secure	114	10.3 ± 7.0	NB
A	<i>Passerina cyanea</i>	Indigo Bunting				S3B,S3M	4 Secure	71	2.9 ± 7.0	NB
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S3B,S3M	2 May Be At Risk	301	4.8 ± 7.0	NB
A	<i>Icterus galbula</i>	Baltimore Oriole				S3B,S3M	4 Secure	216	10.5 ± 7.0	NB
A	<i>Somateria mollissima</i>	Common Eider				S3B,S4M,S3N	4 Secure	408	11.9 ± 7.0	NB
A	<i>Dendroica tigrina</i>	Cape May Warbler				S3B,S4S5M	4 Secure	138	4.8 ± 7.0	NB
A	<i>Anas acuta</i>	Northern Pintail				S3B,S5M	3 Sensitive	83	15.8 ± 0.0	NB
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3B,S5M,S4S5N	4 Secure	70	11.9 ± 5.0	NB
A	<i>Arenaria interpres</i>	Ruddy Turnstone				S3M	4 Secure	373	17.8 ± 0.0	NB
A	<i>Phalaropus fulicarius</i>	Red Phalarope				S3M	3 Sensitive	4	52.2 ± 11.0	NB
A	<i>Melanitta nigra</i>	Black Scoter				S3M,S1S2N	3 Sensitive	199	15.8 ± 8.0	NB
A	<i>Bucephala albeola</i>	Bufflehead				S3M,S2N	3 Sensitive	558	16.2 ± 0.0	NB
A	<i>Calidris maritima</i>	Purple Sandpiper				S3M,S3N	4 Secure	149	15.8 ± 6.0	NB
A	<i>Uria lomvia</i>	Thick-billed Murre				S3N,S3M	5 Undetermined	5	52.0 ± 15.0	NB
A	<i>Synaptomys cooperi</i>	Southern Bog Lemming				S3S4	4 Secure	95	16.6 ± 1.0	NB
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3S4B,S3S4M	3 Sensitive	529	4.8 ± 7.0	NB
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B,S5M	4 Secure	740	4.8 ± 7.0	NB
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3S4B,S5M	4 Secure	748	5.3 ± 7.0	NB
A	<i>Larus delawarensis</i>	Ring-billed Gull				S3S4B,S5M	4 Secure	194	9.8 ± 5.0	NB
A	<i>Dendroica striata</i>	Blackpoll Warbler				S3S4B,S5M	4 Secure	42	5.2 ± 0.0	NB
A	<i>Pluvialis squatarola</i>	Black-bellied Plover				S3S4M	4 Secure	1148	17.8 ± 0.0	NB
A	<i>Limosa haemastica</i>	Hudsonian Godwit				S3S4M	4 Secure	100	47.7 ± 0.0	NB
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper				S3S4M	4 Secure	1716	15.9 ± 0.0	NB
A	<i>Calidris melanotos</i>	Pectoral Sandpiper				S3S4M	4 Secure	226	15.9 ± 0.0	NB
A	<i>Calidris alba</i>	Sanderling				S3S4M,S1N	3 Sensitive	1106	17.1 ± 2.0	NB
A	<i>Morus bassanus</i>	Northern Gannet				SHB,S5M	4 Secure	57	19.0 ± 0.0	NB
A	<i>Lanius ludovicianus</i>	Loggerhead Shrike				SXB,SXM	1 At Risk	1	96.4 ± 0.0	NB
C	<i>Quercus macrocarpa</i> - <i>Acer rubrum</i> / <i>Onoclea sensibilis</i> - <i>Carex arcta</i> Forest	Bur Oak - Red Maple / Sensitive Fern - Northern Clustered Sedge Forest				S2		1	61.4 ± 0.0	
C	<i>Acer saccharinum</i> / <i>Onoclea sensibilis</i> - <i>Lysimachia terrestris</i> Forest	Silver Maple / Sensitive Fern - Swamp Yellow Loosestrife Forest				S3		1	77.0 ± 0.0	NB
C	<i>Acer saccharum</i> - <i>Fraxinus americana</i> / <i>Polystichum acrostichoides</i> Forest	Sugar Maple - White Ash / Christmas Fern Forest				S3S4		1	19.3 ± 0.0	NB
I	<i>Cicindela</i>	Cobblestone Tiger Beetle	Endangered	Endangered	Endangered	S1	1 At Risk	42	59.7 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
	<i>marginipennis</i>									
	<i>Gomphus ventricosus</i>	Skillet Clubtail	Endangered		Endangered	S1S2	2 May Be At Risk	50	49.8 ± 0.0	NB
	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Special Concern	S3B,S3M	3 Sensitive	123	14.7 ± 5.0	NB
	<i>Ophiogomphus howei</i>	Pygmy Snaketail	Special Concern	Special Concern	Special Concern	S2	2 May Be At Risk	14	85.2 ± 0.0	NB
	<i>Alasmidonta varicosa</i>	Brook Floater	Special Concern		Special Concern	S2	3 Sensitive	10	64.0 ± 1.0	NB
	<i>Lampsilis cariosa</i>	Yellow Lampmussel	Special Concern	Special Concern	Special Concern	S2	3 Sensitive	96	31.4 ± 0.0	NB
	<i>Bombus terricola</i>	Yellow-banded Bumblebee	Special Concern			S3?	3 Sensitive	27	19.7 ± 0.0	NB
	<i>Appalachina sayana</i>	Spike-lip Crater	Not At Risk			S3?		2	34.1 ± 1.0	NB
	<i>Haematopota rara</i>	Shy Cleg				S1	5 Undetermined	1	95.9 ± 1.0	NB
	<i>Erora laeta</i>	Early Hairstreak				S1	2 May Be At Risk	2	92.9 ± 1.0	NS
	<i>Arigomphus furcifer</i>	Lilypad Clubtail				S1	5 Undetermined	6	53.4 ± 0.0	NB
	<i>Polites origenes</i>	Crossline Skipper				S1?	5 Undetermined	4	45.4 ± 0.0	NB
	<i>Plebejus saepiolus</i>	Greenish Blue				S1S2	4 Secure	5	62.1 ± 1.0	NB
	<i>Ophiogomphus colubrinus</i>	Boreal Snaketail				S1S2	2 May Be At Risk	34	63.1 ± 0.0	NB
	<i>Brachyleptura circumdata</i>	a Longhorned Beetle				S2		6	67.8 ± 0.0	NB
	<i>Satyrrium calanus falacer</i>	Banded Hairstreak				S2	4 Secure	17	81.7 ± 1.0	NS
	<i>Strymon melinus</i>	Grey Hairstreak				S2	4 Secure	5	62.5 ± 0.0	NB
	<i>Aeshna clepsydra</i>	Mottled Darner				S2	3 Sensitive	8	31.7 ± 0.0	NB
	<i>Somatochlora brevicincta</i>	Quebec Emerald				S2	5 Undetermined	1	96.8 ± 0.0	NB
	<i>Somatochlora tenebrosa</i>	Clamp-Tipped Emerald				S2	5 Undetermined	3	93.6 ± 1.0	NB
	<i>Ladona exusta</i>	White Corporal				S2	5 Undetermined	3	77.7 ± 0.0	NB
	<i>Ischnura posita</i>	Fragile Forktail				S2	2 May Be At Risk	10	75.6 ± 1.0	NS
	<i>Callophrys henrici</i>	Henry's Elfin				S2S3	4 Secure	22	89.2 ± 7.0	NB
	<i>Celithemis martha</i>	Martha's Pennant				S2S3	5 Undetermined	4	52.7 ± 0.0	NB
	<i>Sphaeroderus nitidicollis</i>	a Ground Beetle				S3	4 Secure	1	67.9 ± 0.0	NB
	<i>Lepturoopsis biforis</i>	a Longhorned Beetle				S3		1	40.2 ± 1.0	NB
	<i>Orthosoma brunneum</i>	a Longhorned Beetle				S3		1	61.5 ± 5.0	NB
	<i>Elaphrus americanus</i>	a Ground Beetle				S3	4 Secure	2	72.3 ± 0.0	NB
	<i>Desmocerus palliatus</i>	Elderberry Borer				S3		4	40.2 ± 1.0	NB
	<i>Agonum crenistriatum</i>	a Ground Beetle				S3	5 Undetermined	1	96.1 ± 1.0	NB
	<i>Agonum consimile</i>	a Ground Beetle				S3	4 Secure	1	96.1 ± 1.0	NB
	<i>Agonum excavatum</i>	a Ground Beetle				S3	4 Secure	1	77.2 ± 0.0	NB
	<i>Clivina americana</i>	a Ground Beetle				S3	4 Secure	1	77.2 ± 0.0	NB
	<i>Lachnocrepis parallela</i>	a Ground Beetle				S3	4 Secure	1	79.8 ± 0.0	NB
	<i>Dyschirius setosus</i>	a Ground Beetle				S3	5 Undetermined	3	79.8 ± 0.0	NB
	<i>Harpalus fulvilabris</i>	a Ground Beetle				S3	4 Secure	1	73.2 ± 0.0	NB
	<i>Olisthopus parmatius</i>	a Ground Beetle				S3	4 Secure	1	67.9 ± 0.0	NB
	<i>Paratachys scitulus</i>	a Ground Beetle				S3	5 Undetermined	1	77.2 ± 0.0	NB
	<i>Amara pallipes</i>	a Ground Beetle				S3	4 Secure	2	79.5 ± 0.0	NB
	<i>Carabus maeander</i>	a Ground Beetle				S3	5 Undetermined	1	96.1 ± 1.0	NB
	<i>Carabus serratus</i>	a Ground Beetle				S3	4 Secure	1	90.5 ± 1.0	NB
	<i>Coccinella hieroglyphica kirbyi</i>	a Ladybird Beetle				S3	4 Secure	1	40.2 ± 1.0	NB
	<i>Hippodamia parenthesis</i>	Parenthesis Lady Beetle				S3	4 Secure	7	40.2 ± 1.0	NB
	<i>Stenocorus vittigera</i>	a Longhorned Beetle				S3		1	77.2 ± 0.0	NB
	<i>Gnathacmaeops pratensis</i>	a Longhorned Beetle				S3		5	40.2 ± 1.0	NB
	<i>Pogonocherus mixtus</i>	a Longhorned Beetle				S3		1	40.2 ± 1.0	NB
	<i>Badister neopulchellus</i>	a Ground Beetle				S3	4 Secure	1	77.2 ± 0.0	NB
	<i>Calathus gregarius</i>	a Ground Beetle				S3	4 Secure	1	48.6 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
I	<i>Gonioctena americana</i>	a Leaf Beetle				S3		1	79.5 ± 0.0	NB
I	<i>Saperda lateralis</i>	a Longhorned Beetle				S3		2	51.0 ± 0.0	NB
I	<i>Trachysida aspera</i>	a Longhorned Beetle				S3		1	67.6 ± 0.0	NB
I	<i>Hesperia sassacus</i>	Indian Skipper				S3	4 Secure	4	89.2 ± 7.0	NB
I	<i>Euphyes bimacula</i>	Two-spotted Skipper				S3	4 Secure	11	81.2 ± 1.0	NB
I	<i>Lycaena hyllus</i>	Bronze Copper				S3	3 Sensitive	35	42.8 ± 0.0	NB
I	<i>Satyrium acadica</i>	Acadian Hairstreak				S3	4 Secure	22	27.5 ± 7.0	NB
I	<i>Callophrys polios</i>	Hoary Elfin				S3	4 Secure	21	40.1 ± 1.0	NB
I	<i>Plebejus idas empetri</i>	Crowberry Blue				S3	4 Secure	25	47.0 ± 1.0	NB
I	<i>Speyeria aphrodite</i>	Aphrodite Fritillary				S3	4 Secure	32	40.1 ± 1.0	NB
I	<i>Boloria bellona</i>	Meadow Fritillary				S3	4 Secure	36	42.8 ± 0.0	NB
I	<i>Boloria chariclea grandis</i>	Purple Lesser Fritillary				S3	4 Secure	8	98.7 ± 1.0	NB
I	<i>Polygonia satyrus</i>	Satyr Comma				S3	4 Secure	12	52.5 ± 1.0	NB
I	<i>Polygonia gracilis</i>	Hoary Comma				S3	4 Secure	4	53.0 ± 7.0	NB
I	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S3	4 Secure	20	14.7 ± 5.0	NB
I	<i>Gomphus vastus</i>	Cobra Clubtail				S3	3 Sensitive	58	33.2 ± 0.0	NB
I	<i>Gomphus abbreviatus</i>	Spine-crowned Clubtail				S3	4 Secure	25	24.8 ± 0.0	NB
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3	5 Undetermined	4	93.6 ± 1.0	NB
I	<i>Dorocordulia lepida</i>	Petite Emerald				S3	4 Secure	26	38.4 ± 0.0	NB
I	<i>Somatochlora cingulata</i>	Lake Emerald				S3	4 Secure	6	38.4 ± 0.0	NB
I	<i>Somatochlora forcipata</i>	Forcipate Emerald				S3	4 Secure	6	48.6 ± 1.0	NB
I	<i>Williamsonia fletcheri</i>	Ebony Boghaunter				S3	4 Secure	10	60.8 ± 0.0	NB
I	<i>Lestes eurinus</i>	Amber-Winged Spreadwing				S3	4 Secure	3	56.8 ± 1.0	NB
I	<i>Lestes vigilax</i>	Swamp Spreadwing				S3	3 Sensitive	20	38.4 ± 0.0	NB
I	<i>Enallagma geminatum</i>	Skimming Bluet				S3	5 Undetermined	13	49.2 ± 0.0	NB
I	<i>Enallagma signatum</i>	Orange Bluet				S3	4 Secure	10	53.7 ± 0.0	NB
I	<i>Stylurus scudderi</i>	Zebra Clubtail				S3	4 Secure	73	24.8 ± 0.0	NB
I	<i>Alasmidonta undulata</i>	Triangle Floater				S3	3 Sensitive	50	14.7 ± 0.0	NB
I	<i>Leptodea ochracea</i>	Tidewater Mucket				S3	4 Secure	57	25.0 ± 0.0	NB
I	<i>Striatura ferrea</i>	Black Striate				S3		1	94.9 ± 1.0	NB
I	<i>Neohelix albolabris</i>	Whitelip				S3		2	30.4 ± 0.0	NB
I	<i>Spurwinkia salsa</i>	Saltmarsh Hydrobe				S3		32	23.9 ± 0.0	NB
I	<i>Pantala hymenaea</i>	Spot-Winged Glider				S3B,S3M	4 Secure	3	53.1 ± 1.0	NB
I	<i>Satyrium liparops strigosum</i>	Striped Hairstreak				S3S4	4 Secure	18	89.1 ± 0.0	NB
I	<i>Cupido comyntas</i>	Eastern Tailed Blue				S3S4	4 Secure	4	29.0 ± 5.0	NB
I	<i>Coccinella transversoguttata richardsoni</i>	Transverse Lady Beetle				SH	2 May Be At Risk	21	40.2 ± 1.0	NB
N	<i>Erioderma mollissimum</i>	Graceful Felt Lichen	Endangered		Endangered	SH	2 May Be At Risk	1	46.0 ± 1.0	NB
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	SH	1 At Risk	2	57.3 ± 0.0	NS
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened			S1	5 Undetermined	6	44.4 ± 1.0	NB
N	<i>Anzia colpodes</i>	Black-foam Lichen	Threatened			S1S2	5 Undetermined	2	49.5 ± 1.0	NB
N	<i>Degelia plumbea</i>	BluDegelia plumbeae Felt Lichen	Special Concern	Special Concern	Special Concern	S1	2 May Be At Risk	2	57.2 ± 0.0	NS
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	5 Undetermined	18	26.1 ± 0.0	NB
N	<i>Aloina rigida</i>	Aloe-Like Rigid Screw Moss				S1	2 May Be At Risk	1	92.2 ± 0.0	NB
N	<i>Bryum muehlenbeckii</i>	Muehlenbeck's Bryum Moss				S1	2 May Be At Risk	1	44.7 ± 1.0	NB
N	<i>Dicranoweisia crispula</i>	Mountain Thatch Moss				S1	2 May Be At Risk	1	53.0 ± 0.0	NB
N	<i>Didymodon rigidulus</i> var. <i>gracilis</i>	a moss				S1	2 May Be At Risk	1	48.9 ± 1.0	NB
N	<i>Sphagnum macrophyllum</i>	Sphagnum				S1	2 May Be At Risk	2	56.6 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
N	<i>Syntrichia ruralis</i>	a Moss				S1	2 May Be At Risk	1	29.4 ± 0.0	NB
N	<i>Coscinodon cribrosus</i>	Sieve-Toothed Moss				S1	2 May Be At Risk	1	43.0 ± 0.0	NB
N	<i>Cladonia metacorallifera</i>	Reptilian Pixie-cup Lichen				S1	5 Undetermined	5	42.0 ± 1.0	NB
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen				S1	2 May Be At Risk	1	56.0 ± 1.0	NB
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S1	2 May Be At Risk	1	80.8 ± 0.0	NS
N	<i>Peltigera malacea</i>	Veinless Pelt Lichen				S1	5 Undetermined	1	44.5 ± 1.0	NB
N	<i>Bryoria bicolor</i>	Electrified Horsehair Lichen				S1	2 May Be At Risk	1	44.5 ± 1.0	NB
N	<i>Hygrobiella laxifolia</i>	Lax Notchwort				S1?	6 Not Assessed	1	42.1 ± 1.0	NB
N	<i>Bartramia ithyphylla</i>	Straight-leaved Apple Moss				S1?	2 May Be At Risk	2	42.1 ± 0.0	NB
N	<i>Calliergon trifarium</i>	Three-ranked Moss				S1?	2 May Be At Risk	1	51.2 ± 0.0	NB
N	<i>Dichelyma falcatum</i>	a Moss				S1?	2 May Be At Risk	2	53.4 ± 1.0	NB
N	<i>Dicranum bonjeanii</i>	Bonjean's Broom Moss				S1?	2 May Be At Risk	2	93.4 ± 0.0	NS
N	<i>Dicranum condensatum</i>	Condensed Broom Moss				S1?	2 May Be At Risk	2	52.8 ± 0.0	NB
N	<i>Entodon brevisetus</i>	a Moss				S1?	2 May Be At Risk	1	63.6 ± 10.0	NB
N	<i>Eurhynchium hians</i>	Light Beaked Moss				S1?	2 May Be At Risk	3	25.2 ± 0.0	NB
N	<i>Homomallium adnatum</i>	Adnate Hairy-gray Moss				S1?	2 May Be At Risk	3	63.6 ± 10.0	NB
N	<i>Plagiothecium latebricola</i>	Alder Silk Moss				S1?	2 May Be At Risk	2	48.0 ± 0.0	NB
N	<i>Rhytidium rugosum</i>	Wrinkle-leaved Moss				S1?	2 May Be At Risk	2	26.1 ± 0.0	NB
N	<i>Seligeria recurvata</i>	a Moss				S1?	2 May Be At Risk	3	71.7 ± 1.0	NB
N	<i>Splachnum pennsylvanicum</i>	Southern Dung Moss				S1?	2 May Be At Risk	1	82.0 ± 1.0	NB
N	<i>Cephaloziella spinigera</i>	Spiny Threadwort				S1S2	6 Not Assessed	2	85.1 ± 0.0	NB
N	<i>Cladopodiella francisci</i>	Holt's Notchwort				S1S2	6 Not Assessed	4	48.9 ± 1.0	NB
N	<i>Harpanthus flotvianus</i>	Great Mountain Flapwort				S1S2	6 Not Assessed	2	43.4 ± 1.0	NB
N	<i>Jungermannia obovata</i>	Egg Flapwort				S1S2	6 Not Assessed	2	31.5 ± 0.0	NB
N	<i>Pallavicinia lyellii</i>	Lyell's Ribbonwort				S1S2	6 Not Assessed	2	36.0 ± 1.0	NB
N	<i>Radula tenax</i>	Tenacious Scalewort				S1S2	6 Not Assessed	1	53.4 ± 0.0	NB
N	<i>Brachythecium acuminatum</i>	Acuminate Ragged Moss				S1S2	5 Undetermined	6	46.0 ± 100.0	NB
N	<i>Bryum salinum</i>	a Moss				S1S2	2 May Be At Risk	2	48.8 ± 1.0	NB
N	<i>Campyllum radicale</i>	Long-stalked Fine Wet Moss				S1S2	5 Undetermined	2	91.2 ± 3.0	NS
N	<i>Tortula obtusifolia</i>	a Moss				S1S2	2 May Be At Risk	1	16.1 ± 0.0	NB
N	<i>Distichium inclinatum</i>	Inclined Iris Moss				S1S2	2 May Be At Risk	5	48.7 ± 0.0	NB
N	<i>Ditrichum pallidum</i>	Pale Cow-hair Moss				S1S2	2 May Be At Risk	2	45.6 ± 1.0	NB
N	<i>Drummondia prorepens</i>	a Moss				S1S2	2 May Be At Risk	1	91.8 ± 0.0	NS
N	<i>Hygrohypnum bestii</i>	Best's Brook Moss				S1S2	3 Sensitive	5	33.5 ± 0.0	NB
N	<i>Timmia norvegica</i>	a moss				S1S2	2 May Be At Risk	3	15.4 ± 0.0	NB
N	<i>Timmia norvegica var. excurrens</i>	a moss				S1S2	2 May Be At Risk	1	48.7 ± 0.0	NB
N	<i>Tomentypnum falcifolium</i>	Sickle-leaved Golden Moss				S1S2	2 May Be At Risk	1	71.4 ± 1.0	NB
N	<i>Tortella humilis</i>	Small Crisp Moss				S1S2	2 May Be At Risk	7	42.4 ± 0.0	NB
N	<i>Pseudotaxiphyllum distichaceum</i>	a Moss				S1S2	2 May Be At Risk	3	80.1 ± 1.0	NB
N	<i>Hamatocaulis vernicosus</i>	a Moss				S1S2	2 May Be At Risk	1	19.3 ± 100.0	NB
N	<i>Bryohaplocladium microphyllum</i>	Tiny-leaved Haplocladium Moss				S1S2	2 May Be At Risk	1	69.1 ± 3.0	NS
N	<i>Umbilicaria vellea</i>	Grizzled Rocktripe Lichen				S1S2	5 Undetermined	1	48.8 ± 1.0	NB
N	<i>Peltigera scabrosa</i>	Greater Toad Pelt Lichen				S1S2	2 May Be At Risk	4	53.2 ± 1.0	NB
N	<i>Calypogeia neesiana</i>	Nees' Pouchwort				S1S3	6 Not Assessed	1	19.7 ± 1.0	NB
N	<i>Cephaloziella elachista</i>	Spurred Threadwort				S1S3	6 Not Assessed	1	51.3 ± 5.0	NB
N	<i>Porella pinnata</i>	Pinnate Scalewort				S1S3	6 Not Assessed	1	18.5 ± 1.0	NB

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N	<i>Tritomaria scitula</i>	Mountain Notchwort				S1S3	6 Not Assessed	1	55.6 ± 1.0	NB
N	<i>Amphidium mougeotii</i>	a Moss				S2	3 Sensitive	12	42.1 ± 0.0	NB
N	<i>Anomodon viticulosus</i>	a Moss				S2	2 May Be At Risk	6	20.5 ± 0.0	NB
N	<i>Cirriophyllum piliferum</i>	Hair-pointed Moss				S2	3 Sensitive	4	28.0 ± 0.0	NB
N	<i>Dicranella palustris</i>	Drooping-Leaved Fork Moss				S2	3 Sensitive	10	23.6 ± 100.0	NB
N	<i>Didymodon ferrugineus</i>	a moss				S2	3 Sensitive	2	20.1 ± 1.0	NB
N	<i>Anomodon tristis</i>	a Moss				S2	2 May Be At Risk	8	48.7 ± 10.0	NB
N	<i>Hypnum pratense</i>	Meadow Plait Moss				S2	3 Sensitive	2	48.0 ± 0.0	NB
N	<i>Isopterygiopsis pulchella</i>	Neat Silk Moss				S2	3 Sensitive	8	48.1 ± 0.0	NB
N	<i>Meesia triquetra</i>	Three-ranked Cold Moss				S2	2 May Be At Risk	1	46.0 ± 100.0	NB
N	<i>Physcomitrium immersum</i>	a Moss				S2	3 Sensitive	6	18.5 ± 1.0	NB
N	<i>Platydictya jungermannioides</i>	False Willow Moss				S2	3 Sensitive	4	43.6 ± 0.0	NB
N	<i>Pohlia elongata</i>	Long-necked Nodding Moss				S2	3 Sensitive	10	42.4 ± 0.0	NB
N	<i>Seligeria calcarea</i>	Chalk Brittle Moss				S2	3 Sensitive	2	53.2 ± 0.0	NB
N	<i>Sphagnum centrale</i>	Central Peat Moss				S2	3 Sensitive	8	42.4 ± 0.0	NB
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss				S2	3 Sensitive	8	17.8 ± 5.0	NB
N	<i>Sphagnum flexuosum</i>	Flexuous Peatmoss				S2	3 Sensitive	2	50.1 ± 0.0	NB
N	<i>Tayloria serrata</i>	Serrate Trumpet Moss				S2	3 Sensitive	8	20.2 ± 1.0	NB
N	<i>Tetrodontium brownianum</i>	Little Georgia				S2	3 Sensitive	7	48.2 ± 1.0	NB
N	<i>Tetraplodon mnioides</i>	Entire-leaved Nitrogen Moss				S2	3 Sensitive	3	73.6 ± 0.0	NB
N	<i>Thamnobryum alleghaniense</i>	a Moss				S2	3 Sensitive	13	15.1 ± 0.0	NB
N	<i>Tortula mucronifolia</i>	Mucronate Screw Moss				S2	3 Sensitive	1	43.0 ± 0.0	NB
N	<i>Ulota phyllantha</i>	a Moss				S2	3 Sensitive	5	48.4 ± 1.0	NB
N	<i>Anomobryum filiforme</i>	a moss				S2	5 Undetermined	5	17.0 ± 0.0	NB
N	<i>Cladonia macrophylla</i>	Fig-leaved Lichen				S2	5 Undetermined	3	51.3 ± 1.0	NB
N	<i>Fuscopannaria leucosticta</i>	Rimmed Shingles Lichen				S2	2 May Be At Risk	5	17.7 ± 0.0	NB
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S2	2 May Be At Risk	1	74.4 ± 0.0	NB
N	<i>Nephroma laevigatum</i>	Mustard Kidney Lichen				S2	2 May Be At Risk	2	70.2 ± 0.0	NS
N	<i>Andreaea rothii</i>	a Moss				S2?	3 Sensitive	6	27.7 ± 0.0	NB
N	<i>Anomodon minor</i>	Blunt-leaved Anomodon Moss				S2?	2 May Be At Risk	1	64.5 ± 1.0	NB
N	<i>Brachythecium digastrum</i>	a Moss				S2?	3 Sensitive	2	51.4 ± 0.0	NB
N	<i>Bryum pallescens</i>	Pale Bryum Moss				S2?	5 Undetermined	2	42.4 ± 1.0	NB
N	<i>Dichelyma capillaceum</i>	Hairlike Dichelyma Moss				S2?	3 Sensitive	1	64.1 ± 3.0	NB
N	<i>Dicranum spurium</i>	Spurred Broom Moss				S2?	3 Sensitive	1	66.1 ± 0.0	NB
N	<i>Hygrohypnum montanum</i>	a Moss				S2?	3 Sensitive	2	26.3 ± 1.0	NB
N	<i>Schistostega pennata</i>	Luminous Moss				S2?	3 Sensitive	3	23.6 ± 100.0	NB
N	<i>Seligeria campylopoda</i>	a Moss				S2?	3 Sensitive	1	19.3 ± 100.0	NB
N	<i>Seligeria diversifolia</i>	a Moss				S2?	3 Sensitive	2	17.0 ± 0.0	NB
N	<i>Sphagnum angermanicum</i>	a Peatmoss				S2?	3 Sensitive	3	67.3 ± 10.0	NB
N	<i>Trichodon cylindricus</i>	Cylindric Hairy-teeth Moss				S2?	3 Sensitive	3	71.7 ± 10.0	NB
N	<i>Plagiomnium rostratum</i>	Long-beaked Leafy Moss				S2?	3 Sensitive	7	15.0 ± 0.0	NB
N	<i>Ramalina pollinaria</i>	Chalky Ramalina Lichen				S2?	5 Undetermined	1	51.8 ± 1.0	NB
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen				S2?	3 Sensitive	1	45.1 ± 1.0	NB
N	<i>Bryum uliginosum</i>	a Moss				S2S3	3 Sensitive	2	23.1 ± 4.0	NB
N	<i>Buxbaumia aphylla</i>	Brown Shield Moss				S2S3	3 Sensitive	4	91.2 ± 3.0	NS
N	<i>Calliergonella cuspidata</i>	Common Large Wetland Moss				S2S3	3 Sensitive	8	32.1 ± 0.0	NB
N	<i>Campyllum polygamum</i>	a Moss				S2S3	3 Sensitive	1	45.1 ± 0.0	NB

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N	<i>Palustriella falcata</i>	a Moss				S2S3	3 Sensitive	2	42.1 ± 0.0	NB
N	<i>Didymodon rigidulus</i>	Rigid Screw Moss				S2S3	3 Sensitive	8	48.7 ± 0.0	NB
N	<i>Ephemerum serratum</i>	a Moss				S2S3	3 Sensitive	4	28.9 ± 0.0	NB
N	<i>Orthotrichum speciosum</i>	Showy Bristle Moss				S2S3	5 Undetermined	2	85.4 ± 1.0	NS
N	<i>Pohlia prolifera</i>	Cottony Nodding Moss				S2S3	3 Sensitive	5	48.4 ± 1.0	NB
N	<i>Racomitrium fasciculare</i>	a Moss				S2S3	3 Sensitive	3	42.1 ± 0.0	NB
N	<i>Racomitrium affine</i>	a Moss				S2S3	3 Sensitive	1	52.6 ± 1.0	NB
N	<i>Saelenium glaucescens</i>	Blue Dew Moss				S2S3	3 Sensitive	2	53.0 ± 0.0	NB
N	<i>Scorpidium scorpioides</i>	Hooked Scorpion Moss				S2S3	3 Sensitive	4	32.1 ± 0.0	NB
N	<i>Sphagnum subfulvum</i>	a Peatmoss				S2S3	2 May Be At Risk	3	71.4 ± 1.0	NB
N	<i>Taxiphyllum deplanatum</i>	Imbricate Yew-leaved Moss				S2S3	3 Sensitive	3	52.9 ± 1.0	NB
N	<i>Zygodon viridissimus</i>	a Moss				S2S3	2 May Be At Risk	3	52.9 ± 1.0	NB
N	<i>Schistidium agassizii</i>	Elf Bloom Moss				S2S3	3 Sensitive	3	42.2 ± 0.0	NB
N	<i>Loeskeobryum brevirostre</i>	a Moss				S2S3	3 Sensitive	15	34.2 ± 2.0	NB
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2S3	3 Sensitive	6	42.1 ± 0.0	NB
N	<i>Cladonia acuminata</i>	Scantly Clad Pixie Lichen				S2S3	5 Undetermined	2	46.0 ± 1.0	NB
N	<i>Cladonia ramulosa</i>	Bran Lichen				S2S3	5 Undetermined	4	49.5 ± 1.0	NB
N	<i>Cladonia sulphurina</i>	Greater Sulphur-cup Lichen				S2S3	5 Undetermined	1	57.9 ± 1.0	NB
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen				S2S3	5 Undetermined	1	43.5 ± 1.0	NB
N	<i>Sphaerophorus globosus</i>	Northern Coral Lichen				S2S3	3 Sensitive	5	42.2 ± 1.0	NB
N	<i>Cynodontium tenellum</i>	Delicate Dogtooth Moss				S3	3 Sensitive	1	80.1 ± 1.0	NB
N	<i>Hypnum curvifolium</i>	Curved-leaved Plait Moss				S3	3 Sensitive	19	42.1 ± 0.0	NB
N	<i>Tortella fragilis</i>	Fragile Twisted Moss				S3	3 Sensitive	1	48.7 ± 0.0	NB
N	<i>Schistidium maritimum</i>	a Moss				S3	4 Secure	6	48.4 ± 1.0	NB
N	<i>Hymenostylium recurvirostre</i>	Hymenostylium Moss				S3	3 Sensitive	4	48.4 ± 1.0	NB
N	<i>Collema nigrescens</i>	Blistered Tarpaper Lichen				S3	3 Sensitive	1	98.6 ± 0.0	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen				S3	5 Undetermined	6	43.5 ± 1.0	NB
N	<i>Normandina pulchella</i>	Rimmed Elf-ear Lichen				S3	5 Undetermined	4	44.7 ± 1.0	NB
N	<i>Cladonia farinacea</i>	Farinose Pixie Lichen				S3	5 Undetermined	5	51.3 ± 1.0	NB
N	<i>Cladonia strepsilis</i>	Olive Cladonia Lichen				S3	4 Secure	1	19.6 ± 0.0	NB
N	<i>Leptogium lichenoides</i>	Tattered Jellyskin Lichen				S3	5 Undetermined	6	48.8 ± 1.0	NB
N	<i>Nephroma bellum</i>	Naked Kidney Lichen				S3	4 Secure	3	43.8 ± 1.0	NB
N	<i>Peltigera degenii</i>	Lustrous Pelt Lichen				S3	5 Undetermined	3	44.4 ± 1.0	NB
N	<i>Usnea strigosa</i>	Bushy Beard Lichen				S3	5 Undetermined	2	54.6 ± 1.0	NB
N	<i>Leptogium laceroides</i>	Short-bearded Jellyskin Lichen				S3	3 Sensitive	2	49.9 ± 1.0	NB
N	<i>Peltigera membranacea</i>	Membranous Pelt Lichen				S3	5 Undetermined	6	43.5 ± 1.0	NB
N	<i>Cladonia carneola</i>	Crowned Pixie-cup Lichen				S3	5 Undetermined	1	51.3 ± 1.0	NB
N	<i>Cladonia deformis</i>	Lesser Sulphur-cup Lichen				S3	4 Secure	5	42.0 ± 1.0	NB
N	<i>Aulacomnium androgynum</i>	Little Groove Moss				S3?	4 Secure	8	48.4 ± 1.0	NB
N	<i>Bryum amblyodon</i>	a Moss				S3?	4 Secure	1	96.0 ± 3.0	NS
N	<i>Dicranella rufescens</i>	Red Forklet Moss				S3?	5 Undetermined	3	48.7 ± 0.0	NB
N	<i>Rhytidiadelphus loreus</i>	Lanky Moss				S3?	2 May Be At Risk	1	48.9 ± 1.0	NB
N	<i>Sphagnum lescurii</i>	a Peatmoss				S3?	5 Undetermined	5	26.3 ± 1.0	NB
N	<i>Stereocaulon subcoralloides</i>	Coralloid Foam Lichen				S3?	5 Undetermined	1	51.8 ± 1.0	NB
N	<i>Anomodon rugelii</i>	Rugel's Anomodon Moss				S3S4	3 Sensitive	2	70.7 ± 1.0	NS
N	<i>Barbula convoluta</i>	Lesser Bird's-claw Beard Moss				S3S4	4 Secure	1	97.5 ± 15.0	NB
N	<i>Brachythecium</i>	Velvet Ragged Moss				S3S4	4 Secure	7	43.5 ± 1.0	NB

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N	<i>Calliergon giganteum</i>	Giant Spear Moss				S3S4	3 Sensitive	1	91.2 ± 3.0	NS
N	<i>Dicranella cerviculata</i>	a Moss				S3S4	3 Sensitive	5	48.0 ± 2.0	NB
N	<i>Dicranella varia</i>	a Moss				S3S4	4 Secure	1	76.6 ± 3.0	NS
N	<i>Dicranum majus</i>	Greater Broom Moss				S3S4	4 Secure	18	47.3 ± 0.0	NB
N	<i>Dicranum leioneuron</i>	a Dicranum Moss				S3S4	4 Secure	1	47.4 ± 0.0	NB
N	<i>Encalypta ciliata</i>	Fringed Extinguisher Moss				S3S4	3 Sensitive	2	49.0 ± 0.0	NB
N	<i>Fissidens bryoides</i>	Lesser Pocket Moss				S3S4	4 Secure	3	20.8 ± 5.0	NB
N	<i>Helodium blandowii</i>	Wetland-plume Moss				S3S4	4 Secure	1	94.5 ± 3.0	NS
N	<i>Heterocladium dimorphum</i>	Dimorphous Tangle Moss				S3S4	4 Secure	4	52.2 ± 0.0	NB
N	<i>Isopterygiopsis muelleriana</i>	a Moss				S3S4	4 Secure	18	48.1 ± 0.0	NB
N	<i>Myurella julacea</i>	Small Mouse-tail Moss				S3S4	4 Secure	2	48.3 ± 0.0	NB
N	<i>Physcomitrium pyriforme</i>	Pear-shaped Urn Moss				S3S4	3 Sensitive	5	27.8 ± 0.0	NB
N	<i>Pogonatum dentatum</i>	Mountain Hair Moss				S3S4	4 Secure	4	48.5 ± 0.0	NB
N	<i>Sphagnum quinquefarium</i>	Five-ranked Peat Moss				S3S4	4 Secure	1	47.6 ± 0.0	NB
N	<i>Sphagnum torreyanum</i>	a Peatmoss				S3S4	4 Secure	5	29.9 ± 0.0	NB
N	<i>Sphagnum austinii</i>	Austin's Peat Moss				S3S4	4 Secure	1	56.3 ± 1.0	NB
N	<i>Sphagnum contortum</i>	Twisted Peat Moss				S3S4	4 Secure	1	32.1 ± 0.0	NB
N	<i>Splachnum rubrum</i>	Red Collar Moss				S3S4	4 Secure	1	26.1 ± 1.0	NB
N	<i>Tetraphis geniculata</i>	Geniculate Four-tooth Moss				S3S4	4 Secure	16	45.8 ± 3.0	NB
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss				S3S4	4 Secure	3	27.2 ± 0.0	NB
N	<i>Weissia controversa</i>	Green-Cushioned Weissia				S3S4	4 Secure	2	48.4 ± 1.0	NB
N	<i>Abietinella abietina</i>	Wiry Fern Moss				S3S4	4 Secure	1	48.7 ± 0.0	NB
N	<i>Trichostomum tenuirostre</i>	Acid-Soil Moss				S3S4	4 Secure	5	42.1 ± 0.0	NB
N	<i>Pannaria rubiginosa</i>	Brown-eyed Shingle Lichen				S3S4	3 Sensitive	2	47.6 ± 1.0	NB
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen				S3S4	5 Undetermined	11	42.0 ± 1.0	NB
N	<i>Hypogymnia vittata</i>	Slender Monk's Hood Lichen				S3S4	4 Secure	22	42.2 ± 1.0	NB
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen				S3S4	4 Secure	5	19.6 ± 0.0	NB
N	<i>Hypocenomyce friesii</i>	a Lichen				S3S4	5 Undetermined	1	48.8 ± 1.0	NB
N	<i>Melanelia panniformis</i>	Shingled Camouflage Lichen				S3S4	5 Undetermined	4	44.5 ± 1.0	NB
N	<i>Nephroma parile</i>	Powdery Kidney Lichen				S3S4	4 Secure	9	16.3 ± 0.0	NB
N	<i>Protopannaria pezizoides</i>	Brown-gray Moss-shingle Lichen				S3S4	4 Secure	14	25.4 ± 0.0	NB
N	<i>Pseudocyphellaria perpetua</i>	Gilded Specklebelly Lichen				S3S4	3 Sensitive	46	42.4 ± 0.0	NB
N	<i>Pannaria conoplea</i>	Mealy-rimmed Shingle Lichen				S3S4	3 Sensitive	2	57.9 ± 0.0	NS
N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen				S3S4	3 Sensitive	19	50.0 ± 1.0	NB
N	<i>Peltigera neopolydactyla</i>	Undulating Pelt Lichen				S3S4	5 Undetermined	8	43.5 ± 1.0	NB
N	<i>Cladonia cariosa</i>	Lesser Ribbed Pixie Lichen				S3S4	4 Secure	3	53.3 ± 1.0	NB
N	<i>Hypocenomyce scalaris</i>	Common Clam Lichen				S3S4	5 Undetermined	1	51.8 ± 1.0	NB
N	<i>Dermatocarpon luridum</i>	Brookside Stippleback Lichen				S3S4	4 Secure	15	16.3 ± 0.0	NB
N	<i>Grimmia anodon</i>	Toothless Grimmia Moss				SH	5 Undetermined	2	40.7 ± 10.0	NB
N	<i>Leucodon brachypus</i>	a Moss				SH	2 May Be At Risk	9	50.7 ± 0.0	NB
N	<i>Thelia hirtella</i>	a Moss				SH	2 May Be At Risk	1	46.0 ± 100.0	NB
N	<i>Cyrto-hypnum minutulum</i>	Tiny Cedar Moss				SH	2 May Be At Risk	3	61.5 ± 10.0	NB
P	<i>Juglans cinerea</i>	Butternut	Endangered	Endangered	Endangered	S1	1 At Risk	35	17.7 ± 1.0	NB
P	<i>Polemonium</i>	Van Brunt's Jacob's-ladder	Threatened	Threatened	Threatened	S1	1 At Risk	72	75.5 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>vanbruntiae</i>									
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Endangered	S2	1 At Risk	6	50.2 ± 0.0	NB
P	<i>Cryptotaenia canadensis</i>	Canada Honewort				S1	2 May Be At Risk	1	29.2 ± 1.0	NB
P	<i>Sanicula trifoliata</i>	Large-Fruited Sanicle				S1	2 May Be At Risk	1	17.4 ± 5.0	NB
P	<i>Antennaria parlinii</i>	a Pussytoes				S1	2 May Be At Risk	5	43.2 ± 1.0	NB
P	<i>Antennaria howellii</i>	Pussy-Toes				S1	2 May Be At Risk	2	42.4 ± 5.0	NB
P	<i>ssp. petaloidea</i>									
P	<i>Bidens discoidea</i>	Swamp Beggarticks				S1	2 May Be At Risk	3	67.9 ± 0.0	NB
P	<i>Pseudognaphalium obtusifolium</i>	Eastern Cudweed				S1	2 May Be At Risk	8	68.0 ± 1.0	NB
P	<i>Hieracium kalmii</i>	Kalm's Hawkweed				S1	2 May Be At Risk	3	67.6 ± 1.0	NB
P	<i>Hieracium kalmii</i> var. <i>kalmii</i>	Kalm's Hawkweed				S1	2 May Be At Risk	4	68.4 ± 1.0	NB
P	<i>Hieracium paniculatum</i>	Panicled Hawkweed				S1	2 May Be At Risk	17	27.8 ± 0.0	NB
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S1	3 Sensitive	9	42.2 ± 0.0	NB
P	<i>Solidago multiradiata</i>	Multi-rayed Goldenrod				S1	2 May Be At Risk	19	83.6 ± 0.0	NB
P	<i>Cynoglossum virginianum</i> var. <i>boreale</i>	Wild Comfrey				S1	2 May Be At Risk	2	98.4 ± 0.0	NS
P	<i>Cardamine parviflora</i> var. <i>arenicola</i>	Small-flowered Bittercress				S1	2 May Be At Risk	8	29.6 ± 0.0	NB
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S1	2 May Be At Risk	23	18.3 ± 1.0	NB
P	<i>Draba glabella</i>	Rock Whitlow-Grass				S1	2 May Be At Risk	13	32.0 ± 0.0	NB
P	<i>Minuartia groenlandica</i>	Greenland Stitchwort				S1	2 May Be At Risk	1	58.3 ± 0.0	NB
P	<i>Chenopodium capitatum</i>	Strawberry-blite				S1	2 May Be At Risk	4	15.4 ± 1.0	NB
P	<i>Chenopodium simplex</i>	Maple-leaved Goosefoot				S1	2 May Be At Risk	9	30.7 ± 1.0	NB
P	<i>Suaeda rolandii</i>	Roland's Sea-Blite				S1	3 Sensitive	3	55.0 ± 0.0	NB
P	<i>Triadenum virginicum</i>	Virginia St John's-wort				S1	2 May Be At Risk	2	42.0 ± 0.0	NB
P	<i>Corema conradii</i>	Broom Crowberry				S1	2 May Be At Risk	7	42.7 ± 10.0	NB
P	<i>Vaccinium boreale</i>	Northern Blueberry				S1	2 May Be At Risk	2	62.8 ± 0.0	NS
P	<i>Desmodium glutinosum</i>	Large Tick-Trefoil				S1	2 May Be At Risk	16	80.6 ± 0.0	NS
P	<i>Lespedeza capitata</i>	Round-headed Bush-clover				S1	2 May Be At Risk	8	57.6 ± 0.0	NB
P	<i>Gentiana rubricaulis</i>	Purple-stemmed Gentian				S1	2 May Be At Risk	1	89.6 ± 0.0	NB
P	<i>Proserpinaca pectinata</i>	Comb-leaved Mermaidweed				S1	2 May Be At Risk	2	79.4 ± 0.0	NB
P	<i>Pycnanthemum virginianum</i>	Virginia Mountain Mint				S1	2 May Be At Risk	4	27.8 ± 0.0	NB
P	<i>Lysimachia quadrifolia</i>	Whorled Yellow Loosestrife				S1	2 May Be At Risk	14	24.7 ± 0.0	NB
P	<i>Primula laurentiana</i>	Laurentian Primrose				S1	2 May Be At Risk	37	47.8 ± 0.0	NB
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S1	2 May Be At Risk	4	47.5 ± 0.0	NB
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry				S1	2 May Be At Risk	1	78.8 ± 1.0	NB
P	<i>Crataegus jonesiae</i>	Jones' Hawthorn				S1	2 May Be At Risk	4	91.8 ± 1.0	NB
P	<i>Dryas integrifolia</i>	Entire-leaved Mountain Avens				S1	2 May Be At Risk	14	85.2 ± 0.0	NB
P	<i>Potentilla canadensis</i>	Canada Cinquefoil				S1	5 Undetermined	1	78.9 ± 0.0	NB
P	<i>Salix myrtillofolia</i>	Blueberry Willow				S1	2 May Be At Risk	24	85.7 ± 0.0	NB
P	<i>Saxifraga paniculata</i> ssp. <i>neogaea</i>	White Mountain Saxifrage				S1	2 May Be At Risk	34	24.0 ± 0.0	NB
P	<i>Agalinis paupercula</i> var. <i>borealis</i>	Small-flowered Agalinis				S1	2 May Be At Risk	7	21.4 ± 1.0	NB
P	<i>Agalinis tenuifolia</i>	Slender Agalinis				S1	2 May Be At Risk	6	89.4 ± 0.0	NB
P	<i>Gratiola aurea</i>	Golden Hedge-Hyssop				S1	3 Sensitive	2	57.1 ± 0.0	NB
P	<i>Pedicularis canadensis</i>	Canada Lousewort				S1	2 May Be At Risk	1	97.4 ± 0.0	NB
P	<i>Viola sagittata</i> var. <i>ovata</i>	Arrow-Leaved Violet				S1	2 May Be At Risk	31	69.4 ± 2.0	NS
P	<i>Alisma subcordatum</i>	Southern Water Plantain				S1	5 Undetermined	2	18.3 ± 0.0	NB

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P	<i>Carex atlantica</i> ssp. <i>atlantica</i>	Atlantic Sedge				S1	2 May Be At Risk	4	29.7 ± 0.0	NB
P	<i>Carex backii</i>	Rocky Mountain Sedge				S1	2 May Be At Risk	3	28.5 ± 0.0	NB
P	<i>Carex merritt-fernaldii</i>	Merritt Fernald's Sedge				S1	2 May Be At Risk	1	60.8 ± 0.0	NB
P	<i>Carex saxatilis</i>	Russet Sedge				S1	2 May Be At Risk	13	25.3 ± 10.0	NB
P	<i>Carex scirpoidea</i>	Scirpuslike Sedge				S1	2 May Be At Risk	6	24.1 ± 0.0	NB
P	<i>Carex sterilis</i>	Sterile Sedge				S1	2 May Be At Risk	1	66.1 ± 2.0	NB
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge				S1	2 May Be At Risk	9	25.7 ± 0.0	NB
P	<i>Cyperus diandrus</i>	Low Flatsedge				S1	2 May Be At Risk	4	89.4 ± 1.0	NB
P	<i>Cyperus lupulinus</i>	Hop Flatsedge				S1	2 May Be At Risk	6	61.1 ± 0.0	NB
P	<i>Cyperus lupulinus</i> ssp. <i>macilentus</i>	Hop Flatsedge				S1	2 May Be At Risk	16	55.8 ± 0.0	NB
P	<i>Scirpus pendulus</i>	Hanging Bulrush				S1	2 May Be At Risk	5	60.6 ± 0.0	NB
P	<i>Sisyrinchium angustifolium</i>	Narrow-leaved Blue-eyed-grass				S1	2 May Be At Risk	13	42.6 ± 1.0	NB
P	<i>Juncus greenii</i>	Greene's Rush				S1	2 May Be At Risk	1	90.3 ± 0.0	NB
P	<i>Juncus subtilis</i>	Creeping Rush				S1	2 May Be At Risk	1	43.8 ± 5.0	NB
P	<i>Allium canadense</i>	Canada Garlic				S1	2 May Be At Risk	1	28.3 ± 0.0	NB
P	<i>Goodyera pubescens</i>	Downy Rattlesnake-Plantain				S1	2 May Be At Risk	7	39.5 ± 0.0	NB
P	<i>Malaxis brachypoda</i>	White Adder's-Mouth				S1	2 May Be At Risk	2	56.3 ± 0.0	NS
P	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid				S1	2 May Be At Risk	26	76.5 ± 1.0	NS
P	<i>Platanthera macrophylla</i>	Large Round-Leaved Orchid				S1	2 May Be At Risk	2	25.7 ± 1.0	NB
P	<i>Bromus pubescens</i>	Hairy Wood Brome Grass				S1	5 Undetermined	6	61.3 ± 0.0	NB
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass				S1	2 May Be At Risk	6	26.1 ± 0.0	NB
P	<i>Danthonia compressa</i>	Flattened Oat Grass				S1	2 May Be At Risk	17	28.7 ± 1.0	NB
P	<i>Dichanthelium dichotomum</i>	Forked Panic Grass				S1	2 May Be At Risk	1	26.8 ± 1.0	NB
P	<i>Festuca subverticillata</i>	Nodding Fescue				S1	2 May Be At Risk	2	58.5 ± 1.0	NS
P	<i>Glyceria obtusa</i>	Atlantic Manna Grass				S1	2 May Be At Risk	2	79.1 ± 0.0	NB
P	<i>Potamogeton friesii</i>	Fries' Pondweed				S1	2 May Be At Risk	8	47.1 ± 5.0	NB
P	<i>Potamogeton nodosus</i>	Long-leaved Pondweed				S1	2 May Be At Risk	4	77.1 ± 5.0	NB
P	<i>Potamogeton strictifolius</i>	Straight-leaved Pondweed				S1	2 May Be At Risk	2	17.4 ± 2.0	NB
P	<i>Xyris difformis</i>	Bog Yellow-eyed-grass				S1	5 Undetermined	3	42.1 ± 0.0	NB
P	<i>Asplenium ruta-muraria</i> var. <i>cryptolepis</i>	Wallrue Spleenwort				S1	2 May Be At Risk	3	31.6 ± 0.0	NB
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern				S1	2 May Be At Risk	1	25.7 ± 1.0	NB
P	<i>Dryopteris filix-mas</i>	Male Fern				S1	2 May Be At Risk	2	73.1 ± 1.0	NB
P	<i>Botrychium oneidense</i>	Blunt-lobed Moonwort				S1	2 May Be At Risk	4	73.5 ± 5.0	NB
P	<i>Schizaea pusilla</i>	Little Curlygrass Fern				S1	2 May Be At Risk	25	26.2 ± 0.0	NB
P	<i>Hieracium kalmii</i> var. <i>fasciculatum</i>	Kalm's Hawkweed				S1?	5 Undetermined	1	93.1 ± 1.0	NB
P	<i>Cuscuta campestris</i>	Field Dodder				S1?	2 May Be At Risk	3	56.0 ± 5.0	NB
P	<i>Carex laxiflora</i>	Loose-Flowered Sedge				S1?	5 Undetermined	3	55.8 ± 7.0	NS
P	<i>Wolffia columbiana</i>	Columbian Watermeal				S1?	2 May Be At Risk	5	70.9 ± 0.0	NB
P	<i>Rumex aquaticus</i> var. <i>fenestratus</i>	Western Dock				S1S2	2 May Be At Risk	1	93.2 ± 1.0	NB
P	<i>Potamogeton bicupulatus</i>	Snailseed Pondweed				S1S2	2 May Be At Risk	5	63.5 ± 0.0	NB
P	<i>Selaginella rupestris</i>	Rock Spikemoss				S1S2	2 May Be At Risk	8	25.9 ± 1.0	NB
P	<i>Thelypteris simulata</i>	Bog Fern				S1S2	2 May Be At Risk	7	60.0 ± 0.0	NB
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S1S3	2 May Be At Risk	2	33.0 ± 0.0	NB
P	<i>Listera australis</i>	Southern Twayblade			Endangered	S2	1 At Risk	13	75.5 ± 0.0	NB
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2	3 Sensitive	2	91.0 ± 1.0	NS
P	<i>Sanicula odorata</i>	Clustered Sanicle				S2	2 May Be At Risk	4	91.1 ± 2.0	NS

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P	<i>Pseudognaphalium macounii</i>	Macoun's Cudweed				S2	3 Sensitive	3	43.0 ± 0.0	NB
P	<i>Symphotrichum racemosum</i>	Small White Aster				S2	3 Sensitive	8	16.3 ± 0.0	NB
P	<i>Impatiens pallida</i>	Pale Jewelweed				S2	2 May Be At Risk	6	24.5 ± 0.0	NB
P	<i>Alnus serrulata</i>	Smooth Alder				S2	3 Sensitive	8	46.5 ± 0.0	NB
P	<i>Arabis drummondii</i>	Drummond's Rockcross				S2	3 Sensitive	19	18.3 ± 0.0	NB
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S2	3 Sensitive	5	80.1 ± 3.0	NS
P	<i>Sagina nodosa ssp. borealis</i>	Knotted Pearlwort				S2	3 Sensitive	1	61.1 ± 0.0	NB
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S2	3 Sensitive	7	18.1 ± 1.0	NB
P	<i>Atriplex franktonii</i>	Frankton's Saltbush				S2	4 Secure	3	16.9 ± 1.0	NB
P	<i>Chenopodium rubrum</i>	Red Pigweed				S2	3 Sensitive	4	41.7 ± 1.0	NB
P	<i>Hypericum dissimulatum</i>	Disguised St John's-wort				S2	3 Sensitive	3	79.1 ± 0.0	NB
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S2	3 Sensitive	7	64.3 ± 0.0	NB
P	<i>Shepherdia canadensis</i>	Soapberry				S2	3 Sensitive	41	85.1 ± 0.0	NB
P	<i>Astragalus eucosmus</i>	Elegant Milk-vetch				S2	2 May Be At Risk	3	20.6 ± 0.0	NB
P	<i>Oxytropis campestris var. johannensis</i>	Field Locoweed				S2	3 Sensitive	27	32.4 ± 50.0	NB
P	<i>Quercus macrocarpa</i>	Bur Oak				S2	2 May Be At Risk	46	25.3 ± 1.0	NB
P	<i>Gentiana linearis</i>	Narrow-Leaved Gentian				S2	3 Sensitive	5	95.2 ± 5.0	NB
P	<i>Myriophyllum humile</i>	Low Water Milfoil				S2	3 Sensitive	6	45.2 ± 1.0	NB
P	<i>Proserpinaca palustris var. crebra</i>	Marsh Mermaidweed				S2	3 Sensitive	8	30.3 ± 0.0	NB
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2	4 Secure	15	26.3 ± 1.0	NB
P	<i>Nuphar lutea ssp. rubrodisca</i>	Red-disked Yellow Pond-lily				S2	3 Sensitive	10	31.2 ± 0.0	NB
P	<i>Orobanche uniflora</i>	One-Flowered Broomrape				S2	3 Sensitive	12	19.2 ± 1.0	NB
P	<i>Polygala paucifolia</i>	Fringed Milkwort				S2	3 Sensitive	12	50.7 ± 1.0	NB
P	<i>Polygonum amphibium var. emersum</i>	Water Smartweed				S2	3 Sensitive	36	16.2 ± 0.0	NB
P	<i>Polygonum careyi</i>	Carey's Smartweed				S2	3 Sensitive	12	27.7 ± 5.0	NB
P	<i>Podostemum ceratophyllum</i>	Horn-leaved Riverweed				S2	3 Sensitive	8	76.4 ± 0.0	NB
P	<i>Anemone parviflora</i>	Small-flowered Anemone				S2	3 Sensitive	8	86.4 ± 5.0	NB
P	<i>Hepatica nobilis var. obtusa</i>	Round-lobed Hepatica				S2	3 Sensitive	8	27.7 ± 1.0	NB
P	<i>Ranunculus flabellaris</i>	Yellow Water Buttercup				S2	4 Secure	14	41.1 ± 0.0	NB
P	<i>Crataegus scabrida</i>	Rough Hawthorn				S2	3 Sensitive	9	27.6 ± 1.0	NB
P	<i>Crataegus succulenta</i>	Fleshy Hawthorn				S2	3 Sensitive	1	95.8 ± 5.0	NB
P	<i>Cephalanthus occidentalis</i>	Common Buttonbush				S2	3 Sensitive	19	54.1 ± 0.0	NB
P	<i>Salix candida</i>	Sage Willow				S2	3 Sensitive	1	90.5 ± 1.0	NS
P	<i>Agalinis neoscotica</i>	Nova Scotia Agalinis				S2	3 Sensitive	5	74.3 ± 3.0	NS
P	<i>Euphrasia randii</i>	Rand's Eyebright				S2	2 May Be At Risk	4	34.8 ± 0.0	NB
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort				S2	3 Sensitive	6	23.0 ± 5.0	NB
P	<i>Dirca palustris</i>	Eastern Leatherwood				S2	2 May Be At Risk	1	90.9 ± 1.0	NB
P	<i>Viola novae-angliae</i>	New England Violet				S2	3 Sensitive	4	30.0 ± 0.0	NB
P	<i>Symplocarpus foetidus</i>	Eastern Skunk Cabbage				S2	3 Sensitive	63	18.7 ± 0.0	NB
P	<i>Carex comosa</i>	Bearded Sedge				S2	2 May Be At Risk	10	67.2 ± 1.0	NS
P	<i>Carex granularis</i>	Limestone Meadow Sedge				S2	3 Sensitive	2	29.4 ± 5.0	NB
P	<i>Carex gynocrates</i>	Northern Bog Sedge				S2	3 Sensitive	1	28.7 ± 1.0	NB
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S2	3 Sensitive	4	26.2 ± 0.0	NB
P	<i>Carex livida var.</i>	Livid Sedge				S2	3 Sensitive	1	43.0 ± 2.0	NB

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P	<i>Carex radicaulis</i>									
P	<i>Carex plantaginea</i>	Plantain-Leaved Sedge				S2	3 Sensitive	1	47.0 ± 0.0	NB
P	<i>Carex prairea</i>	Prairie Sedge				S2	3 Sensitive	2	94.3 ± 1.0	NS
P	<i>Carex rostrata</i>	Narrow-leaved Beaked Sedge				S2	3 Sensitive	1	43.3 ± 0.0	NB
P	<i>Carex salina</i>	Saltmarsh Sedge				S2	3 Sensitive	2	44.6 ± 1.0	NB
P	<i>Carex sprengeii</i>	Longbeak Sedge				S2	3 Sensitive	2	26.2 ± 0.0	NB
P	<i>Carex tenuiflora</i>	Sparse-Flowered Sedge				S2	2 May Be At Risk	1	59.1 ± 10.0	NB
P	<i>Carex albicans</i> var. <i>emmonsii</i>	White-tinged Sedge				S2	3 Sensitive	9	39.4 ± 0.0	NB
P	<i>Cyperus squarrosus</i>	Awned Flatsedge				S2	3 Sensitive	31	18.5 ± 0.0	NB
P	<i>Eriophorum gracile</i>	Slender Cottongrass				S2	2 May Be At Risk	9	64.8 ± 0.0	NB
P	<i>Elodea nuttallii</i>	Nuttall's Waterweed				S2	3 Sensitive	6	30.5 ± 0.0	NB
P	<i>Juncus vaseyi</i>	Vasey Rush				S2	3 Sensitive	6	53.7 ± 0.0	NB
P	<i>Allium tricoccum</i>	Wild Leek				S2	2 May Be At Risk	20	10.6 ± 1.0	NB
P	<i>Najas gracillima</i>	Thread-Like Naiad				S2	3 Sensitive	6	67.2 ± 0.0	NB
P	<i>Calypso bulbosa</i> var. <i>americana</i>	Calypso				S2	2 May Be At Risk	5	31.3 ± 0.0	NB
P	<i>Coeloglossum viride</i> var. <i>virescens</i>	Long-bracted Frog Orchid				S2	2 May Be At Risk	9	8.6 ± 5.0	NB
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	2 May Be At Risk	7	21.4 ± 1.0	NB
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2	3 Sensitive	14	9.0 ± 5.0	NB
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses				S2	2 May Be At Risk	3	59.6 ± 0.0	NS
P	<i>Dichanthelium linearifolium</i>	Narrow-leaved Panic Grass				S2	3 Sensitive	14	18.5 ± 0.0	NB
P	<i>Elymus canadensis</i>	Canada Wild Rye				S2	2 May Be At Risk	3	78.5 ± 1.0	NB
P	<i>Leersia virginica</i>	White Cut Grass				S2	2 May Be At Risk	37	40.8 ± 0.0	NB
P	<i>Piptatherum canadense</i>	Canada Rice Grass				S2	3 Sensitive	4	61.7 ± 10.0	NB
P	<i>Poa glauca</i>	Glaucous Blue Grass				S2	4 Secure	21	34.5 ± 0.0	NB
P	<i>Puccinellia phryganodes</i>	Creeping Alkali Grass				S2	3 Sensitive	2	67.9 ± 0.0	NB
P	<i>Schizachyrium scoparium</i>	Little Bluestem				S2	3 Sensitive	33	31.1 ± 0.0	NB
P	<i>Zizania aquatica</i> var. <i>aquatica</i>	Indian Wild Rice				S2	5 Undetermined	5	25.8 ± 0.0	NB
P	<i>Piptatherum pungens</i>	Slender Rice Grass				S2	2 May Be At Risk	4	54.1 ± 0.0	NB
P	<i>Potamogeton vaseyi</i>	Vasey's Pondweed				S2	3 Sensitive	2	47.1 ± 1.0	NB
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S2	3 Sensitive	15	24.3 ± 1.0	NB
P	<i>Woodwardia virginica</i>	Virginia Chain Fern				S2	3 Sensitive	11	92.4 ± 10.0	NS
P	<i>Woodsia alpina</i>	Alpine Cliff Fern				S2	3 Sensitive	9	26.4 ± 0.0	NB
P	<i>Lycopodium sitchense</i>	Sitka Clubmoss				S2	3 Sensitive	1	73.1 ± 5.0	NB
P	<i>Selaginella selaginoides</i>	Low Spikemoss				S2	3 Sensitive	12	41.0 ± 5.0	NB
P	<i>Toxicodendron radicans</i>	Poison Ivy				S2?	3 Sensitive	11	25.4 ± 0.0	NB
P	<i>Symphyotrichum novibelgii</i> var. <i>crenifolium</i>	New York Aster				S2?	5 Undetermined	6	40.9 ± 0.0	NB
P	<i>Humulus lupulus</i> var. <i>lupuloides</i>	Common Hop				S2?	3 Sensitive	3	93.4 ± 0.0	NB
P	<i>Rubus recurvicaulis</i>	Arching Dewberry				S2?	4 Secure	5	17.7 ± 1.0	NB
P	<i>Galium obtusum</i>	Blunt-leaved Bedstraw				S2?	4 Secure	4	25.9 ± 1.0	NB
P	<i>Salix myricoides</i>	Bayberry Willow				S2?	3 Sensitive	2	70.2 ± 0.0	NB
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid				S2?	5 Undetermined	1	62.6 ± 10.0	NS
P	<i>Solidago altissima</i>	Tall Goldenrod				S2S3	4 Secure	3	21.0 ± 1.0	NB
P	<i>Ceratophyllum</i>	Prickly Hornwort				S2S3	3 Sensitive	17	17.4 ± 2.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>echinatum</i> <i>Callitriche hermaphroditica</i>	Northern Water-starwort				S2S3	4 Secure	8	18.3 ± 2.0	NB
P	<i>Lonicera oblongifolia</i>	Swamp Fly Honeysuckle				S2S3	3 Sensitive	1	59.6 ± 6.0	NB
P	<i>Elatine americana</i>	American Waterwort				S2S3	3 Sensitive	7	17.4 ± 2.0	NB
P	<i>Bartonia paniculata</i>	Branched Bartonia				S2S3	3 Sensitive	4	62.4 ± 0.0	NB
P	<i>Bartonia paniculata</i> <i>ssp. iodandra</i>	Branched Bartonia				S2S3	3 Sensitive	34	22.2 ± 1.0	NB
P	<i>Geranium robertianum</i>	Herb Robert				S2S3	4 Secure	36	16.9 ± 0.0	NB
P	<i>Myriophyllum quitense</i>	Andean Water Milfoil				S2S3	4 Secure	71	17.1 ± 0.0	NB
P	<i>Epilobium coloratum</i>	Purple-veined Willowherb				S2S3	3 Sensitive	6	40.3 ± 1.0	NB
P	<i>Rumex pallidus</i>	Seabeach Dock				S2S3	3 Sensitive	5	38.9 ± 0.0	NB
P	<i>Rubus pensilvanicus</i>	Pennsylvania Blackberry				S2S3	4 Secure	20	38.0 ± 0.0	NB
P	<i>Galium labradoricum</i>	Labrador Bedstraw				S2S3	3 Sensitive	2	72.4 ± 0.0	NB
P	<i>Carex adusta</i>	Lesser Brown Sedge				S2S3	4 Secure	9	29.1 ± 1.0	NB
P	<i>Corallorhiza maculata</i> <i>var. occidentalis</i>	Spotted Coralroot				S2S3	3 Sensitive	6	41.5 ± 1.0	NB
P	<i>Corallorhiza maculata</i> <i>var. maculata</i>	Spotted Coralroot				S2S3	3 Sensitive	4	77.7 ± 0.0	NS
P	<i>Listera auriculata</i>	Auricled Twayblade				S2S3	3 Sensitive	2	42.5 ± 0.0	NB
P	<i>Spiranthes cernua</i>	Nodding Ladies'-Tresses				S2S3	3 Sensitive	17	55.5 ± 0.0	NS
P	<i>Eragrostis pectinacea</i>	Tufted Love Grass				S2S3	4 Secure	14	26.2 ± 1.0	NB
P	<i>Stuckenia filiformis</i> <i>ssp. alpina</i>	Thread-leaved Pondweed				S2S3	3 Sensitive	7	28.9 ± 0.0	NB
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed				S2S3	4 Secure	11	17.1 ± 0.0	NB
P	<i>Isoetes acadensis</i>	Acadian Quillwort				S2S3	3 Sensitive	2	74.0 ± 0.0	NS
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S2S3	3 Sensitive	7	31.0 ± 1.0	NB
P	<i>Panax trifolius</i>	Dwarf Ginseng				S3	3 Sensitive	15	32.8 ± 0.0	NB
P	<i>Artemisia campestris</i>	Field Wormwood				S3	4 Secure	23	34.8 ± 0.0	NB
P	<i>Artemisia campestris</i> <i>ssp. caudata</i>	Field Wormwood				S3	4 Secure	74	34.8 ± 0.0	NB
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane				S3	4 Secure	74	29.5 ± 0.0	NB
P	<i>Prenanthes racemosa</i>	Glaucous Rattlesnakeroot				S3	4 Secure	51	24.7 ± 0.0	NB
P	<i>Tanacetum bipinnatum</i> <i>ssp. huronense</i>	Lake Huron Tansy				S3	4 Secure	10	18.0 ± 10.0	NB
P	<i>Symphotrichum boreale</i>	Boreal Aster				S3	3 Sensitive	7	20.8 ± 0.0	NB
P	<i>Betula pumila</i>	Bog Birch				S3	4 Secure	16	67.8 ± 0.0	NB
P	<i>Arabis glabra</i>	Tower Mustard				S3	5 Undetermined	1	34.9 ± 0.0	NB
P	<i>Arabis hirsuta</i> var. <i>pycnocarpa</i>	Western Hairy Rockcress				S3	4 Secure	19	24.2 ± 0.0	NB
P	<i>Cardamine maxima</i>	Large Toothwort				S3	4 Secure	25	16.6 ± 0.0	NB
P	<i>Subularia aquatica</i> var. <i>americana</i>	Water Awlwort				S3	4 Secure	6	43.1 ± 0.0	NB
P	<i>Lobelia cardinalis</i>	Cardinal Flower				S3	4 Secure	143	78.6 ± 0.0	NB
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S3	4 Secure	16	34.3 ± 0.0	NB
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath				S3	4 Secure	3	63.1 ± 0.0	NB
P	<i>Cornus amomum</i> ssp. <i>obliqua</i>	Pale Dogwood				S3	3 Sensitive	57	31.2 ± 0.0	NB
P	<i>Crassula aquatica</i>	Water Pygmyweed				S3	4 Secure	3	41.4 ± 0.0	NB
P	<i>Rhodiola rosea</i>	Roseroot				S3	4 Secure	58	18.3 ± 0.0	NB
P	<i>Penthorum sedoides</i>	Ditch Stonecrop				S3	4 Secure	72	16.5 ± 0.0	NB
P	<i>Elatine minima</i>	Small Waterwort				S3	4 Secure	14	24.7 ± 0.0	NB
P	<i>Hedysarum alpinum</i>	Alpine Sweet-vetch				S3	4 Secure	2	19.6 ± 0.0	NB
P	<i>Gentianella amarella</i> <i>ssp. acuta</i>	Northern Gentian				S3	4 Secure	3	42.5 ± 0.0	NB

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P	<i>Geranium bicknellii</i>	Bicknell's Crane's-bill				S3	4 Secure	16	19.2 ± 0.0	NB
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S3	4 Secure	10	38.1 ± 0.0	NB
P	<i>Myriophyllum heterophyllum</i>	Variable-leaved Water Milfoil				S3	4 Secure	51	17.4 ± 0.0	NB
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil				S3	4 Secure	22	18.3 ± 0.0	NB
P	<i>Stachys tenuifolia</i>	Smooth Hedge-Nettle				S3	3 Sensitive	4	23.2 ± 0.0	NB
P	<i>Teucrium canadense</i>	Canada Germander				S3	3 Sensitive	3	78.8 ± 5.0	NS
P	<i>Utricularia radiata</i>	Little Floating Bladderwort				S3	4 Secure	30	50.0 ± 0.0	NB
P	<i>Nuphar lutea ssp. pumila</i>	Small Yellow Pond-lily				S3	4 Secure	15	26.8 ± 1.0	NB
P	<i>Epilobium hornemannii</i>	Hornemann's Willowherb				S3	4 Secure	6	42.9 ± 0.0	NB
P	<i>Epilobium hornemannii ssp. hornemannii</i>	Hornemann's Willowherb				S3	4 Secure	1	44.6 ± 0.0	NB
P	<i>Epilobium strictum</i>	Downy Willowherb				S3	4 Secure	13	18.6 ± 0.0	NB
P	<i>Polygala sanguinea</i>	Blood Milkwort				S3	3 Sensitive	18	48.1 ± 0.0	NB
P	<i>Polygonum arifolium</i>	Halberd-leaved Tearthumb				S3	4 Secure	27	41.3 ± 0.0	NB
P	<i>Polygonum punctatum</i>	Dotted Smartweed				S3	4 Secure	2	67.4 ± 0.0	NB
P	<i>Polygonum punctatum var. confertiflorum</i>	Dotted Smartweed				S3	4 Secure	6	52.6 ± 0.0	NB
P	<i>Polygonum scandens</i>	Climbing False Buckwheat				S3	4 Secure	38	17.4 ± 0.0	NB
P	<i>Littorella uniflora</i>	American Shoreweed				S3	4 Secure	9	25.9 ± 1.0	NB
P	<i>Primula mistassinica</i>	Mistassini Primrose				S3	4 Secure	10	19.3 ± 0.0	NB
P	<i>Pyrola minor</i>	Lesser Pyrola				S3	4 Secure	6	18.4 ± 1.0	NB
P	<i>Clematis occidentalis</i>	Purple Clematis				S3	4 Secure	16	30.9 ± 0.0	NB
P	<i>Ranunculus gmelinii</i>	Gmelin's Water Buttercup				S3	4 Secure	27	21.9 ± 10.0	NB
P	<i>Thalictrum venulosum</i>	Northern Meadow-rue				S3	4 Secure	68	20.9 ± 0.0	NB
P	<i>Amelanchier canadensis</i>	Canada Serviceberry				S3	4 Secure	16	30.6 ± 1.0	NB
P	<i>Rosa palustris</i>	Swamp Rose				S3	4 Secure	18	17.7 ± 1.0	NB
P	<i>Rubus occidentalis</i>	Black Raspberry				S3	4 Secure	3	28.0 ± 0.0	NB
P	<i>Sanguisorba canadensis</i>	Canada Burnet				S3	4 Secure	16	50.8 ± 0.0	NB
P	<i>Galium boreale</i>	Northern Bedstraw				S3	4 Secure	6	39.0 ± 1.0	NB
P	<i>Salix interior</i>	Sandbar Willow				S3	4 Secure	14	54.9 ± 0.0	NB
P	<i>Salix nigra</i>	Black Willow				S3	3 Sensitive	122	25.6 ± 1.0	NB
P	<i>Salix pedicellaris</i>	Bog Willow				S3	4 Secure	46	26.0 ± 0.0	NB
P	<i>Comandra umbellata</i>	Bastard's Toadflax				S3	4 Secure	1	61.4 ± 10.0	NB
P	<i>Veronica serpyllifolia ssp. humifusa</i>	Thyme-Leaved Speedwell				S3	4 Secure	10	53.4 ± 0.0	NB
P	<i>Boehmeria cylindrica</i>	Small-spike False-nettle				S3	3 Sensitive	37	67.4 ± 0.0	NB
P	<i>Pilea pumila</i>	Dwarf Clearweed				S3	4 Secure	39	16.3 ± 0.0	NB
P	<i>Viola adunca</i>	Hooked Violet				S3	4 Secure	7	26.2 ± 1.0	NB
P	<i>Viola nephrophylla</i>	Northern Bog Violet				S3	4 Secure	4	20.8 ± 0.0	NB
P	<i>Carex arcta</i>	Northern Clustered Sedge				S3	4 Secure	48	25.0 ± 0.0	NB
P	<i>Carex atratiformis</i>	Scabrous Black Sedge				S3	4 Secure	1	43.0 ± 0.0	NB
P	<i>Carex capillaris</i>	Hairlike Sedge				S3	4 Secure	17	29.0 ± 0.0	NB
P	<i>Carex chordorrhiza</i>	Creeping Sedge				S3	4 Secure	20	50.5 ± 0.0	NB
P	<i>Carex conoidea</i>	Field Sedge				S3	4 Secure	18	21.0 ± 1.0	NB
P	<i>Carex eburnea</i>	Bristle-leaved Sedge				S3	4 Secure	11	42.3 ± 0.0	NB
P	<i>Carex exilis</i>	Coastal Sedge				S3	4 Secure	86	26.2 ± 0.0	NB
P	<i>Carex garberi</i>	Garber's Sedge				S3	3 Sensitive	2	20.9 ± 0.0	NB
P	<i>Carex haydenii</i>	Hayden's Sedge				S3	4 Secure	37	16.2 ± 0.0	NB
P	<i>Carex lupulina</i>	Hop Sedge				S3	4 Secure	78	16.1 ± 5.0	NB
P	<i>Carex michauxiana</i>	Michaux's Sedge				S3	4 Secure	61	28.7 ± 0.0	NB
P	<i>Carex ormostachya</i>	Necklace Spike Sedge				S3	4 Secure	7	53.4 ± 0.0	NB
P	<i>Carex rosea</i>	Rosy Sedge				S3	4 Secure	22	21.0 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>Carex tenera</i>	Tender Sedge				S3	4 Secure	39	24.7 ± 0.0	NB
P	<i>Carex tuckermanii</i>	Tuckerman's Sedge				S3	4 Secure	74	16.3 ± 0.0	NB
P	<i>Carex wiegandii</i>	Wiegand's Sedge				S3	4 Secure	117	19.7 ± 1.0	NB
P	<i>Carex recta</i>	Estuary Sedge				S3	4 Secure	8	48.8 ± 0.0	NB
P	<i>Cyperus dentatus</i>	Toothed Flatsedge				S3	4 Secure	142	26.0 ± 0.0	NB
P	<i>Cyperus esculentus</i>	Perennial Yellow Nutsedge				S3	4 Secure	38	16.4 ± 0.0	NB
P	<i>Eleocharis intermedia</i>	Matted Spikerush				S3	4 Secure	1	40.6 ± 0.0	NB
P	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush				S3	4 Secure	2	32.0 ± 0.0	NB
P	<i>Rhynchospora capitellata</i>	Small-headed Beakrush				S3	4 Secure	9	29.9 ± 0.0	NB
P	<i>Rhynchospora fusca</i>	Brown Beakrush				S3	4 Secure	29	17.8 ± 5.0	NB
P	<i>Trichophorum clintonii</i>	Clinton's Clubrush				S3	4 Secure	28	35.5 ± 0.0	NB
P	<i>Schoenoplectus fluviatilis</i>	River Bulrush				S3	3 Sensitive	60	17.8 ± 0.0	NB
P	<i>Schoenoplectus torreyi</i>	Torrey's Bulrush				S3	4 Secure	29	31.2 ± 0.0	NB
P	<i>Lemna trisulca</i>	Star Duckweed				S3	4 Secure	31	17.1 ± 0.0	NB
P	<i>Triantha glutinosa</i>	Sticky False-Asphodel				S3	4 Secure	3	20.9 ± 0.0	NB
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S3	3 Sensitive	7	14.4 ± 1.0	NB
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3	4 Secure	13	30.6 ± 0.0	NB
P	<i>Platanthera blephariglottis</i>	White Fringed Orchid				S3	4 Secure	52	75.4 ± 0.0	NB
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	3 Sensitive	26	46.5 ± 5.0	NB
P	<i>Bromus latiglumis</i>	Broad-Glumed Brome				S3	3 Sensitive	21	64.2 ± 0.0	NB
P	<i>Calamagrostis pickeringii</i>	Pickering's Reed Grass				S3	4 Secure	110	51.2 ± 0.0	NB
P	<i>Dichanthelium depauperatum</i>	Starved Panic Grass				S3	4 Secure	27	55.2 ± 0.0	NB
P	<i>Heteranthera dubia</i>	Water Stargrass				S3	4 Secure	53	17.1 ± 0.0	NB
P	<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed				S3	4 Secure	12	11.7 ± 0.0	NB
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S3	3 Sensitive	21	25.9 ± 0.0	NB
P	<i>Xyris montana</i>	Northern Yellow-Eyed-Grass				S3	4 Secure	31	29.7 ± 0.0	NB
P	<i>Zannichellia palustris</i>	Horned Pondweed				S3	4 Secure	7	26.9 ± 0.0	NB
P	<i>Adiantum pedatum</i>	Northern Maidenhair Fern				S3	4 Secure	3	27.7 ± 1.0	NB
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S3	4 Secure	2	16.8 ± 0.0	NB
P	<i>Asplenium trichomanes-ramosum</i>	Green Spleenwort				S3	4 Secure	19	31.5 ± 0.0	NB
P	<i>Dryopteris fragrans</i> var. <i>remotiuscula</i>	Fragrant Wood Fern				S3	4 Secure	41	15.3 ± 1.0	NB
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S3	4 Secure	44	20.2 ± 1.0	NB
P	<i>Equisetum palustre</i>	Marsh Horsetail				S3	4 Secure	6	83.6 ± 10.0	NB
P	<i>Isoetes tuckermanii</i>	Tuckerman's Quillwort				S3	4 Secure	19	15.3 ± 1.0	NB
P	<i>Lycopodium sabinifolium</i>	Ground-Fir				S3	4 Secure	16	29.9 ± 0.0	NB
P	<i>Huperzia appalachiana</i>	Appalachian Fir-Clubmoss				S3	3 Sensitive	23	26.6 ± 0.0	NB
P	<i>Botrychium dissectum</i>	Cut-leaved Moonwort				S3	4 Secure	25	27.3 ± 0.0	NB
P	<i>Botrychium lanceolatum</i> var. <i>angustisegmentum</i>	Lance-Leaf Grape-Fern				S3	3 Sensitive	8	25.0 ± 1.0	NB
P	<i>Botrychium simplex</i>	Least Moonwort				S3	4 Secure	3	99.1 ± 0.0	NB
P	<i>Polypodium appalachianum</i>	Appalachian Polypody				S3	4 Secure	28	18.6 ± 1.0	NB
P	<i>Utricularia resupinata</i>	Inverted Bladderwort				S3?	4 Secure	16	35.0 ± 1.0	NB
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S3?	3 Sensitive	10	13.4 ± 1.0	NB
P	<i>Mertensia maritima</i>	Sea Lungwort				S3S4	4 Secure	19	16.5 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>Lobelia kalmii</i>	Brook Lobelia				S3S4	4 Secure	9	17.8 ± 1.0	NB
P	<i>Suaeda calceoliformis</i>	Horned Sea-blite				S3S4	4 Secure	6	17.4 ± 0.0	NB
P	<i>Myriophyllum sibiricum</i>	Siberian Water Milfoil				S3S4	4 Secure	28	18.3 ± 0.0	NB
P	<i>Stachys pilosa</i>	Hairy Hedge-Nettle				S3S4	5 Undetermined	4	49.2 ± 1.0	NB
P	<i>Utricularia gibba</i>	Humped Bladderwort				S3S4	4 Secure	22	30.1 ± 0.0	NB
P	<i>Rumex maritimus</i>	Sea-Side Dock				S3S4	4 Secure	13	77.2 ± 0.0	NB
P	<i>Rumex maritimus</i> var. <i>fueginus</i>	Tierra del Fuego Dock				S3S4	4 Secure	1	93.8 ± 0.0	NB
P	<i>Potentilla arguta</i>	Tall Cinquefoil				S3S4	4 Secure	4	20.4 ± 0.0	NB
P	<i>Rubus chamaemorus</i>	Cloudberry				S3S4	4 Secure	49	28.9 ± 1.0	NB
P	<i>Geocaulon lividum</i>	Northern Comandra				S3S4	4 Secure	10	40.5 ± 0.0	NB
P	<i>Juniperus horizontalis</i>	Creeping Juniper				S3S4	4 Secure	9	48.9 ± 1.0	NB
P	<i>Cladium mariscoides</i>	Smooth Twigrush				S3S4	4 Secure	16	32.1 ± 0.0	NB
P	<i>Eriophorum russeolum</i>	Russet Cottongrass				S3S4	4 Secure	14	47.3 ± 0.0	NB
P	<i>Triglochin gaspensis</i>	Gasp Arrowgrass				S3S4	4 Secure	12	34.2 ± 0.0	NB
P	<i>Spirodela polyrrhiza</i>	Great Duckweed				S3S4	4 Secure	36	17.4 ± 0.0	NB
P	<i>Corallorhiza maculata</i>	Spotted Coralroot				S3S4	3 Sensitive	21	17.7 ± 1.0	NB
P	<i>Calamagrostis stricta</i>	Slim-stemmed Reed Grass				S3S4	4 Secure	7	47.2 ± 2.0	NB
P	<i>Distichlis spicata</i>	Salt Grass				S3S4	4 Secure	4	32.9 ± 0.0	NB
P	<i>Potamogeton oakesianus</i>	Oakes' Pondweed				S3S4	4 Secure	41	22.3 ± 5.0	NB
P	<i>Montia fontana</i>	Water Blinks				SH	2 May Be At Risk	2	69.3 ± 0.0	NS
P	<i>Solidago caesia</i>	Blue-stemmed Goldenrod				SX	0.1 Extirpated	2	40.3 ± 1.0	NB
P	<i>Carex swanii</i>	Swan's Sedge				SX	0.1 Extirpated	18	64.9 ± 2.0	NS

5.1 SOURCE BIBLIOGRAPHY (100 km)

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

# recs	CITATION
6616	Morrison, Guy. 2011. Maritime Shorebird Survey (MSS) database. Canadian Wildlife Service, Ottawa, 15939 surveys. 86171 recs.
6062	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
4722	eBird. 2014. eBird Basic Dataset. Version: EBD_relNov-2014. Ithaca, New York. Nov 2014. Cornell Lab of Ornithology, 25036 recs.
3249	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
1587	Pardieck, K.L. & Ziolkowski Jr., D.J.; Hudson, M.-A.R. 2014. North American Breeding Bird Survey Dataset 1966 - 2013, version 2013.0. U.S. Geological Survey, Patuxent Wildlife Research Center <www.pwrc.usgs.gov/BBS/RawData/>.
447	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
431	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
420	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2003.
407	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
383	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
325	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
318	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
311	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
269	Mazerolle, D.M. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
268	Hicks, Andrew. 2009. Coastal Waterfowl Surveys Database, 2000-08. Canadian Wildlife Service, Sackville, 46488 recs (11149 non-zero).
248	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs.
226	Sollows, M.C., 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
208	Tranquilla, L. 2015. Maritimes Marsh Monitoring Project 2015 data. Bird Studies Canada, Sackville NB, 5062 recs.
199	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
191	Churchill, J.L.; Klymko, J.D. 2016. Bird Species at Risk Inventory on the Acadia Research Forest, 2016. Atlantic Canada Conservation Data Centre, 1043 recs.
185	Blaney, C.S. & Mazerolle, D.M. 2011. NB WTF Fieldwork on Magaguadavic & Lower St Croix Rivers. Atlantic Canada Conservation Data Centre, 4585 recs.
184	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.
182	Blaney, C.S.; Mazerolle, D.M.; Klymko, J.; Spicer, C.D. 2006. Fieldwork 2006. Atlantic Canada Conservation Data Centre. Sackville NB, 8399 recs.
180	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.

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164	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
163	Stewart, J.I. 2010. Peregrine Falcon Surveys in New Brunswick, 2002-09. Canadian Wildlife Service, Sackville, 58 recs.
162	Epworth, W. 2012. Species at Risk records, 2009-11. Fort Folly Habitat Recovery Program, 162 recs.
157	Parks Canada. 2010. Specimens in or near National Parks in Atlantic Canada. Canadian National Museum, 3925 recs.
149	Sollows, M.C., 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
144	Hinds, H.R. 1986. Notes on New Brunswick plant collections. Connell Memorial Herbarium, unpubl, 739 recs.
134	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
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128	Gravel, Mireille. 2010. Coordonnées GPS et suivi des tortues marquées, 2005-07. Kouchibouguac National Park, 480 recs.
124	Blaney, C.S.; Spicer, C.D.; Popma, T.M.; Hanel, C. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 2252 recs.
119	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
115	Klymko, J.J.D. 2014. Maritimes Butterfly Atlas, 2012 submissions. Atlantic Canada Conservation Data Centre, 8552 records.
113	Bishop, G. & Papoulias, M.; Arnold (Chaplin), M. 2005. Grand Lake Meadows field notes, Summer 2005. New Brunswick Federation of Naturalists, 1638 recs.
105	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
89	Sabine, D.L. 2005. 2001 Freshwater Mussel Surveys. New Brunswick Dept of Natural Resources & Energy, 590 recs.
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85	Goltz, J.P. 2012. Field Notes, 1989-2005. , 1091 recs.
85	Mazerolle, D.M. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
78	Blaney, C.S. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
78	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: http://luxor.acadiu.ca/library/Herbarium/project/ . 582 recs.
77	Scott, Fred W. 1998. Updated Status Report on the Cougar (Puma Concolor cougar) [Eastern population]. Committee on the Status of Endangered Wildlife in Canada, 298 recs.
77	Speers, L. 2008. Butterflies of Canada database: New Brunswick 1897-1999. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 2048 recs.
75	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2014. Atlantic Canada Conservation Data Centre Fieldwork 2014. Atlantic Canada Conservation Data Centre, # recs.
73	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2015. Atlantic Canada Conservation Data Centre Fieldwork 2015. Atlantic Canada Conservation Data Centre, # recs.
73	Robinson, S.L. 2015. 2014 field data.
66	McNeil, J.A. 2016. Blandings Turtle (<i>Emydoidea blandingii</i>), Eastern Ribbonsnake (<i>Thamnophis sauritus</i>), Wood Turtle (<i>Glyptemys insculpta</i>), and Snapping Turtle (<i>Chelydra serpentina</i>) sightings, 2016. Mersey Tobeatic Research Institute, 774 records.
64	Blaney, C.S.; Mazerolle, D.M. 2010. Fieldwork 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 15508 recs.
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62	Klymko, J.J.D. 2012. Maritimes Butterfly Atlas, 2010 and 2011 records. Atlantic Canada Conservation Data Centre, 6318 recs.
61	Sollows, M.C. 2008. NBM Science Collections databases: herpetiles. New Brunswick Museum, Saint John NB, download Jan. 2008, 8636 recs.
57	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
57	McAlpine, D.F. 1998. NBM Science Collections: Wood Turtle records. New Brunswick Museum, Saint John NB, 329 recs.
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53	Cowie, Faye. 2007. Surveyed Lakes in New Brunswick. Canadian Rivers Institute, 781 recs.
52	Thomas, A.W. 1996. A preliminary atlas of the butterflies of New Brunswick. New Brunswick Museum.
47	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.
45	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
41	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
41	McAlpine, D.F. 1998. NBM Science Collections databases to 1998. New Brunswick Museum, Saint John NB, 241 recs.
41	Wissink, R. 2006. Fundy National Park Digital Database. Parks Canada, 41 recs.
39	Bateman, M.C. 2001. Coastal Waterfowl Surveys Database, 1965-2001. Canadian Wildlife Service, Sackville, 667 recs.
38	Klymko, J.J.D.; Robinson, S.L. 2014. 2013 field data. Atlantic Canada Conservation Data Centre.
38	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
37	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2009. New Brunswick Dept Natural Resources, 19 recs (14 active).
37	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
36	Cowie, F. 2007. Electrofishing Population Estimates 1979-98. Canadian Rivers Institute, 2698 recs.
36	Spicer, C.D. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 211 recs.
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30	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
30	Majka, C. 2009. Université de Moncton Insect Collection: Carabidae, Cerambycidae, Coccinellidae. Université de Moncton, 540 recs.
28	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
27	Mills, E. Connell Herbarium Specimens, 1957-2009. University New Brunswick, Fredericton. 2012.
26	Doucet, D.A. 2008. Fieldwork 2008: Odonata. ACCDC Staff, 625 recs.
25	Scott, F.W. 2002. Nova Scotia Herpetofauna Atlas Database. Acadia University, Wolfville NS, 8856 recs.

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24	Hinds, H.R. 1999. Connell Herbarium Database. University New Brunswick, Fredericton, 131 recs.
23	Webster, R.P. 2004. Lepidopteran Records for National Wildlife Areas in New Brunswick. Webster, 1101 recs.
22	Sollows, M.C., 2009. NBM Science Collections databases: Coccinellid & Cerambycid Beetles. New Brunswick Museum, Saint John NB, download Feb. 2009, 569 recs.
22	Speers, L. 2001. Butterflies of Canada database. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 190 recs.
21	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.
20	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 recs.
20	Benedict, B. Connell Herbarium Specimens, Digital photos. University New Brunswick, Fredericton. 2005.
20	Tingley, S. (compiler). 2001. Butterflies of New Brunswick. , Web site: www.geocities.com/Yosemite/8425/buttrfly. 142 recs.
19	Klymko, J.J.D. 2016. 2014 field data. Atlantic Canada Conservation Data Centre.
18	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.
18	McAlpine, D.F. 1983. Status & Conservation of Solution Caves in New Brunswick. New Brunswick Museum, Publications in Natural Science, no. 1, 28pp.
17	Clayden, S.R. 2012. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 57 recs.
17	Pike, E., Tingley, S. & Christie, D.S. 2000. Nature NB Listserve. University of New Brunswick, listserv.unb.ca/archives/naturenb. 68 recs.
15	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
14	Caissie, A. Herbarium Records. Fundy National Park, Alma NB. 1961-1993.
14	Clayden, S.R. 2005. Confidential supplement to Status Report on Ghost Antler Lichen (<i>Pseudevernia cladonia</i>). Committee on the Status of Endangered Wildlife in Canada, 27 recs.
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	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
13	Edsall, J. 2001. Lepidopteran records in New Brunswick, 1997-99. , Pers. comm. to K.A. Bredin. 91 recs.
13	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
13	Wissink, R. 2000. Rare Plants of Fundy: maps. Parks Canada, 20 recs.
12	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2010. New Brunswick Dept Natural Resources, 16 recs (11 active).
10	Amirault, D.L. & Stewart, J. 2007. Piping Plover Database 1894-2006. Canadian Wildlife Service, Sackville, 3344 recs, 1228 new.
10	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
10	Noseworthy, J. 2013. Van Brunt's Jacob's-ladder observations along tributary of Dipper Harbour Ck. Nature Conservancy of Canada, 10 recs.
9	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2000.
9	Bredin, K.A. 2001. WTF Project: Freshwater Mussel Fieldwork in Freshwater Species data. Atlantic Canada Conservation Data Centre, 101 recs.
9	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
8	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
8	Hinds, H.R. 1992. Rare Vascular Plants of Fundy National Park. , 10 recs.
8	Webster, R.P. 2006. Survey for Suitable Salt Marshes for the Maritime Ringlet, New Populations of the Cobblestone Tiger Beetle, & New Localities of Three Rare Butterfly Species. New Brunswick WTF Report, 28 recs.
7	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J.; ONHIC, 487 recs.
7	Popma, T.M. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 113 recs.
6	Bateman, M.C. 2000. Waterfowl Brood Surveys Database, 1990-2000 . Canadian Wildlife Service, Sackville, unpublished data. 149 recs.
6	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
6	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
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6	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
5	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (<i>Isoetes prototypus</i>). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
5	Litvak, M.K. 2001. Shortnose Sturgeon records in four NB rivers. UNB Saint John NB. Pers. comm. to K. Bredin, 6 recs.
5	Parker, M.S.R. 2011. Hampton Wind Farm 2010: significant floral/faunal observations. , 13 recs.
5	Spicer, C.D. & Harries, H. 2001. Mount Allison Herbarium Specimens. Mount Allison University, 128 recs.
4	Belliveau, A.G. 2014. Plant Records from Southern and Central Nova Scotia. Atlantic Canada Conservation Data Centre, 919 recs.
4	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
4	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
4	Gravel, Mireille. 2010. Coordonnées des tortues des bois Salmon River Road, 2005. Kouchibouguac National Park, 4 recs.
4	Haughian, S.R. 2018. Description of <i>Fuscopannaria leucosticta</i> field work in 2017 . New Brunswick Museum, 314 recs.
4	Hicklin, P.W. 1995. The Maritime Shorebird Survey Newsletter. <i>Calidris</i> , No. 3. 6 recs.
4	Layberry, R.A. 2012. Lepidopteran records for the Maritimes, 1974-2008. Layberry Collection, 1060 recs.
4	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
3	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of <i>C. insculpta</i> sightings. Acadia University, Wolfville NS, 88 recs.
3	Bishop, G. 2012. Field data from September 2012 Anticosti Aster collection trip. , 135 rec.
3	Bishop, G., Bagnell, B.A. 2004. Site Assessment of Musquash Harbour, Nature Conservancy of Canada Property - Preliminary Botanical Survey. B&B Botanical, 12pp.
3	Blaney, C.S. 1999. Fieldwork 1999. Atlantic Canada Conservation Data Centre. Sackville NB, 292 recs.
3	Catling, P.M. 1981. Taxonomy of autumn-flowering <i>Spiranthes</i> species of southern Nova Scotia in Can. J. Bot. , 59:1250-1273. 30 recs.
3	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.

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3	Clayden, S.R. 2006. Pseudevernia cladonia records. NB Museum. Pers. comm. to S. Blaney, Dec, 4 recs.
3	Cronin, P. & Ayer, C.; Dubee, B.; Hooper, W.C.; LeBlanc, E.; Madden, A.; Pettigrew, T.; Seymour, P. 1998. Fish Species Management Plans (draft). NB DNRE Internal Report. Fredericton, 164pp.
3	Forbes, G. 2001. Bog Lemming, Phalarope records, NB. , Pers. comm. to K.A. Bredin. 6 recs.
3	Klymko, J.J.D. 2012. Insect field work & submissions. Atlantic Canada Conservation Data Centre, 852 recs.
3	Lautenschlager, R.A. 2005. Survey for Species at Risk on the Canadian Forest Service's Acadia Research Forest near Fredericton, New Brunswick. Atlantic Canada Conservation Data Centre, 6. 3 recs.
3	Marshall, L. 1998. Atlantic Salmon: Southwest New Brunswick outer-Fundy SFA 23. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-13. 6 recs.
3	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
3	Neily, T.H. 2013. Email communication to Sean Blaney regarding <i>Listera australis</i> observations made from 2007 to 2011 in Nova Scotia. , 50.
3	Powell, B.C. 1967. Female sexual cycles of <i>Chrysemy spicta</i> & <i>Clemmys insculpta</i> in Nova Scotia. Can. Field-Nat., 81:134-139. 26 recs.
3	Sabine, D.L. 2012. Bronze Copper records, 2003-06. New Brunswick Dept of Natural Resources, 5 recs.
3	Spicer, C.D. 2001. Powerline Corridor Botanical Surveys, Charlotte & Saint John Counties. A M E C International, 1269 recs.
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2	Bagnell, B.A. 2003. Update to New Brunswick Rare Bryophyte Occurrences. B&B Botanical, Sussex, 5 recs.
2	Basquill, S.P. 2011 vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
2	Benjamin, L.K. 2011. NSDNR fieldwork & consultant reports 1997, 2009-10. Nova Scotia Dept Natural Resources, 85 recs.
2	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
2	Edsall, J. 1992. Summer 1992 Report. New Brunswick Bird Info Line, 2 recs.
2	Edsall, J. 1993. Spring 1993 Report. New Brunswick Bird Info Line, 3 recs.
2	Gautreau-Daigle, H. 2007. Rare plant records from peatland surveys. Coastal Zones Research Institute, Shippagan NB. Pers. comm. to D.M. Mazerolle, 39 recs.
2	Goltz, J.P. 2002. Botany Ramblings: 1 July to 30 September, 2002. N.B. Naturalist, 29 (3):84-92. 7 recs.
2	Hinds, H.R. 1999. A Vascular Plant Survey of the Musquash Estuary in New Brunswick. , 12pp.
2	Toner, M. 2001. Lynx Records 1973-2000. NB Dept of Natural Resources, 29 recs.
2	Tremblay, E. 2006. Kouchibouguac National Park Digital Database. Parks Canada, 105 recs.
2	Walker, E.M. 1942. Additions to the List of Odonates of the Maritime Provinces. Proc. Nova Scotian Inst. Sci., 20. 4: 159-176. 2 recs.
2	Webster, R.P. & Edsall, J. 2007. 2005 New Brunswick Rare Butterfly Survey. Environmental Trust Fund, unpublished report, 232 recs.
1	Amirault, D.L. & McKnight, J. 2003. Piping Plover Database 1991-2003. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
1	Amirault, D.L. 1997-2000. Unpublished files. Canadian Wildlife Service, Sackville, 470 recs.
1	Belliveau, A. 2013. email to Sean Blaney regarding <i>Listera australis</i> observations in SW Nova Scotia. Mersey Tobeatic Research Institute, 8.
1	Belliveau, A. 2013. Rare species records from Nova Scotia. Mersey Tobeatic Research Institute, 296 records. 296 recs.
1	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
1	Boyne, A.W. 2000. Harlequin Duck Surveys. Canadian Wildlife Service, Sackville, unpublished data. 5 recs.
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1	Brunelle, P.-M. 2005. Wood Turtle observations. Pers. comm. to S.H. Gerriets, 21 Sep. 3 recs, 3 recs.
1	Cameron, R.P. 2009. <i>Erioderma pedicellatum</i> database, 1979-2008. Dept Environment & Labour, 103 recs.
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1	Clayden, S.R. 2007. NBM Science Collections. Pers. comm. to D. Mazerolle, 1 rec.
1	COSEWIC (Committee on the Status of Wildlife in Canada). 2013. COSEWIC Assessment and Status Report on the Eastern Waterfan <i>Peltigera hydrothyria</i> in Canada. COSEWIC, 46 pp.
1	Crowell, M.J. Plant specimens from Nictaux, NS sent to Sean Blaney for identification. Jacques Whitford Limited. 2005.
1	Dadswell, M.J. 1979. Status Report on Shortnose Sturgeon (<i>Acipenser brevirostrum</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada, 15 pp.
1	Dauray, R.W. & Bateman, M.C. 1996. The Barrow's Goldeneye (<i>Bucephala islandica</i>) in the Atlantic Provinces and Maine. Canadian Wildlife Service, Sackville, 47pp.
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1	Doucet, D.A. & Edsall, J. 2007. <i>Ophiogomphus howei</i> records. Atlantic Canada Conservation Data Centre, Sackville NB, 21 recs.
1	Edsall, J. 1993. Summer 1993 Report. New Brunswick Bird Info Line, 2 recs.
1	Edsall, J. 2007. Lepidopteran Records from Halls Creek, 1994-2000. Edsall, 43 recs.
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1	Hill, N. 2014. 2014 Monarch email report, Bridgetown, NS. Fern Hill Institute for Plant Conservation.
1	Hill, N.M. 1994. Status report on the Long's bulrush <i>Scirpus longii</i> 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	Jessop, B. 2004. <i>Acipenser oxyrinchus</i> locations. Dept of Fisheries & Oceans, Atlantic Region, Pers. comm. to K. Bredin. 1 rec.
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 (<i>Sorex dispar</i>) in New Brunswick. Can. Field-Nat., 93: 195-198. 1 rec.
1	Klymko, J.J.D. 2010. Miscellaneous observations reported to ACCDC (zoology). Pers. comm. from various persons, 3 recs.
1	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
1	LaFlamme, C. 2008. Discovery of <i>Goodyera pubescens</i> at Springdale, NB. Amec Earth and Environmental. Pers. comm. to D.M. Mazerolle, 1 rec.
1	Loo, J. & MacDougall, A. 1994. GAP analysis: Summary Report. Fundy Model Forest, 2 recs.
1	MacKinnon, D.S. 2013. Email report of Peregrine Falcon nest E of St. Martins NB. NS Department of Environment and Labour, 1 record.
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.

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1	McAlpine, D.F. 1983. Species Record Cards. Fundy National Park, Library, 1 rec.
1	Miller, D.G. 2013. Peregrine Falcon nesting information from birdingnewbrunswick.ca . birdingnewbrunswick.ca .
1	Neily, T.H. & Pepper, C.; Toms, B. 2013. Nova Scotia lichen location database. Mersey Tobeatic Research Institute, 1301 records.
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1	Poirier, Nelson. 2012. Geranium robertianum record for NB. Pers. comm. to S. Blaney, Sep. 6, 1 rec.
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1	Sabine, D.L. 2004. Specimen data: Whittaker Lake & Marysville NB. Pers. comm. to C.S. Blaney, 2pp, 4 recs.
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1	Smith, M. 2013. Email to Sean Blaney regarding <i>Schizaea pusilla</i> at Caribou Plain Bog, Fundy NP. pers. comm., 1 rec.
1	Steeves, R. 2004. <i>Goodyera pubescens</i> occurrence from Colpitts Brook, Albert Co. , Pers. comm. to C.S. Blaney. 1 rec.
1	Taylor, Eric B. 1997. Status of the Sympatric Smelt (genus <i>Osmerus</i>) Populations of Lake Utopia, New Brunswick. Committee on the Status of Endangered Wildlife in Canada, 1 rec.
1	Toner, M. 2005. <i>Listera australis</i> population at Bull Pasture Plains. NB Dept of Natural Resources. Pers. comm. to S. Blaney, 8 recs.
1	Toner, M. 2009. Wood Turtle Sightings. NB Dept of Natural Resources. Pers. comm. to S. Gerriets, Jul 13 & Sep 2, 2 recs.
1	Toner, M. 2011. Wood Turtle sighting. NB Dept of Natural Resources. Pers. com. to S. Gerriets, Sep 2, photo, 1 rec.
1	Torenvliet, Ed. 2010. Wood Turtle roadkill. NB Dept of Transport. Pers. com. to R. Lautenschlager, Aug. 20, photos, 1 rec.
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Appendix B

Wetland Delineation and Functional Assessment Data

Wetland #1

Size: Area delineated is 0.06 ha.

Wetland Classification: Shrub Swamp

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None (harvested in 2010).
- *Shrub:* 20% white meadowsweet (*Spiraea alba*, FAC); 15% steplebush (*Spiraea tomentosa*, FAC); 5% red maple (*Acer rubrum*, FAC).
- *Herb:* 60% woolgrass (*Scirpus cyperinus*, FACW), 10% grass-leaved goldenrod (*Euthamia graminifolia*, FAC), 5% narrow-leaved cattail (*Typha angustifolia*, OBL), 5% marsh bedstraw (*Galium palustre*, FACW+); 2% necklace sedge (*Carex projecta*, FACW).

Primary Wetland Hydrology Indicators Present: Saturation (A3).

Secondary Wetland Hydrology Indicators Present: None.

Soil Profile:

- 4-0" organics (muck);
- 0-3" 7.5 YR 2.5/1 (98%)/ 2.5YR 5/6 (2%) redox concentrations;
- Restrictive layer: bedrock.
- Hydric Soil Indicators: Depleted Below Dark Surface (A11).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally saturated;
- Wetland Origin: Unknown, possible result of tree removal and soil compaction;
- Wetland Soils: Mineral;
- Human Impact: Tree removal, soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #1
Investigator Name:	CK
Date of Field Assessment:	Aug 14th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	6.27	Higher	3.24	Moderate	6.55	3.30
Stream Flow Support (SFS)	2.19	Lower	4.49	Moderate	1.17	2.62
Water Cooling (WC)	0.00	Lower	0.00	Lower	0.00	0.00
Sediment Retention & Stabilisation (SR)	7.56	Higher	1.83	Lower	8.33	1.11
Phosphorus Retention (PR)	2.67	Moderate	1.40	Lower	4.80	1.60
Nitrate Removal & Retention (NR)	2.73	Moderate	4.38	Moderate	5.51	5.00
Carbon Sequestration (CS)	4.58	Moderate			6.54	
Organic Nutrient Export (OE)	2.76	Lower			3.80	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	6.36	Higher	0.79	Lower	6.11	1.67
Amphibian & Turtle Habitat (AM)	3.03	Lower	0.73	Lower	4.90	2.54
Waterbird Feeding Habitat (WBF)	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	6.16	Moderate	2.50	Lower	5.11	2.50
Pollinator Habitat (POL)	6.78	Moderate	0.00	Lower	5.46	0.00
Native Plant Habitat (PH)	4.58	Moderate	4.06	Moderate	4.93	3.52
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			3.05	Moderate		3.12
Wetland Ecological Condition (EC)			4.94	Moderate		7.08
Wetland Stressors (STR) (higher score means more stress)			8.01	Higher		5.20
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
4.56	8.88	4.31	3.13	5.70					
2.33	7.64	5.30	3.12	5.26					
0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
					0.33	7.44	7.11	2.40	5.51
					2.20	5.20	2.99	2.88	5.30
					4.24	10.00	5.76	3.25	6.39
					2.26	5.93	3.67	2.15	4.97

Wetland #2

Size: Area delineated is 0.02 ha.

Wetland Classification: Vernal Pond (in a gypsum depression)

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None.
- *Shrub:* 10% red osier dogwood (*Cornus sericea*, FACW); 5% common elderberry (*Sambucus nigra*, FACW).
- *Herb:* 60% common spikerush (*Eleocharis palustris*, OBL); 15% woolgrass (FACW), 5% slender manna-grass (*Glyceria melicaria*, OBL).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); Inundation Visible in Aerial Imagery (B7); Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: Geomorphic position (D2).

Soil Profile:

- 0-4" 7.5YR 3/2 (90%)/ 2.5YR 4/6 (10%) w/ redox concentrations;
- 4-12" 5YR 4/2 (90%)/ 2.5 YR 5/6 (10%) w/ redox concentrations;
- 12-20" 5YR 4/2 (90%)/ 2.5YR 4/6 (5%) w/ redox concentrations/ Gley 1 3/10GY (5%);
- Restrictive layer: Bedrock.
- Hydric Soil Indicators: Redox Depression (F8).

Notes:

- Position: Terrene;
- Landform: Basin;
- Water Flow Path: Isolated;
- Water Regime: Seasonally flooded;
- Wetland Origin: Natural;
- Wetland Soils: Mineral;
- Human Impact: Adjacent upland tree removal.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #2
Investigator Name:	CK
Date of Field Assessment:	Aug 14th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~ Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Wetland #3

Size: Area delineated is 1.8 ha (wetland area extends beyond Project Area).

Wetland Classification: Fen/ Wet Meadow complex

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None.
- *Shrub:* 15% speckled alder (*Alnus incana*, FACW); 5% steeplebush (FAC); and 5% red-osier dogwood (FACW).
- *Herb:* 60% common spikerush (OBL); 15% woolgrass (FACW), 5% common water parsnip (*Sium suave*, OBL); and 5% marsh seedbox (*Ludwigia palustris*, OBL).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); Inundation Visible in Aerial Imagery (B7); Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: Surface Soil Cracks (B6).

Soil Profile:

- 11-0" organics (muck);
- 0-10" 7.5YR 3/1 (100%)
- 10-14" Gley 1 5/10GY
- Restrictive layer: gravels.
- Hydric Soil Indicators: Histic Epipedon (A2).

Notes:

- Position: Lotic Stream;
- Landform: Floodplain;
- Water Flow Path: Throughflow;
- Water Regime: Permanently flooded/permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Mineral and organic;
- Human Impact: Adjacent upland tree removal.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #3
Investigator Name:	CK
Date of Field Assessment:	Aug 14th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
	Water Storage & Delay (WS)	2.58	Moderate	2.01	Lower	3.72
Stream Flow Support (SFS)	6.35	Moderate	7.06	Higher	3.39	4.12
Water Cooling (WC)	3.17	Moderate	8.11	Higher	2.11	4.88
Sediment Retention & Stabilisation (SR)	3.47	Moderate	7.03	Moderate	5.53	4.27
Phosphorus Retention (PR)	2.61	Lower	5.90	Higher	4.76	5.67
Nitrate Removal & Retention (NR)	1.84	Lower	10.00	Higher	4.97	10.00
Carbon Sequestration (CS)	4.27	Moderate			6.40	
Organic Nutrient Export (OE)	6.64	Higher			5.85	
Anadromous Fish Habitat (FA)	8.32	Higher	3.73	Moderate	5.10	2.76
Resident Fish Habitat (FR)	6.89	Higher	3.61	Moderate	4.10	2.56
Aquatic Invertebrate Habitat (INV)	4.94	Moderate	8.44	Higher	5.61	5.79
Amphibian & Turtle Habitat (AM)	5.87	Moderate	7.29	Higher	6.40	6.51
Waterbird Feeding Habitat (WBF)	8.54	Higher	5.00	Moderate	6.80	5.00
Waterbird Nesting Habitat (WBN)	5.43	Higher	5.00	Moderate	4.64	5.00
Songbird, Raptor, & Mammal Habitat (SBM)	9.33	Higher	5.00	Moderate	7.74	5.00
Pollinator Habitat (POL)	9.35	Higher	3.33	Moderate	7.53	3.33
Native Plant Habitat (PH)	8.08	Higher	7.14	Higher	6.34	6.20
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			5.73	Higher		3.92
Wetland Ecological Condition (EC)			5.42	Moderate		7.36
Wetland Stressors (STR) (higher score means more stress)			2.48	Moderate		3.17
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
4.56	8.88	4.31	3.13	5.70					
2.33	7.64	5.30	3.12	5.26					
0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
					0.33	7.44	7.11	2.40	5.51
					2.20	5.20	2.99	2.88	5.30
					4.24	10.00	5.76	3.25	6.39
					2.26	5.93	3.67	2.15	4.97

Wetland #4

Size: Area delineated is 0.30 ha.

Wetland Classification: Bog.

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* 5% black spruce (*Picea mariana*, FACW); and 2% eastern larch (*Larix laricina*, FAC).
- *Shrub:* 50% leatherleaf (*Chamaedaphne calyculata*, OBL); 15% rhodora (*Rhododendron canadense*, FAC); 10% sheep laurel (*Kalmia angustifolia*, FAC); and 5% false holly (*Nemopanthus mucronatus*, FAC).
- *Herb:* 5% large cranberry (*Vaccinium macrocarpon*, FACW+), 5% tawny cottongrass (*Eriophorum virginicum*, OBL); and *Carex*

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3).

Secondary Wetland Hydrology Indicators Present: Stunted or Stressed Plants (D1).

Soil Profile:

- 48+” organics (peat);
- Restrictive layer: unknown.
- Hydric Soil Indicators: Histosol (A1).

Notes:

- Position: Terrene;
- Landform: Basin;
- Water Flow Path: Isolated;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Organic;
- Human Impact: Adjacent Tree removal, soil compaction/rutting, access road development, possible borrow pitting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #4
Investigator Name:	CK
Date of Field Assessment:	Aug 15th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	6.91	Higher	2.06	Lower	7.04	2.13
Stream Flow Support (SFS)	1.13	Lower	0.00	Lower	0.60	0.00
Water Cooling (WC)	2.00	Moderate	0.00	Lower	1.33	0.00
Sediment Retention & Stabilisation (SR)	10.00	Higher	1.69	Lower	10.00	1.02
Phosphorus Retention (PR)	3.40	Moderate	0.78	Lower	5.32	1.04
Nitrate Removal & Retention (NR)	10.00	Higher	2.69	Moderate	10.00	3.50
Carbon Sequestration (CS)	3.88	Moderate			6.23	
Organic Nutrient Export (OE)	2.30	Lower			3.56	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	0.04	Lower	3.43	Moderate	3.89	3.09
Amphibian & Turtle Habitat (AM)	2.03	Lower	4.07	Moderate	4.37	4.56
Waterbird Feeding Habitat (WBF)	4.57	Moderate	2.50	Moderate	3.64	2.50
Waterbird Nesting Habitat (WBN)	3.52	Moderate	2.50	Moderate	3.01	2.50
Songbird, Raptor, & Mammal Habitat (SBM)	9.09	Higher	2.50	Lower	7.54	2.50
Pollinator Habitat (POL)	8.46	Higher	0.00	Lower	6.81	0.00
Native Plant Habitat (PH)	3.99	Moderate	5.51	Moderate	4.70	4.78
Public Use & Recognition (PU)			3.35	Moderate		2.71
Wetland Sensitivity (Sens)			3.76	Moderate		3.33
Wetland Ecological Condition (EC)			10.00	Higher		10.00
Wetland Stressors (STR) (higher score means more stress)			6.19	Higher		4.53
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
4.56	8.88	4.31	3.13	5.70					
2.33	7.64	5.30	3.12	5.26					
0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
					0.33	7.44	7.11	2.40	5.51
					2.20	5.20	2.99	2.88	5.30
					4.24	10.00	5.76	3.25	6.39
					2.26	5.93	3.67	2.15	4.97

Wetland #5

Size: Area delineated is 1.09 ha.

Wetland Classification: Bog/ Wet Meadow complex.

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* 2% red maple (*Acer rubrum*, FAC); 2% black spruce (FACW); and 2% eastern larch (FAC).
- *Shrub:* 15% sheep laurel (FAC); 10% trembling aspen (*Populus tremuloides*, FAC); 10% leatherleaf (OBL); 5% rhodora (FAC); 5% false holly (*Nemopanthus mucronatus*, FAC); 5% steeplebush (FAC); and 5% white meadowsweet (FAC).
- *Herb:* 10% woolgrass (FACW); 5% spotted Joe-Pye weed (*Eupatorium maculatum*, FACW+); and 2% large cranberry (FACW+).

Primary Wetland Hydrology Indicators Present: High Water Table (A2); Saturation (A3).

Secondary Wetland Hydrology Indicators Present: Stunted or Stressed Plants (D1).

Soil Profile:

- 13-0" organics (peat);
- 0-14" 2.5YR 5/1 (100%)
- Restrictive layer: unknown.
- Hydric Soil Indicators: Histic Epipedon (A2).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Organic and Mineral;

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #5
Investigator Name:	CK
Date of Field Assessment:	Aug 15th and 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	2.66	Moderate	3.27	Moderate	3.78	3.33
Stream Flow Support (SFS)	2.71	Lower	4.87	Moderate	1.44	2.84
Water Cooling (WC)	2.40	Moderate	1.55	Moderate	1.60	0.93
Sediment Retention & Stabilisation (SR)	0.26	Lower	8.16	Higher	3.34	4.95
Phosphorus Retention (PR)	2.59	Lower	7.47	Higher	4.74	7.08
Nitrate Removal & Retention (NR)	0.15	Lower	10.00	Higher	3.93	10.00
Carbon Sequestration (CS)	1.15	Lower			5.06	
Organic Nutrient Export (OE)	4.21	Moderate			4.57	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	4.71	Moderate	2.81	Moderate	2.80	1.99
Aquatic Invertebrate Habitat (INV)	1.33	Lower	4.04	Moderate	4.34	3.42
Amphibian & Turtle Habitat (AM)	2.98	Lower	3.92	Moderate	4.88	4.47
Waterbird Feeding Habitat (WBF)	4.99	Moderate	2.50	Moderate	3.97	2.50
Waterbird Nesting Habitat (WBN)	3.25	Moderate	2.50	Moderate	2.78	2.50
Songbird, Raptor, & Mammal Habitat (SBM)	7.37	Higher	3.33	Moderate	6.11	3.33
Pollinator Habitat (POL)	8.55	Higher	3.33	Moderate	6.88	3.33
Native Plant Habitat (PH)	5.31	Moderate	6.27	Moderate	5.23	5.44
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			4.69	Moderate		3.61
Wetland Ecological Condition (EC)			6.39	Moderate		7.92
Wetland Stressors (STR) (higher score means more stress)			9.52	Higher		5.76
Summary Ratings for Grouped Functions:						

Wetland #6

Size: Area delineated is 0.07 ha.

Wetland Classification: Bog

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* 5% red maple (FAC); 5% black spruce (FACW); and 2% white pine (*Pinus strobus*, FAC).
- *Shrub:* 40% leatherleaf (OBL); 10% white meadowsweet (FAC); and 10% false holly (FAC).
- *Herb:* 15% woolgrass (FACW); 15% two-seeded sedge (*Carex disperma*, FACW); 10% cinnamon fern (*Osmunda cinnamomea*, FAC); 5% tawny cottongrass (OBL); and 5% crested shield fern (*Dryopteris cristata*, FACW).

Primary Wetland Hydrology Indicators Present: High Water Table (A2); Saturation (A3).

Secondary Wetland Hydrology Indicators Present: Stunted or Stressed Plants (D1).

Soil Profile:

- 40-0" organics (peat);
- 0-8" 2.5YR 5/2 (100%)
- Restrictive layer: unknown.
- Hydric Soil Indicators: Histosol (A1).

Notes:

- Position: Terrene;
- Landform: Basin;
- Water Flow Path: Isolated;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Organic;
- Human Impact: Tree removal, soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #6
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	10.00	Higher	2.06	Lower	9.43	2.13
Stream Flow Support (SFS)	0.00	Lower	0.00	Lower	0.00	0.00
Water Cooling (WC)	0.00	Lower	0.00	Lower	0.00	0.00
Sediment Retention & Stabilisation (SR)	7.83	Higher	2.21	Lower	8.52	1.34
Phosphorus Retention (PR)	5.12	Higher	1.47	Lower	6.54	1.67
Nitrate Removal & Retention (NR)	10.00	Higher	4.38	Moderate	10.00	5.00
Carbon Sequestration (CS)	8.39	Higher			8.18	
Organic Nutrient Export (OE)	5.68	Higher			5.35	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	5.65	Higher	0.56	Lower	5.86	1.55
Amphibian & Turtle Habitat (AM)	2.67	Lower	0.44	Lower	4.71	2.36
Waterbird Feeding Habitat (WBF)	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	5.52	Moderate	2.50	Lower	4.58	2.50
Pollinator Habitat (POL)	6.12	Moderate	0.00	Lower	4.93	0.00
Native Plant Habitat (PH)	3.70	Lower	3.65	Moderate	4.58	3.17
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			3.96	Moderate		3.39
Wetland Ecological Condition (EC)			7.83	Higher		8.75
Wetland Stressors (STR) (higher score means more stress)			8.57	Higher		5.41
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
4.56	8.88	4.31	3.13	5.70					
2.33	7.64	5.30	3.12	5.26					
0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
					0.33	7.44	7.11	2.40	5.51
					2.20	5.20	2.99	2.88	5.30
					4.24	10.00	5.76	3.25	6.39
					2.26	5.93	3.67	2.15	4.97

Wetland #7

Size: Area delineated is 0.68 ha (wetland area extends beyond Project Area).

Wetland Classification: Shrub swamp

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* 20% balsam fir (*Abies balsamea*, FAC); 15% red maple (FAC); and 10% black spruce (FACW).
- *Shrub:* 20% speckled alder (FACW); 10% false holly (FAC); and 5% wild raisin (*Viburnum nudum*, FAC)
- *Herb:* 15% cinnamon fern (FAC); 10% interrupted fern (*Osmunda claytoniana*, FAC); 10% slender manna-grass (OBL); 5% two-seeded sedge (FACW); and 5% dwarf enchanter's nightshade (*Circaea alpina*, FAC).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); Water Stained Leaves (B9); and Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: Drainage Patterns (B10).

Soil Profile:

- 4-0" organics (much);
- 0-8" 7.5YR 2.5/1 (100%);
- 8-11" 10YR 5/2 (99%) / 2.5YR 3/6 (1%) w/ redox concentrations;
- 11-18" 10YR 5/2 (90%) / 2.5YR 3/6 (10%) w/ redox concentrations;
- Restrictive layer: unknown.
- Hydric Soil Indicators: Redox Dark Surface (F6).

Notes:

- Position: Terrene;
- Landform: Basin;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Mineral;
- Human Impact: Adjacent tree removal, nearby soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #7
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Wetland #8

Size: Area delineated is 0.93 ha.

Wetland Classification: Treed Swamp

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* 10% northern white cedar (*Thuja occidentalis*, FACW); 10% red maple (FAC); 5% balsam fir (*Abies balsamea*, FAC); 5% black spruce (FACW); and 5% eastern larch (FAC).
- *Shrub:* 15% speckled alder (FACW); and 5% false holly (FAC);
- *Herb:* 15% jewelweed (*Impatiens capensis*, FAC); 10% cinnamon fern (FAC); 10% interrupted fern (FAC); 5% slender manna-grass (OBL); 5% Canada manna-grass (*Glyceria canadensis*, OBL); and 5% sensitive fern (*Onoclea sensibilis*, FACW).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); Water Stained Leaves (B9); and Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: Drainage Patterns (B10).

Soil Profile:

- 2-0" organics (muck);
- 0-8" 7.5YR 2.5/1 (100%);
- Restrictive layer: bedrock.
- Hydric Soil Indicators: Very Shallow Dark Surface (TF12).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Mineral;
- Human Impact: Tree removal, soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #8
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~ Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	Function Score (Normalised)				Benefits Score (Normalised)				Function Score (raw)				Benefits Score (raw)					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)	Function Score (raw)	Benefits Score (raw)	Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
Water Storage & Delay (WS)	3.16	Moderate	4.40	Moderate	4.16	4.45	4.16	4.45	1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
Stream Flow Support (SFS)	1.77	Lower	0.00	Lower	0.94	0.00	0.94	0.00	0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
Water Cooling (WC)	5.25	Moderate	2.82	Moderate	3.50	1.70	3.50	1.70	0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
Sediment Retention & Stabilisation (SR)	1.37	Lower	8.16	Higher	4.09	4.95	4.09	4.95	3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
Phosphorus Retention (PR)	2.22	Lower	7.47	Higher	4.47	7.08	4.47	7.08	2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
Nitrate Removal & Retention (NR)	1.54	Lower	10.00	Higher	4.78	10.00	4.78	10.00	3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
Carbon Sequestration (CS)	2.17	Lower			5.50		5.50		4.56	8.88	4.31	3.13	5.70					
Organic Nutrient Export (OE)	5.67	Higher			5.34		5.34		2.33	7.64	5.30	3.12	5.26					
Anadromous Fish Habitat (FA)	4.78	Moderate	3.13	Moderate	2.93	2.31	2.93	2.31	0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
Resident Fish Habitat (FR)	5.47	Moderate	2.98	Moderate	3.26	2.11	3.26	2.11	0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
Aquatic Invertebrate Habitat (INV)	2.85	Moderate	6.15	Higher	4.88	4.56	4.88	4.56	3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
Amphibian & Turtle Habitat (AM)	5.83	Moderate	4.89	Moderate	6.38	5.06	6.38	5.06	3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
Waterbird Feeding Habitat (WBF)	5.74	Moderate	2.50	Moderate	4.57	2.50	4.57	2.50	0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
Waterbird Nesting Habitat (WBN)	3.46	Moderate	2.50	Moderate	2.95	2.50	2.95	2.50	0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
Songbird, Raptor, & Mammal Habitat (SBM)	8.77	Higher	3.33	Moderate	7.27	3.33	7.27	3.33	0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
Pollinator Habitat (POL)	8.99	Higher	3.33	Moderate	7.24	3.33	7.24	3.33	0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
Native Plant Habitat (PH)	6.46	Higher	6.85	Higher	5.69	5.95	5.69	5.95	3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
Public Use & Recognition (PU)			3.48	Moderate		2.81		2.81						0.33	7.44	7.11	2.40	5.51
Wetland Sensitivity (Sens)			1.50	Lower		2.65		2.65						2.20	5.20	2.99	2.88	5.30
Wetland Ecological Condition (EC)			8.55	Higher		9.17		9.17						4.24	10.00	5.76	3.25	6.39
Wetland Stressors (STR) (higher score means more stress)			6.36	Higher		4.60		4.60						2.26	5.93	3.67	2.15	4.97
Summary Ratings for Grouped Functions:																		

New Brunswick Reference Scores

Wetland #9

Size: Area delineated is 0.19 ha (wetland area extends beyond Project Area).

Wetland Classification: Treed Swamp

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* 20% northern white cedar (FACW); 20% red maple (FAC); and 10% balsam fir (FAC).
- *Shrub:* 25% speckled alder (FACW); and 5% red maple (FAC);
- *Herb:* 20% cinnamon fern (FAC); 15% bluejoint reed grass (*Calamagrostis canadensis*, FACW); 10% interrupted fern (FAC); 5% slender manna-grass (OBL); 5% Canada manna-grass (*Glyceria canadensis*, OBL); and 5% prickly sedge (*Carex echinata*, OBL).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); Water Stained Leaves (B9); and Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: Drainage Patterns (B10).

Soil Profile:

- 12-0" organics (muck);
- 0-6" 2.5YR 2.5/1 (100%);
- 6-9" Gley 1 4/5G_/1 (100%);
- 9-12" 10R 4/6 (100%);
- Restrictive layer: gravels.
- Hydric Soil Indicators: Loamy Gleyed Matrix (F2).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Mineral;
- Human Impact: Adjacent tree removal, soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #9
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Wetland #10

Size: Area delineated is 0.10 ha.

Wetland Classification: Shrub Swamp

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None (harvested in 2010).
- *Shrub:* 15% false holly (FAC); 15% sheep laurel (FAC); 10% steeplebush (FAC); and 10% red maple (FAC).
- *Herb:* 50% woolgrass (FACW); 15% soft rush (*Juncus effusus*, FACW).

Primary Wetland Hydrology Indicators Present: High Water Table (A2); and Saturation (A3).

Secondary Wetland Hydrology Indicators Present: Geomorphic Position (D2).

Soil Profile:

- 7-0" organics (muck);
- 0-4" 7.5YR 3/1 (100%);
- 4-7" 10YR 5/1 (100%);
- Restrictive layer: bedrock.
- Hydric Soil Indicators: Stratified Layers (A5).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Unknown, possible result of tree removal and soil compaction;
- Wetland Soils: Mineral;
- Human Impact: Tree removal, soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #10
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	5.16	Higher	1.93	Lower	5.70	2.00
Stream Flow Support (SFS)	1.67	Lower	0.00	Lower	0.89	0.00
Water Cooling (WC)	0.00	Lower	0.00	Lower	0.00	0.00
Sediment Retention & Stabilisation (SR)	4.18	Moderate	2.21	Lower	6.02	1.34
Phosphorus Retention (PR)	1.76	Lower	1.47	Lower	4.15	1.67
Nitrate Removal & Retention (NR)	1.52	Lower	4.38	Moderate	4.77	5.00
Carbon Sequestration (CS)	2.56	Lower			5.66	
Organic Nutrient Export (OE)	3.62	Moderate			4.25	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	5.23	Moderate	0.67	Lower	5.71	1.60
Amphibian & Turtle Habitat (AM)	3.06	Lower	0.51	Lower	4.92	2.40
Waterbird Feeding Habitat (WBF)	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	5.68	Moderate	2.50	Lower	4.71	2.50
Pollinator Habitat (POL)	4.97	Moderate	0.00	Lower	4.00	0.00
Native Plant Habitat (PH)	2.69	Lower	3.35	Moderate	4.17	2.90
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			1.87	Lower		2.76
Wetland Ecological Condition (EC)			3.49	Moderate		6.25
Wetland Stressors (STR) (higher score means more stress)			9.57	Higher		5.78
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
4.56	8.88	4.31	3.13	5.70					
2.33	7.64	5.30	3.12	5.26					
0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
					0.33	7.44	7.11	2.40	5.51
					2.20	5.20	2.99	2.88	5.30
					4.24	10.00	5.76	3.25	6.39
					2.26	5.93	3.67	2.15	4.97

Wetland #11

Size: Area delineated is 0.31 ha.

Wetland Classification: Shrub Swamp/ Wet Meadow

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None (harvested in 2010).
- *Shrub:* 15% white meadowsweet (FAC); 15% speckled alder (FACW); 10% willow spp. (*Salix* spp., FACW); and 5% bristly black currant (*Ribes lacustre*, FACW).
- *Herb:* 40% woolgrass (FACW); 15% soft rush (*Juncus effusus*, FACW); 5% spotted Joe-Pye weed (FACW); and 5% marsh willow-herb (*Epilobium palustre*, OBL).

Primary Wetland Hydrology Indicators Present: High Water Table (A2); and Saturation (A3).

Secondary Wetland Hydrology Indicators Present: Geomorphic Position (D2).

Soil Profile:

- 5-0" organics (muck);
- 0-6" 7.5YR 3/2 (100%);
- 6-10" 7.5YR 4/1 (100%);
- Restrictive layer: bedrock.
- Hydric Soil Indicators: Stratified Layers (A5).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Unknown, possible result of tree removal and soil compaction;
- Wetland Soils: Mineral;
- Human Impact: Tree removal, soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #11
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	3.94	Moderate	1.91	Lower	4.76	1.98
Stream Flow Support (SFS)	3.28	Moderate	3.94	Moderate	1.75	2.30
Water Cooling (WC)	0.00	Lower	0.00	Lower	0.00	0.00
Sediment Retention & Stabilisation (SR)	4.32	Moderate	2.06	Lower	6.11	1.25
Phosphorus Retention (PR)	2.02	Lower	1.24	Lower	4.33	1.46
Nitrate Removal & Retention (NR)	0.78	Lower	4.38	Moderate	4.32	5.00
Carbon Sequestration (CS)	3.85	Moderate			6.22	
Organic Nutrient Export (OE)	4.33	Moderate			4.63	
Anadromous Fish Habitat (FA)	0.00	Lower	0.00	Lower	0.00	0.00
Resident Fish Habitat (FR)	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	3.44	Moderate	0.81	Lower	5.08	1.88
Amphibian & Turtle Habitat (AM)	3.14	Lower	0.74	Lower	4.96	2.54
Waterbird Feeding Habitat (WBF)	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	6.18	Moderate	2.50	Lower	5.13	2.50
Pollinator Habitat (POL)	6.27	Moderate	0.00	Lower	5.05	0.00
Native Plant Habitat (PH)	3.37	Lower	3.91	Moderate	4.44	3.39
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			3.16	Moderate		3.15
Wetland Ecological Condition (EC)			3.49	Moderate		6.25
Wetland Stressors (STR) (higher score means more stress)			8.15	Higher		5.25
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

	Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
Water Storage & Delay (WS)	1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
Stream Flow Support (SFS)	0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
Water Cooling (WC)	0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
Sediment Retention & Stabilisation (SR)	3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
Phosphorus Retention (PR)	2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
Nitrate Removal & Retention (NR)	3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
Carbon Sequestration (CS)	4.56	8.88	4.31	3.13	5.70					
Organic Nutrient Export (OE)	2.33	7.64	5.30	3.12	5.26					
Anadromous Fish Habitat (FA)	0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
Resident Fish Habitat (FR)	0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
Aquatic Invertebrate Habitat (INV)	3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
Amphibian & Turtle Habitat (AM)	3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
Waterbird Feeding Habitat (WBF)	0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
Waterbird Nesting Habitat (WBN)	0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
Songbird, Raptor, & Mammal Habitat (SBM)	0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
Pollinator Habitat (POL)	0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
Native Plant Habitat (PH)	3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
Public Use & Recognition (PU)						0.33	7.44	7.11	2.40	5.51
Wetland Sensitivity (Sens)						2.20	5.20	2.99	2.88	5.30
Wetland Ecological Condition (EC)						4.24	10.00	5.76	3.25	6.39
Wetland Stressors (STR) (higher score means more stress)						2.26	5.93	3.67	2.15	4.97

Wetland #12

Size: Area delineated is 0.08 ha (wetland area extends beyond Project Area).

Wetland Classification: Shrub Swamp

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None.
- *Shrub:* 70% speckled alder (FACW); 5% false holly (FAC); 5% wild raisin (FAC); and 5% white meadowsweet (FAC)
- *Herb:* 20% slender manna-grass (OBL); 15% small floating manna-grass (*Glyceria borealis*, OBL); 15% sensitive fern (FACW); and 5% arrow-leaved tearthumb (*Polygonum sagittatum*, OBL).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); Water-stained Leaves (B9); and Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: Drainage Patterns (B10).

Soil Profile:

- 0-16" 7.5YR 2.5/1 (100%) (muck);
- 16-24" 10YR 3/1 (100%);
- 24+" Gley 2 4/10BG (100%);
- Restrictive layer: unknown.
- Hydric Soil Indicators: Stratified Layers (A5); and Loamy Gleyed Matrix (F2).

Notes:

- Position: Lentic Stream;
- Landform: Basin;
- Water Flow Path: Throughflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Natural;
- Wetland Soils: Mineral;
- Human Impact: nearby tree removal and soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #12
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Assessment Area (AA) Results:

Wetland ID:

Date:

Observer:

Latitude & Longitude (decimal degrees):

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Wetland Functions or Other Attributes:	New Brunswick Reference Scores					
	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Water Storage & Delay (WS)	3.92	Moderate	1.91	Lower	4.75	1.98
Stream Flow Support (SFS)	2.92	Lower	6.00	Moderate	1.56	3.50
Water Cooling (WC)	3.75	Moderate	2.58	Moderate	2.50	1.55
Sediment Retention & Stabilisation (SR)	2.38	Moderate	7.24	Moderate	4.78	4.40
Phosphorus Retention (PR)	2.44	Lower	6.54	Higher	4.63	6.25
Nitrate Removal & Retention (NR)	2.81	Moderate	10.00	Higher	5.57	10.00
Carbon Sequestration (CS)	3.99	Moderate			6.29	
Organic Nutrient Export (OE)	6.30	Higher			5.68	
Anadromous Fish Habitat (FA)	5.19	Moderate	3.19	Moderate	3.18	2.36
Resident Fish Habitat (FR)	6.42	Higher	3.05	Moderate	3.82	2.16
Aquatic Invertebrate Habitat (INV)	4.05	Moderate	6.52	Higher	5.30	4.76
Amphibian & Turtle Habitat (AM)	6.14	Moderate	4.44	Moderate	6.54	4.79
Waterbird Feeding Habitat (WBF)	6.04	Moderate	2.50	Moderate	4.81	2.50
Waterbird Nesting Habitat (WBN)	3.68	Moderate	2.50	Moderate	3.15	2.50
Songbird, Raptor, & Mammal Habitat (SBM)	8.51	Higher	2.50	Lower	7.05	2.50
Pollinator Habitat (POL)	8.94	Higher	0.00	Lower	7.20	0.00
Native Plant Habitat (PH)	5.37	Moderate	5.48	Moderate	5.25	4.75
Public Use & Recognition (PU)			1.92	Lower		1.70
Wetland Sensitivity (Sens)			2.29	Lower		2.89
Wetland Ecological Condition (EC)			8.55	Higher		9.17
Wetland Stressors (STR) (higher score means more stress)			5.60	Higher		4.32
Summary Ratings for Grouped Functions:						

New Brunswick Reference Scores

	Min	Max	Range	F_JenksLo	F_JenksHigh	Min	Max	Range	B_JenksLo	B_JenksHigh
Water Storage & Delay (WS)	1.73	9.42	7.68	2.48	5.12	0.08	10.00	9.92	2.58	5.67
Stream Flow Support (SFS)	0.00	5.33	5.33	2.92	6.56	0.00	5.83	5.83	2.08	6.16
Water Cooling (WC)	0.00	6.67	6.67	1.80	5.30	0.00	6.02	6.02	1.45	4.79
Sediment Retention & Stabilisation (SR)	3.16	10.00	6.84	1.76	5.26	0.00	6.07	6.07	3.75	7.95
Phosphorus Retention (PR)	2.90	10.00	7.10	2.66	4.17	0.33	9.38	9.04	1.71	4.55
Nitrate Removal & Retention (NR)	3.83	10.00	6.17	2.27	4.36	1.11	10.00	8.89	2.50	7.19
Carbon Sequestration (CS)	4.56	8.88	4.31	3.13	5.70					
Organic Nutrient Export (OE)	2.33	7.64	5.30	3.12	5.26					
Anadromous Fish Habitat (FA)	0.00	6.13	6.13	1.80	6.71	0.00	7.39	7.39	0.00	4.44
Resident Fish Habitat (FR)	0.00	5.95	5.95	1.40	6.29	0.00	7.09	7.09	0.00	4.48
Aquatic Invertebrate Habitat (INV)	3.87	7.39	3.52	2.58	5.58	1.24	6.64	5.39	0.85	5.74
Amphibian & Turtle Habitat (AM)	3.30	8.58	5.28	3.30	6.25	2.09	8.16	6.06	2.27	6.30
Waterbird Feeding Habitat (WBF)	0.00	7.96	7.96	0.00	6.84	0.00	10.00	10.00	0.83	6.67
Waterbird Nesting Habitat (WBN)	0.00	8.54	8.54	1.95	5.42	0.00	10.00	10.00	0.00	6.67
Songbird, Raptor, & Mammal Habitat (SBM)	0.00	8.29	8.29	2.50	7.24	0.00	10.00	10.00	3.33	6.67
Pollinator Habitat (POL)	0.00	8.05	8.05	0.00	7.81	0.00	10.00	10.00	0.00	6.67
Native Plant Habitat (PH)	3.08	7.12	4.03	3.96	5.98	0.00	8.68	8.68	0.00	6.33
Public Use & Recognition (PU)						0.33	7.44	7.11	2.40	5.51
Wetland Sensitivity (Sens)						2.20	5.20	2.99	2.88	5.30
Wetland Ecological Condition (EC)						4.24	10.00	5.76	3.25	6.39
Wetland Stressors (STR) (higher score means more stress)						2.26	5.93	3.67	2.15	4.97

Wetland #13

Size: Area delineated is 0.27 ha.

Wetland Classification: Wet Meadow

Dominant Wetland Vegetation (per 50/20 rule):

>50% Hydrophytic Vegetation?: Yes

- *Trees:* None (harvested in 2010).
- *Shrub:* 15% white meadowsweet (FAC); 10% steplebush (FAC); 10% speckled alder (FACW); and 5% red raspberry (*Rubus idaeus*, FAC).
- *Herb:* 40% woolgrass (FACW); 20% narrow-leaved cattail (OBL); 10% sensitive fern (FACW); 5% nodding sedge (*Carex gynandra*, FACW); and 2% arrow-leaved tearthumb (OBL).

Primary Wetland Hydrology Indicators Present: Surface Water (A1); High Water Table (A2); Saturation (A3); and Aquatic Fauna (B13).

Secondary Wetland Hydrology Indicators Present: None.

Soil Profile:

- 5-0" organics (muck);
- 0-8" 7.5YR 4/2 (100%);
- 8-13" 5YR 3/1 (100%);
- Restrictive layer: unknown.
- Hydric Soil Indicators: Stratified Layers (A5).

Notes:

- Position: Terrene;
- Landform: Slope;
- Water Flow Path: Outflow;
- Water Regime: Seasonally flooded; permanently saturated;
- Wetland Origin: Unknown, possible result of tree removal and soil compaction;
- Wetland Soils: Mineral;
- Human Impact: nearby tree removal and soil compaction/rutting.

Cover Page: Basic Description of Assessment	WESP-AC version 2
Site Name:	WL #13
Investigator Name:	CK
Date of Field Assessment:	Aug 16th, 2018
Nearest Town:	Upham
Latitude (decimal degrees):	
Longitude (decimal degrees):	
Is a map based on a formal on-site wetland delineation available?	Yes
Approximate size of the Assessment Area (AA, in hectares):	
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	
What percent (approx.) of the wetland were you able to visit?	
What percent (approx.) of the AA were you able to visit?	
Were you able to ask the site owner/manager about any of the questions?	The site was logged ~Aug 2010
Indicate here if you intentionally surveyed for rare plants, calciphile plants, or rare animals:	Yes
Have you attended a WESP-AC training session? If so, indicate approximate month & year.	Sept 2016
How many wetlands have you assessed previously using WESP-AC? (approx.)	>100
Comments about the site or this WESP-AC assessment (attach extra page if desired):	

Appendix C

Vegetation Species Lists

Table C.1: Wetlands - Vegetation Species List - Proposed Gypsum Quarry, Upham East, New Brunswick

Scientific Name	Common name	Sub-National Status Rank	SGS Rank
<i>Acer rubrum</i>	Red Maple	S5	4 Secure
<i>Acer spicatum</i>	Mountain Maple	S5	4 Secure
<i>Sium suave</i>	Common Water Parsnip	S5	4 Secure
<i>Ilex verticillata</i>	Common Winterberry	S5	4 Secure
<i>Nemopanthus mucronatus</i>	Mountain Holly	S5	4 Secure
<i>Bidens cernua</i>	Nodding Beggarticks	S5	4 Secure
<i>Doellingeria umbellata</i>	Hairy Flat-top White Aster	S5	4 Secure
<i>Eupatorium maculatum</i>	Spotted Joe-pye-weed	S5	4 Secure
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	S5	4 Secure
<i>Oclemena nemoralis</i>	Bog Aster	S5	4 Secure
<i>Packera aurea</i>	Golden Groundsel	S4S5	4 Secure
<i>Solidago gigantea</i>	Giant Goldenrod	S5	4 Secure
<i>Solidago uliginosa</i>	Northern Bog Goldenrod	S5	4 Secure
<i>Tussilago farfara</i>	Coltsfoot	SNA	7 Exotic
<i>Impatiens capensis</i>	Spotted Jewelweed	S5	4 Secure
<i>Alnus incana</i>	Speckled Alder	S5	4 Secure
<i>Betula alleghaniensis</i>	Yellow Birch	S5	4 Secure
<i>Betula populifolia</i>	Gray Birch	S5	4 Secure
<i>Myosotis laxa</i>	Small Forget-Me-Not	S5	4 Secure
<i>Hypericum boreale</i>	Northern St John's-Wort	S5	4 Secure
<i>Hypericum canadense</i>	Canada St John's-wort	S5	4 Secure
<i>Hypericum ellipticum</i>	Pale St John's-Wort	S5	4 Secure
<i>Triadenum fraseri</i>	Fraser's Marsh St John's-wort	S5	4 Secure
<i>Cornus sericea</i>	Red Osier Dogwood	S5	4 Secure
<i>Linnaea borealis</i>	Twinflower	S5	4 Secure
<i>Sambucus racemosa</i>	Red Elderberry	S5	4 Secure
<i>Viburnum lantanoides</i>	Hobblebush	S5	4 Secure
<i>Viburnum nudum</i>	Northern Wild Raisin	S5	4 Secure
<i>Echinocystis lobata</i>	Wild Cucumber	S5	4 Secure
<i>Chamaedaphne calyculata</i>	Leatherleaf	S5	4 Secure
<i>Gaultheria hispidula</i>	Creeping Snowberry	S5	4 Secure
<i>Gaultheria procumbens</i>	Eastern Teaberry	S5	4 Secure
<i>Kalmia angustifolia</i>	Sheep Laurel	S5	4 Secure
<i>Ledum groenlandicum</i>	Common Labrador Tea	S5	4 Secure
<i>Rhododendron canadense</i>	Rhodora	S5	4 Secure
<i>Vaccinium angustifolium</i>	Late Lowbush Blueberry	S5	4 Secure
<i>Vaccinium macrocarpon</i>	Large Cranberry	S5	4 Secure
<i>Vaccinium myrtilloides</i>	Velvet-leaved Blueberry	S5	4 Secure
<i>Ribes lacustre</i>	Bristly Black Currant	S5	4 Secure
<i>Lycopus americanus</i>	American Water Horehound	S5	4 Secure
<i>Mentha arvensis</i>	Wild Mint	S5	4 Secure
<i>Scutellaria galericulata</i>	Marsh Skullcap	S5	4 Secure
<i>Scutellaria lateriflora</i>	Mad-dog Skullcap	S5	4 Secure
<i>Fraxinus americana</i>	White Ash	S4S5	4 Secure
<i>Epilobium ciliatum</i>	Northern Willowherb	S5	4 Secure
<i>Epilobium palustre</i>	Marsh Willowherb	S5	4 Secure
<i>Ludwigia palustris</i>	Marsh Seedbox	S4	4 Secure
<i>Polygonum hydropiperoides</i>	False Waterpepper	S4	4 Secure
<i>Polygonum sagittatum</i>	Arrow-leaved Smartweed	S5	4 Secure
<i>Rumex crispus</i>	Curled Dock	SNA	7 Exotic
<i>Rumex orbiculatus</i>	Greater Water Dock	S5	4 Secure
<i>Lysimachia terrestris</i>	Swamp Yellow Loosestrife	S5	4 Secure
<i>Clematis virginiana</i>	Virginia Clematis	S5	4 Secure
<i>Ranunculus acris</i>	Common Buttercup	SNA	7 Exotic
<i>Ranunculus recurvatus</i>	Hooked Buttercup	S4	4 Secure
<i>Ranunculus repens</i>	Creeping Buttercup	SNA	7 Exotic
<i>Thalictrum pubescens</i>	Tall Meadow-Rue	S5	4 Secure
<i>Fragaria virginiana</i>	Wild Strawberry	S5	4 Secure
<i>Geum canadense</i>	White Avens	S5	4 Secure
<i>Geum macrophyllum</i>	Large-Leaved Avens	S5	4 Secure
<i>Rubus allegheniensis</i>	Alleghaney Blackberry	S5	4 Secure
<i>Rubus hispidus</i>	Bristly Dewberry	S5	4 Secure
<i>Spiraea alba</i>	White Meadowsweet	S5	4 Secure
<i>Spiraea tomentosa</i>	Steeplebush	S5	4 Secure
<i>Galium palustre</i>	Common Marsh Bedstraw	S5	4 Secure
<i>Populus tremuloides</i>	Trembling Aspen	S5	4 Secure
<i>Salix spp.</i>	Willow spp.	-	-
<i>Chelone glabra</i>	White Turtlehead	S5	4 Secure
<i>Mimulus ringens</i>	Square-stemmed Monkeyflower	S5	4 Secure
<i>Veronica scutellata</i>	Marsh Speedwell	S5	4 Secure
<i>Viola spp.</i>	Violet spp.	-	-

Table C.1: Wetlands - Vegetation Species List - Proposed Gypsum Quarry, Upham East, New Brunswick

Scientific Name	Common name	Sub-National Status Rank	SGS Rank
<i>Thuja occidentalis</i>	Eastern White Cedar	S5	4 Secure
<i>Abies balsamea</i>	Balsam Fir	S5	4 Secure
<i>Larix laricina</i>	Tamarack	S5	4 Secure
<i>Picea mariana</i>	Black Spruce	S5	4 Secure
<i>Tsuga canadensis</i>	Eastern Hemlock	S5	4 Secure
<i>Calla palustris</i>	Wild Calla	S5	4 Secure
<i>Carex aquatilis</i>	Water Sedge	S4S5	4 Secure
<i>Carex castanea</i>	Chestnut Sedge	S4	4 Secure
<i>Carex disperma</i>	Two-seeded Sedge	S5	4 Secure
<i>Carex echinata</i>	Star Sedge	S5	4 Secure
<i>Carex gynandra</i>	Nodding Sedge	S5	4 Secure
<i>Carex lurida</i>	Sallow Sedge	S5	4 Secure
<i>Carex nigra</i>	Smooth Black Sedge	S4S5	4 Secure
<i>Carex pseudocyperus</i>	Cyperuslike Sedge	S5	4 Secure
<i>Carex scoparia</i>	Broom Sedge	S5	4 Secure
<i>Carex stipata</i>	Awl-fruited Sedge	S5	4 Secure
<i>Carex trisperma</i>	Three-seeded Sedge	S5	4 Secure
<i>Eleocharis palustris</i>	Common Spikerush	S5	4 Secure
<i>Eriophorum virginicum</i>	Tawny Cottongrass	S5	4 Secure
<i>Schoenoplectus tabernaemontani</i>	Softstem Bulrush	S5	4 Secure
<i>Scirpus atrocinctus</i>	Black-girdled Bulrush	S5	4 Secure
<i>Scirpus cyperinus</i>	Common Woolly Bulrush	S5	4 Secure
<i>Eriocaulon aquaticum</i>	White Buttons	S5	4 Secure
<i>Iris versicolor</i>	Harlequin Blue Flag	S5	4 Secure
<i>Juncus effusus</i>	Soft Rush	S5	4 Secure
<i>Spirodela polyrrhiza</i>	Great Duckweed	S3S4	4 Secure
<i>Maianthemum trifolium</i>	Three-leaved False Solomon's Seal	S5	4 Secure
<i>Spiranthes</i> spp.*	<i>Spiranthes</i> spp.	-	-
<i>Calamagrostis canadensis</i>	Bluejoint Reed Grass	S5	4 Secure
<i>Glyceria borealis</i>	Northern Manna Grass	S5	4 Secure
<i>Glyceria canadensis</i>	Canada Manna Grass	S5	4 Secure
<i>Glyceria melicaria</i>	Slender Manna Grass	S5	4 Secure
<i>Phalaris arundinacea</i>	Reed Canary Grass	S5	4 Secure
<i>Sparganium americanum</i>	American Burreed	S5	4 Secure
<i>Typha latifolia</i>	Broad-leaved Cattail	S5	4 Secure
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	S5	4 Secure
<i>Dryopteris cristata</i>	Crested Wood Fern	S5	4 Secure
<i>Onclea sensibilis</i>	Sensitive Fern	S5	4 Secure
<i>Osmunda cinnamomea</i>	Cinnamon Fern	S5	4 Secure
<i>Osmunda claytoniana</i>	Interrupted Fern	S5	4 Secure
<i>Thelypteris palustris</i>	Eastern Marsh Fern	S5	4 Secure
<i>Rorippa nasturtium-aquaticum</i>	Watercress	SNA	7 Exotic
<i>Carex scabrata</i>	Rough Sedge	S5	4 Secure
<i>Potamogeton</i> spp.	Pondweed spp.	-	-

* Note: This species was unidentifiable during the field assessment. The habitat where the specimen was found was consistent with Shining Ladies Tresses (*Spiranthes lucida*), an SOCC listed as an "Uncommon" (S3) species identified by the AC CDC.

Table C.2: Cut-over Areas - Vegetation Species List - Proposed Gypsum Quarry, Upham East, New Brunswick

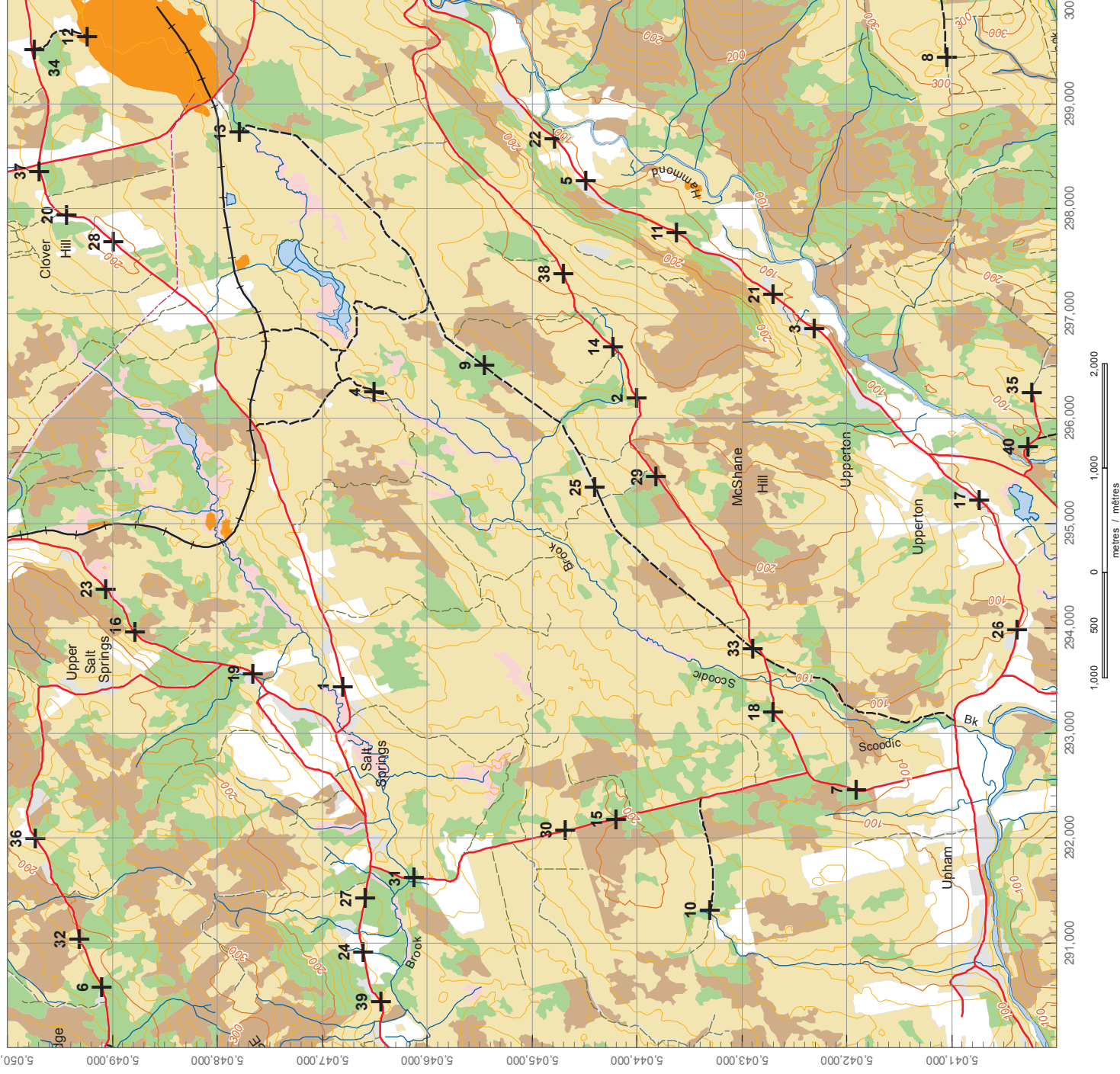
Scientific Name	Common name	Sub-National Status Rank	SGS Rank
<i>Nemopanthus mucronatus</i>	Mountain Holly	S5	4 Secure
<i>Aralia hispida</i>	Bristly Sarsaparilla	S5	4 Secure
<i>Aralia nudicaulis</i>	Wild Sarsaparilla	S5	4 Secure
<i>Centaurea nigra</i>	Black Knapweed	SNA	7 Exotic
<i>Doellingeria umbellata</i>	Hairy Flat-top White Aster	S5	4 Secure
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	S5	4 Secure
<i>Prenanthes altissima</i>	Tall Rattlesnakeroot	S5	4 Secure
<i>Prenanthes trifoliolata</i>	Three-leaved Rattlesnakeroot	S5	4 Secure
<i>Solidago bicolor</i>	White Goldenrod	S5	4 Secure
<i>Solidago canadensis</i>	Canada Goldenrod	S5	4 Secure
<i>Solidago puberula</i>	Downy Goldenrod	S5	4 Secure
<i>Solidago rugosa</i>	Rough-stemmed Goldenrod	S5	4 Secure
<i>Tussilago farfara</i>	Coltsfoot	SNA	7 Exotic
<i>Betula papyrifera</i>	Paper Birch	S5	4 Secure
<i>Betula populifolia</i>	Gray Birch	S5	4 Secure
<i>Cornus canadensis</i>	Bunchberry	S5	4 Secure
<i>Viburnum nudum</i>	Northern Wild Raisin	S5	4 Secure
<i>Epigaea repens</i>	Trailing Arbutus	S5	4 Secure
<i>Kalmia angustifolia</i>	Sheep Laurel	S5	4 Secure
<i>Vaccinium angustifolium</i>	Late Lowbush Blueberry	S5	4 Secure
<i>Vaccinium myrtilloides</i>	Velvet-leaved Blueberry	S5	4 Secure
<i>Melilotus albus</i>	White Sweet-clover	SNA	7 Exotic
<i>Trifolium arvense</i>	Rabbit's-foot Clover	SNA	7 Exotic
<i>Trifolium aureum</i>	Yellow Clover	SNA	7 Exotic
<i>Trifolium pratense</i>	Red Clover	SNA	7 Exotic
<i>Trifolium repens</i>	White Clover	SNA	7 Exotic
<i>Ribes glandulosum</i>	Skunk Currant	S5	4 Secure
<i>Ribes hirtellum</i>	Smooth Gooseberry	S5	4 Secure
<i>Prunella vulgaris</i>	Common Self-heal	S5	4 Secure
<i>Chamerion angustifolium</i>	Fireweed	S5	4 Secure
<i>Rumex crispus</i>	Curled Dock	SNA	7 Exotic
<i>Plantago major</i>	Common Plantain	SNA	7 Exotic
<i>Trientalis borealis</i>	Northern Starflower	S5	4 Secure
<i>Fragaria virginiana</i>	Wild Strawberry	S5	4 Secure
<i>Prunus serotina</i>	Black Cherry	S5	4 Secure
<i>Prunus virginiana</i>	Chokecherry	S5	4 Secure
<i>Rubus allegheniensis</i>	Alleghaney Blackberry	S5	4 Secure
<i>Rubus idaeus</i>	Red Raspberry	S5	4 Secure
<i>Sorbus americana</i>	American Mountain Ash	S5	4 Secure
<i>Spiraea alba</i>	White Meadowsweet	S5	4 Secure
<i>Spiraea tomentosa</i>	Steeplebush	S5	4 Secure
<i>Populus tremuloides</i>	Trembling Aspen	S5	4 Secure
<i>Salix spp.</i>	Willow Spp.	-	-
<i>Euphrasia nemorosa</i>	Common Eyebright	SNA	7 Exotic
<i>Viola spp.</i>	Violet spp.	-	-
<i>Juniperus communis</i>	Common Juniper	S5	4 Secure
<i>Abies balsamea</i>	Balsam Fir	S5	4 Secure
<i>Pinus strobus</i>	Eastern White Pine	S5	4 Secure
<i>Carex projecta</i>	Necklace Sedge	S5	4 Secure
<i>Scirpus cyperinus</i>	Common Woolly Bulrush	S5	4 Secure
<i>Juncus effusus</i>	Soft Rush	S5	4 Secure
<i>Pteridium aquilinum</i>	Bracken Fern	S5	4 Secure
<i>Osmunda cinnamomea</i>	Cinnamon Fern	S5	4 Secure

Table C.3: Cut-over Areas - Vegetation Species List - Proposed Gypsum Quarry, Upham East, New Brunswick

Scientific Name	Common name	Sub-National Status Rank	SGS Rank
<i>Acer pensylvanicum</i>	Striped Maple	S5	4 Secure
<i>Acer saccharum</i>	Sugar Maple	S5	4 Secure
<i>Acer spicatum</i>	Mountain Maple	S5	4 Secure
<i>Sium suave</i>	Common Water Parsnip	S5	4 Secure
<i>Aralia nudicaulis</i>	Wild Sarsaparilla	S5	4 Secure
<i>Oclemena acuminata</i>	Whorled Wood Aster	S5	4 Secure
<i>Tussilago farfara</i>	Coltsfoot	SNA	7 Exotic
<i>Betula alleghaniensis</i>	Yellow Birch	S5	4 Secure
<i>Betula papyrifera</i>	Paper Birch	S5	4 Secure
<i>Hypericum perforatum</i>	Common St. John's-wort	SNA	7 Exotic
<i>Cornus canadensis</i>	Bunchberry	S5	4 Secure
<i>Lonicera canadensis</i>	Canada Fly Honeysuckle	S5	4 Secure
<i>Viburnum nudum</i>	Northern Wild Raisin	S5	4 Secure
<i>Epigaea repens</i>	Trailing Arbutus	S5	4 Secure
<i>Ribes glandulosum</i>	Skunk Currant	S5	4 Secure
<i>Monotropa uniflora</i>	Indian Pipe	S5	4 Secure
<i>Circaea alpina</i>	Small Enchanter's Nightshade	S5	4 Secure
<i>Oxalis montana</i>	Common Wood Sorrel	S5	4 Secure
<i>Oxalis stricta</i>	European Wood Sorrel	S5	4 Secure
<i>Polygonum ciliinode</i>	Fringed Black Bindweed	S5	4 Secure
<i>Trientalis borealis</i>	Northern Starflower	S5	4 Secure
<i>Orthilia secunda</i>	One-sided Wintergreen	S5	4 Secure
<i>Coptis trifolia</i>	Goldthread	S5	4 Secure
<i>Ranunculus abortivus</i>	Kidney-Leaved Buttercup	S5	4 Secure
<i>Amelanchier spp.</i>	Serviceberry spp.	-	-
<i>Fragaria virginiana</i>	Wild Strawberry	S5	4 Secure
<i>Geum aleppicum</i>	Yellow Avens	S5	4 Secure
<i>Prunus serotina</i>	Black Cherry	S5	4 Secure
<i>Mimulus ringens</i>	Square-stemmed Monkeyflower	S5	4 Secure
<i>Veronica officinalis</i>	Common Speedwell	S5	7 Exotic
<i>Veronica scutellata</i>	Marsh Speedwell	S5	4 Secure
<i>Viola spp.</i>	Violet spp.	-	-
<i>Juniperus communis</i>	Common Juniper	S5	4 Secure
<i>Abies balsamea</i>	Balsam Fir	S5	4 Secure
<i>Pinus strobus</i>	Eastern White Pine	S5	4 Secure
<i>Carex projecta</i>	Necklace Sedge	S5	4 Secure
<i>Eleocharis tenuis</i>	Slender Spikerush	S4S5	4 Secure
<i>Clintonia borealis</i>	Yellow Bluebead Lily	S5	4 Secure
<i>Maianthemum canadense</i>	Wild Lily-of-The-Valley	S5	4 Secure
<i>Trillium undulatum</i>	Painted Trillium	S5	4 Secure
<i>Dennstaedtia punctilobula</i>	Eastern Hay-Scented Fern	S5	4 Secure
<i>Pteridium aquilinum</i>	Bracken Fern	S5	4 Secure
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	S5	4 Secure
<i>Dryopteris intermedia</i>	Evergreen Wood Fern	S5	4 Secure
<i>Phegopteris connectilis</i>	Northern Beech Fern	S5	4 Secure
<i>Thelypteris noveboracensis</i>	New York Fern	S5	4 Secure

Appendix D

Site Specific Maritime Breeding Bird Atlas



Roadside Point Count Coordinates/
Coordonnées de points d'écoute
de bordure de route

#	Easting/ Abscisse	Northing/ Ordonnée
1	293,444	5,046,798
2	296,194	5,043,999
3	296,857	5,042,308
4	296,254	5,046,502
5	298,259	5,044,487
6	290,576	5,049,101
7	292,453	5,041,903
8	299,444	5,041,044
9	296,498	5,045,454
10	291,310	5,043,301
11	297,768	5,043,614
12	299,637	5,049,241
13	298,727	5,047,784
14	296,677	5,044,226
15	292,179	5,044,199
16	293,959	5,048,786
17	295,220	5,040,734
18	293,200	5,042,698
19	293,564	5,047,660
20	297,931	5,049,431
21	297,177	5,042,701
22	298,664	5,044,779
23	294,375	5,049,059
24	290,916	5,046,609
25	295,336	5,044,396
26	293,986	5,040,373
27	291,422	5,046,585
28	297,680	5,048,989
29	295,445	5,043,812
30	292,071	5,044,682
31	291,614	5,046,120
32	291,030	5,049,311
33	293,800	5,042,894
34	299,519	5,049,740
35	296,242	5,040,235
36	291,990	5,049,726
37	298,354	5,049,692
38	297,373	5,044,699
39	290,433	5,046,435
40	295,733	5,040,273

Region/région: 12 **20KR94**

Legend/Légende

- Highway ——— Route
- Forest Road ——— Route forestière
- Seasonal Road - - - - - Chemin saisonnier
- Trail - - - - - Sentier
- Railway, ——— Voie ferrée,
Abandoned Railway or Trail ——— Voie ferrée abandonnée ou sentier
- PipeLine f f f Gazoduc ou conduite d'eau
- Transmission Line - - - - - Ligne électrique
- Contour 20 m ——— Courbe de niveau 20 m
- Contour 100 m (index) ——— Courbe de niveau 100 m (index)
- Stream ——— Ruisseau
- Lake, River, Ocean [Blue Box] Lac, rivière, océan
- Open Wetland [Blue Box with wavy lines] Marécage
- Bog, Fen or Shrub Wetland [Pink Box] Tourbière ou marécage arbustif
- Mature Deciduous Forest [Brown Box] Forêt de feuillus mature
- Mature Coniferous Forest [Green Box] Forêt de conifères mature
- Mature Pine Forest [Dark Green Box] Forêt de pins mature
- Young Forest [Yellow Box] Jeune forêt
- Upland Open Country [White Box] Terrain ouvert: agricole, non-boisé
- Occupied, Urban, Other [Grey Box] Terrain occupé, zone urbaine, autre
- Gravel Pit [Orange Box] Gravière

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Central Meridian 63° West; North American Datum 1983 (NAD 83)
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Zone 20, méridien central, 63° ouest
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Table D.1. MBBA Results for Square 20KR94

Common Name	Scientific Name	Breeding Status
Canada Goose	<i>Branta canadensis</i>	Confirmed
Wood Duck	<i>Aix sponsa</i>	Possible
American Black Duck	<i>Anas rubripes</i>	Possible
Mallard	<i>Anas platyrhynchos</i>	Confirmed
Common Merganser	<i>Mergus merganser</i>	Confirmed
Ruffed Grouse	<i>Bonasa umbellus</i>	Confirmed
Great Blue Heron	<i>Ardea herodias</i>	Possible
Turkey Vulture	<i>Cathartes aura</i>	Possible
Osprey	<i>Pandion haliaetus</i>	Possible
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Probable
Northern Harrier	<i>Circus cyaneus</i>	Confirmed
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Probable
Broad-winged Hawk	<i>Buteo platypterus</i>	Confirmed
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Confirmed
American Woodcock	<i>Scolopax minor</i>	Possible
Rock Pigeon	<i>Columba livia</i>	Confirmed
Mourning Dove	<i>Zenaida macroura</i>	Confirmed
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Confirmed
Great Horned Owl	<i>Bubo virginianus</i>	Possible
Barred Owl	<i>Strix varia</i>	Probable
Common Nighthawk	<i>Chordeiles minor</i>	Probable
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	Probable
Belted Kingfisher	<i>Ceryle alcyon</i>	Confirmed
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	Possible
Downy Woodpecker	<i>Picoides pubescens</i>	Probable
Hairy Woodpecker	<i>Picoides villosus</i>	Probable
Northern Flicker	<i>Colaptes auratus</i>	Confirmed
Pileated Woodpecker	<i>Dryocopus pileatus</i>	Confirmed
American Kestrel	<i>Falco sparverius</i>	Probable
Merlin	<i>Falco columbarius</i>	Confirmed
Eastern Wood-Pewee	<i>Contopus virens</i>	Probable
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	Probable
Alder Flycatcher	<i>Empidonax alnorum</i>	Confirmed
Least Flycatcher	<i>Empidonax minimus</i>	Confirmed
Eastern Phoebe	<i>Sayornis phoebe</i>	Confirmed
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Confirmed

Blue-headed Vireo	<i>Vireo solitarius</i>	Confirmed
Red-eyed Vireo		Confirmed
Gray Jay	<i>Perisoreus canadensis</i>	Confirmed
Blue Jay	<i>Cyanocitta cristata</i>	Confirmed
American Crow	<i>Corvus brachyrhynchos</i>	Confirmed
Common Raven	<i>Corvus corax</i>	Confirmed
Tree Swallow	<i>Tachycineta bicolor</i>	Confirmed
Bank Swallow	<i>Riparia riparia</i>	Probable
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	Probable
Barn Swallow	<i>Hirundo rustica</i>	Confirmed
Black-capped Chickadee	<i>Poecile atricapilla</i>	Confirmed
Boreal Chickadee	<i>Poecile hudsonica</i>	Confirmed
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Confirmed
Brown Creeper	<i>Certhia americana</i>	Possible
Winter Wren	<i>Troglodytes troglodytes</i>	Confirmed
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Possible
Ruby-crowned Kinglet	<i>Regulus calendula</i>	Confirmed
Veery	<i>Catharus fuscescens</i>	Possible
Swainson's Thrush	<i>Catharus ustulatus</i>	Confirmed
Hermit Thrush	<i>Catharus guttatus</i>	Confirmed
American Robin	<i>Turdus migratorius</i>	Confirmed
Gray Catbird	<i>Dumetella carolinensis</i>	Confirmed
Northern Mockingbird	<i>Mimus polyglottos</i>	Confirmed
European Starling	<i>Sturnus vulgaris</i>	Confirmed
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Confirmed
Ovenbird	<i>Seiurus aurocapillus</i>	Confirmed
Northern Waterthrush	<i>Seiurus noveboracensis</i>	Probable
Black-and-white Warbler	<i>Mniotilta varia</i>	Confirmed
Tennessee Warbler	<i>Vermivora peregrina</i>	Confirmed
Nashville Warbler	<i>Vermivora ruficapilla</i>	Confirmed
Mourning Warbler	<i>Oporomis philadelphia</i>	Probable
Common Yellowthroat	<i>Geothlypis trichas</i>	Confirmed
American Redstart	<i>Setophaga ruticilla</i>	Confirmed
Northern Parula	<i>Parula americana</i>	Confirmed
Magnolia Warbler	<i>Dendroica magnolia</i>	Confirmed
Bay-breasted Warbler	<i>Dendroica castanea</i>	Probable
Blackburnian Warbler	<i>Dendroica fusca</i>	Confirmed

Yellow Warbler	<i>Dendroica petechia</i>	Confirmed
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	Confirmed
Blackpoll Warbler	<i>Dendroica striata</i>	Possible
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	Confirmed
Palm Warbler	<i>Dendroica palmarum</i>	Probable
Yellow-rumped Warbler	<i>Dendroica coronata</i>	Confirmed
Black-throated Green Warbler	<i>Dendroica virens</i>	Confirmed
Canada Warbler	<i>Wilsonia canadensis</i>	Confirmed
Wilson's Warbler	<i>Wilsonia pusilla</i>	Confirmed
Chipping Sparrow	<i>Spizella passerina</i>	Confirmed
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Confirmed
Song Sparrow	<i>Melospiza melodia</i>	Confirmed
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	Possible
Swamp Sparrow	<i>Melospiza georgiana</i>	Probable
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Confirmed
Dark-eyed Junco	<i>Junco hyemalis</i>	Confirmed
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Probable
Bobolink	<i>Dolichonyx oryzivorus</i>	Confirmed
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Probable
Common Grackle	<i>Quiscalus quiscula</i>	Confirmed
Purple Finch	<i>Carpodacus purpureus</i>	Confirmed
Pine Siskin	<i>Carduelis pinus</i>	Confirmed
American Goldfinch	<i>Carduelis tristis</i>	Confirmed

Appendix E

First Nation Engagement – Information Package

HRH

Hammond River Holdings

October 26, 2018

Company Name
Address Line
City, Province
Postal Code

Attention: Chief

***RE: Proposed Upham East Gypsum Quarry Project,
Upham, New Brunswick***

INTRODUCTION

Hammond River Holdings Limited (Hammond River Holdings) is proposing to develop a gypsum quarry (the 'project') in the community of Upham, Kings County, New Brunswick (**Figure 1**, attached) and would appreciate the opportunity to meet with you or your representatives to discuss our proposed project.

Natural gypsum is a soft, white or grey colored rock that is used in products such as toothpaste, shampoo, paints, fertilizer and wallboard. Natural gypsum has been historically quarried through the development of an open pit across the Maritimes for over 150 years.

As you may be aware, Hammond River Holdings began an exploration program earlier in 2018 for the potential quarrying of gypsum as a raw material in the production of gypsum wallboard. The Aboriginal Affairs Secretariat was notified of the exploration activities prior to commencement. Through this exploration program, the Upham East property was identified as representing a potential supply of suitable quality gypsum rock that could reasonably be extracted utilizing standard quarrying techniques.

The project is proposed to be carried out on approximately 60 hectares of privately owned land near the community of Upham, New Brunswick. Although the project is still very early in the planning stages, we anticipate that the project would include an open pit for the purposes of extracting approximately 250,000 metric tonnes per year of gypsum rock with minimal processing (i.e. crushing), some material storage and transportation to an off site commercial facility.

The proposed project is an "undertaking" under item (a) of Schedule A of the New Brunswick *Environmental Impact Assessment Regulation – Clean Environment Act* (EIA Regulation) ["(a) all commercial extraction or processing of a mineral as defined in the Mining Act"]. As such, the project will soon be registered with the New Brunswick Department of Environment and Local Government under Section 5(1) of the EIA Regulation. Once registered, the EIA registration document will be available for review on the NBDELG website (https://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/environmental_impact_assessment/registrations.html). Should you wish to receive a copy of the EIA registration document,


Upham East Gypsum Quarry Project
Page 2
October 26, 2018

HRH
Hammond River Holdings

please contact the undersigned and we will be happy to provide a copy to you.

Hammond River Holdings welcomes the opportunity to further discuss the proposed project, as well as the contents of our EIA registration, with you. Please contact our consultant, Dillon Consulting, at the numbers provided below to arrange a convenient time and location for further discussion.

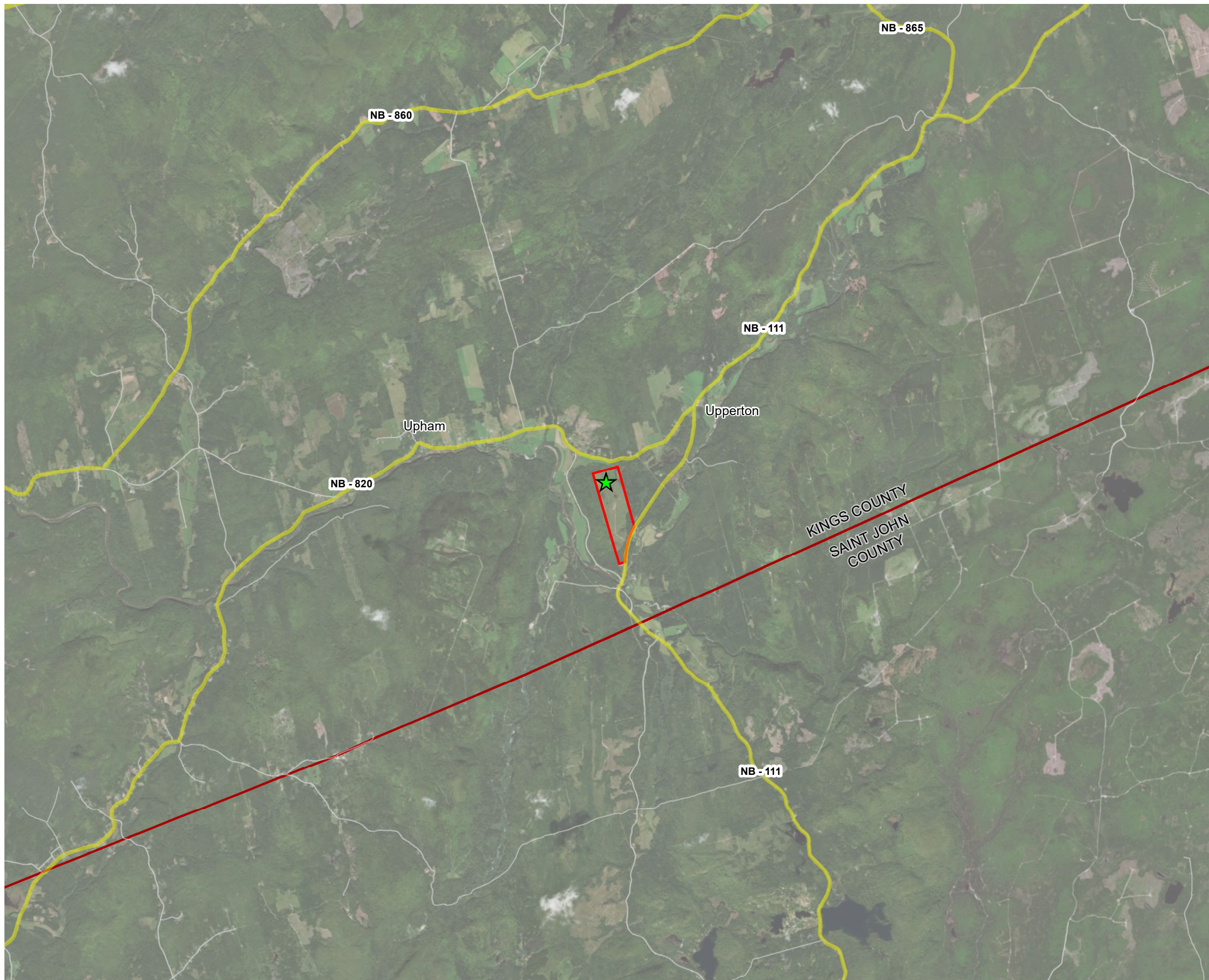
Yours sincerely,



Andrew Willett
on behalf of
Hammond River Holdings
210-65 Regent Street
Fredericton, NB E3B 7H8
info@hammondriverholdings.com





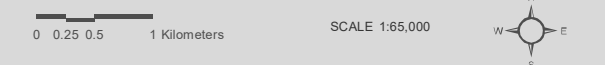
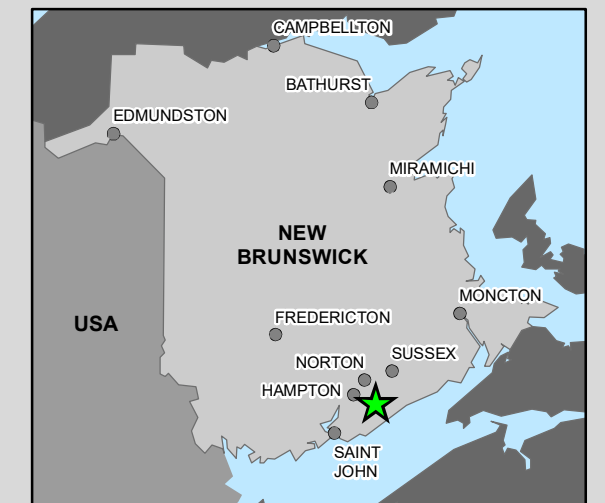
Kristin Banks, P.Eng.
Dillon Consulting
1149 Smythe Street, Suite 200
Fredericton, NB E3B 3H4
506.444.9717 x5138
KBanks@Dillon.ca



HAMMOND RIVER HOLDINGS LIMITED
 PROPOSED UPHAM EAST GYPSUM QUARRY

SITE LOCATION PLAN
 FIGURE 1.2.1

-  SITE LOCATION
-  PROJECT DEVELOPMENT AREA
-  COUNTIES



MAP DRAWING INFORMATION:
 DATA PROVIDED BY DILLON CONSULTING LIMITED, CANVEC
 SERVICE LAYER CREDITS: ESRI, HERE, GARMIN, INTERMAP, INCREMENT
 P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL,
 ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISS
 TOPO, OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

MAP CREATED BY: BQS
 MAP REVIEWED BY: CS
 MAP CHECKED BY: DM
 MAP PROJECTION: NAD_1983_CSRS_New_Brunswick_Stereographic



PROJECT: 18-8346
 STATUS: FINAL
 DATE: OCT 2018

Appendix F

Public Consultation – Information Package

What does this project involve?

- An open pit (quarry), for extracting ~250,000 tonnes per year of gypsum rock - located along Route 111 (near Myron Road);
- The use of blasting to extract gypsum;
- Portable crushing equipment, for primary crushing of extracted gypsum rock to a diameter of ~6-8 inches;
- Mobile equipment (e.g., front end loader, excavators, dump trucks) for moving gypsum, topsoil and overburden on-site and for loading gypsum into trucks for transportation to customers;
- Water management pond.

How might the project affect me and/or my community?

If approved, operations (such as blasting) will run on a part time basis and will be limited to daytime. During operation hours, transport trucks will be used to transport gypsum to customers.

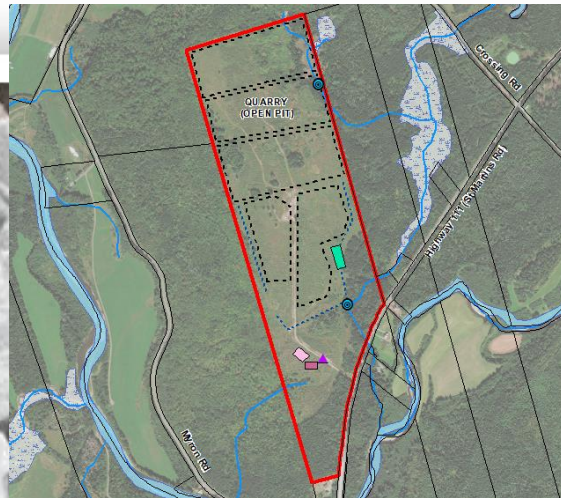
Tree buffers will be retained as much as possible around the quarry to reduce noise and impacts to viewscape.

The project is anticipated to provide jobs to local contractors.

In addition to other mitigation, the following mitigation will be implemented:

- Dust suppression;
- Minimizing the land area to be used by the project (to the extent possible);
- Avoiding wetlands/watercourses where possible (and obtaining proper authorizations and compensation plans where not possible);
- Detailed emergency response plan.

Refer to the EIA registration for a full list of mitigation measures for the project.



How can I ask questions or find out more information?

If you have questions regarding the EIA process or the proposed gypsum quarry operation, please contact Hammond River Holdings by email at:

info@hammondriverholdings.com

or by phone at: 506-632-4494

Visit the New Brunswick Department of Environment and Local Government EIA website to view an online copy of the EIA registration document under review for the project.

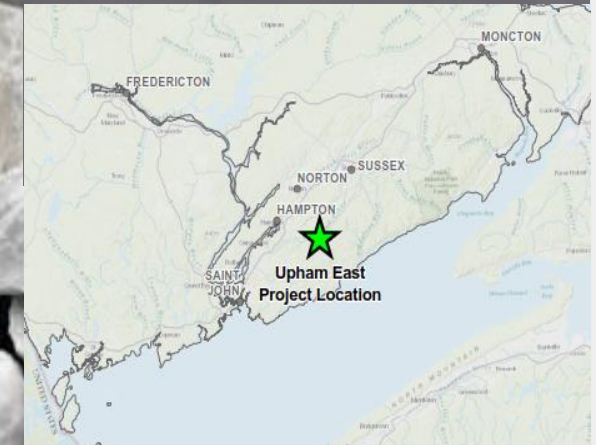
EIA Registration File Number:
XXXXXX



Proposed Gypsum Quarry

Upham East, New Brunswick

EIA Registration File Number:
XXXXXX



For more information, please contact Hammond River Holdings Limited by email at:
info@hammondriverholdings.com,
or by phone at: 506-632-4494

Environmental Impact Assessment (EIA) Process



What is Gypsum?

Gypsum is a naturally occurring, soft and inert sulphate-based mineral.

The composition of gypsum is calcium sulphate dihydrate or $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$.

There are two types of Gypsum:

Natural Gypsum – Quarried as a naturally occurring mineral.

Synthetic Gypsum – By-product of flue gas desulphurization in fossil fuel-fired power plants.

Gypsum is used in or for the following:

Cement; a raw material for construction; a fertilizer; an additive in paints, toothpaste and shampoo; as well as wallboard material.

Natural gypsum is mined through the development of an open pit.

The New Brunswick *Environmental Impact Assessment Regulation 87-83* under the *Clean Environment Act* establishes the EIA process in New Brunswick for certain types of developments and projects. The EIA Regulation requires that “*all commercial extraction or processing of a mineral as defined in the Mining Act*” conduct an EIA that will be reviewed by selected provincial and federal government agencies.

Through the EIA process, the proponent (i.e. the developer of the project) must complete (but are not limited to) the following:

- Engage First Nation Communities and consult with public stakeholders throughout the project;
- Provide a full and comprehensive description of the project phases (e.g. construction, operation and closure), activities (e.g. site clearing) and components (e.g. site buildings);
- Provide the anticipated project schedule and workforce needed;
- Provide the anticipated emissions and wastes that will be generated by the project;
- Explain alternative means to carrying out the project or achieving the goal of the project;
- Provide a detailed assessment of the potential environmental effects to valued components of the environment (e.g. atmospheric environment, water resources, wetlands, fish habitat, socio-economic (human) environment);
- Consider the direction, magnitude, frequency, duration, geographical extent, and reversibility of potential project-related effects;
- Evaluate potential mitigation/environmental protection measures to avoid, reduce, or control potential effects;
- Integrate project specific and general mitigation measures into the project.

Where are we now in this process?

The EIA registration document is complete, submitted to the New Brunswick Department of Environment and Local Government (NBDELG), and is under review by a committee of technical experts selected by the department.

What happens next?

The EIA registration document will be under review for an assumed 5-6 month period. An open house session will be held in the near future, for more information visit www.hammondriverholdings.com, link available after November 13, 2018.

If the project is approved by the EIA process, the proper permits received and consultation is met, construction is planned for mid-2019.

Refer to the EIA registration document that can be found on the NBDELG EIA website, for a detailed description of project activities and full list of mitigation/environmental protection measures.