

APPENDIX N
ACCDC REPORT – TRANSMISSION INTERCONNECTION LINE

DATA REPORT 7307: Point Tupper, NS

Prepared 30 June 2022

by J. Pender, Data Manager

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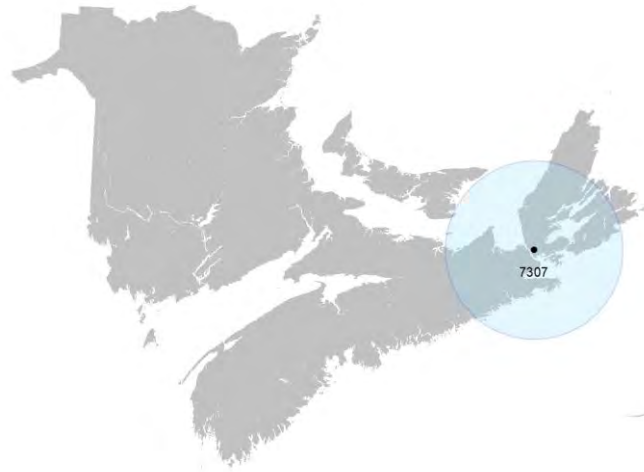
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5.1 Source Bibliography



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

PtTupperNS_7307ob.xls

PtTupperNS_7307ob100km.xls

PtTupperNS_7307msa.xls

PtTupperNS_7307ff_py.xls

Contents

Rare or legally-protected Flora and Fauna in your study area

A list of Rare and legally protected Flora and Fauna within 100 km of your study area

Managed and Biologically Significant Areas in your study area

Rare Freshwater Fish in your study area (DFO database)

1.2 RESTRICTIONS

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

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

1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides metadata for the data provided.

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

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

Questions on the biology of Federal Species at Risk can be directed to AC CDC: (506) 364-2658, with questions on Species at Risk regulations to: Samara Eaton, Canadian Wildlife Service (NB and PE): (506) 364-5060 or Julie McKnight, Canadian Wildlife Service (NS): (902) 426-4196.

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

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

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

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

2.0 RARE AND ENDANGERED SPECIES

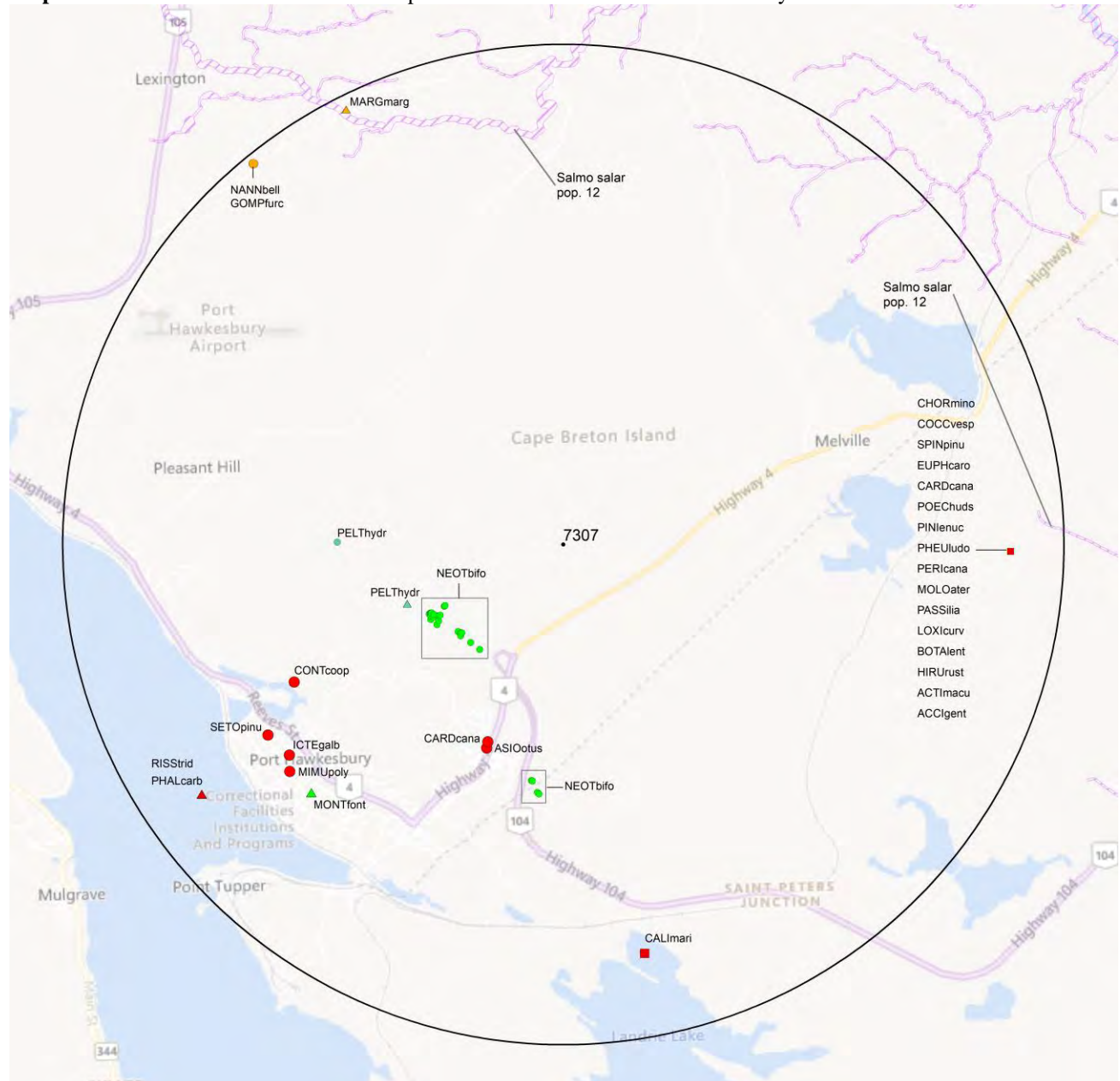
2.1 FLORA

The study area contains 26 records of 2 vascular, 2 records of 1 nonvascular flora (Map 2 and attached: *ob.xls), excluding 'location-sensitive' species.

2.2 FAUNA

The study area contains 32 records of 24 vertebrate, 5 records of 3 invertebrate fauna (Map 2 and attached data files - see 1.1 Data List), excluding 'location-sensitive' species. Please see section 4.3 to determine if 'location-sensitive' species occur near your study site.

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



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

- HIGHER TAXON**
- vertebrate fauna
 - invertebrate fauna
 - vascular flora
 - nonvascular flora

3.0 SPECIAL AREAS

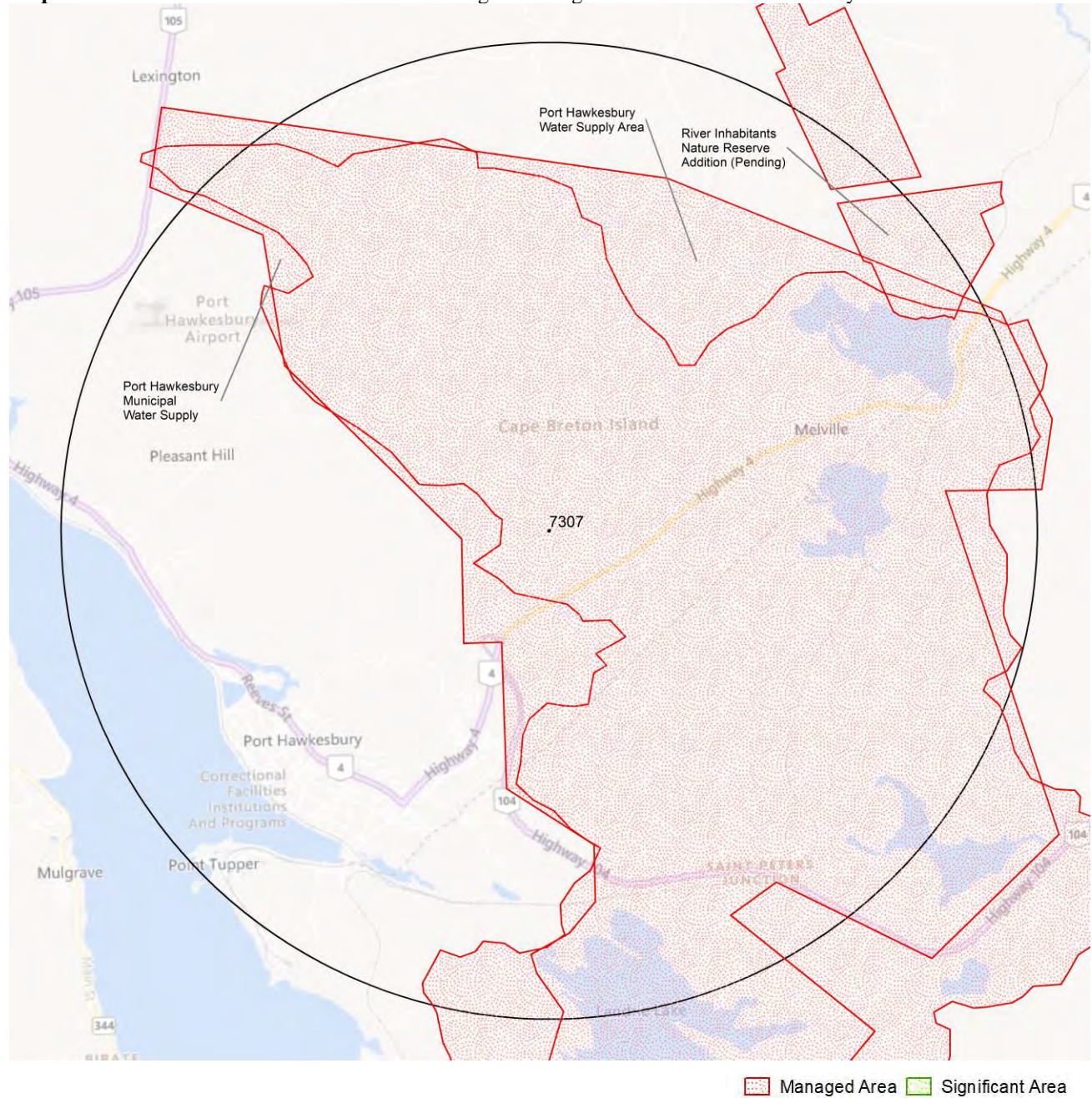
3.1 MANAGED AREAS

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

3.2 SIGNIFICANT AREAS

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

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



4.0 RARE SPECIES LISTS

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

4.1 FLORA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened	Threatened	Threatened	S1	2	1.7 \pm 0.0
P	<i>Montia fontana</i>	Water Blinks				S1	2	3.5 \pm 1.0
P	<i>Neottia bifolia</i>	Southern Twayblade				S3	24	1.3 \pm 0.0

4.2 FAUNA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	1	4.5 \pm 7.0
A	<i>Hirundo rustica</i>	Barn Swallow	Special Concern	Threatened	Endangered	S3B	1	4.5 \pm 7.0
A	<i>Cardellina canadensis</i>	Canada Warbler	Special Concern	Threatened	Endangered	S3B	2	2.1 \pm 0.0
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S3B	1	4.5 \pm 7.0
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B	1	3.0 \pm 0.0
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	2	4.5 \pm 7.0
A	<i>Accipiter gentilis</i>	Northern Goshawk	Not At Risk			S3S4	1	4.5 \pm 7.0
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S1B	1	3.5 \pm 0.0
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S2B	1	4.5 \pm 7.0
A	<i>Asio otus</i>	Long-eared Owl				S2S3	1	2.2 \pm 0.0
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S2S3B	1	4.4 \pm 3.0
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2S3B,S2S3N	2	4.4 \pm 3.0
A	<i>Setophaga pinus</i>	Pine Warbler				S2S3B,S4S5M	1	3.5 \pm 0.0
A	<i>Icterus galbula</i>	Baltimore Oriole				S2S3B,SUM	1	3.4 \pm 0.0
A	<i>Perisoreus canadensis</i>	Canada Jay				S3	2	4.5 \pm 7.0
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3	2	4.5 \pm 7.0
A	<i>Spinus pinus</i>	Pine Siskin				S3	3	4.5 \pm 7.0
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S3B	1	4.5 \pm 7.0
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S3B,S5N,S5M	1	4.5 \pm 7.0
A	<i>Loxia curvirostra</i>	Red Crossbill				S3S4	1	4.5 \pm 7.0
A	<i>Botaurus lentiginosus</i>	American Bittern				S3S4B,S4S5M	1	4.5 \pm 7.0
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B,S5M	2	4.5 \pm 7.0
A	<i>Passerella iliaca</i>	Fox Sparrow				S3S4B,S5M	1	4.5 \pm 7.0
A	<i>Calidris maritima</i>	Purple Sandpiper				S3S4N	1	4.2 \pm 10.0
I	<i>Margaritifera margaritifera</i>	Eastern Pearlshell				S2	1	4.9 \pm 0.0
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3S4	2	4.9 \pm 0.0
I	<i>Nannothemis bella</i>	Elfin Skimmer				S3S4	2	4.9 \pm 0.0

4.3 LOCATION SENSITIVE SPECIES

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

Nova Scotia

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

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 NS Endangered Species 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
24	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
24	Neily, T.H. 2013. Email communication to Sean Blaney regarding <i>Listera australis</i> observations made from 2007 to 2011 in Nova Scotia., 50.
5	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
4	Benjamin, L.K. 2009. D. Anderson Odonata Records for Cape Breton, 1997-2004. Nova Scotia Dept Natural Resources, 1316 recs.
3	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
2	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
2	Nova Scotia Dept Natural Resources, Forestry Branch. 2007. Restricted & Limited Use Land Database (RLUL). , http://www.gov.ns.ca/natr/FORESTRY/rlul/downloadrlul.htm .
1	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
1	COSEWIC (Committee on the Status of Wildlife in Canada). 2013. COSEWIC Assessment and Status Report on the Eastern Waterflea <i>Peltigera hydrothyria</i> in Canada. COSEWIC, 46 pp.
1	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
1	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-03-18]. Mersey Tobeatic Research Institute.
1	Nova Scotia Department of Lands and Forestry. 2020. NS Lands Proposed or Pending Protection. NSDLF, 231 features. Received via email.
1	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 22518 records of 135 vertebrate and 615 records of 47 invertebrate fauna; 4711 records of 233 vascular, 2791 records of 122 nonvascular flora (attached: *ob100km.xls).

Taxa within 100 km of the study site that are rare and/or endangered in the province in which the study site occurs (including “location-sensitive” species). All ranks correspond to the province in which the study site falls, even for out-of-province records. Taxa are listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation (\pm the precision, in km, of the record).

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	63	3.2 \pm 0.0	NS
A	<i>Salmo salar pop. 4</i>	Atlantic Salmon - Eastern Cape Breton population	Endangered			S1	39	7.9 \pm 0.0	NS
A	<i>Salmo salar pop. 6</i>	Atlantic Salmon - Nova Scotia Southern Upland population	Endangered			S1	21	19.6 \pm 1.0	NS
A	<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Endangered	Endangered		S1	1	67.5 \pm 1.0	NS
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	701	20.7 \pm 0.0	NS
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	62	40.3 \pm 7.0	NS
A	<i>Dermodochelys coriacea pop. 2</i>	Leatherback Sea Turtle - Atlantic population	Endangered	Endangered		S1S2N	2	7.8 \pm 0.0	NS
A	<i>Antrostomus vociferus</i>	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S1?B	3	46.6 \pm 7.0	NS
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Threatened	Endangered	S1B	28	34.5 \pm 7.0	NS
A	<i>Asio flammeus</i>	Short-eared Owl	Threatened	Special Concern		S1B	6	55.5 \pm 0.0	NS
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2	3865	4.5 \pm 10.0	NS
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S2B	667	10.9 \pm 7.0	NS
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2S3B,S1M	128	27.1 \pm 0.0	NS
A	<i>Limosa haemastica</i>	Hudsonian Godwit	Threatened			S2S3M	7	45.1 \pm 0.0	NS
A	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Threatened			S2S3N	1	84.1 \pm 0.0	NS
A	<i>Hydrobates leucorhous</i>	Leach's Storm-Petrel	Threatened			S3B	22	8.0 \pm 0.0	NS
A	<i>Tringa flavipes</i>	Lesser Yellowlegs	Threatened			S3M	238	20.7 \pm 0.0	NS
A	<i>Anguilla rostrata</i>	American Eel	Threatened			S3N	1	37.5 \pm 0.0	NS
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened		SHB	2	40.3 \pm 7.0	NS
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened		SUB	8	32.5 \pm 7.0	NS
A	<i>Salmo salar pop. 12</i>	Atlantic Salmon - Gaspé - Southern Gulf of St. Lawrence population	Special Concern			S1	22	22.1 \pm 1.0	NS
A	<i>Passerculus sandwichensis princeps</i>	Ipswich Sparrow	Special Concern	Special Concern		S1B	2	48.8 \pm 0.0	NS
A	<i>Bucephala islandica</i>	Barrow's Goldeneye	Special Concern	Special Concern		S1N,SUM	12	72.5 \pm 4.0	NS
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	232	4.5 \pm 7.0	NS
A	<i>Balaenoptera physalus</i>	Fin Whale	Special Concern	Special Concern		S2S3	2	63.2 \pm 0.0	NS
A	<i>Morone saxatilis pop. 1</i>	Striped Bass - Southern Gulf of St. Lawrence population	Special Concern			S2S3N	1	46.4 \pm 1.0	NS
A	<i>Histrionicus histrionicus pop. 1</i>	Harlequin Duck - Eastern population	Special Concern	Special Concern	Endangered	S2S3N,SUM	18	29.5 \pm 16.0	NS
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	104	14.4 \pm 0.0	NS
A	<i>Hirundo rustica</i>	Barn Swallow	Special Concern	Threatened	Endangered	S3B	799	4.5 \pm 7.0	NS
A	<i>Cardellina canadensis</i>	Canada Warbler	Special Concern	Threatened	Endangered	S3B	564	2.1 \pm 0.0	NS
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S3B	205	4.5 \pm 7.0	NS
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B	976	3.0 \pm 0.0	NS
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Special Concern	Threatened	Vulnerable	S3B	393	10.9 \pm 7.0	NS
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	735	4.5 \pm 7.0	NS
A	<i>Podiceps auritus</i>	Horned Grebe	Special Concern	Special Concern		S3N,SUM	11	16.7 \pm 0.0	NS
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	472	5.5 \pm 7.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Phocoena phocoena</i>	Harbour Porpoise	Special Concern			S4	1	7.9 ± 0.0	NS
A	<i>Chrysemys picta picta</i>	Eastern Painted Turtle	Special Concern	Special Concern		S4	1	59.3 ± 1.0	NS
A	<i>Accipiter cooperii</i>	Cooper's Hawk	Not At Risk			S1?B,SUN,SUM	1	98.1 ± 7.0	NS
A	<i>Fulica americana</i>	American Coot	Not At Risk			S1B	3	54.3 ± 0.0	NS
A	<i>Chlidonias niger</i>	Black Tern	Not At Risk			S1B	3	33.5 ± 0.0	NS
A	<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius	Not At Risk	Special Concern	Vulnerable	S1B,SUM	6	5.5 ± 7.0	NS
A	<i>Sorex dispar</i>	Long-tailed Shrew	Not At Risk			S2	9	46.7 ± 0.0	NS
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk			S2?B,SUM	7	36.7 ± 0.0	NS
A	<i>Lynx canadensis</i>	Canada Lynx	Not At Risk		Endangered	S2S3	56	15.2 ± 1.0	NS
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk			S3	19	6.1 ± 1.0	NS
A	<i>Megaptera novaeangliae</i>	Humpback Whale	Not At Risk			S3	2	7.4 ± 0.0	NS
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B	522	5.5 ± 7.0	NS
A	<i>Sialia sialis</i>	Eastern Bluebird	Not At Risk			S3B	14	18.5 ± 7.0	NS
A	<i>Buteo lagopus</i>	Rough-legged Hawk	Not At Risk			S3N	7	8.0 ± 0.0	NS
A	<i>Accipiter gentilis</i>	Northern Goshawk	Not At Risk			S3S4	167	4.5 ± 7.0	NS
A	<i>Lagenorhynchus acutus</i>	Atlantic White-sided Dolphin	Not At Risk			S3S4	4	7.1 ± 0.0	NS
A	<i>Ammospiza nelsoni</i>	Nelson's Sparrow	Not At Risk			S3S4B	94	11.4 ± 7.0	NS
		Red Knot rufa subspecies -							NS
A	<i>Calidris canutus rufa</i>	Tierra del Fuego / Patagonia wintering population	E,SC	Endangered	Endangered	S2M	20	23.5 ± 0.0	
A	<i>Morone saxatilis</i>	Striped Bass	E,SC			S2S3B,S2S3N	6	44.5 ± 0.0	NS
A	<i>Alces alces americana</i>	Moose			Endangered	S1	79	20.8 ± 0.0	NS
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker				S1?	7	44.0 ± 0.0	NS
A	<i>Uria aalge</i>	Common Murre				S1?B	4	35.6 ± 0.0	NS
A	<i>Passerina cyanea</i>	Indigo Bunting				S1?B,SUM	4	35.0 ± 0.0	NS
A	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron				S1B	2	46.6 ± 7.0	NS
A	<i>Oxyura jamaicensis</i>	Ruddy Duck				S1B	3	55.3 ± 0.0	NS
A	<i>Myiarchus crinitus</i>	Great Crested Flycatcher				S1B	1	63.7 ± 3.0	NS
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S1B	16	3.5 ± 0.0	NS
A	<i>Toxostoma rufum</i>	Brown Thrasher				S1B	3	32.4 ± 0.0	NS
A	<i>Charadrius semipalmatus</i>	Semipalmated Plover				S1B,S4M	266	20.8 ± 0.0	NS
A	<i>Calidris minutilla</i>	Least Sandpiper				S1B,S4M	146	9.6 ± 0.0	NS
A	<i>Anas acuta</i>	Northern Pintail				S1B,SUM	7	41.2 ± 1.0	NS
A	<i>Vireo gilvus</i>	Warbling Vireo				S1B,SUM	6	10.9 ± 7.0	NS
A	<i>Vespertilionidae sp.</i>	bat species				S1S2	112	3.1 ± 0.0	NS
A	<i>Pooecetes gramineus</i>	Vesper Sparrow				S1S2B,SUM	10	10.9 ± 7.0	NS
A	<i>Microtus chrotorrhinus</i>	Rock Vole				S2	12	46.7 ± 0.0	NS
A	<i>Vireo philadelphicus</i>	Philadelphia Vireo				S2?B,SUM	13	20.8 ± 0.0	NS
A	<i>Alca torda</i>	Razorbill				S2B	16	53.5 ± 0.0	NS
A	<i>Fratercula arctica</i>	Atlantic Puffin				S2B	15	61.2 ± 1.0	NS
A	<i>Empidonax traillii</i>	Willow Flycatcher				S2B	8	45.5 ± 7.0	NS
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S2B	50	4.5 ± 7.0	NS
A	<i>Spatula clypeata</i>	Northern Shoveler				S2B,SUM	2	39.7 ± 0.0	NS
A	<i>Mareca strepera</i>	Gadwall				S2B,SUM	2	35.5 ± 7.0	NS
A	<i>Piranga olivacea</i>	Scarlet Tanager				S2B,SUM	8	38.7 ± 7.0	NS
A	<i>Calidris alba</i>	Sanderling				S2N,S3M	114	23.5 ± 0.0	NS
A	<i>Martes americana</i>	American Marten			Endangered	S2S3	16	51.2 ± 1.0	NS
A	<i>Asio otus</i>	Long-eared Owl				S2S3	26	2.2 ± 0.0	NS
A	<i>Rallus limicola</i>	Virginia Rail				S2S3B	8	11.0 ± 7.0	NS
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S2S3B	18	4.4 ± 3.0	NS
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B	187	6.3 ± 0.0	NS
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2S3B,S2S3N	196	4.4 ± 3.0	NS
A	<i>Cathartes aura</i>	Turkey Vulture				S2S3B,S4S5M	4	32.8 ± 0.0	NS
A	<i>Setophaga pinus</i>	Pine Warbler				S2S3B,S4S5M	1	3.5 ± 0.0	NS
A	<i>Bucephala clangula</i>	Common Goldeneye				S2S3B,S5N,S5M	192	5.6 ± 0.0	NS
A	<i>Icterus galbula</i>	Baltimore Oriole				S2S3B,SUM	22	3.4 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Pluvialis dominica</i>	American Golden-Plover				S2S3M	24	35.6 ± 1.0	NS
A	<i>Numenius phaeopus hudsonicus</i>	Whimbrel				S2S3M	65	30.0 ± 0.0	NS
A	<i>Perisoreus canadensis</i>	Canada Jay				S3	571	4.5 ± 7.0	NS
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3	1241	4.5 ± 7.0	NS
A	<i>Spinus pinus</i>	Pine Siskin				S3	614	4.5 ± 7.0	NS
A	<i>Salvelinus fontinalis</i>	Brook Trout				S3	55	7.9 ± 0.0	NS
A	<i>Synaptomys cooperi</i>	Southern Bog Lemming				S3	4	46.7 ± 0.0	NS
A	<i>Pekania pennanti</i>	Fisher				S3	6	48.9 ± 0.0	NS
A	<i>Calcarius lapponicus</i>	Lapland Longspur				S3?N,SUM	1	45.4 ± 0.0	NS
A	<i>Spatula discors</i>	Blue-winged Teal				S3B	103	11.0 ± 7.0	NS
A	<i>Charadrius vociferus</i>	Killdeer				S3B	180	5.5 ± 7.0	NS
A	<i>Tringa semipalmata</i>	Willet				S3B	587	5.5 ± 7.0	NS
A	<i>Sterna paradisaea</i>	Arctic Tern				S3B	100	17.6 ± 7.0	NS
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3B	46	26.3 ± 0.0	NS
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3B	102	5.5 ± 7.0	NS
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S3B	334	4.5 ± 7.0	NS
A	<i>Alosa pseudoharengus</i>	Alewife				S3B	37	9.6 ± 0.0	NS
A	<i>Somateria mollissima</i>	Common Eider				S3B,S3M,S3N	450	7.3 ± 0.0	NS
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs				S3B,S4M	302	8.7 ± 0.0	NS
A	<i>Falco sparverius</i>	American Kestrel				S3B,S4S5M	296	5.5 ± 7.0	NS
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3B,S5M	634	5.5 ± 7.0	NS
A	<i>Setophaga striata</i>	Blackpoll Warbler				S3B,S5M	155	5.5 ± 7.0	NS
A	<i>Cardellina pusilla</i>	Wilson's Warbler				S3B,S5M	152	5.5 ± 7.0	NS
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S3B,S5N,S5M	184	4.5 ± 7.0	NS
A	<i>Setophaga tigrina</i>	Cape May Warbler				S3B,SUM	147	15.5 ± 7.0	NS
A	<i>Branta bernicla</i>	Brant				S3M	1	29.5 ± 16.0	NS
A	<i>Pluvialis squatarola</i>	Black-bellied Plover				S3M	225	21.5 ± 0.0	NS
A	<i>Arenaria interpres</i>	Ruddy Turnstone				S3M	100	8.9 ± 0.0	NS
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper				S3M	200	23.3 ± 0.0	NS
A	<i>Calidris melanotos</i>	Pectoral Sandpiper				S3M	28	35.6 ± 1.0	NS
A	<i>Limnodromus griseus</i>	Short-billed Dowitcher				S3M	106	35.6 ± 22.0	NS
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				S3N	57	37.0 ± 0.0	NS
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	96	10.9 ± 0.0	NS
A	<i>Loxia curvirostra</i>	Red Crossbill				S3S4	92	4.5 ± 7.0	NS
A	<i>Botaurus lentiginosus</i>	American Bittern				S3S4B,S4S5M	208	4.5 ± 7.0	NS
A	<i>Setophaga castanea</i>	Bay-breasted Warbler				S3S4B,S4S5M	365	5.5 ± 7.0	NS
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B,S5M	760	4.5 ± 7.0	NS
A	<i>Leiophlypis peregrina</i>	Tennessee Warbler				S3S4B,S5M	421	5.5 ± 7.0	NS
A	<i>Passerella iliaca</i>	Fox Sparrow				S3S4B,S5M	173	4.5 ± 7.0	NS
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3S4B,S5M,S5N	189	5.4 ± 0.0	NS
A	<i>Calidris maritima</i>	Purple Sandpiper				S3S4N	29	4.2 ± 10.0	NS
A	<i>Lanius borealis</i>	Northern Shrike				S3S4N	13	35.6 ± 1.0	NS
A	<i>Morus bassanus</i>	Northern Gannet				SHB	126	7.0 ± 0.0	NS
A	<i>Leucophaeus atricilla</i>	Laughing Gull				SHB	4	43.7 ± 0.0	NS
A	<i>Progne subis</i>	Purple Martin				SHB	4	61.8 ± 0.0	NS
I	<i>Bombus bohemicus</i>	Ashton Cuckoo Bumble Bee	Endangered	Endangered	Endangered	S1	17	41.8 ± 0.0	NS
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Endangered	S2?B,S3M	53	21.4 ± 0.0	NS
I	<i>Lampsilis cariosa</i>	Yellow Lampmussel	Special Concern	Special Concern	Threatened	S1	16	91.6 ± 0.0	NS
I	<i>Alasmodonta varicosa</i>	Brook Floater	Special Concern	Special Concern	Threatened	S3	8	33.6 ± 0.0	NS
I	<i>Bombus terricola</i>	Yellow-banded Bumble Bee	Special Concern	Special Concern	Vulnerable	S3	101	19.0 ± 0.0	NS
I	<i>Coccinella transversoguttata richardsoni</i>	Transverse Lady Beetle	Special Concern		Endangered	SH	1	48.3 ± 2.0	NS
I	<i>Papilio brevicauda bretonensis</i>	Short-tailed Swallowtail				S1	12	66.8 ± 2.0	NS
I	<i>Coenagrion interrogatum</i>	Subarctic Bluet				S1	1	88.4 ± 0.0	NS
I	<i>Atlanticoncha ochracea</i>	Tidewater Mucket				S1	19	88.9 ± 1.0	NS
I	<i>Polygonia satyrus</i>	Satyr Comma				S1?	1	65.7 ± 2.0	NS

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I	<i>Euphyes bimacula</i>	Two-spotted Skipper				S1S2	2	57.4 ± 0.0	NS
I	<i>Boloria chariclea</i>	Arctic Fritillary				S1S2	2	70.8 ± 2.0	NS
I	<i>Haematopota rara</i>	Shy Cleg				S1S3	1	49.1 ± 0.0	NS
I	<i>Tharsalea dorcas</i>	Dorcas Copper				S2	31	29.7 ± 0.0	NS
I	<i>Tharsalea dopassosi</i>	Maritime Copper				S2	1	47.7 ± 0.0	NS
I	<i>Neurocordulia michaeli</i>	Broad-tailed Shadowdragon				S2	22	71.3 ± 0.0	NS
I	<i>Somatochlora septentrionalis</i>	Muskeg Emerald				S2	8	70.4 ± 0.0	NS
I	<i>Margaritifera margaritifera</i>	Eastern Pearlshell				S2	102	4.9 ± 0.0	NS
I	<i>Pantala hymenaea</i>	Spot-Winged Glider				S2?B	2	75.7 ± 0.0	NS
I	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S2S3	2	70.8 ± 2.0	NS
I	<i>Aglais milberti</i>	Milbert's Tortoiseshell				S2S3	2	68.1 ± 2.0	NS
I	<i>Lanthus vernalis</i>	Southern Pygmy Clubtail				S2S3	8	51.8 ± 0.0	NS
I	<i>Somatochlora williamsoni</i>	Williamson's Emerald				S2S3	8	73.2 ± 0.0	NS
I	<i>Alasmidonta undulata</i>	Triangle Floater				S2S3	5	27.5 ± 0.0	NS
I	<i>Naemia seriata</i>	Seaside Lady Beetle				S3	1	52.4 ± 0.0	NS
I	<i>Iphthiminius opacus</i>	Cloudy Darkling Beetle				S3	1	31.6 ± 0.0	NS
I	<i>Monochamus marmorator</i>	Balsam Fir Sawyer				S3	2	71.7 ± 0.0	NS
I	<i>Strymon melinus</i>	Gray Hairstreak				S3	2	28.4 ± 1.0	NS
I	<i>Phanogomphus descriptus</i>	Harpoon Clubtail				S3	16	15.9 ± 0.0	NS
I	<i>Ophiogomphus aspersus</i>	Brook Snaketail				S3	5	15.9 ± 0.0	NS
I	<i>Ophiogomphus mainensis</i>	Maine Snaketail				S3	4	64.4 ± 0.0	NS
I	<i>Ophiogomphus rupinsulensis</i>	Rusty Snaketail				S3	36	71.2 ± 0.0	NS
I	<i>Somatochlora forcipata</i>	Forcinate Emerald				S3	7	61.1 ± 1.0	NS
I	<i>Enallagma vernale</i>	Vernal Bluet				S3	8	13.1 ± 0.0	NS
I	<i>Polygonia interrogationis</i>	Question Mark				S3B	19	28.4 ± 0.0	NS
I	<i>Cecropteris pylades</i>	Northern Cloudywing				S3S4	15	27.6 ± 0.0	NS
I	<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper				S3S4	7	25.4 ± 1.0	NS
I	<i>Argynnis aphrodite</i>	Aphrodite Fritillary				S3S4	6	45.3 ± 2.0	NS
I	<i>Polygonia faunus</i>	Green Comma				S3S4	16	28.1 ± 0.0	NS
I	<i>Oeneis jutta</i>	Jutta Arctic				S3S4	6	26.2 ± 0.0	NS
I	<i>Aeshna clepsydra</i>	Mottled Darner				S3S4	3	6.5 ± 0.0	NS
I	<i>Boyeria grafiana</i>	Ocellated Darner				S3S4	9	74.1 ± 0.0	NS
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3S4	3	4.9 ± 0.0	NS
I	<i>Nannothemis bella</i>	Elfin Skimmer				S3S4	3	4.9 ± 0.0	NS
I	<i>Sympetrum danae</i>	Black Meadowhawk				S3S4	9	12.0 ± 0.0	NS
I	<i>Amphiagrion saucium</i>	Eastern Red Damsel				S3S4	11	31.0 ± 0.0	NS
I	<i>Polygonia gracilis</i>	Hoary Comma				SH	1	68.1 ± 2.0	NS
N	<i>Erioderma mollissimum</i>	Graceful Felt Lichen	Endangered	Endangered	Endangered	S1	41	60.9 ± 0.0	NS
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	404	35.4 ± 0.0	NS
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened	Threatened	Threatened	S1	72	1.7 ± 0.0	NS
N	<i>Pannaria lurida</i>	Wrinkled Shingle Lichen	Threatened	Threatened	Threatened	S2S3	179	29.3 ± 0.0	NS
N	<i>Anzia colpodes</i>	Black-foam Lichen	Threatened	Threatened	Threatened	S3	5	82.0 ± 1.0	NS
N	<i>Fuscopannaria leucosticta</i>	White-rimmed Shingle Lichen	Threatened			S3	1	91.9 ± 0.0	NS
N	<i>Pectenیا plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	515	7.1 ± 3.0	NS
N	<i>Sclerophora peronella</i> (Atlantic pop.)	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern		S3S4	13	17.1 ± 0.0	NS
N	<i>Pseudevermia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	2	49.7 ± 0.0	NS
N	<i>Fissidens exilis</i>	Pygmy Pocket Moss	Not At Risk			S3	7	41.2 ± 0.0	NS
N	<i>Cinclidium stygium</i>	Sooty Cupola Moss				S1	2	33.6 ± 0.0	NS
N	<i>Seligeria diversifolia</i>	a Moss				S1	1	91.7 ± 0.0	NS
N	<i>Cladonia brevis</i>	Short Peg Lichen				S1	1	49.9 ± 0.0	NS
N	<i>Lathagrium cristatum</i>	Fingered Jelly Lichen				S1	1	49.5 ± 0.0	NS
N	<i>Polychidium muscicola</i>	Eyed Mossthorns Woollybear Lichen				S1	1	12.6 ± 0.0	NS
N	<i>Sticta limbata</i>	Powdered Moon Lichen				S1	2	29.1 ± 2.0	NS
N	<i>Dermatocarpon miniatum</i>	Common Stippleback Lichen				S1	1	79.7 ± 0.0	NS

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N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen				S1	2	49.4 ± 0.0	NS
N	<i>Hypogymnia hultenii</i>	Powdered Honeycomb Lichen				S1	20	33.0 ± 0.0	NS
N	<i>Eocalypogeia schusteriana</i>	Schuster's Pouchwort				S1?	2	73.6 ± 0.0	NS
N	<i>Brachythecium erythrorrhizon</i>	Taiga Ragged Moss				S1?	4	73.9 ± 0.0	NS
N	<i>Conardia compacta</i>	Coast Creeping Moss				S1?	2	48.2 ± 2.0	NS
N	<i>Oligotrichum hercynicum</i>	Hercynian Hair Moss				S1?	3	57.7 ± 0.0	NS
N	<i>Paludella squarrosa</i>	Tufted Fen Moss				S1?	1	69.5 ± 5.0	NS
N	<i>Syntrichia ruralis</i>	a Moss				S1?	1	98.9 ± 1.0	NS
N	<i>Peltigera malacea</i>	Veinless Pelt Lichen				S1?	1	19.6 ± 0.0	NS
N	<i>Buxbaumia minakatae</i>	Hump-Backed Elves				S1S2	1	73.9 ± 100.0	NS
N	<i>Platydictya confervoides</i>	a Moss				S1S2	1	95.9 ± 3.0	NS
N	<i>Hamatocaulis vernicosus</i>	a Moss				S1S2	1	37.1 ± 0.0	NS
N	<i>Enchylium bachmanianum</i>	Bachman's Jelly Lichen				S1S2	1	55.3 ± 0.0	NS
N	<i>Cladonia labradorica</i>	Labrador Lichen				S1S2	1	49.0 ± 0.0	NS
N	<i>Parmeliella parvula</i>	Poor-man's Shingles Lichen				S1S2	17	35.7 ± 0.0	NS
N	<i>Barbilophozia lycopodioides</i>	Greater Pawwort				S1S3	1	56.4 ± 0.0	NS
N	<i>Odontoschisma sphagni</i>	Bog-Moss Flapwort				S1S3	1	72.0 ± 0.0	NS
N	<i>Peltigera neckeri</i>	Black-saddle Pelt Lichen				S1S3	4	26.6 ± 0.0	NS
N	<i>Stereocaulon grande</i>	Grand Foam Lichen				S1S3	1	95.0 ± 0.0	NS
N	<i>Anacamptodon splachnoides</i>	a Moss				S2	1	12.8 ± 0.0	NS
N	<i>Scorpidium scorpioides</i>	Hooked Scorpion Moss				S2	11	29.3 ± 0.0	NS
N	<i>Sphagnum platyphyllum</i>	Flat-leaved Peat Moss				S2	4	28.6 ± 0.0	NS
N	<i>Sphagnum subnitens</i>	Lustrous Peat Moss				S2	2	51.0 ± 0.0	NS
N	<i>Scorpidium cossonii</i>	Cosson's Hook Moss				S2	6	28.8 ± 0.0	NS
N	<i>Scytinium imbricatum</i>	Scaly Jellyskin Lichen				S2	1	60.7 ± 0.0	NS
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen				S2	2	54.6 ± 0.0	NS
N	<i>Nephroma resupinatum</i>	a lichen				S2	1	40.7 ± 0.0	NS
N	<i>Anaptychia crinalis</i>	Hanging Fringed Lichen				S2	2	88.4 ± 0.0	NS
N	<i>Riccardia multifida</i>	Delicate Germanderwort				S2?	1	71.8 ± 0.0	NS
N	<i>Anomodon viticulosus</i>	a Moss				S2?	1	48.4 ± 0.0	NS
N	<i>Atrichum angustatum</i>	Lesser Smoothcap Moss				S2?	2	52.6 ± 3.0	NS
N	<i>Drepanocladus polygamus</i>	Polygamous Hook Moss				S2?	1	48.3 ± 0.0	NS
N	<i>Pseudocampyllum radicale</i>	Long-stalked Fine Wet Moss				S2?	1	29.3 ± 0.0	NS
N	<i>Fontinalis sullivantii</i>	Sullivant's Water Moss				S2?	1	73.9 ± 100.0	NS
N	<i>Grimmia anomala</i>	Mountain Forest Grimmia				S2?	1	93.3 ± 0.0	NS
N	<i>Philonotis marchica</i>	a Moss				S2?	1	75.3 ± 0.0	NS
N	<i>Platydictya jungermanniioides</i>	False Willow Moss				S2?	3	38.8 ± 0.0	NS
N	<i>Tortella fragilis</i>	Fragile Twisted Moss				S2?	7	45.0 ± 0.0	NS
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2?	1	76.2 ± 0.0	NS
N	<i>Scorpidium revolvens</i>	Limprichtia Moss				S2S3	7	28.2 ± 0.0	NS
N	<i>Moelleropsis nebulosa</i>	Blue-gray Moss Shingle Lichen				S2S3	22	49.0 ± 0.0	NS
N	<i>Moelleropsis nebulosa ssp. frullanae</i>	Blue-gray Moss Shingle Lichen				S2S3	1	94.8 ± 0.0	NS
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen				S2S3	9	20.7 ± 0.0	NS
N	<i>Collema leptaleum</i>	Crumpled Bat's Wing Lichen				S2S3	158	29.3 ± 0.0	NS
N	<i>Usnea rubicunda</i>	Red Beard Lichen				S2S3	3	48.0 ± 0.0	NS
N	<i>Ahtiana aurescens</i>	Eastern Candlewax Lichen				S2S3	1	88.6 ± 6.0	NS
N	<i>Cetraria muricata</i>	Spiny Heath Lichen				S2S3	2	51.4 ± 1.0	NS
N	<i>Cladonia incrassata</i>	Powder-foot British Soldiers Lichen				S2S3	1	93.3 ± 0.0	NS
N	<i>Scytinium tenuissimum</i>	Birdnest Jellyskin Lichen				S2S3	13	46.7 ± 0.0	NS
N	<i>Parmelia fertilis</i>	Fertile Shield Lichen				S2S3	3	34.9 ± 0.0	NS
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen				S2S3	3	47.1 ± 0.0	NS

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N	<i>Usnea mutabilis</i>	Bloody Beard Lichen				S2S3	1	29.1 ± 0.0	NS
N	<i>Fuscopannaria soredata</i>	a Lichen				S2S3	9	15.8 ± 0.0	NS
N	<i>Stereocaulon condensatum</i>	Granular Soil Foam Lichen				S2S3	4	71.0 ± 0.0	NS
N	<i>Cladonia coccifera</i>	Eastern Boreal Pixie-cup Lichen				S2S3	3	49.9 ± 0.0	NS
N	<i>Fissidens taxifolius</i>	Yew-leaved Pocket Moss				S3	2	48.4 ± 0.0	NS
N	<i>Sphagnum contortum</i>	Twisted Peat Moss				S3	6	28.6 ± 0.0	NS
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss				S3	2	12.4 ± 0.0	NS
N	<i>Tetraplodon mnioides</i>	Entire-leaved Nitrogen Moss				S3	1	43.4 ± 0.0	NS
N	<i>Rostania occulta</i>	Crusted Tarpaper Lichen				S3	4	45.4 ± 5.0	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen				S3	7	5.7 ± 0.0	NS
N	<i>Fuscopannaria ahlneri</i>	Corrugated Shingles Lichen				S3	71	12.5 ± 0.0	NS
N	<i>Heterodermia squamulosa</i>	Scaly Fringe Lichen				S3	6	94.4 ± 0.0	NS
N	<i>Scytinium lichenoides</i>	Tattered Jellyskin Lichen				S3	13	5.7 ± 0.0	NS
N	<i>Leptogium milligranum</i>	Stretched Jellyskin Lichen				S3	1	18.9 ± 0.0	NS
N	<i>Nephroma bellum</i>	Naked Kidney Lichen				S3	11	37.3 ± 1.0	NS
N	<i>Platismatia norvegica</i>	Oldgrowth Rag Lichen				S3	149	44.7 ± 0.0	NS
N	<i>Viridothelium virens</i>					S3	1	61.9 ± 5.0	NS
N	<i>Ephebe lanata</i>	Waterside Rockshag Lichen				S3	1	17.0 ± 0.0	NS
N	<i>Phaeophyscia pusilloides</i>	Pompom-tipped Shadow Lichen				S3	5	37.7 ± 0.0	NS
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S3	90	11.9 ± 0.0	NS
N	<i>Cladonia pocillum</i>	Rosette Pixie-cup Lichen				S3	1	73.6 ± 0.0	NS
N	<i>Calliergon giganteum</i>	Giant Spear Moss				S3?	3	47.6 ± 0.0	NS
N	<i>Mnium stellare</i>	Star Leafy Moss				S3?	2	73.9 ± 0.0	NS
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss				S3?	4	43.3 ± 0.0	NS
N	<i>Sphagnum riparium</i>	Streamside Peat Moss				S3?	2	57.5 ± 0.0	NS
N	<i>Cladonia stygia</i>	Black-footed Reindeer Lichen				S3?	4	44.1 ± 0.0	NS
N	<i>Dicranum leioneuron</i>	a Dicranum Moss				S3S4	1	25.6 ± 0.0	NS
N	<i>Encalypta ciliata</i>	Fringed Extinguisher Moss				S3S4	1	24.7 ± 2.0	NS
N	<i>Encalypta procera</i>	Slender Extinguisher Moss				S3S4	7	47.1 ± 0.0	NS
N	<i>Splachnum ampullaceum</i>	Cruet Dung Moss				S3S4	1	48.3 ± 0.0	NS
N	<i>Thamnobryum alleghaniense</i>	a Moss				S3S4	26	68.5 ± 0.0	NS
N	<i>Schistidium agassizii</i>	Elf Bloom Moss				S3S4	1	74.5 ± 3.0	NS
N	<i>Hylacomiastrum pyrenaicum</i>	a Feather Moss				S3S4	1	61.8 ± 3.0	NS
N	<i>Enchylium tenax</i>	Soil Tarpaper Lichen				S3S4	6	44.9 ± 0.0	NS
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen				S3S4	16	17.7 ± 0.0	NS
N	<i>Arctoparmelia incurva</i>	Finger Ring Lichen				S3S4	16	44.7 ± 0.0	NS
N	<i>Scytinium teretiusculum</i>	Curly Jellyskin Lichen				S3S4	3	47.1 ± 0.0	NS
N	<i>Leptogium acadense</i>	Acadian Jellyskin Lichen				S3S4	39	18.9 ± 0.0	NS
N	<i>Scytinium subtile</i>	Appressed Jellyskin Lichen				S3S4	8	30.0 ± 0.0	NS
N	<i>Chaenotheca brachypoda</i>	a stubble lichen				S3S4	1	69.2 ± 1.0	NS
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen				S3S4	4	50.1 ± 0.0	NS
N	<i>Vahlia leucophaea</i>	Shelter Shingle Lichen				S3S4	31	18.1 ± 0.0	NS
N	<i>Heterodermia speciosa</i>	Powdered Fringe Lichen				S3S4	22	26.5 ± 0.0	NS
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S3S4	7	45.2 ± 0.0	NS
N	<i>Melanohalea olivacea</i>	Spotted Camouflage Lichen				S3S4	3	76.0 ± 0.0	NS
N	<i>Parmellopsis hyperopta</i>	Gray Starburst Lichen				S3S4	1	47.1 ± 0.0	NS
N	<i>Parmotrema perlatum</i>	Powdered Ruffle Lichen				S3S4	1	94.5 ± 0.0	NS
N	<i>Peltigera hymenina</i>	Cloudy Pelt Lichen				S3S4	2	12.4 ± 0.0	NS
N	<i>Sphaerophorus fragilis</i>	Fragile Coral Lichen				S3S4	1	45.7 ± 0.0	NS
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen				S3S4	468	35.4 ± 0.0	NS
N	<i>Physcia tenella</i>	Fringed Rosette Lichen				S3S4	1	96.7 ± 3.0	NS
N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen				S3S4	71	18.8 ± 0.0	NS
N	<i>Evermia prunastri</i>	Valley Oakmoss Lichen				S3S4	6	44.1 ± 0.0	NS
N	<i>Heterodermia neglecta</i>	Fringe Lichen				S3S4	57	11.8 ± 0.0	NS

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P	<i>Fraxinus nigra</i>	Black Ash	Threatened		Threatened	S1S2	133	10.1 ± 0.0	NS
P	<i>Juncus caesariensis</i>	New Jersey Rush	Special Concern	Special Concern	Vulnerable	S3	240	47.3 ± 0.0	NS
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Vulnerable	S3	2	98.5 ± 0.0	NS
P	<i>Floerkea proserpinacoides</i>	False Mermidweed	Not At Risk			S2S3	24	9.8 ± 0.0	NS
P	<i>Salix candida</i>	Sage Willow			Endangered	S1	47	55.7 ± 0.0	NS
P	<i>Arnica lonchophylla</i>	Northern Arnica				S1	1	24.5 ± 7.0	NS
P	<i>Betula minor</i>	Dwarf White Birch				S1	1	70.2 ± 0.0	NS
P	<i>Cardamine dentata</i>	Toothed Bittercress				S1	4	26.5 ± 0.0	NS
P	<i>Cochlearia tridactylites</i>	Limestone Scurvy-grass				S1	4	46.4 ± 0.0	NS
P	<i>Draba norvegica</i>	Norwegian Whitlow-Grass				S1	1	92.9 ± 2.0	NS
P	<i>Stellaria crassifolia</i>	Fleshy Stitchwort				S1	1	34.4 ± 2.0	NS
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath				S1	6	37.7 ± 1.0	NS
P	<i>Bistorta vivipara</i>	Alpine Bistort				S1	1	34.2 ± 1.0	NS
P	<i>Montia fontana</i>	Water Blinks				S1	2	3.5 ± 1.0	NS
P	<i>Agalinis tenuifolia</i>	Slender Agalinis				S1	1	39.7 ± 0.0	NS
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort				S1	2	26.7 ± 1.0	NS
P	<i>Carex alopecoidea</i>	Foxtail Sedge				S1	2	35.9 ± 0.0	NS
P	<i>Carex granularis</i>	Limestone Meadow Sedge				S1	21	29.4 ± 0.0	NS
P	<i>Carex tenuiflora</i>	Sparse-Flowered Sedge				S1	3	47.2 ± 0.0	NS
P	<i>Carex tinctoria</i>	Tinged Sedge				S1	1	35.9 ± 1.0	NS
P	<i>Carex viridula ssp. brachyrrhyncha</i>	Greenish Sedge				S1	1	44.8 ± 0.0	NS
P	<i>Carex viridula var. elatior</i>	Greenish Sedge				S1	58	26.4 ± 0.0	NS
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge				S1	6	46.1 ± 0.0	NS
P	<i>Cyperus lupulinus ssp. macilentus</i>	Hop Flatsedge				S1	13	36.7 ± 0.0	NS
P	<i>Eleocharis erythropoda</i>	Red-stemmed Spikerush				S1	7	38.3 ± 0.0	NS
P	<i>Rhynchospora capillacea</i>	Slender Beakrush				S1	8	48.5 ± 10.0	NS
P	<i>Scirpus atrovirens</i>	Dark-green Bulrush				S1	2	44.7 ± 0.0	NS
P	<i>Iris prismatica</i>	Slender Blue Flag				S1	4	61.3 ± 0.0	NS
P	<i>Triantha glutinosa</i>	Sticky False-Asphodel				S1	14	55.7 ± 0.0	NS
P	<i>Malaxis monophyllos var. brachypoda</i>	North American White Adder's-mouth				S1	1	18.5 ± 7.0	NS
P	<i>Calamagrostis stricta ssp. inexpansa</i>	Slim-stemmed Reed Grass				S1	2	19.2 ± 0.0	NS
P	<i>Hordeum brachyantherum</i>	Meadow Barley				S1	1	99.6 ± 0.0	NS
P	<i>Phleum alpinum</i>	Alpine Timothy				S1	2	98.0 ± 0.0	NS
P	<i>Torreyochloa pallida var. pallida</i>	Pale False Manna Grass				S1	2	86.0 ± 1.0	NS
P	<i>Graphephorum melicoides</i>	Purple False Oats				S1	2	86.7 ± 0.0	NS
P	<i>Potamogeton nodosus</i>	Long-leaved Pondweed				S1	1	88.3 ± 5.0	NS
P	<i>Sparganium androcladum</i>	Branching Bur-Reed				S1	3	42.0 ± 1.0	NS
P	<i>Dryopteris goldieana</i>	Goldie's Woodfern				S1	1	68.8 ± 0.0	NS
P	<i>Equisetum palustre</i>	Marsh Horsetail				S1	8	46.0 ± 0.0	NS
P	<i>Bolboschoenus robustus</i>	Sturdy Bulrush				S1?	2	67.7 ± 5.0	NS
P	<i>Allium schoenoprasum var. sibiricum</i>	Wild Chives				S1?	3	26.5 ± 7.0	NS
P	<i>Sanicula odorata</i>	Clustered Sanicle				S1S2	8	20.8 ± 0.0	NS
P	<i>Ageratina altissima</i>	White Snakeroot				S1S2	2	45.5 ± 7.0	NS
P	<i>Cornus suecica</i>	Swedish Bunchberry				S1S2	4	41.9 ± 0.0	NS
P	<i>Anemone virginiana var. alba</i>	Virginia Anemone				S1S2	6	43.8 ± 0.0	NS
P	<i>Parnassia parviflora</i>	Small-flowered Grass-of-Parnassus				S1S2	17	50.1 ± 1.0	NS
P	<i>Carex haydenii</i>	Hayden's Sedge				S1S2	3	31.4 ± 0.0	NS
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid				S1S2	8	33.7 ± 0.0	NS
P	<i>Calamagrostis stricta ssp.</i>	Slim-stemmed Reed Grass				S1S2	1	69.6 ± 1.0	NS

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P	<i>stricta</i>								
P	<i>Selaginella selaginoides</i>	Low Spikemoss				S1S2	5	42.6 ± 0.0	NS
P	<i>Carex vacillans</i>	Estuarine Sedge				S1S3	2	35.9 ± 0.0	NS
P	<i>Zizia aurea</i>	Golden Alexanders				S2	7	39.8 ± 5.0	NS
P	<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower				S2	2	45.5 ± 7.0	NS
P	<i>Arabis pycnocarpa</i>	Cream-flowered Rockcress				S2	1	97.5 ± 0.0	NS
P	<i>Anemonastrum canadense</i>	Canada Anemone				S2	2	16.3 ± 3.0	NS
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S2	1	71.4 ± 7.0	NS
P	<i>Comandra umbellata</i>	Bastard's Toadflax				S2	32	36.4 ± 0.0	NS
P	<i>Carex gynocrates</i>	Northern Bog Sedge				S2	16	29.9 ± 0.0	NS
P	<i>Carex livida</i>	Livid Sedge				S2	24	37.5 ± 5.0	NS
P	<i>Juncus greenii</i>	Greene's Rush				S2	1	37.8 ± 1.0	NS
P	<i>Juncus alpinoarticulatus</i> ssp. <i>americanus</i>	Northern Green Rush				S2	11	24.4 ± 1.0	NS
P	<i>Luzula spicata</i>	Spiked Woodrush				S2	1	46.2 ± 0.0	NS
P	<i>Lilium canadense</i>	Canada Lily				S2	35	7.3 ± 0.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Yellow Lady's-slipper				S2	32	5.5 ± 7.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	17	17.7 ± 0.0	NS
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S2	330	16.0 ± 0.0	NS
P	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid				S2	1	25.0 ± 1.0	NS
P	<i>Bromus latiglumis</i>	Broad-Glumed Brome				S2	11	7.0 ± 0.0	NS
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass				S2	24	7.0 ± 0.0	NS
P	<i>Elymus wiegandii</i>	Wiegand's Wild Rye				S2	9	10.0 ± 0.0	NS
P	<i>Sparganium hyperboreum</i>	Northern Burreed				S2	4	49.0 ± 1.0	NS
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S2	17	42.9 ± 0.0	NS
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S2?	5	35.5 ± 7.0	NS
P	<i>Rumex persicarioides</i>	Peach-leaved Dock				S2?	1	57.7 ± 0.0	NS
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S2?	2	65.5 ± 7.0	NS
P	<i>Thuja occidentalis</i>	Eastern White Cedar			Vulnerable	S2S3	3	35.3 ± 0.0	NS
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2S3	19	26.7 ± 1.0	NS
P	<i>Bidens hyperborea</i>	Estuary Beggarticks				S2S3	3	46.0 ± 1.0	NS
P	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane				S2S3	8	38.7 ± 7.0	NS
P	<i>Impatiens pallida</i>	Pale Jewelweed				S2S3	27	10.6 ± 1.0	NS
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2S3	25	10.1 ± 0.0	NS
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S2S3	3	44.3 ± 1.0	NS
P	<i>Boechera stricta</i>	Drummond's Rockcress				S2S3	2	93.1 ± 1.0	NS
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S2S3	4	87.2 ± 0.0	NS
P	<i>Oxybasis rubra</i>	Red Goosefoot				S2S3	3	46.6 ± 7.0	NS
P	<i>Hypericum majus</i>	Large St John's-wort				S2S3	5	51.0 ± 0.0	NS
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort				S2S3	2	34.1 ± 1.0	NS
P	<i>Empetrum atropurpureum</i>	Purple Crowberry				S2S3	1	42.3 ± 3.0	NS
P	<i>Euphorbia polygonifolia</i>	Seaside Spurge				S2S3	13	20.3 ± 0.0	NS
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S2S3	4	15.5 ± 7.0	NS
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	1	61.0 ± 5.0	NS
P	<i>Oenothera fruticosa</i> ssp. <i>tetragona</i>	Narrow-leaved Evening Primrose				S2S3	1	64.9 ± 1.0	NS
P	<i>Polygonum aviculare</i> ssp. <i>buxiforme</i>	Box Knotweed				S2S3	1	91.1 ± 7.0	NS
P	<i>Polygonum oxyspermum</i> ssp. <i>rail</i>	Ray's Knotweed				S2S3	9	29.7 ± 3.0	NS
P	<i>Rumex triangulivalvis</i>	Triangular-valve Dock				S2S3	8	8.0 ± 6.0	NS
P	<i>Anemone quinquefolia</i>	Wood Anemone				S2S3	16	66.8 ± 1.0	NS
P	<i>Caltha palustris</i>	Yellow Marsh Marigold				S2S3	24	49.2 ± 1.0	NS
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry				S2S3	3	45.4 ± 1.0	NS
P	<i>Potentilla canadensis</i>	Canada Cinquefoil				S2S3	1	16.6 ± 2.0	NS

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P	<i>Salix pellita</i>	Satiny Willow				S2S3	6	7.1 ± 1.0	NS
P	<i>Tiarella cordifolia</i>	Heart-leaved Foamflower				S2S3	1	8.0 ± 3.0	NS
P	<i>Agalinis purpurea</i> var. <i>parviflora</i>	Small-flowered Purple False Foxglove				S2S3	1	29.0 ± 0.0	NS
P	<i>Carex adusta</i>	Lesser Brown Sedge				S2S3	1	91.8 ± 5.0	NS
P	<i>Carex comosa</i>	Bearded Sedge				S2S3	1	70.2 ± 1.0	NS
P	<i>Carex hystericina</i>	Porcupine Sedge				S2S3	37	27.2 ± 0.0	NS
P	<i>Carex scirpoidea</i>	Scirpuslike Sedge				S2S3	2	95.4 ± 4.0	NS
P	<i>Eleocharis ovata</i>	Ovate Spikerush				S2S3	2	41.4 ± 0.0	NS
P	<i>Scirpus pedicellatus</i>	Stalked Bulrush				S2S3	9	7.7 ± 0.0	NS
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2S3	27	37.4 ± 0.0	NS
P	<i>Potamogeton trisii</i>	Fries' Pondweed				S2S3	7	11.0 ± 0.0	NS
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern				S2S3	6	42.5 ± 10.0	NS
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S2S3	6	42.5 ± 7.0	NS
P	<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Narrow Triangle Moonwort				S2S3	8	28.4 ± 0.0	NS
P	<i>Botrychium simplex</i>	Least Moonwort				S2S3	3	33.2 ± 5.0	NS
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S2S3	1	93.0 ± 5.0	NS
P	<i>Angelica atropurpurea</i>	Purple-stemmed Angelica				S3	26	6.6 ± 0.0	NS
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S3	6	91.5 ± 1.0	NS
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort				S3	10	7.1 ± 1.0	NS
P	<i>Symphyotrichum boreale</i>	Boreal Aster				S3	63	26.3 ± 0.0	NS
P	<i>Symphyotrichum ciliolatum</i>	Fringed Blue Aster				S3	3	32.6 ± 0.0	NS
P	<i>Betula pumila</i> var. <i>pumila</i>	Bog Birch				S3	2	50.1 ± 7.0	NS
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch				S3	14	55.9 ± 0.0	NS
P	<i>Betula pumila</i>	Bog Birch				S3	9	28.8 ± 0.0	NS
P	<i>Palustricodon aparinoides</i>	Marsh Bellflower				S3	5	40.7 ± 5.0	NS
P	<i>Lobelia kalmii</i>	Brook Lobelia				S3	95	23.3 ± 0.0	NS
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S3	3	42.0 ± 5.0	NS
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S3	1	10.4 ± 0.0	NS
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S3	189	27.1 ± 0.0	NS
P	<i>Viburnum edule</i>	Squashberry				S3	4	93.2 ± 7.0	NS
P	<i>Crassula aquatica</i>	Water Pygmyweed				S3	4	34.5 ± 7.0	NS
P	<i>Empetrum nigrum</i>	Pink Crowberry				S3	1	80.1 ± 0.0	NS
P	<i>Vaccinium uliginosum</i>	Alpine Bilberry				S3	3	77.1 ± 0.0	NS
P	<i>Halenia deflexa</i>	Spurred Gentian				S3	24	11.3 ± 0.0	NS
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil				S3	5	26.5 ± 0.0	NS
P	<i>Utricularia resupinata</i>	Inverted Bladderwort				S3	1	57.8 ± 0.0	NS
P	<i>Epilobium strictum</i>	Downy Willowherb				S3	21	8.0 ± 5.0	NS
P	<i>Polygala sanguinea</i>	Blood Milkwort				S3	2	48.9 ± 0.0	NS
P	<i>Persicaria arifolia</i>	Halberd-leaved Tearthumb				S3	7	33.9 ± 0.0	NS
P	<i>Plantago rugelii</i>	Rugel's Plantain				S3	1	39.7 ± 0.0	NS
P	<i>Primula laurentiana</i>	Laurentian Primrose				S3	1	87.0 ± 7.0	NS
P	<i>Samolus parviflorus</i>	Seaside Brookweed				S3	21	33.7 ± 0.0	NS
P	<i>Pyrola minor</i>	Lesser Pyrola				S3	9	43.2 ± 2.0	NS
P	<i>Anemone virginiana</i>	Virginia Anemone				S3	30	37.2 ± 0.0	NS
P	<i>Galium kamschaticum</i>	Northern Wild Licorice				S3	11	37.9 ± 0.0	NS
P	<i>Galium labradoricum</i>	Labrador Bedstraw				S3	98	26.3 ± 0.0	NS
P	<i>Salix pedicellaris</i>	Bog Willow				S3	12	28.2 ± 0.0	NS
P	<i>Salix sericea</i>	Silky Willow				S3	1	67.6 ± 0.0	NS
P	<i>Saxifraga paniculata</i> ssp. <i>laestadii</i>	Laestadius' Saxifrage				S3	4	40.2 ± 7.0	NS
P	<i>Lindernia dubia</i>	Yellow-seeded False Pimperel				S3	4	9.8 ± 0.0	NS
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	19	7.0 ± 0.0	NS
P	<i>Pilea pumila</i>	Dwarf Clearweed				S3	1	87.0 ± 6.0	NS
P	<i>Viola nephrophylla</i>	Northern Bog Violet				S3	10	11.7 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Carex bebbii</i>	Bebb's Sedge			S3		34	32.3 ± 0.0	NS
P	<i>Carex castanea</i>	Chestnut Sedge			S3		18	27.3 ± 0.0	NS
P	<i>Carex cryptolepis</i>	Hidden-scaled Sedge			S3		15	6.7 ± 0.0	NS
P	<i>Carex eburnea</i>	Bristle-leaved Sedge			S3		171	45.7 ± 5.0	NS
P	<i>Carex hirtifolia</i>	Pubescent Sedge			S3		11	10.0 ± 0.0	NS
P	<i>Carex lupulina</i>	Hop Sedge			S3		9	47.0 ± 0.0	NS
P	<i>Carex rosea</i>	Rosy Sedge			S3		6	40.8 ± 0.0	NS
P	<i>Carex tenera</i>	Tender Sedge			S3		3	19.4 ± 1.0	NS
P	<i>Carex tribuloides</i>	Blunt Broom Sedge			S3		14	9.8 ± 1.0	NS
P	<i>Carex tuckermanii</i>	Tuckerman's Sedge			S3		2	73.2 ± 0.0	NS
P	<i>Carex atratiformis</i>	Scabrous Black Sedge			S3		2	42.5 ± 7.0	NS
P	<i>Eleocharis flavescens</i> var. <i>olivacea</i>	Bright-green Spikerush			S3		3	51.6 ± 5.0	NS
P	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush			S3		33	31.3 ± 0.0	NS
P	<i>Eriophorum gracile</i>	Slender Cottongrass			S3		8	29.1 ± 0.0	NS
P	<i>Schoenoplectus americanus</i>	Olney's Bulrush			S3		1	46.2 ± 0.0	NS
P	<i>Juncus stygius</i> ssp. <i>americanus</i>	Moor Rush			S3		31	42.4 ± 1.0	NS
P	<i>Oreojuncus trifidus</i>	Highland Rush			S3		6	47.2 ± 0.0	NS
P	<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper			S3		110	20.0 ± 0.0	NS
P	<i>Goodyera oblongifolia</i>	Menzies' Rattlesnake-plantain			S3		13	70.1 ± 10.0	NS
P	<i>Neottia bifolia</i>	Southern Twayblade			S3		47	1.3 ± 0.0	NS
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid			S3		49	7.4 ± 0.0	NS
P	<i>Platanthera hookeri</i>	Hooker's Orchid			S3		3	7.9 ± 0.0	NS
P	<i>Poa glauca</i>	Glaucous Blue Grass			S3		11	42.9 ± 0.0	NS
P	<i>Stuckenia filiformis</i>	Thread-leaved Pondweed			S3		42	7.7 ± 0.0	NS
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed			S3		15	27.4 ± 0.0	NS
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed			S3		10	11.4 ± 0.0	NS
P	<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed			S3		9	52.0 ± 7.0	NS
P	<i>Asplenium viride</i>	Green Spleenwort			S3		28	12.4 ± 0.0	NS
P	<i>Dryopteris fragrans</i>	Fragrant Wood Fern			S3		4	11.5 ± 7.0	NS
P	<i>Polystichum lonchitis</i>	Northern Holly Fern			S3		5	24.5 ± 5.0	NS
P	<i>Sceptridium dissectum</i>	Dissected Moonwort			S3		2	69.5 ± 1.0	NS
P	<i>Polypodium appalachianum</i>	Appalachian Polypody			S3		6	18.7 ± 0.0	NS
P	<i>Persicaria amphibia</i> var. <i>emersa</i>	Long-root Smartweed			S3?		1	59.9 ± 0.0	NS
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses			S3?		4	28.5 ± 0.0	NS
P	<i>Diphasiastrum x sabinifolium</i>	Savin-leaved Ground-cedar			S3?		13	44.6 ± 1.0	NS
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane			S3S4		83	46.5 ± 0.0	NS
P	<i>Bidens beckii</i>	Water Beggarticks			S3S4		9	52.9 ± 0.0	NS
P	<i>Packera pauperula</i>	Balsam Groundsel			S3S4		164	5.7 ± 0.0	NS
P	<i>Atriplex glabriuscula</i> var. <i>franktonii</i>	Frankton's Saltbush			S3S4		5	8.5 ± 0.0	NS
P	<i>Shepherdia canadensis</i>	Soapberry			S3S4		144	45.7 ± 0.0	NS
P	<i>Vaccinium boreale</i>	Northern Blueberry			S3S4		15	40.2 ± 7.0	NS
P	<i>Vaccinium cespitosum</i>	Dwarf Bilberry			S3S4		20	70.7 ± 0.0	NS
P	<i>Fagus grandifolia</i>	American Beech			S3S4		160	7.2 ± 0.0	NS
P	<i>Bartonia virginica</i>	Yellow Bartonia			S3S4		1	35.2 ± 0.0	NS
P	<i>Decodon verticillatus</i>	Swamp Loosestrife			S3S4		5	29.4 ± 7.0	NS
P	<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed			S3S4		10	5.0 ± 5.0	NS
P	<i>Fallopia scandens</i>	Climbing False Buckwheat			S3S4		17	7.3 ± 0.0	NS
P	<i>Rumex pallidus</i>	Seabeach Dock			S3S4		1	47.0 ± 0.0	NS
P	<i>Pyrola asarifolia</i>	Pink Pyrola			S3S4		7	31.1 ± 0.0	NS
P	<i>Endotropis alnifolia</i>	alder-leaved buckthorn			S3S4		477	7.2 ± 0.0	NS
P	<i>Amelanchier spicata</i>	Running Serviceberry			S3S4		7	11.3 ± 0.0	NS
P	<i>Fragaria vesca</i> ssp. <i>americana</i>	Woodland Strawberry			S3S4		72	13.9 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Fragaria vesca</i>	Woodland Strawberry				S3S4	2	57.7 ± 0.0	NS
P	<i>Galium aparine</i>	Common Bedstraw				S3S4	2	46.4 ± 0.0	NS
P	<i>Geocaulon lividum</i>	Northern Comandra				S3S4	78	8.2 ± 2.0	NS
P	<i>Limosella australis</i>	Southern Mudwort				S3S4	4	43.7 ± 5.0	NS
P	<i>Ulmus americana</i>	White Elm				S3S4	71	6.3 ± 1.0	NS
P	<i>Verbena hastata</i>	Blue Vervain				S3S4	36	37.9 ± 0.0	NS
P	<i>Viola selkirkii</i>	Great-Spurred Violet				S3S4	1	6.8 ± 1.0	NS
P	<i>Carex argyrantha</i>	Silvery-flowered Sedge				S3S4	1	61.3 ± 0.0	NS
P	<i>Sisyrinchium atlanticum</i>	Eastern Blue-Eyed-Grass				S3S4	1	88.4 ± 0.0	NS
P	<i>Triglochin gaspensis</i>	Gasp Arrowgrass				S3S4	6	7.9 ± 0.0	NS
P	<i>Juncus acuminatus</i>	Sharp-Fruit Rush				S3S4	4	40.7 ± 0.0	NS
P	<i>Juncus subcaudatus</i>	Woods-Rush				S3S4	8	41.5 ± 0.0	NS
P	<i>Luzula parviflora ssp. melanocarpa</i>	Black-fruited Woodrush				S3S4	15	69.9 ± 5.0	NS
P	<i>Goodyera repens</i>	Lesser Rattlesnake-plantain				S3S4	21	11.6 ± 0.0	NS
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3S4	17	14.1 ± 0.0	NS
P	<i>Platanthera obtusata</i>	Blunt-leaved Orchid				S3S4	10	11.5 ± 10.0	NS
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid				S3S4	6	24.3 ± 0.0	NS
P	<i>Alopecurus aequalis</i>	Short-awned Foxtail				S3S4	17	11.1 ± 0.0	NS
P	<i>Dichanthelium clandestinum</i>	Deer-tongue Panic Grass				S3S4	87	70.7 ± 0.0	NS
P	<i>Panicum philadelphicum</i>	Philadelphia Panicgrass				S3S4	1	23.7 ± 0.0	NS
P	<i>Koeleria spicata</i>	Narrow False Oats				S3S4	7	47.5 ± 0.0	NS
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S3S4	9	7.9 ± 0.0	NS
P	<i>Equisetum pratense</i>	Meadow Horsetail				S3S4	22	26.6 ± 0.0	NS
P	<i>Diphasiastrum complanatum</i>	Northern Ground-cedar				S3S4	4	29.4 ± 5.0	NS
P	<i>Diphasiastrum sitchense</i>	Sitka Ground-cedar				S3S4	25	11.2 ± 0.0	NS
P	<i>Huperzia appressa</i>	Mountain Firmoss				S3S4	3	42.2 ± 1.0	NS
P	<i>Sceptridium multifidum</i>	Leathery Moonwort				S3S4	6	35.9 ± 10.0	NS
P	<i>Botrychium matricariifolium</i>	Daisy-leaved Moonwort				S3S4	6	10.9 ± 10.0	NS
P	<i>Viola canadensis</i>	Canada Violet				SH	1	46.2 ± 0.0	NS

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

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7	Robinson, S.L. 2011. 2011 ND dune survey field data. Atlantic Canada Conservation Data Centre, 2715 recs.
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# recs	CITATION
6	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
6	Bryson, I., Douglas, M., Kennedy, C. 2013. Nova Scotia rare plant observations. CBCL.
6	Holder, M.L.; Kingsley, A.L. 2000. Kinglsey and Holder observations from 2000 field work.
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6	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 333.
6	Pepper, Chris. 2020. Species of conservation concern, Powderhorn Lake, NS. pers.comm. to J. Churchill.
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3	Klymko, J. 2019. Atlantic Canada Conservation Data Centre zoological fieldwork 2018. Atlantic Canada Conservation Data Centre.
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# recs	CITATION
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1	Doucet, D.A. 2009. Census of Globally Rare, Endemic Butterflies of Nova Scotia Gulf of St Lawrence Salt Marshes. Nova Scotia Dept of Natural Resources, Species at Risk, 155 recs.
1	Frittaion, C. 2012. NSNT 2012 Field Observations. Nova Scotia Nature Trust, Pers comm. to S. Blaney Feb. 7, 34 recs.
1	Hall, R.A. 2001. S.. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
1	Hill, N.M. 2021. Observation of <i>Carex haydenii</i> and black ash near Marshy Hope and Ponhook Lake. pers. comm.
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1	Standley, L.A. 2002. <i>Carex haydenii</i> in Nova Scotia. , Pers. comm. to C.S. Blaney. 4 recs.
1	White, S. 2019. Notable species sightings, 2018. East Coast Aquatics.
1	Whittam, R.M. 2000. <i>Senecio pseudoarnica</i> on Country Island. , Pers. comm. to S. Gerriets. 1 rec.

APPENDIX O
HATCH PHASE I ESA

Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar, Geoanalytics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Landscape/Lake



- Legend**
- ▭ Phase I ESA Property
 - Pipeline
 - Pipeline and Metering Station
 - Natural gas liquids fractionation plant
 - Wind Power Turbine



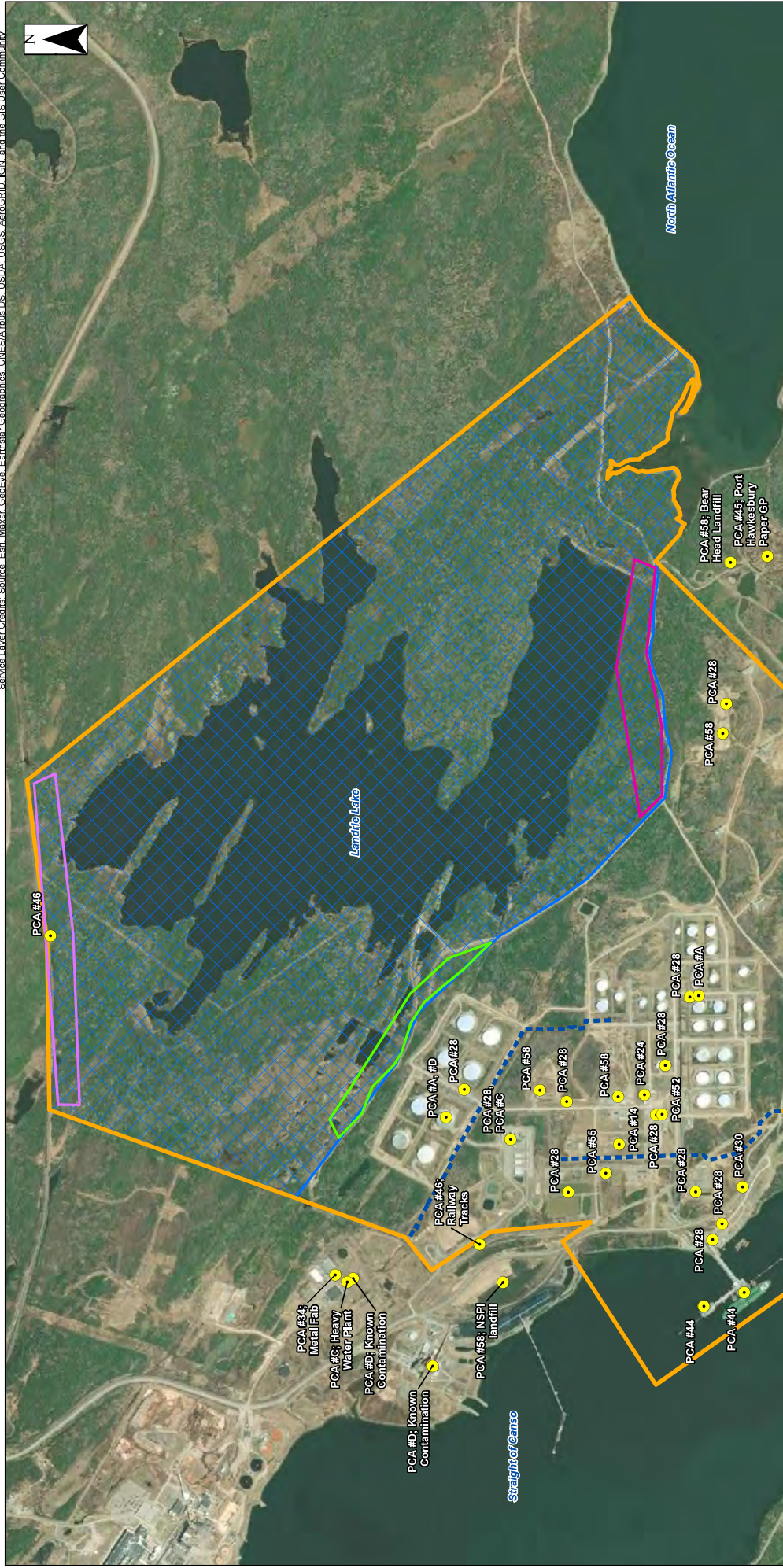
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 Kilometers

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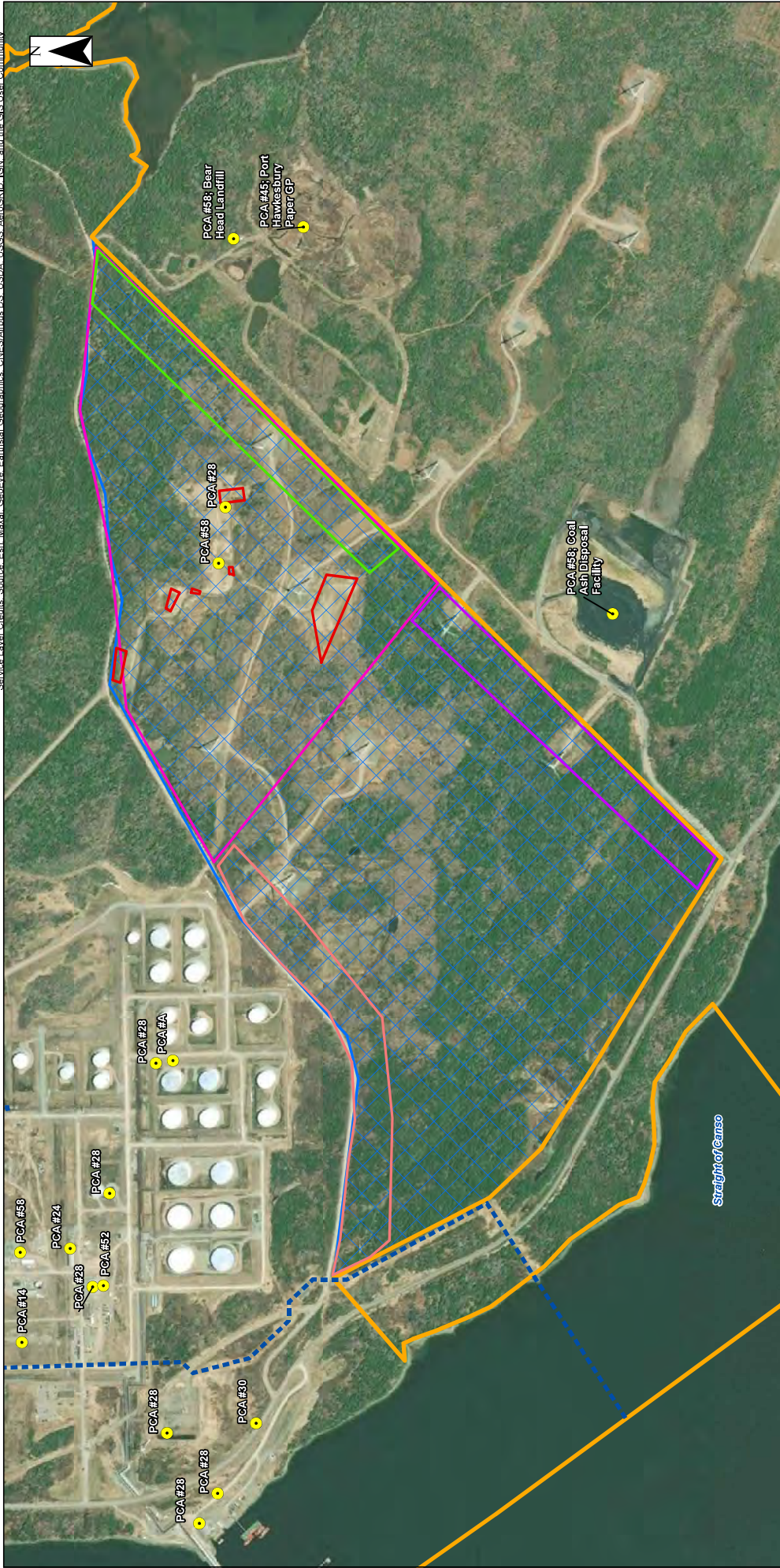
Project: Phase I Environmental Site Assessment		Project: Point Tupper	
Figure Title: Monitoring Wells		Date: February 01, 2022	
Prepared By:	HATCH		
Version: 0	Review: J.W.	Figure: 3-1	Page: 1 of 1

Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



<p>Legend</p> <ul style="list-style-type: none"> Phase I ESA Property Phase I ESA - Sub Sites PT-1 PT-1 PT-1 Pipeline 	<p>PCA/APECS</p> <ul style="list-style-type: none"> ● Potentially Contaminating Activity (PCA) ■ PT-1: APEC 1 (railway) ■ PT-1: APEC 2 (landfill) ■ PT-1: APEC 3 (storage tanks) 	<p>Project: Phase I Environmental Site Assessment</p> <p>Figure Title: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)</p> <p>Prepared By: HATCH</p> <p>Version: 0</p> <p>Date: January 28, 2022</p> <p>Review: J.W.</p> <p>Figure: A-1-4-1</p> <p>Page: 1 of 1</p>
	<p>NOTES:</p> <p>1. Spatial Referencing: NAD 1983 UTM Zone 20</p> <p>0 250 500 1,000 Meters</p> <p>1:18,000</p>	

Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project:	Phase I Environmental Site Assessment	
	Site PT-2: Potentially Contaminating Activity (PCA) and Figure Title: Area of Potential Environmental Concern (APEC)	
Prepared By:	HATCH	Date: February 01, 2022
Version:	0	Review: J.W.
		Figure: A-2-4-1
		Page: 1 of 1

NOTES:
 1. Spatial Referencing: NAD 1983 UTM Zone 20

0 125 250 500 1000 Meters
 1:9,500

- PCA / APECs**
- Potentially Contaminating Activity (PCA)
 - PT-2: APEC 1 (landfill)
 - PT-2: APEC 2 (coal ash)
 - PT-2: APEC 3 (paper)
 - PT-2: APEC 4 (storage tanks PT-9)
 - Asbestos Burial Site

- Legend**
- Phase I ESA Property
 - Phase I ESA - Sub Sites
 - PT-2
 - Pipeline



Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar, Geographic, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project:	Phase I Environmental Site Assessment	
	Site PT-3: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	
Prepared By:	HATCH	Date: January 28, 2022
Version:	0	Review: J.W.
		Figure: A-3-4-1
		Page: 1 of 1

NOTES:

- Spatial Referencing: NAD 1983 UTM Zone 20

Scale: 1:8,000

0 125 250 500 Meters

PCA/APECS

- Potentially Contaminating Activity (PCA)
 - PT-3: APEC 1 (fill)
 - PT-3: APEC 2 (industrial use, ERIS, PCA #28)
 - PT-3: APEC 3 (landfill)
 - PT-3: APEC 4 (off-site landfill PT-9)

Legend

- Phase I ESA Property
- Phase I ESA - Sub Sites
- PT-3
- Pipeline



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project:	Point Tupper	
	Phase I Environmental Site Assessment	
Figure Title:	Site PT-4: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	
	Prepared By:	HATCH
Date:	January 28, 2022	
Version:	0	Review: J.W.
Figure:	A-4-1	Page: 1 of 1

NOTES:
 1. Spatial Referencing: NAD 1983 UTM Zone 20

PCA/APECS

- Potentially Contaminating Activity (PCA)
- PT-4: APEC 1 (substation)
- PT-4: APEC 2 (#28)
- PT-4: APEC 3 (off-site refinery)
- PT-4: APEC 4 (off-site PT-3)

Legend

- Phase I ESA Property
- Phase I ESA - Sub Sites
- PT-4
- Pipeline



Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



PCA #D: Known Contamination

PCA #46: Railway Tracks

PCA #E8: NSPI Landfill

PCA #44



Legend

Phase I ESA Property

Phase I ESA - Sub Sites

PT-5

Pipeline

PCA/APECS

Potentially Contaminating Activity (PCA)

PT-5: APEC 1 (impacted soil holding area)

PT-5: APEC 2 (asbestos holding area)

PT-5: APEC 3 (OWS)

PT-5: APEC 4 (former refining)

PT-5: APEC 5 (haz waste storage)

PT-5: APEC 6 (fire training)

PT-5: APEC 7 (gas storage, maintenance)

PT-5: APEC 8 (gas tanks)

PT-5: APEC 9 (off-site storage tanks)

NOTES:

1. Spatial Referencing: NAD 1983 UTM Zone 20

0 87.5 175 350 Meters

1:7,000

Scale bar and north arrow.

Project:	Phase I Environmental Site Assessment	
	Site PT-5: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	
Prepared By:	HATCH	Date: January 28, 2022
Version:	0	Review: J.W.
Figure:	A-5-4-1	Page: 1 of 1

Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project: Phase I Environmental Site Assessment Figure Title: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	Prepared By: HATCH		Date: January 28, 2022
	Version: 0	Review: J.W.	Figure: A-6-4-1 Page: 1 of 1

Legend

- Phase I ESA Property
- Phase I ESA - Sub Sites
- PT-6
- Pipeline

PCA / APECs

- Potentially Contaminating Activity (PCA)
- PT-6 APEC 1 (off-site known contamination)

NOTES:

1. Spatial Referencing: NAD 1983 UTM Zone 20

Scale: 1:6,500
 0 80 160 320 Meters



Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar, Geoanables, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



<p>Legend</p> <ul style="list-style-type: none"> Phase I ESA Property Phase I ESA - Sub Sites PT-7 Pipeline 	<p>PCA/APECs</p> <ul style="list-style-type: none"> Potentially Contaminating Activity (PCA) PT-7: APEC 1 (ERIS tank) PT-7: APEC 2 (off-site PT-3) PT-7: APEC 3 (off-site landfill) 	<p>NOTES:</p> <p>1. Spatial Referencing: NAD 1983 UTM Zone 20</p> <p>0 100 200 400 Meters</p> <p>1:8,000</p>	<p>Project:</p> <p>Phase I Environmental Site Assessment</p>	<p>Prepared By:</p> <p>HATCH</p>	<p>Date:</p> <p>January 28, 2022</p>
			<p>Figure Title:</p> <p>Site PT-7: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)</p>	<p>Version:</p> <p>0</p>	<p>Review:</p> <p>J.W.</p>

Legend

- Phase I ESA Property
- Phase I ESA - Sub Sites
- PT-7
- Pipeline

PCA/APECs

- Potentially Contaminating Activity (PCA)
- PT-7: APEC 1 (ERIS tank)
- PT-7: APEC 2 (off-site PT-3)
- PT-7: APEC 3 (off-site landfill)

NOTES:

1. Spatial Referencing: NAD 1983 UTM Zone 20

0 100 200 400 Meters

1:8,000

Project:

Phase I Environmental Site Assessment

Prepared By:

HATCH

Date:

January 28, 2022

Figure Title:

Site PT-7: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)

Version:

0

Review:

J.W.

Figure:

A-7-4-1

Page:

1 of 1

Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Legend**
- Phase I ESA Property
 - Phase I ESA - Sub Sites
 - PT-8
 - Pipeline

- PCA/APECs**
- Potentially Contaminating Activity (PCA)
 - PT-8: APEC 1
 - PT-8: APEC 2 (loading arm drip tray)
 - PT-8: APEC 3 (loading arm drip tray)

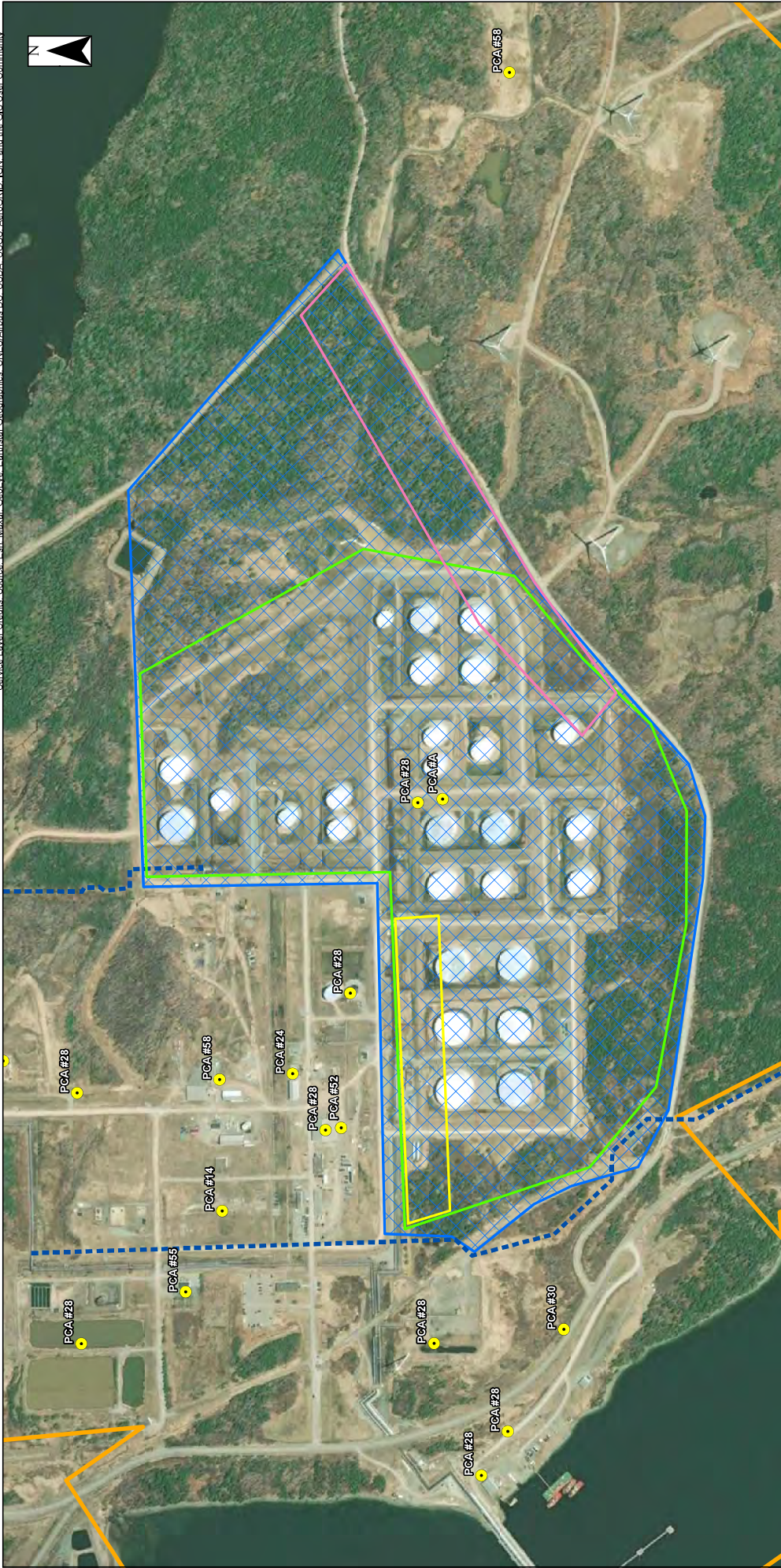
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1:6,000

Project: Point Tupper Phase I Environmental Site Assessment	
Figure Title: Site PT-8: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	
Prepared By: HATCH	Date: January 28, 2022
Version: 0	Review: J.W.
Figure: A-8-4-1	Page: 1 of 1

Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project:	Phase I Environmental Site Assessment	
	Site PT-9: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	
Prepared By:	HATCH	Date: January 28, 2022
Version:	0	Review: J.W.
Figure:	A-9-4-1	Page: 1 of 1

NOTES:
1. Spatial Referencing: NAD 1983 UTM Zone 20

Scale: 1:6,500
0 75 150 300 Meters

Legend

- Phase I ESA Property
- Phase I ESA - Sub Sites
- PT-9
- Pipeline
- PCA / APECS
 - Potentially Contaminating Activity (PCA)
 - PT-9; APEC 1 (storage tanks)
 - PT-9; APEC 2 (off-site landfill)
 - PT-9; APEC 3 (off site activities in PT-5)



Source Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Legend**
- Phase I ESA Property
 - Phase I ESA - Sub Sites
 - PT-10
 - Pipeline

- PCA / APECs**
- Potentially Contaminating Activity (PCA)
 - PT-10: APEC 1 (gas tanks, known cont.)
 - PT-10: APEC 2 (tank #102)
 - PT-10: APEC 3 (off-site biotreatment)
 - PT-10: APEC 4 (off-site heavy water)
 - PT-10: APEC 5 (off-site tanks in PT-9)

NOTES:
 1. Spatial Referencing: NAD 1983 UTM Zone 20

0 100 200 400 Meters
 1:9,000

Project:	Phase I Environmental Site Assessment
Figure Title:	Site PT-10: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)
Prepared By:	HATCH
Date:	January 28, 2022
Version:	0
Review:	J.W.
Figure:	A-10-4-1
Page:	1 of 1

A.2 PT-2

1. Introduction

1.1 Sub-Site Information and Study Area

PID 75006593 and PID 75125419 (Sub-Site PT-2) is located on Port Malcolm Road, Point Tupper. The sub-site is approximately 180 hectares in size. Land use within the sub-site is considered commercial/industrial use and is currently comprised of a wind turbine farm and asbestos-containing material (ACM) burial site. Roadways are located along the north site boundary and through the central portion of the Sub-Site. The adjacent properties on all sides of the subject site were also reviewed to account for contamination migration to/from the Sub-Site and represents the "Sub-Site Study Area."

2. Records Review

2.1.1 *First Developed Use Determination*

Based on a review of historical aerial photographs, the first developed land use of the Sub-Site is in approximately 1969 for industrial use as what appears to be a landfill.

2.1.2 *Databases*

A summary of the ERIS database search for records pertaining to the Sub-Site and Sub-Site Study Area is listed below:

Sub-Site PT-2

- One (1) Petroleum Storage Tank (PST) record (3729 Port Malcolm Road);
- One (1) Industrial Approvals (IAPP) record registered to NuStar;
- One (1) Oil, Gas and Petroleum Industrial Approvals (IAGP) registered to Bear Head LNG Corporation (241 Bear Island Road).

PT-9 (N adjacent – cross-gradient)

- One (1) Waste Generator (GEN) record registered to Statia Terminal Point Tupper Inc. (3817 Port Malcolm Road);
- One (1) Water Well (WWIS) record for industrial use.

3665 Port Malcolm Road (SE adjacent – cross-gradient)

- One (1) Industrial Approvals (IAPP) record for Bear Head Landfill registered to Port Hawkesbury Paper GP Ltd.

2.2 Physical Setting Sources

2.2.1 *Aerial Photographs*

A summary of observations from the aerial photographs is provided in Table A-2-2-1.

Table A-2-2-1: Aerial Photograph Interpretation

Year	Sub-Site PT-2	Sub-Site Study Area
1961	The Sub-Site is undeveloped.	<i>North:</i> Port Malcolm Road is located immediately adjacent to the Sub-Site. The Sub-Site Study Area is predominantly undeveloped.
1969	There is an access road to the north portion of the Sub-Site where there is a large area cleared of vegetation and disturbed soil/stockpiles are present. The Sub-Site appears to be used mainly as a road and as a landfill (industrial use). The remainder of the Sub-Site is vacant/forested.	<i>North:</i> Landrie Lake has expanded to just north of the Sub-Site. <i>East:</i> Vacant land. <i>South:</i> A roadway is located immediately adjacent to the Sub-Site and is followed by vacant land and Strait of Canso. <i>West:</i> Industrial land use is located immediately adjacent to the northwestern property boundary. Several large storage tanks appear to be under construction.
1979	The landfill area appears to be no longer in use. There are additional disturbed areas in the north-central area of the property. The Sub-Site is vacant.	<i>North:</i> Not pictured. <i>East:</i> Not pictured. <i>South:</i> No significant differences from the 1969 aerial photograph. <i>West:</i> An industrial tank farm is present.
1983	Disturbed areas and access roads are present along the north portion of the Sub-Site.	<i>North:</i> No significant differences from the 1969 aerial photograph. <i>East:</i> Access roads are present immediately adjacent to the north portion of the Sub-Site. <i>South:</i> No significant differences from the 1969 aerial photograph. <i>West:</i> No significant differences from the 1979 aerial photograph.
1991	An additional disturbed area is present in the southeast corner of the Sub-Site.	No significant differences from the 1969 aerial photograph.
1998	No significant differences from the 1991 aerial photograph.	<i>East:</i> An industrial disposal area and large stockpile are present immediately adjacent to the south portion of the Sub-Site. No other significant differences from the 1983 aerial photograph.
2007	The disturbed areas appear to no longer be in use and vegetation has regrown.	<i>North:</i> Not pictured. <i>East:</i> Not pictured. No other significant differences from the 1983 aerial photograph.
2019	Wind turbines have been constructed throughout the Sub-Site.	<i>North:</i> Not pictured.

Year	Sub-Site PT-2	Sub-Site Study Area
		<p><i>East:</i> A coal ash disposal site is located immediately adjacent to the south portion of the Sub-Site.</p> <p>No other significant differences from the 1983 aerial photograph.</p>
1961	The Sub-Site is undeveloped.	<p><i>North:</i> Port Malcolm Road is located immediately adjacent to the Sub-Site. The Sub-Site Study Area is predominantly undeveloped.</p>
1969	There is an access road to the north portion of the Sub-Site where there is a large area cleared of vegetation and disturbed soil/stockpiles are present. The Sub-Site appears to be used mainly as a road and as a landfill (industrial use). The remainder of the Sub-Site is vacant/forested.	<p><i>North:</i> Landrie Lake has expanded to just north of the Sub-Site.</p> <p><i>East:</i> Vacant land.</p> <p><i>South:</i> A roadway is located immediately adjacent to the Sub-Site and is followed by vacant land and Strait of Canso.</p> <p><i>West:</i> Industrial land use is located immediately adjacent to the northwestern property boundary. Several large storage tanks appear to be under construction.</p>

3. Site Reconnaissance

A summary of the observations made during reconnaissance of the Sub-Site is included in Table A-2-3-1.

Table A-2-3-1: Site Reconnaissance Observations

Topic	Observations
Overall description of the Sub-Site	The Sub-Site encompasses the area south of Port Malcolm Road. An asbestos disposal site and a wind farm are located on the site.
Number and details of buildings at the Sub-Site	No permanent buildings were identified onsite.
Ground Cover	Ground cover at the Sub-Site includes wooded and grassy areas with gravel access roads. Land was mostly snow covered at the time of the visit.
Number and details of Aboveground Storage Tanks (ASTs) observed	No ASTs observed.
Number and details of Underground Storage Tanks (USTs) observed	No USTs observed.
Water Wells or Monitoring Wells	Due to the access and the size of the site, the presence of monitoring wells could not be assessed. Refer to Section 3.3.5 for details

	related to monitoring wells in the surrounding area.
Presence of staining or stressed vegetation	Vegetation was not visible due to presence of snow.
Presence of Fill and/or Debris Materials	An asbestos disposal site is located on the Sub-Site however, it was not observed at the time of the visit.
Utilities	Wind turbines were present within the Sub-Site. Refer to Hatch's Asset Condition Report (February 2022).
Unidentified substances	No unidentified substances were observed onsite.
Additional Observations	None.

4. Review and Evaluation of Information

4.1 Current and Past Uses

A summary of current and past uses for the Sub-Site is provided in Table A-2-4-1.

Table A-2-4-1: Summary of Current and Past Property Use

Year	Property Use	Description of Property Use	Other Observations
1969-2019	Industrial Use	Used as a landfill until at least 1979.	None
2019-Current	Industrial/Community Use	Used as an asbestos disposal site and wind turbine farm.	None

4.2 Potentially Contaminating Activities

Based on a review of available records and site reconnaissance, PCAs have been identified on the Sub-Site and within the Sub-Site Study Area. A summary and evaluation of PCAs identified within the Sub-Site and Sub-Site Study Area is provided in Table A-2-4-2 and locations of the PCAs are shown in Table A-2-4-2.

Table A-2-4-2: Summary of Potentially Contaminating Activities

PCA ID	Description of PCA	Municipal Address	Location Relative to Sub-Site	Data Source	APEC No.	Rationale
1	58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and	N/A	On-Site (PT-2)	ERIS Report	APEC 1	NuStar landfill operations from approximately 1969-1979. Use as an asbestos disposal site. Refer to Appendix C for more information on the asbestos disposal. The potential for soil and/or groundwater impacts is

PCA ID	Description of PCA	Municipal Address	Location Relative to Sub-Site	Data Source	APEC No.	Rationale
	transfer of waste, other than use of biosoils as soil conditioners					high due to the activity occurring on the site.
2	28 – Gasoline & Associated Storage Products in Fixed Tanks	3729 Port Malcolm Road	On-Site (PT-2)	ERIS Report	APEC 1	Record of PST. The potential for soil and/or groundwater impacts is high due to the activity occurring on the site.
3	58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	N/A (PID #75035709)	SE adjacent (off-site of Phase I Property)	Point Tupper/Bear Head Industrial Park Plan, NSGC Topographic Map	APEC 2	Stora Disposal Site and NSPC Disposal Site (coal ash) present. The potential for soil and/or groundwater impacts is high due to the activity occurring immediately adjacent to the site.
4	45 – Pulp, Paper and Paperboard Manufacturing & Processing 58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	N/A	SE adjacent (off-site of Phase I Property)	Site Reconnaissance	APEC 3	Historic presence of Port Hawkesbury Paper GP. Presence of Bear Head landfill. The potential for soil and/or groundwater impacts is high due to the activity occurring immediately adjacent to the site.
5	A – Spill 28 – Gasoline & Associated Products	N/A	PT-9 (N adjacent)	Aerial Photographs	APEC 4	Storage/distribution terminal present from at least 1969-current. Twenty-six large ASTs present. A diagram of the

PCA ID	Description of PCA	Municipal Address	Location Relative to Sub-Site	Data Source	APEC No.	Rationale
	Storage in Fixed Tanks					storage tanks and a list of historical releases at the Point Tupper Terminal is included in Appendix C. The potential for soil and/or groundwater impacts is high due to the activity occurring immediately adjacent to the site.

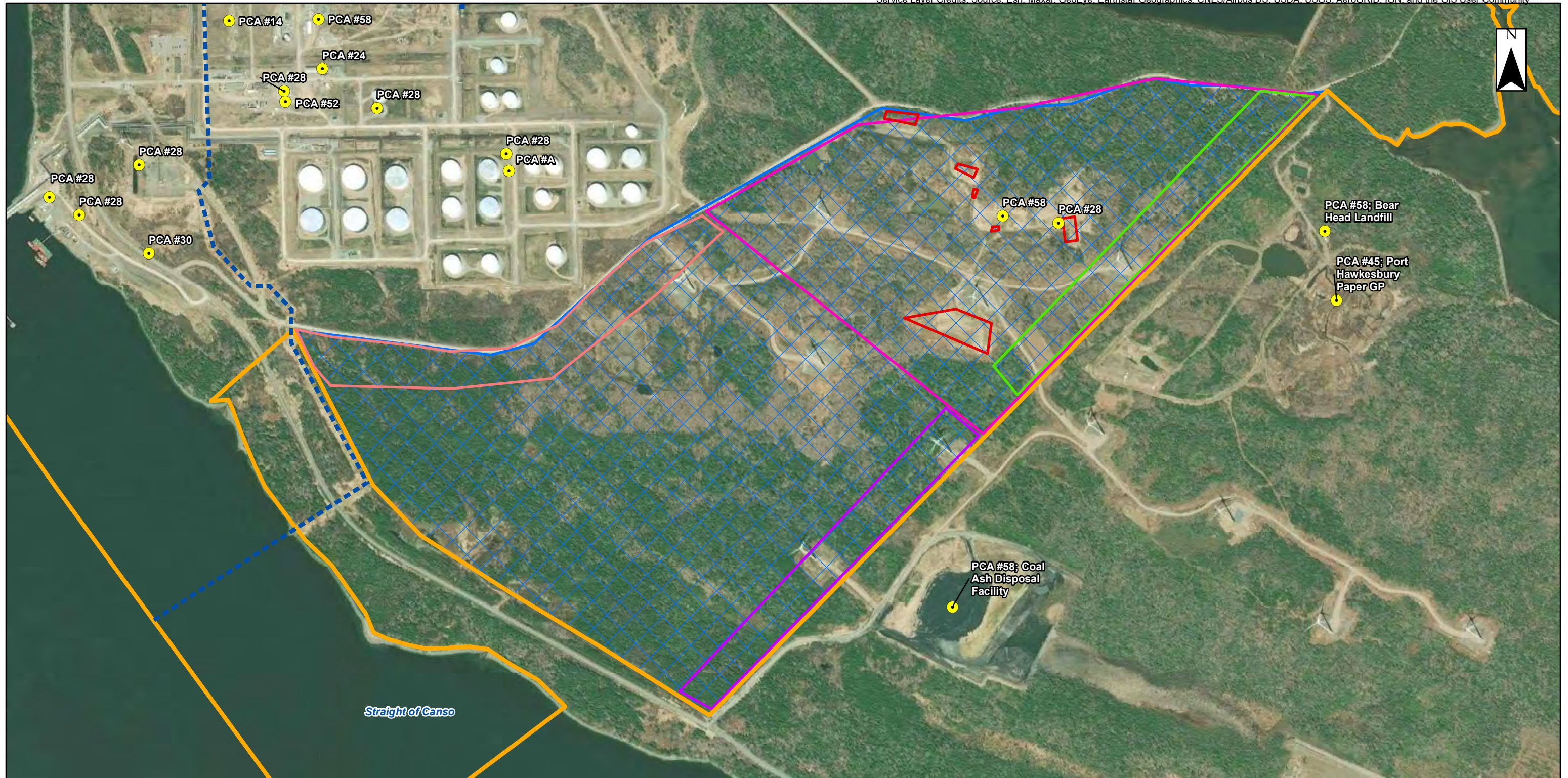
4.3 Areas of Potential Environmental Concern

Based on this study, Hatch has identified 4 APECs with the potential to impact groundwater conditions at the Phase I Property. One APEC is associated with onsite PCAs and 3 APECs are associated with off-site PCAs. These APECs correspond to locations where potential contamination may be present and has been categorized by assessing the overall relative potential of contamination from the findings presented in Section 4.2 of this Report. The APEC locations are summarized in Table A-2-4-3 and shown in Figure A-2-4-1.

Contaminants of Potential Concern (COPCs) associated with the APEC activities are also included in Table A-2-4-3.

Table A-2-4-3: Areas of Potential Environmental Concern

APEC No.	Potentially Contaminating Activity	COPCs	Media of Concern
APEC 1	58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners 28 – Gasoline and Associated Products Storage in Fixed Tanks	BTEX, Metals and Inorganics, PAH, PCB, PHC, OCP, VOC	Soil and Groundwater
APEC 2	58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	BTEX, Metals and Inorganics, PAH, PCB, PHC, OCP, VOC	Groundwater
APEC 3	45 – Pulp, Paper and Paperboard Manufacturing & Processing 58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	BTEX, Metals and Inorganics, PAH, PCB, PHC, OCP, VOC	Groundwater
APEC 4	28 – Gasoline and Associated Products Storage in Fixed Tanks A – Spill	BTEX, PAH, PHC	Groundwater



Legend

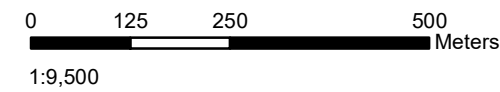
- Phase I ESA Property
- Phase I ESA - Sub Sites**
- PT-2
- Pipeline

PCA / APECs

- Potentially Contaminating Activity (PCA)
- PT-2: APEC 1 (landfill)
- PT-2: APEC 2 (coal ash)
- PT-2: APEC 3 (paper)
- PT-2: APEC 4 (storage tanks PT-9)
- Asbestos Burial Site

NOTES:

1. Spatial Referencing: NAD 1983 UTM Zone 20



Project: Point Tupper Phase I Environmental Site Assessment			
Figure Title: Site PT-2: Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)			
Prepared By:		Date: February 01, 2022	
Version: 0	Review: J.W.	Figure: A-2-4-1	Page: 1 of 1