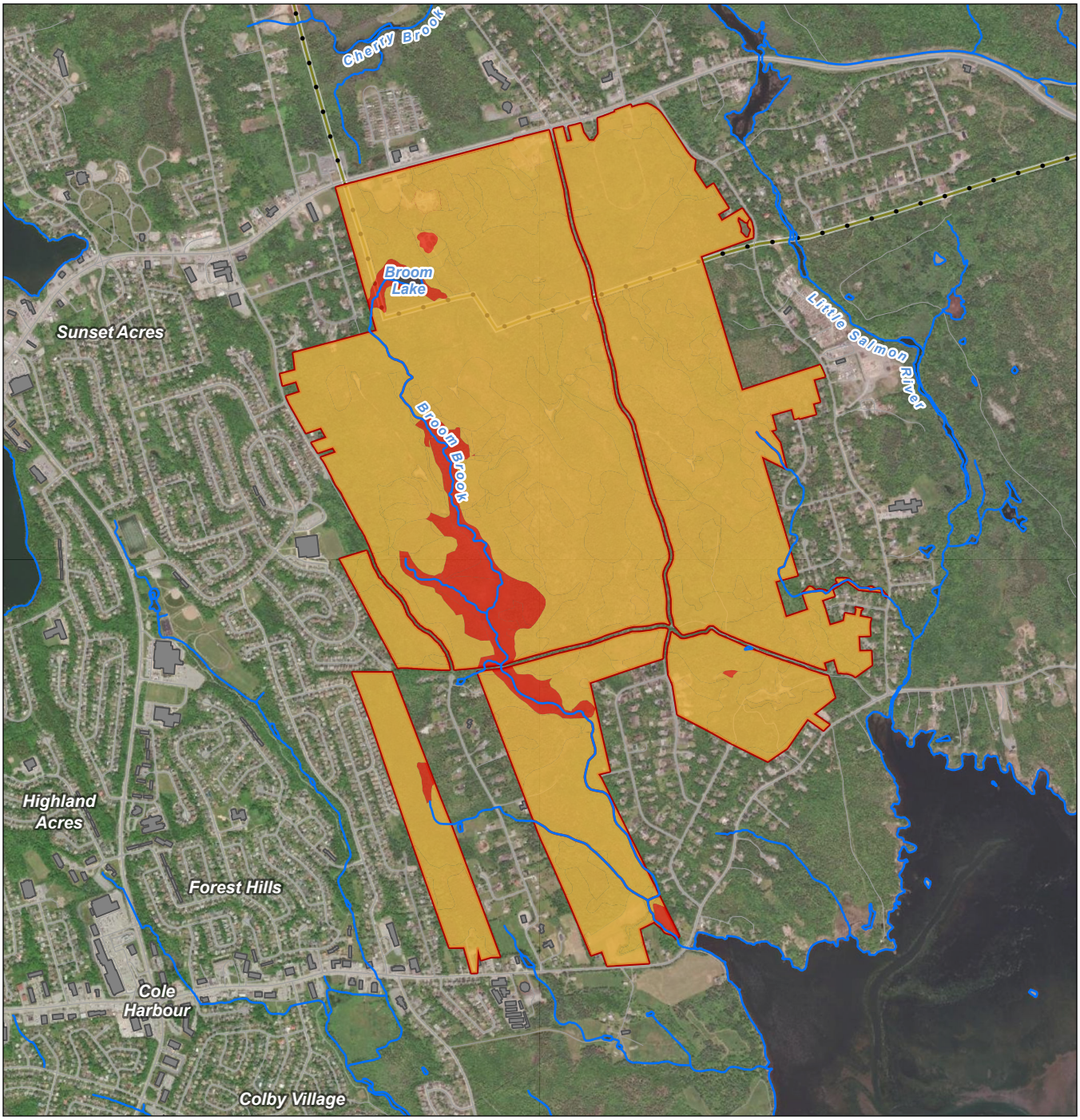




Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services
3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

- Study Area

Species at Risk
- Habitat Potentially used by 4+ SAR
- Habitat Potentially used by 1-3 SAR
- Habitat Unlikely to be used by SAR

Utilities
- Transmission Line

Other Features
- Highway
- Road
- Waterway
- Building

0 250 500 Metres
(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by SChubbs on 2024-05-09

Client/Project
Halifax Regional Municipality
Future Serviced Communities Background Studies

Fig ID: 160410459_024

Figure No.
3.9

Title
Potential Distribution of Species at Risk- WSA

HRM FCM 2022.aprx Revised: 2024-05-10 By: schubbs

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Several patterns are visible in the SAR distribution mapping (Figure 3.9). There are no areas in the WSA where no SAR could potentially be present. This was attributable to the potential presence of yellow-banded bumble bee which has a broad niche. This species can potentially be found in all terrestrial habitat types in the WSA.

Areas in the WSA potentially capable of supporting more than three SAR are typically associated with four habitat features including watercourses, wetlands, mature forests, and anthropogenic habitats, although wetlands and watercourses appear to have the greatest potential to support SAR. Watercourses provide habitat and travel routes for a variety of SAR that have been recorded in the vicinity of the WSA including American eel, snapping turtle, and eastern painted turtle. SAR associated with wetlands include lesser yellowlegs, eastern whip-poor-will, Canada warbler, olive-sided flycatcher, rusty blackbird, yellow-banded bumble bee, boreal felt lichen, and blue felt lichen. SAR that are associated with mature forests include eastern wood pewee, evening grosbeak, little brown myotis, northern myotis, tri-colored bat, and yellow-banded bumble bee.

The areas where SAR are potentially concentrated in the WSA are linked by watercourses. Broom Brook on the western side of the WSA is particularly important in this regard. This is probably attributable to several factors. The watercourses provide habitat for their own suite of SAR. Wetlands often develop along these watercourses or are the headwaters for watercourses and support a different group of SAR. The riparian habitats along the watercourses are protected by buffer zones within which no forest harvesting may occur. Therefore, the remnants of mature forest can become concentrated along the shores of these watercourses. These mature forest remnants provide habitat for other SAR. These linear concentrations of SAR are of particular benefit since they can provide both habitat for SAR and corridors to connect plant and animal populations in urban areas.

Eight of the 20 SAR that have been identified as potentially present in the WSA are known to make use of anthropogenic habitat for at least part of their life history. These include barn swallow, bobolink, common nighthawk, evening grosbeak, little brown myotis, common snapping turtle, yellow-banded bumble bee, and monarch. It is important to note that although these species can exploit anthropogenic habitats, they often also require nearby undisturbed habitats to satisfy other aspects of their natural history. For instance, barn swallows and common nighthawks often nest on human structures or in areas heavily disturbed by humans; however, both species require nearby foraging habitats such as wetlands or water courses that produce abundant flying insects to provide food for themselves and their nestlings. In heavily developed areas these food sources may not be present or may be degraded to the point where they do not produce enough food.

3.4.4 LAND SUITABILITY ANALYSIS – FOREST HABITAT AND SPECIES AT RISK

Stantec conducted a land suitability assessment for forest habitat and species at risk by collating existing desktop data, referring to previously published reports, and conducting field surveys. The data underwent analysis using geographic information systems (GIS) and other tools to identify factors influencing land suitability. Following digitization, Stantec established a list of key terrestrial layers and devised a scoring system based on their significance to the assessment objectives. The evaluated layers include:

- Forest Maturity and Forest Succession
- Species at Risk Habitat

This process culminated in the creation of a map (Figure 3.10) that illustrates these criteria and weights used to evaluate the suitability of different areas for development. The results allow for the identification of potentially suitable and unsuitable areas, as well as the recognition of potential constraints. The sections below apply a suitability score for field confirmed forest habitat and its potential to facilitate SAR.

Figure 3.10 displays the land suitability output collated from the previous sections based on scoring criteria presented in Table 3.15. The reader is reminded that a lower score for land suitability for development generally corresponds with higher ecological value associated with the three categories, and a higher suitability score corresponds with a lower ecological value for the three categories.

Table 3.15 Forest Habitat and Species at Risk – Land Suitability Ranking Framework

Layers	Land Suitability Ranking		
	1 - Low suitability for development	**2 - Moderate suitability for development**	**3 - Higher suitability for development**
Forest Maturity / Forest Succession*	Potential old growth (>80 years old) / late and mid-to-late successional	Mature (30-80 years old) / mid-successional and edaphic	Immature (<30 years old) / early and early-to-mid successional
SAR Habitat	Habitat potentially used by more than 3 SAR	Habitat potentially used by 3 or fewer SAR	Habitat unlikely to be used by SAR

Note:
*When no forest maturity class could be determined based on field determined stand age, forest succession was used

3.4.4.1 Forest Maturity and Forest Succession

Forest maturity classes were assigned based on the estimated stand ages from field data collection. Forested stands under 30 years of age are considered immature stands, while stands between 30-80 years of age are considered mature. Immature stands are composed of younger overstory vegetation compared to the mature stands which have progressed towards the climax community seen in old growth forests. For this analysis forested stands above 80 years of age are considered to have the potential to be old growth forest. The province of Nova Scotia defines old growth forest as an area where 20% or more of the basal area is in trees greater than or equal to the reference age for that forest type (NSDNRR 2022,Appendix E). This age criteria ranges between 100-140 years of age depending on the FEC VT. At this time, the exact stand age and forest maturity status cannot be determined without specific old growth forest sampling and thus stands estimated to be over 80 years old are considered to have the potential to be old growth forest for this land suitability analysis.

Where age was not estimated in the field, forest succession types from the FEC manual are used based on the above ranking criteria. Forest succession is typically divided into three classes; early successional, mid successional, and late successional which correspond to stand age and successional dynamics. Using the FEC VTs for each stand, each VT (e.g., MW2, IH6, SH5) is assigned successional classifications of early, early-to-mid, mid, mid-late, late and edaphic. For sites classified as barrens types, they are assigned a score of 2 based on the lack of available knowledge on successional dynamics of barrens in Nova Scotia and the potential for diversity within the VT.

Stands with the potential for old growth forest provide the highest ecological significance and are ranked as lower for potential future development, while immature stands are ranked higher for development. VTs with early and early to mid-successional stages are assigned a higher potential for development as they generally do not support key habitat and are not close to progression to later more structurally complex successional stages. A list of VT types that can reach old growth classification can be found in Appendix E. Stands with site limiting factors such as sites with low nutrients or wetlands are denoted as edaphic and are rated as moderate for development as due to the limiting factors previously mentioned; they will not reach a climax stage but can provide distinct habitat types. Late successional forests are assigned the lowest priority for development due to their limited occurrence on the landscape and the high potential to provide key habitat.

There is an old growth policy applicable to crown lands in Nova Scotia and it provides accepted survey methods for confirming old growth forests within the province. Stantec recommends HRM consider these surveys in the event the municipality wishes to develop a provincially acceptable inventory of old growth forests within the municipality. Although applicable to crown land only, the policy also encourages projects on private lands to survey for old growth forests (Natural Resources and Renewables, 2022).

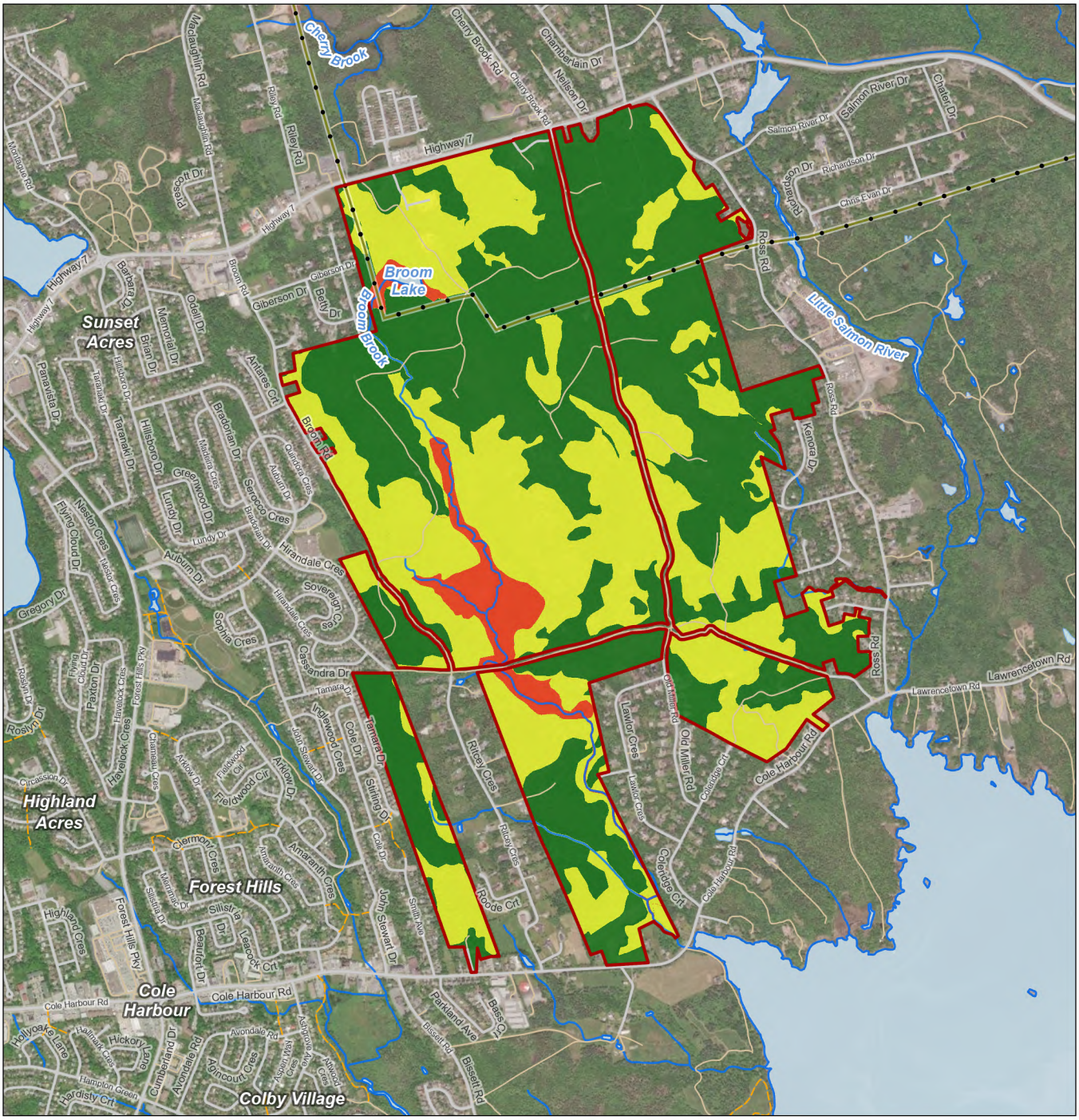
3.4.4.2 Species at Risk

The presence of individual SAR was not used exclusively to evaluate the role of SAR on land suitability within the WSA since it was not feasible to conduct comprehensive investigations to detect all individuals of all SAR species that may be present at the WSA. Instead, SAR that are or could potentially be present in the WSA were identified from both the results of the field surveys and from AC CDC records of SAR

reported within 5 km of the WSA. The habitat preferences of these species were compared to the results of the upland, wetland, and aquatic surveys conducted on the WSA along with available habitat mapping. Where matches were found between SAR habitat preferences and the habitats that had been mapped in the WSA, those species were considered potentially present. The habitat mapping was then used to map the potential distribution of various SAR on the site. This information was considered and evaluated as part of the landscape connectivity exercise.

SAR identified in the AC CDC (2023) report that have suitable habitat within the WSA and/or were identified during the field programs are compiled and the habitat areas are ranked based on the number of SAR species this habitat could potentially support. Habitat areas that potentially support multiple species (i.e., 3 or more) of SAR are given the lowest priority for development, while habitat areas that are unlikely to be used by SAR are given the highest priority for development. Some habitat areas are subdivisions of habitat polygons or buffers are created around habitat features such as watercourses as habitat preferences vary by species. Figure 3.10 incorporates the potential suitable habitat for all SAR that may be present in the WSA.

The forgoing analysis of potential land suitability based on forest habitat and species at risk should only be viewed as a preliminary tool to assist in planning for future development in the WSA. Responsible land development depends on many factors including those described above, and no one factor or group of factors should be considered determinative. Rankings are meant to be indicative, and to lay the groundwork for future, site specific investigations to be conducted as planning proceeds. In particular, further field confirmation will be required (e.g., for wetlands) in areas not covered in this study.





Study Area

Land Suitability Score

- 3 (High)
- 2
- 1 (Low)

Utilities

- Transmission Line

Transportation

- Highway
- Road
- Resource / Seasonal Road
- Trail

Other Features

- Waterway
- Waterbody

0 250 500 Metres

(At original document size of 8.5x11)
1:24,000

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Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N

2. Data Sources: Stantec; Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by NWhite on 2024-03-15
Revised by NWhite on 2024-04-19

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Fig ID: 160410459_033

Figure No.
3.10

Title
Forest Habitat and SAR Land Suitability Analysis - WSA

\\ca0213-pp\fs01\work_group\1214\active\160410459\gis_data\mapping\ArcGIS Pro\HRM_FCM_2024_Synthesis.aprx: HRM_FCM_033_Forest_SAR_LSARevised: 2024-05-10 By: niwhite

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

3.5 Landscape Connectivity

The land suitability mapping derived from the integration of the forest maturity / succession, and SAR mapping exercises, wetland and watercourse mapping were used in conjunction with existing studies of landscape connectivity in HRM to identify potential wildlife corridors within the WSA. The goal of this exercise is to identify connectivity between patches of undisturbed habitat that may be potentially isolated by development. The provision of wildlife corridors allows wildlife that require larger home ranges to inhabit areas that would otherwise consist of isolated patches too small to support those species. Wildlife corridors allow wildlife to emigrate from areas that are overpopulated and immigrate to areas where suitable habitat is available. They also provide conduits for genetic material, reducing the potential for inbreeding.

The Halifax Green Network Plan (HGNP) identifies an Essential Corridor that passes through the WSA that connects relatively undisturbed habitat situated between Eastern Passage and Bissett Lake to an area of relatively undisturbed habitat to the east of the Salmon River. The wildlife corridor recommended in the HGNP extends in an arc from the Ross Road southwest to Carolyn's Way Park then south along Broom Brook to Cole Harbour Road (Figure 3.11). The HGNP mapping also identifies an area of Important Corridor that is found at the northern end of the WSA. This patch is not connected to any other areas identified as Important or Essential Corridors. There is also an isolated patch of Important Corridor located in the center of the WSA that is almost surrounded by the Essential Corridor. The HGNP recommends that Essential Corridors be at least 1 km wide and Important Corridors should be at least 100 m wide to facilitate movement of wildlife (Halifax Regional Municipality and O2 Planning + Design 2018).

Information collected during the field surveys suggests that the WSA currently provides habitat connectivity. American black bear tracks were observed in the Study Area. The WSA Area (286 ha) is much smaller than the average home range for a female American black bear in temperate eastern North America (approximately 33,000 ha) which would suggest that American black bears present in the Study Area must pass through the WSA and enter relatively undisturbed habitat to the north, west or south of the Study Area to meet their habitat requirements (Sadeghpour and Ginnett 2011). While development is being considered within the WSA and field surveys were limited to the area within the WSA boundaries, these boundaries should be considered porous to various species that inhabit and travel through this area. In order to support landscape connectivity, land that surrounds the WSA needs to be considered, along with the species that may traverse the general area. Maintaining connectivity between key habitat areas is vital to the success of wildlife species who require larger home ranges.

An analysis of the distribution of sensitive ecological features in the WSA such as species at risk, potential old growth forests, wetlands and watercourses has been undertaken to identify which areas of the WSA are of the greatest ecological importance and where a wildlife corridor would be most beneficial. Most of the field records of SAR and SOCC from the Study Area are from the eastern side (Figure 3.8). The species at risk habitat modelling indicates that areas that could potentially support more than three SAR are largely restricted to Broom Brook and the wetlands and riparian habitats that flank it, located in the western part of the Study Area (Figure 3.9). There is no potential old growth forest in the WSA. Patches of mature forest are scattered throughout the Study Area with the greatest concentrations

occurring in the southeastern quadrant. Wetlands are also scattered throughout the WSA; however, the greatest concentration of wetlands is found along Broom Brook. This area supports a relatively large wetland complex composed of a variety of wetland types. Broom Brook is the largest watercourse present in the WSA and has the greatest potential to support fish and other aquatic or semi-aquatic organisms.

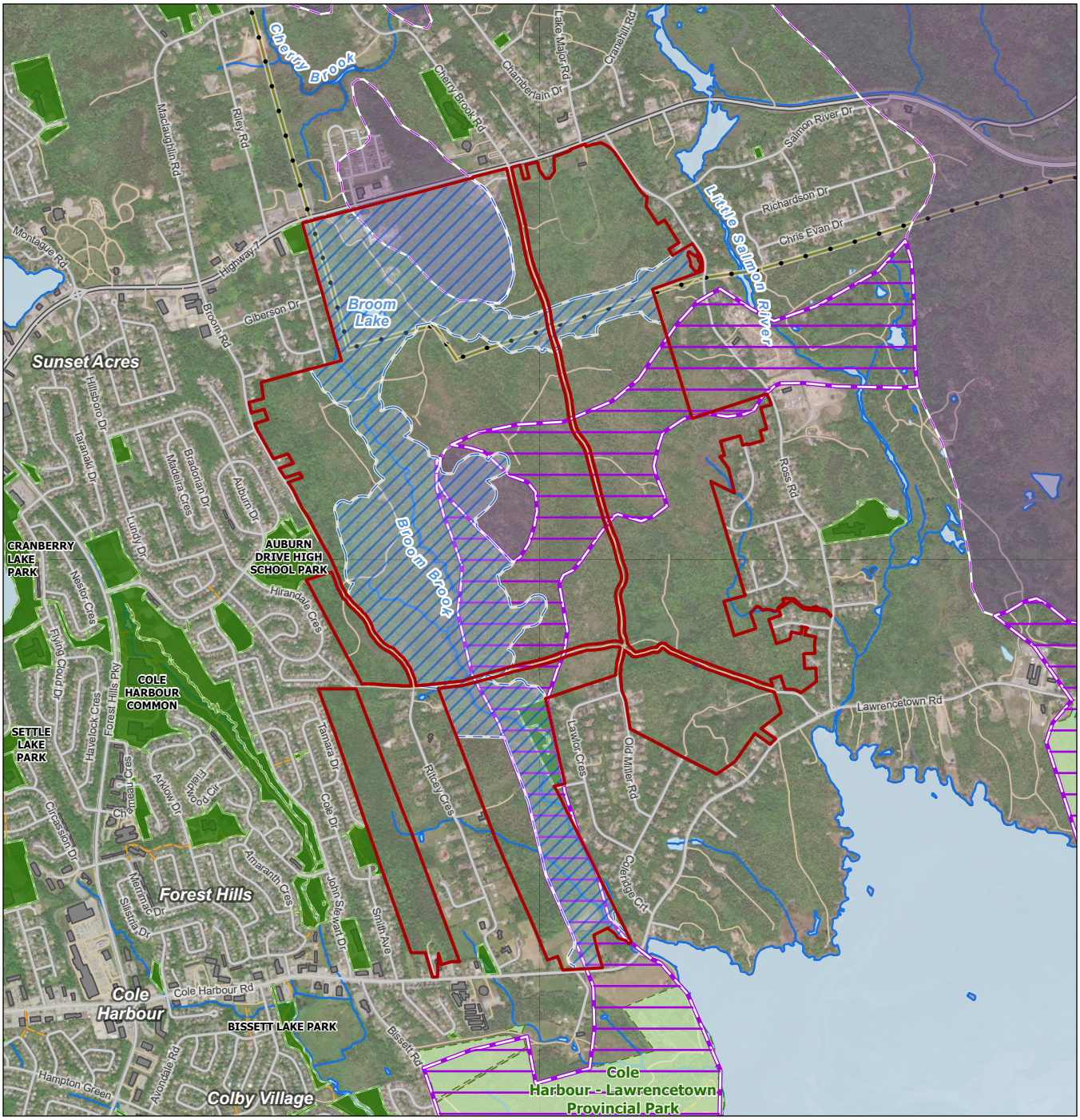
The wildlife corridor recommended in the HGNP (Figure 3.11) would help to preserve approximately half of Broom Brook and a substantial proportion of the wetland habitat in the WSA. It also protects about half of the area that potentially supports the highest concentrations of SAR. One issue with this corridor is the fact that almost the entire width of the corridor at the point where it crosses the Ross Road is occupied by a large auto salvage facility which combined with the Ross Road may reduce the porosity of the corridor to wildlife movement. Modifications to the HGNP Essential Corridor could increase its efficacy as a wildlife corridor. Modifications would consist of extending the corridor to the west to encompass the entire wetland complex that flanks Broom Brook. In addition, the entire length of Broom Brook from Cole Harbour Road to its source at Broom Lake would be incorporated into the wildlife corridor (Figure 3.11). Areas of wetland and mature forest around Broom Lake would be incorporated into the wildlife corridor to allow it to extend to Highway 7 at the northern end of the WSA. The northern end of this spur of the wildlife corridor would abut against an undeveloped area that flanks a tributary to Cherry Brook which would provide a relatively unobstructed secondary corridor that would connect to the protected area around Lake Major.

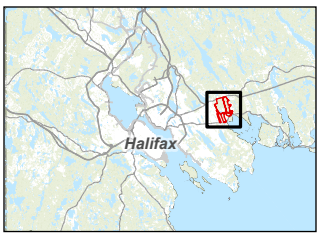
A second spur of the wildlife corridor would extend from Broom Lake towards the Ross Road along the transmission line route that runs east/west through the WSA. This east/west spur would connect the Broom Brook corridor to the Little Salmon River and the Important Wildlife Corridor located east of the Little Salmon River. This spur would provide the east/west connectivity that the HGNP Essential Corridor was designed for. It would also protect two relatively large wetlands, one of which provides nesting habitat for Canada Warbler a SAR (Figure 3.8). The existing transmission line corridor present at the northern area of the WSA may act as a barrier to wildlife movement although its effect on wildlife movement would be minor. The transmission line currently supports immature forest cover which would provide sufficient security cover for most wildlife species that would frequent the area. Periodically, this cover is harvested to prevent trees from growing into the electrical conductors. At these times, security cover for wildlife attempting to cross the transmission line would be low. Staggering the timing of brush cutting on the portion of the transmission line inside the wildlife corridors could be used to ensure that patches of security cover are available for wildlife at all times.

It may be necessary to cross the ecological corridors with roads and utilities to pursue development in areas deemed suitable for development, this should be avoided if practical. The WSA is surrounded by roads and undeveloped areas of the WSA that are suitable for development butt up against existing roads. It is recommended that roads and utilities enter the areas suitable for development using existing roads and utility corridors to minimize disturbance to the proposed wildlife corridors. To enhance public safety and maintain ecological connectivity, the number of locations where roads or utilities intersect wildlife corridors should be kept as low as possible to reduce traffic and wildlife interactions.

Watercourses and wetlands are important ecological features that are protected under provincial/federal legislation. Watercourses and the wetlands that are often associated with them are often used as travel routes by wildlife, and for aquatic species they are typically the only means by which they can disperse through terrestrial habitats. Given the importance of watercourses and wetlands, these features have low

land suitability rankings (i.e., less favorable for development). Broom Brook is the largest stream in the WSA and extends north/south almost the entire length of the Study Area providing a natural travel route for both aquatic and terrestrial species. The riparian habitat flanking Broom Brook would be buffered 30 m to protect the stream. Broom Brook also supports an extensive wetland complex which would be difficult to develop and according to the SAR modelling could potentially support up to 12 SAR; this strongly suggests preservation of this area. HRM regulations require that wetlands associated with watercourses also be buffered. Although there are no provincial regulations that require wetland margins to be buffered, the Province of Nova Scotia does recommend that, where feasible, wetlands should be buffered in the same manner as watercourses (Government of NS 2011). The margins of wetlands in the WSA would therefore be buffered by 30 m in this corridor mapping exercise to reduce the potential for adverse effects to these wetlands from adjacent development such as hydrological or trophic level disturbances. In areas where the combined buffering of watercourses and/or wetlands along this corridor is insufficient to provide a 100 m wide corridor, additional buffering has been applied (Figure 3.11) to make the corridor at least 100 m wide.





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. GIS Note: *HGNP Important Corridor dataset altered. Aquatic corridor digitized from Nova Scotia Crown Share Land Legacy Trust (NSCSLLT) Wildlife Corridor Charrette Halifax Summary Report (2021).
3. Data Sources: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services, NSCSLLT
4. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

- Study Area
- Proposed Corridor (Stantec 2024)
- Halifax Green Network Plan Important Corridor
- Halifax Green Network Plan Essential Corridor
- Halifax Regional Municipality Parks
- Protected Wilderness Area

Utilities
- Transmission Line

Other Features
- Highway
- Road
- Resource / Seasonal Road
- Trail
- Waterway
- Waterbody
- Buildings

0 250 500 750 Metres

(At original document size of 8.5x11)
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Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by SChubbs on 2024-05-07

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Fig ID: 160410459_025

Figure No.
3.11

Title
Proposed Landscape Connectivity Options for WSA

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3.6 Surficial and Bedrock Geology

A desktop assessment was conducted using provincial bedrock and surficial geology mapping and GIS layers to delineate and inventory the acid generating potential of bedrock and the amount of overburden that may be covering the bedrock (i.e., surficial geology). An inventory of acid rock potential was developed for the WSA using publicly available GIS data, including surficial and bedrock geologic mapping and acid-rock drainage (ARD) risk mapping developed for Nova Scotia. The reported depth to the water table in the vicinity of the Study Area was estimated through an assessment of existing groundwater wells using data gathered from the NSECC Well Logs Database (NSECC 2022).

The presence of sulphide-bearing rock has land-use planning implications as disturbance during development/construction can expose the bedrock to air and water, which has the potential to leach sulphuric acid. This leaching can result in decreased pH of associated waters, which can then result in mobilization of metals and adversely affect aquatic habitats. Increased costs for development can be incurred as excavated material in areas of known sulphide-bearing rock must be managed and disposed of according to Sulphide Bearing Material Disposal Regulations (NSECC 2021).

3.6.1 BEDROCK GEOLOGY

The WSA is underlain by the Cambrian to Early Ordovician age metamorphosed sedimentary bedrock of the Goldenville Group, and to the lesser extents, by the Halifax Group (White et. al. 2014; Figure 3.12). In this area, the Goldenville Group consists of the Taylors Head and Beaverbank Formations. The Taylors Head Formation consists of grey, thickly bedded, and weakly cleaved metasandstone locally interlayered with green, cleaved metasiltstone and rare black to rusty slate and is considered non-acid producing. The Beaverbank Formation overlies the Taylors Head Formation and consists of grey to black, cleaved metasiltstone interbedded with minor thin, light grey metasandstone and black graphitic slate and is considered potentially acid producing (White and Goodwin 2011).

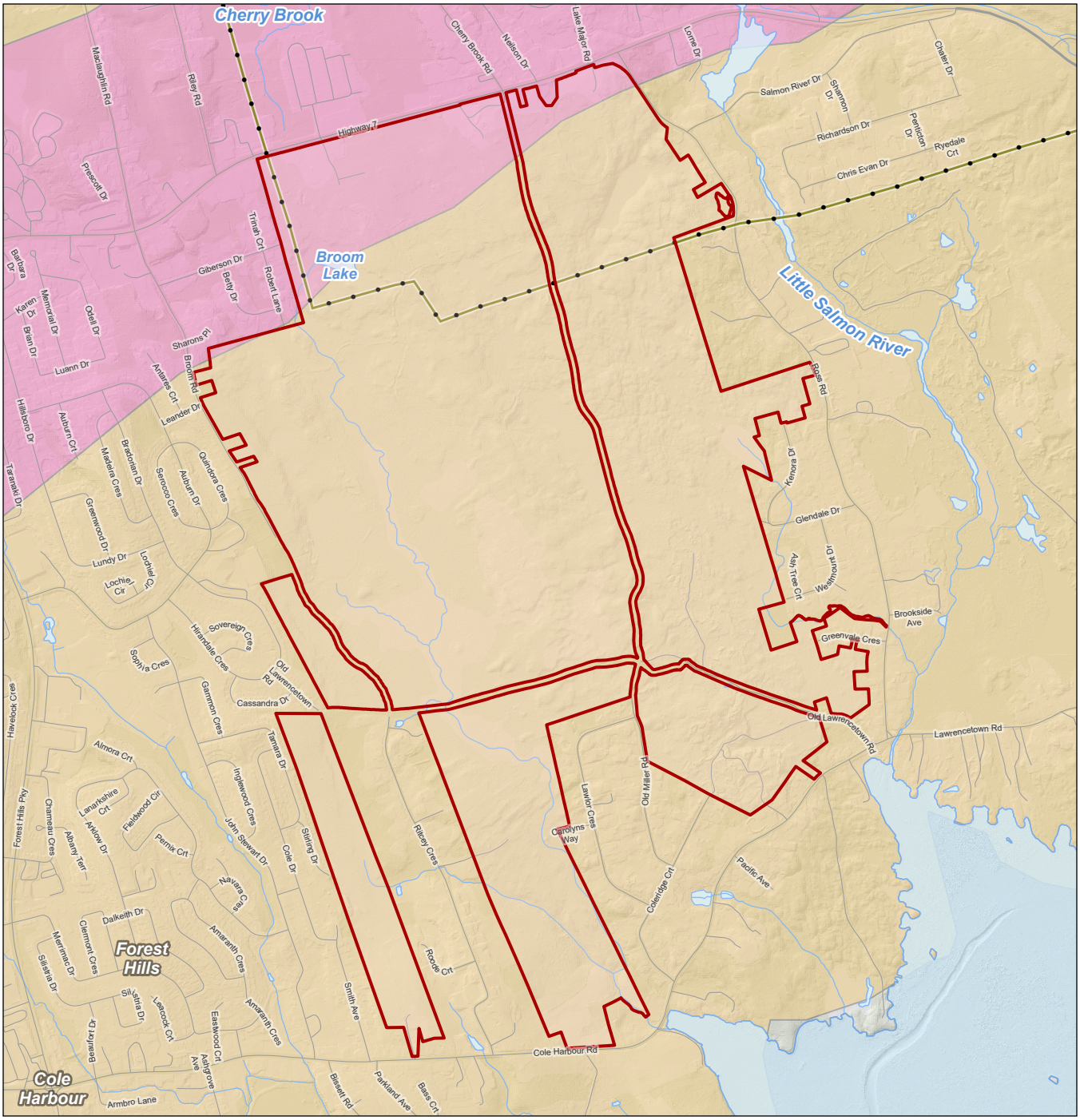
The Halifax Group consists of the Bluestone and Cunard Formations. The Cunard Formation consists of black and rusty slate with thin beds and lenses of black metasiltstone. This formation typically contains abundant sulphide-rich pyrrhotite and pyrite and is considered to have the highest acid-producing potential for bedrock in the HRM (White and Goodwin 2011). The Bluestone Formation is not located in the vicinity of the development areas.

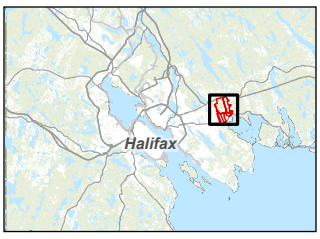
Detailed bedrock geology mapping is not available in the area immediately surrounding the WSA. Regional mapping indicates that the WSA is underlain by the Goldenville Group with the northwest edge of the development area intersecting the Halifax Group (Figure 3.12). However, the groups can be sub-divided based on detailed bedrock geology from adjacent map sheets (White et al. 2014). The WSA is primarily underlain by the non-acid producing Taylors Head formation, but the Beaverbank Formation is inferred to exist as a geological contact between the two groups shown in Figure 3.12.

3.6.2 SURFICIAL GEOLOGY

A review of surficial geology mapping for the area (Stea et al. 1992) was carried out to identify areas of exposed bedrock, which may present a greater risk for ARD during development (Figure 3.13).

Surficial geology in the vicinity of the WSA consists of glaciofluvial deposits and stony and silty till plains ranging from approximately 2-20 m thick. No exposed bedrock was mapped in the vicinity of the development area.





Study Area
Halifax Group
Goldenville Group

Utilities
Transmission Line

Other Features
Highway
Road
Waterway
Waterbody

0 250 500 Metres
(At original document size of 8.5x11)
1:21,000

N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by IPodrug on 2024-01-05
Revised by NWhite on 2024-04-03
Revised by SChubbs on 2024-05-09

Figure ID: 003

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

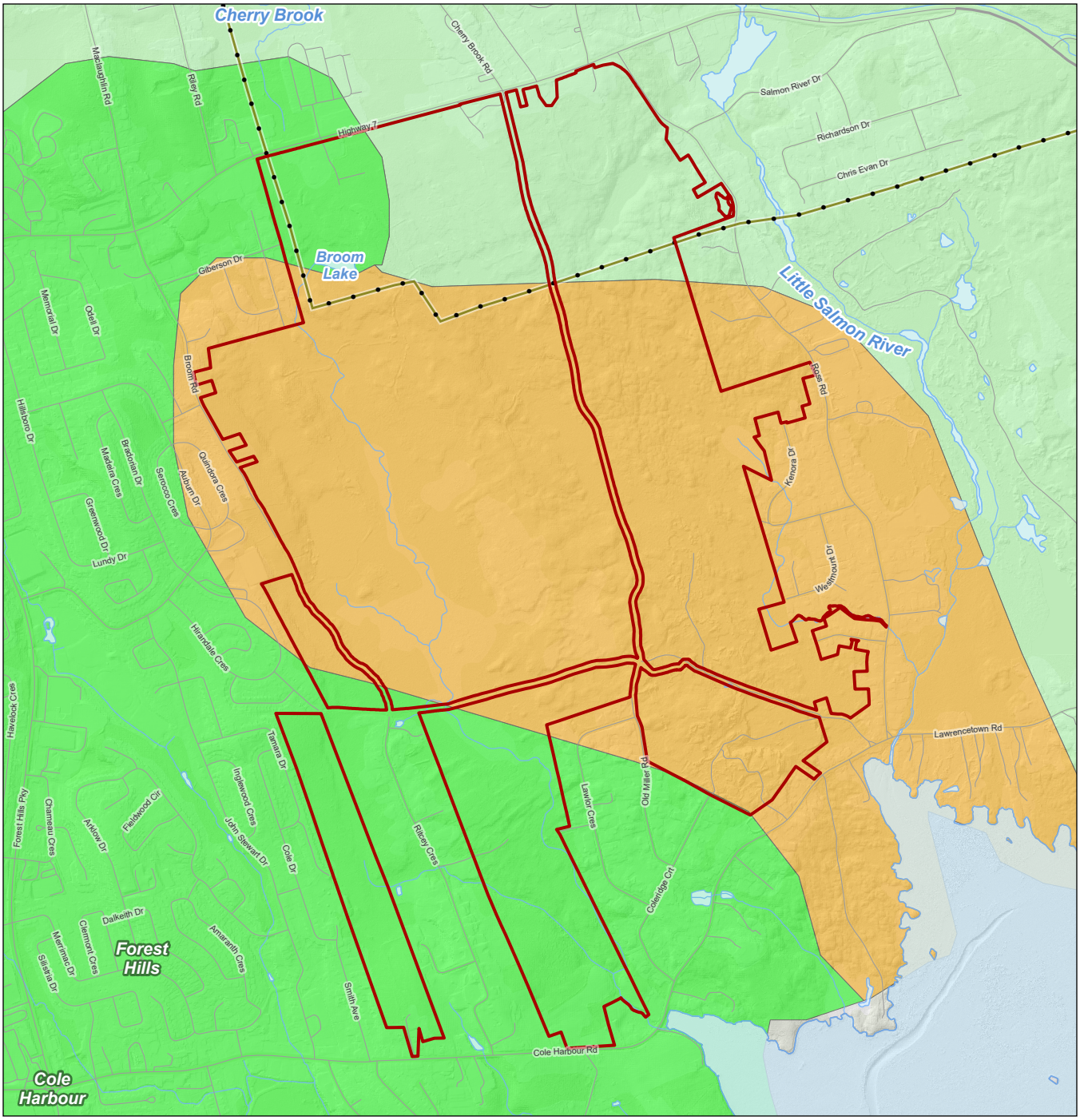
Figure No.
3.12

Title
Bedrock Geology - WSA

Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Government of Nova Scotia, Department of Natural Resources and Renewables
3. Background: Government of Nova Scotia Department of Service Nova Scotia and Internal Services; Nova Scotia Department of Natural Resources and Renewables

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Study Area

Surficial Geologic Units

- Glaciofluvial Deposits (Kames and Eskers)
- Stony Till Plain (Ground Moraine)
- Silty Till Plain (Ground Moraine)

Utilities

- Transmission Line

Other Features

- Highway
- Road
- Waterway
- Waterway

0 250 500 Metres

(At original document size of 8.5x11)
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Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Government of Nova Scotia, Department of Natural Resources and Renewables
3. Background: Government of Nova Scotia Department of Service Nova Scotia and Internal Services; Nova Scotia Department of Natural Resources and Renewables

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by IPodrug on 2024-01-05
Revised by NWhite on 2024-04-03
Revised by SChubbs on 2024-05-10

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Figure ID: 002

Figure No.
3.13

Title
Surficial Geology - WSA

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3.6.3 DEPTH TO WATER TABLE

Depth to water table in the WSA was estimated using static water levels in existing drilled wells provided in the NSECC Well Logs Database (NSECC 2022). While static water levels in drilled wells can be used to infer the depth to water table, they are not considered a precise representation of the water table, particularly with partially confined or confined aquifer conditions, if the water level is measured prior to full recovery in the wells and if water levels are measured during different seasons. Statistical summaries of static water levels in existing groundwater wells within 100 m of the WSA are shown in Table 3.16**.**

Table 3.16 Static Water Level Summary in Existing Groundwater Wells

Development Area	Number of Wells[1]	Minimum Static Water Level (mbtoc[2])	Maximum Static Water Level (mbtoc)	Average Static Water Level (mbtoc)	Median Static Water Level (mbtoc)
Westphal	12	0.91	12.18	4.01	3.04
Notes: 1 – Includes wells with static water level data within the WSA boundary and any well within a 100 m radius of the WSA boundary 2 – mbtoc=meters below top of casing					

The NSECC Well Logs Database generally indicates that static water levels in drilled wells are shallow (generally within 6 m of ground surface). Shallow groundwater table is also inferred from nearby surface water bodies and wetlands in the vicinity of the development area. The provincial wet areas mapping, shown on Fig 3.4 of this report, also indicates depth to water table.

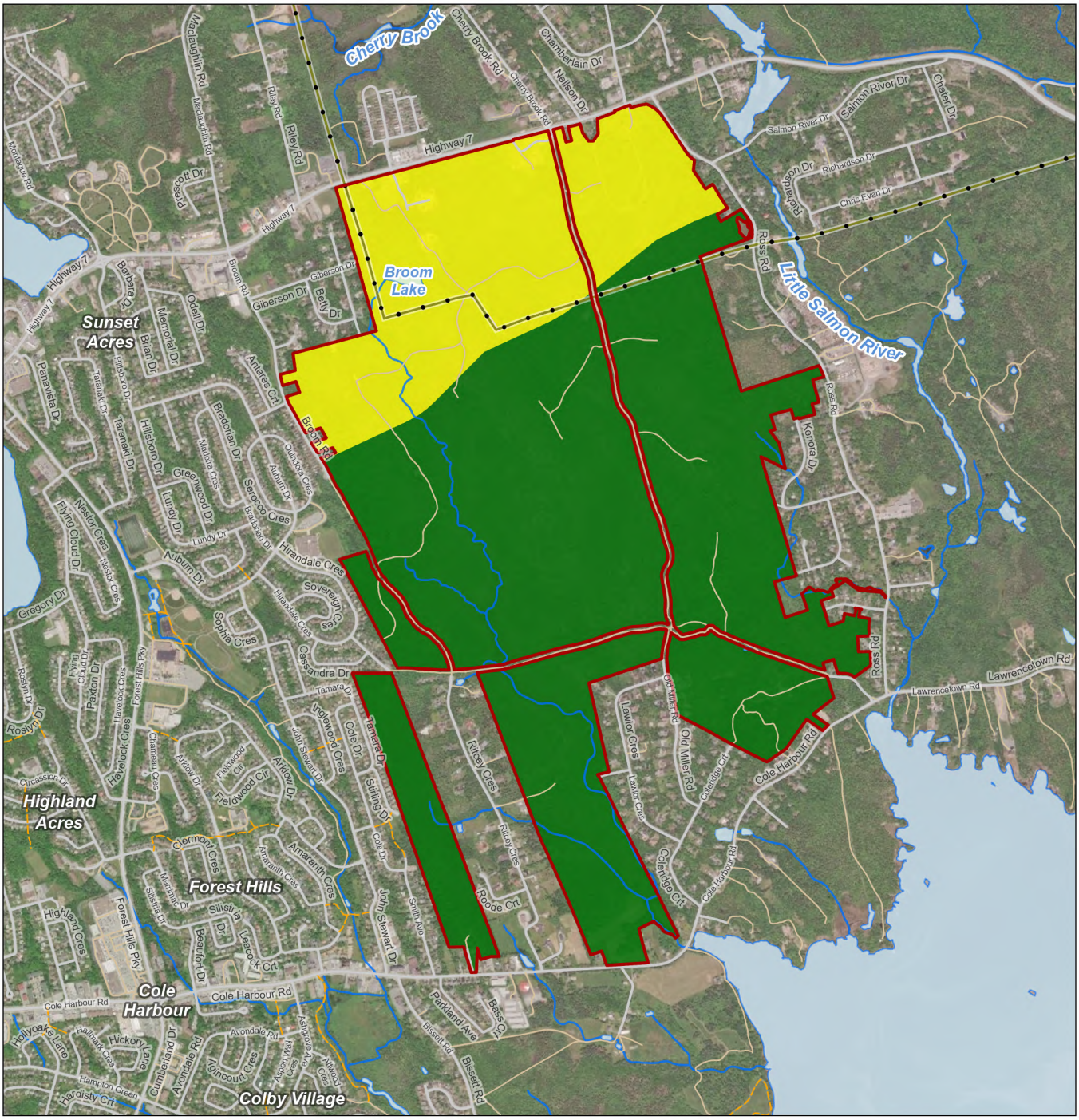
3.6.4 LAND SUITABILITY ANALYSIS – GEOLOGY

For the geology component of the land suitability analysis, bedrock was classified based on its acid producing potential (Table 3.17; Figure 3.14). In the context of ARD, surficial geology is primarily relevant where overburden thickness is insufficient to prevent exposure of potentially acid producing bedrock to air and/or water during development. Information available from provincial mapping provide a wide range of thicknesses for each surficial geology unit, so surficial geology was classified primarily on the acid producing potential of the bedrock underlying the overburden.

Surficial and bedrock geology, as it relates to potential acid generation, is only one of many factors that must be considered when evaluating land suitability for development. The current assessment of surficial and bedrock geology is based on a desktop review of available provincial mapping, and does not purport to be definitive regarding development risks and opportunities. If sulphide-bearing rock is encountered during development, it must be managed and disposed of according to Sulphide Bearing Material Disposal Regulations (NSECC 2021).

Table 3.17 Surficial and Bedrock Geology – Land Suitability Ranking Framework

Layer	Land Suitability Ranking		
	1 - Low suitability for development	**2 - Moderate suitability for development**	**3 - Higher suitability for development**
Bedrock Geology	Cunard Formation	Beaverbank Formation	Taylors Head Formation
Surficial Geology	Exposed bedrock in a potentially acid-producing formation	Soil greater than 2 m overlying potentially acid-producing bedrock	Non acid-producing bedrock





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Stantec; Government of Nova Scotia, Department of Service Nova Scotia and Internal Services
3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

Study Area

Geology Land Suitability Analysis

- 3 (High)
- 2
- 1 (Low)

Transportation

- Highway
- Road
- Resource / Seasonal Road
- Trail

Utilities

- Transmission Line

Other Features

- Waterways
- Waterbodies

0 250 500 Metres

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by NWhite on 2024-03-08
Revised by NWhite on 2024-05-10

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Fig ID: 160410459_032

Figure No.
3.14

Title
Geology Land Suitability Analysis - WSA

HRM FCM 2022.aprx Revised: 2024-05-10 By: niwhite

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3.7 Topography

Stantec processed LiDAR data provided by HRM to classify slopes within the WSA. This was primarily a desktop exercise using ESRI ArcMAP, with considerations from the field (field crews noted any significant slopes along watercourses and wetlands).

3.7.1 LAND SUITABILITY ANALYSIS – TOPOGRAPHY

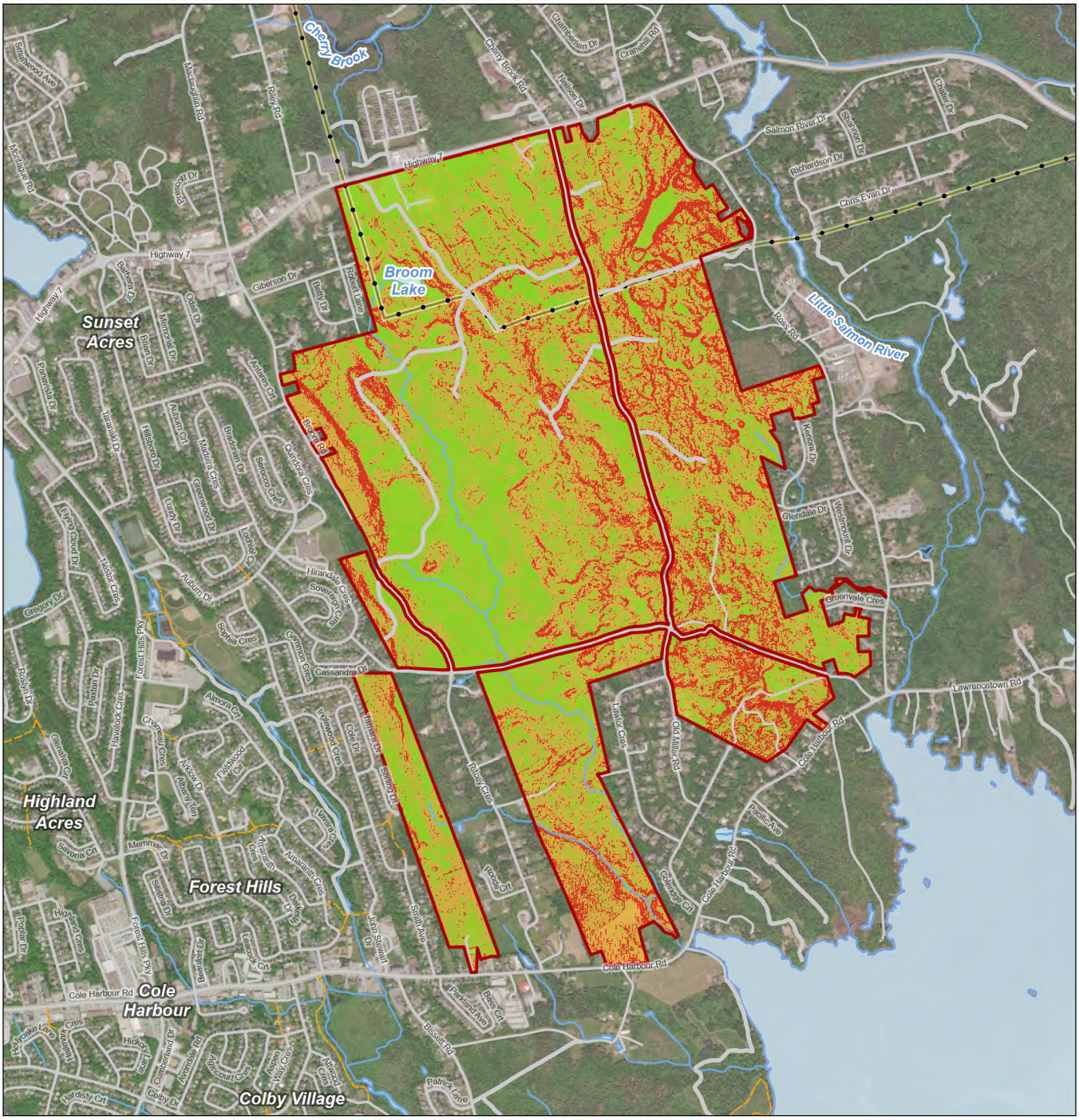
Steep slopes can be associated with environmental features such as rock outcrops, shallow soils, and groundwater springs. These features can have various impacts on development planning including surface water flow, water quality, erosion, and sediment patterns. These factors also influence microclimate which contributes to vegetation growth and succession. These unique features can also provide niche habitat for SAR, specifically bank swallows and bats.

For this land suitability analysis, steeper slopes were ranked as the lowest priority for potential development while the relatively flatter topography is ranked higher for potential development (Table 3.18). Slopes have been classified into three categories based on their percent rise: 0%-5%, 5.01%-15% and >15%. Slope mapping can be found below in Figure 3.15.

Slope is only one of many factors that must be considered when evaluating land suitability for development. The current assessment of topography is based primarily on a desktop review of available provincial mapping, and does not purport to be definitive regarding development risks and opportunities. Stantec recommends a slope review be conducted prior to finalizing consultation planning.

Table 3.18 Topography – Land Suitability Ranking Framework

Layer	Land Suitability Ranking		
	1 - Low suitability for development	2 - Moderate suitability for development	3 - Higher suitability for development
Slope	>15%	5.01%-15%	0%-5%



Study Area

Slope Analysis (Percent Rise)

- 0 - 5%
- 5.01 - 15%
- >15%

Transportation

- Trail
- Highway
- Other Road

Utilities

- Transmission Line

Other Features

- Waterway
- Waterbody

0 250 500 Metres

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by IPodrug on 2023-11-09
Revised by NWhite on 2024-05-17

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Fig ID: 160410459_014

Figure No.
3.15

Title
Slope Land Suitability Analysis - Westphal

Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services
3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

HRM FCM 2022.aprx Revised: 2024-05-29 By: niwhite

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3.8 Contaminated Sites

Stantec conducted a contaminated sites review of the WSA. The purpose of the review was to assess if evidence of potential or actual environmental contamination exists in connection with the Study Area, because of current or past activities on the Study Area or neighboring properties.

3.8.1 METHODOLOGY

The contaminated sites review consisted of the following:

- records review including, but not limited to, aerial photographs, LiDAR imagery
- provincial government regulatory search for the Study Area
- a site visit (relevant features were recorded during the wetland delineation; a site visit specifically to document potential environmental contamination concerns was not completed)
- evaluation of information

The review does not include sampling or testing of air, soil, groundwater, surface water or building materials. Nor does it include a review or audit of operational environmental compliance issues, or of any environmental management systems, which may exist for the Study Area.

Desktop mapping and field verification for the Study Area took place in spring/summer 2023. Stantec field staff documented the location of sites that exhibited characteristics of contamination as well as incidental evidence of anthropogenic activities (e.g., illegal dumping, camp sites). Existing structures were not accessed, and private properties occupied and unoccupied were not evaluated in the field. The Study Area and readily visible and publicly accessible portions of adjoining and neighboring properties were examined for the presence of potential sources of environmental contamination. No interviews were conducted with persons associated with the Study Area.

3.8.2 DESKTOP REVIEW

Aerial Photography / LiDAR Review

The WSA is roughly 78.5 ha in size and located within HRM boundaries in Halifax County, Nova Scotia. The Study Area includes HRM owned undeveloped lands, utility corridors, commercial proprieties along Highway 7, and Broom Lake on the northwestern portion.

From at least 1931 until the early 1950s the Study Area was generally undeveloped woodland with some agricultural properties along Highway 7.

By the early 1960s an apparent gravel pit appears on the southern portion of the Study Area on Property Identifier (PID) 00407601. By the mid-late 1960s residential properties and a “racetrack” (oval road/path feature but no track buildings or accommodation for spectators) and associated buildings (PID 40166282) were developed on the northern portion of the Study Area, along Highway 7.

In the mid 1970s the southern portion of the Study Area appears to have clearing/agricultural development on PID 40143166 along Cole Harbour Rd. Residential development has continued along the northern portion of the Study Area, along Highway 7.

By the early 1980s, along the northern portion of the Study Area the Akoma Family Centre including playgrounds are present on 1 & 2 Dr. Donald Skeir Way (PID 40150559) and commercial properties appear to have been developed (The Opus Café and Catering, Henry G Bauld Centre, former Nova Scotia Home for Colored Children-PID 40150567). Debris piles are noted in the area near the intersection of Highway 7 and Ross Road (PID 40166308), adjacent to the racetrack. The southern portion of the Study Area appears similar to the 1970s.

The Study Area appears similar through to the early 2000s, with some roadways/paths crosscutting through the central area of the Study Area, in otherwise treed/undeveloped land.

LiDAR imagery shows the presence of potential berms, likely the result the apparent gravel pit that appears on the southern portion of the Study Area on PID 00407601.

The following concerns regarding potential environmental contamination issues were noted:

- Fill of unknown origin may have been used either as part of the development or when the buildings were demolished throughout the Study Area.
- Evidence of human activity on PID 00407601 (gravel pit) and PID 40143166 (possible agricultural land use).
- The presence of debris associated with the racetrack (PID 40166282).

Regulatory Request

NSECC was queried for information about the WSA and received NSECC's Environmental Registry response. The information is summarized below and will be appended to the final report.

Regulatory Infractions Search: NSECC has provided no records of infractions for the Study Area.

Environmental Investigations: Information pertaining to site assessments, risk assessments, remedial work or other environmental investigations registered with NSECC for the Study Area are available only through "Freedom of Information" requests which require a ninety-day turn-around time. Ms. Tina Skeir of NSECC indicated the following files requiring a "Freedom of Information and Protection of Privacy" (FOIPOP) request were on file for the following properties, which fall within the boundary of the Study Area:

- A contaminated sites investigation/enforcement file (file #333000-35-BED-2388952) containing correspondence, remediation report, incident report soil analysis, inspection reports, and soil sample report pertaining to 1220 Highway 7, Cole Harbour (PID 40166308) was located.
- A subdivision file (file #96000-32-BED-2008-2411) pertaining to 1489 Cole Harbour Road, Cole Harbour (PID 40143166) was located.

These FOIPOP records may provide additional information relevant to the proposed development of the WSA.

Tank Registrations: No tanks were registered to the Study Area based on information provided from the NSECC Petroleum Storage Tank Registry.

Other:

990 Main Street, Westphal, portion of PID 40150567 (Kent Homes Ltd.):

Completion of Work Form for On-site Sewage Disposal System Installers dated January 27, 2010 was reviewed for a holding tank installation. The document indicates that "the tank has been installed in accordance with manufacturers recommended procedures". Additional documents related to the disposal system included Applications, Approvals, Field Inspection Report, and Installation Form.
On-site Sewage Disposal Systems notification receipt dated March 23, 2022 was reviewed.
On-site Sewage Disposal Systems notification receipt dated August 29, 2023 was reviewed.

These documents related to 990 Main Street, Westphal, portion of PID 40150567, are not expected to represent a potential environmental concern to the WSA.

35 Wilfred Jackson Way, Westphal, PID 40150567:

On-site Sewage Disposal Systems notification receipt dated December 4, 2020 was reviewed.

This document related to 35 Wilfred Jackson Way is not expected to represent a potential environmental concern to the WSA.

1016 Highway 7, Westphal, PID 40150559:

On-site Sewage Disposal Systems notification receipt dated June 18, 2020 was reviewed. An On-site Sewage System Malfunction Inspection Form dated May 11, 2020 was also reviewed.

This notification related to sewage disposal systems associated with to 1016 Highway 7 is not expected to represent a potential environmental concern to the WSA.

1224 Highway 7, Westphal, PID 40166308:

Environmental Act Directive dated September 9, 2023 was reviewed. The Directive stated "Retain a Site Professional to assess and remediate the petroleum hydrocarbon contamination as 1224 Highway #7 in Westphal, NS in accordance with the Contaminated Site Regulations. An assessment and remediation report prepared by a Site Professional documenting these efforts must be submitted to the Department by November 1, 2013.

The reported presence of petroleum hydrocarbon contamination at 1224 Highway 7 represents an actual environmental concern to the WSA.

No civic address, PID 00407601:

Correspondence dated March 26, 2018 related to a "Request for Subdivision Comment – on-site sewage lands of Lewis W. MacEachern" indicating that more information was required.
A letter from Westside Trucking, dated April 2, 2018 states that the property was inspected and that no wetlands or watercourses were observed.

These documents related to PID 00407601 are not expected to represent a potential environmental concern to the WSA.

3.8.3 FIELD RESULTS

The following environmental concerns were noted during the site visit and are noted on Figure No. 3.16-Contaminated Sites in the WSA:

- Potential Contaminated Site S1: PID 40150567-area of debris (plastic, and car bench seat) were noted at 990 Main Street.
- Potential Contaminated Site S2: PID 40150567-area of debris (construction materials) was noted in the treed area behind 35 Wilfred Jackson Way.
- Potential Contaminated Site S3/S4/S5: PID 40150567-various areas of debris (car parts, metal, siding, propane tanks, plastic, and general waste) were noted along an access road/path.
- Potential Contaminated Site S6: PID 41310913-a hunting blind was noted along a stream.
- Potential Contaminated Site S7: PID 41310913-various debris was noted in the northeastern corner of the property.
- Potential Contaminated Site S8: PID 00406579-on the southern portion of the Study Area-tents behind Sterling Drive Park.
- Potential Contaminated Site S9: PID 00406579-on the southern portion of the Study Area-debris (vehicle parts) off Roode Court.
- Potential Contaminated Site S10: PID 00460733-along an access road/path on the southern portion of the Study Area-vehicle parts behind the gravel pit.
- Potential Contaminated Site S11: PID 00460733-along an access road/path on the southern portion of the Study Area-debris behind the gravel pit (metal, glass, and fill).
- Potential Contaminated Site S12 and S13: PID 00460733-along an access road/path on the southern portion of the Study Area-debris in the undeveloped/treed area off Glendale Drive. (vehicle parts)
- Potential Contaminated Site S14: PID 00460733-on the southern portion of the Study Area off Westmount Drive, behind Ash Tree Court-evidence of human activity (patio chairs, gravel pad, and remnants of wood and tarp structure).
- Potential Contaminated Site S15: PID 40070575-an abandoned wood cabin at the southeastern corner of the property.
- Potential Contaminated Site S16: PID 40195877-metal debris along the eastern property line.

3.8.4 INFLUENCE ON LAND SUITABILITY

The study has revealed evidence of potential and/or actual environmental contamination associated with the Study Area. The following environmental concerns were identified:

- Fill of unknown origin may have been used either as part of the development or when the buildings were demolished throughout the Study Area.
- The presence of human activity (hunting blind, abandoned wood cabin, various areas of debris, patio chairs) throughout the Study Area, generally along access roads/paths, in undeveloped areas.
- 1220-1224 Highway 7, Westphal (PID 40166282 and PID 40166308)-on the northern portion of the Study Area-former racetrack and debris noted in aerial photos, and a contaminated sites investigation/enforcement file (file #333000-35-BED-2388952) containing correspondence, remediation report, incident report soil analysis, inspection reports, and soil sample report.
- The presence of a gravel pit on the southern portion of the Study Area on PID 00407601.

Due to the potential presence of environmental contamination within the Study Area, if material is exposed or is planned to be excavated and removed from the Site during redevelopment, it should be tested to confirm the handling and disposal requirements. Additional environmental assessment and reporting to NSECC under the Contaminated Sites Regulations may be required as part of the development process. There are no constraints to development provided the NSECC Regulations are followed.





Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services
3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

- Potential Contaminated Site
- NSECC File (FOIPOP, Tank Registration, other)
- NSECC Contaminated Sites File
- Study Area

Utilities
- Transmission Line

Transportation
- Highway
- Road
- Resource / Seasonal Road
- Trail

Other Features
- Waterway
- Racetrack
- Waterbody
- Property Boundary

0 250 500 Metres
(At original document size of 8.5x11)
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N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by NWhite on 2024-04-10

Client/Project
Halifax Regional Municipality
Future Serviced Communities Background Studies

Fig ID: 160410459_036

Figure No.
3.16

Title
Contaminated Sites in the WSA

\\ca0213-pp\fs01\work_group\1214\active\160410459\gis_data\mapping\ArcGIS Pro\HRM_2024_Contaminated_Sites\HRM_2024_Contaminated_Sites.aprx: Fig_3.16_HRM_FCM_036_Contaminated_SitesRevised: 2024-05-10 By: niwhite

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3.9 Areas of Cultural Significance

Stantec completed an archaeological and cultural study that included an Archaeological Resource Impact Assessment (ARIA) conducted under Heritage Research Permit (HRP) A2023NS190 to document areas of archaeological potential within the WSA. The scope of the assessment included a site walkover carried out on November 20, 21, 22, and 29 2023, and a background study (including environmental setting, Pre-Contact and Historic Period land use, property history, and past archaeological assessments). This archaeological assessment was conducted to provide a baseline for future study, informed by Mi'kmaq knowledge. The results of the ARIA are detailed in a final report under a separate cover to be submitted to the Nova Scotia Department of Communities, Culture, Tourism, and Heritage to fulfill the requirements of the HRP. Refer to Appendix D for the full ARIA report and recommendations.

The property on the corner of Highway 107 and the west side of Old Miller Road was identified as the Nova Scotia Home for Colored Children (NSHCC) and now occupies the (Akoma) properties situated on 212 acres of land and located within the WSA. The NSHCC was originally incorporated under a private members bill in the Nova Scotia House of Assembly in April of 1915 (NS 2019). The school was set up to take up provision of care for orphaned and neglected African Nova Scotian children. By 1919 a location was identified for the Home and a farm site near the African Nova Scotia Community of Preston and the property was purchased by the province (NS 2019).

In June of 2022 the Akoma property at 18 Wilfred Way, Westphal, was added to the Registry of Heritage Properties for Halifax Regional Municipality (HRM 2022). A research report written by Beaupre-McPhee, a research planner with HRM, was submitted as a part of the application. The research report gives a thorough background on the property and is referenced as a stand-alone document (Beaupre-McPhee 2022).

The Registry of Heritage Property for the Halifax Regional Municipality requires the following actions to be taken, as referenced in the Notice of Registration of Heritage Area Form B:

a. no demolition or substantial alteration in the exterior appearance may be undertaken from the date of registration unless an application, in writing, for permission is submitted to the Council and the application is granted with or without conditions; or
b. where an application is not approved, the owner may make the alteration described in his or her application or carry out the proposed demolition at any time after three years but not more than four years from the date of application.

3.10 Summary of Land Suitability Analysis

Stantec has prepared a summary of the land suitability analysis which integrates results from the environmental components that were studied for the WSA. The objective of the land suitability analysis was to determine what portions of the Study Area are potentially most suitable for new community development based on a desktop and field analysis of these components. Note that not all areas within the Study Area (Figure 3.1) are being considered for future development (e.g., if they are privately owned and/or are already developed).

It is important to note that this is not an exhaustive analysis of all parameters that could influence whether or not a given location is amenable for development. It is also not possible to definitively declare which parameters are most important in determining whether an area is suitable for development. Therefore each parameter used in the summary analysis is equally weighted and caution should be used when applying the combined analysis for planning purposes. In Stantec's opinion, it is recommended that planners consider the results, including regulatory requirements and management implications, for each component separately for a more useful representation of development opportunities and constraints.

Sections 3.2 through 3.8 describe desktop and field results followed by details about how each environmental component was evaluated from a land suitability perspective. Suitability for development was generally ranked as follows:

- a score of 1 indicates low suitability for development
- a score of 2 indicates moderate suitability for development
- a score of 3 indicates high suitability for development

Lower scores generally correspond to areas with higher ecological function, making them generally more suitable for conservation purposes and potentially less suitable for development. Conversely, higher scores indicate lands that are potentially less desirable for conservation efforts and potentially more suitable for development. It is important to note that many factors, in addition to those addressed throughout this report, contribute to suitability for development and/or conservation, including views expressed by members of the public, other stakeholders and Indigenous groups. Therefore, the information presented in this summary should not be viewed in isolation.

Stantec divided the final mapping into two cumulative analyses: one focusing on the project's biological components and the other on geological/topographic information. While acknowledging the relationship between these analyses, this approach was chosen to enhance the decision-making process for users from a landscape planning perspective, whether for development or conservation pathways. Another key component that should inform development is landscape connectivity, which is discussed in Section 3.5. While it is noted that landscape connectivity coincides with other biological components explicitly considered in the sections above and this summary (i.e., watercourses, wetlands, forest habitat/SAR), Section 3.5 considers these factors in a holistic way regarding wildlife movement and sustainability.

3.10.1 Biological Components

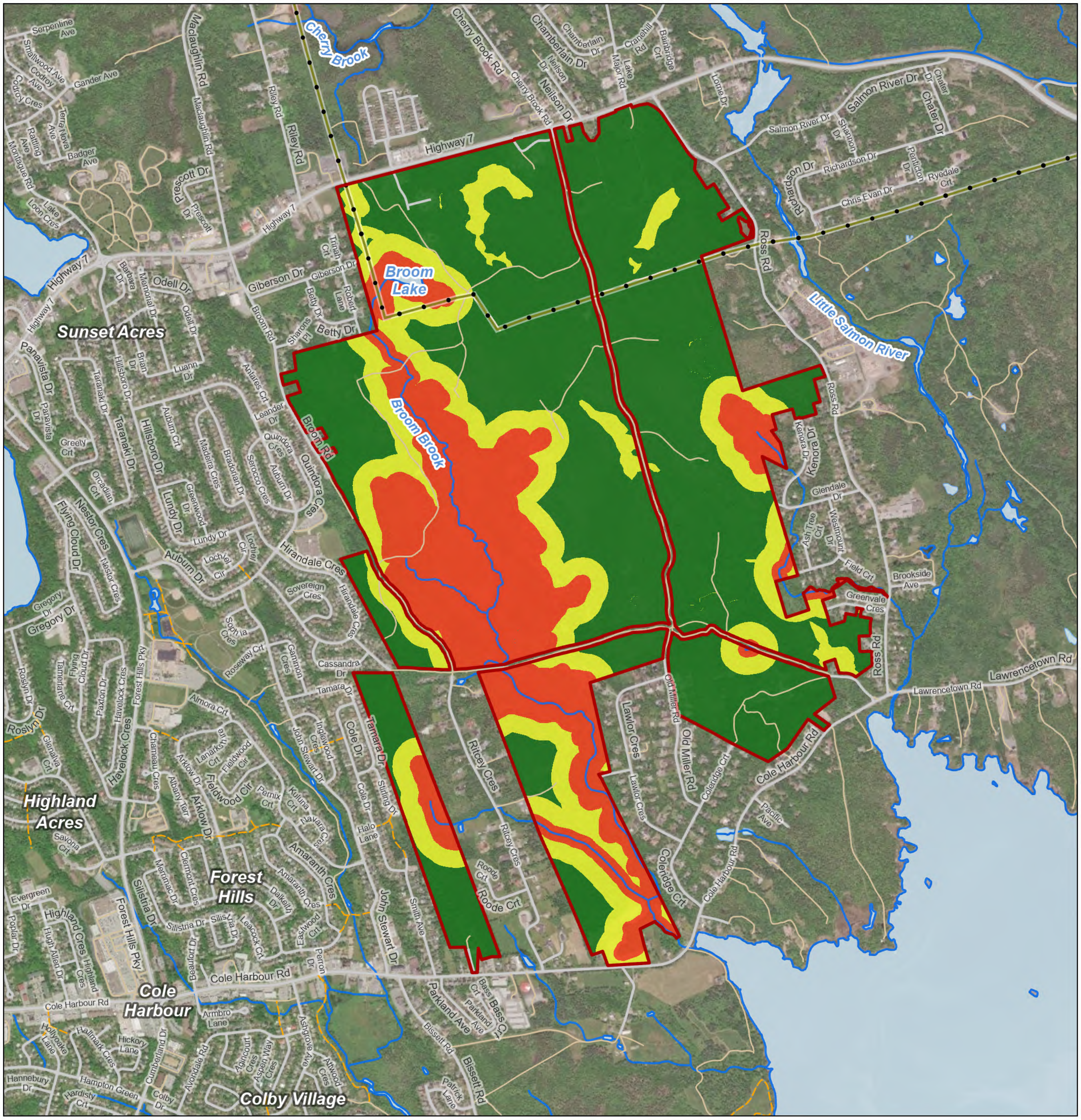
This section combines the LSA figures for wetlands (Section 3.2.1; Figure 3.3), watercourses (Section 3.3.2; Figure 3.6) and forest habitat and species at risk (Section 3.4.4; Figure 3.10).

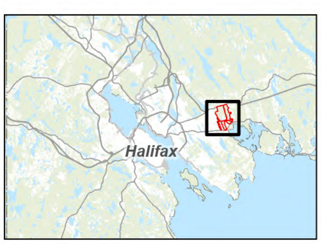
Nineteen wetlands were identified within the WSA and all were evaluated using WESP (Table 3.1). Further evaluation and permitting are highlighted in Section 3.2.2.

The forest habitat and species at risk analysis combines two layers: the Forest Maturity and Forest Succession and Species at Risk. For the forest maturity layer, 106 forest inventory polygons visited during field surveys were classified according to the Nova Scotia FEC system (Table 3.13). Where age is not determined in the field due to various constraints, the maturity class from the FEC or age from the

NSDNRR Forest Inventory was used. The presence of individual SAR was not used exclusively to evaluate the presence and distribution of SAR within the WSA since it was not feasible to conduct comprehensive investigations to detect all individuals of all SAR species that may be present at the WSA. Instead, SAR that are or could potentially be present in the WSA were identified from both the results of the field surveys and from AC CDC records of SAR reported within 5 km of the WSA. Where matches were found between SAR habitat preferences and habitats mapped in the WSA, those species were considered potentially present and reflected in the LSA mapping.

Each of the three LSA figures for the biological components have been weighted and combined to show the overall summary LSA of biological components (Figure 3.17). Habitat LSA and Wetland LSA scores have been averaged and Stantec manually adjusted the weighting of policy-protected constraints including established environmental buffers such as watercourse setbacks and wetlands intersected by watercourses. These features were deemed to have low development suitability and were manually emphasized as indicated by the red shading in Figure 3.17.





Study Area

Land Suitability Score

- 3 (High)
- 2
- 1 (Low)

Utilities

- Transmission Line

Transportation

- Highway
- Road
- Resource / Seasonal Road
- Trail

Other Features

- Waterway
- Waterbody

0 250 500 Metres
(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by NWhite on 2024-03-20
Revised by NWhite on 2024-05-10

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Fig ID: 160410459_035

Figure No.
3.17

Title
Land Suitability Analysis of Biological Components - WSA

Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Stantec; Government of Nova Scotia, Department of Service Nova Scotia and Internal Services
3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

HRM FCM 2022.aprx Revised: 2024-05-10 By: niwhite

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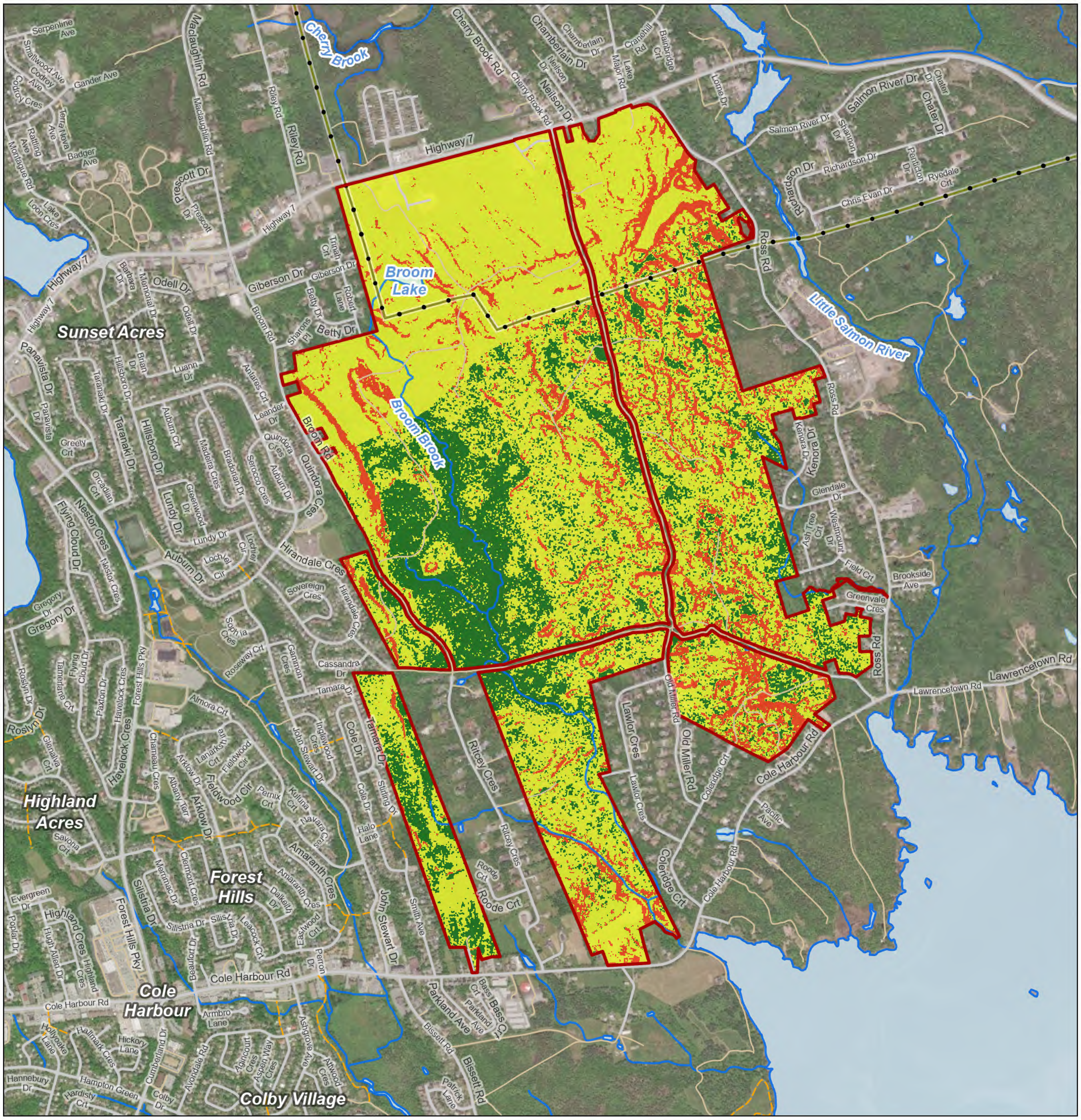
3.10.2 Geology And Topography Components

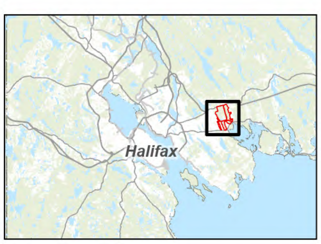
This section combines the LSA figures for geology (Section 3.6.4: Figure 3.14) and topography (Section 3.7.1: Figure 3.15).

The primary parameter used to evaluate geology in the WSA for potential land suitability for development is the acid producing potential associated with sulphide-bearing bedrock (Table 3.18; Figure 3.14). Acid producing potential is considered an important and regulated constraint for development. The current assessment of surficial and bedrock geology is based on a desktop review of available provincial mapping and indicates a general absence of acid producing bedrock in the WSA. These findings should be confirmed through further investigations. If sulphide-bearing rock is encountered during development, it must be managed and disposed of according to Sulphide Bearing Material Disposal Regulations (NSECC 2021).

For the topography component of the land suitability analysis, LiDAR data provided by HRM to was used to classify slopes within the WSA. This was primarily a desktop exercise using ESRI ArcMAP, with incidental field observations. These findings should be confirmed through further investigations.

Each of the two LSA figures for geology and topography have been weighted equally and combined to show the overall summary LSA for these components (Figure 3.18).





Study Area

Land Suitability Score

- 3 (High)
- 2
- 1 (Low)

Utilities

- Transmission Line

Transportation

- Highway
- Road
- Resource / Seasonal Road
- Trail

Other Features

- Waterway
- Waterbodies

0 250 500 Metres

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Halifax Regional Municipality, Nova Scotia

Prepared by NWhite on 2024-03-20
Revised by NWhite on 2024-04-22

Client/Project
Halifax Regional Municipality
Future Serviced Communities
Background Studies

Fig ID: 160410459_034

Figure No.
3.18

Title
Land Suitability Analysis of Geological and Topographic Components - WSA

Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 20N
2. Data Sources: Stantec; Government of Nova Scotia, Department of Service Nova Scotia and Internal Services
3. Background: Government of Nova Scotia, Department of Service Nova Scotia and Internal Services

HRM FCM 2022.aprx Revised: 2024-05-10 By: niwhite

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3.11 References

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COSEWIC. 2012a. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.

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COSEWIC. 2018d. COSEWIC assessment and status report on the Midland Painted Turtle *Chrysemys picta marginata* and the Eastern Painted Turtle *Chrysemys picta picta* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xvi + 107 pp.



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APPENDIX A

AC CDC Report

DATA REPORT 7797: Akoma Lands, NS

Prepared 4 August 2023
by J. Churchill, Data Manager

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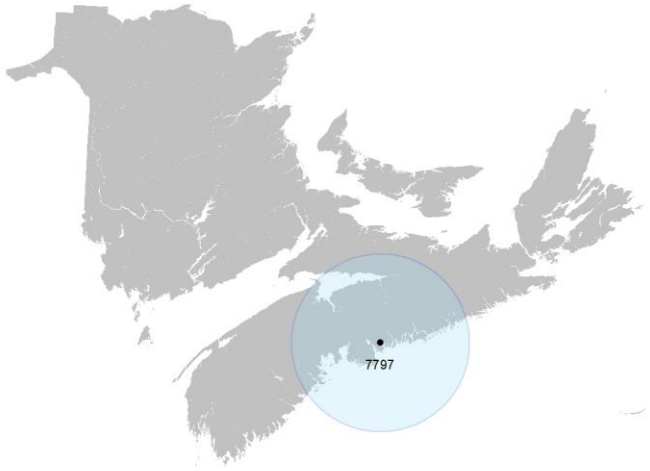
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Map 1. A 100 km buffer around the study area

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
AkomaLandsNS_7797ob.xls	Rare or legally-protected Flora and Fauna in your study area
AkomaLandsNS_7797ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area
AkomaLandsNS_7797msa.xls	Managed and Biologically Significant Areas in your study area

1.2 RESTRICTIONS

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

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

1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides metadata for the data provided.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2.0 RARE AND ENDANGERED SPECIES

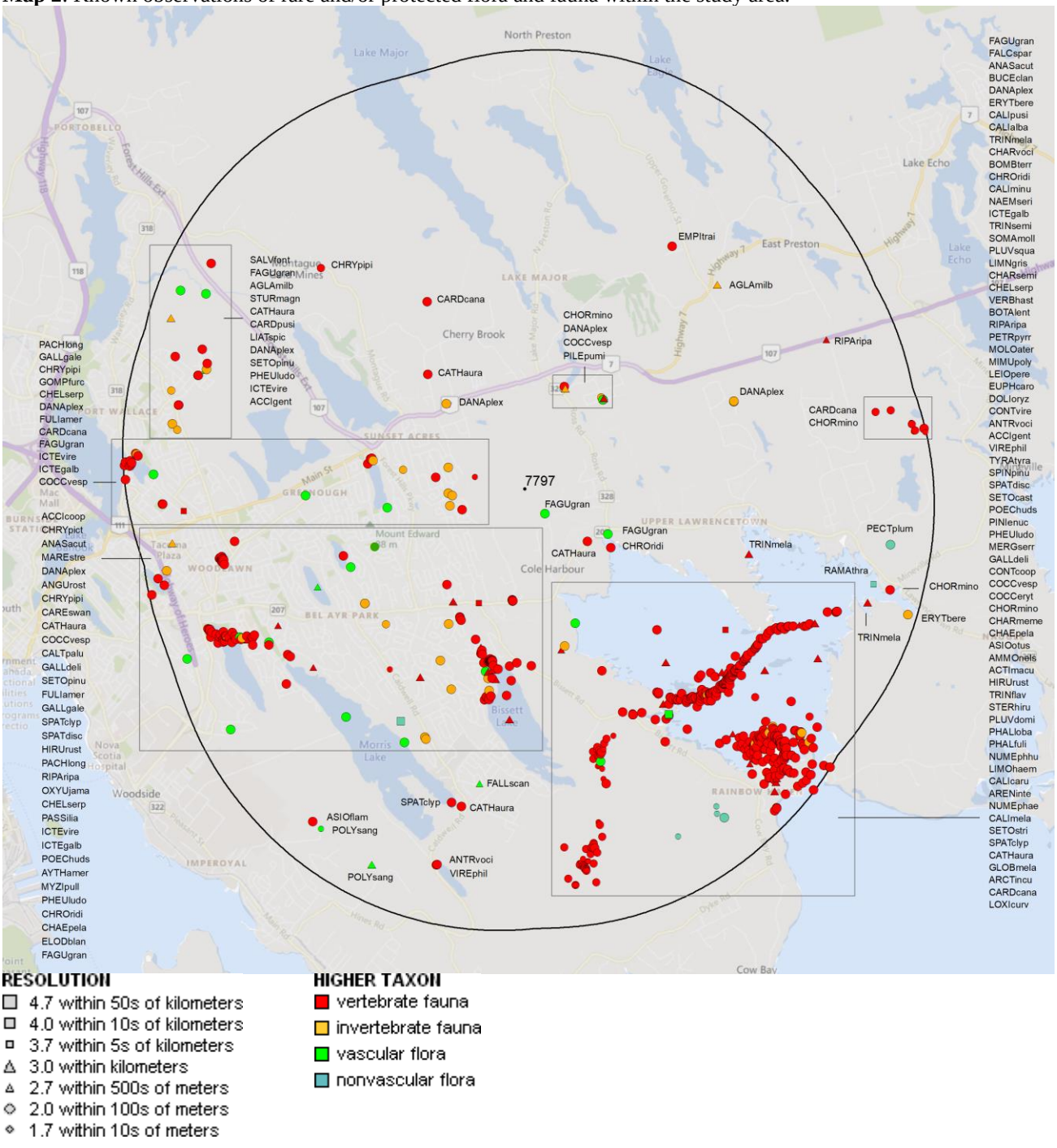
2.1 FLORA

The study area contains 26 records of 8 vascular and 8 records of 4 nonvascular flora (Map 2 and attached: *ob.xls), excluding 'location-sensitive' species.

2.2 FAUNA

The study area contains 1345 records of 81 vertebrate and 62 records of 8 invertebrate fauna (Map 2 and attached data files - see 1.1 Data List), excluding 'location-sensitive species'. Please see section 4.3 to determine if 'location-sensitive' species occur near your study site.

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



3.0 SPECIAL AREAS

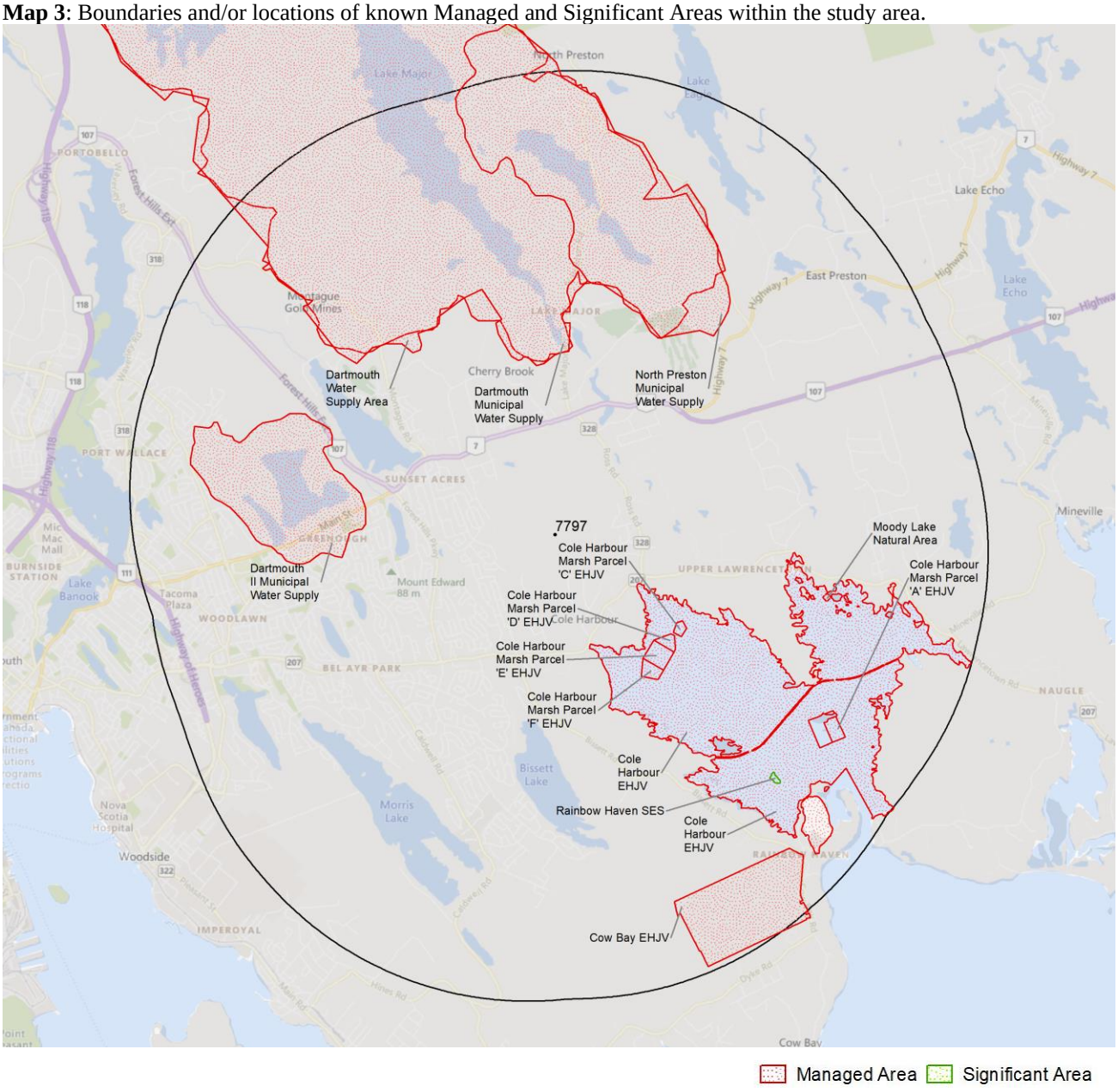
3.1 MANAGED AREAS

The GIS scan identified 12 managed areas in the vicinity of the study area (Map 3 and attached file: *msa.xls).

3.2 SIGNIFICANT AREAS

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

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



4.0 RARE SPECIES LISTS

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

4.1 FLORA

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N	*Pectenia plumbea*	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	2	5.7 ± 0.0
N	*Ramalina thrausta*	Angelhair Ramalina Lichen				S2S3	1	5.5 ± 5.0
N	*Elodium blandowii*	Blandow's Bog Moss				S3?	1	4.0 ± 7.0
N	*Arctoparmelia incurva*	Finger Ring Lichen				S3S4	4	5.7 ± 0.0
P	*Liatris spicata*	Dense Blazing Star	Threatened	Threatened		SNA	1	5.2 ± 0.0
P	*Caltha palustris*	Yellow Marsh Marigold				S2S3	1	3.0 ± 0.0
P	*Polygala sanguinea*	Blood Milkwort				S3	2	6.1 ± 0.0
P	*Pilea pumila*	Dwarf Clearweed				S3	1	1.8 ± 0.0
P	*Carex swanii*	Swan's Sedge				S3	1	3.5 ± 0.0
P	*Fagus grandifolia*	American Beech				S3S4	18	0.5 ± 0.0
P	*Fallopia scandens*	Climbing False Buckwheat				S3S4	1	4.6 ± 0.0
P	*Verbena hastata*	Blue Vervain				S3S4	1	4.1 ± 7.0

4.2 FAUNA

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	*Charadrius melodus melodus*	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	43	4.1 ± 7.0
A	*Icteria virens*	Yellow-Breasted Chat	Endangered	Endangered		SNA	13	1.4 ± 0.0
A	*Asio flammeus*	Short-eared Owl	Threatened	Special Concern		S1B	1	6.0 ± 0.0
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened	Endangered	S2B	9	4.1 ± 7.0
A	*Chaetura pelagica*	Chimney Swift	Threatened	Threatened	Endangered	S2S3B,S1M	3	3.5 ± 1.0
A	*Limosa haemastica*	Hudsonian Godwit	Threatened			S2S3M	14	4.4 ± 0.0
A	*Tringa flavipes*	Lesser Yellowlegs	Threatened			S3M	62	4.0 ± 0.0
A	*Anguilla rostrata*	American Eel	Threatened			S3N	2	4.6 ± 0.0
A	*Sturnella magna*	Eastern Meadowlark	Threatened	Threatened		SHB	1	5.4 ± 0.0
A	*Antrostomus vociferus*	Eastern Whip-Poor-Will	Special Concern	Threatened	Threatened	S1?B	2	4.1 ± 7.0
A	*Euphagus carolinus*	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	1	4.1 ± 7.0
A	*Phalaropus lobatus*	Red-necked Phalarope	Special Concern	Special Concern		S2S3M	1	5.3 ± 0.0
A	*Chelydra serpentina*	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	16	2.0 ± 2.0
A	*Hirundo rustica*	Barn Swallow	Special Concern	Threatened	Endangered	S3B	9	2.5 ± 1.0
A	*Cardellina canadensis*	Canada Warbler	Special Concern	Threatened	Endangered	S3B	82	0.8 ± 0.0
A	*Chordeiles minor*	Common Nighthawk	Special Concern	Special Concern	Threatened	S3B	7	1.7 ± 0.0
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Special Concern	Threatened	S3B	1	4.1 ± 7.0
A	*Dolichonyx oryzivorus*	Bobolink	Special Concern	Threatened	Vulnerable	S3B	2	4.1 ± 7.0
A	*Coccothraustes vespertinus*	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	4	1.0 ± 0.0
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	2	4.1 ± 7.0
A	*Chrysemys picta*	Painted Turtle	Special Concern	Special Concern		S4	17	1.9 ± 4.0
A	*Chrysemys picta picta*	Eastern Painted Turtle	Special Concern	Special Concern		S4	46	1.9 ± 4.0
A	*Accipiter cooperii*	Cooper's Hawk	Not At Risk			S1?B,SUN,SUM	1	4.5 ± 0.0
A	*Fulica americana*	American Coot	Not At Risk			S1B	10	3.2 ± 0.0
A	*Globicephala melas*	Long-finned Pilot Whale	Not At Risk			S2S3	2	6.1 ± 0.0
A	*Sterna hirundo*	Common Tern	Not At Risk			S3B	15	4.2 ± 0.0
A	*Accipiter gentilis*	Northern Goshawk	Not At Risk			S3S4	5	4.1 ± 7.0
A	*Ammospiza nelsoni*	Nelson's Sparrow	Not At Risk			S3S4B	13	4.1 ± 7.0
A	*Calidris canutus rufa*	Red Knot rufa subspecies	E,SC	Endangered	Endangered	S2M	16	5.3 ± 0.0

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	*Oxyura jamaicensis*	Ruddy Duck				S1B	7	3.2 ± 0.0
A	*Gallinula galeata*	Common Gallinule				S1B	2	5.3 ± 0.0
A	*Mimus polyglottos*	Northern Mockingbird				S1B	3	4.1 ± 7.0
A	*Charadrius semipalmatus*	Semipalmated Plover				S1B,S4M	71	3.7 ± 0.0
A	*Calidris minutilla*	Least Sandpiper				S1B,S4M	65	4.1 ± 0.0
A	*Anas acuta*	Northern Pintail				S1B,SUM	13	1.7 ± 0.0
A	*Vireo philadelphicus*	Philadelphia Vireo				S2?B,SUM	2	4.1 ± 7.0
A	*Empidonax traillii*	Willow Flycatcher				S2B	2	4.3 ± 0.0
A	*Molothrus ater*	Brown-headed Cowbird				S2B	1	4.1 ± 7.0
A	*Spatula clypeata*	Northern Shoveler				S2B,SUM	8	4.9 ± 0.0
A	*Mareca strepera*	Gadwall				S2B,SUM	4	3.2 ± 0.0
A	*Calidris alba*	Sanderling				S2N,S3M	33	2.5 ± 0.0
A	*Asio otus*	Long-eared Owl				S2S3	1	4.1 ± 7.0
A	*Petrochelidon pyrrhonota*	Cliff Swallow				S2S3B	1	4.1 ± 7.0
A	*Cathartes aura*	Turkey Vulture				S2S3B,S4S5M	13	1.2 ± 0.0
A	*Setophaga pinus*	Pine Warbler				S2S3B,S4S5M	12	2.2 ± 0.0
A	*Bucephala clangula*	Common Goldeneye				S2S3B,S5N,S5M	3	3.7 ± 5.0
A	*Icterus galbula*	Baltimore Oriole				S2S3B,SUM	4	2.2 ± 0.0
A	*Pluvialis dominica*	American Golden-Plover				S2S3M	10	5.3 ± 0.0
A	*Numenius phaeopus*	Whimbrel				S2S3M	1	4.9 ± 0.0
A	*Numenius phaeopus hudsonicus*	Whimbrel				S2S3M	9	5.3 ± 0.0
A	*Phalaropus fulicarius*	Red Phalarope				S2S3M	2	5.3 ± 0.0
A	*Poecile hudsonicus*	Boreal Chickadee				S3	4	3.4 ± 0.0
A	*Spinus pinus*	Pine Siskin				S3	1	4.1 ± 7.0
A	*Salvelinus fontinalis*	Brook Trout				S3	1	5.9 ± 0.0
A	*Spatula discors*	Blue-winged Teal				S3B	11	1.7 ± 0.0
A	*Charadrius vociferus*	Killdeer				S3B	7	4.2 ± 0.0
A	*Tringa semipalmata*	Willet				S3B	123	3.7 ± 0.0
A	*Coccyzus erythropthalmus*	Black-billed Cuckoo				S3B	1	4.1 ± 7.0
A	*Tyrannus tyrannus*	Eastern Kingbird				S3B	1	4.1 ± 7.0
A	*Pheucticus ludovicianus*	Rose-breasted Grosbeak				S3B	6	2.9 ± 0.0
A	*Somateria mollissima*	Common Eider				S3B,S3M,S3N	32	3.7 ± 5.0
A	*Tringa melanoleuca*	Greater Yellowlegs				S3B,S4M	144	2.5 ± 0.0
A	*Falco sparverius*	American Kestrel				S3B,S4S5M	1	4.9 ± 3.0
A	*Gallinago delicata*	Wilson's Snipe				S3B,S5M	2	2.2 ± 0.0
A	*Setophaga striata*	Blackpoll Warbler				S3B,S5M	3	3.0 ± 0.0
A	*Cardellina pusilla*	Wilson's Warbler				S3B,S5M	1	5.2 ± 0.0
A	*Pinicola enucleator*	Pine Grosbeak				S3B,S5N,S5M	2	4.1 ± 7.0
A	*Pluvialis squatarola*	Black-bellied Plover				S3M	116	3.7 ± 0.0
A	*Arenaria interpres*	Ruddy Turnstone				S3M	25	5.3 ± 0.0
A	*Calidris pusilla*	Semipalmated Sandpiper				S3M	63	2.5 ± 0.0
A	*Calidris melanotos*	Pectoral Sandpiper				S3M	15	5.3 ± 0.0
A	*Limnodromus griseus*	Short-billed Dowitcher				S3M	68	3.8 ± 0.0
A	*Chroicocephalus ridibundus*	Black-headed Gull				S3N	11	1.6 ± 0.0
A	*Loxia curvirostra*	Red Crossbill				S3S4	1	5.8 ± 0.0
A	*Botaurus lentiginosus*	American Bittern				S3S4B,S4S5M	1	4.1 ± 7.0
A	*Setophaga castanea*	Bay-breasted Warbler				S3S4B,S4S5M	1	4.1 ± 7.0
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	19	4.1 ± 0.0
A	*Leiothlypis peregrina*	Tennessee Warbler				S3S4B,S5M	1	4.1 ± 7.0
A	*Passerella iliaca*	Fox Sparrow				S3S4B,S5M	2	2.6 ± 0.0
A	*Mergus serrator*	Red-breasted Merganser				S3S4B,S5M,S5N	14	3.9 ± 0.0
A	*Aythya americana*	Redhead				SHB	1	2.9 ± 0.0

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
I	*Danaus plexippus*	Monarch	Endangered	Special Concern	Endangered	S2?B,S3M	47	1.1 ± 0.0
I	*Bombus terricola*	Yellow-banded Bumble Bee	Special Concern	Special Concern	Vulnerable	S3	2	4.2 ± 0.0
I	*Pachydiplax longipennis*	Blue Dasher				S1	6	3.0 ± 0.0
I	*Aglais milberti*	Milbert's Tortoiseshell				S2S3	2	4.3 ± 2.0
I	*Naemia seriata*	Seaside Lady Beetle				S3	1	4.0 ± 0.0
I	*Myzia pullata*	Streaked Lady Beetle				S3	1	3.3 ± 0.0
I	*Gomphaeschna furcillata*	Harlequin Darner				S3S4	1	2.4 ± 0.0
I	*Erythrodiplax berenice*	Seaside Dragonlet				S3S4	2	4.3 ± 0.0

4.3 LOCATION SENSITIVE SPECIES

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

Nova Scotia

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

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5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 32412 records of 164 vertebrate and 1900 records of 71 invertebrate fauna; 7672 records of 272 vascular and 3047 records of 183 nonvascular flora (attached: *ob100km.xls).

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

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Coregonus huntsmani*	Atlantic Whitefish	Endangered	Endangered	Endangered	S1	142	93.7 ± 1.0	NS
A	*Myotis lucifugus*	Little Brown Myotis	Endangered	Endangered	Endangered	S1	233	5.6 ± 0.0	NS
A	*Myotis septentrionalis*	Northern Myotis	Endangered	Endangered	Endangered	S1	20	34.5 ± 0.0	NS
A	*Perimyotis subflavus*	Tricolored Bat	Endangered	Endangered	Endangered	S1	22	34.5 ± 0.0	NS
A	*Emydoidea blandingii*	Blanding's Turtle	Endangered	Endangered	Endangered	S1	2	12.8 ± 0.0	NS
A	*Salmo salar pop. 1*	Atlantic Salmon - Inner Bay of Fundy population	Endangered	Endangered		S1	36	22.9 ± 0.0	NS
A	*Salmo salar pop. 6*	Atlantic Salmon - Nova Scotia Southern Upland population	Endangered			S1	35	9.4 ± 0.0	NS
A	*Charadrius melodus melodus*	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	515	4.1 ± 7.0	NS
A	*Sterna dougallii*	Roseate Tern	Endangered	Endangered	Endangered	S1B	68	19.4 ± 0.0	NS
A	*Dermochelys coriacea pop. 2*	Leatherback Sea Turtle - Atlantic population	Endangered	Endangered		S1S2N	3	45.0 ± 5.0	NS
A	*Morone saxatilis pop. 2*	Striped Bass - Bay of Fundy population	Endangered			S2S3B,S2S3N	4	30.1 ± 0.0	NS
A	*Melanerpes erythrocephalus*	Red-headed Woodpecker	Endangered	Threatened		SNA	1	83.8 ± 0.0	NS
A	*Protonotaria citrea*	Prothonotary Warbler	Endangered	Endangered		SNA	1	25.3 ± 0.0	NS
A	*Icteria virens*	Yellow-Breasted Chat	Endangered	Endangered		SNA	24	1.4 ± 0.0	NS
A	*Lasiurus cinereus*	Hoary Bat	Endangered			SUB, S1M	23	15.3 ± 0.0	NS
A	*Lasionycteris noctivagans*	Silver-haired Bat	Endangered			SUB,S1M	9	6.5 ± 0.0	NS
A	*Lasiurus borealis*	Eastern Red Bat	Endangered			SUB,S1M	1	82.6 ± 0.0	NS
A	*Colinus virginianus*	Northern Bobwhite	Endangered	Endangered			7	22.0 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Asio flammeus*	Short-eared Owl	Threatened	Special Concern		S1B	31	6.0 ± 0.0	NS
A	*Glyptemys insculpta*	Wood Turtle	Threatened	Threatened	Threatened	S2	830	5.5 ± 1.0	NS
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened	Endangered	S2B	1381	4.1 ± 7.0	NS
A	*Thamnophis saurita*	Eastern Ribbonsnake	Threatened	Threatened	Threatened	S2S3	13	89.6 ± 1.0	NS
A	*Chaetura pelagica*	Chimney Swift	Threatened	Threatened	Endangered	S2S3B,S1M	897	3.5 ± 1.0	NS
A	*Limosa haemastica*	Hudsonian Godwit	Threatened			S2S3M	72	4.4 ± 0.0	NS
A	*Acipenser oxyrinchus*	Atlantic Sturgeon	Threatened			S2S3N	10	34.9 ± 0.0	NS
A	*Hydrobates leucorhous*	Leach's Storm-Petrel	Threatened			S3B	58	9.4 ± 7.0	NS
A	*Tringa flavipes*	Lesser Yellowlegs	Threatened			S3M	750	4.0 ± 0.0	NS
A	*Anguilla rostrata*	American Eel	Threatened			S3N	112	4.6 ± 0.0	NS
A	*Sturnella magna*	Eastern Meadowlark	Threatened	Threatened		SHB	3	5.4 ± 0.0	NS
A	*Melanerpes lewis*	Lewis's Woodpecker	Threatened	Threatened		SNA	2	21.5 ± 0.0	NS
A	*Ixobrychus exilis*	Least Bittern	Threatened	Threatened		SUB	2	10.5 ± 0.0	NS
A	*Hylocichla mustelina*	Wood Thrush	Threatened	Threatened		SUB	34	27.9 ± 0.0	NS
A	*Antrostomus vociferus*	Eastern Whip-Poor-Will	Special Concern	Threatened	Threatened	S1?B	12	4.1 ± 7.0	NS
A	*Passerculus sandwichensis princeps*	Ipswich Sparrow	Special Concern	Special Concern		S1B	29	8.7 ± 0.0	NS
A	*Bucephala islandica*	Barrow's Goldeneye	Special Concern	Special Concern		S1N,SUM	20	7.6 ± 0.0	NS
A	*Euphagus carolinus*	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	220	4.1 ± 7.0	NS
A	*Balaenoptera physalus*	Fin Whale	Special Concern	Special Concern		S2S3	3	28.7 ± 0.0	NS
A	*Phalaropus lobatus*	Red-necked Phalarope	Special Concern	Special Concern		S2S3M	10	5.3 ± 0.0	NS
A	*Histrionicus histrionicus pop. 1*	Harlequin Duck - Eastern population	Special Concern	Special Concern	Endangered	S2S3N,SUM	74	10.4 ± 0.0	NS
A	*Chelydra serpentina*	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	359	2.0 ± 2.0	NS
A	*Hirundo rustica*	Barn Swallow	Special Concern	Threatened	Endangered	S3B	1057	2.5 ± 1.0	NS
A	*Cardellina canadensis*	Canada Warbler	Special Concern	Threatened	Endangered	S3B	964	0.8 ± 0.0	NS
A	*Chordeiles minor*	Common Nighthawk	Special Concern	Special Concern	Threatened	S3B	452	1.7 ± 0.0	NS
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Special Concern	Threatened	S3B	748	4.1 ± 7.0	NS
A	*Dolichonyx oryzivorus*	Bobolink	Special Concern	Threatened	Vulnerable	S3B	566	4.1 ± 7.0	NS
A	*Coccothraustes vespertinus*	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	559	1.0 ± 0.0	NS
A	*Podiceps auritus*	Horned Grebe	Special Concern	Special Concern		S3N,SUM	21	39.7 ± 0.0	NS
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	797	4.1 ± 7.0	NS
A	*Phocoena phocoena*	Harbour Porpoise	Special Concern			S4	15	9.0 ± 0.0	NS
A	*Phocoena phocoena pop. 1*	Harbour Porpoise - Northwest Atlantic Population	Special Concern			S4	2	79.5 ± 0.0	NS
A	*Chrysemys picta*	Painted Turtle	Special Concern	Special Concern		S4	67	1.9 ± 4.0	NS
A	*Chrysemys picta picta*	Eastern Painted Turtle	Special Concern	Special Concern		S4	456	1.9 ± 4.0	NS
A	*Calidris subruficollis*	Buff-breasted Sandpiper	Special Concern	Special Concern		SNA	11	10.6 ± 0.0	NS
A	*Zonotrichia querula*	Harris's Sparrow	Special Concern			SNA	1	7.4 ± 0.0	NS
A	*Anarhichas lupus*	Atlantic Wolffish	Special Concern	Special Concern		SNR	5	11.7 ± 0.0	NS
A	*Acipenser brevirostrum*	Shortnose Sturgeon	Special Concern	Special Concern			1	86.6 ± 0.0	NS
A	*Accipiter cooperii*	Cooper's Hawk	Not At Risk			S1?B,SUN,SUM	12	4.5 ± 0.0	NS
A	*Fulica americana*	American Coot	Not At Risk			S1B	41	3.2 ± 0.0	NS
A	*Chlidonias niger*	Black Tern	Not At Risk			S1B	1	16.9 ± 0.0	NS
A	*Falco peregrinus pop. 1*	Peregrine Falcon - anatum/tundrius	Not At Risk		Vulnerable	S1B,SUM	62	4.3 ± 0.0	NS
A	*Sorex dispar*	Long-tailed Shrew	Not At Risk			S2	2	90.0 ± 0.0	NS
A	*Aegolius funereus*	Boreal Owl	Not At Risk			S2?B,SUM	4	34.6 ± 7.0	NS
A	*Lynx canadensis*	Canada Lynx	Not At Risk		Endangered	S2S3	2	85.4 ± 1.0	NS
A	*Globicephala melas*	Long-finned Pilot Whale	Not At Risk			S2S3	3	6.1 ± 0.0	NS
A	*Hemidactylium scutatum*	Four-toed Salamander	Not At Risk			S3	32	8.2 ± 0.0	NS
A	*Megaptera novaeangliae*	Humpback Whale	Not At Risk			S3	2	10.0 ± 0.0	NS
A	*Sterna hirundo*	Common Tern	Not At Risk			S3B	318	4.2 ± 0.0	NS
A	*Sialia sialis*	Eastern Bluebird	Not At Risk			S3B	58	13.1 ± 0.0	NS
A	*Buteo lagopus*	Rough-legged Hawk	Not At Risk			S3N	1	10.4 ± 0.0	NS
A	*Accipiter gentilis*	Northern Goshawk	Not At Risk			S3S4	119	4.1 ± 7.0	NS
A	*Glaucomys volans*	Southern Flying Squirrel	Not At Risk			S3S4	8	40.4 ± 2.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Lagenorhynchus acutus*	Atlantic White-sided Dolphin	Not At Risk			S3S4	5	18.4 ± 2.0	NS
A	*Ammospiza nelsoni*	Nelson's Sparrow	Not At Risk			S3S4B	132	4.1 ± 7.0	NS
A	*Calidris canutus rufa*	Red Knot rufa subspecies	E,SC	Endangered	Endangered	S2M	307	5.3 ± 0.0	NS
A	*Calidris canutus*	Red Knot	E,SC	E,T		S2M	4	10.3 ± 1.0	NS
A	*Morone saxatilis*	Striped Bass	E,SC			S2S3B,S2S3N	29	10.9 ± 0.0	NS
A	*Gadus morhua*	Atlantic Cod	E,SC,DD			SNR	11	8.7 ± 0.0	NS
A	*Salmo salar*	Atlantic Salmon	E,T,SC			S1B,S1N	13	41.5 ± 0.0	NS
A	*Alces alces americana*	Moose			Endangered	S1	61	17.9 ± 0.0	NS
A	*Alces alces*	Moose				S1	7	27.6 ± 0.0	NS
A	*Uria aalge*	Common Murre				S1?B	7	7.6 ± 0.0	NS
A	*Passerina cyanea*	Indigo Bunting				S1?B,SUM	19	8.7 ± 0.0	NS
A	*Oxyura jamaicensis*	Ruddy Duck				S1B	13	3.2 ± 0.0	NS
A	*Gallinula galeata*	Common Gallinule				S1B	8	5.3 ± 0.0	NS
A	*Myiarchus crinitus*	Great Crested Flycatcher				S1B	27	8.5 ± 7.0	NS
A	*Cistothorus palustris*	Marsh Wren				S1B	2	78.0 ± 0.0	NS
A	*Mimus polyglottos*	Northern Mockingbird				S1B	74	4.1 ± 7.0	NS
A	*Toxostoma rufum*	Brown Thrasher				S1B	14	8.5 ± 7.0	NS
A	*Charadrius semipalmatus*	Semipalmated Plover				S1B,S4M	1257	3.7 ± 0.0	NS
A	*Calidris minutilla*	Least Sandpiper				S1B,S4M	797	4.1 ± 0.0	NS
A	*Anas acuta*	Northern Pintail				S1B,SUM	68	1.7 ± 0.0	NS
A	*Vireo gilvus*	Warbling Vireo				S1B,SUM	19	10.2 ± 7.0	NS
A	*Vespertilionidae sp.*	bat species				S1S2	184	1.4 ± 0.0	NS
A	*Pooecetes gramineus*	Vesper Sparrow				S1S2B,SUM	21	16.7 ± 7.0	NS
A	*Vireo philadelphicus*	Philadelphia Vireo				S2?B,SUM	32	4.1 ± 7.0	NS
A	*Alca torda*	Razorbill				S2B	26	10.9 ± 0.0	NS
A	*Fratercula arctica*	Atlantic Puffin				S2B	33	41.9 ± 0.0	NS
A	*Empidonax traillii*	Willow Flycatcher				S2B	25	4.3 ± 0.0	NS
A	*Molothrus ater*	Brown-headed Cowbird				S2B	138	4.1 ± 7.0	NS
A	*Spatula clypeata*	Northern Shoveler				S2B,SUM	28	4.9 ± 0.0	NS
A	*Mareca strepera*	Gadwall				S2B,SUM	35	3.2 ± 0.0	NS
A	*Piranga olivacea*	Scarlet Tanager				S2B,SUM	40	7.5 ± 0.0	NS
A	*Calidris alba*	Sanderling				S2N,S3M	792	2.5 ± 0.0	NS
A	*Martes americana*	American Marten			Endangered	S2S3	2	16.5 ± 0.0	NS
A	*Asio otus*	Long-eared Owl				S2S3	23	4.1 ± 7.0	NS
A	*Rallus limicola*	Virginia Rail				S2S3B	19	12.7 ± 7.0	NS
A	*Rissa tridactyla*	Black-legged Kittiwake				S2S3B	17	41.9 ± 0.0	NS
A	*Petrochelidon pyrrhonota*	Cliff Swallow				S2S3B	211	4.1 ± 7.0	NS
A	*Phalacrocorax carbo*	Great Cormorant				S2S3B,S2S3N	93	9.1 ± 0.0	NS
A	*Cathartes aura*	Turkey Vulture				S2S3B,S4S5M	95	1.2 ± 0.0	NS
A	*Setophaga pinus*	Pine Warbler				S2S3B,S4S5M	42	2.2 ± 0.0	NS
A	*Bucephala clangula*	Common Goldeneye				S2S3B,S5N,S5M	283	3.7 ± 5.0	NS
A	*Icterus galbula*	Baltimore Oriole				S2S3B,SUM	72	2.2 ± 0.0	NS
A	*Pluvialis dominica*	American Golden-Plover				S2S3M	127	5.3 ± 0.0	NS
A	*Numenius phaeopus*	Whimbrel				S2S3M	20	4.9 ± 0.0	NS
A	*Numenius phaeopus hudsonicus*	Whimbrel				S2S3M	80	5.3 ± 0.0	NS
A	*Phalaropus fulicarius*	Red Phalarope				S2S3M	4	5.3 ± 0.0	NS
A	*Perisoreus canadensis*	Canada Jay				S3	528	6.9 ± 7.0	NS
A	*Poecile hudsonicus*	Boreal Chickadee				S3	569	3.4 ± 0.0	NS
A	*Spinus pinus*	Pine Siskin				S3	446	4.1 ± 7.0	NS
A	*Salvelinus fontinalis*	Brook Trout				S3	119	5.9 ± 0.0	NS
A	*Salvelinus namaycush*	Lake Trout				S3	2	27.9 ± 0.0	NS
A	*Sorex maritimensis*	Maritime Shrew				S3	1	83.1 ± 1.0	NS
A	*Synaptomys cooperi*	Southern Bog Lemming				S3	1	94.1 ± 0.0	NS
A	*Pekania pennanti*	Fisher				S3	9	27.9 ± 0.0	NS
A	*Calcarius lapponicus*	Lapland Longspur				S3?N,SUM	6	9.2 ± 0.0	NS
A	*Spatula discors*	Blue-winged Teal				S3B	65	1.7 ± 0.0	NS
A	*Charadrius vociferus*	Killdeer				S3B	466	4.2 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Tringa semipalmata*	Willet				S3B	1345	3.7 ± 0.0	NS
A	*Sterna paradisaea*	Arctic Tern				S3B	69	8.8 ± 0.0	NS
A	*Coccyzus erythropthalmus*	Black-billed Cuckoo				S3B	42	4.1 ± 7.0	NS
A	*Tyrannus tyrannus*	Eastern Kingbird				S3B	179	4.1 ± 7.0	NS
A	*Pheucticus ludovicianus*	Rose-breasted Grosbeak				S3B	343	2.9 ± 0.0	NS
A	*Alosa pseudoharengus*	Alewife				S3B	33	10.3 ± 0.0	NS
A	*Somateria mollissima*	Common Eider				S3B,S3M,S3N	1016	3.7 ± 5.0	NS
A	*Tringa melanoleuca*	Greater Yellowlegs				S3B,S4M	1526	2.5 ± 0.0	NS
A	*Falco sparverius*	American Kestrel				S3B,S4S5M	244	4.9 ± 3.0	NS
A	*Gallinago delicata*	Wilson's Snipe				S3B,S5M	533	2.2 ± 0.0	NS
A	*Setophaga striata*	Blackpoll Warbler				S3B,S5M	135	3.0 ± 0.0	NS
A	*Cardellina pusilla*	Wilson's Warbler				S3B,S5M	77	5.2 ± 0.0	NS
A	*Pinicola enucleator*	Pine Grosbeak				S3B,S5N,S5M	137	4.1 ± 7.0	NS
A	*Setophaga tigrina*	Cape May Warbler				S3B,SUM	154	8.5 ± 7.0	NS
A	*Branta bernicla*	Brant				S3M	3	10.6 ± 0.0	NS
A	*Pluvialis squatarola*	Black-bellied Plover				S3M	1259	3.7 ± 0.0	NS
A	*Arenaria interpres*	Ruddy Turnstone				S3M	476	5.3 ± 0.0	NS
A	*Calidris pusilla*	Semipalmated Sandpiper				S3M	1100	2.5 ± 0.0	NS
A	*Calidris melanotos*	Pectoral Sandpiper				S3M	148	5.3 ± 0.0	NS
A	*Limnodromus griseus*	Short-billed Dowitcher				S3M	874	3.8 ± 0.0	NS
A	*Chroicocephalus ridibundus*	Black-headed Gull				S3N	30	1.6 ± 0.0	NS
A	*Picoides arcticus*	Black-backed Woodpecker				S3S4	164	8.5 ± 7.0	NS
A	*Loxia curvirostra*	Red Crossbill				S3S4	221	5.8 ± 0.0	NS
A	*Botaurus lentiginosus*	American Bittern				S3S4B,S4S5M	171	4.1 ± 7.0	NS
A	*Setophaga castanea*	Bay-breasted Warbler				S3S4B,S4S5M	414	4.1 ± 7.0	NS
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	658	4.1 ± 0.0	NS
A	*Leiothlypis peregrina*	Tennessee Warbler				S3S4B,S5M	396	4.1 ± 7.0	NS
A	*Passerella iliaca*	Fox Sparrow				S3S4B,S5M	93	2.6 ± 0.0	NS
A	*Mergus serrator*	Red-breasted Merganser				S3S4B,S5M,S5N	325	3.9 ± 0.0	NS
A	*Calidris maritima*	Purple Sandpiper				S3S4N	158	7.9 ± 0.0	NS
A	*Lanius borealis*	Northern Shrike				S3S4N	2	21.2 ± 0.0	NS
A	*Morus bassanus*	Northern Gannet				SHB	62	7.5 ± 2.0	NS
A	*Aythya americana*	Redhead				SHB	5	2.9 ± 0.0	NS
A	*Leucophaeus atricilla*	Laughing Gull				SHB	12	8.3 ± 0.0	NS
A	*Progne subis*	Purple Martin				SHB	1	9.0 ± 0.0	NS
A	*Eremophila alpestris*	Horned Lark				SHB,S4S5N,S5M	24	9.1 ± 0.0	NS
I	*Bombus bohemicus*	Ashton Cuckoo Bumble Bee	Endangered	Endangered	Endangered	S1	24	9.3 ± 1.0	NS
I	*Danaus plexippus*	Monarch	Endangered	Special Concern	Endangered	S2?B,S3M	898	1.1 ± 0.0	NS
I	*Danaus plexippus plexippus*	Monarch	Endangered	Special Concern		S2?B,S3M	2	53.4 ± 0.0	NS
I	*Barnea truncata*	Atlantic Mud-piddock	Threatened	Threatened		S1	10	74.1 ± 0.0	NS
I	*Bombus suckleyi*	Suckley's Cuckoo Bumble Bee	Threatened			SH	4	49.5 ± 5.0	NS
I	*Alasmidonta varicosa*	Brook Floater	Special Concern	Special Concern	Threatened	S3	5	38.7 ± 0.0	NS
I	*Bombus terricola*	Yellow-banded Bumble Bee	Special Concern	Special Concern	Vulnerable	S3	144	4.2 ± 0.0	NS
I	*Coccinella transversoguttata richardsoni*	Transverse Lady Beetle	Special Concern		Endangered	SH	4	47.5 ± 2.0	NS
I	*Gomphurus ventricosus*	Skillet Clubtail	Special Concern	Endangered		SH	2	27.5 ± 0.0	NS
I	*Cicindela formosa*	Big Sand Tiger Beetle				S1	1	89.9 ± 1.0	NS
I	*Erora laeta*	Early Hairstreak				S1	1	14.5 ± 1.0	NS
I	*Pachydiplax longipennis*	Blue Dasher				S1	28	3.0 ± 0.0	NS
I	*Polygonia comma*	Eastern Comma				S1?	21	6.5 ± 0.0	NS
I	*Polygonia satyrus*	Satyr Comma				S1?	7	14.4 ± 2.0	NS
I	*Boloria chariclea*	Arctic Fritillary				S1S2	1	99.4 ± 2.0	NS
I	*Somatochlora brevicincta*	Quebec Emerald				S1S2	1	13.0 ± 0.0	NS
I	*Tharsalea dospassosi*	Maritime Copper				S2	3	12.9 ± 5.0	NS
I	*Satyrium acadica*	Acadian Hairstreak				S2	4	82.8 ± 2.0	NS
I	*Neurocordulia michaeli*	Broad-tailed Shadowdragon				S2	4	96.4 ± 0.0	NS
I	*Coenagrion resolutum*	Taiga Bluet				S2	2	16.3 ± 1.0	NS

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I	*Margaritifera margaritifera*	Eastern Pearlshell				S2	66	27.3 ± 0.0	NS
I	*Pantala hymenaea*	Spot-Winged Glider				S2?B	6	6.9 ± 1.0	NS
I	*Nymphalis l-album*	Compton Tortoiseshell				S2S3	19	9.4 ± 2.0	NS
I	*Aglais milberti*	Milbert's Tortoiseshell				S2S3	19	4.3 ± 2.0	NS
I	*Somatochlora kennedyi*	Kennedy's Emerald				S2S3	3	6.9 ± 1.0	NS
I	*Enallagma geminatum*	Skimming Bluet				S2S3	2	94.8 ± 0.0	NS
I	*Stylurus scudderi*	Zebra Clubtail				S2S3	6	27.5 ± 0.0	NS
I	*Alasmidonta undulata*	Triangle Floater				S2S3	22	6.9 ± 0.0	NS
I	*Strophiona nitens*	Chestnut Bark Long-horned Beetle				S3	2	16.1 ± 0.0	NS
I	*Psephenus herricki*	Herrick's Water Penny Beetle				S3	1	69.9 ± 0.0	NS
I	*Carabus serratus*	Serrated Ground Beetle				S3	1	80.8 ± 0.0	NS
I	*Hippodamia parenthesis*	Parenthesis Lady Beetle				S3	3	8.2 ± 0.0	NS
I	*Disonycha pensylvanica*	Pennsylvania Flea Beetle				S3	1	90.4 ± 0.0	NS
I	*Chrysochus auratus*	Dogbane Leaf Beetle				S3	1	32.1 ± 0.0	NS
I	*Naemia seriata*	Seaside Lady Beetle				S3	29	4.0 ± 0.0	NS
I	*Elateroides lugubris*	Sapwood Ship-timber Beetle				S3	1	16.4 ± 0.0	NS
I	*Chilocorus stigma*	Twice-stabbed Lady Beetle				S3	10	14.1 ± 0.0	NS
I	*Myzia pullata*	Streaked Lady Beetle				S3	5	3.3 ± 0.0	NS
I	*Monochamus marmorator*	Balsam Fir Sawyer				S3	1	24.0 ± 0.0	NS
I	*Trachysida aspera*	Rough Flower Longhorn Beetle				S3	1	7.2 ± 0.0	NS
I	*Dicerca tuberculata*	Swollen Jewel Beetle				S3	1	26.2 ± 9.0	NS
I	*Astylopsis sexguttata*	Six-speckled Long-horned Beetle				S3	2	17.7 ± 0.0	NS
I	*Satyrium calanus*	Banded Hairstreak				S3	72	7.0 ± 0.0	NS
I	*Callophrys lanoraieensis*	Bog Elfin				S3	23	14.7 ± 2.0	NS
I	*Strymon melinus*	Gray Hairstreak				S3	13	14.4 ± 1.0	NS
I	*Ophiogomphus aspersus*	Brook Snaketail				S3	2	39.2 ± 0.0	NS
I	*Ophiogomphus mainensis*	Maine Snaketail				S3	17	84.9 ± 0.0	NS
I	*Ophiogomphus rupinsulensis*	Rusty Snaketail				S3	21	27.5 ± 0.0	NS
I	*Epitheca princeps*	Prince Baskettail				S3	14	12.0 ± 0.0	NS
I	*Somatochlora forcipata*	Forcipate Emerald				S3	4	6.9 ± 1.0	NS
I	*Enallagma vernale*	Vernal Bluet				S3	5	16.8 ± 0.0	NS
I	*Polygonia interrogationis*	Question Mark				S3B	162	6.5 ± 0.0	NS
I	*Lepturopsis biforis*	Two-spotted Long-horned Beetle				S3S4	1	68.4 ± 0.0	NS
I	*Cecropterus pylades*	Northern Cloudywing				S3S4	5	81.5 ± 2.0	NS
I	*Amblyscirtes hegon*	Pepper and Salt Skipper				S3S4	28	6.5 ± 2.0	NS
I	*Cupido comyntas*	Eastern Tailed Blue				S3S4	28	21.7 ± 0.0	NS
I	*Argynnis aphrodite*	Aphrodite Fritillary				S3S4	29	21.5 ± 0.0	NS
I	*Polygonia faunus*	Green Comma				S3S4	15	9.4 ± 2.0	NS
I	*Oeneis jutta*	Jutta Arctic				S3S4	7	36.7 ± 1.0	NS
I	*Aeshna clepsydra*	Mottled Darner				S3S4	11	11.6 ± 1.0	NS
I	*Aeshna constricta*	Lance-Tipped Darner				S3S4	21	9.0 ± 1.0	NS
I	*Boyeria grafiana*	Ocellated Darner				S3S4	4	52.4 ± 1.0	NS
I	*Gomphaeschna furcillata*	Harlequin Darner				S3S4	14	2.4 ± 0.0	NS
I	*Somatochlora franklini*	Delicate Emerald				S3S4	2	39.2 ± 1.0	NS
I	*Erythrodiplax berenice*	Seaside Dragonlet				S3S4	4	4.3 ± 0.0	NS
I	*Nannothemis bella*	Elfin Skimmer				S3S4	21	13.3 ± 0.0	NS
I	*Enallagma vesperum*	Vesper Bluet				S3S4	4	38.2 ± 0.0	NS
I	*Amphiagrion saucium*	Eastern Red Damsel				S3S4	2	76.9 ± 1.0	NS
I	*Sphaerophoria pyrrhina*	Violaceous Globetail				SH	1	75.2 ± 5.0	NS
I	*Icaricia saepiolus*	Greenish Blue				SH	1	13.6 ± 2.0	NS
I	*Polygonia gracilis*	Hoary Comma				SH	1	77.0 ± 2.0	NS
N	*Erioderma mollissimum*	Graceful Felt Lichen	Endangered	Endangered	Endangered	S1	27	34.5 ± 0.0	NS
N	*Erioderma pedicellatum*	Boreal Felt Lichen - Atlantic	Endangered	Endangered	Endangered	S1	427	19.6 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
	(Atlantic pop.)	pop.							
N	*Peltigera hydrothyria*	Eastern Waterfan	Threatened	Threatened	Threatened	S1	19	53.4 ± 0.0	NS
N	*Pannaria lurida*	Wrinkled Shingle Lichen	Threatened	Threatened	Threatened	S2S3	150	12.0 ± 1.0	NS
N	*Anzia colpodes*	Black-foam Lichen	Threatened	Threatened	Threatened	S3	35	12.0 ± 0.0	NS
N	*Fuscopannaria leucosticta*	White-rimmed Shingle Lichen	Threatened			S3	15	18.3 ± 0.0	NS
N	*Heterodermia squamulosa*	Scaly Fringe Lichen	Threatened			S3	15	43.7 ± 0.0	NS
N	*Pectenia plumbea*	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	253	5.7 ± 0.0	NS
N	*Sclerophora peronella (Atlantic pop.)*	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern		S3S4	30	14.4 ± 7.0	NS
N	*Pseudevernia cladonia*	Ghost Antler Lichen	Not At Risk			S2S3	18	16.9 ± 1.0	NS
N	*Fissidens exilis*	Pygmy Pocket Moss	Not At Risk			S3	15	52.1 ± 0.0	NS
N	*Chaenotheca servitii*	Flexuous Golden Stubble	Data Deficient			S1	1	85.4 ± 1.0	NS
N	*Aloina brevirostris*	Short-Beaked Rigid Screw Moss				S1	2	54.1 ± 2.0	NS
N	*Sematophyllum demissum*	a Moss				S1	1	18.3 ± 2.0	NS
N	*Cyrto-hypnum minutulum*	Tiny Cedar Moss				S1	1	85.5 ± 0.0	NS
N	*Blennothallia crispa*	Crinkled Jelly Lichen				S1	1	73.0 ± 0.0	NS
N	*Umbilicaria vellea*	Grizzled Rocktripe Lichen				S1	1	31.2 ± 5.0	NS
N	*Usnea perplexans*	Powdered Beard Lichen				S1	1	75.7 ± 0.0	NS
N	*Lathagrium cristatum*	Fingered Jelly Lichen				S1	3	61.2 ± 0.0	NS
N	*Fuscopannaria praetermissa*	Moss Shingles Lichen				S1	1	59.3 ± 0.0	NS
N	*Scytinium schraderi*	Wrinkled Jellyskin Lichen				S1	1	61.8 ± 0.0	NS
N	*Lichina confinis*	Marine Seaweed Lichen				S1	4	25.3 ± 0.0	NS
N	*Polychidium muscicola*	Eyed Mossthorns Woollybear Lichen				S1	1	69.5 ± 0.0	NS
N	*Pseudevernia consocians*	Common Antler Lichen				S1	1	85.0 ± 0.0	NS
N	*Sticta limbata*	Powdered Moon Lichen				S1	4	48.6 ± 3.0	NS
N	*Peltigera lepidophora*	Scaly Pelt Lichen				S1	5	57.9 ± 0.0	NS
N	*Bryoria nitidula*	Tundra Horsehair Lichen				S1	2	20.7 ± 0.0	NS
N	*Hypogymnia hultenii*	Powdered Honeycomb Lichen				S1	14	15.6 ± 1.0	NS
N	*Calypogeia neogaea*	Common Pouchwort				S1?	1	70.3 ± 0.0	NS
N	*Jubula pennsylvanica*	a liverwort				S1?	1	48.1 ± 0.0	NS
N	*Aloina rigida*	Aloe-Like Rigid Screw Moss				S1?	3	54.1 ± 2.0	NS
N	*Imbribryum muehlenbeckii*	Muehlenbeck's Bryum Moss				S1?	2	71.5 ± 0.0	NS
N	*Conardia compacta*	Coast Creeping Moss				S1?	1	41.2 ± 2.0	NS
N	*Tortula obtusifolia*	a Moss				S1?	3	64.7 ± 0.0	NS
N	*Didymodon tophaceus*	Olive Beard Moss				S1?	2	72.6 ± 4.0	NS
N	*Homomallium adnatum*	Adnate Hairy-gray Moss				S1?	1	89.8 ± 0.0	NS
N	*Paludella squarrosa*	Tufted Fen Moss				S1?	3	53.4 ± 0.0	NS
N	*Physcomitrium immersum*	a Moss				S1?	1	90.3 ± 0.0	NS
N	*Schistostega pennata*	Luminous Moss				S1?	2	48.4 ± 0.0	NS
N	*Enchylium limosum*	Lime-loving Tarpaper Lichen				S1?	2	72.6 ± 4.0	NS
N	*Scytinium intermedium*	Forty-five Jellyskin Lichen				S1?	1	72.6 ± 4.0	NS
N	*Melanelia culbersonii*	Appalachain Camouflage Lichen				S1?	1	51.7 ± 0.0	NS
N	*Arrhenopterum heterostichum*	One-sided Groove Moss				S1S2	2	54.0 ± 2.0	NS
N	*Mnium thomsonii*	Thomson's Leafy Moss				S1S2	1	59.8 ± 2.0	NS
N	*Tortula acaulon*	Cuspidate Earth Moss				S1S2	1	95.7 ± 0.0	NS
N	*Plagiothecium latebricola*	Alder Silk Moss				S1S2	2	61.3 ± 5.0	NS
N	*Platydictya confervoides*	a Moss				S1S2	1	58.0 ± 0.0	NS
N	*Sematophyllum marylandicum*	a Moss				S1S2	2	18.6 ± 3.0	NS
N	*Timmia megapolitana*	Metropolitan Timmia Moss				S1S2	3	89.5 ± 1.0	NS
N	*Tortula mucronifolia*	Mucronate Screw Moss				S1S2	1	94.2 ± 3.0	NS
N	*Pseudotaxiphyllum*	a Moss				S1S2	1	53.7 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
	distichaceum								
N	*Haplocladium microphyllum*	Tiny-leaved Haplocladium Moss				S1S2	1	70.0 ± 5.0	NS
N	*Rhynchostegium serrulatum*	Dark Beaked Moss				S1S2	1	46.6 ± 2.0	NS
N	*Enchylium bachmanianum*	Bachman's Jelly Lichen				S1S2	2	61.3 ± 0.0	NS
N	*Placidium squamulosum*	Limy Soil Stipplescale Lichen				S1S2	1	63.8 ± 6.0	NS
N	*Pilophorus cereolus*	Powdered Matchstick Lichen				S1S2	1	89.3 ± 3.0	NS
N	*Rhizoplaca subdiscrepans*	Scattered Rock-posy Lichen				S1S2	1	53.0 ± 1.0	NS
N	*Parmotrema reticulatum*	Netted Ruffle Lichen				S1S2	1	83.4 ± 0.0	NS
N	*Parmeliella parvula*	Poor-man's Shingles Lichen				S1S2	11	26.5 ± 0.0	NS
N	*Umbilicaria polyrhiza*	Ballpoint Rocktripe Lichen				S1S3	1	92.0 ± 0.0	NS
N	*Lecanora polytropa*	a lichen				S1S3	2	25.2 ± 1.0	NS
N	*Acarospora sinopica*	a cracked lichen				S1S3	2	13.1 ± 0.0	NS
N	*Heterodermia galactophylla*	Branching Fringe Lichen				S1S3	1	53.0 ± 0.0	NS
N	*Xylopsora friesii*	a Lichen				S1S3	2	10.7 ± 0.0	NS
N	*Stereocaulon grande*	Grand Foam Lichen				S1S3	1	91.9 ± 0.0	NS
N	*Stereocaulon intermedium*	Pacific Brain Foam Lichen				S1S3	3	16.6 ± 0.0	NS
N	*Anacamptodon splachnoides*	a Moss				S2	2	11.7 ± 30.0	NS
N	*Sphagnum platyphyllum*	Flat-leaved Peat Moss				S2	2	19.2 ± 3.0	NS
N	*Sphagnum subnitens*	Lustrous Peat Moss				S2	1	45.7 ± 2.0	NS
N	*Usnea flavocardia*	Blood-splattered Beard Lichen				S2	1	25.5 ± 4.0	NS
N	*Cystocoleus ebeneus*	Rockgossamer Lichen				S2	3	18.4 ± 0.0	NS
N	*Hypotrachyna catawbiensis*	Powder-tipped Antler Lichen				S2	2	52.9 ± 0.0	NS
N	*Scytinium imbricatum*	Scaly Jellyskin Lichen				S2	2	66.6 ± 4.0	NS
N	*Nephroma arcticum*	Arctic Kidney Lichen				S2	1	16.9 ± 1.0	NS
N	*Nephroma resupinatum*	a lichen				S2	11	13.4 ± 1.0	NS
N	*Placynthium flabellosum*	Scaly Ink Lichen				S2	1	32.3 ± 17.0	NS
N	*Moerckia flotoviana*	Flotow's Ruffwort				S2?	1	73.3 ± 0.0	NS
N	*Riccardia multifida*	Delicate Germanderwort				S2?	2	45.1 ± 0.0	NS
N	*Anomodon viticulosus*	a Moss				S2?	1	99.2 ± 0.0	NS
N	*Weissia muhlenbergiana*	a Moss				S2?	4	59.8 ± 1.0	NS
N	*Atrichum angustatum*	Lesser Smoothcap Moss				S2?	2	83.4 ± 2.0	NS
N	*Ptychostomum pendulum*	Drooping Bryum				S2?	1	54.0 ± 2.0	NS
N	*Drepanocladus polygamus*	Polygamous Hook Moss				S2?	4	18.3 ± 2.0	NS
N	*Dicranum condensatum*	Condensed Broom Moss				S2?	2	38.6 ± 0.0	NS
N	*Ditrichum rhynchostegium*	a Moss				S2?	1	17.9 ± 1.0	NS
N	*Grimmia anomala*	Mountain Forest Grimmia				S2?	1	71.5 ± 1.0	NS
N	*Kiaeria starkei*	Starke's Fork Moss				S2?	1	33.1 ± 10.0	NS
N	*Orthotrichum anomalum*	Anomalous Bristle Moss				S2?	1	62.0 ± 2.0	NS
N	*Philonotis marchica*	a Moss				S2?	2	82.5 ± 0.0	NS
N	*Platydictya jungermannioides*	False Willow Moss				S2?	1	40.1 ± 0.0	NS
N	*Cyrtomnium hymenophylloides*	Short-pointed Lantern Moss				S2?	1	8.8 ± 5.0	NS
N	*Platylomella lescurii*	a Moss				S2?	4	45.8 ± 0.0	NS
N	*Phylliscum demangeonii*	Black Rock-wafer Lichen				S2?	4	62.6 ± 0.0	NS
N	*Oxyrrhynchium hians*	Light Beaked Moss				S2S3	4	14.7 ± 5.0	NS
N	*Platydictya subtilis*	Bark Willow Moss				S2S3	1	99.1 ± 3.0	NS
N	*Scorpidium revolvens*	Limprichtia Moss				S2S3	3	41.5 ± 2.0	NS
N	*Moelleropsis nebulosa*	Blue-gray Moss Shingle Lichen				S2S3	58	17.9 ± 0.0	NS
N	*Moelleropsis nebulosa ssp. frullaniae*	Blue-gray Moss Shingle Lichen				S2S3	3	43.7 ± 0.0	NS
N	*Ramalina thrausta*	Angelhair Ramalina Lichen				S2S3	12	5.5 ± 5.0	NS
N	*Collema leptaleum*	Crumpled Bat's Wing Lichen				S2S3	67	23.3 ± 1.0	NS
N	*Usnea ceratina*	Warty Beard Lichen				S2S3	2	84.9 ± 0.0	NS

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N	*Usnea rubicunda*	Red Beard Lichen				S2S3	6	53.5 ± 0.0	NS
N	*Ahtiana aurescens*	Eastern Candlewax Lichen				S2S3	18	26.1 ± 0.0	NS
N	*Usnocetraria oakesiana*	Yellow Band Lichen				S2S3	9	18.6 ± 0.0	NS
N	*Cladonia mateocyatha*	Mixed-up Pixie-cup				S2S3	4	16.8 ± 5.0	NS
N	*Cladonia parasitica*	Fence-rail Lichen				S2S3	2	26.3 ± 0.0	NS
N	*Chaenotheca gracilenta*	a lichen				S2S3	1	10.5 ± 0.0	NS
N	*Scytinium tenuissimum*	Birdnest Jellyskin Lichen				S2S3	7	18.4 ± 0.0	NS
N	*Melanohalea septentrionalis*	Northern Camouflage Lichen				S2S3	1	75.6 ± 0.0	NS
N	*Myelochroa aurulenta*	Powdery Axil-bristle Lichen				S2S3	1	84.0 ± 2.0	NS
N	*Parmelia fertilis*	Fertile Shield Lichen				S2S3	8	70.2 ± 0.0	NS
N	*Hypotrachyna minarum*	Hairless-spined Shield Lichen				S2S3	2	37.6 ± 0.0	NS
N	*Parmeliopsis ambigua*	Green Starburst Lichen				S2S3	2	12.3 ± 0.0	NS
N	*Racodium rupestre*	Rockhair Lichen				S2S3	3	22.4 ± 1.0	NS
N	*Umbilicaria polyphylla*	Petalled Rocktripe Lichen				S2S3	2	30.0 ± 0.0	NS
N	*Usnea cavernosa*	Pitted Beard Lichen				S2S3	4	75.7 ± 0.0	NS
N	*Usnea mutabilis*	Bloody Beard Lichen				S2S3	1	75.7 ± 0.0	NS
N	*Fuscopannaria sorediata*	a Lichen				S2S3	6	22.4 ± 1.0	NS
N	*Physcia subtilis*	Slender Rosette Lichen				S2S3	2	29.9 ± 0.0	NS
N	*Dimelaena oreina*	Golden Moonglow Lichen				S2S3	2	14.1 ± 0.0	NS
N	*Cetraria arenaria*	Sand-loving Icelandmoss Lichen				S2S3	13	69.8 ± 0.0	NS
N	*Cladonia coccifera*	Eastern Boreal Pixie-cup Lichen				S2S3	3	21.1 ± 2.0	NS
N	*Cladonia deformis*	Lesser Sulphur-cup Lichen				S2S3	2	65.7 ± 4.0	NS
N	*Cladonia phyllophora*	Felt Lichen				S2S3	2	96.4 ± 4.0	NS
N	*Usnea flammea*	Coastal Bushy Beard Lichen				S2S3	1	25.2 ± 1.0	NS
N	*Ephemerum serratum*	a Moss				S3	3	61.8 ± 5.0	NS
N	*Fissidens taxifolius*	Yew-leaved Pocket Moss				S3	14	38.0 ± 0.0	NS
N	*Anomodon tristis*	a Moss				S3	4	42.3 ± 15.0	NS
N	*Sphagnum contortum*	Twisted Peat Moss				S3	4	70.1 ± 4.0	NS
N	*Tetraplodon angustatus*	Toothed-leaved Nitrogen Moss				S3	2	45.7 ± 2.0	NS
N	*Collema nigrescens*	Blistered Tarpaper Lichen				S3	38	20.5 ± 0.0	NS
N	*Solorina saccata*	Woodland Owl Lichen				S3	11	39.1 ± 2.0	NS
N	*Fuscopannaria ahlneri*	Corrugated Shingles Lichen				S3	84	12.0 ± 0.0	NS
N	*Scytinium lichenoides*	Tattered Jellyskin Lichen				S3	32	17.9 ± 0.0	NS
N	*Leptogium milligranum*	Stretched Jellyskin Lichen				S3	10	53.1 ± 0.0	NS
N	*Nephroma bellum*	Naked Kidney Lichen				S3	6	12.7 ± 5.0	NS
N	*Placynthium nigrum*	Common Ink Lichen				S3	2	64.7 ± 0.0	NS
N	*Platismatia norvegica*	Oldgrowth Rag Lichen				S3	1	47.0 ± 0.0	NS
N	*Punctelia appalachensis*	Appalachian Speckleback Lichen				S3	14	93.9 ± 0.0	NS
N	*Viridothelium virens*	a lichen				S3	4	28.5 ± 2.0	NS
N	*Ephebe lanata*	Waterside Rockshag Lichen				S3	4	32.3 ± 17.0	NS
N	*Phaeophyscia adiastola*	Powder-tipped Shadow Lichen				S3	1	10.5 ± 0.0	NS
N	*Phaeophyscia pusilloides*	Pompom-tipped Shadow Lichen				S3	9	10.2 ± 0.0	NS
N	*Peltigera collina*	Tree Pelt Lichen				S3	11	18.6 ± 0.0	NS
N	*Barbula convoluta*	Lesser Bird's-claw Beard Moss				S3?	3	14.9 ± 0.0	NS
N	*Calliergon giganteum*	Giant Spear Moss				S3?	1	50.6 ± 3.0	NS
N	*Drummondia prorepens*	a Moss				S3?	1	60.9 ± 5.0	NS
N	*Elodium blandowii*	Blandow's Bog Moss				S3?	5	4.0 ± 7.0	NS
N	*Mnium stellare*	Star Leafy Moss				S3?	3	54.5 ± 0.0	NS
N	*Sphagnum lindbergii*	Lindberg's Peat Moss				S3?	1	59.6 ± 0.0	NS
N	*Sphagnum riparium*	Streamside Peat Moss				S3?	2	34.8 ± 0.0	NS

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N	*Cladonia stygia*	Black-footed Reindeer Lichen				S3?	3	27.1 ± 0.0	NS
N	*Anomodon rugelii*	Rugel's Anomodon Moss				S3S4	1	94.3 ± 0.0	NS
N	*Dichelyma capillaceum*	Hairlike Dichelyma Moss				S3S4	3	17.2 ± 3.0	NS
N	*Dicranum leioneuron*	a Dicranum Moss				S3S4	1	39.9 ± 0.0	NS
N	*Encalypta ciliata*	Fringed Extinguisher Moss				S3S4	1	94.2 ± 3.0	NS
N	*Splachnum ampullaceum*	Cruet Dung Moss				S3S4	2	34.0 ± 0.0	NS
N	*Thamnobryum alleghaniense*	a Moss				S3S4	4	79.1 ± 0.0	NS
N	*Tomentypnum nitens*	Golden Fuzzy Fen Moss				S3S4	4	46.7 ± 2.0	NS
N	*Schistidium agassizii*	Elf Bloom Moss				S3S4	2	45.3 ± 0.0	NS
N	*Hylocomiastrum pyrenaicum*	a Feather Moss				S3S4	1	12.0 ± 0.0	NS
N	*Bryoria pseudofuscescens*	Mountain Horsehair Lichen				S3S4	4	22.8 ± 1.0	NS
N	*Enchylium tenax*	Soil Tarpaper Lichen				S3S4	10	38.7 ± 0.0	NS
N	*Sticta fuliginosa*	Peppered Moon Lichen				S3S4	71	12.7 ± 5.0	NS
N	*Arctoparmelia incurva*	Finger Ring Lichen				S3S4	85	5.7 ± 0.0	NS
N	*Scytinium teretiusculum*	Curly Jellyskin Lichen				S3S4	9	16.4 ± 0.0	NS
N	*Leptogium acadiense*	Acadian Jellyskin Lichen				S3S4	29	11.4 ± 0.0	NS
N	*Scytinium subtile*	Appressed Jellyskin Lichen				S3S4	26	19.8 ± 0.0	NS
N	*Cladonia floerkeana*	Gritty British Soldiers Lichen				S3S4	4	21.1 ± 0.0	NS
N	*Heterodermia speciosa*	Powdered Fringe Lichen				S3S4	39	44.9 ± 0.0	NS
N	*Leptogium corticola*	Blistered Jellyskin Lichen				S3S4	91	20.3 ± 0.0	NS
N	*Melanohalea olivacea*	Spotted Camouflage Lichen				S3S4	1	75.7 ± 0.0	NS
N	*Parmeliopsis hyperopta*	Gray Starburst Lichen				S3S4	1	93.6 ± 0.0	NS
N	*Parmotrema perlatum*	Powdered Ruffle Lichen				S3S4	24	10.5 ± 0.0	NS
N	*Peltigera hymenina*	Cloudy Pelt Lichen				S3S4	2	21.1 ± 2.0	NS
N	*Sphaerophorus fragilis*	Fragile Coral Lichen				S3S4	11	21.1 ± 2.0	NS
N	*Sclerophora peronella*	Frosted Glass-whiskers Lichen				S3S4	2	91.9 ± 0.0	NS
N	*Coccocarpia palmicola*	Salted Shell Lichen				S3S4	681	12.0 ± 0.0	NS
N	*Physcia caesia*	Blue-gray Rosette Lichen				S3S4	2	25.2 ± 1.0	NS
N	*Physcia tenella*	Fringed Rosette Lichen				S3S4	7	10.8 ± 0.0	NS
N	*Anaptychia palmulata*	Shaggy Fringed Lichen				S3S4	90	18.9 ± 0.0	NS
N	*Evernia prunastri*	Valley Oakmoss Lichen				S3S4	36	52.7 ± 0.0	NS
N	*Heterodermia neglecta*	Fringe Lichen				S3S4	102	10.0 ± 0.0	NS
P	*Clethra alnifolia*	Coast Pepper-Bush	Endangered	Threatened	Vulnerable	S2	3	9.6 ± 0.0	NS
P	*Juglans cinerea*	Butternut	Endangered	Endangered		SNA	30	7.9 ± 0.0	NS
P	*Fraxinus nigra*	Black Ash	Threatened		Threatened	S1S2	780	8.5 ± 0.0	NS
P	*Liatris spicata*	Dense Blazing Star	Threatened	Threatened		SNA	4	5.2 ± 0.0	NS
P	*Lophiola aurea*	Goldencrest	Special Concern	Special Concern	Vulnerable	S2	19	94.1 ± 1.0	NS
P	*Lilaeopsis chinensis*	Eastern Lilaeopsis	Special Concern	Special Concern	Vulnerable	S3	140	85.2 ± 0.0	NS
P	*Isoetes prototypus*	Prototype Quillwort	Special Concern	Special Concern	Vulnerable	S3	13	92.7 ± 0.0	NS
P	*Floerkea proserpinacoides*	False Mermaidweed	Not At Risk			S2S3	34	79.7 ± 7.0	NS
P	*Acer saccharinum*	Silver Maple				S1	12	81.3 ± 0.0	NS
P	*Osmorhiza depauperata*	Blunt Sweet Cicely				S1	1	83.6 ± 5.0	NS
P	*Andersonglossum boreale*	Northern Wild Comfrey				S1	5	56.8 ± 1.0	NS
P	*Turritis glabra*	Tower Mustard				S1	1	89.6 ± 0.0	NS
P	*Lobelia spicata*	Pale-Spiked Lobelia				S1	6	77.0 ± 7.0	NS
P	*Ribes americanum*	Wild Black Currant				S1	4	55.5 ± 3.0	NS
P	*Fraxinus pennsylvanica*	Red Ash				S1	11	36.7 ± 5.0	NS
P	*Persicaria careyi*	Carey's Smartweed				S1	1	57.8 ± 3.0	NS
P	*Phytolacca americana*	Common Pokeweed				S1	4	10.7 ± 0.0	NS
P	*Podostemum ceratophyllum*	Horn-leaved Riverweed				S1	1	97.5 ± 0.0	NS
P	*Montia fontana*	Water Blinks				S1	1	12.1 ± 1.0	NS
P	*Lysimachia quadrifolia*	Whorled Yellow Loosestrife				S1	1	34.6 ± 0.0	NS
P	*Salix myrtillifolia*	Blueberry Willow				S1	1	41.6 ± 0.0	NS
P	*Salix serissima*	Autumn Willow				S1	2	41.3 ± 0.0	NS
P	*Carex garberi*	Garber's Sedge				S1	4	83.4 ± 0.0	NS
P	*Carex laxiflora*	Loose-Flowered Sedge				S1	1	94.0 ± 1.0	NS

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P	*Carex plantaginea*	Plantain-Leaved Sedge				S1	4	79.9 ± 0.0	NS
P	*Carex prairea*	Prairie Sedge				S1	2	97.5 ± 1.0	NS
P	*Carex viridula var. saxilittoralis*	Greenish Sedge				S1	4	59.6 ± 2.0	NS
P	*Scirpus atrovirens*	Dark-green Bulrush				S1	4	38.4 ± 0.0	NS
P	*Iris prismatica*	Slender Blue Flag				S1	1	95.7 ± 100.0	NS
P	*Sisyrinchium fuscatum*	Coastal Plain Blue-eyed-grass				S1	1	95.0 ± 0.0	NS
P	*Juncus vaseyi*	Vasey Rush				S1	1	83.6 ± 0.0	NS
P	*Trillium grandiflorum*	White Trillium				S1	3	97.5 ± 1.0	NS
P	*Malaxis monophyllos var. brachypoda*	North American White Adder's-mouth				S1	4	88.3 ± 10.0	NS
P	*Spiranthes casei var. casei*	Case's Ladies'-Tresses				S1	1	78.7 ± 0.0	NS
P	*Dichanthelium xanthophysum*	Slender Panic Grass				S1	10	90.9 ± 1.0	NS
P	*Elymus hystrix*	Spreading Wild Rye				S1	11	48.8 ± 1.0	NS
P	*Adiantum pedatum*	Northern Maidenhair Fern				S1	26	50.7 ± 0.0	NS
P	*Dryopteris goldieana*	Goldie's Woodfern				S1	1	77.2 ± 1.0	NS
P	*Equisetum palustre*	Marsh Horsetail				S1	1	92.1 ± 5.0	NS
P	*Botrychium lunaria*	Common Moonwort				S1	10	9.0 ± 0.0	NS
P	*Selaginella rupestris*	Rock Spikemoss				S1	1	55.9 ± 0.0	NS
P	*Solidago hispida*	Hairy Goldenrod				S1?	2	8.5 ± 7.0	NS
P	*Suaeda rolandii*	Roland's Sea-Blite				S1?	5	57.2 ± 2.0	NS
P	*Carex pensylvanica*	Pennsylvania Sedge				S1?	3	20.7 ± 0.0	NS
P	*Allium schoenoprasum*	Wild Chives				S1?	1	14.7 ± 0.0	NS
P	*Allium schoenoprasum var. sibiricum*	Wild Chives				S1?	1	77.5 ± 7.0	NS
P	*Crocanthemum canadense*	Long-branched Frostweed			Endangered	S1S2	2	26.9 ± 1.0	NS
P	*Cypripedium arietinum*	Ram's-Head Lady's-Slipper			Endangered	S1S2	308	51.7 ± 2.0	NS
P	*Sanicula odorata*	Clustered Sanicle				S1S2	9	53.4 ± 0.0	NS
P	*Draba glabella*	Rock Whitlow-Grass				S1S2	1	94.9 ± 0.0	NS
P	*Proserpinaca intermedia*	Intermediate Mermaidweed				S1S2	2	36.9 ± 0.0	NS
P	*Anemone virginiana var. alba*	Virginia Anemone				S1S2	5	77.5 ± 7.0	NS
P	*Carex haydenii*	Hayden's Sedge				S1S2	2	78.0 ± 1.0	NS
P	*Platanthera huronensis*	Fragrant Green Orchid				S1S2	1	52.6 ± 10.0	NS
P	*Euphrasia farlowii*	Farlow's Eyebright				S1S3	2	88.6 ± 0.0	NS
P	*Carex vacillans*	Estuarine Sedge				S1S3	2	50.3 ± 0.0	NS
P	*Zizia aurea*	Golden Alexanders				S2	41	64.6 ± 1.0	NS
P	*Antennaria parlinii ssp. fallax*	Parlin's Pussytoes				S2	33	49.8 ± 7.0	NS
P	*Rudbeckia laciniata*	Cut-Leaved Coneflower				S2	24	41.3 ± 7.0	NS
P	*Arabis pycnocarpa*	Cream-flowered Rockcress				S2	1	91.3 ± 0.0	NS
P	*Cardamine maxima*	Large Toothwort				S2	1	83.6 ± 0.0	NS
P	*Hudsonia ericoides*	Pinebarren Golden Heather				S2	179	8.5 ± 7.0	NS
P	*Desmodium canadense*	Canada Tick-trefoil				S2	12	76.7 ± 5.0	NS
P	*Hylodesmum glutinosum*	Large Tick-trefoil				S2	22	54.5 ± 0.0	NS
P	*Conopholis americana*	American Cancer-root				S2	20	89.1 ± 7.0	NS
P	*Anemonastrum canadense*	Canada Anemone				S2	12	11.1 ± 0.0	NS
P	*Hepatica americana*	Round-lobed Hepatica				S2	74	39.7 ± 0.0	NS
P	*Ranunculus sceleratus*	Cursed Buttercup				S2	24	9.7 ± 1.0	NS
P	*Galium boreale*	Northern Bedstraw				S2	5	84.9 ± 1.0	NS
P	*Gratiola neglecta*	Clammy Hedge-Hyssop				S2	6	58.8 ± 0.0	NS
P	*Dirca palustris*	Eastern Leatherwood				S2	75	34.3 ± 1.0	NS
P	*Carex gynocrates*	Northern Bog Sedge				S2	2	41.7 ± 0.0	NS
P	*Carex pellita*	Woolly Sedge				S2	2	62.8 ± 10.0	NS
P	*Carex livida*	Livid Sedge				S2	13	18.9 ± 0.0	NS
P	*Juncus greenei*	Greene's Rush				S2	5	10.8 ± 10.0	NS
P	*Allium tricoccum*	Wild Leek				S2	49	82.1 ± 13.0	NS

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P	*Lilium canadense*	Canada Lily				S2	71	32.0 ± 1.0	NS
P	*Cypripedium parviflorum var. pubescens*	Yellow Lady's-slipper				S2	26	24.3 ± 7.0	NS
P	*Cypripedium parviflorum var. makasin*	Small Yellow Lady's-Slipper				S2	10	53.8 ± 0.0	NS
P	*Cypripedium reginae*	Showy Lady's-Slipper				S2	57	41.1 ± 0.0	NS
P	*Platanthera flava var. flava*	Southern Rein Orchid				S2	3	82.2 ± 7.0	NS
P	*Platanthera flava var. herbiola*	Pale Green Orchid				S2	11	81.5 ± 1.0	NS
P	*Platanthera macrophylla*	Large Round-Leaved Orchid				S2	5	65.4 ± 1.0	NS
P	*Bromus latiglumis*	Broad-Glumed Brome				S2	28	65.1 ± 0.0	NS
P	*Cinna arundinacea*	Sweet Wood Reed Grass				S2	59	65.3 ± 0.0	NS
P	*Elymus wiegandii*	Wiegand's Wild Rye				S2	6	8.5 ± 7.0	NS
P	*Festuca subverticillata*	Nodding Fescue				S2	9	60.4 ± 5.0	NS
P	*Piptatheropsis pungens*	Slender Ricegrass				S2	2	77.6 ± 10.0	NS
P	*Cryptogramma stelleri*	Steller's Rockbrake				S2	3	62.4 ± 0.0	NS
P	*Cuscuta cephalanthi*	Buttonbush Dodder				S2?	1	44.8 ± 0.0	NS
P	*Rumex persicarioides*	Peach-leaved Dock				S2?	1	60.5 ± 0.0	NS
P	*Crataegus submollis*	Quebec Hawthorn				S2?	5	37.4 ± 7.0	NS
P	*Carex peckii*	White-Tinged Sedge				S2?	4	40.0 ± 0.0	NS
P	*Thuja occidentalis*	Eastern White Cedar			Vulnerable	S2S3	8	38.0 ± 0.0	NS
P	*Osmorhiza longistylis*	Smooth Sweet Cicely				S2S3	15	56.1 ± 0.0	NS
P	*Erigeron philadelphicus*	Philadelphia Fleabane				S2S3	2	64.3 ± 1.0	NS
P	*Lactuca hirsuta*	Hairy Lettuce				S2S3	3	13.9 ± 7.0	NS
P	*Impatiens pallida*	Pale Jewelweed				S2S3	3	64.0 ± 0.0	NS
P	*Caulophyllum thalictroides*	Blue Cohosh				S2S3	73	39.0 ± 0.0	NS
P	*Draba arabisans*	Rock Whitlow-Grass				S2S3	10	94.0 ± 1.0	NS
P	*Boechera stricta*	Drummond's Rockcress				S2S3	10	82.1 ± 0.0	NS
P	*Stellaria humifusa*	Saltmarsh Starwort				S2S3	4	48.4 ± 0.0	NS
P	*Oxybasis rubra*	Red Goosefoot				S2S3	2	59.6 ± 2.0	NS
P	*Hypericum majus*	Large St John's-wort				S2S3	4	8.5 ± 7.0	NS
P	*Hypericum x dissimulatum*	Disguised St. John's-wort				S2S3	5	13.0 ± 10.0	NS
P	*Empetrum atropurpureum*	Purple Crowberry				S2S3	5	8.4 ± 7.0	NS
P	*Euphorbia polygonifolia*	Seaside Spurge				S2S3	12	71.7 ± 3.0	NS
P	*Myriophyllum farwellii*	Farwell's Water Milfoil				S2S3	8	38.0 ± 1.0	NS
P	*Hedeoma pulegioides*	American False Pennyroyal				S2S3	11	35.1 ± 5.0	NS
P	*Oenothera fruticosa ssp. tetragona*	Narrow-leaved Evening Primrose				S2S3	8	22.3 ± 7.0	NS
P	*Polygala polygama*	Racemed Milkwort				S2S3	1	10.8 ± 1.0	NS
P	*Polygonum aviculare ssp. buxiforme*	Box Knotweed				S2S3	8	59.3 ± 7.0	NS
P	*Polygonum oxyspermum ssp. raii*	Ray's Knotweed				S2S3	3	56.8 ± 1.0	NS
P	*Polygonum oxyspermum*	Sharp-fruit Knotweed				S2S3	1	20.9 ± 0.0	NS
P	*Rumex triangulivalvis*	Triangular-valve Dock				S2S3	9	22.9 ± 0.0	NS
P	*Primula mistassinica*	Mistassini Primrose				S2S3	17	70.0 ± 1.0	NS
P	*Anemone quinquefolia*	Wood Anemone				S2S3	15	12.0 ± 0.0	NS
P	*Caltha palustris*	Yellow Marsh Marigold				S2S3	25	3.0 ± 0.0	NS
P	*Amelanchier fernaldii*	Fernald's Serviceberry				S2S3	1	90.9 ± 7.0	NS
P	*Potentilla canadensis*	Canada Cinquefoil				S2S3	9	10.1 ± 0.0	NS
P	*Salix pellita*	Satiny Willow				S2S3	3	53.2 ± 4.0	NS
P	*Tiarella cordifolia*	Heart-leaved Foamflower				S2S3	8	37.4 ± 0.0	NS
P	*Agalinis purpurea var. parviflora*	Small-flowered Purple False Foxglove				S2S3	2	92.6 ± 0.0	NS
P	*Boehmeria cylindrica*	Small-spike False-nettle				S2S3	55	33.7 ± 0.0	NS
P	*Carex adusta*	Lesser Brown Sedge				S2S3	8	12.8 ± 0.0	NS
P	*Carex capillaris*	Hairlike Sedge				S2S3	1	99.6 ± 0.0	NS
P	*Carex comosa*	Bearded Sedge				S2S3	4	60.2 ± 7.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Carex houghtoniana*	Houghton's Sedge				S2S3	1	57.3 ± 1.0	NS
P	*Carex hystericina*	Porcupine Sedge				S2S3	4	89.9 ± 1.0	NS
P	*Eleocharis ovata*	Ovate Spikerush				S2S3	4	40.6 ± 0.0	NS
P	*Scirpus pedicellatus*	Stalked Bulrush				S2S3	7	34.9 ± 0.0	NS
P	*Vallisneria americana*	Wild Celery				S2S3	11	25.7 ± 1.0	NS
P	*Najas gracillima*	Thread-Like Naiad				S2S3	2	45.2 ± 0.0	NS
P	*Goodyera pubescens*	Downy Rattlesnake-Plantain				S2S3	16	36.5 ± 1.0	NS
P	*Spiranthes casei var. novaescotiae*	Case's Ladies'-Tresses				S2S3	3	51.2 ± 0.0	NS
P	*Spiranthes lucida*	Shining Ladies'-Tresses				S2S3	13	39.5 ± 1.0	NS
P	*Potamogeton friesii*	Fries' Pondweed				S2S3	10	77.9 ± 5.0	NS
P	*Woodsia glabella*	Smooth Cliff Fern				S2S3	1	90.2 ± 1.0	NS
P	*Botrychium lanceolatum ssp. angustisegmentum*	Narrow Triangle Moonwort				S2S3	4	53.4 ± 5.0	NS
P	*Botrychium simplex*	Least Moonwort				S2S3	4	27.3 ± 0.0	NS
P	*Ophioglossum pusillum*	Northern Adder's-tongue				S2S3	5	12.7 ± 7.0	NS
P	*Potamogeton pulcher*	Spotted Pondweed			Vulnerable	S3	8	63.4 ± 2.0	NS
P	*Angelica atropurpurea*	Purple-stemmed Angelica				S3	1	66.9 ± 0.0	NS
P	*Conioselinum chinense*	Chinese Hemlock-parsley				S3	2	56.9 ± 0.0	NS
P	*Hieracium robinsonii*	Robinson's Hawkweed				S3	2	75.5 ± 1.0	NS
P	*Iva frutescens*	Big-leaved Marsh-elder				S3	59	55.9 ± 0.0	NS
P	*Senecio pseudoarnica*	Seabeach Ragwort				S3	30	8.8 ± 1.0	NS
P	*Symphyotrichum boreale*	Boreal Aster				S3	5	26.7 ± 5.0	NS
P	*Symphyotrichum undulatum*	Wavy-leaved Aster				S3	120	19.0 ± 7.0	NS
P	*Symphyotrichum ciliolatum*	Fringed Blue Aster				S3	18	41.0 ± 0.0	NS
P	*Alnus serrulata*	Smooth Alder				S3	19	93.4 ± 0.0	NS
P	*Betula michauxii*	Michaux's Dwarf Birch				S3	31	17.9 ± 0.0	NS
P	*Betula pumila*	Bog Birch				S3	3	38.9 ± 0.0	NS
P	*Cardamine parviflora*	Small-flowered Bittercress				S3	14	40.2 ± 1.0	NS
P	*Palustricodon aparinoides*	Marsh Bellflower				S3	14	57.6 ± 1.0	NS
P	*Mononeuria groenlandica*	Greenland Stitchwort				S3	169	8.5 ± 7.0	NS
P	*Sagina nodosa*	Knotted Pearlwort				S3	56	8.8 ± 2.0	NS
P	*Sagina nodosa ssp. borealis*	Knotted Pearlwort				S3	10	29.2 ± 0.0	NS
P	*Stellaria longifolia*	Long-leaved Starwort				S3	11	27.5 ± 5.0	NS
P	*Ceratophyllum echinatum*	Prickly Hornwort				S3	6	67.4 ± 0.0	NS
P	*Triosteum aurantiacum*	Orange-fruited Tinker's Weed				S3	47	51.9 ± 0.0	NS
P	*Crassula aquatica*	Water Pygmyweed				S3	1	41.7 ± 0.0	NS
P	*Empetrum eamesii*	Pink Crowberry				S3	94	8.4 ± 7.0	NS
P	*Vaccinium uliginosum*	Alpine Bilberry				S3	4	19.9 ± 1.0	NS
P	*Halenia deflexa*	Spurred Gentian				S3	3	35.8 ± 0.0	NS
P	*Geranium bicknellii*	Bicknell's Crane's-bill				S3	9	59.5 ± 0.0	NS
P	*Myriophyllum verticillatum*	Whorled Water Milfoil				S3	3	54.2 ± 7.0	NS
P	*Epilobium strictum*	Downy Willowherb				S3	7	57.3 ± 0.0	NS
P	*Polygala sanguinea*	Blood Milkwort				S3	31	6.1 ± 0.0	NS
P	*Persicaria arifolia*	Halberd-leaved Tearthumb				S3	11	38.8 ± 0.0	NS
P	*Plantago rugelii*	Rugel's Plantain				S3	7	9.2 ± 0.0	NS
P	*Primula laurentiana*	Laurentian Primrose				S3	8	90.7 ± 7.0	NS
P	*Samolus parviflorus*	Seaside Brookweed				S3	43	9.5 ± 5.0	NS
P	*Pyrola minor*	Lesser Pyrola				S3	2	22.6 ± 0.0	NS
P	*Anemone virginiana*	Virginia Anemone				S3	19	52.2 ± 5.0	NS
P	*Cephalanthus occidentalis*	Common Buttonbush				S3	8	10.6 ± 0.0	NS
P	*Galium labradoricum*	Labrador Bedstraw				S3	79	38.7 ± 0.0	NS
P	*Salix pedicellaris*	Bog Willow				S3	54	27.4 ± 0.0	NS
P	*Salix sericea*	Silky Willow				S3	122	27.7 ± 1.0	NS
P	*Saxifraga paniculata ssp. laestadii*	Laestadius' Saxifrage				S3	2	88.3 ± 7.0	NS
P	*Lindernia dubia*	Yellow-seeded False				S3	8	53.8 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
		Pimperel							
P	*Laportea canadensis*	Canada Wood Nettle				S3	48	34.0 ± 0.0	NS
P	*Pilea pumila*	Dwarf Clearweed				S3	9	1.8 ± 0.0	NS
P	*Viola nephrophylla*	Northern Bog Violet				S3	7	56.3 ± 1.0	NS
P	*Carex bebbii*	Bebb's Sedge				S3	24	53.8 ± 0.0	NS
P	*Carex castanea*	Chestnut Sedge				S3	39	38.6 ± 0.0	NS
P	*Carex cryptolepis*	Hidden-scaled Sedge				S3	11	27.4 ± 6.0	NS
P	*Carex eburnea*	Bristle-leaved Sedge				S3	11	61.7 ± 1.0	NS
P	*Carex hirtifolia*	Pubescent Sedge				S3	32	44.3 ± 7.0	NS
P	*Carex lupulina*	Hop Sedge				S3	62	14.1 ± 1.0	NS
P	*Carex rosea*	Rosy Sedge				S3	36	52.4 ± 1.0	NS
P	*Carex swanii*	Swan's Sedge				S3	3	3.5 ± 0.0	NS
P	*Carex tenera*	Tender Sedge				S3	4	53.8 ± 0.0	NS
P	*Carex tribuloides*	Blunt Broom Sedge				S3	13	41.4 ± 0.0	NS
P	*Carex tuckermanii*	Tuckerman's Sedge				S3	32	53.5 ± 2.0	NS
P	*Eleocharis nitida*	Quill Spikerush				S3	6	48.5 ± 5.0	NS
P	*Eleocharis flavescens var. olivacea*	Bright-green Spikerush				S3	7	9.2 ± 0.0	NS
P	*Eriophorum gracile*	Slender Cottongrass				S3	6	12.7 ± 7.0	NS
P	*Coeloglossum viride*	Long-bracted Frog Orchid				S3	3	79.4 ± 1.0	NS
P	*Cypripedium parviflorum*	Yellow Lady's-slipper				S3	577	6.4 ± 0.0	NS
P	*Neottia bifolia*	Southern Twayblade				S3	121	6.3 ± 0.0	NS
P	*Platanthera flava*	Southern Rein-Orchid				S3	29	90.7 ± 0.0	NS
P	*Platanthera grandiflora*	Large Purple Fringed Orchid				S3	95	6.8 ± 0.0	NS
P	*Platanthera hookeri*	Hooker's Orchid				S3	16	54.9 ± 0.0	NS
P	*Dichanthelium linearifolium*	Narrow-leaved Panic Grass				S3	7	60.2 ± 7.0	NS
P	*Piptatheropsis canadensis*	Canada Ricegrass				S3	8	14.0 ± 7.0	NS
P	*Poa glauca*	Glaucous Blue Grass				S3	3	54.5 ± 1.0	NS
P	*Potamogeton praelongus*	White-stemmed Pondweed				S3	3	67.1 ± 5.0	NS
P	*Potamogeton richardsonii*	Richardson's Pondweed				S3	4	56.9 ± 0.0	NS
P	*Potamogeton zosteriformis*	Flat-stemmed Pondweed				S3	15	27.7 ± 5.0	NS
P	*Asplenium viride*	Green Spleenwort				S3	10	90.3 ± 7.0	NS
P	*Dryopteris fragrans*	Fragrant Wood Fern				S3	5	89.4 ± 7.0	NS
P	*Sceptridium dissectum*	Dissected Moonwort				S3	2	87.2 ± 0.0	NS
P	*Polypodium appalachianum*	Appalachian Polypody				S3	18	12.4 ± 0.0	NS
P	*Persicaria amphibia var. emersa*	Long-root Smartweed				S3?	16	34.8 ± 0.0	NS
P	*Spiranthes ochroleuca*	Yellow Ladies'-tresses				S3?	40	24.6 ± 0.0	NS
P	*Diphasiastrum x sabinifolium*	Savin-leaved Ground-cedar				S3?	2	78.9 ± 0.0	NS
P	*Bidens vulgata*	Tall Beggarticks				S3S4	6	12.4 ± 0.0	NS
P	*Erigeron hyssopifolius*	Hyssop-leaved Fleabane				S3S4	25	54.7 ± 7.0	NS
P	*Hieracium paniculatum*	Panicled Hawkweed				S3S4	25	53.4 ± 11.0	NS
P	*Bidens beckii*	Water Beggarticks				S3S4	8	27.0 ± 0.0	NS
P	*Packera paupercula*	Balsam Groundsel				S3S4	104	51.7 ± 0.0	NS
P	*Atriplex glabriuscula var. franktonii*	Frankton's Saltbush				S3S4	13	63.1 ± 0.0	NS
P	*Shepherdia canadensis*	Soapberry				S3S4	113	46.2 ± 7.0	NS
P	*Vaccinium boreale*	Northern Blueberry				S3S4	3	38.7 ± 0.0	NS
P	*Vaccinium cespitosum*	Dwarf Bilberry				S3S4	76	24.7 ± 0.0	NS
P	*Vaccinium corymbosum*	Highbush Blueberry				S3S4	12	6.9 ± 0.0	NS
P	*Fagus grandifolia*	American Beech				S3S4	689	0.5 ± 0.0	NS
P	*Bartonia virginica*	Yellow Bartonia				S3S4	26	24.7 ± 7.0	NS
P	*Proserpinaca pectinata*	Comb-leaved Mermaidweed				S3S4	13	17.8 ± 1.0	NS
P	*Decodon verticillatus*	Swamp Loosestrife				S3S4	2	59.0 ± 0.0	NS
P	*Nuphar microphylla*	Small Yellow Pond-lily				S3S4	1	49.8 ± 0.0	NS
P	*Persicaria pensylvanica*	Pennsylvania Smartweed				S3S4	26	37.4 ± 7.0	NS
P	*Fallopia scandens*	Climbing False Buckwheat				S3S4	17	4.6 ± 0.0	NS
P	*Rumex pallidus*	Seabeach Dock				S3S4	1	27.6 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Pyrola asarifolia*	Pink Pyrola				S3S4	10	28.2 ± 50.0	NS
P	*Endotropis alnifolia*	alder-leaved buckthorn				S3S4	271	37.1 ± 0.0	NS
P	*Amelanchier spicata*	Running Serviceberry				S3S4	40	24.7 ± 0.0	NS
P	*Crataegus succulenta*	Fleshy Hawthorn				S3S4	1	14.4 ± 0.0	NS
P	*Fragaria vesca ssp. americana*	Woodland Strawberry				S3S4	66	34.2 ± 0.0	NS
P	*Fragaria vesca*	Woodland Strawberry				S3S4	16	7.9 ± 0.0	NS
P	*Galium aparine*	Common Bedstraw				S3S4	45	10.1 ± 0.0	NS
P	*Geocaulon lividum*	Northern Comandra				S3S4	4	62.3 ± 0.0	NS
P	*Limosella australis*	Southern Mudwort				S3S4	7	8.3 ± 3.0	NS
P	*Ulmus americana*	White Elm				S3S4	68	9.6 ± 0.0	NS
P	*Verbena hastata*	Blue Vervain				S3S4	148	4.1 ± 7.0	NS
P	*Viola sagittata var. ovata*	Arrow-Leaved Violet				S3S4	30	10.8 ± 0.0	NS
P	*Viola selkirkii*	Great-Spurred Violet				S3S4	3	48.8 ± 4.0	NS
P	*Symplocarpus foetidus*	Eastern Skunk Cabbage				S3S4	10	12.0 ± 0.0	NS
P	*Carex argyrantha*	Silvery-flowered Sedge				S3S4	7	63.1 ± 1.0	NS
P	*Sisyrinchium atlanticum*	Eastern Blue-Eyed-Grass				S3S4	3	75.2 ± 0.0	NS
P	*Triglochin gaspensis*	Gasp ├⌐ Arrowgrass				S3S4	29	35.7 ± 0.0	NS
P	*Juncus acuminatus*	Sharp-Fruit Rush				S3S4	5	14.6 ± 0.0	NS
P	*Juncus subcaudatus*	Woods-Rush				S3S4	23	26.2 ± 0.0	NS
P	*Luzula parviflora ssp. melanocarpa*	Black-fruited Woodrush				S3S4	2	86.2 ± 0.0	NS
P	*Goodyera repens*	Lesser Rattlesnake-plantain				S3S4	5	64.9 ± 0.0	NS
P	*Liparis loeselii*	Loesel's Twayblade				S3S4	8	14.6 ± 0.0	NS
P	*Platanthera obtusata*	Blunt-leaved Orchid				S3S4	7	8.5 ± 10.0	NS
P	*Platanthera orbiculata*	Small Round-leaved Orchid				S3S4	8	48.8 ± 4.0	NS
P	*Alopecurus aequalis*	Short-awned Foxtail				S3S4	7	37.9 ± 0.0	NS
P	*Dichanthelium clandestinum*	Deer-tongue Panic Grass				S3S4	297	16.4 ± 0.0	NS
P	*Panicum philadelphicum*	Philadelphia Panicgrass				S3S4	3	53.8 ± 0.0	NS
P	*Koeleria spicata*	Narrow False Oats				S3S4	11	53.1 ± 1.0	NS
P	*Asplenium trichomanes*	Maidenhair Spleenwort				S3S4	14	78.7 ± 0.0	NS
P	*Equisetum pratense*	Meadow Horsetail				S3S4	15	53.3 ± 0.0	NS
P	*Diphasiastrum complanatum*	Northern Ground-cedar				S3S4	12	13.8 ± 1.0	NS
P	*Diphasiastrum sitchense*	Sitka Ground-cedar				S3S4	2	83.6 ± 1.0	NS
P	*Huperzia appressa*	Mountain Firmoss				S3S4	7	67.0 ± 7.0	NS
P	*Sceptridium multifidum*	Leathery Moonwort				S3S4	8	56.6 ± 10.0	NS
P	*Botrychium matricariifolium*	Daisy-leaved Moonwort				S3S4	4	9.1 ± 0.0	NS
P	*Viola canadensis*	Canada Violet				SH	2	60.1 ± 0.0	NS
P	*Greeneochloa coarctata*	Small Reedgrass				SH	1	14.7 ± 6.0	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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213	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.
209	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
201	Neily, T.H. 2017. Nova Scotia lichen records. Mersey Tobeatic Research Institute.
177	Blaney, C.S.; Mazerolle, D.M. 2012. Fieldwork 2012. Atlantic Canada Conservation Data Centre, 13,278 recs.
175	Toms, B. 2018. Bat Species data from www.batconservation.ca for Nova Scotia. Mersey Tobeatic Research Institute, 547 Records.
157	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
156	Gallop, John. 2023. Species at Risk and Species of Conservation Interest records. McCallum Environmental.
155	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
152	Hagerman, Christianne. 2022. Wisqoq and Eastern White Cedar field work. E.C. Smith Herbarium, Acadia University.
145	Pepper, C. 2013. 2013 rare bird and plant observations in Nova Scotia. , 181 records.
143	Bryson, I.C. 2020. Nova Scotia flora and lichen observations 2020. Nova Scotia Environment, 139 recs.
139	Munro, Marian K. Tracked lichen specimens, Nova Scotia Provincial Museum of Natural History Herbarium. Atlantic Canada Conservation Data Centre. 2019.
132	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
115	Blaney, C.S. 2000. Fieldwork 2000. Atlantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
114	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre, 907 recs.
114	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
114	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2013.
113	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
111	iNaturalist. 2018. iNaturalist Data Export 2018. iNaturalist.org and iNaturalist.ca, Web site: 11700 recs.
110	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
109	Brazner, J. 2016. Nova Scotia Forested Wetland Bird Surveys. Nova Scotia Department of Lands and Forestry.
102	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
101	Belliveau, A.G. 2021. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2021. E.C. Smith Herbarium.
96	Belliveau, A.G. & Churchill, J.L.; Anderson, F.; Brooks, F. 2023. Lichen Inventory of Blue Rocks, NS. E.C. Smith Herbarium.
95	Breen, A. 2019. 2019 Atlantic Whitefish observations. Coastal Action, 95 recs.
88	LaPaix, R.W.; Crowell, M.J.; MacDonald, M. 2011. Stantec rare plant records, 2010-11. Stantec Consulting, 334 recs.
87	Layberry, R.A. & Hall, P.W., LaFontaine, J.D. 1998. The Butterflies of Canada. University of Toronto Press. 280 pp+plates.
87	McNeil, J.A. 2018. Wood Turtle records, 2018. Mersey Tobeatic Research Institute, 68 recs.
86	Richardson, Leif. 2018. Maritimes Bombus records from various sources. Richardson, Leif.
84	Hubley, Nicole. 2022. Monarch (Danaus plexippus) records submitted to MTRI from the 2021 field season. Mersey Tobeatic Research Institute.
82	Staicer, C. 2021. Additional compiled Nova Scotia Species at Risk bird records, 2005-2020. Dalhousie University.
73	Bryson, I. 2020. Nova Scotia and Newfoundland rare species observations, 2018-2020. Nova Scotia Environment.
73	Cameron, R.P. 2011. Lichen observations, 2011. Nova Scotia Environment & Labour, 731 recs.
72	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
71	Staicer, Cindy. 2022. 2021 Landbird Species at Risk observations. Dalhousie University.
69	Churchill, J.L. 2022. Atlantic Canada Conservation Data Centre Fieldwork 2022. Atlantic Canada Conservation Data Centre.
65	Belliveau, A.G. 2014. Plant Records from Southern and Central Nova Scotia. Atlantic Canada Conservation Data Centre, 919 recs.
64	Toms, Brad & Pepper, Chris; Neily, Tom. 2022. Nova Scotia lichen database [as of 2022-04]. Mersey Tobeatic Research Institute.
63	Roland, A.E. & Smith, E.C. 1969. The Flora of Nova Scotia, 1st Ed. Nova Scotia Museum, Halifax, 743pp.

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62	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed.) Atlantic Canada Conservation Data Centre, 333.
60	Zinck, M. & Roland, A.E. 1998. Roland's Flora of Nova Scotia. Nova Scotia Museum, 3rd ed., rev. M. Zinck; 2 Vol., 1297 pp.
59	Blaney, C.S. 2020. Sean Blaney 2020 field data. Atlantic Canada Conservation Data Centre, 4407 records.
58	iNaturalist. 2020. iNaturalist butterfly records selected for the Maritimes Butterfly Atlas. iNaturalist.
56	Birds Canada. 2022. Maritimes Swiftwatch project data for 2022. Pers. comm., 155 records.
56	Staicer, C. & Bliss, S.; Achenbach, L. 2017. Occurrences of tracked breeding birds in forested wetlands. , 303 records.
55	LaPaix, R.W.; Crowell, M.J.; MacDonald, M.; Neily, T.D.; Quinn, G. 2017. Stantec Nova Scotia rare plant records, 2012-2016. Stantec Consulting.
54	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
52	Staicer, Cindy. 2023. 2022 SAR Bird field occurrences from the Landbirds at Risk Project, NS. Dalhousie University, 446 records.
50	Churchill, J.L. 2020. Atlantic Canada Conservation Data Centre Fieldwork 2020. Atlantic Canada Conservation Data Centre, 1083 recs.
48	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
47	Cameron, R.P. 2009. Erioderma pedicellatum database, 1979-2008. Dept Environment & Labour, 103 recs.
45	Feltham, Carter. 2022. Monarch (Danaus plexippus) and Milkweed MTRI records from the 2022 Field Season. Mersey Tobeatic Research Institute.
42	Belliveau, A.G. 2016. Atlantic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 10695 recs.
42	Neily, T.H. & Pepper, C.; Toms, B. 2015. Nova Scotia lichen location database [as of 2015-02-15]. Mersey Tobeatic Research Institute, 1691 records.
41	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-03-18]. Mersey Tobeatic Research Institute.
40	Cameron, E. 2007. Canadian Gypsum Co. survey 2005-07. Dillon Consulting Ltd, 40 recs.
40	Chapman-Lam, C.J. 2021. Atlantic Canada Conservation Data Centre 2020 botanical fieldwork. Atlantic Canada Conservation Data Centre, 17309 recs.
39	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
39	Mersey Tobetic Research Institute. 2021. 2020 Monarch records from the MTRI monitoring program. Mersey Tobetic Research Institute, 72 records.
38	Mazerolle, D.M. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 13515 recs.
38	Nova Scotia Nature Trust. 2013. Nova Scotia Nature Trust 2013 Species records. Nova Scotia Nature Trust, 95 recs.
38	Porter, C.J.M. 2014. Field work data 2007-2014. Nova Scotia Nature Trust, 96 recs.
37	Pepper, C. 2021. Rare bird, plant and mammal observations in Nova Scotia, 2017-2021.
36	Belliveau, A.G. 2018. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2018. E.C. Smith Herbarium, 6226 recs.
36	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre, 2318 recs.
34	Tsehtik, M.; Leblanc, M.; Creaser, T. 2020. Coastal Action: 2020 Species at Risk Data. Coastal Action, 40 records.
33	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
33	Mazerolle, D.M. 2017. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
32	Atlantic Canada Conservation Data Centre. 2020. Cape LaHave Island observations from August 2020. Atlantic Canada Conservation Data Centre, 605 records.
32	Blaney, C.S.; Spicer, C.D.; Rothfels, C. 2004. Fieldwork 2004. Atlantic Canada Conservation Data Centre. Sackville NB, 1343 recs.
32	Haughian, Sean. 2021. Update to lichen data from 2017-2021. Nova Scotia Museum.
32	Patrick, A.; Horne, D.; Noseworthy, J. et. al. 2017. Field data for Nova Scotia and New Brunswick, 2015 and 2017. Nature Conservancy of Canada.
31	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.
31	Ogden, J. NS DNR Butterfly Collection Dataset. Nova Scotia Department of Natural Resources. 2014.
30	Cameron, R.P. 2018. Degelia plumbea records. Nova Scotia Environment.
29	Amirault, D.L. & McKnight, J. 2003. Piping Plover Database 1991-2003. Canadian Wildlife Service, Sackville, unpublished data. 7 recs.
29	Blaney, C.S.; Spicer, C.D.; Popma, T.M.; Hanel, C. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 2252 recs.
28	Pepper, Chris. 2012. Observations of breeding Canada Warbler's along the Eastern Shore, NS. Pers. comm. to S. Blaney, Jan. 20, 28 recs.
27	Neily, T.H. 2019. Tom Neily NS Bryophyte records (2009-2013). T.H. Neily, Atlantic Canada Conservation Data Centre, 1029 specimen records.
27	Staicer, Cindy. 2023. 2022 SAR Bird ARU occurrences. Dalhousie University, 379 records.
27	Westwood, A., Staicer, C. 2016. Nova Scotia landbird Species at Risk observations. Dalhousie University.
24	Belliveau, A.G. 2021. New Black ash site records near Kentville, NS. Acadia University, 47 records.
24	Benjamin, L.K. 2011. NSDNR fieldwork & consultant reports 1997, 2009-10. Nova Scotia Dept Natural Resources, 85 recs.
24	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
23	LaPaix, Rich. 2022. Rare species observations, 2018-2022. Nova Scotia Nature Trust.
23	Neily, T.H. 2013. Email communication to Sean Blaney regarding Listera australis observations made from 2007 to 2011 in Nova Scotia. , 50.
22	Belliveau, A. 2013. Rare species records from Nova Scotia. Mersey Tobeatic Research Institute, 296 records. 296 recs.
22	Breen, A. 2018. 2018 Atlantic Whitefish observations. Coastal Action.
22	Nelly, T.H. 2006. Cypripedium arietinum in Hants Co. Pers. comm. to C.S. Blaney. 22 recs, 22 recs.
21	Hill, N.M. 1994. Status report on the Long's bulrush Scirpus longii in Canada. Committee on the Status of Endangered Wildlife in Canada, 7 recs.
20	Brazner, John; MacKinnon, Frances. 2020. Relative conservation value of Nova Scotia's forests: forested wetlands as avian biodiversity hotspots. Canadian Journal of Forest Research, 50(12): 1307-1322. dx.doi.org/10.1139/cjfr-2020-0101.
19	Chapman, C.J. 2019. Atlantic Canada Conservation Data Centre 2019 botanical fieldwork. Atlantic Canada Conservation Data Centre, 11729 recs.
19	Ferguson, D.C. 1954. The Lepidoptera of Nova Scotia. Part I, macrolepidoptera. Proceedings of the Nova Scotian Institute of Science, 23(3), 161-375.
19	Hall, R.A. 2001. S.. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 178 recs.
19	Robinson, S.L. 2014. 2013 Field Data. Atlantic Canada Conservation Data Centre.
17	Anderson, Frances; Neily, Tom. 2010. A Reconnaissance Level Survey of Calciphilous Lichens in Selected Karst Topography in Nova Scotia with Notes on Incidental Bryophytes. Mersey Tobeatic Research Institute.
17	Hall, R.A. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 189 recs.

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17	MacDonald, E.C. 2018. CWS Piping Plover Census, 2010-2017. Canadian Wildlife Service, 672 recs.
17	Neily, T.H. 2010. Erioderma Pedicellatum records 2005-09. Mersey Tobiatic Research Institute, 67 recs.
17	Richardson, D., Anderson, F., Cameron, R, McMullin, T., Clayden, S. 2014. Field Work Report on Black Foam Lichen (Anzia colpodes). COSEWIC.
17	Stewart, J.I. 2010. Peregrine Falcon Surveys in New Brunswick, 2002-09. Canadian Wildlife Service, Sackville, 58 recs.
16	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
16	McNeil, Jeffie. 2023. 2022 Turtle Records. Mersey Tobeatic Research Institute.
16	Nature Conservancy of Canada. 2022. NCC Field data for Nova Scotia. Nature Conservancy of Canada.
16	Ogden, K. Nova Scotia Museum butterfly specimen database. Nova Scotia Museum. 2017.
15	Basquill, S.P. 2011 vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
15	Bryson, I. 2013. Nova Scotia rare plant records. CBCL Ltd., 180 records.
15	Neily, T.H. & Pepper, C. 2020. Nova Scotia SMP lichen surveys 2020. Mersey Tobeatic Research Institute.
15	NS DNR. 2017. Black Ash records from NS DNR Permanent Sample Plots (PSPs), 1965-2016. NS Dept of Natural Resources.
14	Cameron, R.P. 2014. 2013-14 rare species field data. Nova Scotia Department of Environment, 35 recs.
14	Chapman, C.J. 2018. Atlantic Canada Conservation Data Centre botanical fieldwork 2018. Atlantic Canada Conservation Data Centre, 11171 recs.
14	e-Butterfly. 2018. Selected Maritimes butterfly records from 2016 and 2017. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
14	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
14	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
14	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
14	Powell, B.C. 1967. Female sexual cycles of Chrysemy spicta & Clemmys insculpta in Nova Scotia. Can. Field-Nat., 81:134-139. 26 recs.
13	Holder, M. 2003. Assessment and update status report on the Eastern Lilaeopsis (Lilaeopsis chinensis) in Canada. Committee on the Status of Endangered Wildlife in Canada, 16 recs.
13	Neily, T.H. 2012. 2012 Erioderma pedicellatum records in Nova Scotia.
13	Nova Scotia Nature Trust. 2014. Ladyslipper records from Saint Croix Nova Scotia, JLC Ed. Nova Scotia Nature Trust.
13	Robinson, S.L. 2015. 2014 field data.
12	Basquill, S.P. 2012. 2012 rare vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
12	Blaney, C.S. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
12	Cameron, R.P. 2017. 2017 rare species field data. Nova Scotia Environment, 64 recs.
12	Richardson, D., Anderson, F., Cameron, R, Pepper, C., Clayden, S. 2015. Field Work Report on the Wrinkled Shingle lichen (Pannaria lurida). COSEWIC.
11	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
11	Patrick, Allison. 2021. Animal and plant records from NCC properties from 2019 and 2020. Nature Conservancy Canada.
10	Bredin, K.A. 2002. NS Freshwater Mussel Fieldwork. Atlantic Canada Conservation Data Centere, 30 recs.
10	Goltz, J.P. & Bishop, G. 2005. Confidential supplement to Status Report on Prototype Quillwort (Isoetes prototypus). Committee on the Status of Endangered Wildlife in Canada, 111 recs.
10	Neily, T. H. 2018. Lichen and Bryophyte records, AEI 2017-2018. Tom Neily; Atlantic Canada Conservation Data Centre.
9	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
9	Cameron, R.P. 2005. Erioderma pedicellatum unpublished data. NS Dept of Environment, 9 recs.
9	Cameron, R.P. 2006. Erioderma pedicellatum 2006 field data. NS Dept of Environment, 9 recs.
9	Cameron, R.P. 2013. 2013 rare species field data. Nova Scotia Department of Environment, 71 recs.
9	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
9	Gilhen, J. 1984. Amphibians & Reptiles of Nova Scotia, 1st Ed. Nova Scotia Museum, 164pp.
9	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
8	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
8	Chapman, C.N. (Cody). 2020. Nova Scotia Black Ash (Fraxinus nigra) field observations by Confederacy of Mainland Mi'kmaq. Forestry Program, Confederacy of Mainland Mi'kmaq.
8	King, Katie; Jean, Samuel. 2021. Black ash observations near Booklyn, NS. E.C. Smith Herbarium.
8	Klymko, J. Butterfly records at the Nova Scotia Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2017.
8	McNeil, J.A. 2014. Blandings Turtle (Emydoidea blandingii) and Snapping Turtle (Chelydra serpentina) sightings, 2014. Mersey Tobeatic Research Institute.
8	McNeil, J.A. 2016. Blandings Turtle (Emydoidea blandingii), Eastern Ribbonsnake (Thamnophis sauritus), Wood Turtle (Glyptemys insculpta), and Snapping Turtle (Chelydra serpentina) sightings, 2016. Mersey Tobeatic Research Institute, 774 records.
8	Neily, T.H. & Anderson, F. 2011. Lichen observations from NRC site at Sandy Cove. , 97.
8	Phinney, Lori; Toms, Brad; et. al. 2016. Bank Swallows (Riparia riparia) in Nova Scotia: inventory and assessment of colonies. Merset Tobeiatc Research Institute, 25 recs.
8	Sollows, M.C,. 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
8	Webster, R.P. Atlantic Forestry Centre Insect Collection, Maritimes butterfly records. Natural Resources Canada. 2014.
8	Wilhelm, S.I. et al. 2019. Colonial Waterbird Database. Canadian Wildlife Service.
7	Boyne, A.W. & Grecian, V.D. 1999. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 23 recs.
7	Cameron, B. 2006. Hepatica americana Survey at Scotia Mine Site in Gays River, and Discovery of Three Yellow-listed Species. Conestoga-Rovers and Associates, (a consulting firm), october 25. 7 recs.
7	Klymko, J.J.D.; Robinson, S.L. 2014. 2013 field data. Atlantic Canada Conservation Data Centre.
7	MacDonald, E.C. 2018. Piping Plover nest records from 2010-2017. Canadian Wildlife Service.
7	Neily, T.H. & Pepper, C.; Toms, B. 2020. Nova Scotia lichen database [as of 2020-05-25]. Mersey Tobeatic Research Institute, 668 recs.
6	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of C. insculpta sightings. Acadia University, Wolfville NS, 88 recs.
6	Basquill, S.P., Porter, C. 2019. Bryophyte and lichen specimens submitted to the E.C. Smith Herbarium. NS Department of Lands and Forestry.
6	Benjamin, L.K. 2006. Cypripedium arietinum. Pers. comm. to D. Mazerolle. 9 recs, 9 recs.

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6	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
6	Blaney, C.S; Korol, J.B.; Crowell, I. 2023. 2022 AC CDC Botany program field data. Atlantic Canada Conservation Data Centre, 5293 records.
6	Clayden, S.R. 2005. Confidential supplement to Status Report on Ghost Antler Lichen (Pseudevernia cladonia). Committee on the Status of Endangered Wildlife in Canada, 27 recs.
6	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
6	Gallop, John. 2021. Sheet Harbour rare lichen observations. McCallum Environmental.
6	Hall, R. 2008. Rare plant records in old fieldbook notes from Truro area. Pers. comm. to C.S. Blaney. 6 recs, 6 recs.
6	Klymko, J.J.D. 2012. Odonata specimens & observations, 2010. Atlantic Canada Conservation Data Centre, 425 recs.
6	Matthew Smith. 2010. Field trip report from Avon Caving Club outlining the discovery of Cyrpipedium arietinum and Hepatica nobilis populations. Public Works and Government Services Canada.
6	McNeil, Jeffie. 2023. Ribbonsnake records from 2022. Mersey Tobeatic Research Institute.
6	Neily, T.H. Tom Neily NS Sphagnum records (2009-2014). T.H. Neily, Atlantic Canada Conservation Data Centre. 2019.
6	Nova Scotia Nature Trust. 2022. Ram's Head Lady Slipper observations from 2015 and 2019. , 6 records.
6	Whittam, R.M. 1999. Status Report on the Roseate Tern (update) in Canada. Committee on the Status of Endangered Wildlife in Canada, 36 recs.
5	Cameron, R.P. 2012. Additional rare plant records, 2009. , 7 recs.
5	Carter, Jeff; Churchill, J.; Churchill, I.; Churchill, L. 2020. Bank Swallow colony Scots Bay, NS. Atlantic Canada Conservation Data Centre.
5	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
5	Holder, M.L.; Kingsley, A.L. 2000. Kinglsey and Holder observations from 2000 field work.
5	McNeil, J.A. 2019. Snapping Turtle records, 2019. Mersey Tobeatic Research Institute.
5	McNeil, J.A. 2020. Snapping Turtle and Eastern Painted Turtle records, 2020. Mersey Tobeatic Research Institute.
5	Pohl, G.P. Specimen data from Northern Forest Research Centre. Northern Forest Research Centre. 2022.
5	Porter, K. 2013. 2013 rare and non-rare vascular plant field data. St. Mary's University, 57 recs.
5	Towell, C. 2014. 2014 Northern Goshawk and Common Nighthawk email reports, NS. NS Department of Natural Resources.
5	White, S. 2019. Notable species sightings, 2018. East Coast Aquatics.
4	Bateman, M.C. 2001. Coastal Waterfowl Surveys Database, 1965-2001. Canadian Wildlife Service, Sackville, 667 recs.
4	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
4	Cameron, R.P. 2009. Nova Scotia nonvascular plant observations, 1995-2007. Nova Scotia Dept Natural Resources, 27 recs.
4	Christie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
4	Cody, W.J. 2003. Nova Scotia specimens of Equisetum pratense at the DAO herbarium in Ottawa. , Pers. comm. to C.S. Blaney. 4 recs.
4	Forsythe, B. 2006. Cypripedium arietinum at Meadow Pond, Hants Co. Pers. comm. to C.S. Blaney. 4 recs, 4 recs.
4	Hughes, Cory. 2020. Atlantic Forestry Centre Coccinella transversoguttata collections. Canadian Forest Service, Atlantic Forestry Centre.
4	Klymko, J. Dataset of butterfly records at the New Brunswick Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2016.
4	Mills, Pamela. 2007. Iva frutescens records. Nova Scotia Dept of Natural Resources, Wildlife Div. Pers. comm. to S. Basquil, 4 recs.
4	Newell, R. & Neily, T.; Toms, B.; Proulx, G. et al. 2011. NCC Properties Fieldwork in NS: August-September 2010. Nature Conservancy Canada, 106 recs.
4	Olsen, R. Herbarium Specimens. Nova Scotia Agricultural College, Truro. 2003.
4	Sabine, D.L. Bombus terricola specimens in Dwayne Sabine's personal collection. pers. comm. 2022.
3	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
3	Basquill, S.P. 2009. 2009 field observations. Nova Scotia Dept of Natural Resources.
3	Benjamin, L.K. 2009. Boreal Felt Lichen, Mountain Avens, Orchid and other recent records. Nova Scotia Dept Natural Resources, 105 recs.
3	Benjamin, L.K. 2009. NSDNR Fieldwork & Consultants Reports. Nova Scotia Dept Natural Resources, 143 recs.
3	Brunelle, P.-M. (compiler). 2010. ADIP/MDDS Odonata Database: NB, NS Update 1900-09. Atlantic Dragonfly Inventory Program (ADIP), 935 recs.
3	Chapman, Cody. Unreported Species at Risk Records across Nova Scotia. Chapman, Cody, 5 records.
3	Clayden, S.R. 1998. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 19759 recs.
3	Doubt, J. 2013. Email to Sean Blaney with Nova Scotia records of Fissidens exilis at Canadian Museum of Nature. pers. comm., 3 records.
3	Haughian, S.R. 2018. Description of Fuscopannaria leucosticta field work in 2017. New Brunswick Museum, 314 recs.
3	Hill, N. and D. Patriquin. 2013. 2013 rare plant observations in Williams Lake Backlands area. Fern Hill Institute of Plant Conservation, Berwick, Nova Scotia, 3 records.
3	McNeil, Jeffie. 2022. Ribbonsnake records, 2021. Mersey Tobeatic Research Institute.
3	Oldham, M.J. 2000. Oldham database records from Maritime provinces. Oldham, M.J; ONHIC, 487 recs.
3	Rock, J. 2020. Atlantic Canada Piping Plover field surveys: Nesting pairs by beach, 2018-2020. Environment and Climate Change Canada - Canadian Wildlife Service, 216 records.
3	Sabine, M. 2016. NB DNR staff incidental Black Ash observations. New Brunswick Department of Natural Resources.
3	Walker, J. 2017. Bird inventories at French River, NS, and Memramcook, NB, for Nature Conservancy of Canada. Pers. comm. to AC CDC.
2	Amiro, Peter G. 1998. Atlantic Salmon: Inner Bay of Fundy SFA 22 & part of SFA 23. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-12. 4 recs.
2	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
2	Basquill, S.P. 2011. Field observations & specimen collections, 2010. Nova Scotia Department of Natural Resources, Pers. comm. , 8 Recs.
2	Blaney, C.S. 2019. Sean Blaney 2019 field data. Atlantic Canada Conservation Data Centre, 4407 records.
2	Bradford, R. 2004. Coregonus huntsmani locations. Dept of Fisheries & Oceans, Atlantic Region, Pers. comm. to K. Bredin. 4 recs.
2	Cameron-MacMillan, Maureen. 2020. Northern Goshawk Nests in Eastern Nova Scotia, as of November, 2020. Nova Scotia Department of Lands and Forestry.
2	Cameron, B. 2005. C. palmicola, E. pedicellatum records from Sixth Lake. Pers. comm. to C.S. Blaney. 3 recs, 3 recs.
2	Cameron, R.P. 2012. Rob Cameron 2012 vascular plant data. NS Department of Environment, 30 recs.
2	Canadian National Collection of Insects Arachnids, and Nematodes Bombus specimen database export. Government of Canada. 2022.
2	Frittaion, C. 2012. NSNT 2012 Field Observations. Nova Scotia Nature Trust, Pers comm. to S. Blaney Feb. 7, 34 recs.

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2	Heron, J. 2022. Bombus records communicated to J. Klymko over email in autumn 2022. Pers. comm.
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APPENDIX B

Vegetation Data

Table B.1 - Observed Vegetation in the WSA

Species Name	Common Name
Abies balsamea	Balsam Fir
Acer pensylvanicum	Striped Maple
Acer pseudoplantanus	Sycamore Maple
Acer pseudoplatanus	Sycamore Maple
Acer rubrum	Red Maple
Acer spicatum	Mountain Maple
AGALINIS PURPUREA	Purple False-foxglove
Agrostis capillaris	Colonial Bent Grass
Agrostis hyemalis	Winter Bent Grass
Agrostis perennans	Upland Bent Grass
Agrostis scabra	Rough Bent Grass
Ajuga reptans	Creeping Bugleweed
Alisma triviale	Northern Water Plantain
Alnus incana	Speckled Alder
Alnus alnobetula	Green Alder
Amelanchier sp.	a Serviceberry
Anaphalis margaritacea	Pearly Everlasting
Anthoxanthum odoratum	Large Sweet Vernal Grass
Aralia hispida	Bristly Sarsaparilla
Aralia nudicaulis	Wild Sarsaparilla
Athyrium filix-femina	Common Lady Fern
Avenella flexuosa	Deschampsia flexuosa
Bazzania trilobata	Bazzania
Betula alleghaniensis	Yellow Birch
Betula papyrifera	Paper Birch
Betula populifolia	Gray Birch
Bidens cernua	Nodding Beggarticks
Bidens frondosa	Devil's Beggarticks
Brachyelytrum aristosum	Northern Shorthusk
Brachyelytrum erectum	Bearded Shorthusk
Bromus ciliatus	Bromus ciliatus var. ciliatus
Calamagrotis canadensis	Bluejoint Reed Grass
Carex atlantica	Atlantic Sedge
Carex brunnescens	Brownish Sedge
Carex canescens	Silvery Sedge
Carex debilis	White-edged Sedge
Carex echinata	Star Sedge
Carex folliculata	Northern Long Sedge
Carex gracillima	Graceful Sedge
Carex gynandra	Nodding Sedge
Carex intumescens	Bladder Sedge
Carex leptalea	Bristly-stalked Sedge
Carex lurida	Sallow Sedge
Carex magellanica	Boreal Bog Sedge
Carex novae-angliae	New England Sedge
Carex projecta	Necklace Sedge
Carex scoparia	Broom Sedge
Carex sp.	a Sedge
Carex stricta	Tussock Sedge
Carex tripserma	Three-seeded Sedge
Centaurea nigra	Black Knapweed
Chamaedaphne calyculata	Leatherleaf
Chelone glabra	White Turtlehead
Cicuta maculata	Spotted Water-Hemlock
Cinna latifolia	Drooping Wood Reed Grass
Circaea alpina	Small Enchanter's Nightshade
Cirsium muticum	Swamp Thistle
Clintonia borealis	Yellow Bluebead Lily
Comarum palustre	Marsh Cinquefoil
Comptonia peregrina	Sweet-fern
Coptis trifolia	Goldthread
Cornus canadensis	Bunchberry
Corylus cornuta	Beaked Hazel
Cypripedium acaule	Pink Lady's-Slipper
Dactylis glomerata	Orchard Grass
Danthonia spicata	Poverty Oat Grass
Daucus carota	Queen Anne's Lace
Dendrolycopodium hickeyi	Hickey's Tree-clubmoss
Dennstaedtia punctilobula	Eastern Hay-Scented Fern
Deschampsia cespitosa	Deschampsia caespitosa
Deschampsia flexuosa	Tufted Hair Grass
Dianthus armeria	Deptford Pink
Dichanthelium villosissimum	White-Hair Witchgrass
Diervilla lonicera	Northern Bush Honeysuckle
Doellingeria umbellata	Hairy Flat-top White Aster
Drosera intermedia	Spoon-Leaved Sundew
Drosera rotundifolia	Round-leaved Sundew
Dryopteris carthusiana	Spinulose Wood Fern

Table B.1 - Observed Vegetation in the WSA

Species Name	Common Name
Dryopteris cristata	Crested Wood Fern
Dryopteris intermedia	Evergreen Wood Fern
Dulichium arundinaceum	Three-Way Sedge
Echinochloa crus-galli	Large Barnyard Grass
Eleocharis obtusa	Blunt Spikerush
Epigaea repens	Trailing Arbutus
Epilobium palustre	Marsh Willowherb
Epipactis helleborine	Helleborine
Equisetum sylvaticum	Woodland Horsetail
Erigeron annuus	Annual Fleabane
Erigeron strigosus	Rough Fleabane
Eriophorum virginicum	Tawny Cottongrass
Eriophorum virginicum	Tawny Cottongrass
Eupatorium perfoliatum	Common Boneset
Euphrasia nemorosa	Common Eyebright
Euthamia graminifolia	Grass-leaved Goldenrod
Fagus grandifolia	American Beech
Fallopia cilinodis	Polygonum cilinode
Festuca filiformis	Hair Fescue
Festuca rubra	Red Fescue
Fragaria virginiana	Wild Strawberry
Frangula alnus	Glossy Buckthorn
Fraxinus americana	White Ash
Galeopsis tetrahit	Common Hemp-nettle
Galium palustre	Common Marsh Bedstraw
Gaultheria hispidula	Creeping Snowberry
Gaultheria procumbens	Eastern Teaberry
Gaylussacia baccata	Black Huckleberry
Gaylussacia bigeloviana	Dwarf Huckleberry
Glyceria canadensis	Canada Manna Grass
Glyceria grandis	Common Tall Manna Grass
Glyceria striata	Fowl Manna Grass
Glyceria striata var. striata	Fowl Mannagrass
Gnaphalium uliginosum	Marsh Cudweed
Gymnocarpium dryopteris	Common Oak Fern
Hamamelis virginiana	American Witch-Hazel
Hieracium umbellatum	Umbellate Hawkweed
Hydrocotyle americana	American Marsh Pennywort
Hylocomium splendens	Stairstep Moss
Hypericum boreale	Northern St John's-Wort
Hypericum canadense	Canada St John's-wort
Hypericum fraseri	Triadenum fraseri
Hypericum perforatum	Common St. John's-wort
Hypnom imopens	Plume Moss
Ilex mucronata	Nemopanthus mucronatus
Ilex verticillata	Common Winterberry
Impatiens capensis	Spotted Jewelweed
Iris versicolor	Harlequin Blue Flag
Juncus articulatus	Jointed Rush
Juncus canadensis	Canada Rush
Juncus effusus	Soft Rush
Juncus pelocarpus	Brown-Fruited Rush
Juncus tenuis	Slender Rush
Juniperus communis	Common Juniper
Kalmia angustfolia	Lambkill
Larix laricina	Tamarack
Leersia oryzoides	Rice Cut Grass
Leontodon autumnalis	Autumn Hawbit
Leucanthemum vulgare	Oxeye Daisy
Linnaea borealis	Twinflower
Linum usitatissimum	Common Yellow Flax
Lonicera canadensis	Canada Fly Honeysuckle
Luzula multiflora	Common Woodrush
Lycopodium annotinum	Stiff Clubmoss
Lycopus uniflorus	Northern Water Horehound
Lysimachia borealis	Trientalis borealis ssp. borealis
Lysimachia terrestris	Swamp Yellow Loosestrife
Maianthemum canadense	Wild Lily-of-The-Valley
Maianthemum trifolium	Three-leaved False Soloman's Seal
Matricaria discoidea	Pineapple Weed
Melampyrum lineare	American Cow Wheat
Menyanthes trifoliata	Bog Buckbean
Mitchella repens	Partridgeberry
Monotropa uniflora	Convulsion-Root
Morella pensylvanica	Northern Bayberry
Myrica gale	Sweet Gale
Myrica pensylvanica	Bayberry
Nabalus trifoliolatus	Three-leaved Rattlesnakeroot

Table B.1 - Observed Vegetation in the WSA

Species Name	Common Name
Nuphar variegata	Variegated Pond-lily
Oclemena acuminata	Whorled Wood Aster
Oclemena nemoralis	Bog Aster
Oclemena x blakei	a hybrid White Panicled American-Aster
Onoclea sensibilis	Sensitive Fern
Onoclea sensibilis	Senstive Fern
Oryzopsis asperifolia	White-grained Mountain Rice
Osmunda claytoniana	Interrupted Fern
Osmunda regalis	Royal Fern
Osmundastrum cinnamomeum	Cinnamon Fern
Oxalis montana	Common Wood Sorrel
Oxalis stricta	European Wood Sorrel
Parthenocissus quinquefolia	Virginia Creeper
Persicaria sagittata	Polygonum sagittatum
Phalaris arundinacea	Reed Canary Grass
Phegopteris connectilis	Northern Beech Fern
Phleum pratense	Common Timothy
Phragmites australis ssp. americanus	Common Reed
Picea glauca	White Spruce
Picea mariana	Black Spruce
Picea rubens	Red Spruce
Pilosella caespitosa	Meadow Hawkweed
Pinus banksiana	Jack Pine
Pinus strobus	Eastern White Pine
Plantago major	Common Plantain
Platanthera aquilonis	Tall Northern Green Orchid
Platanthera clavellata	Club Spur Orchid
Pleurozium schreberi	Schreber's Moss
Poa annua	Annual Blue Grass
Poa compressa	Canada Blue Grass
Poa pratensis	Kentucky Blue Grass
Pogonia ophioglossoides	Rose Pogonia
Polypodium virginianum	Rock Polypody
Pontederia cordata	Pickerelweed
Populus grandidentata	Large-toothed Aspen
Populus tremuloides	Trembling Aspen
Potamogeton epihydrus	Ribbon-leaved Pondweed
Potentilla simplex	Old Field Cinquefoil
Prunella vulgaris	Common Self-heal
Prunus pensylvanica	Pin Cherry
Prunus serotina	Black Cherry
Pteridium aquilinum	Bracken Fern
Quercus rubra	Northern Red Oak
Ranunculus repens	Creeping Buttercup
Rhododendron canadense	Rhodora
Rhododendron groenlandicum	Ledum groenlandicum
Rhynchospora alba	White Beakrush
Rhyncospora fusca	Brown Beakrush
Rhytidiadelphus triquetrus	Electrified Cat's-tail Moss
Ribes glandulosum	Skunk Currant
Ribes lacustre	Bristly Black Currant
Rosa multiflora	Multiflora Rose
Rosa nitida	Shining Rose
Rosa virginiana	Virginia Rose
Rubus allegheniensis	Alleghaney Blackberry
Rubus canadensis	Smooth Blackberry
Rubus hispidus	Bristly Dewberry
Rubus idaeus	Red Raspberry
Rubus pubescens	Dwarf Red Raspberry
Salix bebbiana	Bebb's Willow
Salix sp.	Salix spp.
Sambucus racemosa	Red Elderberry
Sarracenia purpurea	Northern Pitcher Plant
Schoenoplectus subterminalis	Water Bulrush
Scirpus cyperinus	Common Woolly Bulrush
Scirpus hattorianus	Mosquito Bulrush
Scorzoneroides autumnalis	Leontodon autumnalis
Solidago canadensis	Canada Goldenrod
Solidago gigantea	Giant Goldenrod
Solidago juncea	Early Goldenrod
Solidago puberula	Downy Goldenrod
Solidago rugosa	Rough-stemmed Goldenrod
Solidago uliginosa	Northern Bog Goldenrod
Sorbus americana	American Mountain Ash
Sorbus aucuparia	European Mountain Ash
Sparganium americanum	American Burreed
Sphagnum sp.	Sphagnum Moss
Spiraea alba	White Meadowsweet

Table B.1 - Observed Vegetation in the WSA

Species Name	Common Name
Spiraea alba var. latifolia	White Meadowsweet
Spiraea tomentosa	Steeplebush
Spiranthes cernua	Nodding Ladies'-Tresses
Sporobolus michauxianus	Spartina pectinata
Symphotrichum lateriflorum	Calico Aster
Symphyotrichum puniceum	Purple-stemmed Aster
Taraxacum officinale	
Taxus canadensis	Canada Yew
Thalictrum pubescens	Tall Meadow-Rue
Thelypteris noveboracensis	New York Fern
Toxicodendron radicans	Poison Ivy
Trientalis borealis	Starflower
Trifolium arvense	Rabbit's-foot Clover
Trifolium repens	White Clover
Trillium undulatum	Painted Trillium
Tussilago farfara	Coltsfoot
Typha latifolia	Broad-leaved Cattail
Utricularia cornuta	Horned Bladderwort
Utricularia geminiscapa	Twin-stemmed Bladderwort
Utricularia intermedia	Flat-leaved Bladderwort
Vaccinium angustifolium	Late Lowbush Blueberry
Vaccinium macrocarpon	Large Cranberry
Vaccinium myrtilloides	Velvet-leaved Blueberry
Vaccinium oxycoccos	Small Cranberry
Veronica officinalis	Common Speedwell
Veronica serpyllifolia	Thyme-Leaved Speedwell
Viburnum lantanoides	Hobblebush
Viburnum nudum	Northern Wild Raisin
Vicia cracca	Tufted Vetch
Viola cucullata	Marsh Blue Violet
Viola lanceolata	Lance-leaved Violet

Table B.2 - Stand Data for the WSA

Site ID	Field Description	Drainage Class	Estimated Stand Age	Forest Group (FG)	VT(2022)	Forest Maturity	Maturity Score	Forest Succession	Succession Score
AK1	mature softwood forest	mesic	50	SH	SH5	Mature	2	Mid	2
AK2	mature hardwood forest	mesic	50	IH	IH6	Mature	2	Early	3
AK3	tall shrub thicket	imperfectly drained	15	wetland	TSS	Immature	3	N/A	N/A
AK4	tall shrub thicket	hygric	10	wetland	TSS	Immature	3	N/A	N/A
AK5	tall shrub thicket	well drained	15	wetland	TSS	Immature	3	N/A	N/A
AK6	mature hardwood forest	well drained	30	IH	IH6b	Mature	2	Early	3
AK7	immature mixedwood forest	mesic	20	SH	SH8	Immature	3	Early-to-Mid	3
AK8	mixedwood treed basin swamp	hygric	unknown	WM	WM1	N/A	N/A	Mid	2
AK9	mixedwood treed forest	mesic	30	MW	MW7	Mature	2	Early-to-Mid	3
AK10	mature mixedwood forest	well drained	50	MW	MW2	Mature	2	Mid	2
AK11	mature hardwood forest	well drained	40	IH	IH6	Mature	2	Early	3
AK12	deciduous treed stream swamp	hydric	70	WD	WD2	Mature	2	Early-to-Mid	3
AK13	marsh/bog	hydric	unknown	wetland	marsh	N/A	N/A	N/A	N/A
AK14	tall shrub swamp	hygric	unknown	wetland	TSS	N/A	N/A	N/A	N/A
AK15	mature softwood forest	mesic	30	SH	SH4	Mature	2	Late	1
AK16	mature mixedwood forest	mesic	40	MW	MW2	Mature	2	Mid	2
AK17	mature hardwood forest	well drained	40	IH	IH6	Mature	2	Early	3
AK18	immature mixedwood forest	well drained	20	MW	MW2	Immature	3	Mid	2
AK19	mature mixedwood forest	imperfectly drained	70	TH	TH8a	Mature	2	Mid-to-Late	1
AK20	immature softwood forest	well drained	15	SP	SP5	Immature	3	Late	1
AK21a	immature mixedwood forest	mesic	15	MW	MW6	Immature	3	Early-to-Mid	3
AK21b	immature hardwood forest	imperfectly drained	15	IH	IH6b	Immature	3	Early	3
AK22	tall shrub swamp	hygric	unknown	wetland	TSS	N/A	N/A	N/A	N/A
AK23	mature softwood forest	imperfectly drained	40	WC	WC2	Mature	2	Edaphic	2
AK24	basin fen	hydric	unknown	wetland	fen	N/A	N/A	N/A	N/A
AK25	coniferous treed stream swamp	hygric	unknown	WC	WC7	N/A	N/A	arly-to-Mid, Edaph	2
AK26	mature mixedwood forest	mesic	70	MW	MW8	Mature	2	Early	3
AK27	immature mixedwood forest	well drained	20	MW	MW8	Immature	3	Early	3
AK28	mixedwood treed swamp	hydric	unknown	WM	WM3	N/A	N/A	Mid	2
AK29	immature softwood forest (woodland)	well drained	25	SH	SH5	Immature	3	Mid	2
AK30	mature softwood forest	well drained	80	SH	SH4	Potenital Old Growth	1	Late	1
AK31a	immature hardwood forest	well drained	15	IH	IH6	Immature	3	Early	3
AK31b	immature softwood forest	well drained	15	SH	SH4	Immature	3	Late	1
AK32	mixedwood treed basin swamp	hygric	unknown	wetland	swamp	N/A	N/A	N/A	N/A
AK33	immature hardwood forest (transmission row)	mesic	5	Transmission Line	N/A	Immature	3	N/A	N/A
AK34	mature mixedwood forest	mesic	50	MW	MW2	Mature	2	Mid	2

Table B.2 - Stand Data for the WSA

Site ID	Field Description	Drainage Class	Estimated Stand Age	Forest Group (FG)	VT(2022)	Forest Maturity	Maturity Score	Forest Succession	Succession Score
AK35	mixedwood treed basin swamp	hygric	unknown	WM	WM1	N/A	N/A	Mid	2
AK36	immature softwood forest	well drained	20	SH	SH4	Immature	3	Late	1
AK37	mature softwood forest	mesic	40	SH	SH5b	Mature	2	Mid	2
AK38	immature mixedwood forest	mesic	20	MW	MW2	Immature	3	Mid	2
AK39	immature hardwood forest	well drained	10	IH	IH6b	Immature	3	Early	3
AK40	immature hardwood forest	well drained	15	IH	IH9	Immature	3	Early	3
AK41	semi-barrens	well drained	20	OW	OW2	Immature	3	Early	3
AK42	immature softwood forest (woodland)	well drained	25	SP	SP7	Immature	3	N/A	N/A
AK43	mature softwood woodland	well drained	70	SP	SP7	Mature	2	Edaphic	2
AK44	former coniferous treed basin swamp	hydric	10	WC	swamp	Immature	3	N/A	N/A
AK45	immature mixedwood woodland	well drained	25	MW	MW9	Immature	2	Edaphic	2
AK46	mixedwood treed stream swamp	hygric	unknown	WM	WM1	N/A	N/A	Mid	2
AK47	stream fen	hydric	unknown	wetland	fen	N/A	N/A	N/A	N/A
AK48	softwood dominated stream swamp	hydric	unknown	wetland	swamp	N/A	N/A	N/A	N/A
AK49	mature mixedwood forest	imperfectly drained	30	SH	SH5b	Immature	3	Mid	2
AK50	semi-barrens	mesic	unknown	OW	OW2	N/A	N/A	Early	3
AK51	immature softwood woodland	well drained	20	SP	SP4a	Immature	3	Mid	2
AK52	mature mixedwood forest	mesic	30	MW	MW7	Mature	2	Early-to-Mid	3
AK53	mature softwood forest	imperfectly drained	40	SP	SP7	Mature	2	Edaphic	2
AK54	mature softwood forest	imperfectly drained	50	SP	SP5	Mature	2	Late	1
AK55	former mixedwood treed basin swamp	hydric	unknown	WD	swamp	N/A	N/A	N/A	N/A
AK56	hardwood treed stream swamp	hydric	unknown	WD	swamp	N/A	N/A	N/A	N/A
AK57a	immature hardwood forest	imperfectly drained	15	IH	IH6	Immature	3	Early	3
AK57b	immature mixedwood forest	mesic	15	MW	MW2	Immature	3	Mid	2
AK58	mixedwood treed stream swamp	riparian	50	WM	WM1	Mature	2	Mid	2
AK59	immature hardwood forest	imperfectly drained	15	IH	IH6	Immature	3	Early	3
AK60	barrens	well drained	15	Barrens	S5	Immature	3	N/A	N/A
AK61	mature softwood forest	mesic	50	OF	OF1	Mature	2	Early	3
AK62	mixedwood treed swamp	hygric	unknown	WC	WC7	N/A	N/A	Early-to-Mid	3
AK63	mature hardwood forest	mesic	60	IH	IH7	Mature	2	Early-to-Mid	3
AK64	mature hardwood forest	imperfectly drained	30	IH	IH6a	Mature	2	Early	3
AK65	old field	mesic	unknown	Field	N/A	N/A	N/A	N/A	N/A
AK66	mature hardwood forest	mesic	40	IH	IH7	Mature	2	Early-to-Mid	3
AK67	immature mixedwood forest	mesic	15	MW	swamp	Immature	3		
AK68	mixedwood treed basin swamp	hygmic	80	WM	WM2	Potenital Old Growth	1	Mid	2
AK69	mature mixedwood forest	mesic	60	MW	MW6	Mature	2	Early-to-Mid	3

Table B.2 - Stand Data for the WSA

Site ID	Field Description	Drainage Class	Estimated Stand Age	Forest Group (FG)	VT(2022)	Forest Maturity	Maturity Score	Forest Succession	Succession Score
AK70	tall shrub basin swamp	hygmic	unknown	wetland	swamp	N/A	N/A	N/A	N/A
AK71	immature hardwood forest	mesic	20	IH	IH7	Immature	3	Early-to-Mid	3
AK72	mature old field conifer forest	mesic	30	OF	OF3	Immature	3	Early-to-Mid	3
AK73	mixedwood treed swamp	hygric	unknown	WM	WM3	N/A	N/A	Mid	2
AK74	semi-barrens	well drained	20	OW	OW2	Immature	3	Early	3
AK75	mature mixedwood forest	mesic	40	MW	MW7	Mature	2	Early-to-Mid	3
AK76	mixedwood treed stream swamp	hydric	unknown	WM	WM1	N/A	N/A	Mid	2
AK77	mixedwood treed basin swamp	hydric	unknown	WM	WM3	N/A	N/A	Mid	2
AK78	mature coniferous forest	well drained	80	SH	SH4	Potenital Old Growth	1	Late	1
AK79	mixedwood treed stream swamp	hydric	unknown	WM	WM1	N/A	N/A	Mid	2
AK80	mixedwood treed stream swamp	hydric	unknown	WM	WM1	N/A	N/A	Mid	2
AK81	coniferous treed swamp	hydric	unknown	WC	WC11	N/A	N/A	Early*	3
AK82	semi-barrens/coniferous woodland	well drained	60	SP	SP4a	Mature	2	Mid	2
AK83	semi-barrrens/ coniferous woodland	well drained	80	OW	OW2	Potenital Old Growth	1	Early	3
AK84	coniferous treed basin swamp	hygmic		WC	WC11	N/A	N/A	Early*	3
AK85	mature coniferous forest	well drained	40	MW	MW2	Mature	2	Mid	2
AK86	mixedwood woodlands	well drained	30	MW	MW2	Immature	3	Mid	2
AK87	immature mixedwood forest/woodland	mesic	20	MW	MW2	Immature	3	Mid	2
AK88	hardwood forest	mesic	20	PF	PF5b	Immature	3	N/A	N/A
AK89	coniferous treed woodland	well drained	60	SP	SP7	Mature	2	N/A	N/A
AK90	mature coniferous forest	well drained	60	SP	SP4a	Mature	2	Mid	2
AK91	immature coniferous forest	mesic	15	SH	SH5	Immature	3	Mid	2
AK92	immature mixedwood	mesic	20	MW	MW7	Immature	3	Early-to-Mid	3
AK93	mature mixedwood forest	imperfectly drained	25	MW	MW7	Immature	3	N/A	N/A
AK94	mature hardwood forest	mesic	40	TH	TH8	Mature	2	Mid-to-Late	1
AK95	big field	mesic	unknown	Field	N/A	N/A	N/A	N/A	N/A
AK96	mature mixedwood forest	mesic	70	MW	MW7	Mature	2	Early-to-Mid	3
AK97	mature hardwood forest	mesic	80	TH	TH6	Potential Old Growth	1	Mid-to-Late	1
AK98	immature mixedwood forest	mesic	15	MW	MW2	Immature	3	Mid	2
AK99	immature mixedwood forest	mesic	20	MW	MW2	Immature	3	Mid	2
AK100	mature coniferous forest	imperfectly drained	50	SP	SP1a	Mature	2	Early	3
AK101	mixedwood treed stream swamp	hygmic	50	WC	WC7	Mature	2	Early-to-Mid	3
AK102	immature mixedwood forest	imperfectly drained	20	MW	MW8	Immature	3	Early	3
AK103	immature mixedwood forest	mesic	20	SP	SP7	Immature	3	N/A	N/A
AK104	immature mixedwood forest	mesic	15	MW	MW9	Immature	3	N/A	N/A
AK105	mature mixedwood forest	mesic	40	MW	MW6	Mature	2	Early-to-Mid	3
AK106	mature coniferous forest	mesic	30	IH	IH9	Mature	2		