

# APPENDIX

**D**

VEGETATION AND  
LICHEN  
ASSESSMENTS

# HIGHWAY 101 CAMBRIDGE INTERCHANGE AND CONNECTOR ROADS EA

## VEGETATION AND LICHEN ASSESSMENTS

MAY 2022

FINAL





**HIGHWAY 101  
CAMBRIDGE  
INTERCHANGE EIA  
VEGETATION AND  
LICHEN ASSESSMENTS**

**NOVA SCOTIA DEPARTMENT OF PUBLIC  
WORKS**

**FINAL**

**WSP PROJECT NO.: 211-04152-00**

**DATE: MAY 2022**

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# EXECUTIVE SUMMARY

WSP Canada inventoried vegetation and lichens within the proposed Highway 101 Cambridge Interchange and Connector Roads project area between May and September 2021. Targeted vegetation surveys were carried out on May 4 and September 23, 2021 along with incidental observations of vegetation during other surveys throughout spring, summer, and fall of 2021.

99 species of vascular plants were identified within the project area, including two Species of Conservational Concern (SOCC). 16 species of non-vascular lichen species were identified, none of which were considered SOCC.

Additional information about survey methodology and results are described within the report.



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# 1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Nova Scotia Department of Public Works (NSDPW) to undertake and complete an environmental assessment registration, under the Nova Scotia *Environment Act*, for a proposed interchange and connector roads from Highway 101 to Trunk 1 and Brooklyn Street in Cambridge, Nova Scotia (the Project). The proposed interchange is located between Coldbrook and Berwick (Exits 14 and 15 respectively) in Cambridge, Nova Scotia, just west of the Annapolis Valley First Nation. It will feature a 2 kilometre (km) connector road southerly to Trunk 1, and a 1.6 km northerly connection to Brooklyn Street. The connector road to Trunk 1 will be a controlled access minor arterial roadway owned by NSDPW with a limited number of access points to adjacent lands. At Trunk 1 the new intersection will be constructed as a roundabout just east of County Home Road, with a new 600 m southerly connection to Waterville Mountain Road.

As a component to the environmental assessment, WSP investigated the potential presence of endangered or rare vascular plants and lichens within the project area.

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## 1.1 BACKGROUND REVIEW

Prior to the commencement of field surveys, a desktop review of previous nearby environmental studies and a background report from the Atlantic Canada Conservation Data Center (ACCDC) was completed to identify Species at Risk (SAR) and other priority species with potential to occur within the project area. The physical habitat requirements for species with elevated potential of occurrence was reviewed to assist in field survey planning.

The locations of potential habitats identified on background mapping was noted to allow for ground-truthing during field surveys. Knowledge of the site topography and distribution of natural features allowed the site visits to be focused on areas with an elevated potential for priority species not shown on mapping.

Prior to commencement of the lichen field assessments, topographic mapping data was reviewed and cross-referenced with the preferred habitat types for SAR lichens in the province to increase the potential effectiveness of the assessments. The targeted habitats included:

- Conifer swamp habitat dominated by Balsam Fir and Black Spruce;
- Mature deciduous swamp habitat dominated by Red Maple;
- Mature conifer stands with moist and mossy conditions;
- Mature deciduous stands with moist and mossy conditions;
- Open non-vegetated habitat to screen for lichens associated with rocks or ground;
- Wet meadow / marsh habitats surrounding watercourses;
- Upland deciduous habitats dominated by Red Maple and Large-tooth Aspen;
- Eastern Hemlock dominant hillsides or river-valleys;
- Pine-dominant upland stands with sandy soils; and,
- Forested and shrub swamps ranging from conifer dominant to mixed wood to deciduous dominant.

Additional habitat types were investigated incidentally as part of other targeted assessments such as wetland screening and delineation, avian surveys, and other site reconnaissance.

## 1.2 PRIORITY SPECIES

WSP requested a data report from the ACCDC in advance of the field surveys. The report lists occurrence records within 5 km of the Project site for the priority species, which are defined as follows

- A SAR is any species which is listed (on Schedule 1) as Endangered, Threatened or of Special Concern under the federal SARA (Government of Canada, 2002) and any species listed as Endangered, Threatened or Vulnerable under the provincial NS *Endangered Species Act* (NS ESA) (Endangered Species Act, 1998, amended 2010, c. 2, s. 99);
- Species of Conservation Concern (SOCC) are species listed as S1-S3S4 (provincial rarity rankings) by ACCDC.

The ACCDC provides data on species and ecological communities of conservation concern, including those at risk in Atlantic Canada (Atlantic Canada Conservation Data Centre, 2021). A list of plant and animal species is maintained, with a rarity rank and legal status for each. Rarity sub-national ranks (S-rank) are:

- S1 - Extremely rare. May be especially vulnerable to extirpation (typically five or fewer occurrences or very few remaining individuals);
- S2 - Rare. May be vulnerable to extirpation due to rarity or other factors (six to 20 occurrences or few remaining individuals);
- S3 - Uncommon, or found only in a restricted range, even if abundant at some locations (21 to 100 occurrences);
- S4 - Usually widespread, fairly common, and apparently secure with many occurrences, but of longer-term concern (e.g., watch list) (100+ occurrences);
- S5 - Widespread, abundant, and secure, under present conditions; and,
- S#S# - Numeric range rank: A range between two consecutive ranks for a species/community. Denotes uncertainty about the exact rarity (e.g., S1S2).
- SNA - Not applicable because the species is not a suitable target for conservation activities.

**Table 1** lists 23 vascular plant and six (6) priority non-vascular moss species priority species with occurrence records within 5 km of the project area. The majority of the priority vascular plants in **Table 1** were observed in or near the riparian plains surrounding the Cornwallis River, mainly east of the project site.

**Table 1: Priority vegetation observations within 5 km of the project site (ACCDC Report 6923)**

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS <sup>1</sup>			
		COSEWIC	SARA	NS-ESA	S-RANK
<b>Vascular Plants</b>					
<i>Floerkea proserpinacoides</i>	False Mermaidweed	NAR	-	-	S2S3
<i>Thuja occidentalis</i>	Eastern White Cedar	-	-	VUL	S2S3
<i>Sanicula odorata</i>	Clustered Sanicle	-	-	-	S1S2
<i>Juncus secundus</i>	Secund Rush	-	-	-	S1
<i>Allium tricoccum</i>	Wild Leek	-	-	-	S2
<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely	-	-	-	S2S3
<i>Caulophyllum thalictroides</i>	Blue Cohosh	-	-	-	S2S3
<i>Hudsonia ericoides</i>	Pinebarren Golden Heather	-	-	-	S2
<i>Salix pedicellaris</i>	Bog Willow	-	-	-	S3

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS <sup>1</sup>			
		COSEWIC	SARA	NS-ESA	S-RANK
<i>Carex hystericina</i>	Porcupine Sedge	-	-	-	S2S3
<i>Lilium canadense</i>	Canada Lily	-	-	-	S2
<i>Potamogeton richardsonii</i>	Richardson's Pondweed	-	-	-	S3
<i>Galium aparine</i>	Common Bedstraw	-	-	-	S3S4
<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed	-	-	-	S3S4
<i>Lindernia dubia</i>	Yellow-seeded False Pimperel	-	-	-	S3
<i>Laportea canadensis</i>	Canada Wood Nettle	-	-	-	S3
<i>Verbena hastata</i>	Blue Vervain	-	-	-	S3S4
<i>Carex lupulina</i>	Hop Sedge	-	-	-	S3
<i>Elodea canadensis</i>	Canada Waterweed	-	-	-	S3
<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid	-	-	-	S3
<i>Platanthera hookeri</i>	Hooker's Orchid	-	-	-	S3
<i>Viola sagittata var. ovata</i>	Arrow-Leaved Violet	-	-	-	S3S4
<i>Carex argyrantha</i>	Silvery-flowered Sedge	-	-	-	S3S4
<b>Moss</b>					
<i>Hypnum pratense</i>	Meadow Plait Moss	-	-	-	S1S2
<i>Tortula acaulon</i>	Cuspidate Earth Moss	-	-	-	S1S2
<i>Weissia muhlenbergiana</i>	a Moss	-	-	-	S2?
<i>Campylium radicale</i>	Long-stalked Fine Wet Moss	-	-	-	S2?
<i>Dicranum condensatum</i>	Condensed Broom Moss	-	-	-	S2?
<i>Calliergon giganteum</i>	Giant Spear Moss	-	-	-	S3?

1; Vul: Vulnerable, NAR: Not At Risk

## 2 VEGETATION SCREENING

A total of 99 species of vascular plants were identified during field surveys conducted between May and September, 2021. The diversity of species is moderate, considering the extent of residential and commercial development and agricultural operations found within the project area. The vegetation species observed are largely native species, with exotic species confined mainly in anthropogenically disturbed areas. The species and communities of vascular plants encountered were typical given the eco-regional context, nutrient regimes, moisture regimes, and disturbance regimes.

Two (2) SOCC was identified during the field surveys: American Beech (*Fagus americana*) and White Elm (*Ulmus americana*). Neither species have specific provincial or federal protections, and both have a provincial rarity rank of S3S4. Both species are relatively common within the Annapolis Valley, particularly White Elm which has also been used as an ornamental tree on private properties.

Common Scouring-rush (*Equisetum hyemale*) was encountered within the riparian wetland surrounding the Cornwallis River. It is estimated that over 100 individual stems of this species were encountered in several small (approximately 2x2 m) clumps. This species was previously listed as S3S4 during the time of survey but has since been uplisted by the ACCDC to S4 and is therefore not considered an SoCC.

Habitat types ranged from landscaped areas to well-drained drumlin hills comprised mostly of upland species such as Eastern Hemlock (*Tsuga canadensis*) and Large-toothed Aspen (*Populus grandidentata*). Nine main types of forest stands are found within the project area and include: Softwood, Eastern Hemlock, Red Pine, Tolerant Hardwood, Intolerant Hardwood, Mixed, Regenerating, Coniferous Wetland, and Deciduous Shrub Wetland.

- Softwood dominant stands: These are dominated by coniferous species such as Balsam Fir (*Abies balsamea*), White Spruce (*Picea glauca*), Red Spruce (*Picea rubens*), Eastern Hemlock, as well as Eastern White Pine (*Pinus strobus*) and Red Pine (*Pinus resinosa*).
- Eastern Hemlock dominant stands: These stands are comprised mostly of Eastern Hemlock, often with little understory. These stands often host small populations of shade-tolerant hardwood species such as Yellow Birch (*Betula alleghaniensis*) and Striped Maple (*Acer pensylvanicum*), and are found mainly near the Cornwallis River.
- Mixed White and Red Pine dominant stands: These areas may have had forestry operations carried out in years past.
- Tolerant Hardwood dominant stands: These stands are comprised mostly of hardwood species such as American Beech (*Fagus grandifolia*), White Ash (*Fraxinus americana*), Red Maple (*Acer rubrum*), Striped Maple and Yellow Birch.
- Intolerant Hardwood dominant stands: These stands are comprised mostly of hardwood species such as Large-toothed Aspen, Trembling Aspen (*Populus tremuloides*), White Birch (*Betula papyrifera*), and Grey Birch (*Betula populifolia*).
- Mixed forest stands: These stands are comprised of a mixture of coniferous and deciduous species. Red Maple, White Birch, Trembling Aspen, Balsam Fir, White Ash, Yellow Birch, Eastern Hemlock, and Red Spruce were common in mixed forest locations.
- Regeneration forest stands: These areas have had vegetation removed through either natural or unnatural processes leaving these areas mostly bare of significant canopy cover. Stands are commonly comprised of species including Red Maple, Balsam Fir, Grey Birch, Speckled Alder (*Alnus incana*), Eastern White Pine, and Red Oak (*Quercus rubra*) in areas previously burned.
- Coniferous wetland stands: These stands are comprised mainly of stunted Black Spruce (*Picea mariana*) and Larch (*Larix laricina*), along with mainly ericaceous shrubs such as Labrador Tea (*Rhododendron groenlandicum*), Northern Bayberry (*Morella pensylvanica*), Sheep Laurel (*Kalmia angustifolia*), and Leatherleaf (*Chamaedaphne calyculata*). Other hydrophytic ground vegetation species were present.



- Deciduous shrub dominant wetland stands: These stands were mainly found surrounding watercourses within the project area. These stands were commonly comprised of Speckled Alder, Black Cherry (*Prunus serotina*), Hawthorn (*Crataegus spp.*), Common Winterberry (*Ilex verticillata*), and Willow (*Salix spp.*).

The majority of the site is dominated by mixed forest stands, with areas dominated by either mostly deciduous or mostly conifer vegetation. Ages of the stands varied from overmature to early successional.

Other terrestrial habitat types observed within the project area included active agricultural fields, and landscaped areas.

**Table 2** lists the vascular plant species identified within the project area. Priority species are marked with a red-shaded cell.

**Table 2: Vascular plant species list for Highway 101 Cambridge Interchange project area**

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC	SARA	NS ESA	S-RANK (ACCDC)
Balsam Fir	<i>Abies balsamea</i>	---	---	---	S5
Red Maple	<i>Acer rubrum</i>	---	---	---	S5
Creeping Bent Grass	<i>Agrostis stolonifera</i>	---	---	---	S5
Speckled Alder	<i>Alnus incana</i>	---	---	---	S5
Smooth Serviceberry	<i>Amelanchier laevis</i>	---	---	---	S5
Pearly Everlasting	<i>Anaphalis margaritacea</i>	---	---	---	S5
Bog Rosemary	<i>Andromeda polifolia</i>	---	---	---	S5
Wild Sarsaparilla	<i>Aralia nudicaulis</i>	---	---	---	S5
Swamp Milkweed	<i>Asclepias incarnata</i>	---	---	---	S4
Yellow Birch	<i>Betula alleghaniensis</i>	---	---	---	S5
Paper Birch	<i>Betula papyrifera</i>	---	---	---	S5
Gray Birch	<i>Betula populifolia</i>	---	---	---	S5
Bluejoint Reedgrass	<i>Calamagrostis canadensis</i>	---	---	---	S5
Sallow Sedge	<i>Carex lurida</i>	---	---	---	S5
Smooth Black Sedge	<i>Carex nigra</i>	---	---	---	S5
Three-seeded Sedge	<i>Carex trisperma</i>	---	---	---	S5
Leatherleaf	<i>Chamaedaphne calyculata</i>	---	---	---	S5
American Golden Saxifrage	<i>Chrysosplenium americanum</i>	---	---	---	S5
Canada Thistle	<i>Cirsium arvense</i>	---	---	---	SNA (Exotic)
Yellow Bluebead Lily	<i>Clintonia borealis</i>	---	---	---	S5
Marsh Cinquefoil	<i>Comarum palustre</i>	---	---	---	S5
Goldthread	<i>Coptis trifolia</i>	---	---	---	S5
Bunchberry	<i>Cornus canadensis</i>	---	---	---	S5
Red Osier Dogwood	<i>Cornus sericea</i>	---	---	---	S5

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC	SARA	NS ESA	S-RANK (ACCDC)
A Hawthorn	<i>Crataegus</i> spp.	---	---	---	-
Hairy Flat-top White Aster	<i>Doellingeria umbellata</i>	---	---	---	S5
Wild Cucumber	<i>Echinocystis lobata</i>	---	---	---	SNA (Exotic)
Field horsetail	<i>Equisetum arvense</i>	---	---	---	S5
Common Scouring-rush	<i>Equisetum hyemale</i>	---	---	---	S4
Tawny Cottongrass	<i>Eriophorum virginicum</i>	---	---	---	S5
Common Boneset	<i>Eupatorium perfoliatum</i>	---	---	---	S5
American Beech	<i>Fagus grandifolia</i>	---	---	---	S3S4
White Ash	<i>Fraxinus americana</i>	---	---	---	S4
Eastern Teaberry	<i>Gaultheria procumbens</i>	---	---	---	S5
Canada Manna Grass	<i>Glyceria canadensis</i>	---	---	---	S5
Common Hawkweed	<i>Hieracium lachenalii</i>	---	---	---	SNA (Exotic)
Common Winterberry	<i>Ilex verticillata</i>	---	---	---	S5
Spotted Jewelweed	<i>Impatiens capensis</i>	---	---	---	S5
Blue Flag Iris	<i>Iris versicolor</i>	---	---	---	S5
Canada Rush	<i>Juncus canadensis</i>	---	---	---	S5
Soft Rush	<i>Juncus effusus</i>	---	---	---	S5
Sheep Laurel	<i>Kalmia angustifolia</i>	---	---	---	S5
Eastern Larch	<i>Larix laricina</i>	---	---	---	S5
Turion Duckweed	<i>Lemna turionifera</i>	---	---	---	S5
Fly Honeysuckle	<i>Lonicera canadensis</i>	---	---	---	S5
Starflower	<i>Lysimachia borealis</i>	---	---	---	S5
Swamp Yellow Loosestrife	<i>Lysimachia terrestris</i>	---	---	---	S5
Wild Lily of the Valley	<i>Maianthemum canadense</i>	---	---	---	S5
An Apple Species	<i>Malus</i> spp.	---	---	---	n/a
Partridge berry	<i>Mitchella repens</i>	---	---	---	S5
Northern Bayberry	<i>Morella pensylvanica</i>	---	---	---	S5
Sweet gale	<i>Myrica gale</i>	---	---	---	S5
Common Evening Primrose	<i>Oenothera biennis</i>	---	---	---	S5
Sensitive Fern	<i>Onoclea sensibilis</i>	---	---	---	S5
Cinnamon Fern	<i>Osmundastrum cinnamomeum</i>	---	---	---	S5
Arrow-leaved Smartweed	<i>Persicaria sagittata</i>	---	---	---	S5

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC	SARA	NS ESA	S-RANK (ACCDC)
Reed Canary Grass	<i>Phalaris arundinacea</i>	---	---	---	S5
White Spruce	<i>Picea glauca</i>	---	---	---	S5
Black Spruce	<i>Picea mariana</i>	---	---	---	S5
Red Pine	<i>Pinus resinosa</i>	---	---	---	S4S5
Eastern White Pine	<i>Pinus strobus</i>	---	---	---	S5
Common Plantain	<i>Plantago major</i>	---	---	---	SNA
Christmas Fern	<i>Polystichum acrostichoides</i>	---	---	---	S5
Large-tooth Aspen	<i>Populus grandidentata</i>	---	---	---	S5
Trembling Aspen	<i>Populus tremuloides</i>	---	---	---	S5
Black Cherry	<i>Prunus serotina</i>	---	---	---	S5
Chokecherry	<i>Prunus virginiana</i>	---	---	---	S5
Bracken Fern	<i>Pteridium aquilinum</i>	---	---	---	S5
Round-leaf Pyrola	<i>Pyrola americana</i>	---	---	---	S5
Red Oak	<i>Quercus rubra</i>	---	---	---	S5
Japanese Knotweed	<i>Reynoutria japonica</i>	---	---	---	SNA (Exotic)
Rhodora	<i>Rhododendron canadense</i>	---	---	---	S5
Common Labrador Tea	<i>Rhododendron groenlandicum</i>	---	---	---	S5
European Black Currant	<i>Ribes nigrum</i>	---	---	---	SNA (Exotic)
Black Locust	<i>Robinia pseudoacacia</i>	---	---	---	SNA (Exotic)
Virginia Rose	<i>Rosa virginiana</i>	---	---	---	S5
Bristly Dewberry	<i>Rubus hispidus</i>	---	---	---	S5
Red Raspberry	<i>Rubus idaeus</i>	---	---	---	S5
Bebb's Willow	<i>Salix bebbiana</i>	---	---	---	S5
Red Elderberry	<i>Sambucus racemosa</i>	---	---	---	S5
Common Woolly Bulrush	<i>Scirpus cyperinus</i>	---	---	---	S5
Bittersweet Nightshade	<i>Solanum dulcamara</i>	---	---	---	SNA (Exotic)
Giant Goldenrod	<i>Solidago gigantea</i>	---	---	---	S5
Rough-stemmed Goldenrod	<i>Solidago rugosa</i>	---	---	---	S5
American Mountain Ash	<i>Sorbus americana</i>	---	---	---	S5
White Meadowsweet	<i>Spiraea alba</i>	---	---	---	S5
Steeplebush	<i>Spiraea tomentosa</i>	---	---	---	S5
Purple-stemmed Aster	<i>Symphyotrichum puniceum</i>	---	---	---	S5

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC	SARA	NS ESA	S-RANK (ACCDC)
Tall Meadow-Rue	<i>Thalictrum pubescens</i>	---	---	---	S5
White Clover	<i>Trifolium repens</i>	---	---	---	SNA
Painted Trillium	<i>Trillidium undulatum</i>	---	---	---	S5
Eastern White Hemlock	<i>Tsuga canadensis</i>	---	---	---	S4
Coltsfoot	<i>Tussilago farfara</i>	---	---	---	SNA (Exotic)
Broad-leaved Cattail	<i>Typha latifolia</i>	---	---	---	S5
White Elm	<i>Ulmus americana</i>	---	---	---	S3S4
Late lowbush Blueberry	<i>Vaccinium angustifolium</i>	---	---	---	S5
Wild Raisin	<i>Viburnum cassinoides</i>	---	---	---	S5
Highbush Cranberry	<i>Viburnum opulus</i>	---	---	---	S4
Tufted Vetch	<i>Vicia cracca</i>	---	---	---	SNA (Exotic)
Marsh Blue Violet	<i>Viola cucullata</i>	---	---	---	S5

### 3 LICHEN SCREENING

The project area was surveyed for lichens between August 19th and September 30th, 2021. During these surveys, areas with potential for SAR lichen were targeted, along with any additional habitats identified during previous ecological surveys. Inventorying each individual lichen was deemed unfeasible, however areas with a high likelihood of lichen inhabitation were favoured for in-depth surveys. Various stand types were encountered by surveyors, and species associated with each stand type were considered when searching these habitats.

A comprehensive list of lichen species was not completed, as the primary focus was in identifying rare or at-risk lichen species. However, common lichen species observed during SAR lichen surveys were recorded and are presented in the table below. Sixteen (16) species were recorded within the area. None are considered priority or SOCC. No lichen SOCC were noted within the project area during targeted and incidental assessments. **Table 3** provides a list of lichen species observed within the study area.

**Table 3: Lichen species list for Highway 101 Cambridge Interchange project area**

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC	SARA	NS-ESA	S-RANK
Eastern Ragged-rim Lichen	<i>Loxospora ochrophaea</i>	-	-	-	SU
Smooth-footed Powerhorn Lichen	<i>Cladonia ochrochlora</i>	-	-	-	S5
Variable Wrinkle Lichen	<i>Tuckermannopsis orbata</i>	-	-	-	S5
Varied Rag Lichen	<i>Platismatia glauca</i>	-	-	-	S5
Crumpled Rag Lichen	<i>Platismatia tuckermanii</i>	-	-	-	S5
Lungwort Lichen	<i>Lobaria pulmonaria</i>	-	-	-	S5
Smooth Lung Lichen	<i>Ricasolia quercizans</i>	-	-	-	S5
Monk's Hood Lichen	<i>Hypogymnia physodes</i>	-	-	-	S5
Bottlebrush Shield Lichen	<i>Parmelia squarrosa</i>	-	-	-	S5

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC	SARA	NS-ESA	S-RANK
Maritime Sunburst Lichen	<i>Xanthoria parietina</i>	-	-	-	S5
Hammered Shield Lichen	<i>Parmelia sulcata</i>	-	-	-	S5
Hooded Rosette Lichen	<i>Physcia adscendens</i>	-	-	-	S5
Common Freckle Pelt Lichen	<i>Peltigera aphthosa</i>	-	-	-	S5
Bryoria spp.	<i>Bryoria species</i>	-	-	-	SNA
Usnea spp.	<i>Usnea species</i>	-	-	-	SNA
Ramalina spp.	<i>Ramalina species</i>	-	-	-	SNA

## 4 CONCLUSION

Vegetation and lichen screenings for the Highway 101 Cambridge Interchange project identified 99 species of vascular plants and 16 species of non-vascular lichen. Only one priority vascular plant species, Common-Scouring Rush, was observed during the field surveys. In addition to the field screenings, background data reports indicate occurrence records for 26 vascular plant and seven (7) priority non-vascular moss species within 5 km of the project area. Most priority vascular plant species are associated with the Cornwallis River and its riparian habitats.

The proposed Cambridge Interchange project includes the installation of a bridge structure over the Cornwallis river, with impacts localized to the relatively small footprint of the structure. It is recommended that an additional screening of the vegetation be undertaken within the anticipated structure footprint once design and location of the structure are finalized.

This report has been prepared for the sole benefit of Nova Scotia Department of Public Works. Any other person or entity may not rely on this report without the express written consent of WSP and Nova Scotia Department of Public Works. WSP accepts no responsibility for damages suffered by any third party as a result of decisions made, or actions conducted based on this report. No other warranties are implied or expressed. This report has been prepared by Brady Leights, B. Et., and reviewed by Cody Pytlak, B.A.

The findings presented in this report are based on field observations made between August 18th and September 30th 2021. These results rely on conditions identified during the site visits which may alter over time. We trust that this report meets your requirements at this time.



## 5 REFERENCES

- Atlantic Canada Conservation Data Centre. (2021). *Data Report 6923: Hwy 101 between Coldbrook and Berwick, NS*. Sackville: ACCDC. Retrieved April 2021
- Atlantic Canada Conservation Data Centre. (2021). *Understanding Ranks*. Retrieved November 9, 2021, from Atlantic Canada Conservation Data Centre: <http://www.accdc.com/en/rank-definitions.html>
- Endangered Species Act. (1998, amended 2010, c. 2, s. 99). Nova Scotia Legislature. Retrieved March 29, 2018, from <https://nslegislature.ca/sites/default/files/legc/statutes/endspec.htm>
- Government of Canada. (2002). Retrieved from Species at Risk Act: <http://laws-lois.justice.gc.ca/PDF/S-15.3.pdf>

# APPENDIX

**A**

PHOTOGRAPHIC LOG





Photo 1: Cornwallis River riparian area September 21, 2021.



Photo 2: Cornwallis River riparian area September 21, 2021.



Photo 3: Cornwallis River riparian area September 21, 2021.



Photo 4: Cornwallis River riparian area September 21, 2021.





Photo 5: Shrub wetland habitat, September 21, 2021.



Photo 6: Medium-aged conifer habitat searched, September 21, 2021.



Photo 7: Barren area searched, September 21, 2021.



Photo 8: Cornwallis River riparian area September 21, 2021.





Photo 9: Common Scouring Rush (S3S4) encountered, September 29, 2021.



Photo 10: Medium-aged conifer habitat searched, September 21, 2021.



Photo 11: Hillside mixed-wood habitat searched, August 20, 2021.



Photo 12: Riparian area around Coleman Brook, May 4, 2021.





Photo 13: Wetland habitat searched May 4, 2021.



Photo 14: Wetland area searched August 19, 2021.



Photo 15: Cornwallis River riparian area, May 4, 2021.



Photo 16: Wetland habitat searched August 19, 2021.





Photo 17: Hillside / Mature conifer forest searched August 19, 2021.



Photo 18: Wetland habitat searched August 19, 2021.



Photo 19: Wetland habitat searched August 19, 2021



Photo 20: Wetland habitat searched August 19, 2021

# APPENDIX

**E**

ATLANTIC CANADA  
CONSERVATION DATA  
CENTRE – DATA  
REPORT 6923

# DATA REPORT 6923: Hwy 101 between Coldbrook and Berwick, NS

Prepared 12 April 2021  
by J. Churchill, Data Manager

## CONTENTS OF REPORT

### 1.0 Preface

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- 1.2 Restrictions
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- 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
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### 5.0 Rare Species within 100 km

- 5.1 Source Bibliography



**Map 1.** A 100 km buffer around the study area

## 1.0 PREFACE

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

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

### 1.1 DATA LIST

Included datasets:

<u>Filename</u>	<u>Contents</u>
Hwy101BetweeNS_6923ob.xls	Rare or legally-protected Flora and Fauna in your study area
Hwy101BetweeNS_6923ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area
Hwy101BetweeNS_6923ff_py.xls	Rare Freshwater Fish in your study area (DFO database)



## 1.2 RESTRICTIONS

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

- 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

[sean.blaney@accdc.ca](mailto:sean.blaney@accdc.ca)

### Animals (Fauna)

John Klymko, Zoologist

Tel: (506) 364-2660

[john.klymko@accdc.ca](mailto:john.klymko@accdc.ca)

### Plant Communities

Sarah Robinson, Community Ecologist

Tel: (506) 364-2664

[sarah.robinson@accdc.ca](mailto:sarah.robinson@accdc.ca)

### Data Management, GIS

James Churchill, Data Manager

Tel: (902) 679-6146

[james.churchill@accdc.ca](mailto:james.churchill@accdc.ca)

### Billing

Jean Breau

Tel: (506) 364-2657

[jean.breau@accdc.ca](mailto:jean.breau@accdc.ca)

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

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

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

**Western:** Emma Vost

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**Western:** Sarah Spencer

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**Eastern:** Elizabeth Walsh

(902) 563-3370

[Elizabeth.Walsh@novascotia.ca](mailto:Elizabeth.Walsh@novascotia.ca)

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

## 2.0 RARE AND ENDANGERED SPECIES

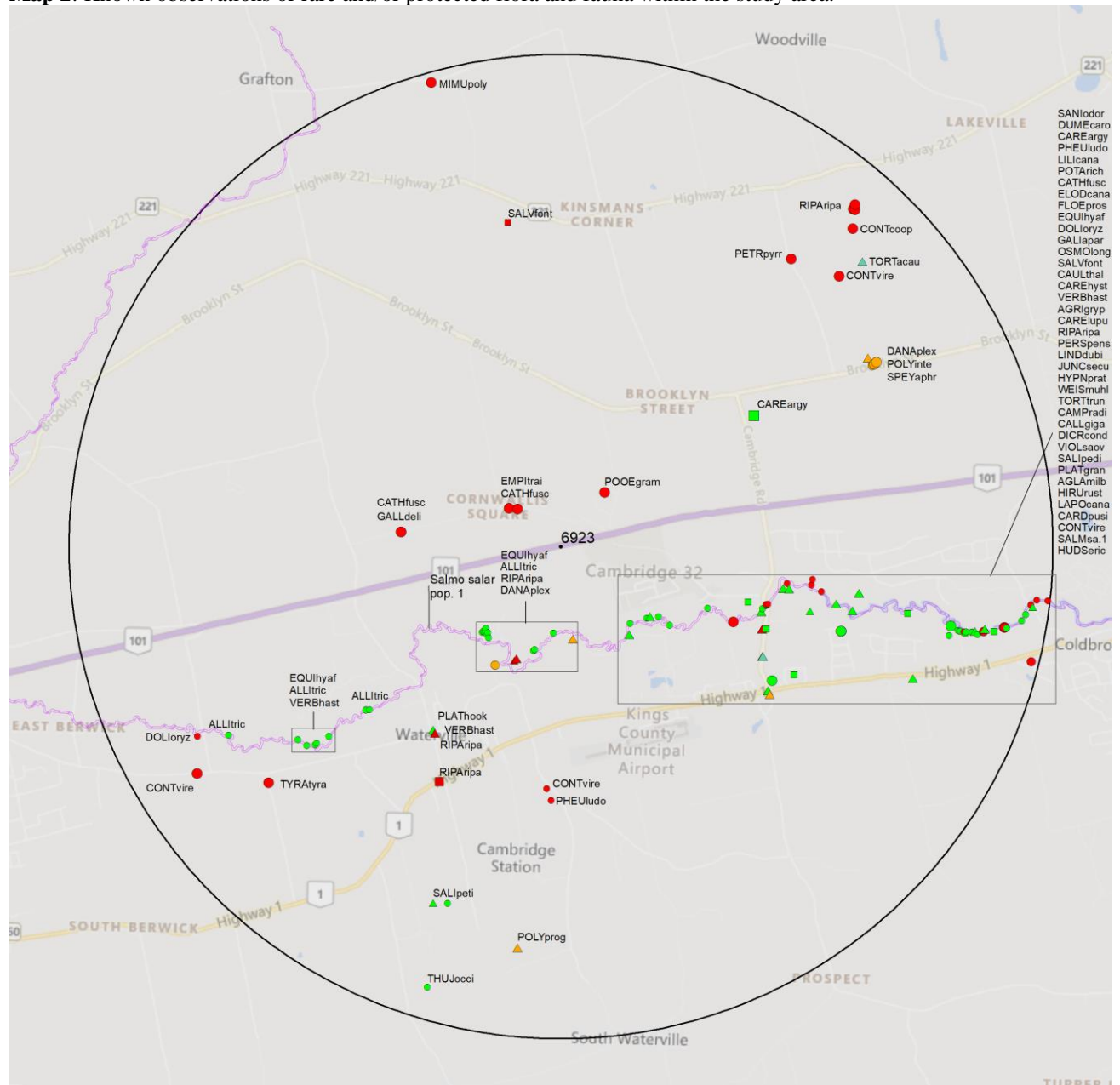
### 2.1 FLORA

The study area contains 90 records of 26 vascular, 7 records of 7 nonvascular flora (Map 2 and attached: \*ob.xls).

### 2.2 FAUNA

The study area contains 52 records of 17 vertebrate, 28 records of 5 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.



- SANIodor
- DUMEcara
- CAREargy
- PHEUludo
- LILicana
- POTArich
- CATHfusc
- ELODcana
- FLOEpros
- EQUIhyaf
- DOLIoryz
- GALLapar
- OSMOlong
- SALVfont
- CAULthel
- CAREhyst
- VERBhast
- AGRIgryp
- CARElupu
- RIPAripa
- PERSpens
- LINDdubi
- JUNGsecu
- HYPNprat
- WEISmuhl
- TORTTrun
- CAMPradi
- CALLgiga
- DICRcond
- VIOLsaov
- SALIpedi
- PLATgran
- AGLAMib
- HIRUrust
- LAPOcana
- CARDpusi
- CONTvire
- SALMsa.1
- HUDSeric

#### RESOLUTION

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

#### HIGHER TAXON

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

### 3.0 SPECIAL AREAS

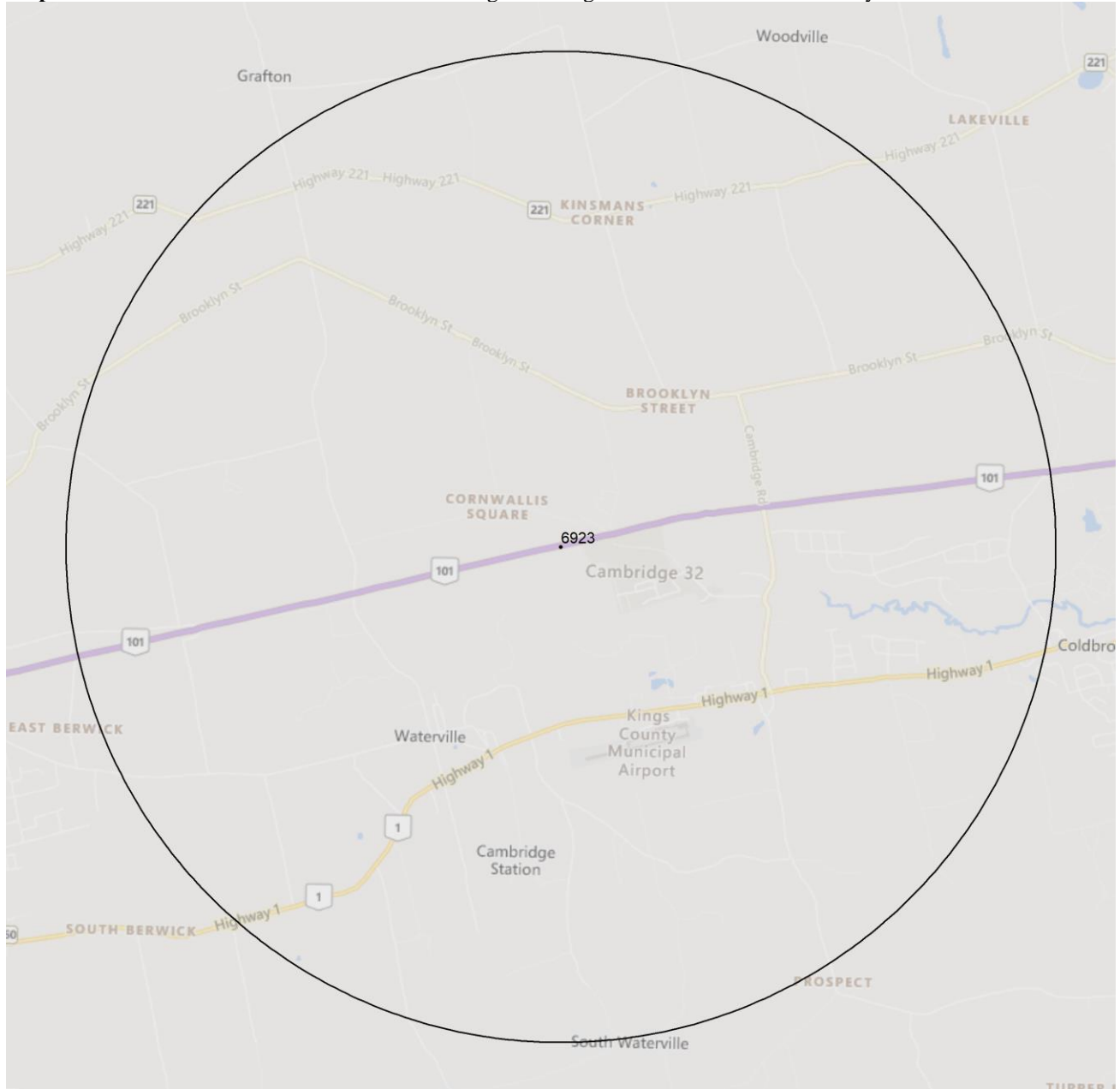
#### 3.1 MANAGED AREAS

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

#### 3.2 SIGNIFICANT AREAS

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

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



 Managed Area  Significant 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>Hypnum pratense</i>	Meadow Plait Moss				S1S2	1	2.3 $\pm$ 3.0
N	<i>Tortula acaulon</i>	Cuspidate Earth Moss				S1S2	1	4.2 $\pm$ 2.0
N	<i>Weissia muhlenbergiana</i>	a Moss				S2?	1	2.3 $\pm$ 3.0
N	<i>Campylium radicale</i>	Long-stalked Fine Wet Moss				S2?	1	2.3 $\pm$ 3.0
N	<i>Dicranum condensatum</i>	Condensed Broom Moss				S2?	1	2.3 $\pm$ 3.0
N	<i>Tortula truncata</i>	a Moss				S2S3	1	2.3 $\pm$ 3.0
N	<i>Calliergon giganteum</i>	Giant Spear Moss				S3?	1	2.3 $\pm$ 3.0
P	<i>Floerkea proserpinacoides</i>	False Mermaidweed	Not At Risk			S2	20	2.1 $\pm$ 0.0
P	<i>Thuja occidentalis</i>	Eastern White Cedar			Vulnerable	S1	1	4.7 $\pm$ 0.0
P	<i>Sanicula odorata</i>	Clustered Sanicle				S1	4	2.4 $\pm$ 2.0
P	<i>Juncus secundus</i>	Secund Rush				S1	1	3.0 $\pm$ 0.0
P	<i>Allium tricoccum</i>	Wild Leek				S1	18	1.1 $\pm$ 0.0
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2	1	2.1 $\pm$ 1.0
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2	7	1.1 $\pm$ 0.0
P	<i>Hudsonia ericoides</i>	Pinebarren Golden Heather				S2	1	3.8 $\pm$ 1.0
P	<i>Salix pedicellaris</i>	Bog Willow				S2	4	2.5 $\pm$ 0.0
P	<i>Carex hystericina</i>	Porcupine Sedge				S2	3	3.0 $\pm$ 0.0
P	<i>Lilium canadense</i>	Canada Lily				S2	2	3.1 $\pm$ 1.0
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S2	3	2.3 $\pm$ 1.0
P	<i>Galium aparine</i>	Common Bedstraw				S2S3	1	2.9 $\pm$ 2.0
P	<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed				S3	1	3.0 $\pm$ 0.0
P	<i>Agrimonia gryposepala</i>	Hooked Agrimony				S3	1	2.2 $\pm$ 5.0
P	<i>Lindernia dubia</i>	Yellow-seeded False Pimperel				S3	1	3.0 $\pm$ 1.0
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	1	4.8 $\pm$ 0.0
P	<i>Verbena hastata</i>	Blue Vervain				S3	5	1.4 $\pm$ 0.0
P	<i>Carex lupulina</i>	Hop Sedge				S3	2	1.1 $\pm$ 1.0
P	<i>Elodea canadensis</i>	Canada Waterweed				S3	2	2.2 $\pm$ 0.0
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	1	2.6 $\pm$ 1.0
P	<i>Platanthera hookeri</i>	Hooker's Orchid				S3	1	2.3 $\pm$ 1.0
P	<i>Salix petiolaris</i>	Meadow Willow				S3S4	1	3.8 $\pm$ 0.0
P	<i>Viola sagittata var. ovata</i>	Arrow-Leaved Violet				S3S4	2	2.7 $\pm$ 5.0
P	<i>Carex argyrantha</i>	Silvery-flowered Sedge				S3S4	2	2.4 $\pm$ 2.0
P	<i>Equisetum hyemale ssp. affine</i>	Common Scouring-rush				S3S4	4	0.9 $\pm$ 0.0

### 4.2 FAUNA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Salmo salar pop. 1</i>	Atlantic Salmon - Inner Bay of Fundy pop.	Endangered	Endangered		S1	1	4.9 $\pm$ 0.0
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S2S3B	16	1.2 $\pm$ 1.0
A	<i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Endangered	S2S3B	1	4.8 $\pm$ 0.0
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	Threatened	Vulnerable	S3S4B	2	2.2 $\pm$ 0.0
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S2B	1	4.4 $\pm$ 0.0
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	6	2.5 $\pm$ 0.0
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S1B	2	4.9 $\pm$ 0.0
A	<i>Empidonax traillii</i>	Willow Flycatcher				S2B	2	0.7 $\pm$ 0.0

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Poocetes gramineus</i>	Vesper Sparrow				S2B	1	0.7 ± 0.0
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B	1	3.7 ± 0.0
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S2S3B	6	2.6 ± 0.0
A	<i>Salvelinus fontinalis</i>	Brook Trout				S3	2	1.9 ± 0.0
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3B	1	1.6 ± 0.0
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3B	1	3.8 ± 0.0
A	<i>Dumetella carolinensis</i>	Gray Catbird				S3B	3	2.2 ± 0.0
A	<i>Cardellina pusilla</i>	Wilson's Warbler				S3B	1	4.4 ± 0.0
A	<i>Catharus fuscescens</i>	Veery				S3S4B	5	0.6 ± 0.0
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Endangered	S2B	23	0.9 ± 1.0
I	<i>Aglais milberti</i>	Milbert's Tortoiseshell				S2	1	2.6 ± 2.0
I	<i>Speyeria aphrodite</i>	Aphrodite Fritillary				S3	2	3.7 ± 0.0
I	<i>Polygonia interrogationis</i>	Question Mark				S3B	1	3.7 ± 0.0
I	<i>Polygonia progne</i>	Grey Comma				S3S4	1	4.1 ± 1.0

### 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	YES
<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</i> pop. 1	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Vulnerable	No
<b>Bat hibernaculum or bat species occurrence</b>		<b>[Endangered]¹</b>	<b>[Endangered]¹</b>	<b>YES</b>

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
20	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
18	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
12	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
12	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: <a href="http://luxor.acadiau.ca/library/Herbarium/project/">http://luxor.acadiau.ca/library/Herbarium/project/</a> . 582 recs.
10	Belliveau, A.G. & Vail, Cole; King, Katie. 2020. New Allium tricoccum locations, Cornwallis River. Chapman, C.J. (ed.) Acadia University.
10	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 recs.
10	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2014. Atlantic Canada Conservation Data Centre Fieldwork 2014. Atlantic Canada Conservation Data Centre, # recs.
9	Brazner, J. 2016. Nova Scotia Forested Wetland Bird Surveys. Nova Scotia Department of Lands and Forestry.
9	eBird. 2020. eBird Basic Dataset. Version: EBD_relNov-2019. Ithaca, New York. Nov 2019, Cape Breton Bras d'Or Lakes Watershed subset. Cornell Lab of Ornithology.
9	Pronych, G. & Wilson, A. 1993. Atlas of Rare Vascular Plants in Nova Scotia. Nova Scotia Museum, Halifax NS, I:1-168, II:169-331. 1446 recs.
8	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
7	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
6	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
6	Brazner, J.; Hill, N. 2018. Plant observations along the Cornwallis River, Nova Scotia. Nova Scotia Department of Lands and Forestry.
6	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.

# recs	CITATION
5	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
4	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
3	Belliveau, A.G. 2018. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2018. E.C. Smith Herbarium, 6226 recs.
3	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
3	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2015. Atlantic Canada Conservation Data Centre Fieldwork 2015. Atlantic Canada Conservation Data Centre, # recs.
2	McLean, K. 2019. Species At Risk observations. Clean Annapolis River Project.
1	Amiro, P.G. 1998. Atlantic Salmon Inner Bay of Fundy SFA 22 & part of 23. DFO Sci. SSR D3-12.
1	Hill, N.; Manning, I. 2020. Wild Leek observation, Cornwallis River, NS, floodplain. pers. comm. to J. Churchill.
1	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
1	Ogden, J. NS DNR Butterfly Collection Dataset. Nova Scotia Department of Natural Resources. 2014.
1	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
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 62966 records of 163 vertebrate and 1915 records of 76 invertebrate fauna; 17504 records of 335 vascular, 2507 records of 217 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>Coregonus huntsmani</i>	Atlantic Whitefish	Endangered	Endangered	Endangered	S1	128	21.3 $\pm$ 1.0	NS
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	665	2.7 $\pm$ 0.0	NS
A	<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	Endangered	Endangered	Endangered	S1	91	11.3 $\pm$ 0.0	NS
A	<i>Perimyotis subflavus</i>	Eastern Pipistrelle	Endangered	Endangered	Endangered	S1	174	13.7 $\pm$ 0.0	NS
A	<i>Emydoidea blandingii</i>	Blanding's Turtle - Nova Scotia pop.	Endangered	Endangered	Endangered	S1	9865	50.5 $\pm$ 0.0	NS
A	<i>Salmo salar pop. 1</i>	Atlantic Salmon - Inner Bay of Fundy pop.	Endangered	Endangered		S1	221	4.9 $\pm$ 0.0	NS
A	<i>Salmo salar pop. 6</i>	Atlantic Salmon - Nova Scotia Southern Upland pop.	Endangered			S1	19	46.3 $\pm$ 1.0	NS
A	<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Endangered	Endangered		S1	1	94.4 $\pm$ 50.0	NS
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus ssp	Endangered	Endangered	Endangered	S1B	145	38.2 $\pm$ 0.0	NS
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	49	20.9 $\pm$ 0.0	NS
A	<i>Morone saxatilis pop. 2</i>	Striped Bass - Bay of Fundy pop.	Endangered			S1B	6	18.6 $\pm$ 1.0	NS
A	<i>Dermodochelys coriacea (Atlantic pop.)</i>	Leatherback Sea Turtle - Atlantic pop.	Endangered	Endangered		S1S2N	3	69.1 $\pm$ 5.0	NS
A	<i>Calidris canutus rufa</i>	Red Knot rufa ssp	Endangered	Endangered	Endangered	S2M	582	24.2 $\pm$ 0.0	NS
A	<i>Antrostomus vociferus</i>	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S1?B	15	9.9 $\pm$ 0.0	NS
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Threatened	Endangered	S1S2B	8	35.8 $\pm$ 7.0	NS
A	<i>Limosa haemastica</i>	Hudsonian Godwit	Threatened			S1S2M	158	24.2 $\pm$ 0.0	NS
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2	977	3.7 $\pm$ 1.0	NS
A	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Threatened			S2	7	33.0 $\pm$ 0.0	NS
A	<i>Anguilla rostrata</i>	American Eel	Threatened			S2	500	13.6 $\pm$ 0.0	NS
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2B,S1M	593	5.1 $\pm$ 7.0	NS
A	<i>Thamnophis sauritus pop. 3</i>	Eastern Ribbonsnake - Atlantic pop.	Threatened	Threatened	Threatened	S2S3	2067	46.1 $\pm$ 0.0	NS
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S2S3B	1998	1.2 $\pm$ 1.0	NS
A	<i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Endangered	S2S3B	1184	4.8 $\pm$ 0.0	NS
A	<i>Cardellina canadensis</i>	Canada Warbler	Threatened	Threatened	Endangered	S3B	781	5.1 $\pm$ 7.0	NS
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	Threatened	Vulnerable	S3S4B	1404	2.2 $\pm$ 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened		SHB	11	36.0 ± 7.0	NS
A	<i>Ixobrychus exilis</i>	Least Bittern	Threatened	Threatened		SUB	10	70.1 ± 0.0	NB
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened		SUB	64	9.0 ± 0.0	NS
		Atlantic Salmon - Gaspé -							NS
A	<i>Salmo salar pop. 12</i>	Southern Gulf of St Lawrence pop.	Special Concern			S1	5	82.5 ± 0.0	
A	<i>Bucephala islandica (Eastern pop.)</i>	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern		S1N	7	20.1 ± 0.0	NS
A	<i>Asio flammeus</i>	Short-eared Owl	Special Concern	Special Concern		S1S2B	41	26.0 ± 7.0	NS
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	238	8.5 ± 0.0	NS
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S2B	448	6.5 ± 7.0	NS
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S2B	698	4.4 ± 0.0	NS
A	<i>Histrionicus histrionicus pop. 1</i>	Harlequin Duck - Eastern pop.	Special Concern	Special Concern	Endangered	S2N	25	21.3 ± 1.0	NS
A	<i>Balaenoptera physalus</i>	Fin Whale	Special Concern	Special Concern		S2S3	3	61.7 ± 1.0	NB
A	<i>Phalaropus lobatus</i>	Red-necked Phalarope	Special Concern	Special Concern		S2S3M	12	45.5 ± 0.0	NS
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	391	6.7 ± 0.0	NS
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	933	2.5 ± 0.0	NS
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3S4B,S3N	592	5.1 ± 7.0	NS
A	<i>Phocoena phocoena pop. 1</i>	Harbour Porpoise - Northwest Atlantic pop.	Special Concern			S4	19	15.7 ± 6.0	NS
A	<i>Podiceps auritus</i>	Horned Grebe	Special Concern	Special Concern		S4N	13	24.6 ± 10.0	NS
A	<i>Chrysemys picta picta</i>	Eastern Painted Turtle	Special Concern			S4S5	660	5.1 ± 10.0	NS
A	<i>Lynx canadensis</i>	Canadian Lynx	Not At Risk		Endangered	S1	16	61.1 ± 5.0	NB
A	<i>Accipiter cooperii</i>	Cooper's Hawk	Not At Risk			S1?B	10	72.6 ± 0.0	NS
A	<i>Fulica americana</i>	American Coot	Not At Risk			S1B	50	69.1 ± 0.0	NB
A	<i>Chlidonias niger</i>	Black Tern	Not At Risk			S1B	79	68.6 ± 0.0	NB
A	<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius	Not At Risk	Special Concern	Vulnerable	S1B,SNAM	405	12.7 ± 0.0	NS
A	<i>Sorex dispar</i>	Long-tailed Shrew	Not At Risk			S2	6	28.0 ± 0.0	NS
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk			S2?B	3	86.0 ± 0.0	NB
A	<i>Glaucomys volans</i>	Southern Flying Squirrel	Not At Risk			S2S3	11	14.3 ± 5.0	NS
A	<i>Globicephala melas</i>	Long-finned Pilot Whale	Not At Risk			S2S3	1	84.2 ± 0.0	NB
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk			S3	47	19.4 ± 0.0	NS
A	<i>Megaptera novaeangliae</i>	Humpback Whale (NW Atlantic pop.)	Not At Risk			S3	3	16.1 ± 1.0	NS
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B	191	62.7 ± 7.0	NS
A	<i>Sialia sialis</i>	Eastern Bluebird	Not At Risk			S3B	164	5.1 ± 7.0	NS
A	<i>Buteo lagopus</i>	Rough-legged Hawk	Not At Risk			S3N	11	45.6 ± 0.0	NS
A	<i>Accipiter gentilis</i>	Northern Goshawk	Not At Risk			S3S4	138	6.5 ± 7.0	NS
A	<i>Lagenorhynchus acutus</i>	Atlantic White-sided Dolphin	Not At Risk			S3S4	3	71.8 ± 0.0	NS
A	<i>Circus hudsonius</i>	Northern Harrier	Not At Risk			S3S4B	375	6.5 ± 7.0	NS
A	<i>Ammodramus nelsoni</i>	Nelson's Sparrow	Not At Risk			S3S4B	562	16.1 ± 7.0	NS
A	<i>Morone saxatilis</i>	Striped Bass	E,SC			S2S3	8	13.7 ± 0.0	NS
A	<i>Gadus morhua</i>	Atlantic Cod	E,SC,DD			SNR	1	87.1 ± 0.0	NS
		Atlantic Walrus - Nova Scotia-Newfoundland-Gulf of							NS
A	<i>Odobenus rosmarus pop. 5</i>	St. Lawrence population (DU3)	X			SX	1	76.3 ± 5.0	
A	<i>Martes americana</i>	American Marten			Endangered	S1	18	52.6 ± 0.0	NS
A	<i>Alces americanus</i>	Moose			Endangered	S1	69	17.0 ± 0.0	NS
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker				S1?	3	64.4 ± 11.0	NB
A	<i>Passerina cyanea</i>	Indigo Bunting				S1?B	51	16.1 ± 7.0	NS
A	<i>Uria aalge</i>	Common Murre				S1?B,S5N	2	92.5 ± 0.0	NB
A	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron				S1B	1	83.4 ± 3.0	NB
A	<i>Anas acuta</i>	Northern Pintail				S1B	95	16.1 ± 7.0	NS
A	<i>Oxyura jamaicensis</i>	Ruddy Duck				S1B	55	70.9 ± 3.0	NB

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A	<i>Gallinula galeata</i>	Common Gallinule				S1B	51	42.1 ± 7.0	NS
A	<i>Myiarchus crinitus</i>	Great Crested Flycatcher				S1B	55	9.2 ± 7.0	NS
A	<i>Cistothorus palustris</i>	Marsh Wren				S1B	43	60.6 ± 7.0	NS
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S1B	99	4.9 ± 0.0	NS
A	<i>Toxostoma rufum</i>	Brown Thrasher				S1B	29	5.1 ± 7.0	NS
A	<i>Vireo gilvus</i>	Warbling Vireo				S1B	46	5.1 ± 7.0	NS
A	<i>Setophaga pinus</i>	Pine Warbler				S1B	58	6.5 ± 7.0	NS
A	<i>Calidris minutilla</i>	Least Sandpiper				S1B,S3M	1249	13.7 ± 0.0	NS
A	<i>Charadrius semipalmatus</i>	Semipalmated Plover				S1B,S3S4M	1835	13.7 ± 0.0	NS
A	<i>Vespertilionidae sp.</i>	bat species				S1S2	406	2.2 ± 0.0	NS
A	<i>Lasiurus borealis</i>	Eastern Red Bat				S1S2B,S1M	6	31.8 ± 0.0	NS
A	<i>Lasiurus cinereus</i>	Hoary Bat				S1S2B,S1M	63	13.7 ± 0.0	NS
A	<i>Pluvialis dominica</i>	American Golden-Plover				S1S2M	187	24.2 ± 0.0	NS
A	<i>Vireo philadelphicus</i>	Philadelphia Vireo				S2?B	35	31.7 ± 0.0	NS
A	<i>Spatula clypeata</i>	Northern Shoveler				S2B	254	12.9 ± 7.0	NS
A	<i>Mareca strepera</i>	Gadwall				S2B	311	13.6 ± 0.0	NS
A	<i>Empidonax traillii</i>	Willow Flycatcher				S2B	68	0.7 ± 0.0	NS
A	<i>Setophaga tigrina</i>	Cape May Warbler				S2B	168	23.1 ± 0.0	NS
A	<i>Piranga olivacea</i>	Scarlet Tanager				S2B	63	5.1 ± 7.0	NS
A	<i>Pooecetes gramineus</i>	Vesper Sparrow				S2B	89	0.7 ± 0.0	NS
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S2B	240	5.1 ± 7.0	NS
A	<i>Alca torda</i>	Razorbill				S2B,S4N	17	89.7 ± 7.0	NS
A	<i>Bucephala clangula</i>	Common Goldeneye				S2B,S5N	85	9.2 ± 7.0	NS
A	<i>Branta bernicla</i>	Brant				S2M	18	22.4 ± 0.0	NS
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2S3	32	21.6 ± 14.0	NS
A	<i>Asio otus</i>	Long-eared Owl				S2S3	28	26.0 ± 7.0	NS
A	<i>Spinus pinus</i>	Pine Siskin				S2S3	521	6.5 ± 7.0	NS
A	<i>Cathartes aura</i>	Turkey Vulture				S2S3B	196	5.1 ± 7.0	NS
A	<i>Rallus limicola</i>	Virginia Rail				S2S3B	158	21.3 ± 7.0	NS
A	<i>Tringa semipalmata</i>	Willet				S2S3B	657	15.5 ± 0.0	NS
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B	379	3.7 ± 0.0	NS
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S2S3B	576	2.6 ± 0.0	NS
A	<i>Icterus galbula</i>	Baltimore Oriole				S2S3B	117	5.1 ± 7.0	NS
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S2S3B,S5N	111	12.7 ± 0.0	NS
A	<i>Numerius phaeopus hudsonicus</i>	Hudsonian Whimbrel				S2S3M	139	30.3 ± 0.0	NS
A	<i>Calidris melanotos</i>	Pectoral Sandpiper				S2S3M	367	13.7 ± 0.0	NS
A	<i>Phalaropus fulicarius</i>	Red Phalarope				S2S3M	4	64.4 ± 11.0	NB
A	<i>Perisoreus canadensis</i>	Canada Jay				S3	538	8.2 ± 7.0	NS
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3	474	5.1 ± 7.0	NS
A	<i>Sitta canadensis</i>	Red-breasted Nuthatch				S3	1487	5.1 ± 7.0	NS
A	<i>Alosa pseudoharengus</i>	Alewife				S3	13	22.1 ± 0.0	NS
A	<i>Salvelinus fontinalis</i>	Brook Trout				S3	98	1.9 ± 0.0	NS
A	<i>Menidia menidia</i>	Atlantic Silverside				S3	2	24.1 ± 0.0	NS
A	<i>Sorex maritimensis</i>	Maritime Shrew				S3	106	65.7 ± 0.0	NS
A	<i>Synaptomys cooperi</i>	Southern Bog Lemming				S3	22	28.0 ± 0.0	NS
A	<i>Pekania pennanti</i>	Fisher				S3	12	26.7 ± 0.0	NS
A	<i>Calidris maritima</i>	Purple Sandpiper				S3?N	204	22.1 ± 10.0	NS
A	<i>Calcarius lapponicus</i>	Lapland Longspur				S3?N	9	63.2 ± 1.0	NB
A	<i>Falco sparverius</i>	American Kestrel				S3B	385	5.1 ± 7.0	NS
A	<i>Charadrius vociferus</i>	Killdeer				S3B	676	5.1 ± 7.0	NS
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3B	783	1.6 ± 0.0	NS
A	<i>Sterna paradisaea</i>	Arctic Tern				S3B	43	64.4 ± 11.0	NB
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3B	70	5.1 ± 7.0	NS
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3B	367	3.8 ± 0.0	NS
A	<i>Dumetella carolinensis</i>	Gray Catbird				S3B	615	2.2 ± 0.0	NS
A	<i>Cardellina pusilla</i>	Wilson's Warbler				S3B	151	4.4 ± 0.0	NS
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs				S3B,S3S4M	2105	13.6 ± 0.0	NS

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A	<i>Oceanodroma leucorhoa</i>	Leach's Storm-Petrel				S3B,S5M	21	77.3 ± 0.0	NS
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S3B,S5N	9	32.7 ± 0.0	NS
A	<i>Fratercula arctica</i>	Atlantic Puffin				S3B,S5N	23	64.4 ± 11.0	NB
A	<i>Pluvialis squatarola</i>	Black-bellied Plover				S3M	1887	24.2 ± 0.0	NS
A	<i>Tringa flavipes</i>	Lesser Yellowlegs				S3M	1241	13.7 ± 0.0	NS
A	<i>Arenaria interpres</i>	Ruddy Turnstone				S3M	577	24.2 ± 0.0	NS
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper				S3M	2154	13.7 ± 0.0	NS
A	<i>Calidris fuscicollis</i>	White-rumped Sandpiper				S3M	994	24.2 ± 0.0	NS
A	<i>Limnodromus griseus</i>	Short-billed Dowitcher				S3M	1305	13.7 ± 0.0	NS
A	<i>Calidris alba</i>	Sanderling				S3M,S2N	1512	24.2 ± 0.0	NS
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull				S3N	2	75.3 ± 0.0	NB
A	<i>Somateria mollissima</i>	Common Eider				S3S4	358	12.1 ± 3.0	NS
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	100	17.4 ± 7.0	NS
A	<i>Loxia curvirostra</i>	Red Crossbill				S3S4	254	5.1 ± 7.0	NS
A	<i>Sorex palustris</i>	American Water Shrew				S3S4	2	98.2 ± 1.0	NB
A	<i>Botaurus lentiginosus</i>	American Bittern				S3S4B	509	6.1 ± 0.0	NS
A	<i>Spatula discors</i>	Blue-winged Teal				S3S4B	319	13.7 ± 0.0	NS
A	<i>Actitis macularius</i>	Spotted Sandpiper				S3S4B	807	5.1 ± 7.0	NS
A	<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher				S3S4B	644	6.5 ± 7.0	NS
A	<i>Regulus calendula</i>	Ruby-crowned Kinglet				S3S4B	1181	5.2 ± 0.0	NS
A	<i>Catharus fuscescens</i>	Veery				S3S4B	918	0.6 ± 0.0	NS
A	<i>Catharus ustulatus</i>	Swainson's Thrush				S3S4B	1654	5.1 ± 7.0	NS
A	<i>Oreothlypis peregrina</i>	Tennessee Warbler				S3S4B	371	6.5 ± 7.0	NS
A	<i>Setophaga castanea</i>	Bay-breasted Warbler				S3S4B	534	6.5 ± 7.0	NS
A	<i>Setophaga striata</i>	Blackpoll Warbler				S3S4B	86	13.7 ± 0.0	NS
A	<i>Passerella iliaca</i>	Fox Sparrow				S3S4B	65	8.2 ± 7.0	NS
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3S4B,S5N	112	6.5 ± 7.0	NS
A	<i>Bucephala albeola</i>	Bufflehead				S3S4N	75	13.7 ± 0.0	NS
A	<i>Lanius borealis</i>	Northern Shrike				S3S4N	36	45.2 ± 0.0	NS
A	<i>Leucophaeus atricilla</i>	Laughing Gull				SHB	7	69.9 ± 0.0	NS
A	<i>Progne subis</i>	Purple Martin				SHB	38	36.5 ± 7.0	NS
A	<i>Eremophila alpestris</i>	Horned Lark				SHB,S4S5N	29	12.6 ± 0.0	NS
A	<i>Morus bassanus</i>	Northern Gannet				SHB,S5M	28	32.7 ± 0.0	NS
A	<i>Aythya americana</i>	Redhead				SHB,SNAM	4	90.3 ± 7.0	NS
I	<i>Epeoloides pilosula</i>	Macropis Cuckoo Bee	Endangered	Endangered	Endangered	S1	2	34.6 ± 5.0	NS
I	<i>Gomphus ventricosus</i>	Skillet Clubtail	Endangered	Endangered		S1	2	65.5 ± 1.0	NS
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Endangered	S2B	397	0.9 ± 1.0	NS
I	<i>Danaus plexippus plexippus</i>	Monarch	Endangered	Special Concern		S2B	2	33.7 ± 0.0	NS
I	<i>Barnea truncata</i>	Atlantic Mud-piddock				S1	1	78.1 ± 1.0	NS
I	<i>Alasmodonta varicosa</i>	Brook Floater	Special Concern	Special Concern	Threatened	S1S2	3	69.4 ± 0.0	NS
I	<i>Bombus terricola</i>	Yellow-banded Bumblebee	Special Concern	Special Concern	Vulnerable	S3	88	21.4 ± 0.0	NS
I	<i>Cicindela formosa</i>	Big Sand Tiger Beetle				S1	1	14.6 ± 1.0	NS
I	<i>Satyrium acadica</i>	Acadian Hairstreak				S1	5	65.5 ± 2.0	NS
I	<i>Erora laeta</i>	Early Hairstreak				S1	3	93.8 ± 1.0	NS
I	<i>Ophiogomphus anomalus</i>	Extra-Striped Snaketail				S1	8	92.7 ± 0.0	NS
I	<i>Somatochlora brevicincta</i>	Quebec Emerald				S1	1	70.6 ± 1.0	NS
I	<i>Leptodea ochracea</i>	Tidewater Mucket				S1	18	55.3 ± 1.0	NS
I	<i>Strophitus undulatus</i>	Creeper				S1	6	93.4 ± 1.0	NS
I	<i>Chlosyne nycteis</i>	Silvery Checkerspot				S1?	4	80.8 ± 2.0	NS
I	<i>Polygonia comma</i>	Eastern Comma				S1?	20	9.2 ± 0.0	NS
I	<i>Polygonia satyrus</i>	Satyr Comma				S1?	12	42.8 ± 2.0	NS
I	<i>Strymon melinus</i>	Grey Hairstreak				S1S2	18	6.3 ± 2.0	NS
I	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S1S2	27	60.2 ± 0.0	NB
I	<i>Somatochlora kennedyi</i>	Kennedy's Emerald				S1S2	4	65.5 ± 1.0	NS
I	<i>Coenagrion resolutum</i>	Taiga Bluet				S1S2	13	62.4 ± 0.0	NB
I	<i>Stylurus scudderi</i>	Zebra Clubtail				S1S2	8	6.5 ± 0.0	NS
I	<i>Lycaena hyllus</i>	Bronze Copper				S2	64	13.2 ± 1.0	NS
I	<i>Satyrium calanus</i>	Banded Hairstreak				S2	65	6.5 ± 1.0	NS

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	<i>Boloria chariclea</i>	Arctic Fritillary				S2	9	42.1 ± 2.0	NS
	<i>Aglais milberti</i>	Milbert's Tortoiseshell				S2	21	2.6 ± 2.0	NS
	<i>Aglais milberti milberti</i>	Milbert's Tortoise Shell				S2	2	73.2 ± 0.0	NB
	<i>Epitheca princeps</i>	Prince Baskettail				S2	23	62.5 ± 1.0	NS
	<i>Somatochlora williamsoni</i>	Williamson's Emerald				S2	5	62.5 ± 0.0	NB
	<i>Williamsonia fletcheri</i>	Ebony Boghaunter				S2	3	70.1 ± 0.0	NS
	<i>Enallagma signatum</i>	Orange Bluet				S2	15	65.0 ± 0.0	NS
	<i>Margaritifera margaritifera</i>	Eastern Pearlshell				S2	59	63.7 ± 0.0	NS
	<i>Pantala hymenaea</i>	Spot-Winged Glider				S2?B	5	61.1 ± 0.0	NB
	<i>Thorybes pylades</i>	Northern Cloudywing				S2S3	1	91.9 ± 2.0	NS
	<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper				S2S3	23	22.3 ± 2.0	NS
	<i>Satyrium liparops</i>	Striped Hairstreak				S2S3	27	6.2 ± 0.0	NS
	<i>Euphydryas phaeton</i>	Baltimore Checkerspot				S2S3	27	6.4 ± 0.0	NS
	<i>Gomphus descriptus</i>	Harpoon Clubtail				S2S3	4	95.1 ± 0.0	NS
	<i>Ophiogomphus aspersus</i>	Brook Snaketail				S2S3	9	50.5 ± 0.0	NS
	<i>Ophiogomphus mainensis</i>	Maine Snaketail				S2S3	12	58.1 ± 1.0	NS
	<i>Ophiogomphus rupinsulensis</i>	Rusty Snaketail				S2S3	30	50.5 ± 0.0	NS
	<i>Somatochlora forcipata</i>	Forcinate Emerald				S2S3	8	43.7 ± 0.0	NS
	<i>Somatochlora franklini</i>	Delicate Emerald				S2S3	5	45.5 ± 0.0	NS
	<i>Erythrodiplax berenice</i>	Seaside Dragonlet				S2S3	1	73.1 ± 0.0	NS
	<i>Enallagma vesperum</i>	Vesper Bluet				S2S3	20	43.2 ± 0.0	NS
	<i>Alasmodonta undulata</i>	Triangle Floater				S2S3	19	47.5 ± 0.0	NS
	<i>Strophiona nitens</i>	a Longhorned Beetle				S3	2	85.6 ± 0.0	NS
	<i>Hippodamia parenthesis</i>	Parenthesis Lady Beetle				S3	4	61.7 ± 0.0	NS
	<i>Naemia seriata</i>	a Ladybird beetle				S3	26	13.2 ± 2.0	NS
	<i>Chilocorus stigma</i>	Twice-stabbed Lady Beetle				S3	10	62.3 ± 0.0	NB
	<i>Myzia pullata</i>	Streaked Lady Beetle				S3	2	62.4 ± 0.0	NB
	<i>Trachysida aspera</i>	a Longhorned Beetle				S3	2	67.3 ± 0.0	NB
	<i>Dicerca tenebrosa</i>	Dark Jewel Beetle				S3	2	45.5 ± 0.0	NS
	<i>Astylopsis sexguttata</i>	A Longhorned Beetle				S3	1	87.3 ± 0.0	NS
	<i>Callophrys henrici</i>	Henry's Elfin				S3	41	9.7 ± 2.0	NS
	<i>Callophrys lanoraieensis</i>	Bog Elfin				S3	20	23.6 ± 0.0	NS
	<i>Speyeria aphrodite</i>	Aphrodite Fritillary				S3	32	3.7 ± 0.0	NS
	<i>Polygonia faunus</i>	Green Comma				S3	26	36.5 ± 1.0	NS
	<i>Megisto cymela</i>	Little Wood-satyr				S3	16	11.0 ± 0.0	NS
	<i>Oeneis jutta</i>	Jutta Arctic				S3	23	40.5 ± 0.0	NS
	<i>Aeshna clepsydra</i>	Mottled Darner				S3	22	24.0 ± 1.0	NS
	<i>Aeshna constricta</i>	Lance-Tipped Darner				S3	25	9.3 ± 0.0	NS
	<i>Boyeria grafiana</i>	Ocellated Darner				S3	17	6.5 ± 0.0	NS
	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3	23	45.6 ± 0.0	NS
	<i>Somatochlora tenebrosa</i>	Clamp-Tipped Emerald				S3	17	40.2 ± 0.0	NS
	<i>Nannothemis bella</i>	Elfin Skimmer				S3	20	23.1 ± 0.0	NS
	<i>Sympetrum danae</i>	Black Meadowhawk				S3	1	79.8 ± 0.0	NS
	<i>Enallagma vernale</i>	Vernal Bluet				S3	4	64.3 ± 1.0	NS
	<i>Amphiagrion saucium</i>	Eastern Red Damsel				S3	8	64.2 ± 0.0	NB
	<i>Cupido comyntas</i>	Eastern Tailed Blue				S3?	26	11.1 ± 1.0	NS
	<i>Polygonia interrogationis</i>	Question Mark				S3B	193	3.7 ± 0.0	NS
	<i>Erynnis juvenalis</i>	Juvenal's Duskywing				S3S4	127	6.1 ± 0.0	NS
	<i>Amblyscirtes vialis</i>	Common Roadside-Skipper				S3S4	39	36.5 ± 1.0	NS
	<i>Polygonia progne</i>	Grey Comma				S3S4	51	4.1 ± 1.0	NS
	<i>Lanthus parvulus</i>	Northern Pygmy Clubtail				S3S4	16	62.6 ± 0.0	NB
	<i>Lampsilis radiata</i>	Eastern Lampmussel				S3S4	19	55.3 ± 1.0	NS
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	11	40.1 ± 0.0	NS
N	<i>Erioderma mollissimum</i>	Graceful Felt Lichen	Endangered	Endangered	Endangered	S1S2	4	59.8 ± 1.0	NB
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened	Threatened	Threatened	S1	398	41.3 ± 0.0	NS
N	<i>Pannaria lurida</i>	Wrinkled Shingle Lichen	Threatened	Threatened	Threatened	S1S2	151	16.4 ± 0.0	NS
N	<i>Fuscopannaria leucosticta</i>	White-rimmed Shingle	Threatened			S2S3	41	47.1 ± 0.0	NS

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N	<i>Anzia colpodes</i>	Lichen Black-foam Lichen	Threatened	Threatened	Threatened	S3	62	25.2 ± 0.0	NS
N	<i>Sclerophora peronella</i> (Atlantic pop.)	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern		S1?	16	31.7 ± 3.0	NS
N	<i>Pectenia plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	149	36.7 ± 0.0	NS
N	<i>Fissidens exilis</i>	Pygmy Pocket Moss	Not At Risk			S1S2	14	26.9 ± 0.0	NS
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	18	35.3 ± 1.0	NS
N	<i>Aloina brevirostris</i>	Short-Beaked Rigid Screw Moss				S1	1	50.9 ± 2.0	NS
N	<i>Orthotrichum pallens</i>	Pale Bristle Moss				S1	1	87.6 ± 0.0	NS
N	<i>Umbilicaria vellea</i>	Grizzled Rocktripe Lichen				S1	2	60.2 ± 1.0	NB
N	<i>Usnea perplexans</i>	Powdered Beard Lichen				S1	1	39.9 ± 0.0	NS
N	<i>Leptogium azureum</i>	Blue Jellyskin Lichen				S1	1	24.1 ± 1.0	NS
N	<i>Leptogium dactylinum</i>	Brown-buttoned Jellyskin Lichen				S1	2	16.4 ± 0.0	NS
N	<i>Collema cristatum</i>	Fingered Tarpaper Lichen				S1	6	45.5 ± 0.0	NS
N	<i>Ephebe hispidula</i>	Dryside Rockshag Lichen				S1	1	44.9 ± 0.0	NS
N	<i>Ephebe perspinulosa</i>	Thread Lichen				S1	2	16.1 ± 1.0	NS
N	<i>Euopsis granatina</i>	Lesser Rockbud Lichen				S1	1	47.0 ± 1.0	NS
N	<i>Fuscopannaria praetermissa</i>	Moss Shingles Lichen				S1	1	45.2 ± 0.0	NS
N	<i>Leptogium schraderi</i>	Schrader's Jellyskin Lichen				S1	1	91.2 ± 0.0	NS
N	<i>Parmotrema perforatum</i>	Perforated Ruffle Lichen				S1	4	89.0 ± 0.0	NS
N	<i>Pseudevernia consocians</i>	Common Antler Lichen				S1	1	84.2 ± 0.0	NS
N	<i>Spilonema revertens</i>	Rock Hairball Lichen				S1	4	52.9 ± 0.0	NS
N	<i>Collema fuscovirens</i>	Crumpled Rock Tarpaper Lichen				S1	1	42.8 ± 0.0	NS
N	<i>Leptogium hibernicum</i>	Hibernia Jellyskin Lichen				S1	11	54.3 ± 0.0	NS
N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen				S1	3	45.3 ± 0.0	NS
N	<i>Calyptogeia neogaea</i>	Common Pouchwort				S1?	1	59.9 ± 0.0	NS
N	<i>Moerckia hibernica</i>	Irish Ruffwort				S1?	1	51.5 ± 0.0	NS
N	<i>Aloina rigida</i>	Aloe-Like Rigid Screw Moss				S1?	4	49.5 ± 0.0	NS
N	<i>Bryum muehlenbeckii</i>	Muehlenbeck's Bryum Moss				S1?	2	32.8 ± 0.0	NS
N	<i>Conardia compacta</i>	Coast Creeping Moss				S1?	2	59.5 ± 1.0	NB
N	<i>Tortula obtusifolia</i>	a Moss				S1?	1	74.8 ± 0.0	NB
N	<i>Didymodon tophaceus</i>	Olive Beard Moss				S1?	1	51.2 ± 0.0	NS
N	<i>Grimmia anodon</i>	Toothless Grimmiid Moss				S1?	2	88.1 ± 3.0	NS
N	<i>Homomallium adnatum</i>	Adnate Hairy-gray Moss				S1?	1	89.6 ± 5.0	NS
N	<i>Meesia triquetra</i>	Three-ranked Cold Moss				S1?	1	84.1 ± 0.0	NS
N	<i>Paludella squarrosa</i>	Tufted Fen Moss				S1?	3	55.0 ± 0.0	NS
N	<i>Physcomitrium immersum</i>	a Moss				S1?	1	21.8 ± 0.0	NS
N	<i>Schistostega pennata</i>	Luminous Moss				S1?	1	63.3 ± 0.0	NS
N	<i>Timmia norvegica</i>	a moss				S1?	3	59.6 ± 0.0	NB
N	<i>Syntrichia ruralis</i>	a Moss				S1?	2	91.7 ± 0.0	NS
N	<i>Trichodon cylindricus</i>	Cylindric Hairy-teeth Moss				S1?	1	13.6 ± 3.0	NS
N	<i>Plagiomnium ellipticum</i>	Marsh Leafy Moss				S1?	1	25.8 ± 0.0	NS
N	<i>Collema crispum</i>	Crinkled Pulp Lichen				S1?	1	51.2 ± 0.0	NS
N	<i>Polychidium muscicola</i>	Eyed Mossstorns Woollybear Lichen				S1?	5	32.8 ± 0.0	NS
N	<i>Parmeliella parvula</i>	Poor-man's Shingles Lichen				S1?	1	80.6 ± 0.0	NS
N	<i>Aulacomnium heterostichum</i>	One-sided Groove Moss				S1S2	3	50.9 ± 2.0	NS
N	<i>Brachythecium turgidum</i>	Thick Ragged Moss				S1S2	3	13.6 ± 3.0	NS
N	<i>Dicranoweisia crispula</i>	Mountain Thatch Moss				S1S2	1	64.8 ± 0.0	NB
N	<i>Didymodon rigidulus</i>	Rigid Screw Moss				S1S2	10	59.6 ± 0.0	NB
N	<i>Didymodon ferrugineus</i>	a moss				S1S2	1	59.9 ± 0.0	NB
N	<i>Hygrohypnum montanum</i>	a Moss				S1S2	2	69.1 ± 1.0	NB
N	<i>Hypnum pratense</i>	Meadow Plait Moss				S1S2	1	2.3 ± 3.0	NS
N	<i>Mnium thomsonii</i>	Thomson's Leafy Moss				S1S2	1	45.5 ± 2.0	NS
N	<i>Tortula acaulon</i>	Cuspidate Earth Moss				S1S2	1	4.2 ± 2.0	NS



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N	<i>Plagiothecium latebricola</i>	Alder Silk Moss				S1S2	3	60.6 ± 1.0	NB
N	<i>Platydictya confervoides</i>	a Moss				S1S2	1	46.6 ± 0.0	NS
N	<i>Seligeria calcarea</i>	Chalk Brittle Moss				S1S2	2	72.8 ± 0.0	NB
N	<i>Sematophyllum demissum</i>	a Moss				S1S2	2	57.3 ± 1.0	NS
N	<i>Sphagnum platyphyllum</i>	Flat-leaved Peat Moss				S1S2	3	34.5 ± 0.0	NS
N	<i>Tetradontium brownianum</i>	Little Georgia				S1S2	8	59.9 ± 0.0	NB
N	<i>Timmia megapolitana</i>	Metropolitan Timmia Moss				S1S2	2	60.2 ± 1.0	NS
N	<i>Tortula mucronifolia</i>	Mucronate Screw Moss				S1S2	2	35.1 ± 3.0	NS
N	<i>Cyrto-hypnum minutulum</i>	Tiny Cedar Moss				S1S2	1	87.1 ± 0.0	NS
N	<i>Hamatocaulis vernicosus</i>	a Moss				S1S2	3	84.3 ± 0.0	NS
N	<i>Bryohaplocladium microphyllum</i>	Tiny-leaved Haplocladium Moss				S1S2	2	63.3 ± 3.0	NS
N	<i>Collema bachmanianum</i>	Bachman's Tarpaper Lichen				S1S2	1	45.6 ± 0.0	NS
N	<i>Cladonia sulphurina</i>	Greater Sulphur-cup Lichen				S1S2	5	70.1 ± 0.0	NB
N	<i>Rhizoplaca subdiscrepans</i>	Scattered Rock-posy Lichen				S1S2	1	73.7 ± 1.0	NS
N	<i>Sticta limbata</i>	Powdered Moon Lichen				S1S2	7	37.9 ± 0.0	NS
N	<i>Candelaria concolor</i>	Elfin Candleflame Lichen				S1S2	4	62.4 ± 0.0	NB
N	<i>Peltigera malacea</i>	Veinless Pelt Lichen				S1S2	1	65.9 ± 1.0	NB
N	<i>Porella pinnata</i>	Pinnate Scalewort				S1S3	1	86.0 ± 0.0	NS
N	<i>Heterodermia galactophylla</i>	Branching Fringe Lichen				S1S3	1	74.2 ± 0.0	NS
N	<i>Melanelia culbersonii</i>	Appalachian Camouflage Lichen				S1S3	1	73.1 ± 0.0	NS
N	<i>Peltigera neckeri</i>	Black-saddle Pelt Lichen				S1S3	1	68.2 ± 5.0	NB
N	<i>Usnea chaetophora</i>	Articulated Beard Lichen				S1S3	1	35.7 ± 0.0	NS
N	<i>Stereocaulon intermedium</i>	Pacific Brain Foam Lichen				S1S3	10	27.9 ± 0.0	NS
N	<i>Cystocoleus ebeneus</i>	Rockgossamer Lichen				S2	3	46.9 ± 0.0	NS
N	<i>Nephroma resupinatum</i>	a lichen				S2	4	18.6 ± 0.0	NS
N	<i>Parmotrema reticulatum</i>	Netted Ruffle Lichen				S2	7	18.1 ± 13.0	NS
N	<i>Riccardia multifida</i>	Delicate Germanderwort				S2?	1	72.3 ± 0.0	NB
N	<i>Anacamptodon splachnoides</i>	a Moss				S2?	3	61.5 ± 3.0	NS
N	<i>Anomodon viticulosus</i>	a Moss				S2?	1	95.4 ± 0.0	NB
N	<i>Weissia muhlenbergiana</i>	a Moss				S2?	5	2.3 ± 3.0	NS
N	<i>Atrichum angustatum</i>	Lesser Smoothcap Moss				S2?	7	81.3 ± 5.0	NS
N	<i>Bryum algovicum</i>	a Moss				S2?	1	50.9 ± 2.0	NS
N	<i>Campyllum polygamum</i>	a Moss				S2?	5	50.9 ± 0.0	NS
N	<i>Campyllum radicale</i>	Long-stalked Fine Wet Moss				S2?	3	2.3 ± 3.0	NS
N	<i>Climacium americanum</i>	American Tree Moss				S2?	9	82.7 ± 0.0	NS
N	<i>Dicranum condensatum</i>	Condensed Broom Moss				S2?	5	2.3 ± 3.0	NS
N	<i>Ditrichum rhynchostegium</i>	a Moss				S2?	6	84.7 ± 1.0	NS
N	<i>Fissidens bushii</i>	Bush's Pocket Moss				S2?	5	34.1 ± 0.0	NS
N	<i>Fissidens taxifolius</i>	Yew-leaved Pocket Moss				S2?	7	43.0 ± 5.0	NS
N	<i>Fontinalis hypnoides</i>	a moss				S2?	1	87.4 ± 0.0	NS
N	<i>Fontinalis sullivantii</i>	a Moss				S2?	3	78.1 ± 0.0	NS
N	<i>Grimmia olneyi</i>	a Moss				S2?	10	82.6 ± 0.0	NS
N	<i>Grimmia anomala</i>	Mountain Forest Grimmia				S2?	1	61.1 ± 1.0	NS
N	<i>Hygrohypnum bestii</i>	Best's Brook Moss				S2?	6	33.4 ± 0.0	NS
N	<i>Orthotrichum anomalum</i>	Anomalous Bristle Moss				S2?	5	41.8 ± 2.0	NS
N	<i>Philonotis marchica</i>	a Moss				S2?	1	82.7 ± 0.0	NS
N	<i>Physcomitrium collenchymatum</i>	a Moss				S2?	1	13.6 ± 0.0	NS
N	<i>Platydictya jungermannioides</i>	False Willow Moss				S2?	3	59.9 ± 0.0	NB
N	<i>Racomitrium affine</i>	a Moss				S2?	3	69.2 ± 2.0	NS
N	<i>Rhytidium rugosum</i>	Wrinkle-leaved Moss				S2?	2	59.7 ± 1.0	NB
N	<i>Saelania glaucescens</i>	Blue Dew Moss				S2?	2	64.8 ± 0.0	NB
N	<i>Seligeria donniana</i>	Donian Beardless Moss				S2?	1	88.6 ± 3.0	NS
N	<i>Sematophyllum marylandicum</i>	a Moss				S2?	3	82.8 ± 0.0	NS

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N	<i>Sphagnum subnitens</i>	Lustrous Peat Moss				S2?	4	94.1 ± 0.0	NS
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss				S2?	4	40.6 ± 0.0	NS
N	<i>Tortella fragilis</i>	Fragile Twisted Moss				S2?	1	59.6 ± 0.0	NB
N	<i>Anomobryum filiforme</i>	a moss				S2?	4	59.7 ± 1.0	NB
N	<i>Plagiomnium rostratum</i>	Long-beaked Leafy Moss				S2?	10	13.0 ± 2.0	NS
N	<i>Pseudotaxiphyllum distichaceum</i>	a Moss				S2?	2	59.8 ± 4.0	NS
N	<i>Rauvella scita</i>	Smaller Fern Moss				S2?	16	82.6 ± 0.0	NS
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2?	8	59.6 ± 0.0	NB
N	<i>Platylomella lescurii</i>	a Moss				S2?	9	57.3 ± 1.0	NS
N	<i>Phyllicum demangeonii</i>	Black Rock-wafer Lichen				S2?	5	41.1 ± 0.0	NS
N	<i>Usnea flavocardia</i>	Blood-splattered Beard Lichen				S2?	1	84.4 ± 4.0	NS
N	<i>Leptogium teretiusculum</i>	Beaded Jellyskin Lichen				S2?	16	8.5 ± 0.0	NS
N	<i>Rostania occultata</i>	Crusted Tarpaper Lichen				S2?	4	8.1 ± 0.0	NS
N	<i>Leptogium imbricatum</i>	Scaly Jellyskin Lichen				S2?	2	55.1 ± 0.0	NB
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen				S2?	1	67.5 ± 1.0	NB
N	<i>Placynthium flabelliforme</i>	Scaly Ink Lichen				S2?	7	32.7 ± 0.0	NS
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S2?	3	8.3 ± 0.0	NS
N	<i>Ephemerum serratum</i>	a Moss				S2S3	6	13.6 ± 0.0	NS
N	<i>Eurhynchium hians</i>	Light Beaked Moss				S2S3	7	34.9 ± 5.0	NS
N	<i>Platydictya subtilis</i>	Bark Willow Moss				S2S3	5	26.8 ± 0.0	NS
N	<i>Tortula truncata</i>	a Moss				S2S3	10	2.3 ± 3.0	NS
N	<i>Limprichtia revolvens</i>	a Moss				S2S3	2	55.0 ± 0.0	NS
N	<i>Collema leptaleum</i>	Crumpled Bat's Wing Lichen				S2S3	44	11.4 ± 0.0	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen				S2S3	14	45.3 ± 0.0	NS
N	<i>Ahtiana aurescens</i>	Eastern Candlewax Lichen				S2S3	12	41.0 ± 2.0	NS
N	<i>Usnocetraria oakesiana</i>	Yellow Band Lichen				S2S3	13	12.6 ± 0.0	NS
N	<i>Cladonia incrassata</i>	Powder-foot British Soldiers Lichen				S2S3	1	97.6 ± 3.0	NS
N	<i>Cladonia mateocyatha</i>	Mixed-up Pixie-cup				S2S3	4	20.5 ± 1.0	NS
N	<i>Cladonia parasitica</i>	Fence-rail Lichen				S2S3	3	35.0 ± 1.0	NS
N	<i>Hypotrachyna catawbiensis</i>	Powder-tipped Antler Lichen				S2S3	5	27.9 ± 0.0	NS
N	<i>Leptogium milligranum</i>	Stretched Jellyskin Lichen				S2S3	12	19.3 ± 0.0	NS
N	<i>Leptogium tenuissimum</i>	Birdnest Jellyskin Lichen				S2S3	4	46.7 ± 0.0	NS
N	<i>Melanohalea septentrionalis</i>	Northern Camouflage Lichen				S2S3	3	40.4 ± 0.0	NS
N	<i>Myelochroa aurulenta</i>	Powdery Axil-bristle Lichen				S2S3	5	20.9 ± 2.0	NS
N	<i>Parmelia fertilis</i>	Fertile Shield Lichen				S2S3	1	63.8 ± 0.0	NS
N	<i>Hypotrachyna minarum</i>	Hairless-spined Shield Lichen				S2S3	5	35.8 ± 1.0	NS
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen				S2S3	2	19.7 ± 2.0	NS
N	<i>Racodium rupestre</i>	Rockhair Lichen				S2S3	3	80.5 ± 0.0	NS
N	<i>Umbilicaria polyphylla</i>	Petalled Rocktripe Lichen				S2S3	1	19.7 ± 2.0	NS
N	<i>Usnea cavernosa</i>	Pitted Beard Lichen				S2S3	2	39.4 ± 2.0	NS
N	<i>Usnea ceratina</i>	Warty Beard Lichen				S2S3	3	36.7 ± 0.0	NS
N	<i>Usnea mutabilis</i>	Bloody Beard Lichen				S2S3	1	39.8 ± 0.0	NS
N	<i>Usnea rubicunda</i>	Red Beard Lichen				S2S3	3	39.9 ± 0.0	NS
N	<i>Stereocaulon condensatum</i>	Granular Soil Foam Lichen				S2S3	2	6.5 ± 0.0	NS
N	<i>Cetraria arenaria</i>	Sand-loving Icelandmoss Lichen				S2S3	16	19.8 ± 0.0	NS
N	<i>Cladonia coccifera</i>	Eastern Boreal Pixie-cup Lichen				S2S3	2	27.9 ± 0.0	NS
N	<i>Cladonia deformis</i>	Lesser Sulphur-cup Lichen				S2S3	11	24.5 ± 3.0	NS
N	<i>Cladonia phyllophora</i>	Felt Lichen				S2S3	2	8.0 ± 4.0	NS
N	<i>Hypotrachyna afrorevoluta</i>	Pustulate Revolute Loop Lichen				S2S3	3	35.8 ± 1.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Usnea flammaea</i>	Coastal Bushy Beard Lichen				S2S3	1	40.1 ± 0.0	NS
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen				S3	11	61.1 ± 1.0	NB
N	<i>Collema tenax</i>	Soil Tarpaper Lichen				S3	6	33.6 ± 0.0	NS
N	<i>Collema nigrescens</i>	Blistered Tarpaper Lichen				S3	22	11.4 ± 0.0	NS
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen				S3	33	23.8 ± 0.0	NS
N	<i>Leptogium subtile</i>	Appressed Jellyskin Lichen				S3	18	10.1 ± 0.0	NS
N	<i>Fuscopannaria ahlneri</i>	Corrugated Shingles Lichen				S3	18	40.2 ± 0.0	NS
N	<i>Heterodermia speciosa</i>	Powdered Fringe Lichen				S3	41	8.6 ± 0.0	NS
N	<i>Heterodermia squamulosa</i>	Scaly Fringe Lichen				S3	57	19.9 ± 13.0	NS
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S3	68	6.2 ± 0.0	NS
N	<i>Leptogium lichenoides</i>	Tattered Jellyskin Lichen				S3	27	45.3 ± 0.0	NS
N	<i>Nephroma bellum</i>	Naked Kidney Lichen				S3	5	65.1 ± 1.0	NB
N	<i>Placynthium nigrum</i>	Common Ink Lichen				S3	1	60.2 ± 1.0	NB
N	<i>Punctelia appalachensis</i>	Appalachian Speckleback Lichen				S3	96	5.2 ± 13.0	NS
N	<i>Moelleropsis nebulosa</i>	Blue-gray Moss Shingle Lichen				S3	6	13.9 ± 0.0	NS
N	<i>Usnea hirta</i>	Bristly Beard Lichen				S3	4	61.3 ± 1.0	NB
N	<i>Fuscopannaria sorediata</i>	a Lichen				S3	4	74.9 ± 0.0	NS
N	<i>Ephebe lanata</i>	Waterside Rockshag Lichen				S3	4	65.9 ± 1.0	NB
N	<i>Usnea macaronesica</i>	Beard Lichen				S3	6	35.6 ± 0.0	NS
N	<i>Metzgeria conjugata</i>	Rock Veilwort				S3?	2	37.8 ± 0.0	NS
N	<i>Barbula convoluta</i>	Lesser Bird's-claw Beard Moss				S3?	3	34.5 ± 0.0	NS
N	<i>Calliergon giganteum</i>	Giant Spear Moss				S3?	3	2.3 ± 3.0	NS
N	<i>Drummondia prorepens</i>	a Moss				S3?	4	42.4 ± 5.0	NS
N	<i>Anomodon tristis</i>	a Moss				S3?	14	32.0 ± 0.0	NS
N	<i>Helodium blandowii</i>	Wetland-plume Moss				S3?	5	6.3 ± 3.0	NS
N	<i>Mnium stellare</i>	Star Leafy Moss				S3?	3	48.7 ± 1.0	NS
N	<i>Sphagnum riparium</i>	Streamside Peat Moss				S3?	1	31.7 ± 1.0	NS
N	<i>Phaeophyscia pusilloides</i>	Pompom-tipped Shadow Lichen				S3?	7	14.0 ± 0.0	NS
N	<i>Cladonia stygia</i>	Black-footed Reindeer Lichen				S3?	1	13.6 ± 0.0	NS
N	<i>Anomodon rugelii</i>	Rugel's Anomodon Moss				S3S4	9	12.6 ± 3.0	NS
N	<i>Dichelyma capillaceum</i>	Hairlike Dichelyma Moss				S3S4	9	42.3 ± 3.0	NS
N	<i>Dicranella varia</i>	a Moss				S3S4	3	13.6 ± 3.0	NS
N	<i>Dicranum leioneuron</i>	a Dicranum Moss				S3S4	2	68.7 ± 0.0	NB
N	<i>Encalypta procera</i>	Slender Extinguisher Moss				S3S4	7	59.6 ± 0.0	NB
N	<i>Myurella julacea</i>	Small Mouse-tail Moss				S3S4	3	52.9 ± 0.0	NS
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss				S3S4	4	85.3 ± 5.0	NB
N	<i>Splachnum ampullaceum</i>	Cruet Dung Moss				S3S4	4	40.2 ± 0.0	NS
N	<i>Thamnobryum alleghaniense</i>	a Moss				S3S4	20	17.0 ± 4.0	NS
N	<i>Schistidium agassizii</i>	Elf Bloom Moss				S3S4	6	24.5 ± 0.0	NS
N	<i>Hylocomiastrum pyrenaicum</i>	a Feather Moss				S3S4	5	34.4 ± 0.0	NS
N	<i>Arctoparmelia incurva</i>	Finger Ring Lichen				S3S4	51	79.4 ± 0.0	NS
N	<i>Hypogymnia vittata</i>	Slender Monk's Hood Lichen				S3S4	48	33.5 ± 1.0	NS
N	<i>Leptogium acadense</i>	Acadian Jellyskin Lichen				S3S4	18	11.4 ± 0.0	NS
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen				S3S4	6	43.1 ± 0.0	NS
N	<i>Vahlia leucophaea</i>	Shelter Shingle Lichen				S3S4	1	32.7 ± 0.0	NS
N	<i>Melanohalea olivacea</i>	Spotted Camouflage Lichen				S3S4	8	14.7 ± 1.0	NS
N	<i>Parmeliopsis hyperopta</i>	Gray Starburst Lichen				S3S4	2	40.1 ± 0.0	NS
N	<i>Parmotrema chinense</i>	Powdered Ruffle Lichen				S3S4	28	27.1 ± 0.0	NS
N	<i>Physconia detersa</i>	Bottlebrush Frost Lichen				S3S4	16	18.5 ± 0.0	NS
N	<i>Sphaerophorus fragilis</i>	Fragile Coral Lichen				S3S4	1	87.3 ± 3.0	NS
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen				S3S4	77	22.0 ± 0.0	NS
N	<i>Physcia caesia</i>	Blue-gray Rosette Lichen				S3S4	2	22.8 ± 0.0	NS
N	<i>Physcia tenella</i>	Fringed Rosette Lichen				S3S4	2	62.3 ± 0.0	NB

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N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen				S3S4	86	26.0 ± 0.0	NS
N	<i>Bryoria pikei</i>	Pike's Horsehair Lichen				S3S4	12	33.6 ± 1.0	NS
N	<i>Evernia prunastri</i>	Valley Oakmoss Lichen				S3S4	18	16.4 ± 0.0	NS
N	<i>Dermatocarpon luridum</i>	Brookside Stippleback Lichen				S3S4	76	14.7 ± 0.0	NS
N	<i>Heterodermia neglecta</i>	Fringe Lichen				S3S4	65	29.7 ± 0.0	NS
P	<i>Rhynchospora macrostachya</i>	Tall Beakrush	Endangered	Endangered	Endangered	S1	57	78.6 ± 0.0	NS
P	<i>Clethra alnifolia</i>	Coast Pepper-Bush	Endangered	Threatened	Vulnerable	S1	172	74.9 ± 0.0	NS
P	<i>Fraxinus nigra</i>	Black Ash	Threatened		Threatened	S1S2	270	4.8 ± 0.0	NS
P	<i>Hydrocotyle umbellata</i>	Water Pennywort	Special Concern	Special Concern	Endangered	S1	71	87.1 ± 0.0	NS
P	<i>Lilaeopsis chinensis</i>	Eastern Lilaeopsis	Special Concern	Special Concern	Vulnerable	S2	136	78.0 ± 0.0	NS
P	<i>Lachnanthes caroliniana</i>	Redroot	Special Concern	Special Concern	Vulnerable	S2	1470	77.8 ± 0.0	NS
P	<i>Lophiola aurea</i>	Goldencrest	Special Concern	Special Concern	Vulnerable	S2	777	67.3 ± 13.0	NS
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Vulnerable	S2	17	46.1 ± 0.0	NS
P	<i>Scirpus longii</i>	Long's Bulrush	Special Concern		Vulnerable	S3	466	66.4 ± 0.0	NS
P	<i>Floerkea proserpinacoides</i>	False Mermaidweed	Not At Risk			S2	24	2.1 ± 0.0	NS
P	<i>Smilax rotundifolia</i>	Round-leaved Greenbrier	Not At Risk			S3	374	80.4 ± 0.0	NS
P	<i>Crocianthemum canadense</i>	Long-branched Frostweed			Endangered	S1	127	14.9 ± 0.0	NS
P	<i>Cypripedium arietinum</i>	Ram's-Head Lady's-Slipper			Endangered	S1	167	43.9 ± 0.0	NS
P	<i>Thuja occidentalis</i>	Eastern White Cedar			Vulnerable	S1	184	4.7 ± 0.0	NS
P	<i>Acer saccharinum</i>	Silver Maple				S1	12	7.5 ± 0.0	NS
P	<i>Toxicodendron vernix</i>	Poison Sumac				S1	41	90.4 ± 0.0	NS
P	<i>Osmorhiza depauperata</i>	Blunt Sweet Cicely				S1	1	23.3 ± 5.0	NS
P	<i>Sanicula odorata</i>	Clustered Sanicle				S1	10	2.4 ± 2.0	NS
P	<i>Zizia aurea</i>	Golden Alexanders				S1	4	55.8 ± 0.0	NS
P	<i>Antennaria rosea ssp. arida</i>	Rosy Pussytoes				S1	1	26.2 ± 0.0	NS
P	<i>Antennaria parlinii ssp. fallax</i>	Parlin's Pussytoes				S1	25	27.0 ± 0.0	NS
P	<i>Nabalus racemosus</i>	Glaucous Rattlesnakeroot				S1	1	99.6 ± 0.0	NS
P	<i>Ageratina altissima</i>	White Snakeroot				S1	43	27.5 ± 0.0	NS
P	<i>Andersonglossum boreale</i>	Northern Wild Comfrey				S1	5	11.0 ± 0.0	NS
P	<i>Turritis glabra</i>	Tower Mustard				S1	2	38.1 ± 0.0	NS
P	<i>Draba glabella</i>	Rock Whitlow-Grass				S1	8	26.1 ± 0.0	NS
P	<i>Lobelia spicata</i>	Pale-Spiked Lobelia				S1	8	28.9 ± 7.0	NS
P	<i>Silene antirrhina</i>	Sleepy Catchfly				S1	5	20.6 ± 0.0	NS
P	<i>Astragalus robbinsii var. minor</i>	Robbins' Milkvetch				S1	31	26.1 ± 0.0	NS
P	<i>Desmodium canadense</i>	Canada Tick-trefoil				S1	10	17.4 ± 7.0	NS
P	<i>Hylodesmum glutinosum</i>	Large Tick-trefoil				S1	38	5.1 ± 7.0	NS
P	<i>Ribes americanum</i>	Wild Black Currant				S1	7	41.8 ± 1.0	NS
P	<i>Trichostema dichotomum</i>	Forked Bluecurls				S1	6	73.0 ± 0.0	NS
P	<i>Fraxinus pennsylvanica</i>	Red Ash				S1	12	14.8 ± 0.0	NS
P	<i>Polygala polygama</i>	Racemed Milkwort				S1	21	13.2 ± 0.0	NS
P	<i>Polygonum achoreum</i>	Leathery Knotweed				S1	2	60.6 ± 10.0	NS
P	<i>Podostemum ceratophyllum</i>	Horn-leaved Riverweed				S1	4	50.5 ± 0.0	NS
P	<i>Montia fontana</i>	Water Blinks				S1	3	30.5 ± 0.0	NS
P	<i>Lysimachia minima</i>	Chaffweed				S1	1	85.9 ± 0.0	NS
P	<i>Lysimachia quadrifolia</i>	Whorled Yellow Loosestrife				S1	1	71.9 ± 0.0	NS
P	<i>Anemone parviflora</i>	Small-flowered Anemone				S1	9	87.2 ± 0.0	NB
P	<i>Clematis occidentalis</i>	Purple Clematis				S1	15	59.8 ± 0.0	NB
P	<i>Ranunculus pennsylvanicus</i>	Pennsylvania Buttercup				S1	24	69.4 ± 0.0	NB
P	<i>Amelanchier nantucketensis</i>	Nantucket Serviceberry				S1	1	48.7 ± 1.0	NS
P	<i>Salix myrtilifolia</i>	Blueberry Willow				S1	25	87.7 ± 0.0	NB
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort				S1	5	20.7 ± 1.0	NS
P	<i>Dirca palustris</i>	Eastern Leatherwood				S1	56	41.0 ± 13.0	NS
P	<i>Boehmeria cylindrica</i>	Small-spike False-nettle				S1	50	24.9 ± 0.0	NS
P	<i>Pilea pumila</i>	Dwarf Clearweed				S1	7	56.7 ± 0.0	NS
P	<i>Carex chordorrhiza</i>	Creeping Sedge				S1	4	68.4 ± 0.0	NB

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P	<i>Carex digitalis</i>	Slender Wood Sedge				S1	4	80.2 ± 0.0	NS
P	<i>Carex granularis</i>	Limestone Meadow Sedge				S1	1	99.8 ± 5.0	NB
P	<i>Carex gynocrates</i>	Northern Bog Sedge				S1	1	92.8 ± 1.0	NB
P	<i>Carex haydenii</i>	Hayden's Sedge				S1	4	18.8 ± 1.0	NS
P	<i>Carex laxiflora</i>	Loose-Flowered Sedge				S1	6	8.2 ± 7.0	NS
P	<i>Carex ormostachya</i>	Necklace Spike Sedge				S1	7	7.7 ± 5.0	NS
P	<i>Carex plantaginea</i>	Plantain-Leaved Sedge				S1	3	60.0 ± 0.0	NB
P	<i>Carex prairea</i>	Prairie Sedge				S1	2	11.8 ± 1.0	NS
P	<i>Carex tinctoria</i>	Tinged Sedge				S1	4	62.7 ± 0.0	NB
P	<i>Carex viridula</i> var. <i>saxillitoralis</i>	Greenish Sedge				S1	1	22.7 ± 0.0	NS
P	<i>Eleocharis erythropoda</i>	Red-stemmed Spikerush				S1	1	97.2 ± 0.0	NB
P	<i>Fimbristylis autumnalis</i>	Slender Fimbristylis				S1	3	93.1 ± 0.0	NS
P	<i>Scirpus atrovirens</i>	Dark-green Bulrush				S1	3	50.8 ± 0.0	NS
P	<i>Schoenoplectus torreyi</i>	Torrey's Bulrush				S1	8	67.0 ± 0.0	NS
P	<i>Iris prismatica</i>	Slender Blue Flag				S1	1	9.2 ± 100.0	NS
P	<i>Sisyrinchium fuscatum</i>	Coastal Plain Blue-eyed-grass				S1	5	65.2 ± 0.0	NS
P	<i>Juncus secundus</i>	Secund Rush				S1	3	3.0 ± 0.0	NS
P	<i>Juncus vaseyi</i>	Vasey Rush				S1	6	70.3 ± 0.0	NB
P	<i>Allium tricoccum</i>	Wild Leek				S1	92	1.1 ± 0.0	NS
P	<i>Trillium grandiflorum</i>	White Trillium				S1	3	11.9 ± 1.0	NS
P	<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	North American White Adder's-mouth				S1	6	28.9 ± 10.0	NS
P	<i>Spiranthes casei</i> var. <i>casei</i>	Case's Ladies'-Tresses				S1	2	27.0 ± 0.0	NS
P	<i>Bromus latiglumis</i>	Broad-Grained Brome				S1	4	95.4 ± 0.0	NS
P	<i>Dichanthelium xanthophyllum</i>	Slender Panic Grass				S1	9	68.8 ± 0.0	NS
P	<i>Elymus wiegandii</i>	Wiegand's Wild Rye				S1	7	87.3 ± 0.0	NB
P	<i>Elymus hystrix</i>	Spreading Wild Rye				S1	10	52.0 ± 0.0	NS
P	<i>Torreyochloa pallida</i> var. <i>pallida</i>	Pale False Manna Grass				S1	2	18.1 ± 1.0	NS
P	<i>Graphephorum melicoides</i>	Purple False Oats				S1	4	61.1 ± 0.0	NB
P	<i>Adiantum pedatum</i>	Northern Maidenhair Fern				S1	10	9.2 ± 100.0	NS
P	<i>Equisetum palustre</i>	Marsh Horsetail				S1	1	12.6 ± 5.0	NS
P	<i>Selaginella rupestris</i>	Rock Spikemoss				S1	10	50.0 ± 0.0	NS
P	<i>Solidago hispida</i>	Hairy Goldenrod				S1?	1	97.9 ± 7.0	NS
P	<i>Suaeda rolandii</i>	Roland's Sea-Blite				S1?	11	31.1 ± 0.0	NS
P	<i>Carex pensylvanica</i>	Pennsylvania Sedge				S1?	2	77.8 ± 10.0	NS
P	<i>Carex rostrata</i>	Narrow-leaved Beaked Sedge				S1?	1	75.0 ± 0.0	NB
P	<i>Bolboschoenus robustus</i>	Sturdy Bulrush				S1?	1	71.7 ± 5.0	NS
P	<i>Juncus antheratus</i>	Greater Poverty Rush				S1?	1	38.1 ± 0.0	NS
P	<i>Dichanthelium lindheimeri</i>	Lindheimer's Panicgrass				S1?	6	35.5 ± 0.0	NS
P	<i>Panicum dichotomiflorum</i> ssp. <i>puritanorum</i>	Spreading Panicgrass				S1?	5	86.3 ± 0.0	NS
P	<i>Huperzia selago</i>	Northern Firmoss				S1?	1	33.5 ± 1.0	NS
P	<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower				S1S2	16	5.1 ± 7.0	NS
P	<i>Arabis pycnocarpa</i>	Cream-flowered Rockcress				S1S2	12	35.4 ± 0.0	NS
P	<i>Cardamine maxima</i>	Large Toothwort				S1S2	14	27.8 ± 0.0	NS
P	<i>Proserpinaca intermedia</i>	Intermediate Mermaidweed				S1S2	2	17.2 ± 2.0	NS
P	<i>Conopholis americana</i>	American Cancer-root				S1S2	59	15.0 ± 0.0	NS
P	<i>Hepatica americana</i>	Round-lobed Hepatica				S1S2	42	16.0 ± 0.0	NS
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S1S2	17	88.1 ± 0.0	NS
P	<i>Gratiola neglecta</i>	Clammy Hedge-Hyssop				S1S2	1	70.7 ± 0.0	NB
P	<i>Carex livida</i>	Livid Sedge				S1S2	2	42.4 ± 10.0	NS
P	<i>Juncus greenei</i>	Greene's Rush				S1S2	5	69.3 ± 0.0	NS
P	<i>Juncus alpinoarticulatus</i> ssp.	Northern Green Rush				S1S2	2	67.8 ± 0.0	NB

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P	<i>americanus</i>								
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid				S1S2	5	35.8 ± 10.0	NS
P	<i>Calamagrostis stricta</i> ssp. <i>stricta</i>	Slim-stemmed Reed Grass				S1S2	6	63.9 ± 7.0	NS
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass				S1S2	36	7.2 ± 0.0	NS
P	<i>Festuca subverticillata</i>	Nodding Fescue				S1S2	15	26.0 ± 7.0	NS
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S1S2	4	42.3 ± 0.0	NS
P	<i>Woodsia alpina</i>	Alpine Cliff Fern				S1S2	5	64.8 ± 0.0	NB
P	<i>Selaginella selaginoides</i>	Low Spikemoss				S1S2	8	59.8 ± 0.0	NB
P	<i>Carex vacillans</i>	Estuarine Sedge				S1S3	3	91.2 ± 0.0	NB
P	<i>Conioselinum chinense</i>	Chinese Hemlock-parsley				S2	23	26.2 ± 0.0	NS
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2	19	2.1 ± 1.0	NS
P	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane				S2	4	33.6 ± 0.0	NS
P	<i>Eutrochium dubium</i>	Coastal Plain Joe Pye Weed				S2	2	87.2 ± 0.0	NS
P	<i>Lactuca hirsuta</i>	Hairy Lettuce				S2	5	23.6 ± 2.0	NS
P	<i>Solidago multiradiata</i>	Multi-rayed Goldenrod				S2	19	87.2 ± 0.0	NB
P	<i>Symphotrichum undulatum</i>	Wavy-leaved Aster				S2	139	33.6 ± 1.0	NS
P	<i>Symphotrichum ciliolatum</i>	Fringed Blue Aster				S2	18	33.2 ± 1.0	NS
P	<i>Impatiens pallida</i>	Pale Jewelweed				S2	11	6.5 ± 7.0	NS
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2	56	1.1 ± 0.0	NS
P	<i>Boechea stricta</i>	Drummond's Rockcress				S2	22	28.5 ± 1.0	NS
P	<i>Cardamine parviflora</i>	Small-flowered Bittercress				S2	16	15.8 ± 7.0	NS
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S2	37	26.1 ± 0.0	NS
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S2	15	27.4 ± 1.0	NS
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S2	2	61.6 ± 0.0	NB
P	<i>Hudsonia ericoides</i>	Pinebarren Golden Heather				S2	165	3.8 ± 1.0	NS
P	<i>Hypericum majus</i>	Large St John's-wort				S2	10	62.4 ± 0.0	NS
P	<i>Crassula aquatica</i>	Water Pygmyweed				S2	1	87.1 ± 0.0	NS
P	<i>Oxytropis campestris</i>	Field Locoweed				S2	1	26.9 ± 0.0	NS
P	<i>Oxytropis campestris</i> var. <i>johannensis</i>	Field Locoweed				S2	25	26.2 ± 0.0	NS
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S2	11	40.9 ± 1.0	NS
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil				S2	10	55.6 ± 3.0	NS
P	<i>Utricularia resupinata</i>	Inverted Bladderwort				S2	12	68.5 ± 0.0	NS
P	<i>Oenothera fruticosa</i> ssp. <i>tetragona</i>	Narrow-leaved Evening Primrose				S2	6	24.3 ± 0.0	NS
P	<i>Persicaria arifolia</i>	Halberd-leaved Tearthumb				S2	56	7.4 ± 0.0	NS
P	<i>Rumex triangulivalvis</i>	Triangular-valve Dock				S2	12	13.4 ± 1.0	NS
P	<i>Anemonastrum canadense</i>	Canada Anemone				S2	9	23.1 ± 1.0	NS
P	<i>Anemone quinquefolia</i>	Wood Anemone				S2	33	33.2 ± 0.0	NS
P	<i>Anemone virginiana</i>	Virginia Anemone				S2	13	45.2 ± 0.0	NS
P	<i>Anemone virginiana</i> var. <i>virginiana</i>	Virginia Anemone				S2	1	56.3 ± 7.0	NS
P	<i>Caltha palustris</i>	Yellow Marsh Marigold				S2	8	22.9 ± 5.0	NS
P	<i>Galium boreale</i>	Northern Bedstraw				S2	14	28.9 ± 7.0	NS
P	<i>Salix pedicellaris</i>	Bog Willow				S2	97	2.5 ± 0.0	NS
P	<i>Salix sericea</i>	Silky Willow				S2	137	34.3 ± 0.0	NS
P	<i>Saxifraga paniculata</i> ssp. <i>laestadii</i>	Laestadius' Saxifrage				S2	43	26.2 ± 0.0	NS
P	<i>Tiarella cordifolia</i>	Heart-leaved Foamflower				S2	32	11.4 ± 0.0	NS
P	<i>Viola nephrophylla</i>	Northern Bog Violet				S2	14	25.0 ± 1.0	NS
P	<i>Carex bebbii</i>	Bebb's Sedge				S2	22	44.9 ± 0.0	NS
P	<i>Carex capillaris</i>	Hairlike Sedge				S2	20	26.2 ± 0.0	NS
P	<i>Carex castanea</i>	Chestnut Sedge				S2	2	57.9 ± 0.0	NS
P	<i>Carex comosa</i>	Bearded Sedge				S2	14	9.5 ± 1.0	NS
P	<i>Carex hystericina</i>	Porcupine Sedge				S2	9	3.0 ± 0.0	NS
P	<i>Carex scirpoidea</i>	Scirpuslike Sedge				S2	6	87.5 ± 0.0	NB
P	<i>Carex tenera</i>	Tender Sedge				S2	10	36.9 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Carex tuckermanii</i>	Tuckerman's Sedge				S2	39	47.6 ± 0.0	NS
P	<i>Carex atratiformis</i>	Scabrous Black Sedge				S2	3	51.5 ± 0.0	NS
P	<i>Vallisneria americana</i>	Wild Celery				S2	12	65.2 ± 0.0	NS
P	<i>Allium schoenoprasum</i>	Wild Chives				S2	5	23.7 ± 0.0	NS
P	<i>Allium schoenoprasum</i> var. <i>sibiricum</i>	Wild Chives				S2	2	78.9 ± 7.0	NS
P	<i>Lilium canadense</i>	Canada Lily				S2	46	3.1 ± 1.0	NS
P	<i>Najas gracillima</i>	Thread-Like Naiad				S2	21	60.1 ± 0.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Yellow Lady's-slipper				S2	23	12.5 ± 5.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	13	7.6 ± 0.0	NS
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S2	23	54.6 ± 0.0	NS
P	<i>Goodyera pubescens</i>	Downy Rattlesnake-Plantain				S2	87	14.7 ± 0.0	NS
P	<i>Platanthera flava</i>	Southern Rein-Orchid				S2	36	59.1 ± 0.0	NS
P	<i>Platanthera flava</i> var. <i>flava</i>	Southern Rein Orchid				S2	17	26.0 ± 7.0	NS
P	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid				S2	22	23.6 ± 0.0	NS
P	<i>Platanthera macrophylla</i>	Large Round-Leaved Orchid				S2	14	38.0 ± 1.0	NS
P	<i>Spiranthes casei</i>	Case's Ladies'-Tresses				S2	2	81.1 ± 0.0	NS
P	<i>Spiranthes casei</i> var. <i>novaescotiae</i>	Case's Ladies'-Tresses				S2	1	37.7 ± 0.0	NS
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2	12	19.6 ± 0.0	NS
P	<i>Calamagrostis stricta</i>	Slim-stemmed Reed Grass				S2	7	65.8 ± 0.0	NB
P	<i>Dichanthelium linearifolium</i>	Narrow-leaved Panic Grass				S2	16	5.8 ± 1.0	NS
P	<i>Piptatheropsis canadensis</i>	Canada Ricegrass				S2	14	57.4 ± 0.0	NS
P	<i>Piptatheropsis pungens</i>	Slender Ricegrass				S2	14	71.1 ± 0.0	NB
P	<i>Potamogeton friesii</i>	Fries' Pondweed				S2	10	9.5 ± 2.0	NS
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S2	7	2.3 ± 1.0	NS
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern				S2	1	85.9 ± 1.0	NB
P	<i>Dryopteris fragrans</i>	Fragrant Wood Fern				S2	70	35.0 ± 0.0	NS
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S2	67	53.0 ± 1.0	NS
P	<i>Symphyotrichum boreale</i>	Boreal Aster				S2?	10	33.4 ± 7.0	NS
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S2?	2	69.6 ± 0.0	NS
P	<i>Epilobium coloratum</i>	Purple-veined Willowherb				S2?	15	16.3 ± 1.0	NS
P	<i>Rumex persicarioides</i>	Peach-leaved Dock				S2?	1	65.4 ± 0.0	NS
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S2?	5	49.4 ± 1.0	NS
P	<i>Carex peckii</i>	White-Tinged Sedge				S2?	6	51.6 ± 5.0	NS
P	<i>Eleocharis ovata</i>	Ovate Spikerush				S2?	12	17.0 ± 0.0	NS
P	<i>Scirpus pedicellatus</i>	Stalked Bulrush				S2?	4	96.8 ± 0.0	NS
P	<i>Potamogeton pulcher</i>	Spotted Pondweed			Vulnerable	S2S3	22	66.4 ± 0.0	NS
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S2S3	11	64.8 ± 0.0	NB
P	<i>Iva frutescens</i>	Big-leaved Marsh-elder				S2S3	31	19.7 ± 0.0	NS
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort				S2S3	1	93.7 ± 0.0	NS
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch				S2S3	57	72.3 ± 0.0	NS
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S2S3	17	85.8 ± 3.0	NS
P	<i>Ceratophyllum echinatum</i>	Prickly Hornwort				S2S3	12	18.5 ± 3.0	NS
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort				S2S3	7	78.1 ± 0.0	NS
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S2S3	21	42.3 ± 13.0	NS
P	<i>Shepherdia canadensis</i>	Soapberry				S2S3	137	23.2 ± 0.0	NS
P	<i>Empetrum atropurpureum</i>	Purple Crowberry				S2S3	2	79.8 ± 7.0	NS
P	<i>Euphorbia polygonifolia</i>	Seaside Spurge				S2S3	3	73.2 ± 3.0	NS
P	<i>Halenia deflexa</i>	Spurred Gentian				S2S3	3	93.4 ± 0.0	NS
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	20	7.9 ± 1.0	NS
P	<i>Polygonum aviculare</i> ssp. <i>buxiforme</i>	Box Knotweed				S2S3	7	23.6 ± 1.0	NS
P	<i>Polygonum oxyspermum</i>	Ray's Knotweed				S2S3	3	67.6 ± 1.0	NS

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P	<i>ssp. raii</i>								
P	<i>Polygonum oxyspermum</i>	Sharp-fruit Knotweed				S2S3	1	82.4 ± 0.0	NS
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry				S2S3	3	67.3 ± 7.0	NS
P	<i>Potentilla canadensis</i>	Canada Cinquefoil				S2S3	6	77.3 ± 0.0	NS
P	<i>Galium aparine</i>	Common Bedstraw				S2S3	13	2.9 ± 2.0	NS
P	<i>Galium obtusum</i>	Blunt-leaved Bedstraw				S2S3	8	37.4 ± 0.0	NS
P	<i>Salix pellita</i>	Satiny Willow				S2S3	6	30.7 ± 7.0	NS
P	<i>Carex adusta</i>	Lesser Brown Sedge				S2S3	6	55.6 ± 0.0	NS
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S2S3	20	51.8 ± 0.0	NS
P	<i>Carex houghtoniana</i>	Houghton's Sedge				S2S3	10	82.4 ± 0.0	NS
P	<i>Eleocharis flavescens</i> var. <i>olivacea</i>	Bright-green Spikerush				S2S3	14	57.0 ± 0.0	NS
P	<i>Eriophorum gracile</i>	Slender Cottongrass				S2S3	12	14.5 ± 0.0	NS
P	<i>Coeloglossum viride</i>	Long-bracted Frog Orchid				S2S3	20	11.4 ± 0.0	NS
P	<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper				S2S3	528	13.9 ± 1.0	NS
P	<i>Poa glauca</i>	Glaucous Blue Grass				S2S3	25	32.3 ± 0.0	NS
P	<i>Stuckenia filiformis</i>	Thread-leaved Pondweed				S2S3	1	79.6 ± 7.0	NS
P	<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Narrow Triangle Moonwort				S2S3	16	14.7 ± 0.0	NS
P	<i>Botrychium simplex</i>	Least Moonwort				S2S3	4	18.3 ± 1.0	NS
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S2S3	10	21.1 ± 0.0	NS
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane				S3	115	48.9 ± 7.0	NS
P	<i>Hieracium paniculatum</i>	Panicled Hawkweed				S3	44	11.2 ± 3.0	NS
P	<i>Bidens beckii</i>	Water Beggarticks				S3	24	61.9 ± 0.0	NS
P	<i>Packera paupercula</i> var. <i>paupercula</i>	Balsam Groundsel				S3	1	51.9 ± 0.0	NS
P	<i>Packera paupercula</i>	Balsam Groundsel				S3	63	46.6 ± 0.0	NS
P	<i>Alnus serrulata</i>	Smooth Alder				S3	693	64.6 ± 0.0	NS
P	<i>Betula pumila</i> var. <i>pumila</i>	Bog Birch				S3	1	70.2 ± 1.0	NS
P	<i>Campanula aparinoides</i>	Marsh Bellflower				S3	19	16.7 ± 1.0	NS
P	<i>Mononeuria groenlandica</i>	Greenland Stitchwort				S3	141	68.3 ± 0.0	NS
P	<i>Viburnum edule</i>	Squashberry				S3	12	64.6 ± 0.0	NB
P	<i>Empetrum eamesii</i>	Pink Crowberry				S3	11	69.3 ± 0.0	NS
P	<i>Vaccinium boreale</i>	Northern Blueberry				S3	4	47.8 ± 0.0	NS
P	<i>Vaccinium cespitosum</i>	dwarf bilberry				S3	101	17.5 ± 6.0	NS
P	<i>Bartonia virginica</i>	Yellow Bartonia				S3	20	51.2 ± 0.0	NS
P	<i>Geranium bicknellii</i>	Bicknell's Crane's-bill				S3	25	5.6 ± 2.0	NS
P	<i>Proserpinaca palustris</i>	Marsh Mermaidweed				S3	43	14.7 ± 0.0	NS
P	<i>Proserpinaca pectinata</i>	Comb-leaved Mermaidweed				S3	65	46.5 ± 5.0	NS
P	<i>Teucrium canadense</i>	Canada Germander				S3	53	68.2 ± 0.0	NS
P	<i>Decodon verticillatus</i>	Swamp Loosestrife				S3	141	71.3 ± 7.0	NS
P	<i>Epilobium hornemannii</i>	Hornemann's Willowherb				S3	4	63.5 ± 0.0	NB
P	<i>Epilobium strictum</i>	Downy Willowherb				S3	13	12.7 ± 3.0	NS
P	<i>Polygala sanguinea</i>	Blood Milkwort				S3	20	10.9 ± 1.0	NS
P	<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed				S3	29	3.0 ± 0.0	NS
P	<i>Fallopia scandens</i>	Climbing False Buckwheat				S3	14	14.9 ± 5.0	NS
P	<i>Plantago rugelii</i>	Rugel's Plantain				S3	12	11.5 ± 0.0	NS
P	<i>Primula laurentiana</i>	Laurentian Primrose				S3	67	12.8 ± 0.0	NS
P	<i>Samolus parviflorus</i>	Seaside Brookweed				S3	40	78.1 ± 0.0	NS
P	<i>Pyrola asarifolia</i>	Pink Pyrola				S3	11	33.5 ± 1.0	NS
P	<i>Pyrola minor</i>	Lesser Pyrola				S3	6	6.5 ± 7.0	NS
P	<i>Ranunculus gmelinii</i>	Gmelin's Water Buttercup				S3	47	43.0 ± 5.0	NS
P	<i>Endotropis alnifolia</i>	alder-leaved buckthorn				S3	52	8.6 ± 0.0	NS
P	<i>Agrimonia gryposepala</i>	Hooked Agrimony				S3	158	2.2 ± 5.0	NS
P	<i>Amelanchier spicata</i>	Running Serviceberry				S3	62	6.3 ± 2.0	NS
P	<i>Cephalanthus occidentalis</i>	Common Buttonbush				S3	1932	72.9 ± 0.0	NS
P	<i>Geocaulon lividum</i>	Northern Comandra				S3	7	17.9 ± 1.0	NS
P	<i>Limosella australis</i>	Southern Mudwort				S3	3	80.1 ± 0.0	NS



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P	<i>Lindernia dubia</i>	Yellow-seeded False Pimperel				S3	19	3.0 ± 1.0	NS
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	34	4.8 ± 0.0	NS
P	<i>Verbena hastata</i>	Blue Vervain				S3	114	1.4 ± 0.0	NS
P	<i>Carex cryptolepis</i>	Hidden-scaled Sedge				S3	18	46.5 ± 0.0	NS
P	<i>Carex eburnea</i>	Bristle-leaved Sedge				S3	23	64.5 ± 0.0	NB
P	<i>Carex lupulina</i>	Hop Sedge				S3	49	1.1 ± 1.0	NS
P	<i>Carex rosea</i>	Rosy Sedge				S3	47	5.9 ± 0.0	NS
P	<i>Carex swanii</i>	Swan's Sedge				S3	24	17.0 ± 2.0	NS
P	<i>Carex tribuloides</i>	Blunt Broom Sedge				S3	17	19.5 ± 1.0	NS
P	<i>Carex wiegandii</i>	Wiegand's Sedge				S3	77	48.3 ± 0.0	NS
P	<i>Carex foenea</i>	Fernald's Hay Sedge				S3	19	64.0 ± 1.0	NB
P	<i>Eleocharis nitida</i>	Quill Spikerush				S3	21	14.2 ± 5.0	NS
P	<i>Elodea canadensis</i>	Canada Waterweed				S3	11	2.2 ± 0.0	NS
P	<i>Juncus marginatus</i>	Grassleaf Rush				S3	13	32.1 ± 2.0	NS
P	<i>Juncus subcaudatus</i>	Woods-Rush				S3	15	21.7 ± 0.0	NS
P	<i>Juncus dudleyi</i>	Dudley's Rush				S3	26	30.2 ± 0.0	NS
P	<i>Goodyera repens</i>	Lesser Rattlesnake-plantain				S3	29	17.8 ± 1.0	NS
P	<i>Neottia bifolia</i>	Southern Twayblade				S3	116	10.6 ± 0.0	NS
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	53	2.6 ± 1.0	NS
P	<i>Platanthera hookeri</i>	Hooker's Orchid				S3	31	2.3 ± 1.0	NS
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid				S3	51	52.8 ± 5.0	NS
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses				S3	38	16.1 ± 7.0	NS
P	<i>Alopecurus aequalis</i>	Short-awned Foxtail				S3	18	20.6 ± 0.0	NS
P	<i>Dichanthelium clandestinum</i>	Deer-tongue Panic Grass				S3	283	24.4 ± 2.0	NS
P	<i>Coleataenia longifolia</i>	Long-leaved Panicgrass				S3	1589	68.4 ± 0.0	NS
P	<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed				S3	7	59.4 ± 0.0	NS
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed				S3	3	13.9 ± 1.0	NS
P	<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed				S3	9	10.5 ± 1.0	NS
P	<i>Sparganium natans</i>	Small Burreed				S3	7	24.4 ± 5.0	NS
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S3	31	16.3 ± 0.0	NS
P	<i>Asplenium viride</i>	Green Spleenwort				S3	20	51.8 ± 5.0	NS
P	<i>Lorinseria areolata</i>	netted chain fern				S3	5	93.5 ± 7.0	NS
P	<i>Equisetum pratense</i>	Meadow Horsetail				S3	9	15.1 ± 1.0	NS
P	<i>Equisetum variegatum</i>	Variiegated Horsetail				S3	34	45.3 ± 0.0	NS
P	<i>Isoetes tuckermanii</i> ssp. <i>acadiensis</i>	Acadian Quillwort				S3	13	48.6 ± 0.0	NS
P	<i>Diphasiastrum sitchense</i>	Sitka Ground-cedar				S3	5	23.6 ± 1.0	NS
P	<i>Huperzia appressa</i>	Mountain Firmoss				S3	53	22.3 ± 1.0	NS
P	<i>Sceptridium dissectum</i>	Dissected Moonwort				S3	8	24.5 ± 1.0	NS
P	<i>Polypodium appalachianum</i>	Appalachian Polypody				S3	44	12.5 ± 2.0	NS
P	<i>Bidens vulgata</i>	Tall Beggarticks				S3?	1	93.6 ± 0.0	NS
P	<i>Persicaria amphibia</i> var. <i>emersa</i>	Long-root Smartweed				S3?	28	46.8 ± 0.0	NS
P	<i>Diphasiastrum x sabinifolium</i>	Savin-leaved Ground-cedar				S3?	15	34.5 ± 0.0	NS
P	<i>Solidago latissimifolia</i>	Elliott's Goldenrod				S3S4	4	85.4 ± 1.0	NS
P	<i>Atriplex glabriuscula</i> var. <i>franktonii</i>	Frankton's Saltbush				S3S4	17	13.6 ± 0.0	NS
P	<i>Suaeda calceoliformis</i>	Horned Sea-blite				S3S4	11	32.7 ± 0.0	NS
P	<i>Vaccinium corymbosum</i>	Highbush Blueberry				S3S4	7	72.3 ± 0.0	NS
P	<i>Myriophyllum sibiricum</i>	Siberian Water Milfoil				S3S4	1	86.4 ± 0.0	NS
P	<i>Rhexia virginica</i>	Virginia Meadow Beauty				S3S4	1178	39.8 ± 0.0	NS
P	<i>Nuphar microphylla</i>	Small Yellow Pond-lily				S3S4	5	78.6 ± 2.0	NS
P	<i>Sanguinaria canadensis</i>	Bloodroot				S3S4	80	45.2 ± 0.0	NS
P	<i>Polygonum fowleri</i>	Fowler's Knotweed				S3S4	7	43.6 ± 0.0	NS
P	<i>Rumex fueginus</i>	Tierra del Fuego Dock				S3S4	39	21.7 ± 1.0	NS
P	<i>Crataegus succulenta</i>	Fleshy Hawthorn				S3S4	1	88.9 ± 0.0	NS
P	<i>Fragaria vesca</i> ssp.	Woodland Strawberry				S3S4	54	26.6 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>americana</i>								
P	<i>Fragaria vesca</i>	Woodland Strawberry				S3S4	4	61.1 ± 0.0	NB
P	<i>Salix petiolaris</i>	Meadow Willow				S3S4	26	3.8 ± 0.0	NS
P	<i>Agalinis neoscotica</i>	Nova Scotia Agalinis				S3S4	43	28.4 ± 0.0	NS
P	<i>Viola sagittata var. ovata</i>	Arrow-Leaved Violet				S3S4	59	2.7 ± 5.0	NS
P	<i>Symplocarpus foetidus</i>	Eastern Skunk Cabbage				S3S4	3	97.0 ± 0.0	NS
P	<i>Carex argyrantha</i>	Silvery-flowered Sedge				S3S4	28	2.4 ± 2.0	NS
P	<i>Eriophorum russeolum</i>	Russet Cottongrass				S3S4	25	24.8 ± 5.0	NS
P	<i>Sisyrinchium atlanticum</i>	Eastern Blue-Eyed-Grass				S3S4	107	58.1 ± 5.0	NS
P	<i>Triglochin gaspensis</i>	Gasp Arrowgrass				S3S4	13	61.2 ± 0.0	NB
P	<i>Juncus acuminatus</i>	Sharp-Fruit Rush				S3S4	16	15.1 ± 2.0	NS
P	<i>Luzula parviflora</i>	Small-flowered Woodrush				S3S4	14	24.3 ± 7.0	NS
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3S4	6	22.4 ± 5.0	NS
P	<i>Panicum philadelphicum</i>	Philadelphia Panicgrass				S3S4	28	24.5 ± 0.0	NS
P	<i>Trisetum spicatum</i>	Narrow False Oats				S3S4	25	26.2 ± 0.0	NS
P	<i>Cystopteris bulbifera</i>	Bulblet Bladder Fern				S3S4	88	12.4 ± 0.0	NS
P	<i>Equisetum hyemale ssp. affine</i>	Common Scouring-rush				S3S4	98	0.9 ± 0.0	NS
P	<i>Equisetum scirpoides</i>	Dwarf Scouring-Rush				S3S4	74	5.9 ± 1.0	NS
P	<i>Diphasiastrum complanatum</i>	Northern Ground-cedar				S3S4	17	15.1 ± 1.0	NS
P	<i>Schizaea pusilla</i>	Little Curlygrass Fern				S3S4	149	36.8 ± 0.0	NS
P	<i>Bidens discoides</i>	Swamp Beggarticks				SH	1	88.5 ± 0.0	NS
P	<i>Viola canadensis</i>	Canada Violet				SH	1	47.2 ± 0.0	NS
P	<i>Calamagrostis cinnoides</i>	Small Reedgrass				SH	1	94.0 ± 6.0	NS
P	<i>Dichantheium meridionale</i>	Matting Witchgrass				SH	1	96.4 ± 10.0	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
15141	Morrison, Guy. 2011. Maritime Shorebird Survey (MSS) database. Canadian Wildlife Service, Ottawa, 15939 surveys. 86171 recs.
12531	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
7573	McNeil, J.A. 2010. Blandings Turtle ( <i>Emydoidea blandingii</i> ) sightings, 1946-2009. Parks Canada, 12,871 recs of 597+ individuals.
5589	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
3353	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
1690	Paquet, Julie. 2018. Atlantic Canada Shorebird Survey (ACSS) database 2012-2018. Environment Canada, Canadian Wildlife Service.
1666	McNeil, J.A. 2010. Ribbonsnake ( <i>Thamnophis sauritus</i> ) sightings, 1900-2009. Parks Canada, 2521 recs of 716+ individuals.
1596	Blaney, C.S.; Mazerolle, D.M. 2010. Fieldwork 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 15508 recs.
1461	Blaney, C.S.; Mazerolle, D.M. 2012. Fieldwork 2012. Atlantic Canada Conservation Data Centre, 13,278 recs.
1433	eBird. 2014. eBird Basic Dataset. Version: EBD_relNov-2014. Ithaca, New York. Nov 2014. Cornell Lab of Ornithology, 25036 recs.
1423	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2013. Atlantic Canada Conservation Data Centre Fieldwork 2013. Atlantic Canada Conservation Data Centre, 9000+ recs.
1393	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/>.
1380	eBird. 2020. eBird Basic Dataset. Version: EBD_relNov-2019. Ithaca, New York. Nov 2019, Cape Breton Bras d'Or Lakes Watershed subset. Cornell Lab of Ornithology.
1051	Phinney, Lori. 2020. Pre- and post White-nose Syndrome bat acoustic monitoring, NS. Mersey Tobeatic Research Institute, 1279 recs.
1039	Berrigan, L. 2019. Maritimes Marsh Monitoring Project 2013, 2014, 2016, 2017, and 2018 data. Bird Studies Canada, Sackville, NB.
1034	Belliveau, A. 2012. 2012 Atlantic Coastal Plain Flora observations. Mersey Tobeatic Research Institute, 1543.
873	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2014. Atlantic Canada Conservation Data Centre Fieldwork 2014. Atlantic Canada Conservation Data Centre, # recs.
796	Toms, Brad. 2012. Atlantic Coastal Plain Flora records, 2011. Mersey-Tobiatic Research Institute, 1109 recs.
781	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
759	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.
688	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre, 907 recs.
623	Cameron, E. 2008. Canadian Gypsum Co. survey 2007-08. Conestoga-Rovers & Assoc., 623 recs.

# recs	CITATION
531	Eaton, S. 2014. Nova Scotia Wood Turtle Database. Environment and Climate Change Canada, 4843 recs.
519	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2015. Atlantic Canada Conservation Data Centre Fieldwork 2015. Atlantic Canada Conservation Data Centre, # recs.
507	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
500	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 recs.
473	Scott, F.W. 2002. Nova Scotia Herpetofauna Atlas Database. Acadia University, Wolfville NS, 8856 recs.
468	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: <a href="http://luxor.acadiau.ca/library/Herbarium/project/">http://luxor.acadiau.ca/library/Herbarium/project/</a> . 582 recs.
462	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
455	Mazerolle, D.M. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
453	Churchill, J.L. 2019. Atlantic Canada Conservation Data Centre Fieldwork 2019. Atlantic Canada Conservation Data Centre.
452	Brazner, J. 2016. Nova Scotia Forested Wetland Bird Surveys. Nova Scotia Department of Lands and Forestry.
442	McNeil, J.A. 2019. Blanding's Turtle records, 2017. Mersey Tobeatic Research Institute, 372 recs.
385	Toms, Brad. 2011. Atlantic Coastal Plain Flora records 2010. Mersey-Tobiatic Research Institute, 1074 recs.
382	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre, 2318 recs.
372	McNeil, J.A. 2018. Blanding's Turtle records, 2018. Mersey Tobeatic Research Institute, 372 recs.
365	Chapman, C.J. 2019. Atlantic Canada Conservation Data Centre 2019 botanical fieldwork. Atlantic Canada Conservation Data Centre, 11729 recs.
362	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
354	Epworth, W. 2016. Species at Risk records, 2014-2016. Fort Folly Habitat Recovery Program, 38 recs.
342	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
342	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
339	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.
311	Blaney, C.S. & Mazerolle, D.M. 2011. 2011 botanical surveys in Kejimikujik National Park. Atlantic Canada Conservation Data Centre, 820 recs.
307	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
306	McNeil, J.A. 2015. Blandings Turtle ( <i>Emydoidea blandingii</i> ), Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ), and Snapping Turtle ( <i>Chelydra serpentina</i> ) sightings, 2015. Mersey Tobeatic Research Institute.
271	Pronych, G. & Wilson, A. 1993. Atlas of Rare Vascular Plants in Nova Scotia. Nova Scotia Museum, Halifax NS, I:1-168, II:169-331. 1446 recs.
244	Toms, B. 2018. Bat Species data from <a href="http://www.batconservation.ca">www.batconservation.ca</a> for Nova Scotia. Mersey Tobeatic Research Institute, 547 Records.
237	Mazerolle, D.M. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
235	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
220	Tranquilla, L. 2015. Maritimes Marsh Monitoring Project 2015 data. Bird Studies Canada, Sackville NB, 5062 recs.
217	Smith, D. 2013. Personal communication concerning <i>Anguilla rostrata</i> trapping results in Kejimikujik NP, NS. Winter 2013. Pers. comm.
212	iNaturalist. 2018. iNaturalist Data Export 2018. iNaturalist.org and iNaturalist.ca, Web site: 11700 recs.
210	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
210	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
207	Hicks, Andrew. 2009. Coastal Waterfowl Surveys Database, 2000-08. Canadian Wildlife Service, Sackville, 46488 recs (11149 non-zero).
197	Belliveau, A.G. 2018. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2018. E.C. Smith Herbarium, 6226 recs.
196	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
196	Munro, Marian K. Tracked lichen specimens, Nova Scotia Provincial Museum of Natural History Herbarium. Atlantic Canada Conservation Data Centre. 2019.
190	McNeil, J.A. 2019. Blanding's Turtle records, 2019. Mersey Tobeatic Research Institute.
190	McNeil, J.A. 2019. Eastern Painted Turtle trapping records, 2019. Mersey Tobeatic Research Institute.
187	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larivee, Sambo Zhang (ed.) e-butterfly.org.
176	Bryson, I.C. 2020. Nova Scotia flora and lichen observations 2020. Nova Scotia Environment, 139 recs.
170	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2003.
167	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
157	Blaney, C.S.; Mazerolle, D.M.; Hill, N.M. 2011. Nova Scotia Crown Share Land Legacy Trust Fieldwork. Atlantic Canada Conservation Data Centre, 5022 recs.
156	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.
155	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
152	McNeil, J.A. 2014. Blandings Turtle ( <i>Emydoidea blandingii</i> ) and Snapping Turtle ( <i>Chelydra serpentina</i> ) sightings, 2014. Mersey Tobeatic Research Institute.
151	Stewart, J.I. 2010. Peregrine Falcon Surveys in New Brunswick, 2002-09. Canadian Wildlife Service, Sackville, 58 recs.
148	Parks Canada. 2010. Specimens in or near National Parks in Atlantic Canada. Canadian National Museum, 3925 recs.
145	McNeil, J.A. 2011. Ribbonsnake ( <i>Thamnophis sauritus</i> ) sightings, 2010. Parks Canada, 148 recs of 70+ individuals.
141	Belliveau, A.G. 2014. Plant Records from Southern and Central Nova Scotia. Atlantic Canada Conservation Data Centre, 919 recs.
130	Keddy, C.J. 1989. Habitat securement for redroot, golden crest and Long's bulrush in Ponhook Lake, NS. World Wildlife Fund (Canada), 131 recs.
130	Neily, T.H. & Pepper, C.; Toms, B. 2018. Nova Scotia lichen database [as of 2018-03]. Mersey Tobeatic Research Institute.
129	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
120	McNeil, J.A. 2018. Wood Turtle records, 2018. Mersey Tobeatic Research Institute, 68 recs.
114	Mazerolle, D.M. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 13515 recs.
112	McAlpine, D.F. 1998. NBM Science Collections databases to 1998. New Brunswick Museum, Saint John NB, 241 recs.
111	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
111	LaPaix, R.W.; Crowell, M.J.; MacDonald, M.; Neily, T.D.; Quinn, G. 2017. Stantec Nova Scotia rare plant records, 2012-2016. Stantec Consulting.
103	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-05-25]. Mersey Tobeatic Research Institute, 668 recs.

# recs	CITATION
101	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
99	LaPaix, R.W.; Crowell, M.J.; MacDonald, M. 2011. Stantec rare plant records, 2010-11. Stantec Consulting, 334 recs.
95	Breen, A. 2019. 2019 Atlantic Whitefish observations. Coastal Action, 95 recs.
95	McNeil, J.A. 2019. Eastern Painted Turtle trapping records, 2017. Mersey Tobeatic Research Institute.
95	Roland, A.E. 1976. The Coastal Plain Flora of Kejimikujik National Park. Parks Canada Report, 238 pp.
92	Staicer, C. & Bliss, S.; Achenbach, L. 2017. Occurrences of tracked breeding birds in forested wetlands. , 303 records.
89	Blaney, C.S. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
86	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.
86	Zinck, M. & Roland, A.E. 1998. Roland's Flora of Nova Scotia. Nova Scotia Museum, 3rd ed., rev. M. Zinck; 2 Vol., 1297 pp.
85	Blaney, C.S. 2019. Sean Blaney 2019 field data. Atlantic Canada Conservation Data Centre, 4407 records.
84	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
83	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
80	Belliveau, A. 2013. Rare species records from Nova Scotia. Mersey Tobeatic Research Institute, 296 records. 296 recs.
80	Blaney, C.S. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre.
79	Amirault, D.L. & Stewart, J. 2007. Piping Plover Database 1894-2006. Canadian Wildlife Service, Sackville, 3344 recs, 1228 new.
78	Herman, T.B. & Power, T.D., Eaton, B. 1995. Population status of Blanding's Turtle ( <i>Emydoidea blandingii</i> ) in Nova Scotia. Can. Field-Nat., 109: 182-191. 79 recs.
73	Bryson, I. 2020. Nova Scotia and Newfoundland rare species observations, 2018-2020. Nova Scotia Environment.
73	Patrick, A.; Horne, D.; Noseworthy, J. et. al. 2017. Field data for Nova Scotia and New Brunswick, 2015 and 2017. Nature Conservancy of Canada.
71	McNeil, J.A. 2019. Snapping Turtle records, 2019. Mersey Tobeatic Research Institute.
70	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs. <a href="https://doi.org/10.1037/arc0000014">https://doi.org/10.1037/arc0000014</a> .
68	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
68	McNeil, J.A. 2017. Updates to Blanding's Turtle database, 1984-2014. Mersey Tobeatic Research Institute.
66	Churchill, J.L.; Klymko, J.D. 2015. Chignecto and Tintamarre National Wildlife Area Bird Surveys 2015. Atlantic Canada Conservation Data Centre, 2238 recs.
66	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 333.
62	McNeil, J.A. 2013. Ribbonsnake ( <i>Thamnophis sauritus</i> ) sightings, 2012 . Parks Canada, 63 records of 26+ individuals.
60	Sollows, M.C., 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
56	Belliveau, A.G., Churchill, J.L. 2019. Compilation of flora and fauna observation records from Isle Haute, Nova Scotia. Acadia University; Atlantic Canada Conservation Data Centre, 522 recs.
56	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
56	Riley, J. 2019. Digby County lichen observations. Pers. comm. to J.L. Churchill, 50 recs.
54	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
53	Bayne, D.M. 2007. Atlantic Coastal Plain Flora record, 2004-06. Nova Scotia Nature Trust. Pers. comm. to C.S. Blaney, 57 recs.
53	Stantec. 2014. Energy East Pipeline Corridor Species Occurrence Data. Stantec Inc., 4934 records.
52	Cowie, F. 2007. Electrofishing Population Estimates 1979-98. Canadian Rivers Institute, 2698 recs.
52	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
50	Wallace, S. 2020. Stewardship Department species occurrence data on NTNB preserves. Nature Trust of New Brunswick.
48	Neily, T.H. 2019. Tom Neily NS Bryophyte records (2009-2013). T.H. Neily, Atlantic Canada Conservation Data Centre, 1029 specimen records.
48	Richardson, D., Anderson, F., Cameron, R, McMullin, T., Clayden, S. 2014. Field Work Report on Black Foam Lichen ( <i>Anzia colpodes</i> ). COSEWIC.
47	Blaney, C.S & Spicer, C.D.; Popma, T.M.; Basquill, S.P. 2003. Vascular Plant Surveys of Northumberland Strait Rivers & Amherst Area Peatlands. Nova Scotia Museum Research Grant, 501 recs.
46	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
45	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
45	Ogden, J. NS DNR Butterfly Collection Dataset. Nova Scotia Department of Natural Resources. 2014.
44	McLean, K. 2019. Wood Turtle observations . Clean Annapolis River Project.
43	Blaney, C.S.; Spicer, C.D.; Rothfels, C. 2004. Fieldwork 2004. Atlantic Canada Conservation Data Centre. Sackville NB, 1343 recs.
43	Epworth, W. 2012. Species at Risk records, 2009-11. Fort Folly Habitat Recovery Program, 162 recs.
43	Godbout, V. 2002. SAR Inventory: Birds in Fort Beauséjour NHS. Parks Canada, Atlantic, SARINV02-01. 202 recs.
42	Mazerolle, D.M. 2020. Atlantic Canada Conservation Data Centre botanical fieldwork 2019. Atlantic Canada Conservation Data Centre.
40	Cameron, E. 2007. Canadian Gypsum Co. survey 2005-07. Dillon Consulting Ltd, 40 recs.
39	Ferguson, D.C. 1954. The Lepidoptera of Nova Scotia. Part I, macrolepidoptera. Proceedings of the Nova Scotian Institute of Science, 23(3), 161-375.
39	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
38	Thomas, P. 2018. CSC Dorchester Bobolink Survey. Environment Canada, Canadian Wildlife Service.
37	Roland, A.E. 1980. Checklist of Vascular Plants of Kejimikujik National Park in Lichens, Liverworts, Mosses and Flowering Plants of Kejimikujik National Park. Roland, A.E. (ed.) Parks Canada Report, pp. 52-140, 160 pp.
36	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
36	McNeil, J.A. 2017. Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ) sightings, 2017. Mersey Tobeatic Research Institute, 36 recs.
33	Chapman, C.J. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 11171 recs.
33	Newell, R.E. 2019. <i>Crocianthemum canadense</i> records compiled for provincial status report. pers. comm. from Ruth Newell to AC CDC.
31	Jobin, C. & Clow, A., Van Dijk, J. 2019. Eastern Waterfan data, Mount Allison Fundy Field Camp 2019. Chapman, C.J. (ed.) Fundy National Park and Mount Allison University, 31 recs.
30	Frittaion, C. 2012. NSNT 2012 Field Observations. Nova Scotia Nature Trust, Pers comm. to S. Blaney Feb. 7, 34 recs.
30	Hall, R.A. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 189 recs.

# recs	CITATION
29	Hall, R.A. 2001. S.. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
29	Honeyman, K. 2019. Unique Areas Database, 2018. J.D. Irving Ltd.
28	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
28	Klymko, J.J.D.; Robinson, S.L. 2014. 2013 field data. Atlantic Canada Conservation Data Centre.
28	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
28	Pepper, C. 2013. 2013 rare bird and plant observations in Nova Scotia. , 181 records.
27	Clayden, S. Digitization of Wolfgang Maass Nova Scotia forest lichen collections, 1964-2004. New Brunswick Museum. 2018.
27	Ogden, K. Nova Scotia Museum butterfly specimen database. Nova Scotia Museum. 2017.
26	Benedict, B. Connell Herbarium Specimen Database Download 2004. Connell Memorial Herbarium, University of New Brunswick. 2004.
26	McLean, K. 2020. Wood Turtle observations . Clean Annapolis River Project.
25	Burnie, B. 2013. 2013 Scirpus longii field data. Mount Saint Vincent University, 51 recs.
25	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
25	McNeil, J.A. 2019. Snapping Turtle records, 2017. Mersey Tobeatic Research Institute.
24	Broders, H.G. 2006. Unpublished data. , 24 recs.
24	Porter, C.J.M. 2014. Field work data 2007-2014. Nova Scotia Nature Trust, 96 recs.
23	Benjamin, L.K. 2011. NSDNR fieldwork & consultant reports 1997, 2009-10. Nova Scotia Dept Natural Resources, 85 recs.
23	McLean, K. 2019. Species At Risk observations. Clean Annapolis River Project.
22	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
22	Breen, A. 2018. 2018 Atlantic Whitefish observations. Coastal Action.
22	Bryson, I. 2013. Nova Scotia rare plant records. CBCL Ltd., 180 records.
22	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-03-18]. Mersey Tobeatic Research Institute.
22	Nelly, T.H. 2006. Cyripedium arietinum in Hants Co. Pers. comm. to C.S. Blaney. 22 recs, 22 recs.
21	MacKinnon, D.S. & O'Brien, M.K.H.; Cameron, R.P. 2002. Fieldwork 2000. Dept of Environment & Labour, Protected Areas Branch, 252 recs.
21	NS DNR. 2017. Black Ash records from NS DNR Permanent Sample Plots (PSPs), 1965-2016. NS Dept of Natural Resources.
20	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
20	e-Butterfly. 2018. Selected Maritimes butterfly records from 2016 and 2017. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
20	Erskine, A.J. 1999. Maritime Nest Records Scheme (MNRS) 1937-1999. Canadian Wildlife Service, Sackville, 313 recs.
20	O'Grady, Sally. 2010. Water Pennywort in Kejimikujik National Park, 2010. Parks Canada, 20 shapefiles.
20	Richardson, D., Anderson, F., Cameron, R, Pepper, C., Clayden, S. 2015. Field Work Report on the Wrinkled Shingle lichen (Pannaria lurida). COSEWIC.
19	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J; ONHIC, 487 recs.
19	Robinson, S.L. 2014. 2013 Field Data. Atlantic Canada Conservation Data Centre.
18	Basquill, S.; Sam, D. 2019. Crocanthemum canadense observations near Greenwood, NS, 2015-2019. pers. commun. from Nova Scotia Department of Lands and Forestry to AC CDC, 18 recs.
18	Basquill, S.P., Porter, C. 2019. Bryophyte and lichen specimens submitted to the E.C. Smith Herbarium. NS Department of Lands and Forestry.
18	Thomas, A.W. 1996. A preliminary atlas of the butterflies of New Brunswick. New Brunswick Museum.
17	Blaney, C.S.; Spicer, C.D.; Popma, T.M.; Hanel, C. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 2252 recs.
17	Cameron, R.P. 2018. Degelia plumbea records. Nova Scotia Environment.
17	Neily, T.H. 2013. Email communication to Sean Blaney regarding Listera australis observations made from 2007 to 2011 in Nova Scotia. , 50.
16	Basquill, S.P. 2012. 2012 rare vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
16	Blaney, C.S.; Mazerolle, D.M.; Klymko, J; Spicer, C.D. 2006. Fieldwork 2006. Atlantic Canada Conservation Data Centre. Sackville NB, 8399 recs.
16	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (Isoetes prototypus). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
16	Klymko, J. 2019. Atlantic Canada Conservation Data Centre zoological fieldwork 2018. Atlantic Canada Conservation Data Centre.
15	Basquill, S.P. 2011 vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
15	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
15	Hinds, H.R. 1986. Notes on New Brunswick plant collections. Connell Memorial Herbarium, unpubl, 739 recs.
15	Klymko, J.J.D. 2012. Odonata specimens & observations, 2010. Atlantic Canada Conservation Data Centre, 425 recs.
14	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
14	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2009. New Brunswick Dept Natural Resources, 19 recs (14 active).
14	McNeil, J.A. 2018. Snapping Turtle records, 2018. Mersey Tobeatic Research Institute.
14	Neily, T.H. 2017. Nova Scotia lichen records. Mersey Tobeatic Research Institute.
13	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
13	Holder, M. 2003. Assessment and update status report on the Eastern Lilaepsis (Lilaepsis chinensis) in Canada. Committee on the Status of Endangered Wildlife in Canada, 16 recs.
13	MacKinnon, D.S. 1998. Ponhook Lake survey map & notes. Dept of Environment and Labour, Protected Areas Branch, 13 recs.
13	Nova Scotia Nature Trust. 2014. Ladyslipper records from Saint Croix Nova Scotia, JLC Ed. Nova Scotia Nature Trust.
13	Sollows, M.C., 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
13	Spicer, C.D. & Harries, H. 2001. Mount Allison Herbarium Specimens. Mount Allison University, 128 recs.
12	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of C. insculpta sightings. Acadia University, Wolfville NS, 88 recs.
12	Caissie, A. Herbarium Records. Fundy National Park, Alma NB. 1961-1993.
12	Cowie, Faye. 2007. Surveyed Lakes in New Brunswick. Canadian Rivers Institute, 781 recs.
12	Holder, M.L.; Kingsley, A.L. 2000. Kingsley and Holder observations from 2000 field work.

# recs	CITATION
12	McAlpine, D.F. 1983. Status & Conservation of Solution Caves in New Brunswick. New Brunswick Museum, Publications in Natural Science, no. 1, 28pp.
11	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.
11	Epworth, W. 2013. Species at Risk records, 2013. Fort Folly Habitat Recovery Program, 27 recs.
11	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
11	Nova Scotia Nature Trust. 2013. Nova Scotia Nature Trust 2013 Species records. Nova Scotia Nature Trust, 95 recs.
11	Pike, E., Tingley, S. & Christie, D.S. 2000. Nature NB Listserve. University of New Brunswick, listserv.unb.ca/archives/naturenb. 68 recs.
11	Speers, L. 2008. Butterflies of Canada database: New Brunswick 1897-1999. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 2048 recs.
10	Belliveau, A.G. & Vail, Cole; King, Katie. 2020. New <i>Allium tricoccum</i> locations, Cornwallis River. Chapman, C.J. (ed.) Acadia University.
10	Cameron, R.P. 2013. 2013 rare species field data. Nova Scotia Department of Environment, 71 recs.
10	Goltz, J.P. 2012. Field Notes, 1989-2005. , 1091 recs.
10	Haughian, S.R. 2018. Description of <i>Fuscopannaria leucosticta</i> field work in 2017. New Brunswick Museum, 314 recs.
10	Hinds, H.R. 1999. Connell Herbarium Database. University New Brunswick, Fredericton, 131 recs.
10	NatureServe Canada. 2018. iNaturalist Butterfly Data Export . iNaturalist.org and iNaturalist.ca.
10	Neily, T. H. 2018. Lichen and Bryophyte records, AEI 2017-2018. Tom Neily; Atlantic Canada Conservation Data Centre.
10	Parker, M.S.R. 2011. Hampton Wind Farm 2010: significant floral/faunal observations. , 13 recs.
10	Phinney, L. 2019. Little Brown Myotis maternal colony counts and birdSAR, 2019. Mersey Tobeatic Research Institute.
10	Phinney, Lori; Toms, Brad; et. al. 2016. Bank Swallows ( <i>Riparia riparia</i> ) in Nova Scotia: inventory and assessment of colonies. Merset Tobeiatc Research Institute, 25 recs.
10	Powell, B.C. 1967. Female sexual cycles of <i>Chrysemy specta</i> & <i>Clemmys insculpta</i> in Nova Scotia. Can. Field-Nat., 81:134-139. 26 recs.
9	Askanas, H. 2016. New Brunswick Wood Turtle Database. New Brunswick Department of Energy and Resource Development.
9	Basquill, S.P. 2009. 2009 field observations. Nova Scotia Dept of Natural Resources.
9	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.
9	Brunelle, P.-M. (compiler). 2010. ADIP/MDDS Odonata Database: NB, NS Update 1900-09. Atlantic Dragonfly Inventory Program (ADIP), 935 recs.
9	Popma, T.M. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 113 recs.
9	Toms, Brad. 2011. Species at Risk data from 2011 field surveys. Mersey Tobeatic Research Institute, 17 recs.
9	Wissink, R. 2000. Rare Plants of Fundy: maps. Parks Canada, 20 recs.
8	Hinds, H.R. 1992. Rare Vascular Plants of Fundy National Park. , 10 recs.
8	Kennedy, B.; Cron, C. 2019. observations of Poison Sumac and Buttonbush, Nova Scotia. pers. commun to AC CDC.
8	Klymko, J. Butterfly records at the Nova Scotia Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2017.
8	McAlpine, D.F. 1998. NBM Science Collections: Wood Turtle records. New Brunswick Museum, Saint John NB, 329 recs.
8	Neily, T.H. & Pepper, C.; Toms, B. 2013. Nova Scotia lichen location database. Mersey Tobeatic Research Institute, 1301 records.
8	Tingley, S. (compiler). 2001. Butterflies of New Brunswick. , Web site: www.geocities.com/Yosemite/8425/buttrfly. 142 recs.
8	Wissink, R. 2006. Fundy National Park Digital Database. Parks Canada, 41 recs.
7	Benjamin, L.K. 2009. Boreal Felt Lichen, Mountain Avens, Orchid and other recent records. Nova Scotia Dept Natural Resources, 105 recs.
7	Boyne, A.W. & Grecian, V.D. 1999. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 23 recs.
7	Cameron, R.P. 2014. 2013-14 rare species field data. Nova Scotia Department of Environment, 35 recs.
7	Webster, R.P. Atlantic Forestry Centre Insect Collection, Maritimes butterfly records. Natural Resources Canada. 2014.
6	Bateman, M.C. 2001. Coastal Waterfowl Surveys Database, 1965-2001. Canadian Wildlife Service, Sackville, 667 recs.
6	Benjamin, L.K. 2006. <i>Cyripedium arietinum</i> . Pers. comm. to D. Mazerolle. 9 recs, 9 recs.
6	Brazner, J.; Hill, N. 2018. Plant observations along the Cornwallis River, Nova Scotia. Nova Scotia Department of Lands and Forestry.
6	Bredin, K.A. 2002. NS Freshwater Mussel Fieldwork. Atlantic Canada Conservation Data Centre, 30 recs.
6	Cameron, R.P. 2009. Nova Scotia nonvascular plant observations, 1995-2007. Nova Scotia Dept Natural Resources, 27 recs.
6	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
6	Kennedy, Joseph. 2010. New Brunswick Peregrine records, 2010. New Brunswick Dept Natural Resources, 16 recs (11 active).
6	Klymko, J. Dataset of butterfly records at the New Brunswick Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2016.
6	Matthew Smith. 2010. Field trip report from Avon Caving Club outlining the discovery of <i>Cyripedium arietinum</i> and <i>Hepatica nobilis</i> populations. Public Works and Government Services Canada.
6	McKendry, Karen. 2016. Rare species observations, 2016. Nova Scotia Nature Trust, 19 recs.
5	Cameron, R.P. 2009. <i>Erioderma pedicellatum</i> database, 1979-2008. Dept Environment & Labour, 103 recs.
5	Cameron, R.P. 2011. Lichen observations, 2011. Nova Scotia Environment & Labour, 731 recs.
5	Cameron, R.P. 2012. Additional rare plant records, 2009. , 7 recs.
5	Carter, Jeff; Churchill, J.; Churchill, I.; Churchill, L. 2020. Bank Swallow colony Scots Bay, NS. Atlantic Canada Conservation Data Centre.
5	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
5	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
5	Gilhen, J. 1984. Amphibians & Reptiles of Nova Scotia, 1st Ed. Nova Scotia Museum, 164pp.
5	Klymko, J.J.D. 2011. Insect fieldwork & submissions, 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 742 recs.
5	Majka, C.G. & McCorquodale, D.B. 2006. The Coccinellidae (Coleoptera) of the Maritime Provinces of Canada: new records, biogeographic notes, and conservation concerns. Zootaxa. Zootaxa, 1154: 49-68. 7 recs.
5	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
5	Speers, L. 2001. Butterflies of Canada database. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 190 recs.
5	Webster, R.P. 2004. Lepidopteran Records for National Wildlife Areas in New Brunswick. Webster, 1101 recs.
5	Whittam, R.M. 1999. Status Report on the Roseate Tern (update) in Canada. Committee on the Status of Endangered Wildlife in Canada, 36 recs.



# recs	CITATION
4	Anon. Dataset of butterfly records for the Maritime provinces. Museum of Comparative Zoology, Harvard University. 2017.
4	Basset, I.J. & Crompton, C.W. 1978. The Genus <i>Suaeda</i> (Chenopodiaceae) in Canada. <i>Canadian Journal of Botany</i> , 56: 581-591.
4	Cameron, R.P. 2017. 2017 rare species field data. Nova Scotia Environment, 64 recs.
4	Chiasson, R. 2018. Breeding bird observations from NBWTF project. pers. comm. to S. Blaney.
4	Clerc, P. 2011. Notes on the genus <i>Usnea</i> Adanson (lichenized Ascomycota). III. <i>Bibliotheca Lichenologica</i> , 106, 41-51.
4	Cody, W.J. 2003. Nova Scotia specimens of <i>Equisetia pratense</i> at the DAO herbarium in Ottawa. , Pers. comm. to C.S. Blaney. 4 recs.
4	Forsythe, B. 2006. <i>Cypripedium arietinum</i> at Meadow Pond, Hants Co. Pers. comm. to C.S. Blaney. 4 recs, 4 recs.
4	Klymko, J.J.D. 2012. Insect field work & submissions. Atlantic Canada Conservation Data Centre, 852 recs.
4	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
4	Klymko, J.J.D. 2016. 2015 field data. Atlantic Canada Conservation Data Centre.
4	Mills, Pamela. 2007. <i>Iva frutescens</i> records. Nova Scotia Dept of Natural Resources, Wildlife Div. Pers. comm. to S. Basquill, 4 recs.
4	Newell, R. & Neily, T.; Toms, B.; Proulx, G. et al. 2011. NCC Properties Fieldwork in NS: August-September 2010. Nature Conservancy Canada, 106 recs.
4	Phillips, B. 2017. Emails to John Klymko regarding Eastern Waterfern ( <i>Peltigera hydrothyria</i> ) occurrences in Fundy National Park. Fundy Biosphere Reserve, 3 recs.
4	Porter, K. 2013. 2013 rare and non-rare vascular plant field data. St. Mary's University, 57 recs.
4	Sollows, M.C. 2008. NBM Science Collections databases: herpetiles. New Brunswick Museum, Saint John NB, download Jan. 2008, 8636 recs.
4	Toms, B. 2015. <i>Lophiola aurea</i> (Goldencrest) records from Molega Lake. Mersey Tobeatic Research Institute, 4 records.
4	Toms, B. 2016. Email list of four GPS locations of Golden Crest ( <i>Lophiola aurea</i> ) from the previously documented site on Molega Lake, NS. Mersey Tobeatic Research Institute, 4 records.
4	White, S. 2019. Notable species sightings, 2018. East Coast Aquatics.
3	Amirault, D.L. & McKnight, J. 2003. Piping Plover Database 1991-2003. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
3	Amiro, Peter G. 1998. Atlantic Salmon: Inner Bay of Fundy SFA 22 & part of SFA 23. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-12. 4 recs.
3	Anon. 2017. Export of Maritimes Butterfly records. Global Biodiversity Information Facility (GBIF).
3	Bateman, M.C. 2000. Waterfowl Brood Surveys Database, 1990-2000 . Canadian Wildlife Service, Sackville, unpublished data. 149 recs.
3	Belliveau, A. 2013. email to Sean Blaney regarding <i>Listera australis</i> observations in SW Nova Scotia. Mersey Tobeatic Research Institute, 8.
3	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
3	Bradford, R. 2004. <i>Coregonus huntsmani</i> locations. Dept of Fisheries & Oceans, Atlantic Region, Pers. comm. to K. Bredin. 4 recs.
3	Bredin, K.A. 2001. WTF Project: Freshwater Mussel Fieldwork in Freshwater Species data. Atlantic Canada Conservation Data Centre, 101 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	Doubt, J. 2013. Email to Sean Blaney with Nova Scotia records of <i>Fissidens exilis</i> at Canadian Museum of Nature. pers. comm., 3 records.
3	Hill, N. and D. Patriquin. 2013. 2013 rare plant observations in Williams Lake Backlands area. Fern Hill Institute of Plant Conservation, Berwick, Nova Scotia, 3 records.
3	Hill, N.M., Myra, M. 2017. Email to Sean Blaney regarding rich intervale flora on Nictaux River. Fern Hill Institute, 3 records.
3	Hope, P. 2002. Field survey of <i>Goodyera pubescens</i> population at Kejimikujik National Park. Kejimikujik National Park, 3 recs.
3	Mills, Pamela. 2008. <i>Clethra alnifolia</i> at Mudflat Lake. Nova Scotia Dept of Natural Resources, Wildlife Div. Pers. comm. to D.M. Mazerolle, 4 recs.
3	Newell, R. E., MacKinnon, C. M. & Kennedy, A. C. 2006. Botanical Survey of Boot Island National Wildlife Area, Nova Scotia, 2004. Canadian Wildlife Service, Atlantic Region, Technical Report Series Number 450. 3 recs.
3	Nova Scotia Department of Lands and Forestry. 2018. Wood Turtle observations in, or near, the cornwallis River watershed. NS DLF, pers. comm. to AC CDC.
3	Riley, J. 2020. Digby County <i>Pannaria lurida</i> observations. Pers. comm. to J.L. Churchill.
3	Sabine, M. 2016. NB DNR staff incidental Black Ash observations. New Brunswick Department of Natural Resources.
3	Shortt, R. Connell Herbarium Black Ash specimens. University New Brunswick, Fredericton. 2019.
3	Staicer, C. 2013. Personal communication concerning <i>Hirundo rustica</i> nesting in and around Kejimikujik NP, NS. Pers. comm.
3	Thompson, R. 2018. Williamsdale Quarry Expansion Project, NS, Environmental Assessment rare plants. Dexter Construction Company Limited.
3	Wilhelm, S.I. et al. 2019. Colonial Waterbird Database. Canadian Wildlife Service.
2	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
2	Basquill, S.P. 2018. Various specimens, NS DNR field work. NS Department of Natural Resources, 10.
2	Belliveau, A. & Toms, B. 2012. Email regarding <i>Lophiola aurea</i> (Goldencrest) location on Molega Lake, NS. Mersey Tobeatic Research Institute, 3 records.
2	Belliveau, A.G. E.C. Smith Herbarium Specimen Database 2019. E.C. Smith Herbarium, Acadia University. 2019.
2	Benedict, B. Connell Herbarium Specimens, Digital photos. University New Brunswick, Fredericton. 2005.
2	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2000.
2	Blaney, C.S. 1999. Fieldwork 1999. Atlantic Canada Conservation Data Centre. Sackville NB, 292 recs.
2	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
2	Chapman, C.N. (Cody). 2020. Nova Scotia Black Ash ( <i>Fraxinus nigra</i> ) field observations by Confederacy of Mainland Mi'kmaq. Forestry Program, Confederacy of Mainland Mi'kmaq.
2	Doucet, D.A. 2008. Fieldwork 2008: Odonata. ACCDC Staff, 625 recs.
2	Gilhen, J., Jones, A., McNeil, J., Tanner, A.W. 2012. A Significant Range Extension for the Eastern Ribbonsnake, <i>Thamnophis sauritus</i> , in Nova Scotia, Canada. <i>The Canadian Field-Naturalist</i> , 126(3): 231-233.
2	Hicklin, P.W. 1995. The Maritime Shorebird Survey Newsletter. <i>Calidris</i> , No. 3. 6 recs.
2	Hill, N.M. 2013. email communications to Sean Blaney and David Mazerolle regarding the discovery of <i>Listera australis</i> populations at Black River Lake and Middlewood. , 2.
2	Hill, N.M. 2019. Observation of <i>Crocantemum canadense</i> near Auburn, Annapolis Co. NS on May 29, 2019. Fern Hill Institute, 2 recs.
2	Hinds, H.R. 2000. Rare plants of Fundy in Rare Plants of Fundy: maps. Wissink, R. (ed.) Parks Canada, 2 recs.
2	Kennedy, B. & Cron, C.; Patriquin, D. 2018. Email to Sean Blaney on observations of <i>Trichostema dichotomum</i> at Shingle Lake, Nova Scotia. , 2 records.
2	Klymko, J.J.D. 2010. Miscellaneous observations reported to ACCDC (zoology). Pers. comm. from various persons, 3 recs.

# recs	CITATION
2	LaPaix, R.; Parker, M. 2013. email to Sean Blaney regarding <i>Listera australis</i> observations near Kearney Lake. East Coast Aquatics, 2.
2	Lock, A.R., Brown, R.G.B. & Gerriets, S.H. 1994. <i>Gazetteer of Marine Birds in Atlantic Canada</i> . Canadian Wildlife Service, Atlantic Region, 137 pp.
2	Manning, I. 2020. Peregrine Falcon nest site observations. pers. comm. to J. Churchill.
2	McCarthy, C. 2003. Ecological Inventory of Melanson Property, Annapolis County, Nova Scotia. Kejimikujik National Park.
2	Misc. rare species records gathered by NSDNR staff or communicated to NSDNR and forwarded to ACCDC
2	Munro, M. 2003. <i>Caulophyllum thalictroides</i> & <i>Carex hirtifolia</i> at Herbert River, Brooklyn, NS. , Pers. comm. to C.S. Blaney. 2 recs.
2	Munro, M. 2003. <i>Dirca palustris</i> & <i>Hepatica nobilis</i> var. <i>obtusata</i> at Cogmagun River, NS. , Pers. comm. to C.S. Blaney. 2 recs.
2	NatureServe Canada. 2018. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
2	Neily, T.H. & Pepper, C.; Toms, B. 2015. Nova Scotia lichen location database [as of 2015-02-15]. Mersey Tobeatic Research Institute, 1691 records.
2	Newell, R.E. 2006. Rare plant observations in Digby Neck. Pers. comm. to S. Blaney, 6 recs.
2	Parker, M. 2016. Wood turtle ( <i>Glyptemys insculpta</i> ) Visual Surveys at Black, Wallace, Musquodobit and Sackville Rivers, Nova Scotia. East Coast Aquatics Inc., 3 records.
2	Parker, M. 2018. East Coast Aquatics ACCDC 2018 Report. East Coast Aquatics, 12 records.
2	Perrin, J., Russel, J. 1912. Catalogue of Butterflies and Moths, Mostly Collected in the Neighborhood of Halifax and Digby, Nova Scotia. Proceedings and Transactions of the Nova Scotian Institute of Science, 12(3), 258-290.
2	Sabine, D.L. 2012. Bronze Copper records, 2003-06. New Brunswick Dept of Natural Resources, 5 recs.
2	Scott, F.W. 1988. Status Report on the Southern Flying Squirrel ( <i>Glaucomys volans</i> ) in Canada. Committee on the Status of Endangered Wildlife in Canada, 2 recs.
2	Shafer, A.B.A., D.T. Stewart. 2006. A Disjunct Population of <i>Sorex dispar</i> (Long-Tailed Shrew) in Nova Scotia. Northeastern Naturalist, 13(4): 603-608.
2	Sheffield, C.S. 2004. The Rare Cleptoparasitic Bee <i>Epeoloides pilosula</i> (Hymenoptera: Apidae) Discovered in Nova Scotia, Canada, with Distributional Notes
2	Standley, L.A. 2002. <i>Carex haydenii</i> in Nova Scotia. , Pers. comm. to C.S. Blaney. 4 recs.
2	Webster, R.P. & Edsall, J. 2007. 2005 New Brunswick Rare Butterfly Survey. Environmental Trust Fund, unpublished report, 232 recs.
2	Webster, R.P. Database of R.P. Webster butterfly collection. 2017.
2	White, S. 2018. Notable species sightings, 2016-2017. East Coast Aquatics.
2	Williams, M. Cape Breton University Digital Herbarium. Cape Breton University Digital Herbarium. 2013.
1	Allan Smith. 2011. Cedar stand location at South Williamston. Abitibi Bowater, 1 Rec.
1	Amirault, D.L. 2003. 2003 Peregrine Falcon Survey. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
1	Amirault, D.L. 2005. 2005 Peregrine Falcon Survey. Canadian Wildlife Service, Sackville, unpublished data. 27 recs.
1	Amiro, Peter G. 1998. Atlantic Salmon: Southern Nova Scotia SFA 21. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-11. 1 rec.
1	Austin-Smith, P. 2014. 2014 Common Nighthawk personal communication report, NS. NS Department of Natural Resources.
1	Bagnell, B.A. 2003. Update to New Brunswick Rare Bryophyte Occurrences. B&B Botanical, Sussex, 5 recs.
1	Basquill, S. P. 2008. Nova Scotia Dept of Natural Resources.
1	Basquill, S.P. 2004. <i>C. americana</i> and <i>Sedum</i> sp records, 2002. Pers. comm. to C.S. Blaney. 2 recs, 2 recs.
1	Basquill, S.P. 2011. Field observations & specimen collections, 2010. Nova Scotia Department of Natural Resources, Pers. comm. , 8 Recs.
1	Basquill, S.P. 2012. 2012 Bryophyte specimen data. Nova Scotia Department of Natural Resources, 37 recs.
1	Basquill, S.P.; Quigley, E. 2006. New Minuartia groenlandica record for NS. Pers. comm. to C.S. Blaney, Oct 6, 1 rec.
1	Benjamin, L.K. 2003. <i>Cypripedium arietinum</i> in Cogmagun River NS. Pers. comm. to S. Blaney, 1 rec.
1	Berg, L. 2020. Canada Warbler observations, Birch Lake, NS. pers. comm. to J. Churchill.
1	Bernard, Laurel. 2013. Email to Sean Blaney regarding <i>Listera australis</i> at Lake Rossignol. Nature Conservancy of Canada, 1.
1	Blaney, C.S. 2014. 2014 Bank Swallow colony observation, Westcock, NB. Atlantic Canada Conservation Data Centre.
1	Blaney, C.S. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 6719 recs.
1	Brach, A.R. 2019. Correspondence to Sean Blaney regarding <i>Calamagrostis cinnoides</i> specimen from Halifax NS. pers. comm., Harvard University Herbaria, 1 record.
1	Bredin, K.A. 2000. NB & NS Bog Project, fieldwork. Atlantic Canada Conservation Data Centre, Sackville, 1 rec.
1	Breen, A. 2017. 2017 Atlantic Whitefish observation. Coastal Action.
1	Bridgehouse, Derek. 2018. Record of <i>Calliphrys henrici</i> from Nova Scotia, emailed to J. Klymko 31 May 2018. Pers. comm.
1	Bruce, J. 2014. 2014 Wood Turtle email report, Nine Mile River, NS. NS Department of Natural Resources.
1	Butterflies and Moths of North America. 2016. <i>Satyrion liparops</i> record from Nova Scotia gleaned from BAMONA. Lotts, Kelly (ed.) BAMONA.
1	Cameron, R.P. 2012. Rob Cameron 2012 vascular plant data. NS Department of Environment, 30 recs.
1	Catling, P.M. 2001. Bog Elfin records in NB, 1939-95. Eastern Cereal & Oilseed Research Centre, Ottawa, Pers. comm. to K.A. Bredin. 11 recs.
1	Clayden, S.R.; Goltz, J.P. 2018. Emails to Sean Blaney on occurrence of <i>Polygonum douglasii</i> at Big Bluff, Kings Co., New Brunswick. pers. comm., 1 record.
1	Cook, K. 2016. Wood Turtle record. Pers comm. to Nova Scotia Department of Lands and Forestry.
1	COSEWIC (Committee on the Status of Wildlife in Canada). 2013. COSEWIC Assessment and Status Report on the Eastern Waterfern <i>Peltigera hydrothyria</i> in Canada. COSEWIC, 46 pp.
1	Crowell, A. 2004. <i>Cypripedium arietinum</i> in Weir Brook, Hants Co. Pers. comm. to S. Blaney, 1 rec.
1	Crowell, M. 2013. email to Sean Blaney regarding <i>Listera australis</i> at Bear Head and Mill Cove Canadian Forces Station. Jacques Whitford Environmental Ltd., 2.
1	Crowell, M.J. Plant specimens from Nictaux, NS sent to Sean Blaney for identification. Jacques Whitford Limited. 2005.
1	Daury, R.W. & Bateman, M.C. 1996. The Barrow's Goldeneye ( <i>Bucephala islandica</i> ) in the Atlantic Provinces and Maine. Canadian Wildlife Service, Sackville, 47pp.
1	deGooyer, K. 2018. <i>Chelydra serpentina</i> observation record. Nova Scotia Environment.
1	deGooyer, K. 2019. Snapping Turtle and Eastern White Cedar observations. Nova Scotia Environment.
1	Edge, Thomas A. 1984. Status report on the Atlantic Whitefish ( <i>Coregonus huntsmani</i> ). Committee on the Status of Endangered Wildlife in Canada.
1	Edsall, J. 2001. Lepidopteran records in New Brunswick, 1997-99. , Pers. comm. to K.A. Bredin. 91 recs.
1	Gerriets, S.H. 1997-2001. Element Occurrence Database. Atlantic Canada Conservation Data Centre, Sackville NB, 1 rec.

# recs	CITATION
1	Haughian, S. 2019. <i>Pannaria lurida</i> observations in Nova Scotia and New Brunswick. Nova Scotia Museum.
1	Hill, N. 2014. 2014 Monarch email report, Bridgetown, NS. Fern Hill Institute for Plant Conservation.
1	Hill, N.; Manning, I. 2020. Wild Leek observation, Cornwallis River, NS, floodplain. pers. comm. to J. Churchill.
1	Hill, N.M. 2016. Email communications to Sean Blaney and Alain Belliveau regarding the discovery of <i>Fimbristylis autumnalis</i> on the shores of Loon Lake, Kejimikujik National Park. Pers. comm., 1 rec.
1	Hope, P. 2007. Water-pennywort ( <i>Hydrocotyle umbellata</i> ) on Ell Island. Parks Canada, Kejimikujik NP, 1 record.
1	Jacques Whitford Ltd. 2003. Cananda Lily location. Pers. Comm. to S. Blaney. 2pp, 1 rec, 1 rec.
1	Johnstone, D.; Churchill J. 2014. 2014 Chimney Swift observation, Kejimikujik NP, NS. Atlantic Canada Conservation Data Centre.
1	Kennedy, B. 2019. observations of <i>Crocianthemum canadense</i> at Bangs Falls, Nova Scotia. iNaturalist.ca.
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. Acadia University Collection rare butterfly records. Atlantic Canada Conservation Data Centre. 2013.
1	Klymko, J.J.D. 2016. 2014 field data. Atlantic Canada Conservation Data Centre.
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	LaPaix, R.W. 2014. Trans-Canada Energy East Pipeline Environmental Assessment, Records from 2013-14. Stantec Consulting, 5 recs.
1	Lautenschlager, R.A. 2010. Miscellaneous observations reported to ACCDC (zoology). Pers. comm. from various persons, 2 recs.
1	Layberry, R.A. 2012. Lepidopteran records for the Maritimes, 1974-2008. Layberry Collection, 1060 recs.
1	MacDonald, E.C. 2018. CWS Piping Plover Census, 2010-2017. Canadian Wildlife Service, 672 recs.
1	MacKinnon, D.S. 2002. Fieldwork 2002. Dept of Environment & Labour, Protected Areas Branch, 1 rec.
1	MacKinnon, D.S. 2012. <i>Goodyera pubescens</i> observation, photo. Pers. comm. to S. Blaney, Sep 18, 1 rec.
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	Majka, C.G. 1967. The butterflies of Albert County. Bulletin of the Moncton Naturalists Club, 13-20.
1	Manning, I. 2020. Peregrine Falcon observation. Pers. comm. to J.L. Churchill.
1	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.
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	NatureServe Canada. 2017. iNaturalist Butterfly Data Export . iNaturalist.org and iNaturalist.ca.
1	Neily, P.D. Plant Specimens. Nova Scotia Dept Natural Resources, Truro. 2006.
1	Neily, T.H. 2004. <i>Hepatica nobilis</i> var. <i>obtusata</i> record for Falmouth NS. Pers. comm. to C.S. Blaney, 1 rec.
1	Neily, T.H. Tom Neily NS Sphagnum records (2009-2014). T.H. Neily, Atlantic Canada Conservation Data Centre. 2019.
1	Newell, R.E. 2004. <i>Hepatica nobilis</i> var. <i>obtusata</i> record. Pers. comm. to S. Blaney, 1 rec.
1	Niel, K. & Majka, C. 2008. New Records of Tiger Beetles (Coleoptera: Carabidae: Cicindelinae) in Nova Scotia. Journal of the Acadian Entomological Society, 4: 3-6.
1	O'Neil, S. 1998. Atlantic Salmon: Northumberland Strait Nova Scotia part of SFA 18. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-08. 9 recs.
1	Plissner, J.H. & Haig, S.M. 1997. 1996 International piping plover census. US Geological Survey, Corvallis OR, 231 pp.
1	Popma, K. 2001. Phalarope & other bird observations in Westmorland Co. , Pers. comm. to K.A. Bredin. 5 recs.
1	Robicheau, C. 2019. Atlantic Canada Conservation Data Centre Fieldwork 2019. Atlantic Canada Conservation Data Centre.
1	Smith, M. 2013. Email to Sean Blaney regarding <i>Schizaea pusilla</i> at Caribou Plain Bog, Fundy NP. pers. comm., 1 rec.
1	Smith, M. 2016. Email regarding additional location of <i>Fimbristylis autumnalis</i> on shores of Loon Lake, Kejimikujik National Park. pers. comm., 1 record.
1	Sollows, M.C., 2009. NBM Science Collections databases: Coccinellid & Cerambycid Beetles. New Brunswick Museum, Saint John NB, download Feb. 2009, 569 recs.
1	Spicer, C.D. 2004. Specimens from CWS Herbarium, Mount Allison Herbarium Database. Mount Allison University, 5939 recs.
1	Steeves, R. 2004. <i>Goodyera pubescens</i> occurrence from Colpitts Brook, Albert Co. , Pers. comm. to C.S. Blaney. 1 rec.
1	Stewart, P. 2013. email to Sean Blaney regarding the discovery of a <i>Listera australis</i> population at Blockhouse. EnviroSphere Consultants Limited, 1.
1	Timmons, M. 2019. Telephone report of <i>Polygala polygama</i> at Aylesford Mountain, Kings Co., NS by Megan Timmons to C.S. Blaney. , 1 record.
1	Toms, Brad. 2009. New <i>Scirpus longii</i> record on Lake Rossignol. Mersey Tobeatic Research Institute.
1	Toner, M. 2001. Lynx Records 1973-2000. NB Dept of Natural Resources, 29 recs.
1	Vinson, Neil. 2018. Record of <i>Saxifraga paniculata</i> from Fundy NP, emailed to S. Blaney 19 July 2018. Pers. comm.
1	Vinson, N. 2018. Email to S. Blaney regarding new occurrence of <i>Saxifraga paniculata</i> on Point Wolfe River. Parks Canada, 1 record.
1	Vinson, N. 2019. Eastern Waterfan record from Long Reach Brook, Fundy National Park, June 12, 2019. Parks Canada Agency, Fundy National Park, 1 record.
1	Vinson, Neil. 2016. Emails to Sean Blaney regarding yellow flower ( <i>Primula veris</i> ) and coastal habitat leaf rosettes ( <i>Primula laurentiana</i> ) in Fundy National Park. pers. comm., 2 rec.
1	Walker, E.M. 1933. The Odonata of the Maritime Provinces. Proc. Nova Scotian Inst. Sci., 18: 106-128. 3 recs.
1	Weatherby, C.A. 1942. Two weeks in southwestern Nova Scotia. Rhodora, 44: 229-236.
1	Wissink, R. 2000. Four-toed Salamander Survey results, 2000. Fundy National Park, Internal Documents, 1 rec.