

APPENDIX A. FIGURES


Prepared For:



FIGURE 1

Study Area Overview

**Proposed Sporting Mountain Quarry Project
PID 75044156**

 Study Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter



0 900 1,800 3,600 m

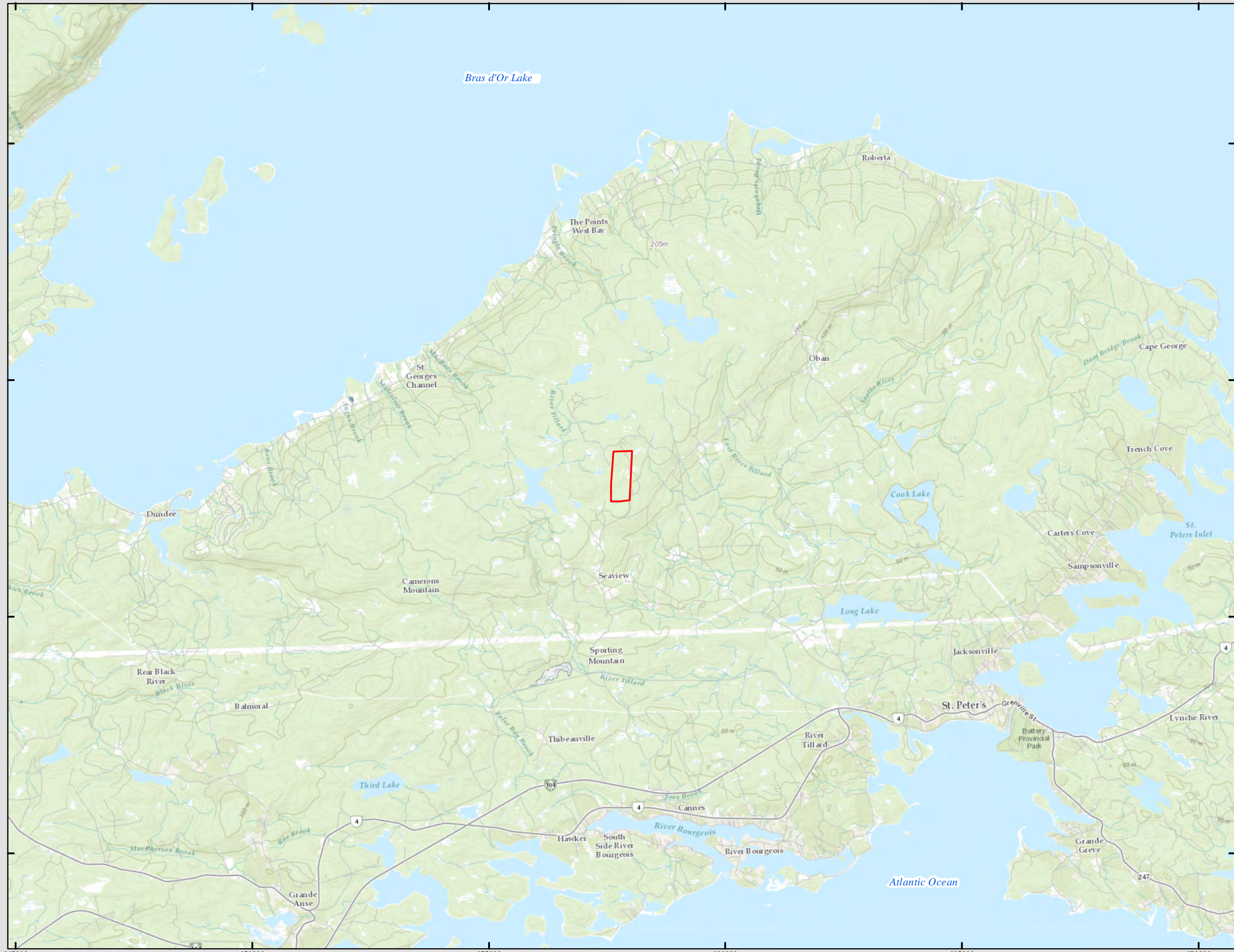
1:75,000 Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2019-11-15



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5070000
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FIGURE 2

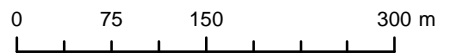
Habitat Survey Locations and Forest Cover Type

**Proposed Sporting Mountain Quarry Project
PID 75044156**

-  Habitat Survey Points
 -  NSE Mapped Wetland
 -  Study Area
- Forest Cover Type**
-  Softwood >75%
 -  Mixed Forest 25 -75%
 -  Hardwood >75%



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
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Units: Meter



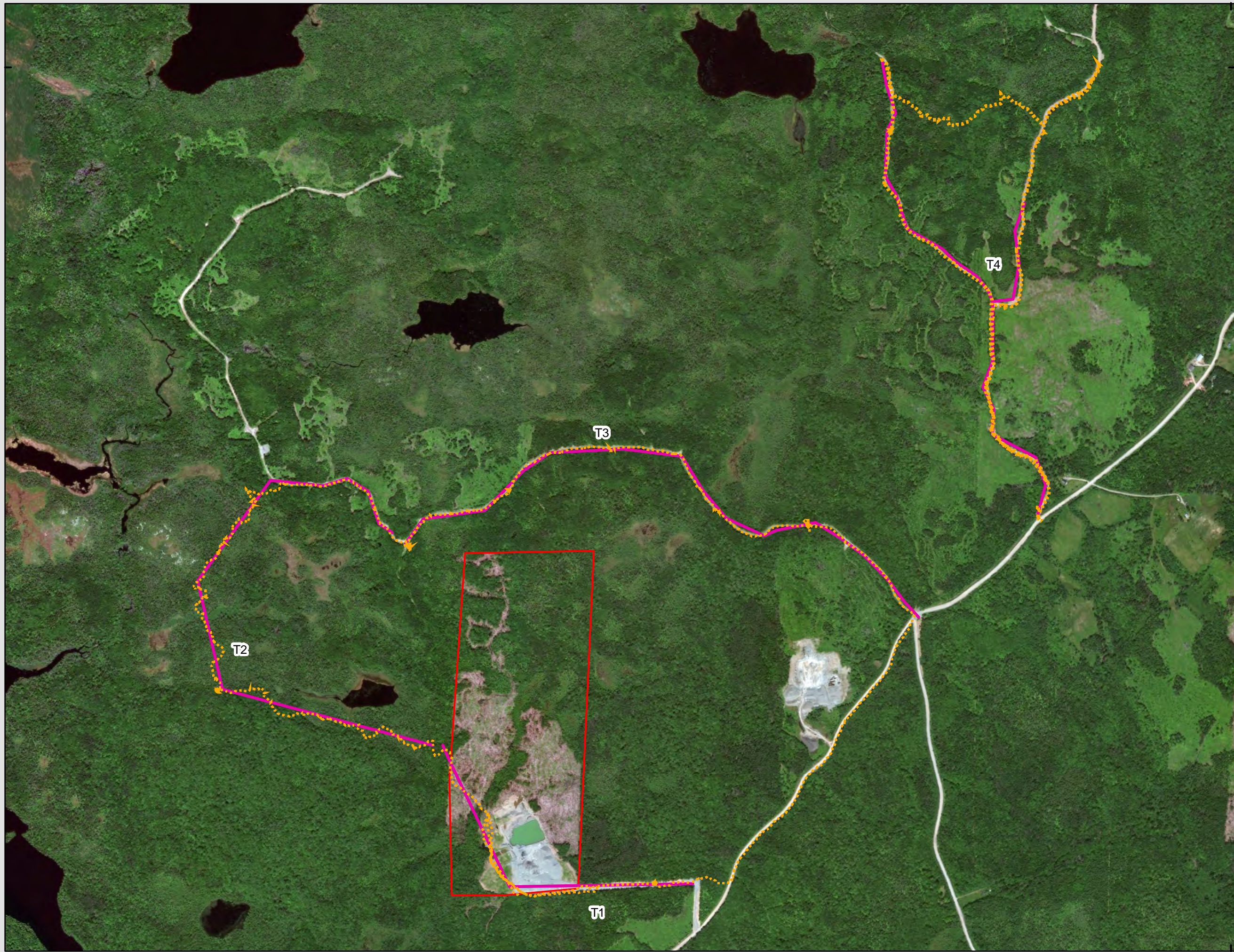
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Drawn By: EP Date: 2019-11-19



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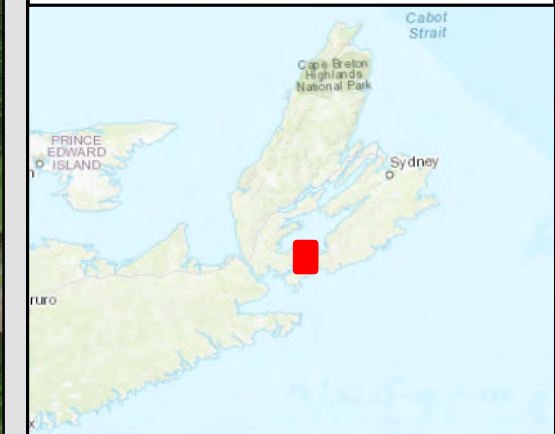


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FIGURE 3

Lynx Survey Transects
Proposed Sporting Mountain Quarry Project
PID 75044156

-  Lynx Survey Tracks
-  Lynx Survey Transects
-  Study Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
 Projection: Transverse Mercator
 Datum: North American 1983 CSRS
 Units: Meter



0 137.5 275 550 m

1:11,000 Scale when printed @ 11" x 17"

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FIGURE 4

**Avifauna Survey Locations
and Incidental Avian SOCI
Observations**

**Proposed Sporting Mountain
Quarry Project
PID 75044156**

Incidental SOCI Observations

- Boreal Chickadee
- Gray catbird
- Gray jay
- Ruby-crowned kinglet
- Swainson's thrush

Avian Survey Location

- Common Nighthawk Surveys
- Avian Point Count Surveys
- Study Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter



0 87.5 175 350 m

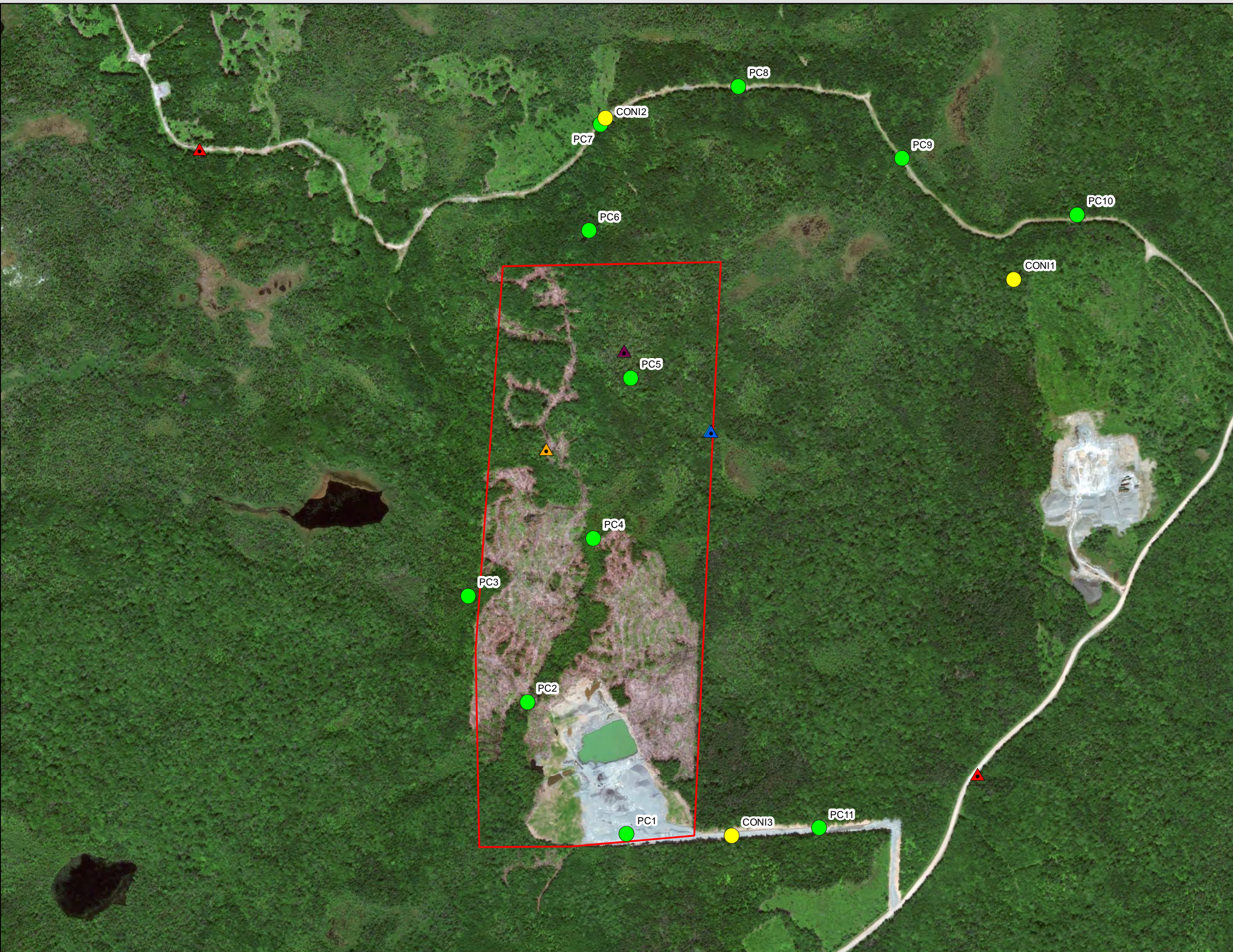
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Date: 2020-01-09



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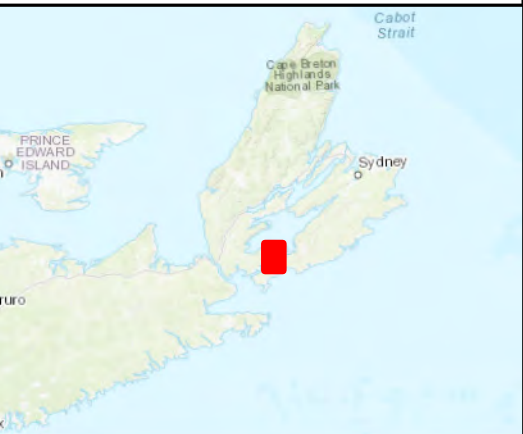


FIGURE 5

Watersheds

**Proposed Sporting Mountain
Quarry Project
PID 75044156**

-  Lake
-  Study Area
-  Tertiary Watershed
-  River Tillard Secondary Watershed
-  Secondary Watershed Regionally



Coordinate System: NAD 1983 CSRS UTM Zone 20N
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 Units: Meter



0 900 1,800 3,600 m

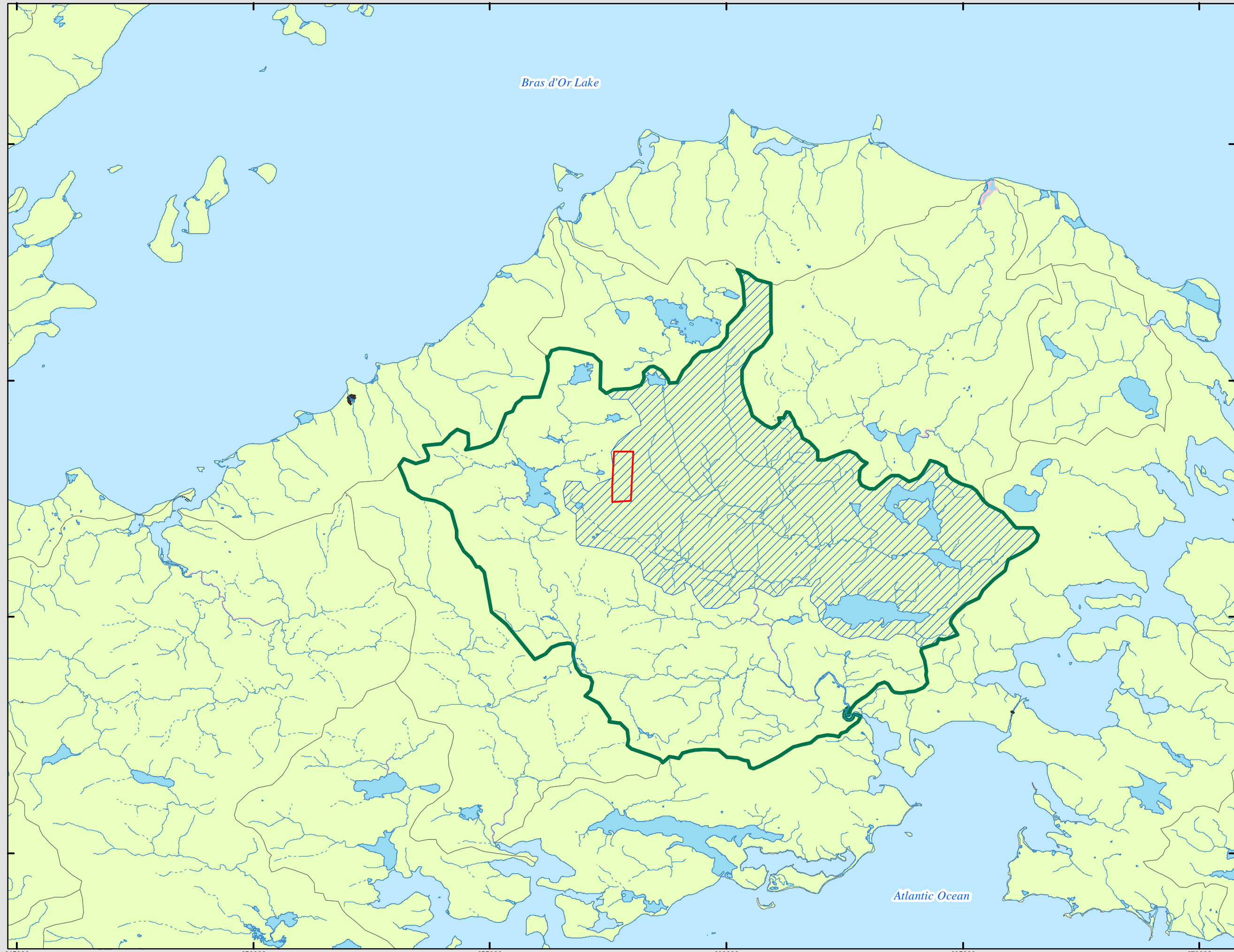
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Drawn By: EP

Date: 2019-11-15



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



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FIGURE 6

**Wetland and Watercourse
Desktop Results**

**Proposed Sporting Mountain
Quarry Project
PID 75044156**

-  NSTDB Mapped Watercourse
-  NSE Mapped Wetland
- Depth to Water Table**
-  0 - 0.10 m
-  0.11 - 0.50 m
-  Study Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
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Datum: North American 1983 CSRS
Units: Meter



0 125 250 500 m

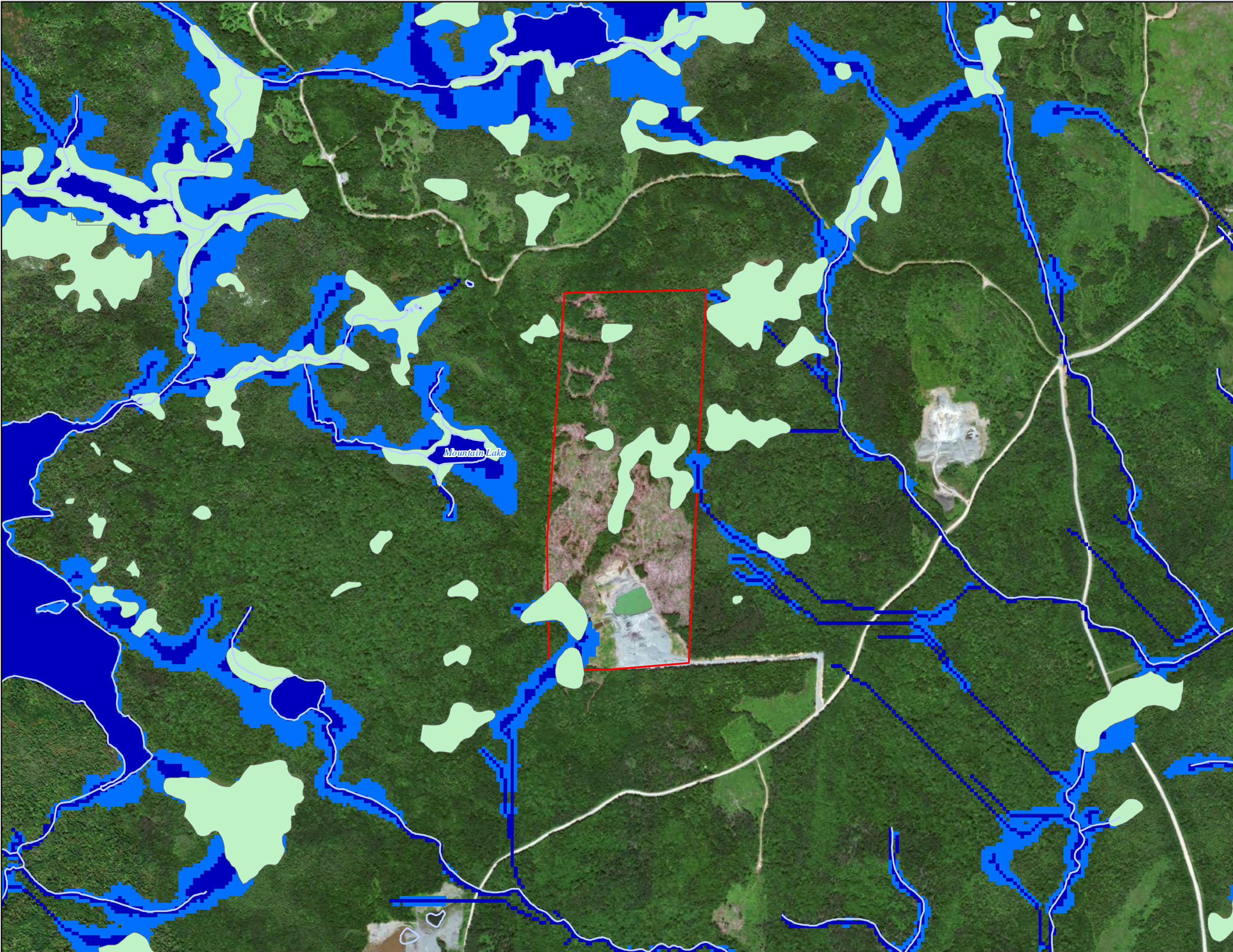
1:10,000 Scale when printed @ 11" x 17"

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Date: 2019-11-25



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FIGURE 7

**Surface Water and Wetland
Field Results**

**Proposed Sporting Mountain
Quarry Project
PID 75044156**

-  Drainage Ditch
-  Flow Accumulation
-  Non-channelized Overland Drainage
-  Field Delineated Watercourse
-  NSTDB Mapped Watercourse
-  NSE Mapped Wetland
-  Approximate Off-Site Wetland
-  Lake
-  Dug Pond
-  Study Area
-  Field Delineated Wetland



Coordinate System: NAD 1983 CSRS UTM Zone 20N
 Projection: Transverse Mercator
 Datum: North American 1983 CSRS
 Units: Meter



0 62.5 125 250 m

1:5,000 Scale when printed @ 11" x 17"

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Date: 3/27/2020



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FIGURE 8

ACCDC Results

**Proposed Sporting Mountain
Quarry Project
PID 75044156**

- ACCDC Observation
- Managed Area
- Freshwater Fish Observations
- Study Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
 Projection: Transverse Mercator
 Datum: North American 1983 CSRS
 Units: Meter



0 487.5 975 1,950 m

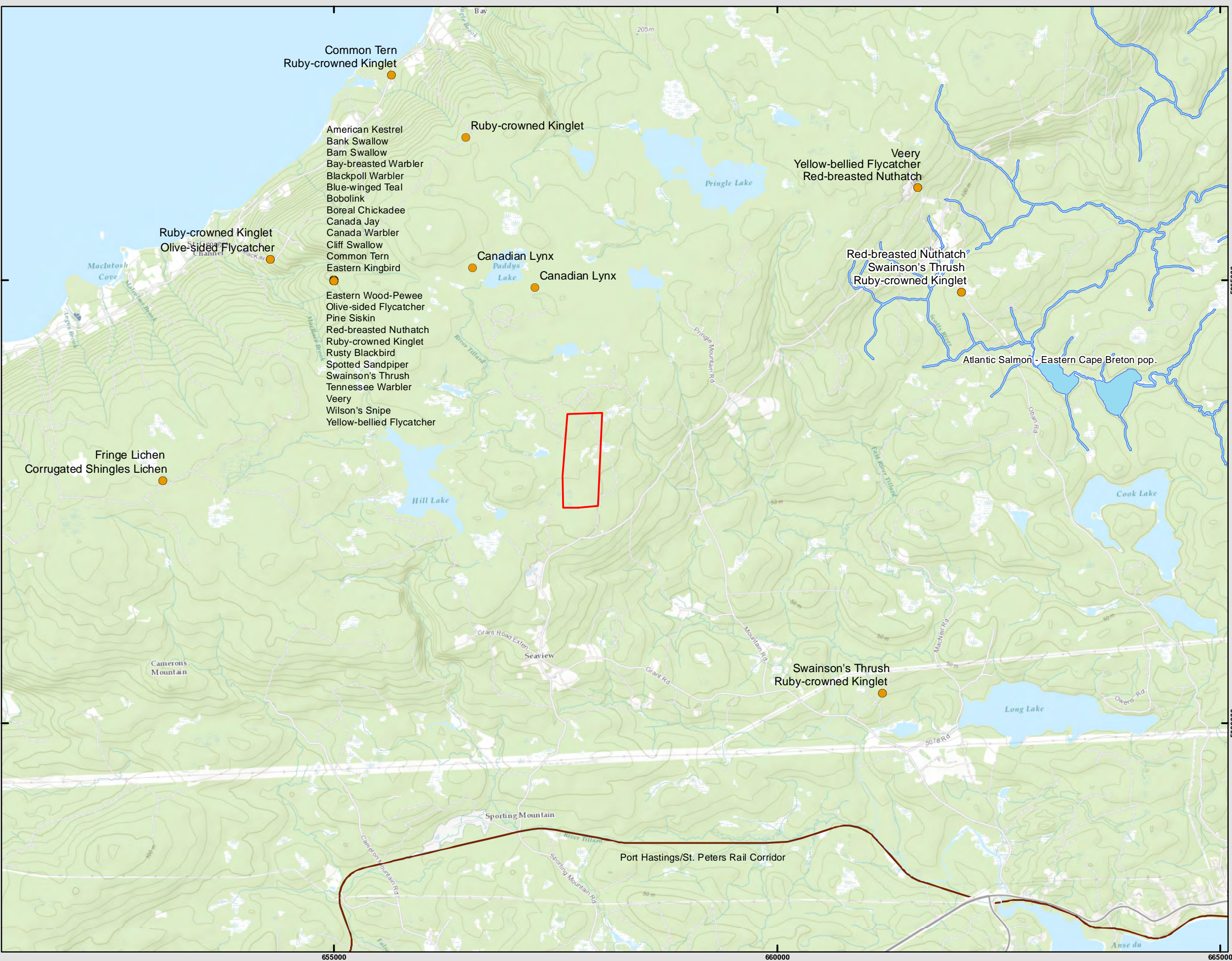
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Drawn By: EP

Date: 2019-11-15



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Prepared For:



FIGURE 9

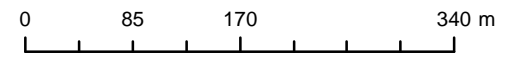
**SAR Avifauna
SAR/SOCI Flora and Fauna
Results**

**Proposed Sporting Mountain
Quarry Project
PID 75044156**

- | | |
|-------------------------------|--------------------------------------|
| SAR/SOCI | Lichen Survey Transect |
| Barn Swallow | Field Delineated Watercourse |
| Canada Warbler | Field Delineated Drainage |
| Blue Felt Lichen | Predicted Boreal Felt Lichen Habitat |
| Corrugated Shingles Lichen | Proposed Development Area |
| Fringe Lichen | Field Delineated Wetland |
| Frosted Glass Whiskers Lichen | Study Area |
| Powdered Fringe Lichen | |
| Slender Monk's Hood Lichen | |
| Canada Lynx | |
| Possible Canada Lynx | |



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter



1:6,000 Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-01-09



McCallum Environmental Ltd.



FIGURE 10

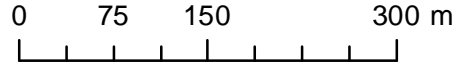
Georeferenced Photolog

Proposed Sporting Mountain Quarry Project
PID 75044156

- Habitat Points
 - Additional Upland Points
 - Lynx Observations (Confirmed and Possible)
 - Field Delineated Watercourses
 - Development Area
 - Study Area
 - Field Delineated Wetlands
- WL2 Sub-Types**
- Disturbed Cattail-Dominated Bog
 - Disturbed Cattail-Dominated Swamp
 - Mixedwood Swamp
 - Open Bog
 - Tree/Shrub Bog



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

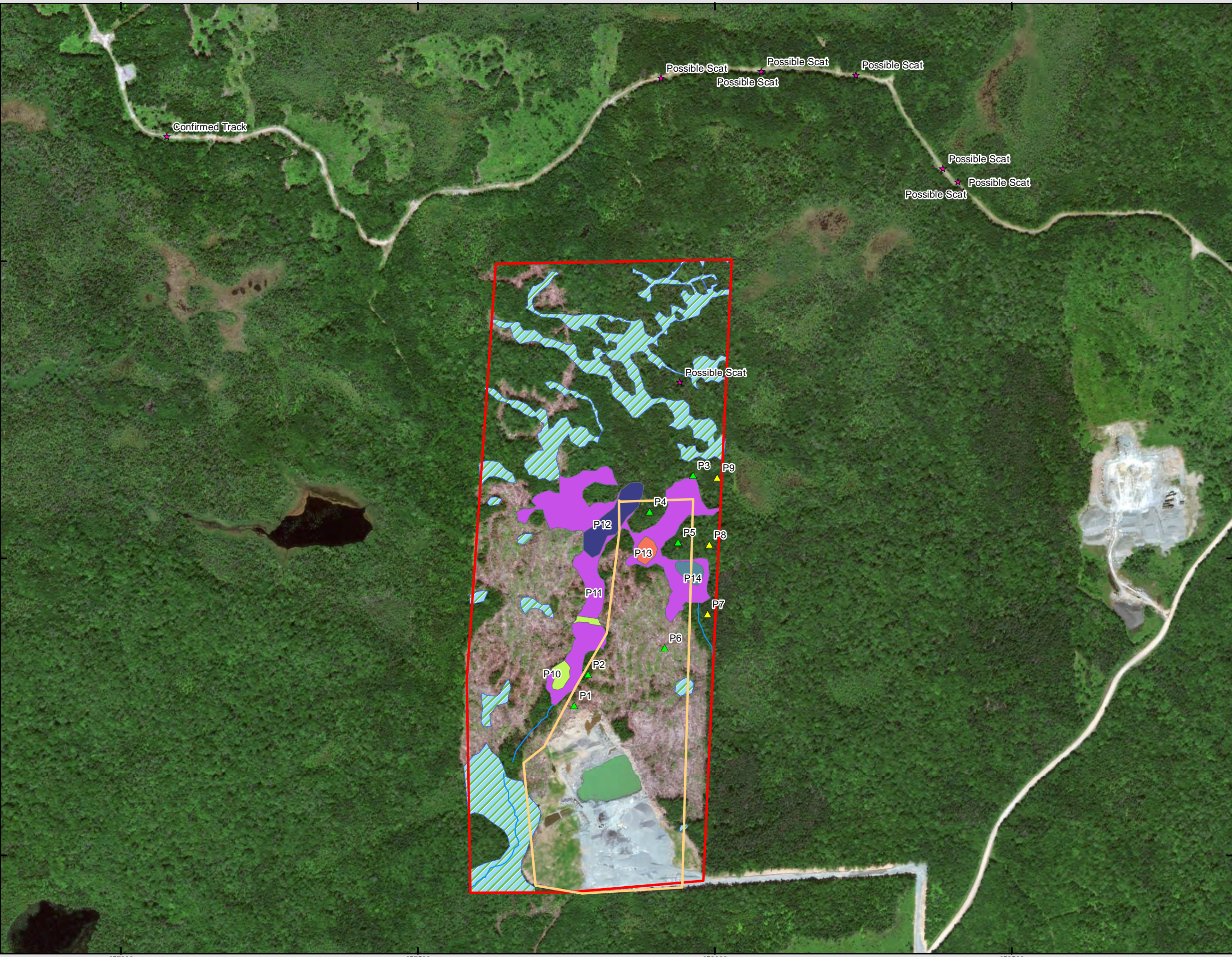


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Drawn By: A. Stoffer Date: 2020-01-09



McCallum Environmental Ltd.



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APPENDIX B. CVS

Years in Practice

10.5 years

Certifications

Nova Scotia Advanced
Wetlands Delineator and
Evaluator

Memberships

Nova Scotia Wetlands
Delineation, Maritime
College of Forest
Technology

Education

- BSc. (Horticulture),
Essex University (UK),
2003-2005

Training

- Wetland Functional
Assessment Training
Workshop, NSE 2013
- Urban Wetland
Restoration: A
Watershed Approach,
2012
- Nova Scotia Advanced
Wetlands Delineation
and Evaluation Course,
2010;
- Water Management and
Wetland Restoration
Training Course, 2014;
- Identifying and
Delineating Wetlands
for Nova Scotia, 2009
- Watercourse Alteration
Certification (Nova
Scotia Environment)
(2008)
- Saint John Ambulance
Emergency First Aid,
AED, CPR(C). 2016

Summary

Mr. Walter is a trained biologist and wetland specialist, and has extensive experience managing technical biophysical projects within Atlantic Canada. Mr. Walter is knowledgeable in federal, provincial, and municipal environmental regulations and guidelines applicable to Atlantic Canada, and works closely with all necessary regulatory agencies to facilitate project implementation. As senior project manager, Mr. Walter ensures biophysical field programs are tailored to the needs of the client and project, while meeting regulatory standards. Mr. Walter has provided environmental support to the planning process in a wide range of project types including residential development, industrial projects (mining, pit and quarry), transmission line and hydro dam infrastructure and highway construction to name a few. Mr. Walter has managed the environmental processes associated with multiple wind energy developments in Nova Scotia, including compilation of provincial environmental assessment (EA) documents, and implementation of associated EA biophysical field surveys, as well as acquiring pertinent environmental information required for regulatory permitting.

As a trained field biologist, Mr. Walter has completed terrestrial and stream habitat assessments, and flora and fauna surveys, including desktop reviews and characterization of biophysical environments. Mr. Walter also completes numerous fish habitat/watercourse assessments for effects monitoring, watercourse alteration, and HADD authorization projects. Assessments have also included water quality sampling, benthic sampling, and biophysical characterization (channel depth and width, stream velocity, fish habitat assessment) of water bodies.

As a qualified wetland delineator and wetland function evaluator for Atlantic Canada, Andy has completed delineation of hundreds of wetlands. Projects often involve the completion of species at risk assessments, functions assessments, and detailed wetland characterization in support of provincial wetland alteration applications. In addition, Mr. Walter assists in the identification of potential wetland restoration and creation sites for wetland and fish habitat alterations, reviews databases, mapping, and aerial imagery, completes ground truthing and consults with local environmental groups and government to identify potential sites. Following alteration approval, Mr. Walter supervises construction activities for numerous construction projects in wetland habitat ensuring that erosion and sedimentation control measures are implemented prior to construction, and monitors activities during construction to ensure wetland protection measures are effective.

Project Experience

- Managing a Provincial Environmental Impact Assessment for a proposed 20MW wind Project in New Brunswick.
- Managing a Provincial Environmental Assessment (baseline surveys, effects assessment and mitigation) for a quarry expansion in Pictou County, NS (2018).
- Managing a Provincial Environmental Assessment (baseline surveys, effects assessment and mitigation) for a quarry expansion in Hants County, NS (2018-2019).
- Managing environmental CEAA screening and associated wetland and watercourse alteration permits for the Paqtnkek Interchange Project for NSTIR (2014-2018).

Andy Walter, BSc. (Hort)
andy@mccallumenvironmental.com

Senior Project Manager

- Managing an environmental screening and associated wetland and watercourse alteration permits for the NSTIR Highway 102/103 Interchange project (2016-2018).
- Managing, and currently in the process of implementing a new wetland functional assessment tool for use in Nova Scotia. This Project included the collection of baseline wetland information across Nova Scotia by completing 120 wetland functional assessments using the Wetland Ecosystem Services Protocol (WESP). Ongoing collaboration with Nova Scotia Environment to support the rolling out of this method to wetland practitioners.
- Management and implementation of a 18 hectare agricultural wetland restoration project in Middle Stewiacke, NS.
- Management and completion of terrestrial habitat mapping, wetland delineation and vegetation surveys in support of EA and regulatory permitting for the South Canoe Wind Project (80MW wind Project in Nova Scotia) 2011-2014.
- Management of a multi-faceted avian study in support of a provincial EA at Aulds Cove, NS.
- Completion of six provincial environmental assessments and baseline surveys for community wind projects in Nova Scotia in 2012-2014.
- Terrestrial habitat mapping, wetland delineation and vegetation surveys in support of a 65km distribution transmission line in central Nova Scotia.
- Wetland delineation, species at risk, watercourses and flora surveys at the site of a proposed quarry in Nova Scotia. Subsequent facilitation of wetland alteration permit to alter in excess of 20 hectares of wetland.
- Implemented the passive wetland restoration strategy at a disturbed wetland on NSDNR property. Completed regular monitoring of vegetation, soil, and hydrology conditions and developed project recommendations accordingly (2009-2011).
- Wetland delineation, species at risk, watercourses and flora surveys at the site of a proposed 22km railway line and shipping container terminal in eastern Nova Scotia (2012-2014).
- Completion of wetland delineation and watercourse identification and associated regulatory permitting at multiple developments in Nova Scotia (2009-2016).

Work Experience

Strum Environmental Services Ltd., Nova Scotia 2008-2015

Environmental Specialist/Project Manager- provided project management expertise for development clients across Atlantic Canada. Projects included environmental assessment, large scale commercial, residential and wind power developments, wetland and watercourse alteration projects, wetland compensation planning and implementation, wetland restoration and creation projects, avian studies, and regulatory consultation.

Years in Practice

2

Education

B.Sc. (Honours, Biology),
University of Ottawa,
2009-2013.

Master of Resource and
Environmental
Management, Dalhousie
University, 2013-2015.

Training

- ♦ Fish Habitat Restoration Watercourse Alteration Installer, 2017
- ♦ Saint John Ambulance Standard First Aid, AED, CPR(C), 2017
- ♦ Marine Emergency Duties – A1, 2014
- ♦ W.H.M.I.S – 2013
- ♦ PADI Open Water Certified Suba Diver - 2013

Summary

Ms. Stoffer has worked in environmental consulting and research since 2014. She has worked on both project related and research related field assessments in Nova Scotia and Quebec.

Experience

McCallum Environmental Ltd. - Halifax, Nova Scotia

Junior Environmental Scientist:

July 2017-Present

Completing biophysical assessments, including flora and fauna surveys, with emphasis on species at risk. Completing wetland and watercourse delineations and assessments. Communicating field survey results and methodologies for environmental assessments and other provincial regulatory applications.

Tasks:

- Flora and fauna field surveys
- Species at risk assessments
- Watercourse and wetland identification and assessment
- Wetland delineation
- Reporting of methodology and results for environmental assessment
- Provincial regulatory applications
- Construction monitoring
- GIS

Clean Annapolis River Project – Annapolis Royal, Nova Scotia

Project Leader and Fisheries Technician:

July 2016 – July 2017

Led the planning, coordination, and implementation of fish passage and in-stream restoration work within the Annapolis River watershed. Conducted data collection through field surveys, ecological monitoring, and stakeholder consultation.

Tasks:

- In-stream and culvert restoration
- Fish habitat, water quality, and fish passage assessments
- Watershed management planning
- Staff and student training
- Community and stakeholder engagement

Stantec – Dartmouth, Nova Scotia

Environmental Scientist:

April – September 2014 (Student Contract)

Conducted and coordinated field studies as part of environmental impact assessments, including on-shore and vessel-based marine mammal surveys. Compiled, processed, and analyzed data for technical reports. Developed project work plans and training documents for field surveys.

Tasks:

- Marine mammal population and habitat utilization surveys
- Statistical analysis using R software
- Reporting of methodology and results for environmental assessment

6 Lakeshore Drive
East Lawrencetown, N.S.
B2Z 1N9

902 483-6693
cpepper@ymail.com

Chris Pepper

Environmental consultant experienced in bird identification, wetland delineation, plant identification and rare lichen assessments.

Experience-Boreal Felt Lichen

Over 3000 hours completing Boreal Felt Lichen surveys for various organizations including Stantec, McCallum Environmental, Strum Environmental, Mersey Tobeatic Research Institute, Northern Pulp, Port Hawkesbury Paper, Nature Conservancy of Canada, Nova Scotia Nature Trust, and others.

Experience-Avian Assessments

Over 4000 hours completing avian assessment surveys in Nova Scotia, Newfoundland and Alberta. Worked for various companies including Strum Environmental, McCallum Environmental, WSP Ltd, CBCL Ltd, Nature Conservancy of Canada and Canadian Wildlife Service.

Experience-Wetland Delineation

Wetland surveys for various companies including McCallum Environmental, Strum Environmental and others.

Other projects

Conducted Wood Turtle surveys on various rivers in Nova Scotia for CWS-Environment Canada.
Conducted Tern and Seabird surveys on offshore islands for CWS/Env. Canada
Conducted Mainland Moose surveys for several wind farms and various other developments.
Conducted rare plant surveys for several developments.

Training and

Wetland Plant Adaptation and Identification – Fern Hill Institute course July 2012

Wetland Delineation – Fern Hill Institute course July 2012

St. John Ambulance Emergency First Aid CPR “A” and AED

Maintain personal WCB coverage

Volunteer Experience

Nova Scotia Nature Trust – Surveyed several offshore islands on the eastern shore for birds, plants and lichens regarding the 100 Wild Islands project.

Maritime Nocturnal Owl Survey – 2009-present.

Maritime Breeding Bird Atlas – 2009-2010.

Mersey Tobeatic Research Center – Conducting surveys for the endangered Boreal Felt Lichen and other lichens.

Provincial Coordinator for Nova Scotia Migration Count – 2010-2016

Director for Nova Scotia Bird Society – 2009-present.

Active participant in Christmas Bird Counts – 2008-present.

Years in Practice

4

Education

B.Sc. (Geography),
University of Victoria,
2005-2009.

M.Sc. (Environmental
Science), Memorial
University of
Newfoundland and
Labrador, 2010-2013.

Training

- ◆ Watercourse Identification, 2019
- ◆ Technical Writing, 2019
- ◆ At-Risk Landbird Identification Workshop, 2018
- ◆ Saint John Ambulance Standard First Aid, AED, CPR(C), 2017
- ◆ Wildlife Awareness training – 2015
- ◆ W.H.M.I.S – 2015
- ◆ Geographic Information System (GIS) Training, ESRI – 2013
- ◆ Facilitation Skills for Technical Professionals, Dalhousie University – 2017

Summary

Ms. Posluns has been in the environmental consulting profession since 2015. She has worked on both project related and research related field assessments in Nova Scotia.

Ms. Posluns is responsible for completing biophysical assessments, including flora and fauna surveys, avian surveys, aquatic surveys, wetland monitoring and species at risk evaluations, primarily for clients in the energy sector, mining sector, and commercial development sector. Ms. Posluns has been responsible for the management of field data for multiple, large-scale initiatives in Nova Scotia, including a provincial infrastructure project and a mining development.

Selected Project Experience

- Responsible for technical writing for multiple federal and provincial level Environmental Assessments. M
- Conducted migratory bird surveys for a provincial infrastructure project, which included auditory and visual identification of avian species.
- Delineated wetlands, conducted functional wetland assessments, completed watercourse identification and vegetation assessments for multiple large-scale developments in Nova Scotia.
- Collaborated with communities, local resource users, and First Nations to implement solutions.
- Coordinated spatial data organization, performed GIS analysis, and created dynamic maps for a variety of projects.

Experience

McCallum Environmental Ltd., Halifax, Nova Scotia

Environmental Scientist:

June 2017-Present

- Completing avian surveys and other biophysical assessments, with emphasis on species at risk.
- Completing wetland and watercourse delineations and assessments and coordinating data management and Geographical Information Systems (GIS).
- Communicating field survey results and methodologies for Environmental Assessments and other Provincial regulatory applications.
- Preparing Phase 1 Environmental Site Assessments.

CBCL LTD., Halifax, Nova Scotia

Environmental Scientist

September 2015 – April 2017.

- Completed migratory bird point count surveys and nocturnal owl surveys, while efficiently and effectively following protocols.
- Created GIS maps for over 20 projects, including six 100-page map books, effectively visualizing contaminated sites, ecologically sensitive habitats, and urban development.
- Aerially interpreted and delineated wetlands.
- Conducted species at risk background searches and field visits.
- Prepared reports for a variety of assessments, including permit applications and Environmental Management Plans.
- Assisted with marine water quality sampling.

OceanCanada Partnership, Halifax, Nova Scotia
Environmental Scientist

September 2015 – April 2017.

- Facilitated community meetings and provided expertise to help a group with local area development planning.
- Conducted interviews and community-wide surveys of a rural fishing village to create a database of local assets.
- Summarized findings of community assets into an accessible written document.
- Lead a marine-monitoring program in an ecologically sensitive bay, coordinating 15 volunteers in fieldwork, identifying and assessing eelgrass health and distribution, sample collection, and data entry.
- Investigated social, ecological, and economic changes within coastal communities to make suggestions on future development.

Saint Mary's University, Halifax, Nova Scotia
Professor of Geography

August 2015 – April 2016.

- Explained technical environmental information clearly and concisely to Canadian and International students, ensuring all students had a supportive learning atmosphere.
- Designed new course material that engaged students and enhanced their learning experience.
- Worked with students one-on-one to solve conflicts.

Regional District of North Okanagan, Vernon, British Columbia
Water Sustainability Coordinator

2013 – 2014.

- Worked under the BC Water Act, and maintained a comprehensive understanding of provincial and local policy, regulations, and bylaws.
- Compiled and analysed large datasets, assessing trends, and informing local policy.
- Effectively communicated with team members.

Years in Practice

5

Education

B.Sc. (Honours, Biology),
Waterloo University,
2009-2011.

Training

- ◆ Saint John Ambulance
Standard First Aid,
AED, CPR(C), 2015
- ◆ Wildlife Awareness
training and ATV
training – 2015
- ◆ W.H.M.I.S – 2015
- ◆ H2S Alive - 2015

Summary

Mr. Gallop has been in the environmental consulting profession since 2011. He has worked on both project related and research related field assessments in Nova Scotia, Alberta and Saskatchewan.

Mr. Gallop is responsible for completing biophysical assessments, including flora and fauna surveys, aquatic surveys (wetlands, watercourses and fish surveys), avian surveys, and species at risk evaluations, primarily for clients in the energy sector, mining sector, and commercial development sector. Mr. Gallop has been responsible for the implementation of 5 environmental baseline programs for mining, quarry development and energy sector development projects in Nova Scotia and Saskatchewan in advance of environmental assessment registration.

Selected Project Experience

- Completion of migratory bird surveys for a large scale renewable energy project.
- Completion of ungulate and other wildlife surveys for a variety of Natural Resource projects.
- Completion of environmental baseline surveys for the federal environmental assessment process for proposed development of two gold mines in eastern Nova Scotia in 2016-2018 across 2500 hectares of landscape in Nova Scotia
 - Wetland delineation and functional assessment
 - Fish habitat surveys and electrofishing
 - Rare plant surveys
 - Wildlife surveys
 - Avian surveys
 - Lichen surveys
- Completion of wetland delineation, watercourse identification and vegetation assessments of two large scale developments in Saskatchewan and Nova Scotia in 2015 and 2016.
- Responsible for collecting baseline data for the calibration of the Wetland Ecosystems Services Protocol (WESP) for the Province of Nova Scotia.

Experience

McCallum Environmental Ltd., Halifax, Nova Scotia

Biologist and Environmental Specialist:

April 2016-Present

- Completing biophysical assessments, including flora and fauna surveys, with emphasis on species at risk. Completing wetland and watercourse delineations and assessments and coordinating migratory bird monitoring. Communicating field survey results and methodologies for Environmental Assessments and other Provincial regulatory applications.

Basin Environmental LTD., - Edmonton, Alberta.

Environmental Technologist

September 2014 – February 2016..

- Utilized the Alberta Wetland Classification system to assess wetlands and the Wetland Rapid Evaluation Tool to determine compensation required for impacts to classified wetlands.
- Aerially interpreted and delineated wetlands.
- Conducted species at risk background searches and field visits.
- Conducted pre-disturbance assessments for oil and gas activities, road improvements and residential developments, including: watercourses/waterbodies, soil profiling, vegetation, wildlife, eco-sites and timber volumes.
- Prepared reports for a variety of assessments, including: wetlands, pre-disturbance, bio-physicals, fish habitats for access road watercourse crossings, EAP/EFR supplements and applications.
- Monitored the water quality of horizontal directional drilling on fish bearing permanent watercourses.
- Assisted surveyors and construction engineers on-site in the design of oil and gas well leases and facilities, pipelines and access roads to ensure compliance with EAP Standards and Guidelines.

APPENDIX C. PRIORITY SPECIES LIST

Appendix C
Sporting Mountain Quarry Priority Species List



Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
FLORA						
<i>Vaccinium uliginosum</i>	Alpine Bilberry				S3	Wide tolerance of moisture and fertility, but generally acidic soils in Halifax, Digby & Cape Breton
<i>Polygonum viviparum</i>	Alpine Bistort				S1	Damp slopes, gravels or rock. A single community identified near St. Peters, Richmond County.
<i>Salix serissima</i>	Autumn Willow				S1	Fens (calcium-rich wetlands), meadows and fields, swamps
<i>Comandra umbellata</i>	Bastard's Toadflax				S2	Grows in damp sands, as on headlands, in barrens, dunes and evergreen forests in Antigonish & Cape Breton
<i>Comandra umbellata ssp. umbellata</i>	Bastard's Toadflax				S2	Grows in damp sands, as on headlands, in barrens, dunes and evergreen forests in Antigonish & Cape Breton
<i>Geranium bicknellii</i>	Bicknell's Crane's-bill				S3	Colonizes recently burned or cleared land; recently exposed lakeshores, Sporadic from southern counties to central Nova Scotia.
<i>Polygala sanguinea</i>	Blood Milkwort				S3	Prefers acidic or run-out soil as found in fallow fields or brushlands, scattered through central portion of province.
<i>Galium obtusum</i>	Blunt-leaved Bedstraw				S2S3	Found in wet soils as in bogs and thickets. Coastal plain in distribution, limited to the Tusket River valley. Also Lake Rossignol, Queens Co.
<i>Galium obtusum ssp. obtusum</i>	Blunt-leaved Bedstraw				S2S3	swamps, swampy grounds, wet areas of prairies, wet woods and thickets, roadside ditches.
<i>Betula pumila var. renifolia</i>	Bog Birch				S1?	Bogs and meadows amongst alders
<i>Betula pumila var. pumila</i>	Bog Birch				S3	Bogs and meadows amongst alders
<i>Salix pedicellaris</i>	Bog Willow				S2	Grows in acidic substrate as in bogs; nutrient-rich marshes and in sphagnous lacustrine habitats.

Appendix C
Sporting Mountain Quarry Priority Species List



Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Juncus bulbosus</i>	Bulbous Rush				S1S2	Found along the edges of fresh water: ditches, ponds canals, and especially in disturbed alkaline conditions on Sable Island and Eastern CB.
<i>Lilium canadense</i>	Canada Lily				S2	Meadows, floodplains and streamsides. Local; from Kings and Cumberland counties eastward to southern Cape Breton.
<i>Lilium canadense ssp. canadense</i>	Canada Lily				S2	Meadows, floodplains and streamsides.
<i>Polygonum scandens</i>	Climbing False Buckwheat				S3	Grows on low ground in riparian zones, becoming luxuriant after trees are cleared. Uncommon and local from Digby to Richmond counties on the northern side of the province.
<i>Polygonum scandens var. scandens</i>	Climbing False Buckwheat				S3	Grows on low ground in riparian zones, becoming luxuriant after trees are cleared. Uncommon and local from Digby to Richmond counties on the northern side of the province.
<i>Eupatorium dubium</i>	Coastal Plain Joe-pye-weed				S2	Found in wet meadows, damp thickets, shores, and along the roadside. It grows best in full sun but can also grow in semi-shade and enjoys grows well-drained soil that is moisture retentive.
<i>Galium aparine</i>	Common Bedstraw				S2S3	Pastures, fields, ditches and streamsides. Very common throughout.
<i>Humulus lupulus var. lupuloides</i>	Common Hop				S1?	Anthropogenic (man-made or disturbed habitats), floodplain (river or stream floodplains), forests, shrublands or thickets.
<i>Carex chordorrhiza</i>	Creeping Sedge				S1	Grows in wetlands: bogs, fens and marshes. It has been recently found in the Amherst area of Cumberland county.
<i>Ranunculus sceleratus</i>	Cursed Buttercup				S1S2	Anthropogenic (man-made or disturbed habitats), fresh tidal marshes or flats, marshes, swamps.
<i>Ranunculus sceleratus var. sceleratus</i>	Cursed Buttercup				S1S2	Anthropogenic (man-made or disturbed habitats), fresh tidal marshes or flats, marshes, swamps.
<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower				S1S2	Floodplain (river or stream floodplains), forests, shores of rivers or lakes, swamps, wetland margins (edges of wetlands).

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Rudbeckia laciniata</i> <i>var. gaspereauiensis</i>	Cut-Leaved Coneflower				S1S2	Floodplain (river or stream floodplains), forests, shores of rivers or lakes, swamps, wetland margins (edges of wetlands).
<i>Botrychium dissectum</i>	Cut-leaved Moonwort				S3	Generally in sandy, gravelly, grassy or open soils. Frequent in the southwestern counties, scattered eastward to Cape Breton
<i>Vaccinium caespitosum</i>	Dwarf Bilberry				S3	Cliff or talus slope, disturbed sites, field meadow.
<i>Vaccinium caespitosum</i> <i>var. caespitosum</i>	Dwarf Bilberry				S3	Cliff or talus slope, disturbed sites, field meadow.
<i>Floerkea proserpinacoides</i>	False Mermaidweed				S2	Limited to ravine slopes beneath deciduous forests, riparian forests. Known from several Cape Breton localities, such as Glenora Falls. Reported from Coldbrook and Sheffield Mills, Kings Co., Truro and Antigonish Co.
<i>Carex alopecoidea</i>	Foxtail Sedge				S1	Anthropogenic (man-made or disturbed habitats), floodplain (river or stream floodplains), forests, marshes.
<i>Lactuca hirsuta</i>	Hairy Lettuce				S2	Grows in dryish soils in open forest and cut-overs scattered through western NS
<i>Lactuca hirsuta</i> <i>var. sanguinea</i>	Hairy Lettuce				S2	Grows in dryish soils in open forest and cut-overs scattered through western NS
<i>Platanthera hookeri</i>	Hooker's Orchid				S3	Grows in open dry forests of mixed conifers. Scattered in most of the province, local in the southwestern counties. So far absent from the eastern shore.
<i>Galium labradoricum</i>	Labrador Bedstraw				S2	Alkaline soils in wet meadows, bogs. Limited to Cape Breton counties.
<i>Botrychium lanceolatum</i> <i>var. angustisegmentum</i>	Lance-Leaf Grape-Fern				S2S3	Fertile soils on woodland hillsides.
<i>Platanthera macrophylla</i>	Large Round- Leaved Orchid				S2	Grows in deciduous or mixed deciduous forests. Found from Hants Co. through the Cobequids to Cape Breton.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Hypericum majus</i>	Large St John's-wort				S2	Wet or dry open soil. Widely scattered locations. Until recently, only known from Halifax area and Big Baddeck, Victoria County, and thought to be historic.
<i>Pyrola minor</i>	Lesser Pyrola				S3	Characteristic of mature coniferous forests. Scattered north from Digby neck to Kentville and east to Cape Breton.
<i>Carex granularis</i>	Limestone Meadow Sedge				S1	Anthropogenic (man-made or disturbed habitats), meadows and fields, shores of rivers or lakes, wetland margins (edges of wetlands).
<i>Carex rariflora</i>	Loose-flowered Alpine Sedge				S1	Limited to fens and calcareous bogs and heaths. Known from Scatarie Island and Baleine, Cape Breton Co.
<i>Carex rariflora</i> var. <i>rariflora</i>	Loose-flowered Alpine Sedge				S1	Limited to fens and calcareous bogs and heaths. Known from Scatarie Island and Baleine, Cape Breton Co.
<i>Hordeum brachyantherum</i>	Meadow Barley				S1	Anthropogenic (man-made or disturbed habitats).
<i>Hordeum brachyantherum</i> ssp. <i>brachyantherum</i>	Meadow Barley				S1	Anthropogenic (man-made or disturbed habitats).
<i>Goodyera oblongifolia</i>	Menzies' Rattlesnake-plantain				S3	Found in deciduous upland forests and ravines. So far known only from northern Cape Breton, where it is scattered, in Victoria and Inverness Counties.
<i>Juncus stygius</i>	Moor Rush				S2	Bogs, bog pools and wet moss. Limited to Cape Breton localities, where it may be common but local.
<i>Juncus stygius</i> ssp. <i>americanus</i>	Moor Rush				S2	Bogs, bog pools and wet moss. Limited to Cape Breton localities, where it may be common but local.
<i>Arnica lonchophylla</i>	Northern Arnica				S1	Limited to calcareous gravels, cliff ledges. Rare and known only from Cape Breton: Grand Anse River, Inverness Co.; Big Southwest Brook, Victoria Co. and an unknown site in Richmond Co.
<i>Arnica lonchophylla</i> ssp. <i>lonchophylla</i>	Northern Arnica				S1	Limited to calcareous gravels, cliff ledges. Rare and known only from Cape Breton: Grand Anse River, Inverness Co.; Big Southwest Brook, Victoria Co. and an unknown site in Richmond Co.
<i>Betula borealis</i>	Northern Birch				S2	Bogs and wooded swamps.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Viola nephrophylla</i>	Northern Bog Violet				S2	Cool, mossy sites: bogs, streamsides and wet woods. Rare in Shelburne Co., Colchester and Cumberland counties northward. Generally a northern ranging species within NS.
<i>Lycopodium complanatum</i>	Northern Clubmoss				S3S4	Open woodlands, thickets, heathland and rocky slopes;
<i>Galium kamtschaticum</i>	Northern Wild Licorice				S3	Fertile deciduous forests and ravines. Associated in the north with fir-birch boreal forest. Known only from Cape Breton.
<i>Platanthera flava</i> <i>var. herbiola</i>	Pale Green Orchid				S2	Anthropogenic (man-made or disturbed habitats), floodplain (river or stream floodplains), forest edges, forests, fresh tidal marshes or flats, grassland, meadows and fields, riverine (in rivers or streams), shrublands or thickets, swamps, wetland margins (edges of wetlands), woodlands.
<i>Impatiens pallida</i>	Pale Jewelweed				S2	Alluvial soils as along intervalees and in thickets. Uncommon from Kings Co., Isle Haute, to northern Cape Breton and more frequent eastward.
<i>Carex pensylvanica</i>	Pennsylvania Sedge				S1?	Grows in dry, rocky soils as in dry open woodlands. Scattered from Annapolis and Lunenburg counties to Northern Cape Breton.
<i>Polygonum pennsylvanicum</i>	Pennsylvania Smartweed				S3	Frequently seen in roadside ditches, edges of cultivated fields and along dyked marshes. Generally northern, from Annapolis and Queens to Cape Breton counties.
<i>Carex plantaginea</i>	Plantain-Leaved Sedge				S1	Forests.
<i>Crataegus submollis</i>	Quebec Hawthorn				S2?	edges of fields and thickets, Antigonish and Lunenburg Co. to Cape Breton
<i>Antennaria rosea</i>	Rosy Pussytoes				S1	Dry, open places, meadows, and open woods. It has very recently been confirmed at Cape d'Or.
<i>Antennaria rosea</i> <i>ssp. arida</i>	Rosy Pussytoes				S1	Dry, open places, meadows, and open woods. It has very recently been confirmed at Cape d'Or.
<i>Carex rosea</i>	Rosy Sedge				S3	Grows in dry soils beneath deciduous forests and thickets. Common from Annapolis Co. to northern Cape Breton.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Plantago rugelii</i>	Rugel's Plantain				S3	Anthropogenic (man-made or disturbed habitats), grassland, meadows and fields.
<i>Plantago rugelii</i> var. <i>rugelii</i>	Rugel's Plantain				S3	Anthropogenic (man-made or disturbed habitats), grassland, meadows and fields.
<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2	saturated, calcareous, usually gravelly or sandy soils. Typical habitats include stream and river banks or floodplain terraces, fens, and old quarries or gravel pits. Rare and Local. Yarmouth Shore and in coastal Pictou county. Single collection in Cape Breton
<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S2	bog, swamp. Widely scattered localities in province
<i>Carex argyrantha</i>	Silvery-flowered Sedge				S3S4	Sandy soils in thickets and clearings. Patchy distribution from Annapolis and Cumberland counties to Northern Cape Breton.
<i>Carex digitalis</i>	Slender Wood Sedge				S1	forested habitats: deciduous or mixed deciduous. Kejimikujik National Park
<i>Carex digitalis</i> var. <i>digitalis</i>	Slender Wood Sedge				S1	forested habitats: deciduous or mixed deciduous. Kejimikujik National Park
<i>Agalinis paupercula</i>	Small-flowered Agalinis				S1	meadows and fields, shores of rivers or lakes, wetland margins
<i>Luzula parviflora</i>	Small-flowered Woodrush				S3S4	alluvial soils in intervale forests and rocky streambeds. Scattered in Northern Cape Breton and west to coastal areas of Cumberland Co.
<i>Carex tenuiflora</i>	Sparse-Flowered Sedge				S1	fen and mixed wood forest. Little Harbour, Richmond Co.
<i>Halenia deflexa</i> ssp. <i>brentoniana</i>	Spurred Gentian				S1?	forest edge, forests, meadows and fields
<i>Veronica serpyllifolia</i> ssp. <i>humifusa</i>	Thyme-Leaved Speedwell				S2S3	Moist soils, fields and roadsides. Common Throughout

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Equisetum variegatum</i>	Variegated Horsetail				S3	wetlands or wet seeps. Wide ranging in NS, with disjunct localities: Halifax County, Cumberland Co., Victoria Co.
<i>Equisetum variegatum</i> var. <i>variegatum</i>	Variegated Horsetail				S3	wetlands or wet seeps. Wide ranging in NS, with disjunct localities: Halifax County, Cumberland Co., Victoria Co.
<i>Lysimachia quadrifolia</i>	Whorled Yellow Loosestrife				S1	Disturbed habitat, grassland, woodlands
<i>Carex wiegandii</i>	Wiegand's Sedge				S3	Treed bogs, bogs, conifer and alder thickets. Cape Breton Island, Shelburne Co.
<i>Allium schoenoprasum</i>	Wild Chives				S2	disturbed habitats, floodplain, meadows and fields, ridges or ledges, shores of rivers and lakes.
<i>Allium schoenoprasum</i> var. <i>sibiricum</i>	Wild Chives				S2	disturbed habitats, floodplain, meadows and fields, ridges or ledges, shores of rivers and lakes.
<i>Fragaria vesca</i>	Woodland Strawberry				S3S4	shady forests and ravines. Brier Island to Kings and Cumberland counties. To northern Cape Breton
<i>Fragaria vesca</i> ssp. <i>americana</i>	Woodland Strawberry				S3S4	shady forests and ravines. Brier Island to Kings and Cumberland counties. To northern Cape Breton
<i>Juncus subcaudatus</i>	Woods-Rush				S3	Conifer woods and spruce swamps, where substrate is soggy. Yarmouth to Kings and Halifax Counties. Richmond County
<i>Juncus subcaudatus</i> var. <i>planisepalus</i>	Woods-Rush				S3	Conifer woods and spruce swamps, where substrate is soggy. Yarmouth to Kings and Halifax Counties. Richmond County
<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper				S2S3	and occasionally under mixed deciduous trees
<i>Caltha palustris</i>	Yellow Marsh Marigold				S2	open or treed swamps, alder marshes and meadows. Northumberland coastal plain: Mabou, Northeast Margaree, Margaree River, Terre Noir. St. Joseph-du-Moine, Cheticamp, Pleasant Bay area, all Inverness

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
						county. North shore of Merigomish Island, Pictou County. Kings county represents introductions
<i>Caltha palustris</i> <i>var. palustris</i>	Yellow Marsh Marigold				S2	open or treed swamps, alder marshes and meadows. Northumberland coastal plain: Mabou, Northeast Margaree, Margaree River, Terre Noir. St. Joseph-du-Moine, Cheticamp, Pleasant Bay area, all Inverness county. North shore of Merigomish Island, Pictou County. Kings county represents introductions
<i>Utricularia ochroleuca</i>	Yellowish-white Bladderwort				S1	rooted free floating plant
FAUNA						
<i>Anguilla rostrata</i>	American Eel	No SStatus	Threatened		S2	Move from salt water into fresh water when quite young and spend their adult life in fresh water returning to spawn in tropical oceans up to several decades later. Widely distributed in freshwaters, estuaries and coastal marine waters connected to the Atlantic Ocean. Although small streams may be critical to the persistence of eels in a watershed, they may use these streams only once or twice a year, while moving to and from more preferred habitats.
<i>Culaea inconstans</i>	Brook Stickleback				S3	This species generally occupies cool, clear, heavily weeded, spring-fed creeks, small rivers, lakes, and ponds, usually in shallow, quiet to flowing pools and backwaters over sand or mud. Sometimes it burrows into soft bottoms. Occasionally this fish can be found in brackish water. In a lake in Manitoba, adults were most abundant at the outer margin of emergent vegetation (Moodie 1986). Eggs are deposited in a nest made of plant material by the male just above the bottom in shallow water
<i>Lynx canadensis</i>	Canadian Lynx		Not at Risk	Endangered	S1	Prefers old growth boreal forests with dense undercover, but the lynx will live in other habitats where undercover and prey numbers are adequate. They are often found in regenerating forests after a fire - where the snowshoe hare population has increased. When prey is scarce in the forested areas, the lynx will venture on to the tundra for food.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Perimyotis subflavus</i>	Eastern Pipistrelle	Endangered	Endangered	Endangered	S1	Prefers partly open country with large trees and woodland edges. Avoids deep woods and open fields. Probably roosts in the summer in tree foliage and occasionally in buildings; may use cave as night roost between foraging forays. Usually hibernates in caves and mines with high humidity. Generally, maternity colonies utilize manmade structures or tree cavities; often in open sites that would not be tolerated by most other bats
<i>Lasiurus borealis</i>	Eastern Red Bat				S1S2B, S1M	The red bat lives in forests, forest edges and hedgerows. It roosts among foliage, usually in deciduous trees, but it will sometimes roost in coniferous trees.
<i>Pekania pennanti</i>	Fisher				S3	Fishers inhabit upland and lowland forests, including coniferous, mixed, and deciduous forests. They occur primarily in dense coniferous or mixed forests, including early successional forest with dense overhead cover. Fishers commonly use hardwood stands in summer but prefer coniferous or mixed forests in winter. They generally avoid areas with little forest cover or significant human disturbance. Cape Breton Population is provincially endangered.
<i>Lasiurus cinereus</i>	Hoary Bat				S1S2B, S1M	Hoary bats are thought to be rare in Nova Scotia. Insectivorous, migratory. Poorly known. Authorities disagree as to the bat's preference for coniferous versus broadleaf trees. Hoary bats are thought to prefer trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.
<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	For <i>Myotis lucifugus</i> , the maternity colonies often exist in warm sites that facilitate pup growth rates, such as attics of buildings and under bridges, in rock crevices, or in cavities of canopy trees in forests. Males roost during daytime in a wide variety of structures, including buildings and bridges (mainly <i>M. lucifugus</i>), rock crevices, behind flaking bark, and within tree cavities, often at many different sites during the summer. <i>Myotis</i> species generally roost in tall, large-diameter snags that are in the early to middle stages of decay and located in open areas within mature-overmature forest. <i>Myotis lucifugus</i> congregates in caves and abandoned mines used for hibernation through the winter. About 16 hibernation sites are known in Nova Scotia.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Sorex dispar</i>	Long-tailed Shrew				S2	Mountainous, forested areas (deciduous or evergreen) with loose talus. Rocky damp areas with deep crevices covered by leaf mold and roots are preferred. May occur along small mountain streams. Will use artificial talus created by road construction and pit mines. Trapping results reported by Richmond and Grimm suggest that Long-tailed Shrews spend most of their time in the labyrinth of spaces between rocks about a foot beneath the surface. Nest sites are usually associated with natural subterranean tunnels among boulder crevices. Range Map: http://maps.iucnredlist.org/map.html?id=41394
<i>Sorex maritimensis</i>	Maritime Shrew				S3	The maritime shrew is most often found in marshes and wet medos. It is only found in two provinces in Canada: New Brunswick and Nova Scotia.
<i>Alces americanus</i>	Moose			Endangered	S1	Moose are herbivores who live in boreal and mixed-wood forests. They are often found where there is an abundance of food (twigs, stems, and foliage of young deciduous trees and shrubs). In spring, islands and peninsulas are often used by cows when giving birth. In summer, access to wetlands (and aquatic vegetation) is important.
<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	Endangered	Endangered	Endangered	S1	The Northern Long-eared Bat (<i>Myotis septentrionalis</i>) is found in many regions of Canada. Although there are numerous records of its presence in eastern Canada and the United States, it has only been recorded sporadically in the west. This particular type of bat has two habitats: a winter hibernation habitat as well as a summer roosting and foraging habitat. The Northern Long-eared Bat hibernates in caves or abandoned mines during the cold winter months. During the summer months the Bats commonly use crevices behind peeling bark or cavities in partially-decayed trees as summer day roosts. Within thick forests, summer activity may be focused along watercourses and small ponds

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Margariscus margarita</i>	Pearl Dace				S3	Cool, clear headwater streams in the south, bog drainage streams, ponds and small lakes in the north, and in stained, peaty waters of beaver ponds" (Scott and Crossman 1973). Usually over sand or gravel (Page and Burr 1991). Spawns in clear water over sand or gravel in weak or moderate current (Scott and Crossman 1973).
<i>Microtus chrotorrhinus</i>	Rock Vole				S2	Optimal habitat for the rock vole is ferns/mossy debris near flowing water in coniferous forests. It also occupies deciduous forest/spruce clearcuts (mainly recent cuts), forest ecotones, grassy balds near forest, and sterile-looking rocky road fills. Occupies shallow burrows and runways. Nests probably are placed under logs or in similar protected sites. They are made of moss with a lining of grass and have multiple entrance tunnels. Breeding season is from March to mid-October.
<i>Synaptomys cooperi</i>	Southern Bog Lemming				S3	The southern bog lemming is rarely found in bogs in Nova Scotia; generally rare and very local in forest habitats, especially rocky ones, except on periphery of Cape Breton Highlands where it is fairly common on forested talus slopes.
<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2	Habitat destruction and fragmentation due to intense development and accompanying stream alterations are serious problems in the southeastern portion of the Wood Turtle's range. protection of wooded stream corridors, nesting, feeding, basking, and overwintering sites, and an upland buffer would be necessary to include in preserve design Lives along permanent streams during much of each year, but in summer may roam widely overland and can be found in a variety of terrestrial habitats adjacent to streams, from deciduous woods, cultivated fields, and woodland bogs, to marshy pastures. Use of woodland bogs and marshy fields is most common in the northern part of the range
AVIFAUNA						
<i>Falco sparverius</i>	American Kestrel				S3B	American Kestrels favor open areas with short ground vegetation and sparse trees. Observed in meadows, grasslands, deserts, parks, farm fields, cities, and suburbs. The southeastern U.S. form breeds in unusual longleaf pine sandhill habitat. When breeding, kestrels need access to at least a few trees or structures that provide appropriate nesting cavities. American Kestrels are attracted to many habitats modified by humans, including pastures and parkland, and are often

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
						found near areas of human activity including towns and cities.
<i>Icterus galbula</i>	Baltimore Oriole				S2S3B	The Baltimore Oriole is an adaptable species (found breeding in diverse habitats), but typically favors woodland edge (especially riparian) and open areas with scattered trees; strong preference for deciduous over coniferous trees. During spring and fall migration, it is found in variety of habitats, but generally favors open woodlands, woodland margins, hedgerows, and urban parks.
<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S2S3B	The Bank Swallow breeds wherever suitable nesting sites in banks and cliffs are available. Nesting colonies are usually found near open areas, and often close to water. Bank Swallows will also nest in artificial banks, such as road cuttings and gravel pits. Found in all regions of the Maritimes, but scarce in many inland forested areas.
<i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Endangered	S2S3B	In the Maritimes the Barn Swallow breeds everywhere there are buildings and other structures that provide sheltered, dry nest-sites, even nesting on isolated cabins in deep woodland and on fishing shacks on offshore islands. A recent innovation, in remote logging areas with no alternatives, has been their basing nests on bolt-heads low in the sides of large corrugated metal culverts. However, nests in natural situations, in caves or under overhanging cliffs, usually close to water, are very rare.
<i>Dendroica castanea</i>	Bay-breasted Warbler				S3S4B	The Bay-breasted Warbler is one of the less widespread warblers, breeding in a narrow band across the closed boreal forests from northeast British Columbia to western Newfoundland, and south just into the U.S.A. Although during migrations and while foraging it is often seen in mixed stands, this bird nests only in conifers. Reaching highest densities in Balsam Fir forest infested with spruce budworm.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	In the Maritimes, the Black-backed Woodpecker is widely but thinly distributed in conifer forests throughout, becoming more common farther north. The Black-backed Woodpecker is very local in southwest Nova Scotia. These birds forage on trees damaged by forest insects, especially bark beetles, and their characteristic flaking-off of bark fragments in search of food can be an aid in detecting them. Nests here are often in quite open situations, such as cut-over areas, open jack pine stands, and the edges of woodland gardens.
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3B	In the northern parts of its range, the black-billed cuckoo's numbers vary greatly from year to year in response to outbreaks of both the forest and orchard species of tent caterpillars, on which it feeds. It is associated with open woodland and forest edge and nests in small trees and tall shrubs.
<i>Dendroica striata</i>	Blackpoll Warbler				S3S4B	In the Maritimes, the blackpoll warbler breeds mainly in cool, damp spruce forests. During spring and fall migration, it uses a variety of habitats, although often partial to spruces, even when they are only a small component of the habitat.
<i>Poecile hudsonica</i>	Boreal Chickadee				S3	The Boreal chickadee prefers conifer, and especially spruce, forests all across the northern regions of Canada. Boreal Chickadees are found in all parts of the Maritimes. Most are residents, but some wander after breeding season.
<i>Aegolius funereus</i>	Boreal Owl		Not at Risk		S2?B	The Boreal owl breeds across the boreal forests of North America and Eurasia, and nests in woodpecker holes and other tree cavities. In Nova Scotia, the only breeding records are from Cape Breton island.
<i>Wilsonia canadensis</i>	Canada Warbler	Threatened	Threatened	Endangered	S3B	In Nova Scotia, the Canada warbler has only been found sparsely on Cape Breton Island and in the extreme southwest of the province. They are less predictable from habitat than most warblers, they are usually found in dense understory vegetation of mature to mid-aged mixed forest, most closely associated with broad-leafed trees and shrubs, but with conifers usually present too.

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Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Dendroica tigrina</i>	Cape May Warbler				S2B	In summer, the Cape May warbler is found in northern conifer forests. One of several warbler species that attain high densities during spruce budworm outbreaks, but is more usual in mature spruces than in balsam fir stands. Activity is mostly at the tops of tall spruces. Rarely observed in the southwest of Nova Scotia due to unsuitable habitat.
<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2B,S1M	The chimney swift is most often seen on the wing and while entering their nesting places; these are often in chimneys or old cabins in the forest, but most swifts originally nested, and still nest in hollow trees.
<i>Chordeiles minor</i>	Common Nighthawk	Threatened	Special Concern	Threatened	S2B	Common nighthawks nest on sparsely vegetated or bare ground in open "wastelands" such as pine barrens, forest cut-overs, or burns, and secondarily on flat roofs of buildings.
<i>Accipiter cooperii</i>	Cooper's Hawk		Not at Risk		S1?B	The Cooper's hawk is a bird of broad-leafed and mixed woodlands, often hunting along wood-edges in settled areas.
<i>Sialia sialis</i>	Eastern Bluebird		Not at Risk		S3B	The Eastern bluebird nests in woodpecker holes, as well as nest-boxes. They forage in open areas of low vegetation with scattered trees for nesting.

Appendix C
Sporting Mountain Quarry Priority Species List



Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3B	In its breeding range, the eastern kingbird uses open environments; usually breeds in fields with scattered shrubs and trees, orchards, along shelterbelts, and especially along woodland edges in forested regions. A “savannah species”, but given suitable nest sites and perches, will nest in many other habitats—e.g., desert riparian, quaking aspen (<i>Populus tremuloides</i>) parkland, recently burned forest, beaver ponds, golf courses and forested river valleys, and urban environments with tall trees and scattered open spaces. Also appears drawn to water; often nests densely in trees that overhang water or in dead, standing snags surrounded by water.
<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	The eastern wood-peewee is a bird of openings and edges more than of closed forest, in the Maritimes, and they readily use well-spaced shade trees in rural and urban settlements. Associated with broad-leafed trees.
<i>Passerella iliaca</i>	Fox Sparrow				S3S4B	The fox sparrow is often associated with dense damp shrubbery of alders and other small broad-leafed trees in its inland range. On Nova Scotia's outer coasts, they will also frequent stunted spruces and shrubby bogs.
<i>Dumetella carolinensis</i>	Gray Catbird				S3B	The gray catbird inhabits shrubbery in both upland and river-edge situations, mostly in areas where tree cover is of broad-leafed species. The Maritimes are at the northeast edge of its range, and catbirds are nearly absent in upland areas of northern New Brunswick, in Prince Edward Island and Cape Breton Island, as well as in regions with extensive conifer forest cover.
<i>Perisoreus canadensis</i>	Gray Jay				S3	Winters in the understory of tropical forests.
<i>Phalacrocorax carbo</i>	Great Cormorant				S2S3	On migration it uses wooded sites with a thick understory.
<i>Asio otus</i>	Long-eared Owl				S2S3	The long-eared owl frequents woodlands large or small, dense or open, conifer or broad-leafed, at all seasons, but it also forages over open areas.

Appendix C
Sporting Mountain Quarry Priority Species List



Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Accipiter gentilis</i>	Northern Goshawk		Not at Risk		S3S4	Though it is more generally found in the boreal forest region, likely because less often disturbed there, the Northern goshawk is also widespread in more temperate habitats. It nests in most forest types found throughout its geographic range. In eastern deciduous forests, Goshawks prefer nesting in mature, mixed hardwood-hemlock stands of birch (<i>Betula</i> sp.), beech (<i>Fagus</i> sp.), maple (<i>Acer</i> sp.), and eastern hemlock. Found scattered throughout the forests of the Maritimes. Hunts in diverse habitats ranging from open-sage steppes to dense forests, including riparian areas.
<i>Mimus polyglottos</i>	Northern Mockingbird				S1B	The Northern mockingbird uses open habitats with scattered shrubs and small trees. In the East, typical habitats are parkland, cultivated lands, and early successional habitat at low elevations. Throughout its range found in suburban and urban habitats such as gardens and cemeteries, especially favoring mowed lawns adjacent to bare areas (e.g. concrete, asphalt, and sidewalks) with access to shrubs or hedges for cover and nesting. Absent from the interior of all forested habitat but frequents forest edge. Found in the same habitat year-round.
<i>Contopus cooperi</i>	Olive-sided Flycatcher	Threatened	Special Concern	Threatened	S2B	The olive-sided flycatcher is found in open woodlands and other places where scattered trees remain after cutting or fire in forested regions. Found throughout the Martimes, but not abundantly.
<i>Vireo philadelphicus</i>	Philadelphia Vireo				S2?B	This Philadelphia vireo is found mainly in broad-leaved trees, in pure or mixed woods, but it sings and forages more often in young stands and in the sub-canopy. Breeding has never been proven in Nova Scotia.
<i>Pinicola enucleator</i>	Pine Grosbeak				S2S3B,S5N	In the Maritimes, the pine grosbeak approaches the southern limit of its range, they are found generally in Nova Scotia. In general they avoid warmer, hardwood-dominated regions.

Appendix C
Sporting Mountain Quarry Priority Species List



Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Carduelis pinus</i>	Pine Siskin				S2S3	The pine siskin is primarily found in open coniferous forests. Also breeds in ornamental conifers in parks, cemeteries, and the like, and in mixed coniferous-deciduous and even deciduous tree associations. May forage in trees, shrubs, and grassy areas.
<i>Loxia curvirostra</i>	Red Crossbill				S3S4	Red Crossbills are found in mature coniferous forests.
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S2S3B	Rose-breasted grosbeaks use a wide variety of habitats, including deciduous and mixed wooded uplands and lowlands; often at shrubby ecotones at the edge of woods at streams, ponds, marshes, roads, or pastures. Also commonly uses second-growth woodlands and well-vegetated suburban areas, parks, gardens, and orchards. Exhibits a preference for mesic woodlands, swamp forests, riparian corridors; avoids dry oak (<i>Quercus</i> spp.) woodlands. Uses a wide variety of habitats during spring and fall migration.
<i>Regulus calendula</i>	Ruby-crowned Kinglet				S3S4B	Ruby-crowned Kinglets prefer spruce-fir forests, however they also live in mixed wood forests, isolated trees in meadows, coniferous and deciduous forests, mountain-shrub habitat, and floodplain forests of oak, pine, spruce or aspen.
<i>Piranga olivacea</i>	Scarlet Tanager				S2B	The scarlet tanager inhabits a wide variety of deciduous and mixed deciduous-coniferous forest types. Prefers mature forest, especially where oaks (<i>Quercus</i> spp.) are common, but may occur in young successional woodlands. Occasionally occurs in extensive plantings of shade trees in suburban areas, parks, and cemeteries.
<i>Vermivora peregrina</i>	Tennessee Warbler				S3S4B	In its breeding range, the Tennessee warbler is associated with Boreal zone in deciduous, mixed, and coniferous forests from near sea level to 450 m. Associated with open areas that contain grasses, dense shrubs, and scattered clumps of young deciduous trees.

Appendix C
Sporting Mountain Quarry Priority Species List

Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
<i>Catharus fuscescens</i>	Veery				S3S4B	Veeries breed in rich deciduous woodland and forest with well-developed understory across northern North America. Wintering birds select the same habitat structure in the tropics. On migration, you might encounter the species in nearly any woodlot or other treed habitat.
<i>Pooecetes gramineus</i>	Vesper Sparrow				S2B	The vesper sparrow is considered a moderate habitat generalist, breeding in dry, open habitats with short, sparse, and patchy herbaceous vegetation; some bare ground; and low to moderate shrub or tall forb cover. Generally avoids wet areas with tall, dense vegetation. Occupies a broad range of grassland habitat types, including native prairie, semidesert grasslands, montane and desert shrublands, sagebrush steppe, montane meadows, old fields, pastures, haylands, reclaimed surface mines, weedy fencelines, croplands, weedy roadsides, and woodland edges with scattered trees and shrubs. Probably requires song perches, such as fences, shrubs, crop residue, tall weeds, woodlands bordering fields. During spring and fall migration, it uses Pastures and weeds bordering cultivated fields and roadsides, hedgerows, and barren to overgrown fields. Throughout much of range, commonly found near grassy or weedy ditches and fencerows, since fields are still barren upon arrival in early spring.
<i>Vireo gilvus</i>	Warbling Vireo				S1B	Throughout range, shows a strong association with mature mixed deciduous woodlands especially along streams, ponds, marshes, and lakes but sometimes in upland areas away from water. Also found in young deciduous stands that emerge after a clear-cut. Other habitats include urban parks and gardens, orchards, farm fencerows, campgrounds, deciduous patches in pine forests, mixed hardwood forests, and, rarely, pure coniferous forests. During spring and fall migration, it appears to use a wide variety of forested (similar to breeding) and shrubby habitats and can be found in trees of urban areas.
<i>Gallinago delicata</i>	Wilson's Snipe				S3B	The Wilson's snipe breeds in sedge bogs, fens, willow (<i>Salix</i> spp.) and alder (<i>Alnus</i> spp.) swamps, and marshy edges of ponds, rivers, and brooks. Requires soft organic soil rich in food organisms just below surface, with clumps of vegetation offering both cover and good view of approaching predators. Avoids marshes with tall, dense vegetation (cattails [<i>Typha</i>], reeds [<i>Phragmites</i>], etc.). In Canada, they use four primary types of breeding habitat: sedge bogs, fens, swamps, and pond

Appendix C
Sporting Mountain Quarry Priority Species List



Scientific Name	Common Name	SARA	COSEWIC	NSESA	S-Rank	Habitat Requirements
						and river edges. During spring and fall migration, they use marshes (including cattails), swamps, wet meadows, wet pastures, wet fallow fields, and marshy edges of streams and ditches. As during the breeding season, they require wet organic soils rich in food with clumps of cover.
<i>Wilsonia pusilla</i>	Wilson's Warbler				S3B	Western montane, northern, and northeastern populations of Wilson's warbler are restricted to mesic shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone; may reach into alpine zone. During spring and fall migration, occurs in most deciduous shrub habitats, but primarily riparian shrub understory. Also found in most other woodlands, suburban habitats, agricultural areas, desert scrub, and montane forests.
<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened		SUB	The wood thrush breeds in the interior and edges of deciduous and mixed forests, especially well-developed, upland, mesic ones. Key elements of breeding sites include: trees >16 m in height, high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter. Habitat use during spring and fall migration is poorly documented, in fall probably uses second-growth and forest-edge habitats with fruit. No data for spring transients to suggest deviation from breeding season habitats.
<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher				S3S4B	The yellow-bellied flycatcher is a characteristic breeding bird of Canadian boreal conifer forests and peatlands. It nests in typically cool, moist conifer or mixed forests, bogs, swamps, and muskegs; landscapes often flat or poorly drained. Breeding habitat is usually well stratified, with open canopy, saplings and seedlings, shrubs, and abundant, thick moss cover. Shade is provided by conifer trees and saplings, as well as layers of shrubs, ferns, and herbs; undergrowth is usually dense.
<i>Falco sparverius</i>	American Kestrel				S3B	American Kestrels favor open areas with short ground vegetation and sparse trees. Observed in meadows, grasslands, deserts, parks, farm fields, cities, and suburbs. The southeastern U.S. form breeds in unusual longleaf pine sandhill habitat. When breeding, kestrels need access to at least a few trees or structures that provide appropriate nesting cavities. American Kestrels are attracted to many habitats modified by humans, including pastures and parkland, and are often found near areas of human activity including towns and cities.

APPENDIX D. PLANT LIST

VASCULAR PLANT LIST

Scientific Name	Common Name	SRank
<i>Abies balsamea</i>	Balsam Fir	S5
<i>Acer rubrum</i>	Red Maple	S5
<i>Acer saccharum</i>	Sugar Maple	S4S5
<i>Acer spicatum</i>	Mountain Maple	S5
<i>Achillea millefolium</i>	Common Yarrow	SNA
<i>Alnus incana</i>	Speckled Alder	S5
<i>Anaphalis margaritacea</i>	Pearly Everlasting	S5
<i>Anthoxanthum odoratum</i>	Large Sweet Vernal Grass	SNA
<i>Aralia hispida</i>	Bristly Sarsaparilla	S5
<i>Aralia nudicaulus</i>	Wild Sarsaparilla	S5
<i>Betula alleghaniensis</i>	Yellow Birch	S5
<i>Betula papyrifera</i>	Paper Birch	S5
<i>calamagrostis pickeringii</i>	Pickering's Reed Grass	S4S5
<i>Calla palustris</i>	Wild Calla	S4
<i>Carex brunnescens</i>	Brownish Sedge	S5
<i>Carex canescens</i>	Silvery Sedge	S5
<i>Carex communis</i>	Fibrous-Root Sedge	S5
<i>Carex crinita</i>	Fringed Sedge	S5
<i>Carex debilis</i>	White-edged Sedge	S5
<i>Carex deflexa</i>	Northern Sedge	S4
<i>Carex deweyana</i>	Dewey's Sedge	S5
<i>Carex disperma</i>	Two-seeded Sedge	S5
<i>Carex echinata</i>	Star Sedge	S5
<i>Carex exilis</i>	Coastal Sedge	S4
<i>Carex folliculata</i>	Northern Long Sedge	S5
<i>Carex intumescens</i>	Bladder Sedge	S5
<i>Carex leptalea</i>	Bristly-stalked Sedge	S5
<i>Carex leptoneura</i>	Finely-Nerved Sedge	S5
<i>Carex magellanica</i>	Boreal Bog Sedge	S5
<i>Carex nigra</i>	Smooth Black Sedge	S5
<i>Carex novae-angliae</i>	New England Sedge	S5
<i>Carex pallescens</i>	Pale Sedge	S5
<i>Carex pauciflora</i>	Few-Flowered Sedge	S4S5
<i>carex projecta</i>	Necklace Sedge	S5
<i>Carex scabrata</i>	Rough Sedge	S5
<i>carex scoparia</i>	Broom Sedge	S5
<i>Carex stipata</i>	Awl-fruited Sedge	S5
<i>Carex stricta</i>	Tussock Sedge	S5
<i>Carex trisperma</i>	Three-seeded Sedge	S5
<i>Chelone glabra</i>	White Turtlehead	S5
<i>Coptis trifolia</i>	Goldthread	S5
<i>Corallorhiza trifida</i>	Early Coralroot	S4
<i>Cornus canadensis</i>	Bunchberry	S5
<i>Cypripedium acaule</i>	Pink Lady's-Slipper	S5
<i>Dactylis glomerata</i>	Orchard Grass	SNA
<i>Dalibarda repens</i>	False Violet	-
<i>Danthonia spicata</i>	Poverty Oat Grass	S5
<i>Dicentra cucullaria</i>	Dutchman's Breeches	S4
<i>Dichanthelium boreale</i>	Northern Panic Grass	S5
<i>Doellingeria umbellata</i>	Hairy Flat-top White Aster	S5

Appendix D
Sporting Mountain Quarry



Scientific Name	Common Name	SRank
<i>Drosera intermedia</i>	Spoon-Leaved Sundew	S5
<i>Drosera rotundifolia</i>	Round-leaved Sundew	S5
<i>Dryopteris campyloptera</i>	Mountain Wood Fern	S5
<i>Dryopteris cristata</i>	Crested Wood Fern	S5
<i>Eleocharis tenuis</i>	Slender Spikerush	S5
<i>Epigea repens</i>	Trailing Arbutus	S5
<i>Epilobium ciliatum</i>	Northern Willowherb	S5
<i>Epilobium leptophyllum</i>	Bog Willowherb	S5
<i>Equisetum arvense</i>	Field Horsetail	S5
<i>Equisetum sylvaticum</i>	Woodland Horsetail	S5
<i>Eriophorum virginicum</i>	Tawny Cottongrass	S5
<i>Eriophorum viridicarnarum</i>	Green-keeled Cottongrass	S4
<i>Eupatorium perfoliatum</i>	Common Boneset	S5
<i>Euphrasia nemorosa</i>	Common Eyebright	S5
<i>Eurybia radula</i>	Low Rough Aster	S5
<i>Festuca filliformis</i>	Hair Fescue	SNA
<i>Festuca trachyphylla</i>	Hard Fescue	SNA
<i>Fragaria Virginiana</i>	Wild Strawberry	S5
<i>Fraxinus americana</i>	White Ash	S5
<i>Galium asprellum</i>	Rough Bedstraw	S5
<i>Galium mollugo</i>	Smooth Bedstraw	SNA
<i>Galium palustre</i>	Common Marsh Bedstraw	S5
<i>Gaultheria hispidula</i>	Creeping Snowberry	S5
<i>Geum rivale</i>	Water Avens	S5
<i>Glyceria canadensis</i>	Canada Manna Grass	S5
<i>Glyceria striata</i>	Fowl Manna Grass	S5
<i>Gnaphalium uliginosum</i>	Marsh Cudweed	SNA
<i>Goodyera tesseleta</i>	Checkered Rattlesnake-Plantain	S4
<i>Gymnocarpium dryopteris</i>	Common Oak Fern	S5
<i>Hieracium lachenelii</i>	Common Hawkweed	SNA
<i>hordeum jubatum</i>	Foxtail Barley	S5
<i>Hypericum canadense</i>	Canada St John's-wort	S5
<i>Illex mucronata</i>	Mountain Holly	S5
<i>Impatiens capensis</i>	Spotted Jewelweed	S5
<i>Iris versicolor</i>	Harlequin Blue Flag	S5
<i>Jacobaea vulgaris</i>	Tansy Ragwort	SNA
<i>Juncus bufonias</i>	Toad Rush	S5
<i>Juncus canadensis</i>	Canada Rush	S5
<i>Juncus effusus</i>	Soft Rush	S5
<i>Kalmia angustifolia</i>	Sheep Laurel	S5
<i>Larix laricina</i>	Tamarack	S5
<i>Leucanthemum vulgare</i>	Oxeye Daisy	SNA
<i>Linnaea borealis</i>	Twinflower	S5
<i>Lonicera canadensis</i>	Canada Fly Honeysuckle	S5
<i>Lonicera villosa</i>	Mountain Fly Honeysuckle	S4S5
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	SNA
<i>Luzula multiflora</i>	Common Woodrush	S5
<i>Lycopus americanus</i>	American Water Horehound	S5
<i>Lycopus uniflorus</i>	Northern Water Horehound	S5
<i>Lysimachia borealis</i>	Northern Starflower	S5
<i>Lythrum salicaria</i>	Purple Loosestrife	SNA
<i>Maianthemum canadensis</i>	Wild Lily-of-The-Valley	S5

Appendix D
Sporting Mountain Quarry



Scientific Name	Common Name	SRank
<i>Maianthemum trifolium</i>	Three-leaved False Solomon's Seal	S5
<i>Medicago sativa</i>	Alfalfa	SNA
<i>Melilotus officinalis</i>	Yellow Sweet-clover	SNA
<i>Mitchella repens</i>	Partridgeberry	S5
<i>Mitella nuda</i>	Naked Bishop's-Cap	S4S5
<i>Muhlenbergia uniflora</i>	Bog Muhly	S5
<i>Nabalus altissimus</i>	Tall Rattlesnakeroot	S5
<i>Neottia cordata</i>	Heart-leaved Twayblade	S4
<i>Oclemena nemoralis</i>	Bog Aster	S5
<i>Oclemena x blakei</i>	a hybrid White Panicked American-Aster	S5
<i>Odontites vulgaris</i>	Red Bartsia	SNA
<i>Onoclea sensibilis</i>	Sensitive Fern	S5
<i>Osmunda regalis</i>	Royal Fern	S5
<i>Osmundastrum cinnamomeum</i>	Cinnamon Fern	S5
<i>Oxalis Montana</i>	Common Wood Sorrel	S5
<i>Oxalis stricta</i>	European Wood Sorrel	S5
<i>Packera schweinitziana</i>	Schweinitz's Groundsel	S4
<i>Persicaria sagittata</i>	Arrow-leaved Smartweed	S5
<i>Phegopteris Connectilus</i>	Northern Beech Fern	S5
<i>Phleum pratense</i>	Common Timothy	SNA
<i>Picea Mariana</i>	Black Spruce	S5
<i>Picea rubens</i>	Red Spruce	S5
<i>Pinus strobus</i>	Eastern White Pine	S5
<i>Plantago major</i>	Common Plantain	SNA
<i>Platanthera clavellata</i>	Club Spur Orchid	S5
<i>Platanthera dialata</i>	White Bog Orchid	S4S5
<i>Poa pratensis</i>	Kentucky Blue Grass	S5
<i>Poa saltuensis</i>	Weak Blue Grass	S5
<i>Polypodium virginianum</i>	Rock Polypody	S5
<i>Polystichum acrostichoides</i>	Christmas Fern	S5
<i>Potentilla norvegica</i>	Rough Cinquefoil	S5
<i>Prunella vulgaris</i>	Common Self-heal	S5
<i>Peridium aquilinum</i>	Bracken Fern	S5
<i>Radiola linoides</i>	Tiny Allseed	SNA
<i>Ranunculus acris</i>	Common Buttercup	SNA
<i>Ranunculus repens</i>	Creeping Buttercup	SNA
<i>Rhynchospora alba</i>	White Beakrush	S5
<i>Ribes glandulosum</i>	Skunk Currant	S5
<i>Rosa nitida</i>	Shining Rose	S4S5
<i>Rubus alleghaniensis</i>	Alleghaney Blackberry	S5
<i>Rubus idaeus</i>	Red Raspberry	S5
<i>Rubus pubescence</i>	Dwarf Red Raspberry	S5
<i>Rumex acetosilla</i>	Sheep Sorrel	SNA
<i>Salix discolor</i>	Pussy Willow	S5
<i>Scirpus cyperinus</i>	Common Woolly Bulrush	S5
<i>scirpus hattorianus</i>	Mosquito Bulrush	S5
<i>Scorzonerooides autumnalis</i>	Autumn Hawkbit	SNA
<i>Sisyrinchium montanum</i>	Mountain Blue-eyed-grass	S5
<i>Solanum dulcamara</i>	Bittersweet Nightshade	SNA
<i>Solidago rugosa</i>	Rough-stemmed Goldenrod	S5
<i>Solidago uliginosa</i>	Northern Bog Goldenrod	S5
<i>Sorbus americana</i>	American Mountain Ash	S5

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Sporting Mountain Quarry



Scientific Name	Common Name	SRank
<i>Sparganium emersum</i>	Green-fruited Burreed	S5
<i>Spiranthes cernua</i>	Nodding Ladies'-Tresses	S5
<i>Stellaria graminea</i>	Little Starwort	SNA
<i>Symphyotrichum cordifolium</i>	Heart-leaved Aster	S4S5
<i>Symphyotrichum lateriflorum</i>	Calico Aster	S5
<i>Symphyotrichum puniceum</i>	Purple-stemmed Aster	S5
<i>Taraxacum officinale</i>	Common Dandelion	SNA
<i>Thalictrum pubescens</i>	Tall Meadow-Rue	S5
<i>Thelypteris noveboracensis</i>	New York Fern	S5
<i>Thelypteris palustris</i>	Eastern Marsh Fern	S5
<i>Trichophorum alpinum</i>	Alpine Clubrush	S4
<i>Trifolium arvense</i>	Rabbit's-foot Clover	SNA
<i>Trifolium pratense</i>	Red Clover	SNA
<i>Tussilago farfara</i>	Coltsfoot	SNA
<i>Typha latifolia</i>	Broad-leaved Cattail	S5
<i>Utricularia sp.</i>	-	-
<i>Vaccinium oxycoccos</i>	Small Cranberry	S5
<i>Veronica americana</i>	American Speedwell	S5
<i>Veronica officinalis</i>	Common Speedwell	SNA
<i>vicia cracca</i>	Tufted Vetch	SNA
<i>Viola mackayloskii</i>	Small White Violet	S5

Note: Scientific names used are in accordance to the latest ACCDC species list retrieved in October 2019. Scientific names may no longer be in use, however, for consistency in this report, species names in the ACCDC species list are used.

APPENDIX E. MBBA RESULTS



Square Summary (20PR55)

#species (1st atlas)				#species (2nd atlas)				#hours	#pc done		
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
42	6	24	72	31	7	18	56	12	30.2	0	0

Region summary (#24: Southwest Cape Breton Island)

#squares	#sq with data		#species		#pc done	target	#pc
	1st	2nd	1st	2nd			
61	52	59	137	147	420	228	

Target number of point counts in this square: 14 road side, 1 off road (1 in Mature deciduous). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%			
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd		
Canada Goose		FY	7	50	Northern Goshawk			7	16	<u>Yellow-bellied Sapsucker</u>			19	50		
Wood Duck	P	H	9	23	Broad-winged Hawk ‡			3	11	<u>Downy Woodpecker</u>			40	77		
American Wigeon ‡			3	13	Red-tailed Hawk		H	40	67	Hairy Woodpecker		H	40	77		
American Black Duck	FL	P	40	67	<u>Sora</u>		H	15	18	Black-back Woodpecker			11	6		
Mallard		DD	3	20	Piping Plover †			0	6	Northern Flicker		H	S	57	94	
Mallard x Am. Black Duck			0	5	Killdeer			25	13	<u>Pileated Woodpecker</u>			25	55		
<u>Blue-winged Teal</u>	FL		21	13	<u>Spotted Sandpiper</u>		H	53	72	American Kestrel		NE	48	59		
Northern Pintail ‡			0	0	Greater Yellowlegs †			1	6	Merlin			26	33		
Green-winged Teal	P	FY	17	27	<u>Willet</u>		ON	17	20	<u>Olive-sided Flycatcher †</u>		H	42	67		
Ring-necked Duck	P	FY	32	61	Wilson's Snipe		H	T	46	64	Eastern Wood-Pewee			38	30	
Common Eider §		NE	5	10	American Woodcock			FY	15	47	<u>Yellow-bellied Flycatcher</u>		H	44	57	
Common Goldeneye			17	18	Ring-billed Gull ‡§			0	1	<u>Alder Flycatcher</u>		H	61	86		
Hooded Merganser ‡			0	1	Herring Gull §		ON	NY	36	45	<u>Least Flycatcher</u>			32	74	
Common Merganser			11	30	Great Black-backed Gull §		ON	NY	46	47	Eastern Phoebe			5	3	
Red-breast Merganser			15	25	<u>Common Tern §</u>		ON		36	32	Eastern Kingbird			23	15	
Ring-necked Pheasant		FY	3	11	Arctic Tern ‡§			1	1	<u>Blue-headed Vireo</u>		AY	55	91		
<u>Ruffed Grouse</u>	H		30	67	Razorbill ‡§			1	0	Philadelphia Vireo ‡			1	0		
Spruce Grouse			9	16	Black Guillemot ‡§			7	11	<u>Red-eyed Vireo</u>		H	57	93		
<u>Common Loon</u>	H		25	35	<u>Rock Pigeon</u>			19	59	Gray Jay		FL	H	44	47	
Pied-billed Grebe	NB	H	11	8	Mourning Dove			H	9	50	<u>Blue Jay</u>		H	50	91	
Northern Gannet ‡			0	0	Black-billed Cuckoo ‡			1	1	American Crow		FL	H	63	98	
Double-crest Cormorant §	NY	NE	36	30	Great Horned Owl			S	11	25	Common Raven		FL	H	57	84
Great Cormorant ‡§			9	1	Barred Owl			S	11	54	Tree Swallow		ON	P	59	88
American Bittern			9	16	Short-eared Owl †			0	0	Bank Swallow §		H	AE	50	25	
<u>Great Blue Heron §</u>	H		48	35	North Saw-whet Owl			1	28	Cliff Swallow §		ON	NB	23	23	
Osprey	NY	NY	36	49	Common Nighthawk †			23	13	<u>Barn Swallow</u>		H	67	55		
Bald Eagle α	NE	NY	71	81	Chimney Swift †			17	6	Black-capp Chickadee		H	H	51	93	
Northern Harrier	H	H	32	38	<u>Ruby-thr Hummingbird</u>			34	77	<u>Boreal Chickadee</u>		H	50	86		
Sharp-shinned Hawk		H	23	23	Belted Kingfisher		AE	55	84	Red-breast Nuthatch		H	S	40	76	

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Maritimes Breeding Bird Atlas - Summary Sheet for Square 20PR55 (page 2 of 2)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
White-breast Nuthatch			0	6	Blackpoll Warbler			13	25	<u>Pine Siskin</u>	H		46	44
Brown Creeper			13	28	Black-thr Blue Warbler			7	8	American Goldfinch	P	H	61	91
<u>Winter Wren</u>	H		36	38	Palm Warbler	H	H	25	40	<u>Evening Grosbeak</u>			30	55
Golden-crown Kinglet	H	H	46	84	Yellow-rumped Warbler	P	P	51	91	<u>House Sparrow</u>	ON		32	37
<u>Ruby-crown Kinglet</u>	H		55	91	Black-thr Green Warbler		S	38	77					
Veery		S	7	25	Canada Warbler †			32	15					
Bicknell's Thrush †			1	0	<u>Wilson's Warbler</u>	H		7	11					
Swainson's Thrush	H	S	59	84	Chipping Sparrow			50	42					
Hermit Thrush	H	S	57	91	Vesper Sparrow †			3	0					
American Robin	AY	S	65	100	<u>Savannah Sparrow</u>	H		57	77					
Gray Catbird			13	18	Nelson's Sh.-tail Sparrow			7	13					
Northern Mockingbird †			5	3	Fox Sparrow			17	25					
European Starling	NY	AE	55	81	Song Sparrow	AY	S	63	98					
Cedar Waxwing		P	48	93	<u>Lincoln's Sparrow</u>	H		51	74					
<u>Ovenbird</u>			48	79	<u>Swamp Sparrow</u>	H		53	77					
North Waterthrush			21	47	White-throat Sparrow	H	S	59	94					
Black-white Warbler	H	S	55	89	Dark-eyed Junco	AY	H	61	93					
<u>Tennessee Warbler</u>	H		48	15	Scarlet Tanager †			3	1					
<u>Nashville Warbler</u>	H		42	71	Rose-breast Grosbeak			32	25					
<u>Mourning Warbler</u>	H		46	76	Bobolink			36	30					
Common Yellowthroat	H	H	59	93	Red-wing Blackbird	AY	FY	61	81					
American Redstart	H	P	57	88	<u>Rusty Blackbird</u> †	A		26	8					
<u>Cape May Warbler</u>	H		15	5	Common Grackle	AY	H	61	86					
Northern Parula	H	S	53	89	Brown-head Cowbird			17	1					
Magnolia Warbler	H	P	59	94	Baltimore Oriole ‡			1	0					
<u>Bay-breasted Warbler</u>	H		30	28	Pine Grosbeak			26	33					
<u>Blackburnian Warbler</u>	H		50	77	<u>Purple Finch</u>	FL		51	91					
Yellow Warbler	H	S	57	86	Red Crossbill †			1	5					
Chestn-sided Warbler			15	47	White-winged Crossbill			21	23					

This list includes all species found during the Maritimes Breeding Bird Atlas (1st atlas: 1986-1990, 2nd atlas: 2006-2010) in the region #24 (Southwest Cape Breton Island). Underlined species are those that you should try to add to this square (20PR55). They have not yet been reported during the 2nd atlas, but were found during the 1st atlas in this square or have been reported in more than 50% of the squares in this region during the 2nd atlas so far. "Code" is the code for the highest breeding evidence for that species in square 20PR55 during the 2nd and 1st atlas respectively. The % columns give the percentage of squares in that region where that species was reported during the 2nd and 1st atlas (this gives an idea of the expected chance of finding that species in region #24). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), † (rare in the Maritimes) or † (rare in the Maritimes, documentation only required for confirmed records). Current as of 31/10/2019. An up-to-date version of this sheet is available from <http://www.mba-aom.ca/jsp/summaryform.jsp?squareID=20PR55?lang=en>

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APPENDIX F. ACCDC RESULTS

DATA REPORT 6443: Sporting Mountain, NS

Prepared 2 July 2019

by J. Churchill, Data Manager

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3.1 Managed Areas

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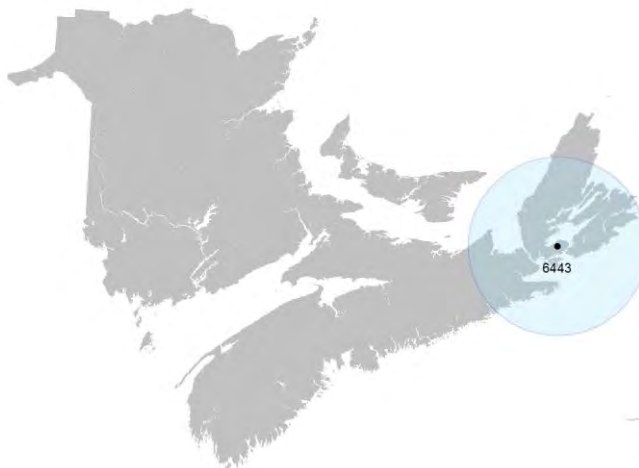
4.2 Flora

4.3 Location Sensitive Species

4.4 Source Bibliography

5.0 Rare Species within 100 km

5.1 Source Bibliography



Map 1. A 100 km buffer around the study area

1.0 PREFACE

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

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

1.1 DATA LIST

Included datasets:

Filename	Contents
SportingMtNS_6443ob.xls	All Rare and legally protected <i>Flora and Fauna</i> in your study area
SportingMtNS_6443ob100km.xls	A list of Rare and legally protected <i>Flora and Fauna</i> within 100 km of your study area
SportingMtNS_6443ma.xls	All <i>Managed Areas</i> in your study area
SportingMtNS_6443ff_py.xls	Rare and common <i>Freshwater Fish</i> in your study area (DFO database)

1.2 RESTRICTIONS

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

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

1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides metadata for the data provided.

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

Plants, Lichens, Ranking Methods, All other Inquiries

Sean Blaney, Senior Scientist, Executive Director

Tel: (506) 364-2658

sean.blaney@accdc.ca

Animals (Fauna)

John Klymko, Zoologist

Tel: (506) 364-2660

john.klymko@accdc.ca

Plant Communities

Sarah Robinson, Community Ecologist

Tel: (506) 364-2664

sarah.robinson@accdc.ca

Data Management, GIS

James Churchill, Data Manager

Tel: (902) 679-6146

james.churchill@accdc.ca

Billing

Jean Breau

Tel: (506) 364-2657

jean.breau@accdc.ca

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

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

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

Western: Duncan Bayne
(902) 648-3536
Duncan.Bayne@novascotia.ca

Western: Sarah Spencer
(902) 634-7555
Sarah.Spencer@novascotia.ca

Central: Shavonne Meyer
(902) 893-6350
Shavonne.Meyer@novascotia.ca

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

Eastern: Lisa Doucette
(902) 863-4513
Lisa.Doucette@novascotia.ca

Eastern: Terry Power
(902) 563-3370
Terrance.Power@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

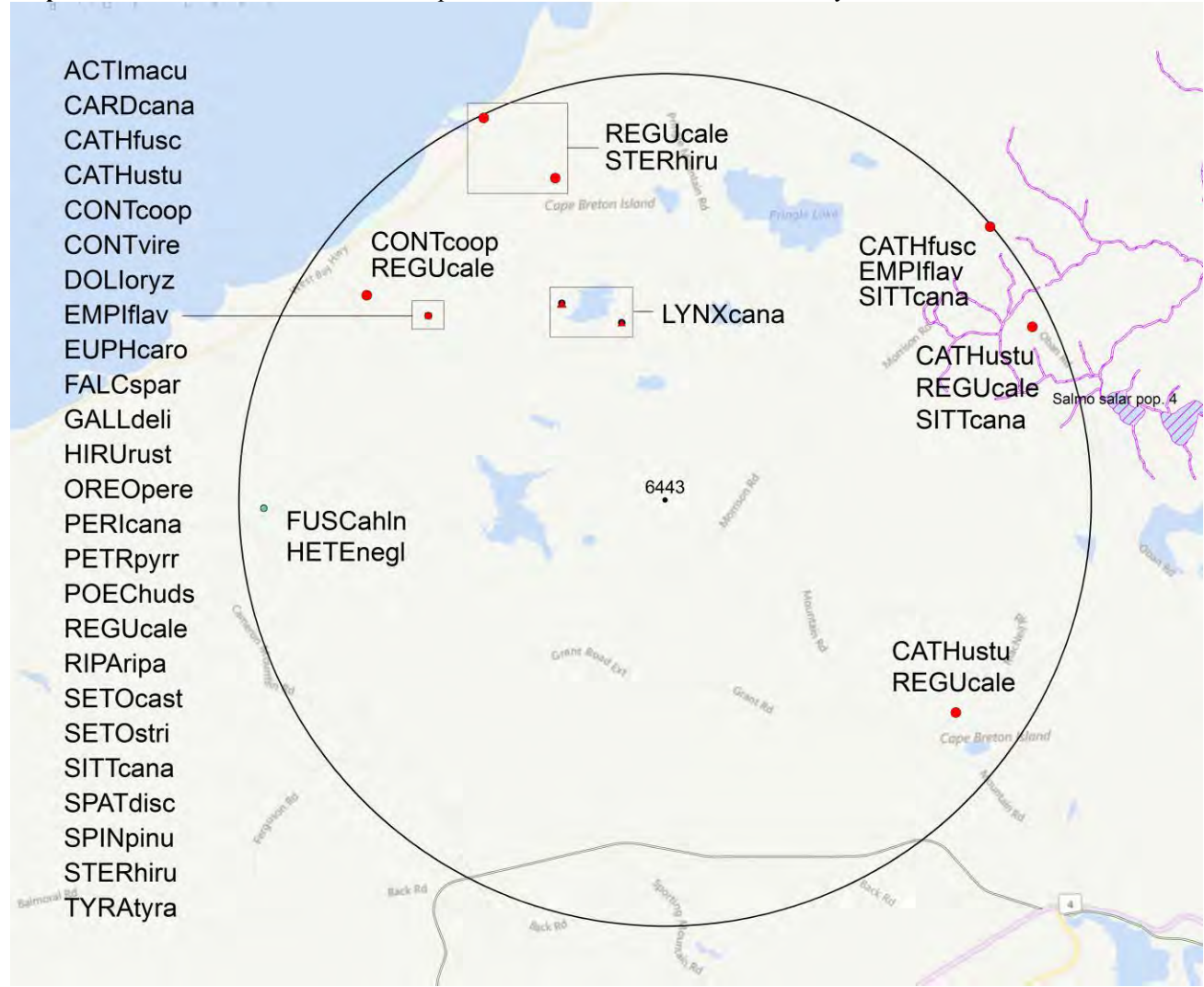
2.1 FLORA

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

2.2 FAUNA

The study area contains 64 records of 26 vertebrate and no records of invertebrate fauna (Map 2 and attached data files - see 1.1 Data List). Please see section 4.3 to determine if “location-sensitive” species occur near your study site.

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



RESOLUTION

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

HIGHER TAXON

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

3.0 SPECIAL AREAS

3.1 MANAGED AREAS

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






3.2 SIGNIFICANT AREAS

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

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



MANAGED AREAS SIGNIFICANT AREAS

-  boundary
-  boundary
-  approximate
-  approximate
-  point location

4.0 RARE SPECIES LISTS

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

4.1 FLORA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
N	<i>Fuscopannaria ahlneri</i>	Corrugated Shingles Lichen				S3	4 Secure	1	4.7 \pm 0.0
N	<i>Heterodermia neglecta</i>	Fringe Lichen				S3S4	4 Secure	1	4.7 \pm 0.0

4.2 FAUNA

	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S2S3B	2 May Be At Risk	1	3.5 \pm 7.0
A	<i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Endangered	S2S3B	1 At Risk	5	3.5 \pm 7.0
A	<i>Cardellina canadensis</i>	Canada Warbler	Threatened	Threatened	Endangered	S3B	1 At Risk	1	3.5 \pm 7.0
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	Threatened	Vulnerable	S3S4B	3 Sensitive	2	3.5 \pm 7.0
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	2 May Be At Risk	1	3.5 \pm 7.0
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S2B	1 At Risk	3	3.5 \pm 7.0
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	3 Sensitive	3	3.5 \pm 7.0
A	<i>Lynx canadensis</i>	Canadian Lynx	Not At Risk		Endangered	S1	1 At Risk	2	2.1 \pm 0.0
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B	3 Sensitive	4	3.5 \pm 7.0
A	<i>Spinus pinus</i>	Pine Siskin				S2S3	3 Sensitive	1	3.5 \pm 7.0
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B	2 May Be At Risk	1	3.5 \pm 7.0
A	<i>Perisoreus canadensis</i>	Canada Jay				S3	3 Sensitive	2	3.5 \pm 7.0
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3	3 Sensitive	3	3.5 \pm 7.0
A	<i>Sitta canadensis</i>	Red-breasted Nuthatch				S3	4 Secure	5	3.5 \pm 7.0
A	<i>Falco sparverius</i>	American Kestrel				S3B	4 Secure	3	3.5 \pm 7.0
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3B	3 Sensitive	2	3.5 \pm 7.0
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3B	3 Sensitive	1	3.5 \pm 7.0
A	<i>Spatula discors</i>	Blue-winged Teal				S3S4B	2 May Be At Risk	1	3.5 \pm 7.0
A	<i>Actitis macularia</i>	Spotted Sandpiper				S3S4B	3 Sensitive	3	3.5 \pm 7.0
A	<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher				S3S4B	3 Sensitive	2	3.5 \pm 7.0
A	<i>Regulus calendula</i>	Ruby-crowned Kinglet				S3S4B	3 Sensitive	8	3.5 \pm 7.0
A	<i>Catharus fuscescens</i>	Veery				S3S4B	4 Secure	2	3.5 \pm 7.0
A	<i>Catharus ustulatus</i>	Swainson's Thrush				S3S4B	4 Secure	5	3.5 \pm 7.0
A	<i>Oreothlypis peregrina</i>	Tennessee Warbler				S3S4B	3 Sensitive	1	3.5 \pm 7.0
A	<i>Setophaga castanea</i>	Bay-breasted Warbler				S3S4B	3 Sensitive	1	3.5 \pm 7.0
A	<i>Setophaga striata</i>	Blackpoll Warbler				S3S4B	3 Sensitive	1	3.5 \pm 7.0

4.3 LOCATION SENSITIVE SPECIES

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

Nova Scotia

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

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

4.4 SOURCE BIBLIOGRAPHY

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

# recs	CITATION
44	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
18	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
2	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
2	Neily, T.H. & Pepper, C.; Toms, B. 2013. Nova Scotia lichen location database. Mersey Tobeatic Research Institute, 1301 records.
1	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
1	Staff, DNR 2007. Restricted & Limited Use Land Database (RLUL).

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 19,932 records of 131 vertebrate and 517 records of 52 invertebrate fauna; 5,523 records of 254 vascular and 1,203 records of 98 nonvascular flora (attached: *ob100km.xls).

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

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	1 At Risk	61	3.5 \pm 0.0	NS
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus ssp	Endangered	Endangered	Endangered	S1B	1 At Risk	471	11.2 \pm 0.0	NS
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	1 At Risk	40	53.0 \pm 7.0	NS
A	<i>Calidris canutus rufa</i>	Red Knot rufa ssp	Endangered	Endangered	Endangered	S2M	1 At Risk	135	13.5 \pm 0.0	NS
A	<i>Antrostomus vociferus</i>	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S1?B	1 At Risk	3	61.3 \pm 0.0	NS
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Special Concern	Endangered	S1S2B	1 At Risk	58	10.7 \pm 7.0	NS
A	<i>Limosa haemastica</i>	Hudsonian Godwit	Threatened			S1S2M	3 Sensitive	95	26.3 \pm 0.0	NS
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2	3 Sensitive	3545	8.7 \pm 5.0	NS
A	<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Threatened			S2	2 May Be At Risk	1	55.9 \pm 0.0	NS
A	<i>Anguilla rostrata</i>	American Eel	Threatened			S2	4 Secure	2	28.3 \pm 0.0	NS
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2B,S1M	1 At Risk	63	27.3 \pm 7.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S2S3B	2 May Be At Risk	211	3.5 ± 7.0	NS
A	<i>Hirundo rustica</i>	Barn Swallow	Threatened	Threatened	Endangered	S2S3B	1 At Risk	412	3.5 ± 7.0	NS
A	<i>Cardellina canadensis</i>	Canada Warbler	Threatened	Threatened	Endangered	S3B	1 At Risk	289	3.5 ± 7.0	NS
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Threatened	Threatened	Vulnerable	S3S4B	3 Sensitive	199	3.5 ± 7.0	NS
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened	SHB	3 Sensitive	2	53.0 ± 7.0	NS	
A	<i>Hyalocichla mustelina</i>	Wood Thrush	Threatened	Threatened	SUB	5 Undetermined	7	59.7 ± 7.0	NS	
A	<i>Passerculus sandwichensis princeps</i>	Savannah Sparrow princeps ssp	Special Concern	Special Concern		S1B	3 Sensitive	1	92.4 ± 7.0	NS
A	<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius	Special Concern	Special Concern	Vulnerable	S1B,SNAM	3 Sensitive	2	33.7 ± 7.0	NS
A	<i>Bucephala islandica (Eastern pop.)</i>	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern		S1N	1 At Risk	1	84.6 ± 16.0	NS
A	<i>Asio flammeus</i>	Short-eared Owl	Special Concern	Special Concern		S1S2B	2 May Be At Risk	6	49.9 ± 0.0	NS
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	2 May Be At Risk	165	3.5 ± 7.0	NS
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Threatened	Threatened	S2B	1 At Risk	93	7.5 ± 7.0	NS
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S2B	1 At Risk	544	3.5 ± 7.0	NS
A	<i>Histrionicus histrionicus pop. 1</i>	Harlequin Duck - Eastern pop.	Special Concern	Special Concern	Endangered	S2N	1 At Risk	10	42.1 ± 16.0	NS
A	<i>Phalaropus lobatus</i>	Red-necked Phalarope	Special Concern			S2S3M	3 Sensitive	1	96.0 ± 0.0	NS
A	<i>Morone saxatilis pop. 1</i>	Striped Bass- Southern Gulf of St Lawrence pop.	Special Concern			S2S3N	2 May Be At Risk	1	74.1 ± 1.0	NS
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	3 Sensitive	9	49.2 ± 10.0	NS
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	3 Sensitive	178	3.5 ± 7.0	NS
A	<i>Coccythraustes vespertinus</i>	Evening Grosbeak	Special Concern		Vulnerable	S3S4B,S3N	4 Secure	198	7.5 ± 7.0	NS
A	<i>Chrysemys picta picta</i>	Eastern Painted Turtle	Special Concern			S4S5	4 Secure	1	87.7 ± 1.0	NS
A	<i>Calidris subruficollis</i>	Buff-breasted Sandpiper	Special Concern			SNA	8 Accidental	22	26.3 ± 0.0	NS
A	<i>Lynx canadensis</i>	Canadian Lynx	Not At Risk		Endangered	S1	1 At Risk	63	2.1 ± 0.0	NS
A	<i>Accipiter cooperii</i>	Cooper's Hawk	Not At Risk			S1?B	5 Undetermined	1	71.1 ± 7.0	NS
A	<i>Sorex dispar</i>	Long-tailed Shrew	Not At Risk	Special Concern		S2	3 Sensitive	10	33.1 ± 1.0	NS
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk			S2?B	5 Undetermined	10	54.9 ± 7.0	NS
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk			S3	4 Secure	18	33.1 ± 1.0	NS
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk			S3B	3 Sensitive	388	3.5 ± 7.0	NS
A	<i>Sialia sialis</i>	Eastern Bluebird	Not At Risk			S3B	3 Sensitive	11	21.1 ± 7.0	NS
A	<i>Buteo lagopus</i>	Rough-legged Hawk	Not At Risk			S3N	4 Secure	2	51.8 ± 6.0	NS
A	<i>Accipiter gentilis</i>	Northern Goshawk	Not At Risk			S3S4	4 Secure	65	7.5 ± 7.0	NS
A	<i>Circus hudsonius</i>	Northern Harrier	Not At Risk			S3S4B	4 Secure	204	7.5 ± 7.0	NS
A	<i>Ammospiza nelsoni</i>	Nelson's Sparrow	Not At Risk			S3S4B	4 Secure	70	10.7 ± 7.0	NS
A	<i>Morone saxatilis</i>	Striped Bass	E,E,SC			S2S3	2 May Be At Risk	4	53.2 ± 0.0	NS
A	<i>Martes americana</i>	American Marten			Endangered	S1	1 At Risk	18	42.0 ± 1.0	NS
A	<i>Alces americanus</i>	Moose			Endangered	S1	1 At Risk	15	31.1 ± 0.0	NS
A	<i>Salmo salar</i>	Atlantic Salmon				S1	2 May Be At Risk	77	5.2 ± 0.0	NS
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker				S1?	5 Undetermined	5	39.4 ± 0.0	NS
A	<i>Passerina cyanea</i>	Indigo Bunting				S1?B	5 Undetermined	3	63.3 ± 0.0	NS
A	<i>Uria aalge</i>	Common Murre				S1?B,S5N	4 Secure	6	88.9 ± 0.0	NS
A	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron				S1B	2 May Be At Risk	1	72.8 ± 7.0	NS
A	<i>Anas acuta</i>	Northern Pintail				S1B	2 May Be At Risk	5	52.9 ± 0.0	NS
A	<i>Oxyura jamaicensis</i>	Ruddy Duck				S1B	4 Secure	2	83.4 ± 0.0	NS
A	<i>Haematopus palliatus</i>	American Oystercatcher				S1B	5 Undetermined	7	37.9 ± 7.0	NS
A	<i>Mimus polyglottos</i>	Northern Mockingbird				S1B	4 Secure	17	10.7 ± 7.0	NS
A	<i>Toxostoma rufum</i>	Brown Thrasher				S1B	5 Undetermined	3	60.4 ± 0.0	NS
A	<i>Vireo gilvus</i>	Warbling Vireo				S1B	5 Undetermined	7	10.7 ± 7.0	NS
A	<i>Calidris minutilla</i>	Least Sandpiper				S1B,S3M	4 Secure	200	13.5 ± 0.0	NS
A	<i>Charadrius semipalmatus</i>	Semipalmated Plover				S1B,S3S4M	4 Secure	298	13.5 ± 0.0	NS
A	<i>Vespertilionidae sp.</i>	bat species				S1S2		128	8.4 ± 0.0	NS
A	<i>Pluvialis dominica</i>	American Golden-Plover				S1S2M	3 Sensitive	76	26.3 ± 0.0	NS
A	<i>Microtus chrotorrhinus</i>	Rock Vole				S2	4 Secure	14	33.2 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Vireo philadelphicus</i>	Philadelphia Vireo				S2?B	5 Undetermined	6	56.2 ± 7.0	NS
A	<i>Spatula clypeata</i>	Northern Shoveler				S2B	2 May Be At Risk	1	81.9 ± 0.0	NS
A	<i>Mareca strepera</i>	Gadwall				S2B	2 May Be At Risk	3	63.3 ± 7.0	NS
A	<i>Empidonax traillii</i>	Willow Flycatcher				S2B	3 Sensitive	4	73.2 ± 7.0	NS
A	<i>Setophaga tigrina</i>	Cape May Warbler				S2B	3 Sensitive	56	7.5 ± 7.0	NS
A	<i>Piranga olivacea</i>	Scarlet Tanager				S2B	5 Undetermined	3	22.3 ± 7.0	NS
A	<i>Poocetes gramineus</i>	Vesper Sparrow				S2B	2 May Be At Risk	8	22.9 ± 7.0	NS
A	<i>Molothrus ater</i>	Brown-headed Cowbird				S2B	4 Secure	29	10.7 ± 7.0	NS
A	<i>Alca torda</i>	Razorbill				S2B,S4N	3 Sensitive	75	76.0 ± 7.0	NS
A	<i>Bucephala clangula</i>	Common Goldeneye				S2B,S5N	4 Secure	85	10.7 ± 7.0	NS
A	<i>Branta bernicla</i>	Brant				S2M	3 Sensitive	1	42.1 ± 16.0	NS
A	<i>Phalacrocorax carbo</i>	Great Cormorant				S2S3	3 Sensitive	251	20.1 ± 0.0	NS
A	<i>Asio otus</i>	Long-eared Owl				S2S3	2 May Be At Risk	20	10.7 ± 7.0	NS
A	<i>Spinus pinus</i>	Pine Siskin				S2S3	3 Sensitive	236	3.5 ± 7.0	NS
A	<i>Rallus limicola</i>	Virginia Rail				S2S3B	5 Undetermined	6	28.9 ± 7.0	NS
A	<i>Tringa semipalmata</i>	Willet				S2S3B	2 May Be At Risk	487	8.3 ± 7.0	NS
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow				S2S3B	2 May Be At Risk	119	3.5 ± 7.0	NS
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak				S2S3B	3 Sensitive	129	18.9 ± 7.0	NS
A	<i>Icterus galbula</i>	Baltimore Oriole				S2S3B	2 May Be At Risk	5	33.7 ± 7.0	NS
A	<i>Pinicola enucleator</i>	Pine Grosbeak				S2S3B,S5N	2 May Be At Risk	139	7.5 ± 7.0	NS
A	<i>Numerius phaeopus hudsonicus</i>	Hudsonian Whimbrel				S2S3M	3 Sensitive	92	23.7 ± 0.0	NS
A	<i>Calidris melanotos</i>	Pectoral Sandpiper				S2S3M	4 Secure	73	26.3 ± 0.0	NS
A	<i>Phalaropus fulicarius</i>	Red Phalarope				S2S3M	3 Sensitive	1	82.6 ± 0.0	NS
A	<i>Perisoreus canadensis</i>	Canada Jay				S3	3 Sensitive	323	3.5 ± 7.0	NS
A	<i>Poecile hudsonicus</i>	Boreal Chickadee				S3	3 Sensitive	651	3.5 ± 7.0	NS
A	<i>Sitta canadensis</i>	Red-breasted Nuthatch				S3	4 Secure	474	3.5 ± 7.0	NS
A	<i>Alosa pseudoharengus</i>	Alewife				S3	3 Sensitive	41	12.1 ± 0.0	NS
A	<i>Salvelinus fontinalis</i>	Brook Trout				S3	3 Sensitive	54	7.6 ± 0.0	NS
A	<i>Synaptomys cooperi</i>	Southern Bog Lemming				S3	4 Secure	6	33.2 ± 0.0	NS
A	<i>Pekania pennanti</i>	Fisher				S3	3 Sensitive	1	66.7 ± 0.0	NS
A	<i>Calidris maritima</i>	Purple Sandpiper				S3?N	3 Sensitive	25	26.3 ± 0.0	NS
A	<i>Falco sparverius</i>	American Kestrel				S3B	4 Secure	217	3.5 ± 7.0	NS
A	<i>Charadrius vociferus</i>	Killdeer				S3B	3 Sensitive	171	7.5 ± 7.0	NS
A	<i>Gallinago delicata</i>	Wilson's Snipe				S3B	3 Sensitive	332	3.5 ± 7.0	NS
A	<i>Sterna paradisaea</i>	Arctic Tern				S3B	2 May Be At Risk	94	7.3 ± 0.0	NS
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo				S3B	2 May Be At Risk	21	31.8 ± 7.0	NS
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S3B	3 Sensitive	66	3.5 ± 7.0	NS
A	<i>Dumetella carolinensis</i>	Gray Catbird				S3B	2 May Be At Risk	133	10.7 ± 7.0	NS
A	<i>Cardellina pusilla</i>	Wilson's Warbler				S3B	3 Sensitive	70	18.1 ± 7.0	NS
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs				S3B,S3S4M	3 Sensitive	405	13.5 ± 0.0	NS
A	<i>Oceanodroma leucorhoa</i>	Leach's Storm-Petrel				S3B,S5M	4 Secure	19	37.9 ± 7.0	NS
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake				S3B,S5N	3 Sensitive	75	57.3 ± 7.0	NS
A	<i>Fratercula arctica</i>	Atlantic Puffin				S3B,S5N	3 Sensitive	68	86.0 ± 0.0	NS
A	<i>Pluvialis squatarola</i>	Black-bellied Plover				S3M	4 Secure	338	13.5 ± 0.0	NS
A	<i>Tringa flavipes</i>	Lesser Yellowlegs				S3M	4 Secure	224	26.3 ± 0.0	NS
A	<i>Arenaria interpres</i>	Ruddy Turnstone				S3M	4 Secure	152	13.5 ± 0.0	NS
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper				S3M	3 Sensitive	264	26.3 ± 0.0	NS
A	<i>Calidris fuscicollis</i>	White-rumped Sandpiper				S3M	4 Secure	154	13.5 ± 0.0	NS
A	<i>Limnodromus griseus</i>	Short-billed Dowitcher				S3M	4 Secure	159	26.3 ± 0.0	NS
A	<i>Calidris alba</i>	Sanderling				S3M,S2N	4 Secure	157	13.5 ± 0.0	NS
A	<i>Somateria mollissima</i>	Common Eider				S3S4	4 Secure	265	8.3 ± 7.0	NS
A	<i>Picoides arcticus</i>	Black-backed Woodpecker				S3S4	3 Sensitive	59	7.5 ± 7.0	NS
A	<i>Loxia curvirostra</i>	Red Crossbill				S3S4	4 Secure	24	10.7 ± 7.0	NS
A	<i>Botaurus lentiginosus</i>	American Bittern				S3S4B	3 Sensitive	113	7.5 ± 7.0	NS
A	<i>Spatula discors</i>	Blue-winged Teal				S3S4B	2 May Be At Risk	79	3.5 ± 7.0	NS
A	<i>Actitis macularia</i>	Spotted Sandpiper				S3S4B	3 Sensitive	560	3.5 ± 7.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
A	<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher				S3S4B	3 Sensitive	559	3.5 ± 7.0	NS
A	<i>Regulus calendula</i>	Ruby-crowned Kinglet				S3S4B	3 Sensitive	1358	3.5 ± 7.0	NS
A	<i>Catharus fuscescens</i>	Veery				S3S4B	4 Secure	161	3.5 ± 7.0	NS
A	<i>Catharus ustulatus</i>	Swainson's Thrush				S3S4B	4 Secure	895	3.5 ± 7.0	NS
A	<i>Oreothlypis peregrina</i>	Tennessee Warbler				S3S4B	3 Sensitive	132	3.5 ± 7.0	NS
A	<i>Setophaga castanea</i>	Bay-breasted Warbler				S3S4B	3 Sensitive	179	3.5 ± 7.0	NS
A	<i>Setophaga striata</i>	Blackpoll Warbler				S3S4B	3 Sensitive	128	3.5 ± 7.0	NS
A	<i>Passerella iliaca</i>	Fox Sparrow				S3S4B	4 Secure	151	18.1 ± 7.0	NS
A	<i>Mergus serrator</i>	Red-breasted Merganser				S3S4B,S5N	4 Secure	136	7.5 ± 7.0	NS
A	<i>Bucephala albeola</i>	Bufflehead				S3S4N	4 Secure	22	40.3 ± 11.0	NS
A	<i>Eremophila alpestris</i>	Horned Lark				SHB,S4S5N	4 Secure	2	85.1 ± 7.0	NS
A	<i>Morus bassanus</i>	Northern Gannet				SHB,S5M	4 Secure	31	29.8 ± 0.0	NS
A	<i>Aythya americana</i>	Redhead				SHB,SNAM	4 Secure	1	98.4 ± 15.0	NS
I	<i>Danaus plexippus</i>	Monarch	Endangered	Special Concern	Endangered	S2B	3 Sensitive	17	7.9 ± 1.0	NS
I	<i>Lampsilis cariosa</i>	Yellow Lampmussel	Special Concern	Special Concern	Threatened	S1	1 At Risk	37	65.1 ± 0.0	NS
I	<i>Alasmidonta varicosa</i>	Brook Floater	Special Concern		Threatened	S1S2	3 Sensitive	4	57.4 ± 0.0	NS
I	<i>Bombus terricola</i>	Yellow-banded Bumblebee	Special Concern		Vulnerable	S3	3 Sensitive	4	50.2 ± 0.0	NS
I	<i>Quedius spelaeus</i>	Spelean Rove Beetle				S1		1	82.3 ± 1.0	NS
I	<i>Papilio brevicauda bretonensis</i>	Short-tailed Swallowtail				S1	1 At Risk	12	45.9 ± 2.0	NS
I	<i>Neurocordulia michaeli</i>	Broadtailed Shadowdragon				S1		7	97.9 ± 0.0	NS
I	<i>Somatochlora albicincta</i>	Ringed Emerald				S1	2 May Be At Risk	5	93.3 ± 0.0	NS
I	<i>Leucorrhinia patricia</i>	Canada Whiteface				S1	2 May Be At Risk	1	96.8 ± 0.0	NS
I	<i>Coenagrion interrogatum</i>	Subarctic Bluet				S1	2 May Be At Risk	2	70.5 ± 0.0	NS
I	<i>Leptodea ochracea</i>	Tidewater Mucket				S1	3 Sensitive	17	61.8 ± 1.0	NS
I	<i>Lycaena dorcas</i>	Dorcas Copper				S1?	6 Not Assessed	29	19.1 ± 0.0	NS
I	<i>Polygonia satyrus</i>	Satyr Comma				S1?	3 Sensitive	2	50.8 ± 2.0	NS
I	<i>Strymon melinus</i>	Grey Hairstreak				S1S2	4 Secure	2	7.9 ± 0.0	NS
I	<i>Nymphalis l-album</i>	Compton Tortoiseshell				S1S2	4 Secure	1	49.2 ± 2.0	NS
I	<i>Haematopota rara</i>	Shy Cleg				S1S3	5 Undetermined	1	24.6 ± 0.0	NS
I	<i>Lycaena hyllus</i>	Bronze Copper				S2	4 Secure	1	80.4 ± 0.0	NS
I	<i>Lycaena dospassosi</i>	Salt Marsh Copper				S2	1 At Risk	1	52.9 ± 0.0	NS
I	<i>Boloria chariclea</i>	Arctic Fritillary				S2	3 Sensitive	2	49.2 ± 2.0	NS
I	<i>Aglais milberti</i>	Milbert's Tortoiseshell				S2	4 Secure	3	47.6 ± 2.0	NS
I	<i>Somatochlora septentrionalis</i>	Muskeg Emerald				S2	3 Sensitive	13	59.3 ± 0.0	NS
I	<i>Somatochlora williamsoni</i>	Williamson's Emerald				S2	2 May Be At Risk	10	54.6 ± 0.0	NS
I	<i>Margaritifera margaritifera</i>	Eastern Pearlshell				S2	3 Sensitive	104	24.2 ± 0.0	NS
I	<i>Pantala hymenaea</i>	Spot-Winged Glider				S2?B	3 Sensitive	2	60.6 ± 0.0	NS
I	<i>Thorybes pylades</i>	Northern Cloudywing				S2S3	3 Sensitive	7	29.5 ± 0.0	NS
I	<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper				S2S3	4 Secure	3	26.7 ± 1.0	NS
I	<i>Euphydryas phaeton</i>	Baltimore Checkerspot				S2S3	4 Secure	21	7.9 ± 0.0	NS
I	<i>Gomphus desertus</i>	Harpoon Clubtail				S2S3	3 Sensitive	16	21.6 ± 1.0	NS
I	<i>Ophiogomphus aspersus</i>	Brook Snaketail				S2S3	2 May Be At Risk	5	27.2 ± 0.0	NS
I	<i>Ophiogomphus mainensis</i>	Maine Snaketail				S2S3	2 May Be At Risk	1	92.5 ± 0.0	NS
I	<i>Ophiogomphus rupinsulensis</i>	Rusty Snaketail				S2S3	2 May Be At Risk	20	97.8 ± 0.0	NS
I	<i>Somatochlora forcipata</i>	Forcipate Emerald				S2S3	2 May Be At Risk	7	42.3 ± 1.0	NS
I	<i>Alasmidonta undulata</i>	Triangle Floater				S2S3	4 Secure	5	19.2 ± 0.0	NS
I	<i>Ipthiminius opacus</i>	a Darkling Beetle				S3		1	27.6 ± 0.0	NS
I	<i>Callophrys henrici</i>	Henry's Elfin				S3	4 Secure	2	77.4 ± 0.0	NS
I	<i>Speyeria aphrodite</i>	Aphrodite Fritillary				S3	4 Secure	6	47.6 ± 2.0	NS
I	<i>Polygonia faunus</i>	Green Comma				S3	4 Secure	15	31.1 ± 0.0	NS
I	<i>Oeneis jutta</i>	Jutta Arctic				S3	2 May Be At Risk	7	26.6 ± 0.0	NS
I	<i>Aeshna clepsydra</i>	Mottled Darner				S3	4 Secure	1	32.2 ± 0.0	NS
I	<i>Boyeria graefiana</i>	Ocellated Darner				S3	3 Sensitive	2	71.1 ± 1.0	NS
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner				S3	3 Sensitive	3	25.8 ± 0.0	NS
I	<i>Somatochlora tenebrosa</i>	Clamp-Tipped Emerald				S3	4 Secure	2	62.8 ± 0.0	NS
I	<i>Nannothemis bella</i>	Elfin Skimmer				S3	4 Secure	3	29.4 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
I	<i>Sympetrum danae</i>	Black Meadowhawk				S3	3 Sensitive	13	28.8 ± 1.0	NS
I	<i>Enallagma vernale</i>	Vernal Bluet				S3	5 Undetermined	8	25.8 ± 0.0	NS
I	<i>Amphiagrion saucium</i>	Eastern Red Damsel				S3	4 Secure	14	25.8 ± 0.0	NS
I	<i>Polygonia interrogattonis</i>	Question Mark				S3B	4 Secure	13	7.9 ± 0.0	NS
I	<i>Erynnis juvenalis</i>	Juvenal's Duskywing				S3S4	4 Secure	1	77.9 ± 1.0	NS
I	<i>Amblyscirtes vialis</i>	Common Roadside-Skipper				S3S4	4 Secure	5	58.4 ± 0.0	NS
I	<i>Polygonia progne</i>	Grey Comma				S3S4	4 Secure	21	24.1 ± 0.0	NS
I	<i>Lanthus parvulus</i>	Northern Pygmy Clubtail				S3S4	4 Secure	21	33.2 ± 1.0	NS
I	<i>Lampsilis radiata</i>	Eastern Lampmussel				S3S4	3 Sensitive	16	49.6 ± 0.0	NS
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	1 At Risk	291	19.6 ± 0.0	NS
N	<i>Pannaria lurida</i>	Wrinkled Shingle Lichen	Threatened		Threatened	S1S2	2 May Be At Risk	1	27.1 ± 0.0	NS
N	<i>Fuscopannaria leucosticta</i>	Rimmed Shingles Lichen	Threatened			S2S3	2 May Be At Risk	1	67.0 ± 0.0	NS
N	<i>Sclerophora peronella</i> (Nova Scotia pop.)	Frosted Glass-whiskers Lichen - Nova Scotia pop.	Special Concern	Special Concern		S1?		5	39.1 ± 0.0	NS
N	<i>Pectenia plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	4 Secure	82	10.1 ± 0.0	NS
N	<i>Fissidens exilis</i>	Pygmy Pocket Moss	Not At Risk			S1S2	1 At Risk	6	50.7 ± 0.0	NS
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk			S2S3	3 Sensitive	2	74.1 ± 0.0	NS
N	<i>Cladonia brevis</i>	Short Peg Lichen				S1		1	25.7 ± 0.0	NS
N	<i>Cladonia macroceras</i>	Bullet-proof Pixie Lichen				S1		1	94.2 ± 2.0	NS
N	<i>Collema cristatum</i>	Fingered Tarpaper Lichen				S1	5 Undetermined	1	28.7 ± 0.0	NS
N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen				S1	2 May Be At Risk	2	28.2 ± 0.0	NS
N	<i>Cetraria laevigata</i>	Pin-striped Icelandmoss Lichen				S1	5 Undetermined	1	79.9 ± 0.0	NS
N	<i>Hypogymnia hultenii</i>	Powdered Honeycomb Lichen				S1	2 May Be At Risk	2	79.9 ± 0.0	NS
N	<i>Metacalypogeia schusterana</i>	Schuster's Pouchwort				S1?	5 Undetermined	1	51.7 ± 0.0	NS
N	<i>Moerckia hibernica</i>	Irish Ruffwort				S1?		1	51.7 ± 0.0	NS
N	<i>Brachythecium erythrorrhizon</i>	Taiga Ragged Moss				S1?		2	52.4 ± 0.0	NS
N	<i>Conardia compacta</i>	Coast Creeping Moss				S1?	3 Sensitive	2	49.2 ± 2.0	NS
N	<i>Oligotrichum hercynicum</i>	Hercynian Hair Moss				S1?	5 Undetermined	3	30.1 ± 0.0	NS
N	<i>Paludella squarrosa</i>	Tufted Fen Moss				S1?	3 Sensitive	1	50.9 ± 5.0	NS
N	<i>Syntrichia ruralis</i>	a Moss				S1?	3 Sensitive	1	79.2 ± 1.0	NS
N	<i>Flavocetraria nivalis</i>	Crinkled Snow Lichen				S1?	3 Sensitive	2	95.2 ± 0.0	NS
N	<i>Polychidium muscicola</i>	Eyed Mossthorns Woollybear Lichen				S1?	2 May Be At Risk	1	33.1 ± 0.0	NS
N	<i>Parmeliella parvula</i>	Poor-man's Shingles Lichen				S1?	2 May Be At Risk	7	36.5 ± 0.0	NS
N	<i>Plagiochila asplenoides</i>	Greater Featherwort				S1S2	5 Undetermined	1	30.5 ± 0.0	NS
N	<i>Buxbaumia minakatae</i>	Hump-Backed Elves				S1S2	3 Sensitive	1	54.6 ± 100.0	NS
N	<i>Platydictya confervoides</i>	a Moss				S1S2	3 Sensitive	1	71.2 ± 3.0	NS
N	<i>Sphagnum platyphyllum</i>	Flat-leaved Peat Moss				S1S2		2	15.0 ± 0.0	NS
N	<i>Hamatocaulis vernicosus</i>	a Moss				S1S2	3 Sensitive	1	32.7 ± 0.0	NS
N	<i>Collema bachmanianum</i>	Bachman's Tarpaper Lichen				S1S2	6 Not Assessed	1	33.7 ± 0.0	NS
N	<i>Peltigera malacea</i>	Veinless Pelt Lichen				S1S2		1	93.6 ± 3.0	NS
N	<i>Barbilophozia lycopodioides</i>	Greater Pawwort				S1S3	5 Undetermined	1	28.3 ± 0.0	NS
N	<i>Odontoschisma sphagni</i>	Bog-Moss Flapwort				S1S3		2	44.2 ± 0.0	NS
N	<i>Cladonia rappii</i>	Slender Ladder Lichen				S1S3	5 Undetermined	1	98.8 ± 3.0	NS
N	<i>Peltigera neckeri</i>	Black-saddle Pelt Lichen				S1S3	5 Undetermined	1	80.8 ± 0.0	NS
N	<i>Anaptychia crinalis</i>	Hanging Fringed Lichen				S2	3 Sensitive	8	60.3 ± 0.0	NS
N	<i>Anomodon viticulosus</i>	a Moss				S2?	3 Sensitive	1	50.7 ± 0.0	NS
N	<i>Atrichum angustatum</i>	Lesser Smoothcap Moss				S2?	3 Sensitive	2	55.6 ± 30.0	NS
N	<i>Campyllum polygamum</i>	a Moss				S2?	5 Undetermined	1	20.0 ± 0.0	NS
N	<i>Campyllum radicale</i>	Long-stalked Fine Wet Moss				S2?	5 Undetermined	1	26.5 ± 0.0	NS
N	<i>Fissidens taxifolius</i>	Yew-leaved Pocket Moss				S2?	3 Sensitive	2	50.7 ± 0.0	NS
N	<i>Fontinalis sullivantii</i>	a Moss				S2?	3 Sensitive	1	54.6 ± 100.0	NS
N	<i>Grimmia anomala</i>	Mountain Forest Grimmia				S2?	3 Sensitive	1	81.3 ± 0.0	NS
N	<i>Philonotis marchica</i>	a Moss				S2?	5 Undetermined	1	47.1 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
N	<i>Platydictya jungermannioides</i>	False Willow Moss				S2?	3 Sensitive	3	46.7 ± 0.0	NS
N	<i>Pohlia sphagnicola</i>	a moss				S2?		1	51.6 ± 0.0	NS
N	<i>Scorpidium scorpioides</i>	Hooked Scorpion Moss				S2?	3 Sensitive	10	23.4 ± 0.0	NS
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss				S2?	3 Sensitive	1	94.1 ± 0.0	NS
N	<i>Tortella fragilis</i>	Fragile Twisted Moss				S2?	3 Sensitive	3	29.8 ± 0.0	NS
N	<i>Cyrtomnium hymenophylloides</i>	Short-pointed Lantern Moss				S2?	3 Sensitive	1	58.5 ± 0.0	NS
N	<i>Cladonia labradorica</i>	Labrador Lichen				S2?	5 Undetermined	1	73.4 ± 0.0	NS
N	<i>Leptogium imbricatum</i>	Scaly Jellyskin Lichen				S2?	5 Undetermined	1	63.6 ± 0.0	NS
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen				S2?	2 May Be At Risk	1	26.6 ± 0.0	NS
N	<i>Peltigera collina</i>	Tree Pelt Lichen				S2?	3 Sensitive	19	15.4 ± 0.0	NS
N	<i>Tetraplodon mnioides</i>	Entire-leaved Nitrogen Moss				S2S3	4 Secure	1	42.4 ± 0.0	NS
N	<i>Limprichtia revolvens</i>	a Moss				S2S3	3 Sensitive	7	14.8 ± 0.0	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen				S2S3	2 May Be At Risk	1	33.4 ± 0.0	NS
N	<i>Cetraria muricata</i>	Spiny Heath Lichen				S2S3	5 Undetermined	2	27.2 ± 0.0	NS
N	<i>Cladonia wainioi</i>	False Reindeer Lichen				S2S3	3 Sensitive	1	99.9 ± 0.0	NS
N	<i>Leptogium tenuissimum</i>	Birdnest Jellyskin Lichen				S2S3	6 Not Assessed	2	28.2 ± 0.0	NS
N	<i>Melanelia hepatizon</i>	Rimmed Camouflage Lichen				S2S3	5 Undetermined	3	88.7 ± 0.0	NS
N	<i>Racodium rupestre</i>	Rockhair Lichen				S2S3	5 Undetermined	1	88.7 ± 0.0	NS
N	<i>Umbilicaria hyperborea</i>	Blistered Rocktripe Lichen				S2S3	5 Undetermined	6	82.6 ± 0.0	NS
N	<i>Umbilicaria polyphylla</i>	Petalled Rocktripe Lichen				S2S3	3 Sensitive	3	82.6 ± 0.0	NS
N	<i>Usnea mutabilis</i>	Bloody Beard Lichen				S2S3	3 Sensitive	1	30.1 ± 0.0	NS
N	<i>Cladonia coccifera</i>	Eastern Boreal Pixie-cup Lichen				S2S3	3 Sensitive	5	69.4 ± 2.0	NS
N	<i>Collema tenax</i>	Soil Tarpaper Lichen				S3		2	28.2 ± 0.0	NS
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen				S3	3 Sensitive	3	31.0 ± 0.0	NS
N	<i>Leptogium subtile</i>	Appressed Jellyskin Lichen				S3	3 Sensitive	1	55.2 ± 0.0	NS
N	<i>Fuscopannaria ahlneri</i>	Corrugated Shingles Lichen				S3	4 Secure	38	4.7 ± 0.0	NS
N	<i>Heterodermia speciosa</i>	Powdered Fringe Lichen				S3	4 Secure	2	37.8 ± 0.0	NS
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen				S3	3 Sensitive	1	36.7 ± 0.0	NS
N	<i>Leptogium lichenoides</i>	Tattered Jellyskin Lichen				S3	2 May Be At Risk	2	28.2 ± 0.0	NS
N	<i>Nephroma bellum</i>	Naked Kidney Lichen				S3	3 Sensitive	3	26.3 ± 1.0	NS
N	<i>Platismatia norvegica</i>	Oldgrowth Rag Lichen				S3	4 Secure	128	30.8 ± 0.0	NS
N	<i>Moelleropsis nebulosa</i>	Blue-gray Moss Shingle Lichen				S3	4 Secure	12	28.3 ± 0.0	NS
N	<i>Calliergon giganteum</i>	Giant Spear Moss				S3?	3 Sensitive	2	28.7 ± 0.0	NS
N	<i>Mnium stellare</i>	Star Leafy Moss				S3?	5 Undetermined	1	52.4 ± 0.0	NS
N	<i>Phaeophyscia pusilloides</i>	Pompom-tipped Shadow Lichen				S3?	5 Undetermined	2	26.3 ± 1.0	NS
N	<i>Cladonia pocillum</i>	Rosette Pixie-cup Lichen				S3?	3 Sensitive	1	82.6 ± 0.0	NS
N	<i>Cladina stygia</i>	Black-footed Reindeer Lichen				S3?	3 Sensitive	3	53.5 ± 0.0	NS
N	<i>Dicranella varia</i>	a Moss				S3S4	5 Undetermined	4	14.4 ± 0.0	NS
N	<i>Dicranum leioneuron</i>	a Dicranum Moss				S3S4	4 Secure	1	93.7 ± 0.0	NS
N	<i>Encalypta procera</i>	Slender Extinguisher Moss				S3S4	4 Secure	5	20.5 ± 0.0	NS
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss				S3S4	4 Secure	1	90.3 ± 0.0	NS
N	<i>Splachnum ampullaceum</i>	Cruet Dung Moss				S3S4	4 Secure	1	24.1 ± 0.0	NS
N	<i>Schistidium agassizii</i>	Elf Bloom Moss				S3S4	4 Secure	1	99.7 ± 3.0	NS
N	<i>Hylocomiastrum pyrenaicum</i>	a Feather Moss				S3S4	3 Sensitive	1	55.0 ± 3.0	NS
N	<i>Arctoparmelia incurva</i>	Finger Ring Lichen				S3S4	4 Secure	7	57.7 ± 1.0	NS
N	<i>Hypogymnia vittata</i>	Slender Monk's Hood Lichen				S3S4	4 Secure	101	16.1 ± 0.0	NS
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen				S3S4	5 Undetermined	4	68.5 ± 0.0	NS
N	<i>Leptogium acadense</i>	Acadian Jellyskin Lichen				S3S4		1	49.7 ± 0.0	NS
N	<i>Sphaerophorus fragilis</i>	Fragile Coral Lichen				S3S4	4 Secure	3	82.6 ± 0.0	NS
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen				S3S4	4 Secure	319	21.6 ± 0.0	NS
N	<i>Physcia tenella</i>	Fringed Rosette Lichen				S3S4	6 Not Assessed	2	76.8 ± 2.0	NS

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N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen				S3S4	4 Secure	11	35.8 ± 1.0	NS
N	<i>Evernia prunastri</i>	Valley Oakmoss Lichen				S3S4	3 Sensitive	1	72.2 ± 0.0	NS
N	<i>Dermatocarpon luridum</i>	Brookside Stippleback Lichen				S3S4	4 Secure	5	26.7 ± 0.0	NS
N	<i>Heterodermia neglecta</i>	Fringe Lichen				S3S4	4 Secure	12	4.7 ± 0.0	NS
P	<i>Juncus caesariensis</i>	New Jersey Rush	Special Concern	Special Concern	Vulnerable	S2	3 Sensitive	240	23.3 ± 0.0	NS
P	<i>Isoetes prototypus</i>	Prototype Quillwort	Special Concern	Special Concern	Vulnerable	S2	3 Sensitive	13	73.2 ± 0.0	NS
P	<i>Floerkea proserpinacoides</i>	False Mermaidweed	Not At Risk			S2	3 Sensitive	21	13.0 ± 7.0	NS
P	<i>Salix candida</i>	Sage Willow			Endangered	S1	2 May Be At Risk	44	54.5 ± 0.0	NS
P	<i>Thuja occidentalis</i>	Eastern White Cedar			Vulnerable	S1	1 At Risk	4	80.2 ± 0.0	NS
P	<i>Sanicula odorata</i>	Clustered Sanicle				S1	2 May Be At Risk	4	49.3 ± 3.0	NS
P	<i>Zizia aurea</i>	Golden Alexanders				S1	2 May Be At Risk	7	68.1 ± 5.0	NS
P	<i>Arnica lonchophylla</i>	Northern Arnica				S1	2 May Be At Risk	1	8.3 ± 7.0	NS
P	<i>Bidens hyperborea</i>	Estuary Beggarticks				S1	2 May Be At Risk	3	73.3 ± 7.0	NS
P	<i>Nabalus racemosus</i>	Glaucous Rattlesnakeroot				S1	2 May Be At Risk	1	83.5 ± 3.0	NS
P	<i>Ageratina altissima</i>	White Snakeroot				S1	2 May Be At Risk	2	73.2 ± 7.0	NS
P	<i>Cardamine dentata</i>	Toothed Bittercress				S1	2 May Be At Risk	5	20.6 ± 0.0	NS
P	<i>Cochlearia tridactylites</i>	Limestone Scruvy-grass				S1	2 May Be At Risk	4	53.2 ± 0.0	NS
P	<i>Draba norvegica</i>	Norwegian Whitlow-Grass				S1	2 May Be At Risk	1	81.0 ± 2.0	NS
P	<i>Stellaria crassifolia</i>	Fleshy Stitchwort				S1	2 May Be At Risk	1	24.4 ± 2.0	NS
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath				S1	2 May Be At Risk	1	65.3 ± 1.0	NS
P	<i>Utricularia ochroleuca</i>	Yellowish-white Bladderwort				S1	5 Undetermined	1	85.6 ± 1.0	NS
P	<i>Bistorta vivipara</i>	Alpine Bistort				S1	2 May Be At Risk	1	8.7 ± 1.0	NS
P	<i>Montia fontana</i>	Water Blinks				S1	2 May Be At Risk	2	31.5 ± 1.0	NS
P	<i>Agalinis purpurea</i> var. <i>parviflora</i>	Small-flowered Purple False Foxglove				S1		1	24.7 ± 0.0	NS
P	<i>Pedicularis palustris</i>	Marsh Lousewort				S1	2 May Be At Risk	3	93.3 ± 0.0	NS
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort				S1	5 Undetermined	2	51.0 ± 1.0	NS
P	<i>Carex alopecoidea</i>	Foxtail Sedge				S1	2 May Be At Risk	2	63.7 ± 0.0	NS
P	<i>Carex granularis</i>	Limestone Meadow Sedge				S1	2 May Be At Risk	21	24.3 ± 0.0	NS
P	<i>Carex gynocrates</i>	Northern Bog Sedge				S1	2 May Be At Risk	16	24.5 ± 0.0	NS
P	<i>Carex haydenii</i>	Hayden's Sedge				S1	2 May Be At Risk	2	29.2 ± 0.0	NS
P	<i>Carex rariflora</i>	Loose-flowered Alpine Sedge				S1	2 May Be At Risk	8	81.9 ± 5.0	NS
P	<i>Carex tenuiflora</i>	Sparse-Flowered Sedge				S1	2 May Be At Risk	3	23.4 ± 0.0	NS
P	<i>Carex tinctoria</i>	Tinged Sedge				S1	2 May Be At Risk	1	63.7 ± 1.0	NS
P	<i>Carex viridula</i> var. <i>elatior</i>	Greenish Sedge				S1	2 May Be At Risk	54	28.4 ± 0.0	NS
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge				S1	2 May Be At Risk	6	74.1 ± 0.0	NS
P	<i>Cyperus lupulinus</i>	Hop Flatsedge				S1	2 May Be At Risk	5	64.4 ± 0.0	NS
P	<i>Cyperus lupulinus</i> ssp. <i>macilentus</i>	Hop Flatsedge				S1	2 May Be At Risk	8	65.3 ± 1.0	NS
P	<i>Eleocharis erythropoda</i>	Red-stemmed Spikerush				S1	2 May Be At Risk	6	24.9 ± 0.0	NS
P	<i>Rhynchospora capillacea</i>	Slender Beakrush				S1	2 May Be At Risk	8	40.3 ± 10.0	NS
P	<i>Iris prismatica</i>	Slender Blue Flag				S1	2 May Be At Risk	4	58.7 ± 0.0	NS
P	<i>Triantha glutinosa</i>	Sticky False-Asphodel				S1	2 May Be At Risk	14	54.4 ± 0.0	NS
P	<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	North American White Adder's-mouth				S1	2 May Be At Risk	1	46.3 ± 7.0	NS
P	<i>Bromus latiglumis</i>	Broad-Glumed Brome				S1	2 May Be At Risk	11	22.2 ± 0.0	NS
P	<i>Elymus wiegandii</i>	Wiegand's Wild Rye				S1	2 May Be At Risk	9	24.3 ± 0.0	NS
P	<i>Elymus hystrix</i>	Spreading Wild Rye				S1	2 May Be At Risk	1	93.7 ± 4.0	NS
P	<i>Hordeum brachyantherum</i>	Meadow Barley				S1	2 May Be At Risk	1	87.0 ± 0.0	NS
P	<i>Phleum alpinum</i>	Alpine Timothy				S1	2 May Be At Risk	2	85.5 ± 0.0	NS
P	<i>Torreyochloa pallida</i> var. <i>pallida</i>	Pale False Manna Grass				S1	0.1 Extirpated	2	58.0 ± 1.0	NS
P	<i>Graphephorum melicoides</i>	Purple False Oats				S1	2 May Be At Risk	3	75.3 ± 0.0	NS
P	<i>Sparganium androcladum</i>	Branching Bur-Reed				S1	2 May Be At Risk	2	39.4 ± 0.0	NS
P	<i>Equisetum palustre</i>	Marsh Horsetail				S1	2 May Be At Risk	8	52.5 ± 0.0	NS

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P	<i>Botrychium lunaria</i>	Common Moonwort				S1	2 May Be At Risk	2	82.1 ± 1.0	NS
P	<i>Bolboschoenus robustus</i>	Sturdy Bulrush				S1?	5 Undetermined	2	47.1 ± 5.0	NS
P	<i>Huperzia selago</i>	Northern Firmoss				S1?	2 May Be At Risk	2	89.6 ± 2.0	NS
P	<i>Fraxinus nigra</i>	Black Ash			Threatened	S1S2	1 At Risk	103	8.0 ± 0.0	NS
P	<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower				S1S2	2 May Be At Risk	2	73.2 ± 7.0	NS
P	<i>Arabis pycnocarpa</i>	Cream-flowered Rockcress				S1S2	2 May Be At Risk	7	72.7 ± 0.0	NS
P	<i>Cornus suecica</i>	Swedish Bunchberry				S1S2	3 Sensitive	23	41.7 ± 6.0	NS
P	<i>Anemone virginiana var. alba</i>	Virginia Anemone				S1S2	3 Sensitive	8	26.2 ± 1.0	NS
P	<i>Ranunculus sceleratus</i>	Cursed Buttercup				S1S2	2 May Be At Risk	6	63.5 ± 7.0	NS
P	<i>Parnassia parviflora</i>	Small-flowered Grass-of-Parnassus				S1S2	2 May Be At Risk	17	53.5 ± 3.0	NS
P	<i>Carex livida</i>	Livid Sedge				S1S2	2 May Be At Risk	27	13.2 ± 5.0	NS
P	<i>Juncus greenei</i>	Greene's Rush				S1S2	2 May Be At Risk	1	65.4 ± 1.0	NS
P	<i>Juncus alpinoarticulatus ssp. americanus</i>					S1S2	2 May Be At Risk	11	21.5 ± 1.0	NS
P	<i>Juncus bulbosus</i>	Bulbous Rush				S1S2	5 Undetermined	13	78.1 ± 1.0	NS
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid				S1S2	5 Undetermined	5	28.6 ± 0.0	NS
P	<i>Calamagrostis stricta ssp. stricta</i>	Slim-stemmed Reed Grass				S1S2	3 Sensitive	1	50.9 ± 1.0	NS
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass				S1S2	2 May Be At Risk	24	20.9 ± 0.0	NS
P	<i>Sparganium hyperboreum</i>	Northern Burreed				S1S2	3 Sensitive	9	52.7 ± 1.0	NS
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake				S1S2	2 May Be At Risk	17	35.3 ± 0.0	NS
P	<i>Woodsia alpina</i>	Alpine Cliff Fern				S1S2	2 May Be At Risk	4	84.0 ± 2.0	NS
P	<i>Selaginella selaginoides</i>	Low Spikemoss				S1S2	2 May Be At Risk	5	17.8 ± 0.0	NS
P	<i>Carex vacillans</i>	Estuarine Sedge				S1S3	5 Undetermined	2	63.7 ± 0.0	NS
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely				S2	2 May Be At Risk	17	28.9 ± 1.0	NS
P	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane				S2	3 Sensitive	7	22.3 ± 7.0	NS
P	<i>Solidago multiradiata</i>	Multi-rayed Goldenrod				S2	2 May Be At Risk	2	93.3 ± 0.0	NS
P	<i>Symphotrichum ciliolatum</i>	Fringed Blue Aster				S2	3 Sensitive	2	82.2 ± 7.0	NS
P	<i>Impatiens pallida</i>	Pale Jewelweed				S2	3 Sensitive	11	25.0 ± 1.0	NS
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh				S2	2 May Be At Risk	19	24.4 ± 0.0	NS
P	<i>Boechera stricta</i>	Drummond's Rockcress				S2	3 Sensitive	4	68.8 ± 1.0	NS
P	<i>Cardamine parviflora</i>	Small-flowered Bittercress				S2	3 Sensitive	6	86.5 ± 0.0	NS
P	<i>Draba arabisans</i>	Rock Whitlow-Grass				S2	3 Sensitive	11	40.1 ± 1.0	NS
P	<i>Lobelia kalmii</i>	Brook Lobelia				S2	2 May Be At Risk	95	14.9 ± 0.0	NS
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort				S2	3 Sensitive	3	81.8 ± 0.0	NS
P	<i>Stellaria longifolia</i>	Long-leaved Starwort				S2	3 Sensitive	1	24.7 ± 0.0	NS
P	<i>Oxybasis rubra</i>	Red Goosefoot				S2	2 May Be At Risk	3	57.3 ± 0.0	NS
P	<i>Hypericum majus</i>	Large St John's-wort				S2	3 Sensitive	2	33.4 ± 1.0	NS
P	<i>Crassula aquatica</i>	Water Pygmyweed				S2	3 Sensitive	6	10.7 ± 7.0	NS
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil				S2	3 Sensitive	2	43.5 ± 7.0	NS
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil				S2	3 Sensitive	5	31.6 ± 0.0	NS
P	<i>Utricularia resupinata</i>	Inverted Bladderwort				S2	3 Sensitive	1	29.9 ± 0.0	NS
P	<i>Oenothera fruticosa ssp. tetragona</i>	Narrow-leaved Evening Primrose				S2	5 Undetermined	1	57.9 ± 1.0	NS
P	<i>Persicaria arifolia</i>	Halberd-leaved Tearthumb				S2	3 Sensitive	5	88.5 ± 0.0	NS
P	<i>Rumex triangulivalvis</i>	Triangular-valve Dock				S2	3 Sensitive	9	20.5 ± 6.0	NS
P	<i>Anemonastrum canadense</i>	Canada Anemone				S2	2 May Be At Risk	2	43.1 ± 3.0	NS
P	<i>Anemone quinquefolia</i>	Wood Anemone				S2	3 Sensitive	7	52.7 ± 1.0	NS
P	<i>Anemone virginiana</i>	Virginia Anemone				S2	3 Sensitive	23	44.5 ± 0.0	NS
P	<i>Caltha palustris</i>	Yellow Marsh Marigold				S2	3 Sensitive	23	49.3 ± 0.0	NS
P	<i>Galium labradoricum</i>	Labrador Bedstraw				S2	3 Sensitive	89	24.9 ± 0.0	NS
P	<i>Salix pedicellaris</i>	Bog Willow				S2	3 Sensitive	12	27.1 ± 0.0	NS
P	<i>Comandra umbellata</i>	Bastard's Toadflax				S2	2 May Be At Risk	25	33.0 ± 7.0	NS
P	<i>Saxifraga paniculata ssp. laestadii</i>	Laestadius' Saxifrage				S2	3 Sensitive	7	39.4 ± 7.0	NS
P	<i>Viola nephrophylla</i>	Northern Bog Violet				S2	3 Sensitive	11	16.5 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>Carex bebbii</i>	Bebb's Sedge				S2	3 Sensitive	29	24.8 ± 0.0	NS
P	<i>Carex castanea</i>	Chestnut Sedge				S2	2 May Be At Risk	19	14.7 ± 0.0	NS
P	<i>Carex comosa</i>	Bearded Sedge				S2	3 Sensitive	1	67.0 ± 1.0	NS
P	<i>Carex hystericina</i>	Porcupine Sedge				S2	2 May Be At Risk	37	29.3 ± 0.0	NS
P	<i>Carex scirpoidea</i>	Scirpuslike Sedge				S2	3 Sensitive	5	82.1 ± 0.0	NS
P	<i>Carex tenera</i>	Tender Sedge				S2	3 Sensitive	3	41.2 ± 3.0	NS
P	<i>Carex tuckermanii</i>	Tuckerman's Sedge				S2	3 Sensitive	2	54.8 ± 0.0	NS
P	<i>Carex atratiformis</i>	Scabrous Black Sedge				S2	3 Sensitive	3	34.6 ± 7.0	NS
P	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush				S2	3 Sensitive	30	16.5 ± 0.0	NS
P	<i>Vallisneria americana</i>	Wild Celery				S2	2 May Be At Risk	2	80.0 ± 10.0	NS
P	<i>Juncus stygius</i> ssp. <i>americanus</i>	Moor Rush				S2	3 Sensitive	34	17.7 ± 1.0	NS
P	<i>Allium schoenoprasum</i>	Wild Chives				S2	2 May Be At Risk	1	76.5 ± 0.0	NS
P	<i>Allium schoenoprasum</i> var. <i>sibiricum</i>	Wild Chives				S2	2 May Be At Risk	5	18.1 ± 7.0	NS
P	<i>Lilium canadense</i>	Canada Lily				S2	2 May Be At Risk	27	17.4 ± 7.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Yellow Lady's-slipper				S2	3 Sensitive	11	16.1 ± 0.0	NS
P	<i>Cypripedium parviflorum</i> var. <i>makasin</i>	Small Yellow Lady's-Slipper				S2	3 Sensitive	17	31.0 ± 0.0	NS
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper				S2	2 May Be At Risk	331	15.6 ± 0.0	NS
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses				S2	2 May Be At Risk	26	30.9 ± 5.0	NS
P	<i>Piptatheropsis canadensis</i>	Canada Ricegrass				S2	3 Sensitive	1	96.6 ± 0.0	NS
P	<i>Piptatheropsis pungens</i>	Slender Ricegrass				S2	3 Sensitive	1	85.8 ± 10.0	NS
P	<i>Potamogeton friesii</i>	Fries' Pondweed				S2	2 May Be At Risk	7	24.5 ± 0.0	NS
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed				S2	2 May Be At Risk	10	24.9 ± 0.0	NS
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern				S2	2 May Be At Risk	6	34.6 ± 10.0	NS
P	<i>Dryopteris fragrans</i>	Fragrant Wood Fern				S2	3 Sensitive	5	37.3 ± 7.0	NS
P	<i>Polystichum lonchitis</i>	Northern Holly Fern				S2	3 Sensitive	7	21.4 ± 5.0	NS
P	<i>Woodsia glabella</i>	Smooth Cliff Fern				S2	3 Sensitive	12	34.6 ± 7.0	NS
P	<i>Symphyotrichum boreale</i>	Boreal Aster				S2?	3 Sensitive	57	23.7 ± 0.0	NS
P	<i>Cuscuta cephalanthi</i>	Buttonbush Dodder				S2?	5 Undetermined	3	63.3 ± 7.0	NS
P	<i>Epilobium coloratum</i>	Purple-veined Willowherb				S2?	3 Sensitive	2	72.9 ± 0.0	NS
P	<i>Rumex persicarioides</i>	Peach-leaved Dock				S2?	2 May Be At Risk	1	39.5 ± 0.0	NS
P	<i>Crataegus submollis</i>	Quebec Hawthorn				S2?	5 Undetermined	1	93.1 ± 7.0	NS
P	<i>Eleocharis ovata</i>	Ovate Spikerush				S2?	3 Sensitive	2	66.7 ± 0.0	NS
P	<i>Scirpus pedicellatus</i>	Stalked Bulrush				S2?	3 Sensitive	3	22.2 ± 0.0	NS
P	<i>Hieracium robinsonii</i>	Robinson's Hawkweed				S2S3	3 Sensitive	8	72.6 ± 1.0	NS
P	<i>Iva frutescens</i>	Big-leaved Marsh-elder				S2S3	3 Sensitive	1	97.2 ± 4.0	NS
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort				S2S3	3 Sensitive	14	33.6 ± 1.0	NS
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch				S2S3	3 Sensitive	11	84.8 ± 0.0	NS
P	<i>Sagina nodosa</i>	Knotted Pearlwort				S2S3	4 Secure	1	40.6 ± 5.0	NS
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort				S2S3	3 Sensitive	2	55.6 ± 2.0	NS
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed				S2S3	3 Sensitive	150	29.1 ± 0.0	NS
P	<i>Shepherdia canadensis</i>	Soapberry				S2S3	3 Sensitive	134	49.5 ± 0.0	NS
P	<i>Empetrum atropurpureum</i>	Purple Crowberry				S2S3	3 Sensitive	1	40.7 ± 3.0	NS
P	<i>Euphorbia polygonifolia</i>	Seaside Spurge				S2S3	3 Sensitive	13	20.1 ± 5.0	NS
P	<i>Halenia deflexa</i>	Spurred Gentian				S2S3	3 Sensitive	40	20.8 ± 0.0	NS
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal				S2S3	3 Sensitive	2	76.1 ± 1.0	NS
P	<i>Polygonum aviculare</i> ssp. <i>buxiforme</i>	Box Knotweed				S2S3	5 Undetermined	1	83.1 ± 7.0	NS
P	<i>Polygonum oxyspermum</i> ssp. <i>raii</i>	Ray's Knotweed				S2S3	5 Undetermined	12	20.1 ± 5.0	NS
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry				S2S3	5 Undetermined	5	52.9 ± 1.0	NS
P	<i>Potentilla canadensis</i>	Canada Cinquefoil				S2S3	3 Sensitive	2	24.0 ± 2.0	NS
P	<i>Galium aparine</i>	Common Bedstraw				S2S3	3 Sensitive	1	74.4 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>Salix pellita</i>	Satiny Willow				S2S3	3 Sensitive	5	33.8 ± 1.0	NS
P	<i>Carex hirtifolia</i>	Pubescent Sedge				S2S3	3 Sensitive	10	24.3 ± 0.0	NS
P	<i>Eleocharis flavescens</i> var. <i>olivacea</i>	Bright-green Spikerush				S2S3	3 Sensitive	3	79.4 ± 5.0	NS
P	<i>Eriophorum gracile</i>	Slender Cottongrass				S2S3	3 Sensitive	8	28.3 ± 0.0	NS
P	<i>Oreojuncus trifidus</i>	Highland Rush				S2S3	3 Sensitive	6	29.0 ± 0.0	NS
P	<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper				S2S3	3 Sensitive	96	14.9 ± 0.0	NS
P	<i>Poa glauca</i>	Glaucous Blue Grass				S2S3	3 Sensitive	14	35.3 ± 0.0	NS
P	<i>Stuckenia filiformis</i>	Thread-leaved Pondweed				S2S3	3 Sensitive	44	20.5 ± 0.0	NS
P	<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Narrow Triangle Moonwort				S2S3	3 Sensitive	7	14.6 ± 0.0	NS
P	<i>Botrychium simplex</i>	Least Moonwort				S2S3	3 Sensitive	5	38.9 ± 5.0	NS
P	<i>Ophioglossum pusillum</i>	Northern Adder's-tongue				S2S3	3 Sensitive	1	68.8 ± 5.0	NS
P	<i>Angelica atropurpurea</i>	Purple-stemmed Angelica				S3	4 Secure	28	20.7 ± 0.0	NS
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane				S3	3 Sensitive	73	28.7 ± 0.0	NS
P	<i>Bidens beckii</i>	Water Beggarticks				S3	4 Secure	10	49.8 ± 0.0	NS
P	<i>Packera paupercula</i> var. <i>paupercula</i>	Balsam Groundsel				S3	4 Secure	1	85.7 ± 0.0	NS
P	<i>Packera paupercula</i>	Balsam Groundsel				S3	4 Secure	141	28.7 ± 0.0	NS
P	<i>Betula pumila</i> var. <i>pumila</i>	Bog Birch				S3	3 Sensitive	5	47.9 ± 7.0	NS
P	<i>Betula pumila</i>	Bog Birch				S3	3 Sensitive	13	26.5 ± 0.0	NS
P	<i>Campanula aparinoides</i>	Marsh Bellflower				S3	3 Sensitive	5	32.5 ± 5.0	NS
P	<i>Viburnum edule</i>	Squashberry				S3	3 Sensitive	5	82.2 ± 7.0	NS
P	<i>Empetrum eamesii</i>	Pink Crowberry				S3	3 Sensitive	1	76.3 ± 0.0	NS
P	<i>Vaccinium boreale</i>	Northern Blueberry				S3	3 Sensitive	29	38.7 ± 1.0	NS
P	<i>Vaccinium cespitosum</i>	dwarf bilberry				S3	4 Secure	14	47.3 ± 7.0	NS
P	<i>Vaccinium uliginosum</i>	Alpine Bilberry				S3	3 Sensitive	8	49.4 ± 0.0	NS
P	<i>Bartonia virginica</i>	Yellow Bartonia				S3	4 Secure	1	8.8 ± 0.0	NS
P	<i>Proserpinaca palustris</i>	Marsh Mermaidweed				S3	4 Secure	50	19.0 ± 0.0	NS
P	<i>Teucrium canadense</i>	Canada Germander				S3	3 Sensitive	62	15.3 ± 0.0	NS
P	<i>Decodon verticillatus</i>	Swamp Loosestrife				S3	4 Secure	4	15.2 ± 7.0	NS
P	<i>Epilobium hornemannii</i>	Hornemann's Willowherb				S3	4 Secure	12	62.6 ± 2.0	NS
P	<i>Epilobium strictum</i>	Downy Willowherb				S3	3 Sensitive	15	20.5 ± 5.0	NS
P	<i>Polygala sanguinea</i>	Blood Milkwort				S3	3 Sensitive	1	86.6 ± 7.0	NS
P	<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed				S3	4 Secure	9	20.5 ± 10.0	NS
P	<i>Fallopia scandens</i>	Climbing False Buckwheat				S3	3 Sensitive	17	22.1 ± 0.0	NS
P	<i>Plantago rugelii</i>	Rugel's Plantain				S3	4 Secure	1	25.3 ± 0.0	NS
P	<i>Primula laurentiana</i>	Laurentian Primrose				S3	4 Secure	1	72.5 ± 7.0	NS
P	<i>Samolus parviflorus</i>	Seaside Brookweed				S3	3 Sensitive	16	19.1 ± 0.0	NS
P	<i>Pyrola asarifolia</i>	Pink Pyrola				S3	4 Secure	6	32.8 ± 0.0	NS
P	<i>Pyrola minor</i>	Lesser Pyrola				S3	3 Sensitive	11	27.1 ± 1.0	NS
P	<i>Ranunculus gmelinii</i>	Gmelin's Water Buttercup				S3	4 Secure	98	24.3 ± 0.0	NS
P	<i>Endotropis alnifolia</i>	alder-leaved buckthorn				S3	4 Secure	460	14.9 ± 0.0	NS
P	<i>Agrimonia gryposepala</i>	Hooked Agrimony				S3	4 Secure	235	15.9 ± 0.0	NS
P	<i>Amelanchier spicata</i>	Running Serviceberry				S3	4 Secure	5	56.6 ± 5.0	NS
P	<i>Galium kamschaticum</i>	Northern Wild Licorice				S3	4 Secure	9	31.4 ± 0.0	NS
P	<i>Geocaulon lividum</i>	Northern Comandra				S3	4 Secure	9	30.3 ± 0.0	NS
P	<i>Limosella australis</i>	Southern Mudwort				S3	4 Secure	8	19.0 ± 5.0	NS
P	<i>Lindernia dubia</i>	Yellow-seeded False Pimperel				S3	4 Secure	4	24.5 ± 0.0	NS
P	<i>Laportea canadensis</i>	Canada Wood Nettle				S3	3 Sensitive	18	22.0 ± 0.0	NS
P	<i>Verbena hastata</i>	Blue Vervain				S3	4 Secure	28	32.3 ± 0.0	NS
P	<i>Carex cryptolepis</i>	Hidden-scaled Sedge				S3	4 Secure	15	15.3 ± 0.0	NS
P	<i>Carex eburnea</i>	Bristle-leaved Sedge				S3	3 Sensitive	157	28.3 ± 0.0	NS
P	<i>Carex lupulina</i>	Hop Sedge				S3	4 Secure	8	74.0 ± 0.0	NS
P	<i>Carex rosea</i>	Rosy Sedge				S3	4 Secure	6	45.3 ± 0.0	NS
P	<i>Carex tribuloides</i>	Blunt Broom Sedge				S3	4 Secure	12	25.0 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	Prov GS Rank	# recs	Distance (km)	Prov
P	<i>Carex wiegandii</i>	Wiegand's Sedge				S3	3 Sensitive	9	24.2 ± 0.0	NS
P	<i>Carex foenea</i>	Fernald's Hay Sedge				S3	4 Secure	4	96.1 ± 0.0	NS
P	<i>Elodea canadensis</i>	Canada Waterweed				S3	4 Secure	8	54.1 ± 0.0	NS
P	<i>Juncus subcaudatus</i>	Woods-Rush				S3	3 Sensitive	9	23.9 ± 1.0	NS
P	<i>Juncus dudleyi</i>	Dudley's Rush				S3	4 Secure	63	24.0 ± 0.0	NS
P	<i>Goodyera oblongifolia</i>	Menzies' Rattlesnake-plantain				S3	3 Sensitive	13	62.6 ± 3.0	NS
P	<i>Goodyera repens</i>	Lesser Rattlesnake-plantain				S3	3 Sensitive	20	23.4 ± 2.0	NS
P	<i>Neottia bifolia</i>	Southern Twayblade				S3	4 Secure	52	26.8 ± 0.0	NS
P	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid				S3	4 Secure	24	21.6 ± 0.0	NS
P	<i>Platanthera hookeri</i>	Hooker's Orchid				S3	4 Secure	3	25.3 ± 0.0	NS
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid				S3	4 Secure	7	15.2 ± 5.0	NS
P	<i>Spiranthes ochroleuca</i>	Yellow Ladies'-tresses				S3	4 Secure	4	24.4 ± 0.0	NS
P	<i>Alopecurus aequalis</i>	Short-awned Foxtail				S3	4 Secure	19	24.5 ± 0.0	NS
P	<i>Dichanthelium clandestinum</i>	Deer-tongue Panic Grass				S3	4 Secure	25	97.2 ± 0.0	NS
P	<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed				S3	4 Secure	24	24.5 ± 0.0	NS
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed				S3	3 Sensitive	18	16.0 ± 0.0	NS
P	<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed				S3	3 Sensitive	12	44.1 ± 7.0	NS
P	<i>Sparganium natans</i>	Small Burreed				S3	4 Secure	18	15.7 ± 0.0	NS
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort				S3	4 Secure	14	32.8 ± 0.0	NS
P	<i>Asplenium viride</i>	Green Spleenwort				S3	3 Sensitive	28	23.3 ± 7.0	NS
P	<i>Equisetum pratense</i>	Meadow Horsetail				S3	3 Sensitive	22	31.7 ± 0.0	NS
P	<i>Equisetum variegatum</i>	Variiegated Horsetail				S3	4 Secure	36	25.9 ± 0.0	NS
P	<i>Isoetes acadensis</i>	Acadian Quillwort				S3	3 Sensitive	9	44.6 ± 1.0	NS
P	<i>Diphasiastrum sitchense</i>	Sitka Ground-cedar				S3	4 Secure	11	26.8 ± 0.0	NS
P	<i>Huperzia appressa</i>	Mountain Firmoss				S3	3 Sensitive	4	46.6 ± 1.0	NS
P	<i>Sceptridium dissectum</i>	Dissected Moonwort				S3	4 Secure	2	68.8 ± 5.0	NS
P	<i>Polypodium appalachianum</i>	Appalachian Polypody				S3	5 Undetermined	4	23.9 ± 0.0	NS
P	<i>Persicaria amphibia</i> var. <i>emorsa</i>	Long-root Smartweed				S3?	5 Undetermined	1	88.2 ± 0.0	NS
P	<i>Diphasiastrum x sabinifolium</i>	Savin-leaved Ground-cedar				S3?	4 Secure	9	40.2 ± 1.0	NS
P	<i>Atriplex glabriuscula</i> var. <i>franktonii</i>	Frankton's Saltbush				S3S4	4 Secure	8	31.3 ± 2.0	NS
P	<i>Suaeda calceoliformis</i>	Horned Sea-blite				S3S4	4 Secure	4	63.3 ± 1.0	NS
P	<i>Myriophyllum sibiricum</i>	Siberian Water Milfoil				S3S4	4 Secure	14	24.5 ± 0.0	NS
P	<i>Sanguinaria canadensis</i>	Bloodroot				S3S4	4 Secure	164	24.3 ± 0.0	NS
P	<i>Polygonum fowleri</i>	Fowler's Knotweed				S3S4	4 Secure	1	72.9 ± 0.0	NS
P	<i>Fragaria vesca</i> ssp. <i>americana</i>	Woodland Strawberry				S3S4	4 Secure	72	12.0 ± 0.0	NS
P	<i>Salix petiolaris</i>	Meadow Willow				S3S4	4 Secure	8	26.9 ± 0.0	NS
P	<i>Carex argyrantha</i>	Silvery-flowered Sedge				S3S4	4 Secure	3	46.1 ± 0.0	NS
P	<i>Eriophorum russeolum</i>	Russet Cottongrass				S3S4	4 Secure	4	14.9 ± 0.0	NS
P	<i>Triglochin gaspensis</i>	Gasp Arrowgrass				S3S4	5 Undetermined	6	6.1 ± 1.0	NS
P	<i>Juncus acuminatus</i>	Sharp-Fruit Rush				S3S4	4 Secure	4	32.5 ± 4.0	NS
P	<i>Luzula parviflora</i>	Small-flowered Woodrush				S3S4	4 Secure	9	48.3 ± 0.0	NS
P	<i>Liparis loeselii</i>	Loesel's Twayblade				S3S4	4 Secure	16	21.3 ± 1.0	NS
P	<i>Panicum philadelphicum</i>	Philadelphia Panicgrass				S3S4	4 Secure	1	14.3 ± 0.0	NS
P	<i>Trisetum spicatum</i>	Narrow False Oats				S3S4	4 Secure	10	29.4 ± 0.0	NS
P	<i>Cystopteris bulbifera</i>	Bulblet Bladder Fern				S3S4	4 Secure	416	12.0 ± 0.0	NS
P	<i>Equisetum hyemale</i> ssp. <i>affine</i>	Common Scouring-rush				S3S4	4 Secure	37	30.3 ± 0.0	NS
P	<i>Equisetum scirpoides</i>	Dwarf Scouring-Rush				S3S4	4 Secure	74	19.5 ± 0.0	NS
P	<i>Diphasiastrum complanatum</i>	Northern Ground-cedar				S3S4	4 Secure	6	15.2 ± 5.0	NS
P	<i>Schizaea pusilla</i>	Little Curlygrass Fern				S3S4	4 Secure	19	23.7 ± 0.0	NS
P	<i>Viola canadensis</i>	Canada Violet				SH	0.1 Extirpated	1	48.0 ± 0.0	NS
P	<i>Poa alpina</i>	Alpine Blue Grass				SH	0.1 Extirpated	2	86.0 ± 0.0	NS
P	<i>Botrychium minganense</i>	Mingan Moonwort				SH	0.1 Extirpated	1	79.5 ± 1.0	NS

5.1 SOURCE BIBLIOGRAPHY (100 km)

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

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1803	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
940	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2014. Atlantic Canada Conservation Data Centre Fieldwork 2014. Atlantic Canada Conservation Data Centre, # recs.
927	Blaney, C.S.; Mazerolle, D.M.; Belliveau, A.B. 2015. Atlantic Canada Conservation Data Centre Fieldwork 2015. Atlantic Canada Conservation Data Centre, # recs.
488	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
460	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
460	Blaney, C.S.; Mazerolle, D.M. 2012. Fieldwork 2012. Atlantic Canada Conservation Data Centre, 13,278 recs.
416	Benjamin, L.K. (compiler). 2007. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 8439 recs.
367	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 recs.
353	Blaney, C.S.; Mazerolle, D.M. 2010. Fieldwork 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 15508 recs.
348	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
230	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
228	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: http://luxor.acadiu.ca/library/Herbarium/project/ . 582 recs.
217	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
214	Neily, T.H. & Pepper, C.; Toms, B. 2018. Nova Scotia lichen database [as of 2018-03]. Mersey Tobeatic Research Institute.
200	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.
186	Hicks, Andrew. 2009. Coastal Waterfowl Surveys Database, 2000-08. Canadian Wildlife Service, Sackville, 46488 recs (11149 non-zero).
168	Amirault, D.L. & Stewart, J. 2007. Piping Plover Database 1894-2006. Canadian Wildlife Service, Sackville, 3344 recs, 1228 new.
168	Neily, T.H. & Pepper, C.; Toms, B. 2013. Nova Scotia lichen location database. Mersey Tobeatic Research Institute, 1301 records.
159	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
159	Toms, B. 2018. Bat Species data from www.batconservation.ca for Nova Scotia. Mersey Tobeatic Research Institute, 547 Records.
151	Neily, T.H. 2017. Nova Scotia lichen records. Mersey Tobeatic Research Institute.
140	Quigley, E.J. & Neily, P.D., 2012. Botanical Discoveries in Inverness County, NS. Nova Scotia Dept Natural Resources. Pers. comm. to C.S. Blaney, Nov. 29, 141 rec.
137	Power, T. 2015. Bird Islands nest surveys from 2012 and 2014. Nova Scotia Bird Society.
129	Cameron, R.P. 2011. Lichen observations, 2011. Nova Scotia Environment & Labour, 731 recs.
122	Blaney, C.S. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 6719 recs.
118	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre, 907 recs.
98	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
98	Williams, M. Cape Breton University Digital Herbarium. Cape Breton University Digital Herbarium. 2013.
94	Mazerolle, D.M. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
81	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
69	Benjamin, L.K. 2009. D. Anderson Odonata Records for Cape Breton, 1997-2004. Nova Scotia Dept Natural Resources, 1316 recs.
69	Munro, Marian K. Tracked lichen specimens, Nova Scotia Provincial Museum of Natural History Herbarium. Atlantic Canada Conservation Data Centre. 2019.
68	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
65	Belliveau, A.G. 2018. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2018. E.C. Smith Herbarium, 6226 recs.
59	MacDonald, E.C. 2018. Piping Plover nest records from 2010-2017. Canadian Wildlife Service.
57	Knapton, R. & Power, T.; Williams, M. 2001. SAR Inventory: Fortress Louisbourg NP. Parks Canada, Atlantic, SARINV01-13. 157 recs.
56	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.
56	Zinck, M. & Roland, A.E. 1998. Roland's Flora of Nova Scotia. Nova Scotia Museum, 3rd ed., rev. M. Zinck; 2 Vol., 1297 pp.
52	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
50	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.
49	LaPaix, R.W.; Crowell, M.J.; MacDonald, M. 2011. Stantec rare plant records, 2010-11. Stantec Consulting, 334 recs.
47	Scott, F.W. 2002. Nova Scotia Herpetofauna Atlas Database. Acadia University, Wolfville NS, 8856 recs.
46	Mazerolle, D.M. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
46	Mazerolle, D.M. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 13515 recs.
46	Pulsifer, M.D. 2002. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 369 recs.
46	Staicer, C. & Bliss, S.; Achenbach, L. 2017. Occurrences of tracked breeding birds in forested wetlands. , 303 records.
45	MacDonald, E.C. 2018. CWS Piping Plover Census, 2010-2017. Canadian Wildlife Service.
43	anon. 2001. S.. H.. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 76 recs.

# recs	CITATION
43	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
40	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
36	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
34	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
33	Neily, T.H. 2010. Erioderma pedicellatum records 2005-09. Mersey Tobiatic Research Institute, 67 recs.
31	Amirault, D.L. & McKnight, J. 2003. Piping Plover Database 1991-2003. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
30	Chapman, C. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 11171 recs.
30	Neily, T.H. 2019. Tom Neily NS Bryophyte records (2009-2013). T.H. Neily, Atlantic Canada Conservation Data Centre, 1029 specimen records.
30	Parker, G.R., Maxwell, J.W., Morton, L.D. & Smith, G.E.J. 1983. The ecology of Lynx , Lynx canadensis, on Cape Breton Island. Canadian Journal of Zoology, 61:770-786. 51 recs.
28	iNaturalist. 2018. iNaturalist Data Export 2018. iNaturalist.org and iNaturalist.ca, Web site: 11706 recs.
27	Neily, T.H. 2017. Maritimes Lichen and Bryophyte records. Atlantic Canada Conservation Data Centre, 1015 recs.
24	Neily, T.H. 2013. Email communication to Sean Blaney regarding <i>Listera australis</i> observations made from 2007 to 2011 in Nova Scotia. , 50.
22	Benjamin, L.K. 2009. Boreal Felt Lichen, Mountain Avens, Orchid and other recent records. Nova Scotia Dept Natural Resources, 105 recs.
21	Cameron, R.P. 2017. 2017 rare species field data. Nova Scotia Environment, 64 recs.
21	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.
21	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
20	Cameron, R.P. 2012. Rob Cameron 2012 vascular plant data. NS Department of Environment, 30 recs.
20	Gillis, J. 2015. Rare plant records from Cape Breton gypsum sites. Pers. comm., 25 rare plant records.
20	Klymko, J.J.D. 2016. 2015 field data. Atlantic Canada Conservation Data Centre.
19	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of <i>C. insculpta</i> sightings. Acadia University, Wolfville NS, 88 recs.
19	Busby, D.G. 1999. 1997-1999 Bicknell's Thrush data, unpublished files. Canadian Wildlife Service, Sackville, 17 recs.
19	Cameron, R.P. 2013. 2013 rare species field data. Nova Scotia Department of Environment, 71 recs.
19	Sollows, M.C., 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
18	Benjamin, L.K. 2011. NSDNR fieldwork & consultant reports 1997, 2009-10. Nova Scotia Dept Natural Resources, 85 recs.
18	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
18	Misc. rare species records gathered by NSDNR staff or communicated to NSDNR and forwarded to ACCDC
18	Pepper, C. 2013. 2013 rare bird and plant observations in Nova Scotia. , 181 records.
17	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
16	Basquill, S.P. 2012. 2012 rare vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
16	Campbell, G. 2017. Maritimes Bicknell's Thrush database 2002-2015. Bird Studies Canada, Sackville NB, 609 recs.
15	Newell, R.E. 2004. Assessment and update status report on the New Jersey Rush (<i>Juncus caesariensis</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada, 15 recs.
15	Porter, C.J.M. 2014. Field work data 2007-2014. Nova Scotia Nature Trust, 96 recs.
13	Basquill, S.P. 2012. 2012 Bryophyte specimen data. Nova Scotia Department of Natural Resources, 37 recs.
13	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
13	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
12	Ogden, K. Nova Scotia Museum butterfly specimen database. Nova Scotia Museum. 2017.
12	Robinson, S.L. 2011. 2011 ND dune survey field data. Atlantic Canada Conservation Data Centre, 2715 recs.
11	Neily, T.H. 2012. 2012 Erioderma pedicellatum records in Nova Scotia.
10	Cameron, R.P. 2009. Erioderma pedicellatum database, 1979-2008. Dept Environment & Labour, 103 recs.
10	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
10	Murphy, S. 2006. <i>Juncus caesariensis</i> data from Yava Technologies In Situ Leach Mining Environmental Assessment. Jacques Whitford Inc., 10 recs.
10	Porter, K. 2013. 2013 rare and non-rare vascular plant field data. St. Mary's University, 57 recs.
9	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (<i>Isoetes prototypus</i>). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
8	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J.; ONHIC, 487 recs.
7	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
7	Neily, T.H. & Pepper, C.; Toms, B. 2015. Nova Scotia lichen location database [as of 2015-02-15]. Mersey Tobeatic Research Institute, 1691 records.
7	Robinson, S.L. 2014. 2013 Field Data. Atlantic Canada Conservation Data Centre.
7	Taylor, B.R., and Tam, J.C. 2012. Local distribution of the rare plant <i>Triosteum aurantiacum</i> in northeastern Nova Scotia, Canada. <i>Rhodora</i> , 114(960): 366-382.
7	Whittam, R.M. 1999. Status Report on the Roseate Tern (update) in Canada. Committee on the Status of Endangered Wildlife in Canada, 36 recs.
6	Blaney, C.S.; Mazerolle, D.M.; Oberdorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
6	Cameron, R.P. 2018. <i>Degelia plumbea</i> records. Nova Scotia Environment.
6	Ferguson, D.C. 1954. The Lepidoptera of Nova Scotia. Part I, macrolepidoptera. Proceedings of the Nova Scotian Institute of Science, 23(3), 161-375.
6	NS DNR. 2017. Black Ash records from NS DNR Permanent Sample Plots (PSPs), 1965-2016. NS Dept of Natural Resources.
5	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.
5	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
5	Marshall, L. 1998. Atlantic Salmon: Cape Breton SFA 18 (part) & SFA 19. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-09. 5 recs.
5	Power, T. 2019. Cape Breton Wood Turtle records. NS Lands and Forestry.

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5	Whittam, R.M. 1997. Status Report on the Roseate Tern (<i>Sterna dougallii</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada, 5 recs.
4	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
4	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
4	Cameron, R.P. 2009. Nova Scotia nonvascular plant observations, 1995-2007. Nova Scotia Dept Natural Resources, 27 recs.
4	Gilhen, J. 1984. Amphibians & Reptiles of Nova Scotia, 1st Ed. Nova Scotia Museum, 164pp.
4	Newell, R.E. 2001. Fortress Louisbourg Species at Risk Survey 2001. Parks Canada, 4 recs.
4	Rousseau, J. 1938. Notes Floristiques sur l'est de la Nouvelle-Ecosse in Contributions de l'Institut Botanique de l'Universite de Montreal. Universite de Montreal, 32, 13-62. 11 recs.
4	Scott, F.W. 1988. Status Report on the Gaspé Shrew (<i>Sorex gaspensis</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada, 12 recs.
3	Baechler, Lynn. 2012. Plant observations & photos, 2012. Pers. comm. to S. Blaney, July 2012, 4 recs.
3	Bridgland, J. 2006. Cape Breton Highlands National Park Digital Database. Parks Canada, 190 recs.
3	Klymko, J. 2019. Atlantic Canada Conservation Data Centre zoological fieldwork 2018. Atlantic Canada Conservation Data Centre.
3	Neily, T.H. & Pepper, C.; Toms, B. 2018. Nova Scotia lichen database Update. Mersey Tobeatic Research Institute, 14 recs.
3	Neily, T.H. 2016. Email communication (May 6, 2016) to Sean Blaney regarding <i>Fissidens exilis</i> observations made in 2016 in Nova Scotia. Pers. Comm., 3 recs.
3	Nova Scotia Nature Trust. 2013. Nova Scotia Nature Trust 2013 Species records. Nova Scotia Nature Trust, 95 recs.
3	Plissner, J.H. & Haig, S.M. 1997. 1996 International piping plover census. US Geological Survey, Corvallis OR, 231 pp.
3	Whittam, R.M. 2006. Bicknell's Thrush in CBHNP, BSC database. Bird Studies Canada, 21 recs.
2	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
2	Blaney, C.S.; Spicer, C.D.; Rothfels, C. 2004. Fieldwork 2004. Atlantic Canada Conservation Data Centre. Sackville NB, 1343 recs.
2	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
2	Gillis, J. 2007. Botanical observations from bog on Skye Mountain, NS. Pers. comm., 8 recs.
2	Hall, R.A. 2001. S. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
2	Hill, N. 2003. <i>Floerkea proserpinacoides</i> at Heatherdale, Antigonish Co. 2002. , Pers. comm. to C.S. Blaney. 2 recs.
2	Klymko, J. Henry Hensel's Butterfly Collection Database. Atlantic Canada Conservation Data Centre. 2016.
2	Klymko, J.J.D. 2012. Insect field work & submissions. Atlantic Canada Conservation Data Centre, 852 recs.
2	Lock, A.R., Brown, R.G.B. & Gerriets, S.H. 1994. Gazetteer of Marine Birds in Atlantic Canada. Canadian Wildlife Service, Atlantic Region, 137 pp.
2	Munden, C. 2018. Email communication on <i>Cypripedium parviflorum</i> . Amateur naturalist, 2.
2	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
2	O'Neil, S. 1998. Atlantic Salmon: Northumberland Strait Nova Scotia part of SFA 18. Dept of Fisheries & Oceans, Atlantic Region, Science. Stock Status Report D3-08. 9 recs.
2	Ogden, J. NS DNR Butterfly Collection Dataset. Nova Scotia Department of Natural Resources. 2014.
2	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
2	Popma, T.M. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 113 recs.
2	Quigley, E.J. 2006. Plant records, Mabou & Port Hood. Pers. comm. to S.P. Basquill, Jun. 12. 4 recs, 4 recs.
2	Selva, S.B. 2002. Status Report on frosted glass-whiskers, <i>Sclerophora peronella</i> . Committee on the Status of Endangered Wildlife in Canada, Draft Revision, May 2002. 2 recs.
2	Sollows, M.C., 2009. NBM Science Collections databases: molluscs. New Brunswick Museum, Saint John NB, download Jan. 2009, 6951 recs (2957 in Atlantic Canada).
2	Whittam, R.M. et al. 1998. Country Island Tern Restoration Project. Canadian Wildlife Service, Sackville, 2 recs.
1	Anderson, D.G. 2011. New site for showy lady's slipper on Cape Breton. Nova Scotia Department of Natural Resources, pers.comm. to R. Lautenschlager, Jul 5, 2011.
1	Anon. Dataset of butterfly records for the Maritime provinces. Museum of Comparative Zoology, Harvard University. 2017.
1	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
1	Benedict, B. Connell Herbarium Specimens (Data) . University New Brunswick, Fredericton. 2003.
1	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
1	Boyer, A.W. & Grecian, V.D. 1999. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 23 recs.
1	Cameron, R.P. 2014. 2013-14 rare species field data. Nova Scotia Department of Environment, 35 recs.
1	Chapman, C.N. (Cody). 2019. Nova Scotia Black Ash (<i>Fraxinus nigra</i>) field observations by Confederacy of Mainland Mi'kmaq. Forestry Program, Confederacy of Mainland Mi'kmaq, 7 records.
1	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
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	Doucet, D.A. 2009. Census of Globally Rare, Endemic Butterflies of Nova Scotia Gulf of St Lawrence Salt Marshes. Nova Scotia Dept of Natural Resources, Species at Risk, 155 recs.
1	e-Butterfly. 2018. Selected Maritimes butterfly records from 2016 and 2017. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
1	Frittaion, C. 2012. NSNT 2012 Field Observations. Nova Scotia Nature Trust, Pers comm. to S. Blaney Feb. 7, 34 recs.
1	Gilman, A.; Testo, W. 2015. Use of Gemma Characters to Identify North American <i>Huperzia</i> (Lycopodiaceae). American Fern Journal, 105(3):145-161.
1	Klymko, J.J.D. 2012. Maritimes Butterfly Atlas, 2010 and 2011 records. Atlantic Canada Conservation Data Centre, 6318 recs.
1	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
1	McKendry, Karen. 2016. Rare species observations, 2016. Nova Scotia Nature Trust, 19 recs.
1	Neily, T.H. & Pepper, C.; Toms, B. 2019. Boreal Felt Lichen Observation, January 2019. Mersey Tobeatic Research Institute, 1 rec.
1	Newell, R.B.; Sam, D. 2014. 2014 Bloodroot personal communication report, Antigonish, NS. NS Department of Natural Resources.
1	Schmidt, B.C. 2017. Details about a <i>Speyeria aphrodite</i> specimen at the Canadian National Collection from Baddeck, NS, sent via email on 15 February 2017.
1	Standley, L.A. 2002. <i>Carex haydenii</i> in Nova Scotia. , Pers. comm. to C.S. Blaney. 4 recs.
1	Whittam, R.M. 2000. <i>Senecio pseudoarnica</i> on Country Island. , Pers. comm. to S. Gerriets. 1 rec.

APPENDIX G. TABLE 1 AND 2 OF WESP RESULTS

Table G1: WESP Evaluation Results - Grouped Wetland Functions

WL ID	HYDROLOGIC Group		WATER Quality Group		AQUATIC SUPPORT Group		AQUATIC HABITAT Group		TERRESTRIAL HABITAT Group		WETLAND CONDITION		WETLAND RISK		Average Function	Average Benefits
	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits		
1	1	2	1	2	2	2	3	2	3	3	N/A	2	N/A	3	2	2
2	1	2	1	2	3	2	2	2	3	3	N/A	3	N/A	3	2	2
3	3	2	3	1	2	1	1	1	2	1	N/A	2	N/A	2	2	1
4	2	2	3	1	3	1	3	2	2	1	N/A	3	N/A	2	2	2
5	3	2	3	2	2	1	1	1	2	1	N/A	3	N/A	3	2	2
6	3	2	3	1	2	1	2	1	2	1	N/A	3	N/A	3	2	2
7	3	2	3	1	2	1	1	1	2	1	N/A	2	N/A	3	2	1
8	3	2	3	1	2	1	2	1	2	1	N/A	3	N/A	3	2	2
9	3	2	3	1	1	1	1	1	2	1	N/A	1	N/A	2	2	1
10	3	2	3	1	2	1	1	1	2	1	N/A	2	N/A	3	2	1
11	1	2	2	3	3	2	2	2	3	3	N/A	3	N/A	3	2	2
Total Average (all wetlands)	2	2	3	2	2	1	2	1	2	2	N/A	3	N/A	3	2	2

1= Lower Average Accumulated Score
2= Moderate Average Accumulated Score
3 = High Average Accumulated Score

Table G2: WESP Evaluation Results - Specific Wetland Functions

Wetland	1		2		3		4		5		6		7		8		9		10		11		
	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	Function Rating	Benefits Rating	
Surface Water Storage (WS)	1	2	1	2	3	2	2	2	3	2	3	2	3	2	3	2	3	2	3	2	1	2	
Stream Flow Support (SFS)	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3
Streamwater Cooling (WC)	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	
Sediment & Toxicant Retention & Stabilization (SR)	1	2	1	2	2	1	1	1	1	3	2	2	1	2	1	2	1	2	1	2	1	3	
Phosphorus Retention (PR)	1	2	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	3	
Nitrate Removal & Retention (NR)	1	2	2	2	3	1	3	1	3	2	3	1	3	1	3	1	3	1	3	1	2	3	
Carbon Sequestration (CS)	1		1		2		2		2		1		1		2		2		2		2		
Organic Nutrient Export (OE)	3		3		3		2		3		3		3		2		2		3		1		
Anadromous Fish Habitat (FA)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Resident & Other Fish Habitat (FR)	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Aquatic Invertebrate Habitat (INV)	2	3	2	2	3	1	3	2	3	1	3	1	3	1	3	1	2	1	3	1	3	2	
Amphibian Habitat (AM)	2	2	2	2	1	1	3	2	1	1	2	1	1	1	2	1	1	1	1	1	2	2	
Waterbird Feeding Habitat (WBF)	3	2	2	2	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	
Waterbird Nesting Habitat (WBN)	3	1	2	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	
Songbird, Raptor, & Mammal Habitat (SBM)	3	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	
Pollinator Habitat (POL)	3	3	3	2	2	2	2	2	3	2	3	2	2	2	2	2	2	2	2	2	3	3	
Native Plant Habitat (PH)	2	3	2	2	2	1	1	1	2	1	2	1	1	1	2	1	1	1	2	1	2	3	
Public Use & Recognition (PU)		2		1		1		1		1		2		1		2		2		2		2	
Wetland Sensitivity (Sens)		3		3		2		2		3		3		3		3		2		3		3	
Wetland Ecological Condition (EC)		2		3		2		3		3		3		2		3		1		2		3	
Wetland Stressors (STR) (higher score means more)		2		3		2		2		3		2		3		2		2		2		2	
Average Function/Benefit	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	1	2	1	2	2	

1= Lower Average Accumulated Score
2= Moderate Average Accumulated Score
3= High Average Accumulated Score

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	1	0.17	Lower	4.40	Moderate	2.07	1.95
Stream Flow Support (SFS)	1	3.52	Moderate	8.00	Higher	2.83	5.33
Streamwater Cooling (WC)	1	4.67	Moderate	4.52	Moderate	3.11	2.45
Sediment & Toxicant Retention & Stabilization (SR)	1	0.80	Lower	1.42	Moderate	2.82	0.69
Phosphorus Retention (PR)	1	1.47	Lower	1.34	Moderate	4.67	1.04
Nitrate Removal & Retention (NR)	1	2.71	Lower	5.00	Moderate	4.73	5.00
Carbon Sequestration (CS)	1	2.78	Lower			6.51	
Organic Nutrient Export (OE)	1	7.69	Higher			5.03	
Anadromous Fish Habitat (FA)	1	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	1	5.25	Higher	2.77	Moderate	2.85	1.73
Aquatic Invertebrate Habitat (INV)	1	5.42	Moderate	6.57	Higher	5.70	4.78
Amphibian Habitat (AM)	1	6.01	Moderate	5.19	Moderate	6.27	6.04
Waterbird Feeding Habitat (WBF)	1	8.71	Higher	3.33	Moderate	6.63	3.33
Waterbird Nesting Habitat (WBN)	1	6.62	Higher	0.00	Lower	4.80	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	1	9.36	Higher	3.33	Moderate	8.14	3.33
Pollinator Habitat (POL)	1	8.22	Higher	10.00	Higher	6.82	10.00
Native Plant Habitat (PH)	1	5.29	Moderate	10.00	Higher	6.01	10.00
Public Use & Recognition (PU)	1			1.88	Moderate		1.59
Wetland Sensitivity (Sens)	1			7.92	Higher		4.43
Wetland Ecological Condition (EC)	1			4.78	Moderate		7.50
Wetland Stressors (STR) (higher score means more)	1			5.94	Moderate		3.04
Summary Ratings for Grouped Functions:	1						
HYDROLOGIC Group (WS)	1	0.17	Lower	4.40	Moderate	2.07	1.95
WATER PURIFICATION Group	1	1.72	Lower	4.19	Moderate	5.60	3.62
AQUATIC SUPPORT Group	1	4.98	Moderate	7.49	Moderate	4.94	4.76
AQUATIC HABITAT Group	1	6.64	Higher	3.67	Moderate	5.37	4.13
TERRESTRIAL HABITAT Group	1	8.70	Higher	8.89	Higher	7.57	8.89
WETLAND CONDITION	1			4.78	Moderate		7.50
WETLAND RISK	1			7.60	Higher		3.73

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	2	2.01	Lower	4.74	Moderate	3.45	2.10
Stream Flow Support (SFS)	2	3.52	Moderate	7.58	Moderate	2.83	5.05
Streamwater Cooling (WC)	2	5.04	Moderate	4.66	Moderate	3.36	2.53
Sediment & Toxicant Retention & Stabilization (SR)	2	2.84	Lower	1.60	Moderate	4.41	0.79
Phosphorus Retention (PR)	2	1.06	Lower	1.34	Moderate	4.41	1.04
Nitrate Removal & Retention (NR)	2	3.06	Moderate	4.50	Moderate	4.98	4.50
Carbon Sequestration (CS)	2	3.20	Lower			6.71	
Organic Nutrient Export (OE)	2	9.58	Higher			6.26	
Anadromous Fish Habitat (FA)	2	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	2	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	2	3.90	Moderate	4.13	Moderate	5.08	3.47
Amphibian Habitat (AM)	2	6.22	Moderate	4.75	Moderate	6.38	5.68
Waterbird Feeding Habitat (WBF)	2	5.33	Moderate	5.00	Moderate	4.06	5.00
Waterbird Nesting Habitat (WBN)	2	3.30	Moderate	0.00	Lower	2.39	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	2	9.17	Higher	10.00	Higher	7.98	10.00
Pollinator Habitat (POL)	2	10.00	Higher	3.33	Moderate	8.88	3.33
Native Plant Habitat (PH)	2	6.03	Moderate	6.73	Moderate	6.31	6.73
Public Use & Recognition (PU)	2			0.17	Lower		0.42
Wetland Sensitivity (Sens)	2			8.79	Higher		4.68
Wetland Ecological Condition (EC)	2			10.00	Higher		10.00
Wetland Stressors (STR) (higher score means more)	2			6.16	Higher		3.14
Summary Ratings for Grouped Functions:	2						
HYDROLOGIC Group (WS)	2	2.01	Lower	4.74	Moderate	3.45	2.10
WATER PURIFICATION Group	2	2.43	Lower	3.82	Moderate	5.92	3.30
AQUATIC SUPPORT Group	2	5.96	Higher	6.74	Moderate	5.32	4.36
AQUATIC HABITAT Group	2	4.94	Moderate	3.37	Moderate	4.47	3.91
TERRESTRIAL HABITAT Group	2	10.00	Higher	8.34	Higher	8.30	8.34
WETLAND CONDITION	2			10.00	Higher		10.00
WETLAND RISK	2			8.12	Higher		3.91

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	3	8.94	Higher	4.79	Moderate	8.62	2.13
Stream Flow Support (SFS)	3	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	3	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	3	6.44	Moderate	0.91	Lower	7.22	0.44
Phosphorus Retention (PR)	3	1.74	Lower	0.86	Lower	4.84	0.67
Nitrate Removal & Retention (NR)	3	10.00	Higher	2.22	Lower	10.00	2.22
Carbon Sequestration (CS)	3	5.82	Moderate			7.95	
Organic Nutrient Export (OE)	3	7.53	Higher			4.92	
Anadromous Fish Habitat (FA)	3	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	3	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	3	5.99	Higher	0.98	Lower	5.93	1.77
Amphibian Habitat (AM)	3	3.36	Lower	1.53	Lower	4.88	3.02
Waterbird Feeding Habitat (WBF)	3	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	3	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	3	6.59	Moderate	3.33	Moderate	5.74	3.33
Pollinator Habitat (POL)	3	6.09	Moderate	3.33	Moderate	5.05	3.33
Native Plant Habitat (PH)	3	3.76	Moderate	4.71	Lower	5.40	4.71
Public Use & Recognition (PU)	3			0.17	Lower		0.42
Wetland Sensitivity (Sens)	3			6.82	Moderate		4.11
Wetland Ecological Condition (EC)	3			4.78	Moderate		7.50
Wetland Stressors (STR) (higher score means more)	3			4.27	Moderate		2.24
Summary Ratings for Grouped Functions:	3						
HYDROLOGIC Group (WS)	3	8.94	Higher	4.79	Moderate	8.62	2.13
WATER PURIFICATION Group	3	8.59	Higher	1.93	Lower	8.75	1.67
AQUATIC SUPPORT Group	3	3.44	Moderate	0.67	Lower	4.32	1.18
AQUATIC HABITAT Group	3	2.00	Lower	0.51	Lower	2.93	1.81
TERRESTRIAL HABITAT Group	3	5.04	Moderate	4.25	Lower	5.57	4.25
WETLAND CONDITION	3			4.78	Moderate		7.50
WETLAND RISK	3			5.94	Moderate		3.18

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	4	6.04	Moderate	4.85	Moderate	6.45	2.15
Stream Flow Support (SFS)	4	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	4	2.54	Moderate	0.00	Lower	1.69	0.00
Sediment & Toxicant Retention & Stabilization (SR)	4	2.24	Lower	0.91	Lower	3.94	0.44
Phosphorus Retention (PR)	4	1.91	Lower	0.86	Lower	4.94	0.67
Nitrate Removal & Retention (NR)	4	10.00	Higher	2.22	Lower	10.00	2.22
Carbon Sequestration (CS)	4	2.59	Lower			6.42	
Organic Nutrient Export (OE)	4	7.13	Moderate			4.66	
Anadromous Fish Habitat (FA)	4	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	4	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	4	9.21	Higher	5.49	Moderate	7.25	4.20
Amphibian Habitat (AM)	4	10.00	Higher	3.35	Moderate	8.61	4.52
Waterbird Feeding Habitat (WBF)	4	7.70	Higher	3.33	Moderate	5.86	3.33
Waterbird Nesting Habitat (WBN)	4	8.78	Higher	0.00	Lower	6.37	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	4	5.03	Moderate	3.33	Moderate	4.37	3.33
Pollinator Habitat (POL)	4	7.46	Moderate	3.33	Moderate	6.19	3.33
Native Plant Habitat (PH)	4	2.85	Lower	4.63	Lower	5.04	4.63
Public Use & Recognition (PU)	4			0.17	Lower		0.42
Wetland Sensitivity (Sens)	4			7.04	Moderate		4.18
Wetland Ecological Condition (EC)	4			6.52	Higher		8.33
Wetland Stressors (STR) (higher score means more)	4			4.27	Moderate		2.24
Summary Ratings for Grouped Functions:	4						
HYDROLOGIC Group (WS)	4	6.04	Moderate	4.85	Moderate	6.45	2.15
WATER PURIFICATION Group	4	7.31	Higher	1.93	Lower	8.16	1.67
AQUATIC SUPPORT Group	4	5.97	Higher	3.76	Lower	5.33	2.80
AQUATIC HABITAT Group	4	8.56	Higher	2.20	Moderate	6.39	3.05
TERRESTRIAL HABITAT Group	4	5.27	Moderate	4.20	Lower	5.69	4.20
WETLAND CONDITION	4			6.52	Higher		8.33
WETLAND RISK	4			6.03	Moderate		3.21

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	5	9.22	Higher	4.40	Moderate	8.83	1.95
Stream Flow Support (SFS)	5	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	5	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	5	7.15	Higher	2.17	Moderate	7.78	1.06
Phosphorus Retention (PR)	5	2.04	Lower	2.05	Moderate	5.02	1.60
Nitrate Removal & Retention (NR)	5	10.00	Higher	5.83	Moderate	10.00	5.83
Carbon Sequestration (CS)	5	6.30	Moderate			8.18	
Organic Nutrient Export (OE)	5	7.53	Higher			4.92	
Anadromous Fish Habitat (FA)	5	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	5	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	5	8.18	Higher	0.88	Lower	6.83	1.72
Amphibian Habitat (AM)	5	3.13	Lower	2.13	Lower	4.76	3.52
Waterbird Feeding Habitat (WBF)	5	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	5	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	5	6.38	Moderate	5.00	Moderate	5.55	5.00
Pollinator Habitat (POL)	5	8.16	Higher	3.33	Moderate	6.76	3.33
Native Plant Habitat (PH)	5	4.15	Moderate	5.22	Lower	5.56	5.22
Public Use & Recognition (PU)	5			0.17	Lower		0.42
Wetland Sensitivity (Sens)	5			10.00	Higher		5.39
Wetland Ecological Condition (EC)	5			10.00	Higher		10.00
Wetland Stressors (STR) (higher score means more)	5			7.90	Higher		3.98
Summary Ratings for Grouped Functions:	5						
HYDROLOGIC Group (WS)	5	9.22	Higher	4.40	Moderate	8.83	1.95
WATER PURIFICATION Group	5	8.85	Higher	5.01	Moderate	8.87	4.33
AQUATIC SUPPORT Group	5	4.86	Moderate	0.60	Lower	4.89	1.15
AQUATIC HABITAT Group	5	1.86	Lower	0.91	Lower	2.86	2.11
TERRESTRIAL HABITAT Group	5	6.49	Moderate	4.87	Lower	6.36	4.87
WETLAND CONDITION	5			10.00	Higher		10.00
WETLAND RISK	5			10.00	Higher		4.68

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	6	7.94	Higher	4.62	Moderate	7.87	2.05
Stream Flow Support (SFS)	6	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	6	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	6	3.71	Moderate	0.91	Lower	5.09	0.44
Phosphorus Retention (PR)	6	1.30	Lower	0.86	Lower	4.56	0.67
Nitrate Removal & Retention (NR)	6	10.00	Higher	2.22	Lower	10.00	2.22
Carbon Sequestration (CS)	6	2.87	Lower			6.56	
Organic Nutrient Export (OE)	6	8.00	Higher			5.23	
Anadromous Fish Habitat (FA)	6	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	6	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	6	7.88	Higher	1.06	Lower	6.71	1.81
Amphibian Habitat (AM)	6	5.52	Moderate	1.17	Lower	6.02	2.73
Waterbird Feeding Habitat (WBF)	6	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	6	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	6	5.58	Moderate	3.33	Moderate	4.86	3.33
Pollinator Habitat (POL)	6	8.46	Higher	3.33	Moderate	7.01	3.33
Native Plant Habitat (PH)	6	3.72	Moderate	5.07	Lower	5.39	5.07
Public Use & Recognition (PU)	6			1.79	Moderate		1.53
Wetland Sensitivity (Sens)	6			7.75	Higher		4.38
Wetland Ecological Condition (EC)	6			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more)	6			5.22	Moderate		2.70
Summary Ratings for Grouped Functions:	6						
HYDROLOGIC Group (WS)	6	7.94	Higher	4.62	Moderate	7.87	2.05
WATER PURIFICATION Group	6	7.56	Higher	1.93	Lower	8.28	1.67
AQUATIC SUPPORT Group	6	4.76	Moderate	0.72	Lower	4.85	1.21
AQUATIC HABITAT Group	6	3.30	Moderate	0.27	Lower	3.61	1.64
TERRESTRIAL HABITAT Group	6	6.53	Moderate	4.49	Lower	6.38	4.49
WETLAND CONDITION	6			8.26	Higher		9.17
WETLAND RISK	6			7.02	Higher		3.54

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	7	7.94	Higher	4.40	Moderate	7.87	1.95
Stream Flow Support (SFS)	7	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	7	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	7	3.71	Moderate	0.91	Lower	5.09	0.44
Phosphorus Retention (PR)	7	1.30	Lower	0.86	Lower	4.56	0.67
Nitrate Removal & Retention (NR)	7	10.00	Higher	2.22	Lower	10.00	2.22
Carbon Sequestration (CS)	7	2.25	Lower			6.26	
Organic Nutrient Export (OE)	7	8.04	Higher			5.26	
Anadromous Fish Habitat (FA)	7	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	7	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	7	6.29	Higher	0.51	Lower	6.06	1.52
Amphibian Habitat (AM)	7	3.01	Lower	1.67	Lower	4.70	3.14
Waterbird Feeding Habitat (WBF)	7	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	7	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	7	5.07	Moderate	5.00	Moderate	4.41	5.00
Pollinator Habitat (POL)	7	7.01	Moderate	3.33	Moderate	5.81	3.33
Native Plant Habitat (PH)	7	2.78	Lower	4.52	Lower	5.01	4.52
Public Use & Recognition (PU)	7			0.17	Lower		0.42
Wetland Sensitivity (Sens)	7			7.57	Higher		4.33
Wetland Ecological Condition (EC)	7			5.65	Moderate		7.92
Wetland Stressors (STR) (higher score means more)	7			6.59	Higher		3.35
Summary Ratings for Grouped Functions:	7						
HYDROLOGIC Group (WS)	7	7.94	Higher	4.40	Moderate	7.87	1.95
WATER PURIFICATION Group	7	7.48	Higher	1.93	Lower	8.24	1.67
AQUATIC SUPPORT Group	7	3.74	Moderate	0.35	Lower	4.44	1.01
AQUATIC HABITAT Group	7	1.80	Lower	0.60	Lower	2.82	1.88
TERRESTRIAL HABITAT Group	7	4.81	Moderate	4.64	Lower	5.44	4.64
WETLAND CONDITION	7			5.65	Moderate		7.92
WETLAND RISK	7			7.91	Higher		3.84

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	8	8.94	Higher	4.79	Moderate	8.62	2.13
Stream Flow Support (SFS)	8	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	8	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	8	5.85	Moderate	0.91	Lower	6.76	0.44
Phosphorus Retention (PR)	8	1.74	Lower	0.86	Lower	4.84	0.67
Nitrate Removal & Retention (NR)	8	10.00	Higher	2.22	Lower	10.00	2.22
Carbon Sequestration (CS)	8	5.43	Moderate			7.77	
Organic Nutrient Export (OE)	8	6.72	Moderate			4.39	
Anadromous Fish Habitat (FA)	8	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	8	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	8	7.88	Higher	0.99	Lower	6.71	1.78
Amphibian Habitat (AM)	8	5.52	Moderate	1.09	Lower	6.02	2.66
Waterbird Feeding Habitat (WBF)	8	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	8	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	8	5.34	Moderate	3.33	Moderate	4.65	3.33
Pollinator Habitat (POL)	8	7.68	Moderate	3.33	Moderate	6.37	3.33
Native Plant Habitat (PH)	8	3.72	Moderate	4.78	Lower	5.39	4.78
Public Use & Recognition (PU)	8			1.79	Moderate		1.53
Wetland Sensitivity (Sens)	8			7.78	Higher		4.39
Wetland Ecological Condition (EC)	8			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more)	8			5.22	Moderate		2.70
Summary Ratings for Grouped Functions:	8						
HYDROLOGIC Group (WS)	8	8.94	Higher	4.79	Moderate	8.62	2.13
WATER PURIFICATION Group	8	8.42	Higher	1.93	Lower	8.67	1.67
AQUATIC SUPPORT Group	8	4.49	Moderate	0.68	Lower	4.74	1.19
AQUATIC HABITAT Group	8	3.30	Moderate	0.21	Lower	3.61	1.60
TERRESTRIAL HABITAT Group	8	5.68	Moderate	4.30	Lower	5.92	4.30
WETLAND CONDITION	8			8.26	Higher		9.17
WETLAND RISK	8			7.03	Higher		3.54

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	9	8.16	Higher	4.85	Moderate	8.04	2.15
Stream Flow Support (SFS)	9	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	9	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	9	5.25	Moderate	0.91	Lower	6.30	0.44
Phosphorus Retention (PR)	9	0.00	Lower	0.86	Lower	3.65	0.67
Nitrate Removal & Retention (NR)	9	10.00	Higher	2.22	Lower	10.00	2.22
Carbon Sequestration (CS)	9	4.41	Moderate			7.28	
Organic Nutrient Export (OE)	9	5.24	Moderate			3.42	
Anadromous Fish Habitat (FA)	9	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	9	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	9	3.94	Moderate	0.76	Lower	5.10	1.65
Amphibian Habitat (AM)	9	3.23	Lower	1.28	Lower	4.82	2.81
Waterbird Feeding Habitat (WBF)	9	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	9	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	9	5.87	Moderate	3.33	Moderate	5.11	3.33
Pollinator Habitat (POL)	9	5.28	Moderate	3.33	Moderate	4.38	3.33
Native Plant Habitat (PH)	9	1.49	Lower	4.27	Lower	4.50	4.27
Public Use & Recognition (PU)	9			1.79	Moderate		1.53
Wetland Sensitivity (Sens)	9			5.42	Moderate		3.72
Wetland Ecological Condition (EC)	9			3.04	Lower		6.67
Wetland Stressors (STR) (higher score means more)	9			4.96	Moderate		2.57
Summary Ratings for Grouped Functions:	9						
HYDROLOGIC Group (WS)	9	8.16	Higher	4.85	Moderate	8.04	2.15
WATER PURIFICATION Group	9	7.83	Higher	1.93	Lower	8.40	1.67
AQUATIC SUPPORT Group	9	1.65	Lower	0.52	Lower	3.62	1.10
AQUATIC HABITAT Group	9	1.93	Lower	0.34	Lower	2.89	1.69
TERRESTRIAL HABITAT Group	9	3.78	Moderate	3.96	Lower	4.89	3.96
WETLAND CONDITION	9			3.04	Lower		6.67
WETLAND RISK	9			5.84	Moderate		3.14

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	10	8.94	Higher	4.85	Moderate	8.62	2.15
Stream Flow Support (SFS)	10	0.00	Lower	0.00	Lower	0.00	0.00
Streamwater Cooling (WC)	10	0.00	Lower	0.00	Lower	0.00	0.00
Sediment & Toxicant Retention & Stabilization (SR)	10	6.44	Moderate	0.91	Lower	7.22	0.44
Phosphorus Retention (PR)	10	1.74	Lower	0.86	Lower	4.84	0.67
Nitrate Removal & Retention (NR)	10	10.00	Higher	2.50	Lower	10.00	2.50
Carbon Sequestration (CS)	10	5.82	Moderate			7.95	
Organic Nutrient Export (OE)	10	7.74	Higher			5.06	
Anadromous Fish Habitat (FA)	10	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	10	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	10	6.70	Higher	1.05	Lower	6.23	1.81
Amphibian Habitat (AM)	10	3.43	Lower	1.61	Lower	4.92	3.09
Waterbird Feeding Habitat (WBF)	10	0.00	Lower	0.00	Lower	0.00	0.00
Waterbird Nesting Habitat (WBN)	10	0.00	Lower	0.00	Lower	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	10	6.81	Moderate	3.33	Moderate	5.92	3.33
Pollinator Habitat (POL)	10	6.09	Moderate	3.33	Moderate	5.05	3.33
Native Plant Habitat (PH)	10	4.81	Moderate	4.77	Lower	5.82	4.77
Public Use & Recognition (PU)	10			1.79	Moderate		1.53
Wetland Sensitivity (Sens)	10			8.58	Higher		4.62
Wetland Ecological Condition (EC)	10			4.78	Moderate		7.50
Wetland Stressors (STR) (higher score means more)	10			4.35	Moderate		2.28
Summary Ratings for Grouped Functions:	10						
HYDROLOGIC Group (WS)	10	8.94	Higher	4.85	Moderate	8.62	2.15
WATER PURIFICATION Group	10	8.59	Higher	2.14	Lower	8.75	1.85
AQUATIC SUPPORT Group	10	3.94	Moderate	0.72	Lower	4.52	1.20
AQUATIC HABITAT Group	10	2.04	Lower	0.56	Lower	2.95	1.85
TERRESTRIAL HABITAT Group	10	5.39	Moderate	4.29	Lower	5.76	4.29
WETLAND CONDITION	10			4.78	Moderate		7.50
WETLAND RISK	10			6.74	Higher		3.45

Sporting Mountain WESP-AC Results

Attribute	Site	Function Score (Normalised)	Function Rating	Benefits Score (Normalised)	Benefits Rating	Function Score (raw)	Benefits Score (raw)
Surface Water Storage (WS)	11	2.82	Lower	4.85	Moderate	4.05	2.15
Stream Flow Support (SFS)	11	1.90	Moderate	8.24	Higher	1.53	5.49
Streamwater Cooling (WC)	11	8.30	Higher	1.88	Lower	5.53	1.02
Sediment & Toxicant Retention & Stabilization (SR)	11	3.40	Lower	10.00	Higher	4.85	10.00
Phosphorus Retention (PR)	11	1.84	Lower	10.00	Higher	4.90	10.00
Nitrate Removal & Retention (NR)	11	3.05	Moderate	10.00	Higher	4.98	10.00
Carbon Sequestration (CS)	11	3.48	Moderate			6.84	
Organic Nutrient Export (OE)	11	0.00	Lower			0.00	
Anadromous Fish Habitat (FA)	11	0.00	Lower	0.00	Lower	0.00	0.00
Resident & Other Fish Habitat (FR)	11	0.00	Lower	0.00	Lower	0.00	0.00
Aquatic Invertebrate Habitat (INV)	11	8.88	Higher	3.89	Moderate	7.11	3.34
Amphibian Habitat (AM)	11	5.83	Moderate	4.49	Moderate	6.18	5.46
Waterbird Feeding Habitat (WBF)	11	6.24	Moderate	5.00	Moderate	4.75	5.00
Waterbird Nesting Habitat (WBN)	11	3.41	Moderate	0.00	Lower	2.47	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	11	7.63	Higher	5.00	Moderate	6.64	5.00
Pollinator Habitat (POL)	11	9.24	Higher	10.00	Higher	7.66	10.00
Native Plant Habitat (PH)	11	4.82	Moderate	10.00	Higher	5.82	10.00
Public Use & Recognition (PU)	11			1.88	Moderate		1.59
Wetland Sensitivity (Sens)	11			8.54	Higher		4.60
Wetland Ecological Condition (EC)	11			8.26	Higher		9.17
Wetland Stressors (STR) (higher score means more)	11			4.42	Moderate		2.31
Summary Ratings for Grouped Functions:	11						
HYDROLOGIC Group (WS)	11	2.82	Lower	4.85	Moderate	4.05	2.15
WATER PURIFICATION Group	11	2.86	Moderate	10.00	Higher	6.12	10.00
AQUATIC SUPPORT Group	11	5.98	Higher	6.78	Moderate	5.33	4.38
AQUATIC HABITAT Group	11	4.85	Moderate	3.20	Moderate	4.43	3.78
TERRESTRIAL HABITAT Group	11	8.00	Higher	9.17	Higher	7.18	9.17
WETLAND CONDITION	11			8.26	Higher		9.17
WETLAND RISK	11			6.77	Higher		3.46

APPENDIX H. GEOREFERENCED PHOTOLOG

Georeferenced Photolog
Sporting Mountain Quarry Expansion Project



P1: Clear-cut along upland forested buffer, north of existing quarry footprint.



P2: Mixedwood upland forested buffer.



P3: Mixedwood upland forest with regenerating balsam fir in dominating second story.



P4: Dense, mid-regeneration balsam fir stand with white birch scattered throughout.

Georeferenced Photolog
Sporting Mountain Quarry Expansion Project



P5: Mixedwood upland forest dominated by red maple and white birch, with regenerating balsam fir dominating the second story.



P6: Clear-cut south of WL2.



P7: Dense, mid-regeneration balsam fir stand.



P8: Tolerant hardwood (sugar maple, yellow birch) dominant stand.

Georeferenced Photolog
Sporting Mountain Quarry Expansion Project



P9: Dense, mid-regeneration balsam fir stand.



P10: Disturbed, cattail dominated swamp.



P11: Mixedwood swamp.



P12: Tree/shrub bog .

Georeferenced Photolog
Sporting Mountain Quarry Expansion Project



P13: Open bog.



P14: Disturbed, cattail dominated bog.