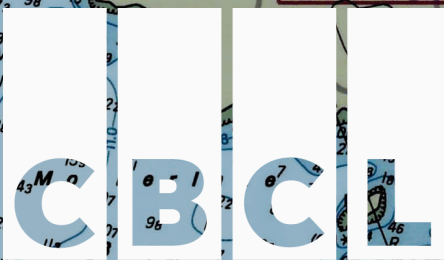


MARINE ATLANTIC INC.

Port-aux-Basques Harbour Navigation Improvement Project Plant and Lichen Report Port aux Basques, NL



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Appendices

A – AC CDC Data Report

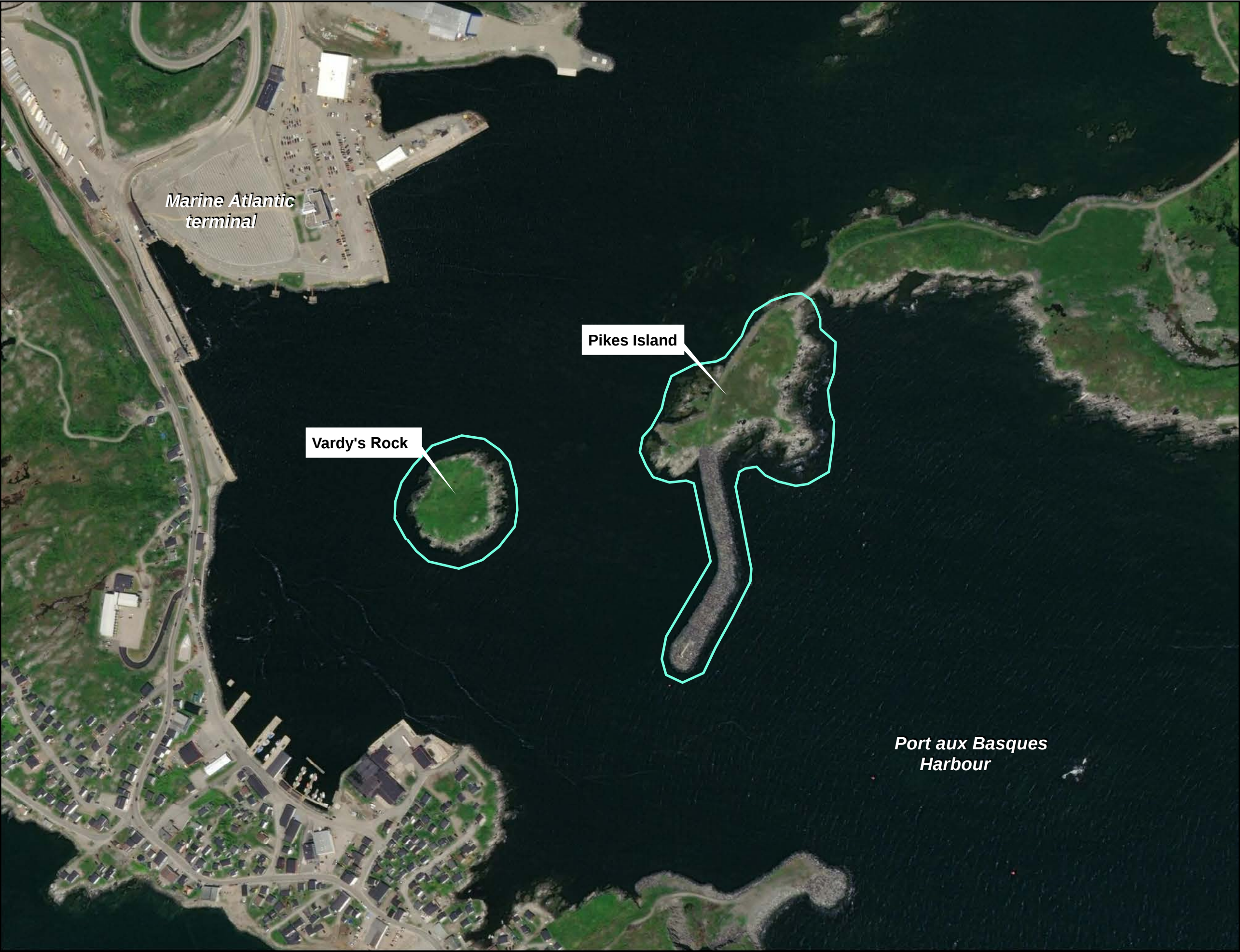
B – Vardy’s Island Plant and Lichen List

Pikes Island Plant and Lichen List

Marine Atlantic Inc. (MAI) is proposing improvements to the navigation conditions in Port aux Basques Harbour, NL (the Project). The proposed navigational improvements in the harbour involve realignment of the navigation channel and the establishment of a new turning basin. Activities required to achieve these navigational improvements include deepening the realigned channel and new turning basin, removal of Vardy's Rock (also known as Vardy's Island), partial removal of Baldwin Rock, and re-use and/or disposal of the dredged material.

To support the design of the Project and applications for environmental approvals, CBCL Limited (CBCL) completed vascular plant and lichen surveys on Vardy's Island, which is to be removed, and Pikes Island, which may be partially infilled along the eastern shore, to describe the vegetation communities and to document the occurrence of any federal or provincial Species at Risk (SAR) or Species of Conservation Concern (SoCC) present in these areas.

This report presents the findings of vascular plant and lichen surveys conducted on Vardy's Island in 2019 and 2020 and on Pikes Island in 2020. The study area is depicted in Figure 1.1.



Legend

Study Area Boundary



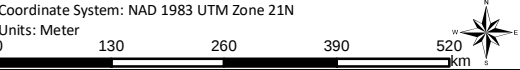
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Navigation Improvements Project
Port aux Basques, Newfoundland and Labrador

Figure 1.1: Study Area Overview and Location

Drawn by: NH	Date: 2020-09-30
Checked: BC	CBCL Project #: 192479.45
Approved: KM	Scale @ 11" x 17" : 1:8,720,293

Notes:
The vascular and non-vascular survey was conducted in October 22, 2019 outside the optimal window for observing and identified plants of significance.

Species of Conservation Concern coordinates were extracted from georeferenced photographs or Garmin 64st Waypoints. The anticipated accuracy of these locations is approximately 3 to 5 m.



2.1 AC CDC Desktop Review

A rare species data report from the Atlantic Canada Conservation Data Centre (AC CDC) was requested for the Study Area (Vardy's and Pikes Islands), and reviewed prior to the field surveys. This provided a short list of rare flora species that may occur in the Study Area, which was used to guide the vegetation field surveys.

2.2 Species Status and Ranking Definitions

The following sources were used to determine the status of plant species:

- Newfoundland and Labrador *Endangered Species Act* (NL ESA)
- *Species at Risk Act* (SARA)
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
- Atlantic Canada Conservation Data Centre (AC CDC)

For the purposes of this report, SAR refers to those that are listed on Schedule 1 of SARA or provincially protected under the NL ESA. SAR are defined as only those species that meet the following criteria:

- Listed under NL ESA as 'Extirpated', 'Endangered', 'Threatened', or 'Vulnerable'; or
- Listed under SARA Schedule 1 as 'Extirpated', 'Endangered', 'Threatened', or 'Special Concern'.

SoCC differ from SAR as they are not federally protected under Schedule 1 of SARA or provincially protected under relevant provincial species at risk legislation, such as the NL ESA. SoCC are uncommon to rare species that may be designated by COSEWIC and which may qualify for future protection and recovery under the federal *Species at Risk Act*. SoCC also include those that are provincially rare and are tracked by the AC CDC but have not yet been granted legislated protection under the NL ESA. For the purposes of this assessment, SoCC are species that are:

- Identified by COSEWIC as either 'Endangered', 'Threatened', or 'Special Concern'. but not listed under SARA Schedule 1
- Ranked by the AC CDC as variants of S1, S2, or S3 (including S3S4) in NL

Species ranks are defined by the AC CDC in Sackville, New Brunswick, for each of the Atlantic Provinces; definitions of these ranks are provided in Table 2.1. Note that AC CDC ranks are determined separately for NL and Labrador; this report utilizes the ranks determined for populations in NL. More detailed explanations of species rankings can be found in Appendix A (AC CDC, 2026). It should be noted that species rankings are not static; as more sightings are recorded (or species reports decline), ranks can be changed through a process of evaluation by AC CDC.

S-Ranks for individual species are determined by AC CDC separately for species in Newfoundland and Labrador; this report was prepared using the Newfoundland S-ranks.

Table 2.1: Interpretation of Subnational Rarity Ranks (S-Ranks) (AC CDC, 2026)

Newfoundland S-Rank	Definition
S1	Critically Imperiled - Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.
S2	Imperiled - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.
S3	Vulnerable - Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4	Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5	Secure - Common, widespread, and abundant in the province.
SNR	Unranked - Provincial conservation status not yet assessed.
SU	Unrankable - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA	Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

2.3 Habitat Delineation

The rocky shore habitat was mapped using aerial photography. Upland habitat was not further delineated, but is described based on observations from field surveys.

2.4 Field Surveys

Field surveys to document flora species present on Vardy's Island were conducted on October 22, 2019, and July 23, 2020, while surveys on Pikes Island occurred on July 24, 2020. The search pattern used in the field was a random meander (Henderson, 2010), an accepted method for detecting the presence or absence of most plant species including rare flora. All habitat types detected on Vardy's and Pikes Islands were visited.

During the vegetation surveys, running lists of vascular plants and lichens were compiled, with positive identification to species level (or highest identifiable taxon) performed, phenology allowing. The provincial conservation status of each species in Newfoundland was noted, as was their native or non-native (exotic) status. When SoCC were observed, their locations were georeferenced and compiled into a GIS database.

Species of rare vascular flora that were noted within 5 km of the Study Area are listed in Table 3.1. The AC CDC Data Report (#RQ1338) is provided in Appendix A.

Table 3.1: Rare Species Identified in the AC CDC Data Report #RQ1338 (2026)

Scientific Name	Common Name	NL S-Rank
<i>Calamagrostis breviligulata</i>	American beachgrass	S3S4
<i>Andreaea rupestris</i>	Black rock moss	S3S5
<i>Carex aurea</i>	Golden-fruited sedge	S3S4
<i>Catabrosa aquatica</i>	Brook grass	S2S3
<i>Diapensia lapponica</i>	Lapland diapensia	S3S4
<i>Dryopteris cristata</i>	Crested wood fern	S3S4
<i>Huperzia selago</i>	Fir clubmoss	S3S4
<i>Juncus gerardii</i>	Black grass	S2S3
<i>Lycopodiella appressa</i>	Southern bog club-moss	S2
<i>Lycopodium lagopus</i>	One-cone ground-pine	S2
<i>Mitchella repens</i>	Partridge-berry	S2S3
<i>Oclemena acuminata</i>	Sharp-leaf aster	S1
<i>Packera aurea</i>	Golden groundsel	S3S4
<i>Pedicularis palustris</i> ssp. <i>palustris</i>	Purple lousewort	S3S4
<i>Rhinanthus minor</i>	Little yellow-rattle	S3
<i>Rusavskia elegans</i>	Elegant sunburst lichen	S3S5
<i>Sagina nodosa</i> subsp. <i>nodosa</i>	Knotty pearlwort	S3S4
<i>Senecio pseudoarnica</i>	Seabeach groundsel	S3S4
<i>Stellaria longipes</i> subsp. <i>longipes</i>	Longstalk starwort	S3
<i>Stuckenia pectinata</i>	Sago pondweed	S2S3
<i>Utricularia geminiscapa</i>	Twin-stemmed bladderwort	S3
<i>Xanthoria parietina</i>	Maritime sunburst lichen	S1S3

A single species reported within 5 km of the Project Area by AC CDC is listed under the NL ESA and therefore subject to the regulations and provisions of the NL ESA. Sharp-leaf aster (*Oclemena acuminata*) is listed as threatened in NL. Sharp-leaf aster, also known as whorled wood aster, is common throughout eastern North America, where it tends to occur in cool, dry to moist forests with usually well-drained, often acidic soils. In Newfoundland and Labrador it is only currently known to occur primarily in J.T. Cheeseman Provincial Park, approximately 10 km east of Channel-Port aux Basques (The Species Status Advisory Committee (SSAC), 2008).

The results of the field surveys conducted for Vardy's Island in October 2019 and July 2020 are provided in the following subsections. The main habitat types detected on Vardy's Island are shown on Figure 4.1.

4.1 Habitat Types

Vardy's Island is a small island in the middle of Port aux Basques Harbour. Numerous marine navigation lights and associated structures are present on the island. Three main habitat types were identified on Vardy's Island:

- Herbaceous habitat
- Shrub habitat
- Rocky shore

No forest habitat is present on Vardy's Island. The habitat types present are described in the following subsections. The full list of vascular plant and lichen species detected by CBCL on Vardy's Island is discussed in Section 4.2.1 and provided in Appendix B.

4.1.1 Herbaceous Habitat

Herbaceous habitat is the dominant vegetation community that was observed on Vardy's Island. This habitat type consists of herbaceous species of varying heights, ranging from less than half a metre to 1.5 metres. On Vardy's Island, the herbaceous habitat was dominated by fireweed (*Chamerion angustifolium*), rough goldenrod (*Solidago rugosa*) and grasses such as Canada bluegrass (*Poa compressa*). Canada burnet (*Sanguisorba canadensis*) was also abundant. Open patches dominated by low-growing grasses such as fescue (*Festuca* sp.) also occurred. Some taller species of herbaceous vegetation occurred within this general habitat, particularly in wetter areas, such as blue-joint reedgrass (*Calamagrostis canadensis*) and fresh water cordgrass (*Spartina pectinata*). Blue flag iris (*Iris versicolour*) also occurred in the wetter areas. This habitat is very common and is typical of small coastal islands in the region.



- Legend**
- Shrub/Herbaceous habitat
 - Rocky Shoreline Habitat

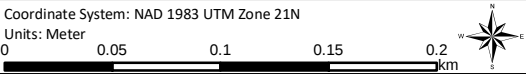


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Figure 4.1: Main Habitat Types on Vardy's and Pikes Islands

Drawn by: NH	Date: 2020-09-30
Checked:	CBCL Project #: 202479.05
Approved:	Scale @ 11" x 17" : 1:3,500

Notes:
Different habitat types on Vardys and Pikes Islands



Y:\hallax\heavy\02479_45 VARDYS ISLAND ENVIRONMENTAL\202479_05 MAP\5202479.05 PLANT AND LICHEN 50CC - FIG4.1-MAIN HABITAT TYPES ON VARDYS AND PIKES ISLANDS.mxd



Photo 1: Panoramic view of Vardy's Island in late summer, looking towards Marine Atlantic Terminal, showing predominately herbaceous vegetation.



Photo 2: View of large patch of rough Goldenrod (*Solidago rugosa*) on Vardy's Island in early September 2020.

4.1.2 Shrub Habitat

Smaller amounts of shrub habitat occurred on Vardy's Island. This habitat type consists of various shrub species of a range of heights. On Vardy's Island, the shrub habitat consisted primarily of somewhat stunted areas of red raspberry (*Rubus idaeus*), interspersed with patches of very low growing shrub species in rockier areas, especially around the shoreline. The very low shrubs included alpine blueberry

(*Vaccinium uliginosum*), black crowberry (*Empetrum nigrum*), dwarf dogwood (*Cornus canadensis*), bearberry (*Arctostaphylos uva-ursi*), Swedish dwarf dogwood (*Cornus suecica*), and black chokeberry (*Aronia melanocarpa*). Mountain cranberry and small cranberry (*V. vitis-idaea*, *V. oxycoccos*) were also common. Numerous herbaceous species were also noted intermixed with the shrubs. This habitat is very common and is typical of small coastal islands in the region.



Photo 3: Example of low shrub habitat on Vardy’s Island, dominated by alpine blueberry in this example.

4.1.3 Rocky Shore

The perimeter of Vardy’s Island consists of rocky shore, mostly bedrock with some boulders and loose rock, extending to the intertidal zone. There is little terrestrial vegetation in this habitat, though lichens are common. Salt tolerant plants such as seaside plantain (*Plantago maritima*) and silverweed (*Potentilla anserina*) occur in thin areas of soil within this habitat. Beach pea (*Lathyrus japonica*) and Scots lovage (*Ligusticum scoticum*) were also present along the edge of the rocky shore habitat.

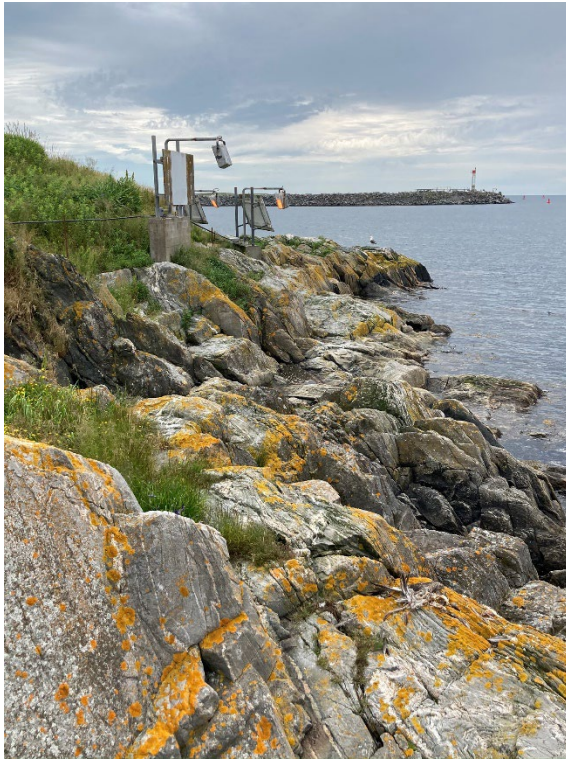


Photo 4: Views of rocky shoreline habitat on Vardy's Island, showing abundance of yellow *Xanthoria* lichen species and examples of crevice-dwelling coastal plants.

4.2 Flora Species

4.2.1 Vegetation Survey Results

A total of 68 species of vascular flora, representing 25 families, were encountered during the October 2019 and July 2020 surveys on Vardy's Island. The full list is provided in Appendix B. This included 55 native (or presumed native) species and 17 species ranked as SNA or not assessed. Three vascular plant SoCC were detected in 2019 and/or 2020 and are discussed in the following section.

Five species of lichen were observed, representing four families. The full list is provided in Appendix B. Two of these lichen species are considered to be SoCC in NL and are discussed in the following section.

The full inventory of the documented vascular plant and lichen species detected on Vardy's Island in 2019 and 2020 is provided in Appendix B.

4.2.2 Species of Conservation Concern

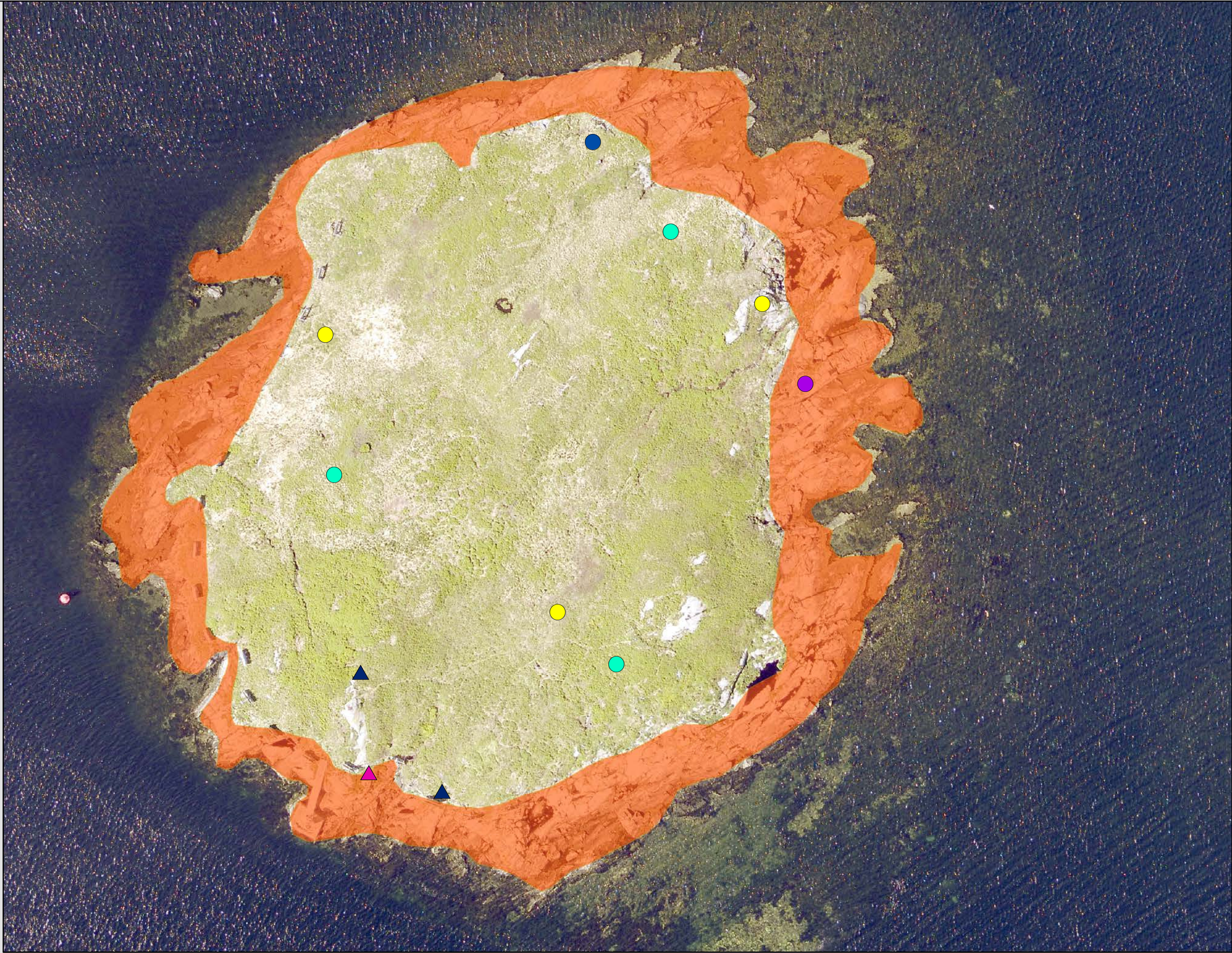
A total of six SoCC were observed during the field program on Vardy's Island (Table 4.1), representing three vascular plant and two lichen species. All of these had ranks (or partial ranks) of S3S5 or higher. No SAR were observed during the October 2019 or July 2020 surveys. The locations of the SoCC sightings on Vardy's Island are depicted on Figure 4.2.

Table 4.1: Species of Conservation Concern observed on Vardy’s Island (2019, 2020)

Scientific Name	Common Name	NL S-Rank
<i>Spartina pectinata</i>	Fresh water cordgrass	S3S4
<i>Aronia melanocarpa</i>	Black chokeberry	S2S4
<i>Angelica lucida</i>	Sea watch (Angelica)	S3S5
<i>Juncus gerardii</i>	Black grass	S2S3
<i>Xanthoria parietina</i>	Maritime sunburst lichen	S1S3
<i>Polycauliona polycarpa</i>	Pincushion sunburst lichen	S3S4

None of the uncommon to rare species reported within 5 km of Vardy’s Island were determined to be present on Vardy’s Island during the surveys in 2019 or 2020. A small amount of suitable habitat may exist on Vardy’s Island for one of the species reported by the AC CDC (Seabeach groundsel, which prefers cobbly shores). The remainder of the species generally prefer freshwater, calcareous, or bog habitat, which are not present on Vardy’s Island. It should be noted that little yellow rattle was detected on Vardy’s Island in 2020; however, closer examination of this specimen showed it to be an introduced subspecies, and not the native subspecies which is considered to be an SoCC in NL.

Descriptions of SoCC detected on Vardy’s Island and/or Pikes Island are provided in Section 6.



Legend

- Black Chokeberry (*Aronia melanocarpa*, S2S4)
- Black Grass (*Juncus gerardii*, S2S3)
- Fresh Water Cordgrass (*Spartina pectinata*, S3S4)
- Seawatch (*Angelica lucida*, S3S4)
- Maritime Sunburst Lichen (*Xanthoria parietina*, S1S3)
- Pincushion Sunburst Lichen (*Xanthoria polycarpa*, S3S4)
- Rocky Shoreline - Potential Habitat for *Xanthoria* spp.



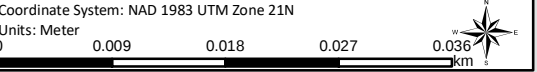
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Figure 4.2:Vascular Plant and Lichen Species of Conservation Concern on Vardy's Island, 2019 and 2020

Drawn by: NH	Date: 2020-09-30
Checked: BC	CBCL Project #: 202479.05
Approved: KM	Scale @ 11" x 17" : 1:600

Notes:
The vascular and non-vascular survey was conducted in October 22, 2019 outside the optimal window for observing and identified plants of significance.

Species of Conservation Concern coordinates were extracted from georeferenced photographs or Garmin 64st Waypoints. The anticipated accuracy of these locations is approximately 3 to 5 m.



The results of the desktop review and field surveys conducted for Pikes Island in July 2020 are provided in the following subsections. The main habitat types detected on Pikes Island are shown on Figure 4.1.

5.1 Habitat Types

Pikes Island is a small island in the eastern portion of Port aux Basques Harbour. It is connected to the mainland by a short causeway. A gravel trail extends over this causeway to the southern tip of the island, where a long breakwater terminating in a navigation light structure has been constructed. A line of power poles extends across the island to power the light. The remains of an old fishing dock are present. Three main habitat types were determined to occur on Pikes Island:

- Herbaceous habitat
- Shrub habitat
- Rocky shore

Similar to Vardy's Island, no forest habitat is present. The habitat types present are described in the following subsections. The full list of vascular plant species detected by CBCL on Pikes Island is discussed in Section 5.2 and provided in Appendix B.

5.1.1 Shrub Habitat

A large portion of Pikes Island was covered in low shrub habitat. Shrubs tend to be much lower in height and/or stunted than those observed on Vardy's Island. Predominant species include ericaceous shrubs such as black crowberry, late lowbush blueberry, bog bilberry (*Vaccinium uliginosum*), bunchberry, and Swedish dogwood. Slightly taller shrub species include low stunted specimens of speckled alder (*Alnus incana*) and white spruce (*Picea glauca*), black chokeberry and rock crowberry (*Empetrum eamesii*) were also noted on Pikes Island. Numerous herbaceous species also grew intermixed with the shrubs.



Photo 5: Example of low shrub habitat on Pikes Island, dominated by bunchberry and bog bilberry.



Photo 6: Example of low shrub habitat grading into herbaceous habitat around exposed bedrock on Pikes Island.

5.1.2 Herbaceous Habitat

Herbaceous habitat occurred in patches on Pikes Island. This habitat type consists of various herbaceous species of varying heights. On Pikes Island, common species within this habitat included Scots lovage, Fireweed, rough goldenrod, and Canada burnet (*Sanguisorba canadensis*). Sedges such as chaffy sedge (*Carex paleacea*) and shore sedge (*Carex lenticularis*) were abundant in lower wetter areas, where blue-joint reedgrass (*Calamagrostis canadensis*) and blue flag iris (*Iris versicolour*) also occurred. Open patches dominated by low-growing grasses such as fescue (*Festuca* sp.) also occurred, particularly along the old trails. Beach head iris (*Iris hookeri*) occurred along the rocky shoreline above the high tide mark, as did Giesecke's bellflower (*Campanula gieseckiana*). Small purple fringed orchid (*Platanthera psycodes*) also occurred frequently within the low shrub habitat.

This habitat is very common and is typical of small coastal islands in the region. Photo 7 depicts this habitat on Pikes Island.



Photo 7: Example of primarily herbaceous habitat on Pikes Island.

5.1.3 Rocky Shore

The perimeter of Pikes Island consists of rocky shore, mostly bedrock with some boulders and loose rock, extending to the intertidal zone. A few small areas of cobble beach area present. The shore appears to have been built up with large rough boulders in some areas. A small causeway connecting the Island to the mainland is also present. The shoreline is generally less steep than on Vardy's Island and the shoreline vegetation communities are more developed than on Vardy's, particularly on the more sheltered western coast. Beach pea (*Lathyrus japonica*), Canada burnet, and Scots lovage

(*Ligusticum scoticum*) were very abundant along the edge of the rocky shore habitat. Lichens are also abundant within this habitat, particularly rocktripes and *Xanthoria* species. An indistinct wet area with some exposed peat subsoil is present on the east side of the Island and some brackish wetland species occur here, such as seaside crowfoot (*Halerpestes cymbalaria*) and creeping spikerush (*Eleocharis uniglumis*). A colony of seabeach groundsel, an SoCC in NL, was also observed along this side of the Island, on a small patch of cobble shore.



Photo 8: Example views of rocky shorelines around Pikes Island.

5.2 Vegetation Survey Results

A total of 84 species of vascular flora representing 30 families were encountered during the July 2020 survey. This included 68 native species, and 16 of exotic or undetermined origin. Five vascular plant SoCC were detected, which are listed in the following section.

Twelve species of lichen were observed, representing six families. Four of these are SoCC and are also listed in the following section.

The full inventory of the vascular plant and lichen species detected on Pikes Island in 2020 is provided in Appendix B.

5.3 Species of Conservation Concern

A total of eight SoCC were observed during the field program on Pikes Island (Table 5.1), representing four vascular plants and four lichen species.

Table 5.1: Species of Conservation Concern observed on Pikes Island (2020)

Scientific Name	Common Name	NL S-Rank
<i>Juncus gerardii</i>	Black grass	S2S3
<i>Angelica lucida</i>	Sea watch	S3S5
<i>Aronia melanocarpa</i>	Black chokeberry	S2S4
<i>Senecio pseudoarnica</i>	Seabeach groundsel	S3S4
<i>Xanthoria parietina</i>	Maritime sunburst lichen	S1S3
<i>Umbilicaria deusta</i>	Peppered rocktripe lichen	S3S4
<i>Polycauliona polycarpa</i>	Pincushion sunburst lichen	S3S4
<i>Rusavskia elegans</i>	Elegant sunburst lichen	S3S5

No SAR were observed during the July 2020 surveys. The mapped locations of the SoCC sightings on Pikes Island are depicted on Figure 5.1.

One of the uncommon-to-rare species reported within 5 km of Vardy's and Pikes Islands was determined to be present at Pikes Island during the survey. A considerable patch of seabeach groundsel (*Senecio pseudoarnica*) was detected on the eastern shore of Pikes Island. As with Vardy's Island, suitable habitat may exist for some of the other vascular flora species identified within a short distance of Pikes Island.

Descriptions of SoCC detected on Vardy's Island and/or Pikes Island are provided in Section 6.



- Legend**
- Black Chokeberry (*Aronia melanocarpa*, S2S4)
 - Creeping Spike Rush (*Eleocharis palustris*, S3S4)
 - Saltmeadow Rush (*Juncus gerardii*, S2S3)
 - Elegant Sunburst Lichen (*Xanthoria elegans*, S1S3)
 - Maritime Sunburst Lichen (*Xanthoria parietina*, S1S3)
 - Peppered Rocktripe Lichen (*Umbilicaria deusta*, S3S4)
 - Pincushion Sunburst Lichen (*Xanthoria polycarpa*, S3S4)
 - Beach Groundsel (*Senecio Pseudoarnica*, S3S4)
 - Rocky Shoreline - Potential Habitat for *Xanthoria* and *Umbilicaria deusta* spp.



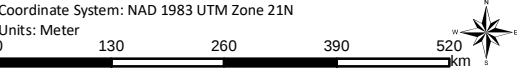
MARINE ATLANTIC INC.
Navigation Improvement Project
Port aux Basques, Newfoundland and Labrador

Figure 5.1: Vascular Plant and Lichen Species of Conservation Concern on Pikes Island, 2020.

Drawn by: NH	Date: 2020-09-30
Checked: BC	CBCL Project #: 202479..05
Approved: KM	Scale @ 11" x 17" : 1:8,720,293

Notes:
The vascular and non-vascular survey was conducted in October 22, 2019 outside the optimal window for observing and identified plants of significance.

Species of Conservation Concern coordinates were extracted from georeferenced photographs or Garmin 64st Waypoints. The anticipated accuracy of these locations is approximately 3 to 5 m.



Brief descriptions of each SoCC, their habitat requirements, and their current AC CDC ranks in Newfoundland are provided in the following paragraphs.

It should be noted that one species which appears to be listed by AC CDC was detected on both Vardy's and Pikes Island. However, on closer examination, the specimens of little yellow rattle (*Rhinanthus minor*, S3) was determined to be an introduced subspecies, not the native subspecies that is an SoCC.

6.1 Fresh Water Cordgrass (*Spartina pectinata*)

Spartina pectinata is a perennial grass with long, purplish brown to light brown rhizomes (Mittelhauser et al., 2019). The tallest of the cordgrasses, its culm can reach up to two metres in height (Roland and Zinck, 1998). The inflorescence is an open-to-dense panicle with closely crowded and overlapping spikelets arranged on only one side of the inflorescence branches (Roland and Zinck, 1998; Mittelhauser et al., 2019). Unlike its close relative, *Spartina alterniflora*, this cordgrass is found in both saline and non-saline habitats (Mittelhauser et al., 2019). *Spartina pectinata* grows in freshwater and brackish marshes, shorelines, wet meadows, and along salted roadsides (Mittelhauser et al., 2019), and is common in New Brunswick and Nova Scotia. In Newfoundland, this species is listed as S3S4 (Vulnerable to Apparently Secure) (2026).

Freshwater cordgrass was detected on Vardy's Island in 2019, at the location depicted on Figure 4.2. This large distinct species was not redetected in July 2020.

6.2 Black Chokeberry (*Aronia melanocarpa*)

Aronia melanocarpa is a low shrub, growing a few metres in height (Roland and Zinck, 1998). A member of the rose family, it blooms in the spring (May to early June) with showy white flowers in branching, terminal clusters (Newcomb, 1977). The leaves are alternate, simple, glabrous, and elliptic with serrate margins (Plumb, 2009). Black chokeberry is considered a valuable plant for providing food, shelter, cover, and nesting habitat for wildlife including bear, birds, snow-shoe hare, rodents, and small mammals (Plumb, 2009). Its range is from Newfoundland, Canada to Michigan, US and south to Florida. It will grow in peat bogs, swamps, and areas with poorly drained soils, and is most frequently seen along the Atlantic coast (Roland and Zinck, 1998). In Newfoundland, this species is listed as S2S4 (Imperiled to Apparently Secure) (2026).

Black chokeberry was detected on Vardy's Island in 2019 and on Vardy's and Pikes Islands in 2020. Locations are depicted on Figure 4.2 and Figure 5.1.

6.3 Black Grass (*Juncus gerardii*)

Black grass is not a grass but instead is a small member of the rush family Juncaceae. Also known as black needle rush or saltmarsh rush, this species grows in colonies in exposed coastal estuary meadows and salt marshes just above the high-tide line. It can also be found inland on saline soils. In eastern Canada, black grass flowers and produces seed from June to September. In Newfoundland, this species is listed as S2S3 (Imperilled to Vulnerable) by AC CDC (2026).

A small colony of this species was noted on the shore of Pikes Island on July 24, 2020 (Figure 5.1). A small patch was also observed on the shore of Vardy's Island on July 23, 2020 (Figure 4.2).

6.4 Sea Watch (*Angelica lucida*)

A member of the Apiaceae or Umbelliferae (parsley) family, sea watch (also known as 'Angelica') is a tall plant with unbranched hollow stems, swollen leaf sheaths, and compound leaves on long petioles. This species has large flat clusters of flowers that are greenish white or white. Sea watch occurs on gravelly beaches and coasts headlands well as sandy shores, where it usually blooms in July and August. In Newfoundland, this species is listed as S3S5 (Vulnerable to Secure) by AC CDC (2026).

A few specimens of this species were noted scattered on Vardy's Island in 2020 (Figure 4.2).

6.5 Seabeach Groundsel (*Senecio pseudoarnica*)

Seabeach groundsel is a stout herbaceous plant with slightly fuzzy white stems, elliptic to ovate leaves, and yellow daisy-like blooms. It grows only on gravelly or sandy seashores. It occurs on both the eastern and western coasts of Canada, as well as parts of Pacific Asia. Seabeach groundsel is provincially ranked on the island of Newfoundland as S3S4 (Vulnerable to Apparently Secure) by AC CDC (2026).

A considerable patch of seabeach groundsel, estimated at over 100 individual specimens, was detected on the eastern shore of Vardy's Island during the July 2020 survey. This is not the patch reported within 5 km of Vardy's Island by the AC CDC, but instead is a new occurrence report for this species. The location is depicted on Figure 4.2.

6.6 Maritime Sunburst Lichen (*Xanthoria parietina*)

Maritime sunburst lichen, or wall lichen (*Xanthoria parietina*), is a species of foliose (leafy) lichen with a large thallus and broad lobes, forming rosettes up to 10 cm in diameter (Brodo et al., 2001; Hinds and Hinds, 2007). Cup-shaped reproductive structures (apothecia) are abundant on the upper surface. The

colour of the upper thallus varies with sun exposure, ranging from greenish yellow (in shade) to orange (in full sun conditions) while the lower surface is white, with sparse pale root-like structures (rhizines) (Hinds and Hinds, 2007). Maritime sunburst lichen grows on bark, especially of elms and poplars, and on rock and concrete in sunny areas. This species is widely distributed globally, but is usually restricted to areas near the Atlantic and Pacific Oceans and the Gulf of Maine within North America (Hinds and Hinds, 2007), occurring rarely inland (Brodo et al., 2001). It can be very conspicuous in coastal areas, where it forms bright orange patches on trees and rocks (Hinds and Hinds, 2007). In Newfoundland, this species is listed as S1S3 (Critically Imperiled to Vulnerable) by AC CDC (2026).

Maritime sunburst lichen was detected on Vardy's Island in 2019 at the location(s) depicted on Figure 4.2. It was also detected on Pikes Island in 2020 (see Figure 5.1). Suitable habitat for this species was common around the shore of each island.

6.7 Pincushion Sunburst Lichen (*Polycauliona polycarpa*)

Pincushion sunburst lichen (*Polycauliona polycarpa*, formerly *Xanthoria polycarpa*) is a species of foliose (leafy) lichen with a small thallus and narrow, abundantly branching lobes. The thallus does not usually exceed 2.5 cm in diameter (Brodo et al., 2001). Cup-shaped reproductive structures (apothecia) are relatively large and abundant and crowd the centre of the upper surface of the thallus. The upper surface of the thallus is yellow-orange to orange while the lower surface is white and wrinkled with no true rhizines (Hinds and Hinds, 2007). Pincushion sunburst lichen grows on bark, especially twigs and branches of spruce, oak, and fir, as well as on rock and wood (Brodo et al., 2001). In eastern North America, this species is primarily a coastal species, and can be conspicuous on exposed trees and rocks close to the ocean (Brodo et al., 2001). This species has recently been reclassified as *Polycauliona polycarpa*, though this change in nomenclature is not currently adopted within the AC CDC ranks. In Newfoundland, this species is listed as S3S4 (Vulnerable to Apparently Secure) by AC CDC (2026).

Pincushion sunburst lichen was detected on Vardy's Island in 2019, at the location(s) depicted on Figure 4.2. It was also detected on Pikes Island in 2020 (see Figure 5.1). Suitable habitat for this species was common around the shore of each island.

6.8 Elegant Sunburst Lichen (*Rusavskia elegans*)

Elegant sunburst lichen, (*Rusavskia* (formerly *Xanthoria*) *elegans*), is a species of foliose (leafy) lichen with a large thallus and narrow lobes (Brodo et al., 2001; Hinds and Hinds, 2007). Cup-shaped reproductive structures (apothecia) can be abundant on the upper surface. The colour of the upper thallus varies from pale yellow orange to dark red-orange, while the lower surface is white, without any rhizines (root-like structures) (Brodo et al., 2010). Elegant sunburst lichen grows on rock in open sunny sites, especially sites rich in nutrients due to the presence of bird or mammal droppings, and may also grow on wood or bone.

This species is widely distributed within North America (Brodo et al., 2001). In Newfoundland, this species is listed as S3S5 (Vulnerable to Secure) by AC CDC (2026).

This species was noted at several locations around the shore of Pikes Island. The whole shoreline could be considered suitable habitat for this species (Figure 5.1).

6.9 Peppered Rocktripe Lichen (*Umbilicaria deusta*)

Peppered rocktripe lichen (*Umbilicaria deusta*) is a species of foliose (leafy) lichen with a rather large round thallus which grows on rocky substrates, attached by a central holdfast. The thallus is dark brown to black above and speckled with tiny black granular reproductive structures (isidia), hence the 'peppered' part of the common name (Brodo et al., 2001). The underside of the thallus is also dark brown to black, and smooth or sometimes dimpled, with no rhizines. The broad thallus can reach up to 9 cm in diameter. Peppered rocktripe grows on exposed boulders and outcrops, and occurs throughout most of Canada (Brodo et al., 2001). In Newfoundland, this species is listed as S3S4 (Vulnerable to Apparently Secure) by AC CDC (2026).

Peppered rocktripe lichen was detected at numerous locations on Pikes Island in 2020, as depicted on Figure 5.1. The whole coastal portion of Pikes Island could be considered to be suitable habitat for this species (Figure 5.1).

7.1 Vardy's Island

No federally or provincially listed plant or lichen species were identified on Vardy's Island during the field survey conducted in October 22, 2019, and July 23, 2020. Four SoCC were identified on Vardy's Island, including two vascular plant species (*Aronia melanocarpa* and *Spartina pectinata*) and two lichen species (*Xanthoria polycarpa* and *Xanthoria parietina*).

7.2 Pikes Island

No federally or provincially listed plant or lichen species were identified on Pikes Island during the field survey conducted on July 24, 2020. Nine SoCC were identified on Pikes Island, including five vascular plant species (black grass, sea watch, black chokeberry, and seabeach groundsel) and four lichen species (Maritime sunburst lichen, pincushion sunburst lichen, elegant sunburst lichen, and peppered rocktripe lichen).

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- Munro, M. C., Newell, R. E. and Hill, N. M. 2014. Nova Scotia Plants. Province of Nova Scotia. 1553 pp. Available at: <https://ojs.library.dal.ca/index.php/NSM/nsPlants>
- Newcomb, L. 1977. Newcomb's wildflower guide.
- Plumb, H. 2009. Plant fact sheet for black chokecherry (*Prunus virginiana* L. var. *melanocarpa* (A. Nelson) Sarg). USDA-Natural Resources Conservation Service, Upper Colorado Environmental Plant Center, Meeker, CO, 81641.
- Roland, A.E. and Zinck, M., 1998. Roland's flora of Nova Scotia. Nova Scotia Museum.
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APPENDIX A

AC CDC Data Report



NL Data Request RQ1338: Pikes Island

Prepared Friday, May 15, 2026

by Adam Durocher, Data Manager

CONTENTS OF REPORT

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- 4.1. Rare Fauna
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5. Rare Species within 100 km

6. Expert Opinion

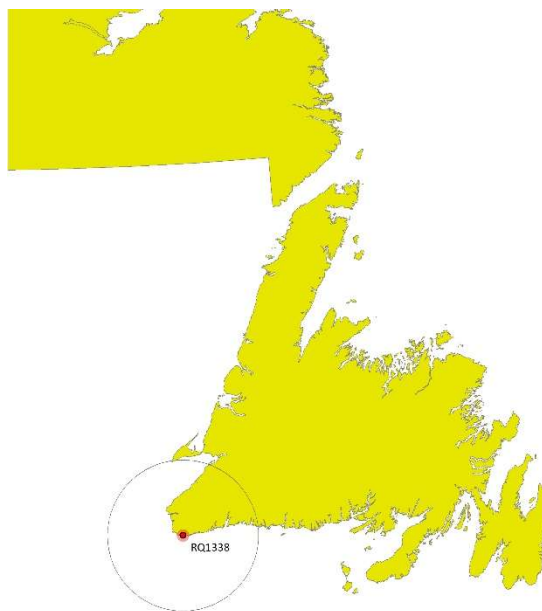


Figure 1: A 100km buffer around the point of interest.

1.0 Introduction

The Atlantic Canada Conservation Data Centre (AC CDC; www.accdc.com) is part of the network of NatureServe data centres and heritage programs serving all 50 states, 10 provinces and 3 Canadian territories, 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 Maritimes, as well as Newfoundland and Labrador. Although a non-governmental agency, the AC CDC is supported by six federal agencies and four 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 SUPPLEMENTAL FILES

Included datasets:

<u>Filename</u>	<u>Contents</u>
RareFlora.xlsx	a list of the rare flora records, including their SRANK, NRANK, GRANK and habitats.
RareFauna.xlsx	a list of rare fauna records, including their SRANK, NRANK, GRANK and habitats.
DataDictionary.doc	Definitions of the various columns in RareFlora.xlsx and RareFauna.xlsx.

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.
- h) Woodland Caribou observations and occurrences aren't retained in the ACCDC-NL database and will not appear in data request results. Questions about Woodland Caribou should be directed to the Wildlife Division.

1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides explanations of the fields in RareFauna.xls and RareFlora.xls.

2.0 SPECIES AT RISK (SAR) AND SPECIES OF CONSERVATION CONCERN

2.1 FLORA

The 5-kilometer search area around your point of interest contains 25 rare flora records. Of these 25 rare flora records, only Sharpleaf Aster (*Oclemena acuminata*) is listed provincially under the Endangered Species Act (ESA) as *Threatened*. The remaining rare flora records are for species not found on the provincial Endangered Species Act (ESA) or COSEWIC lists, but these species are considered rare for the Island of Newfoundland.

2.2 FAUNA

The study area contains 44 rare fauna records. Of these 44 rare fauna records, there is 1 Banded Killifish record (listed as *Special Concern* under COSEWIC and *Vulnerable* under our ESA), 4 Lesser Yellowlegs records (listed as *Threatened* under COSEWIC and our ESA), and 14 Piping Plover records (listed as *Endangered* under both COSEWIC and our ESA). The remaining rare fauna records are for species which are not provincially or nationally listed, but are considered rare on the Island of Newfoundland.

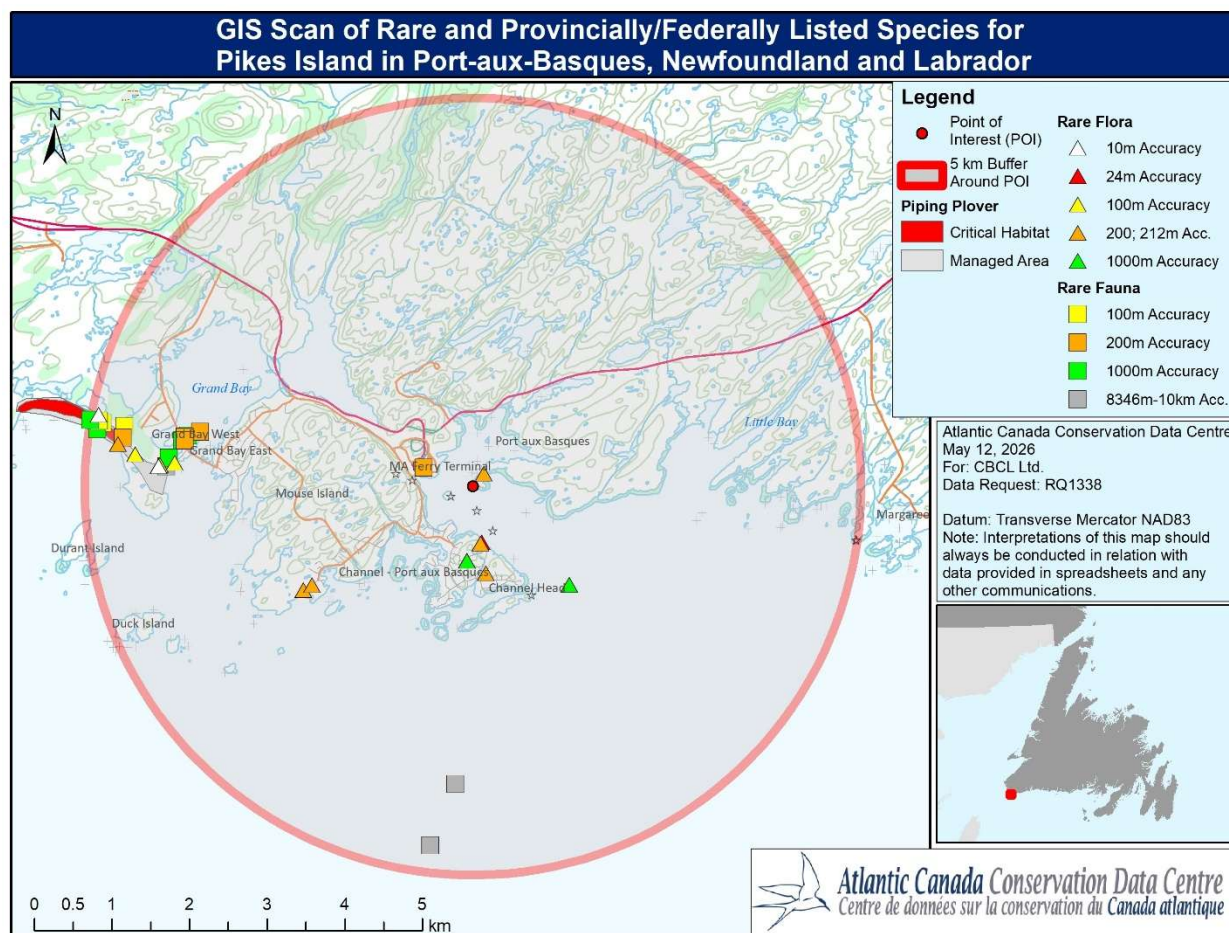


Figure 2: Known observations of rare and/or protected flora and fauna within the search area

3.0 SPECIAL AREAS

3.1 MANAGED AREAS

The GIS scan identified one managed area or sensitive wildlife area (Rocky Barachois Bight Piping Plover beach) in the vicinity of the five-km search area.

3.2 SIGNIFICANT AREAS

Significant Areas are sites with a conservation designation and management that qualifies them for listing in the Canadian Protected and Conserved Areas Database (CPCAD; <https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/protected-conserved-areas-database.html>). The absence of a “Significant Area” within a site or region does not indicate an absence of ecologically significant properties. The GIS scan identified zero biologically significant sites in the vicinity of the study area (Map 3).

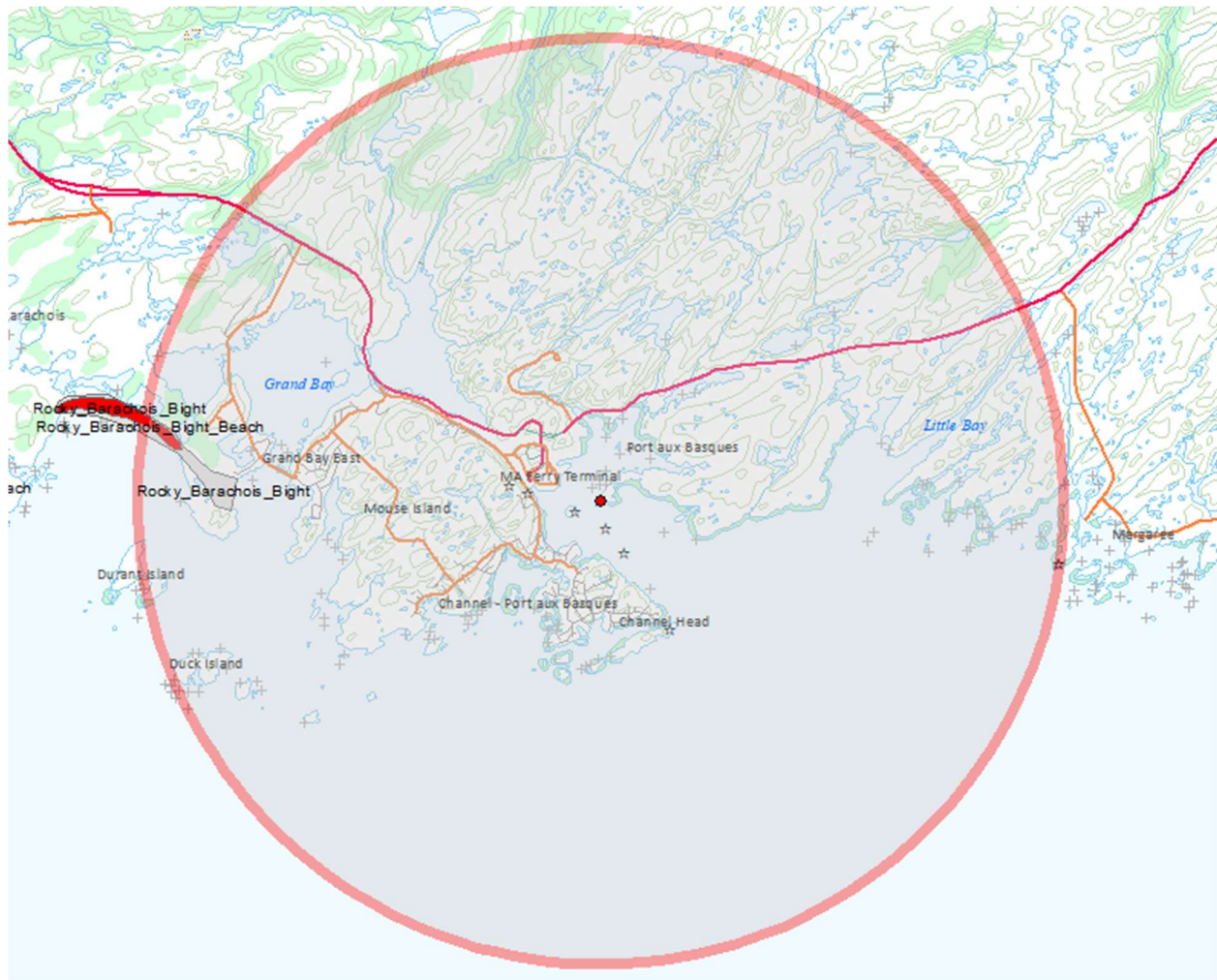


Figure 3: Boundaries and/or locations of known Managed and Significant Areas within the study area

4.0 RARE SPECIES LISTS

Rare and/or endangered taxa within the five-km search area are listed below.

4.1 Rare Fauna

GNAME	GCOMNAME	OBSERVERS	Month	Day	Year	RARITY RANK	COSEWIC_ST	PROVINCIAL
Fundulus diaphanus	Banded Killifish		0	0	2002	S3	Special Concern	Vulnerable
Pluvialis squatarola	Black-bellied Plover	inaturalist user: kblaney	7	30	2019	S3M		
Pluvialis squatarola	Black-bellied Plover	inaturalist user: fblb2003	9	23	2023	S3M		
Pluvialis squatarola	Black-bellied Plover	Terri Donovan	7	22	2024	S3M		
Tringa semipalmata	Eastern Willet	inaturalist user: paulreevesphotography	5	24	2016	S1B,SUM		
Tringa melanoleuca	Greater Yellowlegs	inaturalist user: fblb2003	9	23	2023	S3B,S4M		
Tringa melanoleuca	Greater Yellowlegs	Terri Donovan	7	22	2024	S3B,S4M		
Tringa melanoleuca	Greater Yellowlegs	Terri Donovan	7	24	2024	S3B,S4M		
Tringa melanoleuca	Greater Yellowlegs	Terri Donovan	7	26	2024	S3B,S4M		
Calidris minutilla	Least Sandpiper	inaturalist user: kblaney	7	30	2019	S3B,S4M		
Calidris minutilla	Least Sandpiper	Terri Donovan	7	24	2024	S3B,S4M		
Tringa flavipes	Lesser Yellowlegs	inaturalist user: kblaney	7	30	2019	S2S3M	Threatened	Threatened
Tringa flavipes	Lesser Yellowlegs	Terri Donovan	7	22	2024	S2S3M	Threatened	Threatened
Tringa flavipes	Lesser Yellowlegs	Terri Donovan	7	24	2024	S2S3M	Threatened	Threatened

Tringa flavipes	Lesser Yellowlegs	Terri Donovan	7	26	2024	S2S3M	Threatened	Threatened
Morus bassanus	Northern Gannet	inaturalist user: agmcml	8	11	2018	S2B		
Morus bassanus	Northern Gannet	inaturalist user: salmonskyview	6	21	2018	S2B		
Morus bassanus	Northern Gannet	inaturalist user: salmonskyview	6	21	2018	S2B		
Circus hudsonius	Northern Harrier	inaturalist user: kblaney	7	30	2019	S3B,SUM		
Charadrius melodus	Piping Plover	Douglas K. Gibbons	5	26	1998	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Todd Marshall	4	30	2004	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Todd Marshall	5	9	2004	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Jason Foster	8	9	2007	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Leah Soper, Mike Bennet, Paul Grenier	7	21	1999	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Joe Brazil	6	6	1992	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Eric Menchenton and Ed Anderson	7	18	1995	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Cathy Ryan	6	8	1994	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Cathy Ryan	7	2	1994	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Cathy Ryan	8	20	1994	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Cathy Ryan	6	8	1994	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Cathy Ryan	0		1994	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	LaFrense	6	12	1999	S1B,SUM	Endangered	Endangered
Charadrius melodus	Piping Plover	Blanchard, Kathleen, Billard, David, Wall, Russell and Bennett, Eric	7	29	2024	S1B,SUM	Endangered	Endangered
Charadrius semipalmatus	Semipalmated Plover	inaturalist user: kblaney	7	30	2019	S1B,S4M		

Charadrius semipalmatus	Semipalmated Plover	Terri Donovan	7	22	2024	S1B,S4M		
Charadrius semipalmatus	Semipalmated Plover	Terri Donovan	7	24	2024	S1B,S4M		
Charadrius semipalmatus	Semipalmated Plover	Terri Donovan	7	26	2024	S1B,S4M		
Calidris pusilla	Semipalmated Sandpiper	inaturalist user: kblaney	7	30	2019	S3M		
Calidris pusilla	Semipalmated Sandpiper	Terri Donovan	7	24	2024	S3M		
Limnodromus griseus	Short-billed Dowitcher	inaturalist user: kblaney	7	30	2019	S3M		
Limnodromus griseus	Short-billed Dowitcher	Terri Donovan	7	22	2024	S3M		
Limnodromus griseus	Short-billed Dowitcher	Terri Donovan	7	24	2024	S3M		
Limnodromus griseus	Short-billed Dowitcher	Terri Donovan	7	26	2024	S3M		
Calidris fuscicollis	White-rumped Sandpiper	Terri Donovan	7	26	2024	S3M		

4.2 Rare Flora

GNAME	GCOMNAME	OBSERVERS	Day	Month	Year	RARITY RANK	PROV END ACT	COSEWIC
Diapensia lapponica	Lapland Diapensia	iNaturalist user: icbryson	22	10	2019	S3S4		
Xanthoria parietina	Maritime Sunburst Lichen	iNaturalist user: icbryson	22	10	2019	S1S3		
Rusavskia elegans	Elegant Sunburst Lichen	iNaturalist user: breton	23	7	2020	S3S5		
Juncus gerardii	Black Grass	iNaturalist user: breton	24	7	2020	S2S3		
Rhinanthus minor	Little Yellow-Rattle	iNaturalist user: breton	23	7	2020	S3		

Utricularia geminiscapa	Twin-Stemmed Bladderwort	Fernald, M.L., B. Long, B. Dunbar	20	7	1924	S3		
Lycopodiella appressa	Southern Bog Club-Moss	Fernald, M.L., B. Long, B. Dunbar	21	7	1924	S2		
Catabrosa aquatica	Brook Grass	Fernald; Long; Dunbar	20	7	1924	S2S3		
Mitchella repens	Partridge-Berry	Fernald, M.L., B. Long, B. Dunbar	20	7	1924	S2S3		
Oclemena acuminata	Sharpleaf Aster	Fernald, M.L., B. Long, B. Dunbar	31	8	1924	S1	Threatened	
Huperzia selago	Fir Clubmoss	Djan-ChÃ©kar, N., Hanel, C. Lafosse, L. and Mann, H.	8	9	2000	S3S4		
Dryopteris cristata	Crested Wood Fern	Djan-ChÃ©kar, N., Hanel, C. Lafosse, L. and Mann, H.	8	9	2000	S3S4		
Calamagrostis breviligulata	American Beachgrass	Hanel, C. and Powell, S.	5	7	2000	S3S4		
Sagina nodosa ssp. nodosa	knotty pearlwort	Hanel, C. and Powell, S.	5	7	2000	S3S4		
Packera aurea	Golden Groundsel	Hanel, C. and Powell, S.	5	7	2000	S3S4		
Stellaria longipes ssp. longipes	longstalk starwort	Hanel, C. and Powell, S.	5	7	2000	S3		
Rhinanthus minor	Little Yellow-Rattle	Hanel, C. and Powell, S.	5	7	2000	S3		
Stuckenia pectinata	sago pondweed	Djan-ChÃ©kar, N., Hanel, C., Lafosse, L. and Mann, H.	8	9	2000	S2S3		
Lycopodium lagopus	One-Cone Gound-Pine	Maunder, John E.	23	7	1997	S2		
Pedicularis palustris ssp. palustris	Purple Lousewort	Maunder, John E.	23	7	1997	S3S4		
Andreaea rupestris	Black Rock Moss	Tuomikoski, R.	30	6	1949	S3S5		
Calamagrostis breviligulata	American Beachgrass	C. Hanel, J. E. Maunder and Wildflower Society members.	12	7	2007	S3S4		

Carex aurea	Golden-Fruited Sedge	C. Hanel, J. E. Maunder and Wildflower Society members.	12	7	2007	S3S4		
Rhinanthus minor	Little Yellow-Rattle	C. Hanel, J. E. Maunder and Wildflower Society members.	12	7	2007	S3		
Stellaria longipes	Long-Stalked Stitchwort	iNaturalist user: newfiehabsfan	18	7	2019	S3		

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the point of interest contains 1118 rare fauna records and 1230 rare flora records.

These are taxa within 100 km of the study site that are rare and/or endangered in the subnation (Island of Newfoundland or Labrador) in which the study site occurs. All ranks correspond to the subnation in which the study site falls. The ACCDC-NL databases and the Maritimes database are two separate entities and searches from Southwestern Newfoundland will not include Nova Scotia's St. Paul Island.

GNAME	GCOMNAME	Most Recent Year	Rarity Rank	COSEWIC STATUS	PROVINCIAL	# RECS:
Acanthis flammea	Common Redpoll	1987	S2S3B,S4N,SUM			2
Accipiter atricapillus	American Goshawk	2010	S3			2
Accipiter atricapillus	Northern Goshawk	2023	S3			3
Aegolius acadicus	Northern Saw-Whet Owl	2023	S3B			3
Agelaius phoeniceus	Red-winged Blackbird	2022	S1B,SUM			22
Alca torda	Razorbill	2023	S3B			4
Anas acuta	Northern Pintail	2022	S3B,SUM			13
Anas platyrhynchos	Mallard	2022	S3B,SUM			10
Anthus rubescens	American Pipit	2019	S3B,S4M			2
Archilochus colubris	Ruby-throated Hummingbird	2021	S1B,SUM			2
Ardea herodias	Great Blue Heron	2023	S2B,SUM			63
Arenaria interpres	Ruddy Turnstone	2019	S2S3M			5

Asio flammeus	Short-eared Owl	2016	S2S3B	Threatened	Threatened	15
Besma quercivoraria	Oak Besma Moth	2023	S3S5			1
Biston betularia	Peppered Moth	2010	S3S4			1
Bombus terricola	Yellow-banded Bumble Bee	2019	S3S4	Special Concern	Vulnerable	1
Bubo scandiacus	Snowy Owl	2002	S3N,SUM	Threatened		1
Bucephala albeola	Bufflehead	1987	S1S2B,S1S2N,SUM			1
Buteo lagopus	Rough-legged Hawk	2012	S2S3			2
Calidris alba	Sanderling	2020	S2N,S3M			5
Calidris canutus	Red Knot	2018	S2M	Endangered	Endangered	1
Calidris fuscicollis	White-rumped Sandpiper	2024	S3M			1
Calidris maritima	Purple Sandpiper	2022	S3N			1
Calidris minutilla	Least Sandpiper	2024	S3B,S4M			2
Calidris pusilla	Semipalmated Sandpiper	2024	S3M			5
Callophrys augustinus	Brown Elf		S3			2
Calopteryx aequabilis	River Jewelwing	2022	S3			1
Cardellina canadensis	Canada Warbler	2008	SNA	Special Concern		2
Catharus fuscescens	Veery	2018	S2B,SUM			1
Catharus minimus	Gray-Cheeked Thrush	2016	S2B,SUM	Candidate (Mid Priority)	Threatened	7
Charadrius melodus	Piping Plover	2023	S1B,SUM	Endangered	Endangered	41
Charadrius melodus	Piping Plover melodus ssp	2013	S1B,SUM	Endangered	Endangered	2
Charadrius semipalmatus	Semipalmated Plover	2024	S1B,S4M			12
Charadrius vociferus	Killdeer	2018	S3B,SUM	Candidate (Low Priority)		3
Chordeiles minor	Common Nighthawk	2019	SNA	Special Concern	Vulnerable	3
Chroicocephalus ridibundus	Black-headed Gull	2010	S1B,S3N,SUM			1
Circus hudsonius	Northern Harrier	2021	S3B,SUM			19

Coccothraustes vespertinus	Evening Grosbeak	2019	S3S4	Special Concern	Vulnerable	3
Contopus cooperi	Olive-sided Flycatcher	2020	S3B,SUM	Special Concern	Vulnerable	52
Dolichonyx oryzivorus	Bobolink	2020	S1B,SUM	Threatened	Vulnerable	91
Empidonax minimus	Least Flycatcher	2022	S2S3B,SUM	Candidate (Group 3, Low Priority)		24
Eremophila alpestris	Horned Lark	1987	S3B,SUM			1
Euphagus carolinus	Rusty Blackbird	2024	S2S3B,SUM	Special Concern	Vulnerable	9
Fulmarus glacialis	Northern Fulmar	2022	S1B			7
Fundulus diaphanus	Banded Killifish	2007	S3	Special Concern	Vulnerable	5
Fundulus heteroclitus	Mummichog	2006	S3		Vulnerable	7
Hirundo rustica	Barn Swallow	2021	S2B,SUM	Special Concern	Vulnerable	16
Histrionicus histrionicus	Harlequin Duck	2023	S2B,S2N	Special Concern	Vulnerable	8
Hydrobates leucorhous	Leach's Storm-Petrel	2018	S4B	Threatened	Threatened	3
Hydroprogne caspia	Caspian Tern	2011	S2B,SUM			1
Lagopus muta	Rock ptarmigan	2019	S3			2
Larus fuscus	Lesser Black-backed Gull	2021	S3N,SUM			2
Lepus arcticus	Arctic Hare	2010	S2S3			3
Leucorrhinia glacialis	Crimson-ringed Whiteface/ Common Skimmer		S3S4			1
Limnodromus griseus	Short-billed Dowitcher	2024	S3M			6
Loxia curvirostra	Red Crossbill	2005	S1S2	Threatened	Threatened	9
Lynx canadensis	Canada Lynx	2023	S3S4			1
Mareca americana	American Wigeon	2022	S3B,SUM			75

Megasceryle alcyon	Belted Kingfisher	2019	S4B,S3N,SUM	Candidate (Group 3, Low Priority)		22
Melanitta americana	Black Scoter	2017	S2B,S2N,SUM			1
Morus bassanus	Northern Gannet	2023	S2B			33
Myotis lucifugus	Little Brown Bat		S1S3	Endangered	Endangered	2
Myotis septentrionalis	Northern Long-eared Bat		S1S3	Endangered	Endangered	1
Numenius phaeopus	Whimbrel	2019	S2S3M			1
Phalacrocorax carbo	Great Cormorant	2023	S3B,S3N			13
Phalaropus lobatus	Red-necked Phalarope	2008		Special Concern	Vulnerable	1
Picoides dorsalis	American Three-toed Woodpecker	2012	S3S4			1
Plectrophenax nivalis	Snow Bunting	1987	S2N,S5M			1
Pluvialis squatarola	Black-bellied Plover	2024	S3M			13
Podilymbus podiceps	Pied-billed Grebe	2021	S1B,SUM			12
Polites peckius	Peck's Skipper		S3			2
Polygonia progne	Gray Comma		S3			2
Polygonia satyrus	Satyr Comma		S3			1
Porzana carolina	Sora	2020	S2B,SUM			1
Puffinus puffinus	Manx Shearwater	2023	S1B			1
Pungitius pungitius	Ninespine Stickleback	1966	S3			1
Quiscalus quiscula	Common Grackle	2019	S4B,S3?N,SUM			77
Rangifer tarandus	Caribou	2011	S3S4	Special Concern (NF Population)	Threatened (Labrador Population)	1
Riparia riparia	Bank Swallow	2024	S1S2B,SUM	Threatened	Threatened	61
Scolopax minor	American Woodcock	2023	S1B,SUM			1
Seiurus aurocapilla	Ovenbird	2022	S3B,SUM			63
Setophaga americana	Northern Parula	2022	S1B?,SUM			9
Setophaga castanea	Bay-breasted Warbler	2022	S2B,SUM			5

Setophaga fusca	Blackburnian Warbler	2022	S2B,SUM			5
Setophaga tigrina	Cape May Warbler	2022	S2B,SUM			10
Somatochlora septentrionalis	Muskeg Emerald/ Green Eyed Skimmer	1949	S3S4			1
Somatochlora walshii	Brush-tipped Emerald	2009	S3S4			2
Sphyrapicus varius	Yellow-bellied Sapsucker	2020	S2B,SUM			1
Spizella passerina	Chipping Sparrow	2019	S2S3B,SUM			18
Spizelloides arborea	American Tree Sparrow	1987	S3B,SUM			2
Surnia ulula	Northern Hawk-Owl	2002	S3			1
Tringa flavipes	Lesser Yellowlegs	2024	S2S3M	Threatened	Threatened	8
Tringa melanoleuca	Greater Yellowlegs	2024	S3B,S4M			23
Tringa semipalmata	Eastern Willet	2016	S1B,SUM			1
Tringa semipalmata	Willet	2022	S1B,SUM			1
Troglodytes hiemalis	Winter Wren	2018	S3B,SUM			22
Vanessa virginiensis	American Lady		S3B,SUM			1
Vireo olivaceus	Red-eyed Vireo	2022	S3S4B,SUM			35
Vireo philadelphicus	Philadelphia Vireo	2020	S3B,SUM			9
Vireo solitarius	Blue-headed Vireo	2023	S3S4B, SUM			33
Zenaida macroura	Mourning Dove	2022	S3			31

GNAME	GCOMNAME	Most Recent Occurrence	RARITY RANK	COSEWIC	PROV_END_A	# RECS
Acorus americanus	Sweet Flag	1961	S1			1
Agrimonia striata	Woodland Agrimony	2024	S3			21
Agrostis perennans	Perennial Bentgrass	2000	S2			2
Alchemilla filicaulis ssp. filicaulis	thinstem lady's mantle	2000	S3			1
Allium schoenoprasum	Chives	2021	S2S3			1
Andreaea rothii	Dusky Rock Moss	1978	S3S4			1
Andreaea rupestris	Black Rock Moss	1981	S3S5			5
Antennaria howellii	Small Pussy-Toes	2000	S3S4			3
Antennaria pulcherrima	Handsome Pussy-Toes	2000	S3			6

Antennaria rosea ssp. pulvinata	pulvinate pussytoes	1922	S3S4		1
Apocynum androsaemifolium	Spreading Dogbane	2020	S3		1
Apocynum cannabinum	Clasping-Leaf Dogbane	2023	S3		35
Arceuthobium pusillum	Dwarf Mistletoe	1986	S3		2
Arnica angustifolia	Alpine Arnica	1922	S3		1
Arnica lonchophylla	Northern Arnica	2000	S3S4		1
Aronia melanocarpa	black chokeberry	2001	S2S4		1
Astragalus alpinus var. brunetianus	Alpine Milk-Vetch	1867	S2S3		1
Bartonia paniculata	Twining Bartonia	2002	S3S4		4
Bartonia virginica	Yellow Screwstem	2007	S1		3
Betula alleghaniensis	Yellow Birch	2022	S3		18
Blysmopsis rufa	red clubrush	2000	S3		3
Bolboschoenus maritimus ssp. paludosus	saltmarsh bulrush	2000	S2		3
Botrychium matricariifolium	Chamomile Grape-Fern	2020	S2S3		2
Botrychium simplex	Little Grapefern	1997	S2		2
Brachyelytrum aristosum	Northern Shorthusk	2013	S3S4		7
Bryoria fuscescens	Pale-footed Horsehair Lichen	2021	S3S5		1
Calamagrostis breviligulata	American Beachgrass	2023	S3S4		11
Calamagrostis canadensis var. canadensis	Blue-Joint Reedgrass	2011	S3S5		4
Calypso bulbosa var. americana	Fairy Slipper	1997	S1		1
Carex atratiformis	Black Sedge	2000	S3S4		1
Carex aurea	Golden-Fruited Sedge	2021	S3S4		6
Carex concinna	Beautiful Sedge	1922	S2		1
Carex diandra	Lesser Panicked Sedge	2000	S3S4		1
Carex eburnea	Ebony Sedge	2000	S3		2
Carex glacialis	Alpine Sedge	1922	S3		1
Carex glareosa	Gravel Sedge	2000	S3		1
Carex gracillima	Graceful Sedge	2013	S3S4		11
Carex gynocrates	Northern Bog Sedge	2012	S3S4		1
Carex hormathodes	Marsh Straw Sedge	2000	S3		9

Carex hostiana	Host's Sedge	1939	S2			1
Carex interior	Inland Sedge	2011	S3S4			2
Carex novae-angliae	New England Sedge	2000	S2S3			10
Carex pallescens	Pale Sedge	2017	S3			6
Carex pedunculata	Longstalk Sedge	2010	S3			10
Carex petricosa var. misandroides	Rock Dwelling Sedge	1922	S1		Endangered	1
Carex projecta	Necklace Sedge	2013	S3			29
Carex pseudocyperus	Cyperus-Like Sedge	2021	S2			35
Carex radiata	Stellate Sedge	1867	S1			1
Carex rariflora	Loose-Flowered Sedge	2000	S3			1
Carex retrorsa	Retorse Sedge	2013	S1			1
Carex rupestris	Rock Sedge	2000	S3			1
Carex salina	Salt-Marsh Sedge	2000	S3			1
Carex silicea	Sea-Beach Sedge	2000	S2			1
Carex sterilis	Dioecious Sedge	2000	S2S3			1
Carex vaginata	Sheathed Sedge	2000	S3S4			1
Carex viridula ssp. brachyrrhyncha var. elatior	long-stalked yellow sedge	1999	S3S4			1
Carex wiegandii	Wiegand's Sedge	2007	S3			2
Catabrosa aquatica	Brook Grass	1924	S2S3			1
Cerastium beeringianum	Bering Sea Chickweed	1922	S3			1
Cetraria muricata	Spiny Heath Lichen	2009	S3S5			2
Cicuta bulbifera	Bulb-Bearing Water-Hemlock	2000	S3			2
Cladonia amaurocraea	Quill Lichen	2018	S3S5			4
Cladonia caespiticia	Stubby Stalked Lichen	2021	S3			1
Claytonia caroliniana	Carolina Spring-Beauty	2016	S2			1
Clinopodium vulgare	Field Basil	2016	S3			3
Coeloglossum viride	Long-Bract Green Orchid	2000	S3S4			2
Collema subflaccidum	Tree Tarpaper Lichen	2008	S3S4			5
Cornus alternifolia	Alternate-Leaf Dogwood	2024	S3S4			18
Crataegus chrysocarpa	Fineberry Hawthorn	2012	S2			1

Crataegus chrysocarpa var. chrysocarpa	Fineberry Hawthorne	2001	S2			8
Crataegus macrosperma	Big-Fruit Hawthorn	1959	S1			1
Cypripedium reginae	Showy Lady's-Slipper	2014	S3			2
Cystopteris bulbifera	Bulblet Bladder Fern	1922	S2S3			1
Cystopteris laurentiana	Laurentian Bladder Fern	1949	S2			2
Deschampsia cespitosa	Tufted Hairgrass	2016	S3S5			5
Diapensia lapponica	Lapland Diapensia	2019	S3S4			4
Dicranum leioneuron	Variableleaf Broom Moss	2000	S3S4			1
Diervilla lonicera	Northern Bush-honeysuckle	2012	S3S4			3
Diphasiastrum complanatum	northern running-pine, groundcedar	2000	S3S4			1
Diphasiastrum sitchense	Sitka clubmoss, tufted groundcedar	2020	S3S4			3
Drosera anglica	English Sundew	1997	S3			1
Dryopteris cristata	Crested Wood Fern	2009	S3S4			3
Dulichium arundinaceum	Three-Way Sedge	2010	S3S4			2
Eleocharis acicularis	Least Spike-Rush	2000	S3S4			6
Eleocharis elliptica	Slender Spike-Rush	2000	S3S4			5
Eleocharis parvula	Small Spikerush	2000	S3S4			4
Eleocharis quinqueflora	Few-Flower Spikerush	2000	S3S4			7
Elymus virginicus var. virginicus	Virginia Wild Rye	2000	S3S4			4
Empetrum atropurpureum	Purple Crowberry	1997	S3S4			1
Epigaea repens	Trailing Arbutus	2021	S3S4			7
Epilobium lactiflorum	White-Flower Willow-Herb	2012	S3			2
Epilobium leptophyllum	Linear-Leaved Willow-Herb	2012	S3			4
Equisetum hyemale	Rough Horsetail	2013	S1			4
Equisetum hyemale ssp. affine	tall scouring rush	2010	S1			4
Equisetum palustre	Marsh Horsetail	2013	S3S4			13
Equisetum pratense	Meadow Horsetail	2020	S3			4
Equisetum variegatum	Variegated Horsetail	2012	S3			1
Equisetum variegatum ssp. variegatum	variegated scouring rush	2000	S3			1

Eriophorum tenellum	Rough Cotton-Grass	2000	S3S4			1
Evernia mesomorpha	Boreal Oakmoss Lichen	2021	S3S4			2
Festuca altaica	Northern Rough Fescue	1939	S2			1
Festuca rubra	Red Fescue	2001	S2S3			20
Galium kamtschaticum	Boreal Bedstraw	1949	S3S4			3
Galium tinctorium	Stiff Marsh Bedstraw	2000	S3S4			3
Gaylussacia baccata	Black Huckleberry	2000	S3			1
Gaylussacia bigeloviana	Dwarf Huckleberry	2007	S3S4			3
Gentianopsis detonsa	Sheared Gentian	2022	S3			1
Glyceria grandis	American Mannagrass	2013	S2S3			1
Hedysarum americanum	Alpine Sweet-Vetch	2016	S3			5
Hedysarum boreale	Boreal Sweet-vetch	2021	S1			2
Hedysarum boreale ssp. mackenziei	Mackenzie's Sweetvetch	2021	S1		Threatened	35
Hordeum jubatum ssp. jubatum	foxtail barley, squirreltail grass	2000	S2S3			3
Hudsonia ericoides	Golden-Heather	2007	S2S3	Candidate (Priority 3)		7
Humulus lupulus var. lupuloides	American Hop	2021	S1			3
Huperzia selago	Fir Clubmoss	2000	S3S4			1
Hydrocotyle americana	American Water-Pennywort	2020	S1			4
Hypericum ellipticum	Pale St. John's-Wort	19721974	S3			29
Impatiens pallida	Pale Jewel-Weed	1949	S1			3
Juncus alpinoarticulatus	Northern Green Rush	2000	S3S4			4
Juncus dudleyi	Dudley's Rush	2000	S2			5
Juncus gerardii	Black Grass	2020	S2S3			1
Juncus longistylis	Long-styled Rush	2013	S1			28
Juncus nodosus	Knotted Rush	2010	S2			13
Juncus subcaudatus	Woods-Rush	2000	S1			4
Leptogium cyanescens	Blue Jellyskin	2021	S3S4			1
Limonium carolinianum	Sea-Lavender	2000	S2S3			4
Littorella americana	American Shore-grass	2000	S3S4			1
Lobelia kalmii	Kalm's Lobelia	2014	S3S4			3

Luzula acuminata	Pointed Woodrush	2023	S1			3
Luzula acuminata ssp. acuminata	hairy woodrush	2008	S1			4
Lycopodiella appressa	Southern Bog Club-Moss	1989	S2			3
Lycopodium lagopus	One-Cone Gound-Pine	1997	S2			1
Lycopus americanus	American Bugleweed	2010	S3			2
Maianthemum racemosum	Feathery False Solomon's Seal	2024	S1		Endangered	96
Maianthemum racemosum ssp. racemosum	Feathery False Solomon's Seal	2002	S1		Endangered	9
Malaxis monophyllos var. brachypoda	white addersmouth, Northern white addersmouth	2000	S3			2
Malaxis unifolia	Green Adder's-Mouth	2013	S3			11
Matteuccia struthiopteris	Ostrich Fern	2021	S3S4			1
Matteuccia struthiopteris var. pennsylvanica	Ostrich Fern	2023	S3S4			8
Melampyrum lineare	American Cow-Wheat	2011	S3S4			3
Milium effusum var. cisatlanticum	Tall Millet-Grass	1964	S2S3			2
Mitchella repens	Partridge-Berry	2019	S2S3			20
Mononeuria groenlandica	Mountain Sandwort	1989	S2			2
Morella pensylvanica	Northern Bayberry	2018	S2			3
Muhlenbergia uniflora	Fall Dropseed Muhly	2002	S3S4			2
Myriophyllum farwellii	Farwell's Water-Milfoil	2000	S1S2			1
Myriophyllum verticillatum	Whorled Water-Milfoil	2000	S2S3			1
Najas flexilis	Bushy Naiad	1930	S2			1
Neottia auriculata	Auricled Twayblade	1939	S2			2
Neottia convallarioides	Broad-lip Twayblade	2024	S3S4			2
Nephroma laevigatum	Mustard Kidney Lichen	2021	S3S4			3
Nymphaea odorata ssp. odorata	fragrant waterlily, water nymph	2000	S3			1
Oclemena acuminata	Sharpleaf Aster	2021	S1		Threatened	23
Omalotheca sylvatica	Woodland Cudweed	2000	S3S4			1
Osmorhiza depauperata	Blunt-Fruited Sweet-Cicely	1939	S3			1
Oxalis montana	White Wood-Sorrel	1989	S1S2			3

Oxyria digyna	Mountain Sorrel	2012	S2S3			5
Oxytropis campestris	Northern Yellow Point-Vetch	2016	S3			4
Oxytropis campestris var. johannensis	St. John's Oxytrope	2021	S1S3			2
Oxytropis campestris var. minor	St John's Oxytrope	2000	S3			3
Packera aurea	Golden Groundsel	2016	S3S4			2
Pannaria lurida	Wrinkled Shingle Lichen	2016	S1	Threatened	Threatened	3
Pannaria rubiginosa	Brown-eyed Shingle Lichen	2021	S3			1
Parmeliella triptophylla	Black-bordered Shingles Lichen	2024	S3S4			15
Parmeliopsis ambigua	Green Starburst Lichen	2021	S3S5			1
Parnassia palustris	Marsh Grass-Of-Parnassus	2000	S2S3			4
Pedicularis palustris ssp. palustris	Purple Lousewort	2013	S3S4			2
Petasites frigidus var. palmatus	Sweet Coltsfoot	2000	S3S4			1
Physaria arctica	Arctic Bladderpod	2000	S3			5
Pinus resinosa	Red Pine	2019	S2		Threatened	1
Piptatheropsis canadensis	Canada Mountain-ricegrass	1939	S2			1
Platanthera grandiflora	Large Purple-Fringed Orchid	2018	S3			36
Platanthera lacera	Ragged-Fringed Orchid	2011	S3S4			4
Platanthera orbiculata	Large Roundleaf Orchid	2007	S3S4			1
Platismatia norvegica	Oldgrowth Rag Lichen	2021	S3S5			3
Poa pratensis	Kentucky Bluegrass	2016	S3			8
Poa saltuensis	Drooping Bluegrass	2000	S3S4			2
Polygonum fowleri ssp. hudsonianum	Hudson's knotweed	1976	S2S3			1
Polygonum oxyspermum ssp. raii	Ray's knotweed	1978	S2			1
Polystichum braunii	Braun's Holly-Fern	2016	S3S4			6
Potamogeton alpinus	Northern Pondweed	2000	S3S4			1
Potamogeton confervoides	Algae-Like Pondweed	2011	S3S4			1
Potamogeton pusillus ssp. tenuissimus	Berchtold's pondweed, slender pondweed	2000	S3S4			1

Potentilla crantzii	Crantz's Cinquefoil	1922	S2S3			2
Primula egaliksensis	Greenland Primrose	2022	S3			1
Prunella vulgaris	Self-Heal	2024	S3S5			20
Pseudocyphellaria holarctica	Holarctic Lung Lichen	2021	S2S3			1
Pycnothelia papillaria	Nipple Lichen	2018	S2S3			1
Pyrola elliptica	Shinleaf	2013	S2S3			1
Ramalina dilacerata	Punctured Ramalina Lichen	2021	S1S3			4
Ramalina farinacea	Dotted Line Lichen	2007	S3			1
Ramalina thrausta	Angelhair Ramalina Lichen	2021	S2S3			1
Ranunculus gmelinii	Gmelin's Watercrowfoot	2024	S1		Endangered	30
Ranunculus macounii	Macoun Buttercup	1922	S2S3			1
Ranunculus recurvatus	Hooked Crowfoot	1949	S1S2			1
Rhinanthus minor	Little Yellow-Rattle	2021	S3			13
Rhynchospora fusca	Brown Beakrush	2011	S3S4			2
Ricasolia quercizans	Smooth Lungwort	2024	S3S4			9
Rusavskia elegans	Elegant Sunburst Lichen	2020	S3S5			1
Sabulina dawsonensis	Rock Stitchwort	2014	S2S3			2
Sagina nodosa ssp. borealis	northern knotty pearlwort	2012	S3S4			2
Sagina nodosa ssp. nodosa	knotty pearlwort	2000	S3S4			2
Sagittaria graminea	Grassleaf Arrowhead	2000	S3S4			3
Salix argyrocarpa	Northern Willow	2011	S1S2			1
Salix calcicola	Lanate Willow	2000	S3S4			1
Salix eriocephala	Heart-Leaved Willow	2012	S3			13
Salix myricoides	Blue-Leaved Willow	2000	S3S4			7
Sanicula marilandica	Black Snake-Root	2013	S3S4			8
Saxifraga oppositifolia	Purple Mountain Saxifrage	2022	S3S4			2
Saxifraga oppositifolia ssp. oppositifolia	purple mountain saxifrage	2000	S3S4			1
Sceptridium multifidum	Leathery Grapefern	2000	S3			4
Scheuchzeria palustris	Pod Grass	2011	S3S4			1
Schizachne purpurascens	Purple Oat	1997	S3			1
Schizaea pusilla	Curly-Grass Fern	2013	S3S4			7

Schoenoplectus acutus var. acutus	Hard-Stemmed Bulrush	2012	S3			5
Schoenoplectus pungens	Three-Square Bulrush	2016	S3			8
Schoenoplectus tabernaemontani	Soft-Stem Bulrush	2024	S2			10
Scirpus cyperinus	Cottongrass Bulrush	2013	S3S4			7
Scirpus hattorianus	Bulrush	2000	S3S4			1
Scutellaria lateriflora	Mad Dog Skullcap	2024	S3			10
Senecio pseudoarnica	Seabeach Groundsel	2021	S3S4			2
Sium suave	Hemlock Water-parsnip	2000	S3S4			1
Solidago brendae	Brenda's Goldenrod	2017	S3			1
Solidago multiradiata	Alpine Goldenrod	2012	S3S4			1
Sparganium fluctuans	Floating Bur-Reed	2012	S2S3			6
Sparganium natans	Small Bur-Reed	2000	S3S4			4
Sphaerophorus fragilis	Fragile Coral Lichen	2011	S3S5			3
Sphaerophorus globosus	Northern Coral Lichen	2011	S3S5			2
Sporobolus alterniflorus	Saltwater Cordgrass	2000	S2			2
Stellaria alsine	Trailing Stitchwort	2000	S3S4			1
Stellaria longipes	Long-Stalked Stitchwort	2019	S3			1
Stellaria longipes ssp. longipes	longstalk starwort	2000	S3			1
Stuckenia pectinata	sago pondweed	2000	S2S3			2
Suaeda calceoliformis	American Sea-Blite	2000	S1S2			2
Symphyotrichum ciliolatum	Lindley's Aster	1930	S2		Endangered	2
Symphyotrichum lanceolatum	White Panicked American-Aster	2016	S2			1
Symphyotrichum lanceolatum var. lanceolatum	Panicked Aster	2000	S2			8
Symphyotrichum tradescantii	Tradescant Aster	2013	S1		Threatened	2
Tanacetum bipinnatum	dwarf tansy, Lake huron tansy	2021	S3			1
Tanacetum bipinnatum ssp. huronense	Newfoundland dwarf tansy, Lake Huron tansy, dune tansy	2021	S3			4
Taraxacum latilobum	Large-lobed Dandelion	1990	S3			4
Taxus canadensis	Canadian Yew	2022	S3S4			5
Thamnia vermicularis	Alpine Whiteworm Lichen	2011	S3S5			1

Triglochin gaspensis	GaspT Peninsula Arrow-Grass	2000	S3			1
Urtica dioica ssp. gracilis	slender stinging nettle	2012	S3S5			1
Usnea dasopoga	Fishbone Beard Lichen	2021	S3S4			4
Utricularia geminiscapa	Twin-Stemmed Bladderwort	2000	S3			5
Valeriana dioica ssp. sylvatica	northern vlaerian, march valerian	1922	S3			1
Veronica serpyllifolia	Thyme-Leaved Speedwell	2021	S3S4			4
Veronica serpyllifolia ssp. humifusa	northern speedwell	1986	S3S4			6
Viola nephrophylla	Northern Bog Violet	2010	S3			3
Viola selkirkii	Great-Spurred Violet	1922	S2			1
Viscaria alpina	Alpine Campion	2012	S3			1
Vulpicida pinastri	Powdered Sunshine Lichen	2021	S3S5			4
Woodsia glabella	Smooth Woodsia	1922	S3			1
Xanthoria parietina	Maritime Sunburst Lichen	2019	S1S3			1
Xyris montana	Northern Yellow-Eyed-Grass	2002	S3			2
Zannichellia palustris	Horned Pondweed	2000	S2S3			7
Zostera marina	Sea-Wrack	2000	S3S4			1

6.0 EXPERT OPINION

Our Expert Opinion Maps are the result of our work with species-specific experts to gather suggestions about locations where species at risk - either provincially or COSEWIC listed - may be found. While we don't have observations in our database for these species within 5 km of your site, our Expert Opinion Maps suggest Boreal Felt Lichen, Red Crossbills, and Rusty Blackbirds are *possible* within 5km of your point of interest, while Newfoundland Marten are considered *possible, but unlikely*. Also, the oceanic waters within 5km of your point of interest are within the Barrow's Goldeneye's range.

APPENDIX B

Plant and Lichen Lists

Table 1. Vascular Plant and Lichen Inventory from Vardys Island, 2019 and 2020 surveys.

Group	Family	Scientific Name	Common Name	SARA	NL ESA	NL S-Rank	2020	2019
Vascular Plant	Apiaceae	<i>Ligusticum scoticum</i>	Scot's lovage	-	-	S5	x	x
		<i>Angelica lucida</i>	Sea watch	-	-	S3S5	x	
	Asteraceae	<i>Taraxacum officinale</i>	Common dandelion	-	-	SNA	x	x
		<i>Achillea millefolium</i>	Common yarrow	-	-	SNA	x	
		<i>Solidago rugosa</i>	Rough-leaf goldenrod	-	-	S5	x	x
		<i>Matricaria discoidea</i>	Pineapple-weed chamomile	-	-	SNA	x	
		<i>Bidens frondosa</i>	Devil's beggar-ticks	-	-	SU	x	
		<i>Hieracium</i> sp.	A hawkweed	-	-	(Not SoCC)	x	x
		<i>Cirsium vulgare</i>	Bull thistle	-	-	SNA	x	
		<i>Sonchus arvensis</i>	Field sowthistle	-	-	SNA	x	
	Balsaminaceae	<i>Impatiens capensis</i>	Spotted jewel-weed	-	-	S4S5	x	
	Brassicaceae	<i>Cardamine pratensis</i>	Cuckooflower	-	-	SNA	x	
		<i>Cardamine pensylvanica</i>	Pennsylvania bitter-cress	-	-	S4		x
	Caryophyllaceae	<i>Sagina procumbens</i>	Procumbent pearlwort	-	-	S4S5	x	
		<i>Cerastium fontanum</i>	Common mouse-ear chickweed	-	-	SNA	x	x
	Chenopodiaceae	<i>Atriplex</i> sp.	A goosefoot	-	-	(Not SoCC)	x	x
		<i>Chenopodium album</i>	White goosefoot	-	-	SNA		
	Cornaceae	<i>Cornus canadensis</i>	Dwarf dogwood	-	-	S5	x	x
		<i>Cornus suecica</i>	Swedish dwarf dogwood	-	-	S4	x	x
	Cyperaceae	<i>Carex lenticularis</i>	Shore sedge	-	-	S4	x	
		<i>Carex</i> sp.	A sedge	-	-	(Not SoCC)	x	
		<i>Trichophorum cespitosum</i>	Deergrass	-	-	S5		
		<i>Eriophorum angustifolium</i>	Narrow-leaved cotton-grass	-	-	S4S5		
	Dryopteridaceae	<i>Dryopteris intermedia</i>	Glandular wood fern	-	-	S5	x	
		<i>Dryopteris</i> sp.	A wood fern	-	-	(Not SoCC)	x	
	Ericaceae	<i>Vaccinium angustifolium</i>	Late lowbush blueberry	-	-	S5	x	x

Table 1. Vascular Plant and Lichen Inventory from Vardys Island, 2019 and 2020 surveys.

Group	Family	Scientific Name	Common Name	SARA	NL ESA	NL S-Rank	2020	2019
		<i>Empetrum nigrum</i>	Black crowberry	-	-	S5	x	x
		<i>Arctostaphylos uva-ursi</i>	Bearberry	-	-	S4S5	x	
		<i>Vaccinium oxycoccos</i>	Small cranberry	-	-	S5	x	
		<i>Vaccinium vitis-idaea</i>	Mountain cranberry	-	-	S5	x	
		<i>Vaccinium uliginosum</i>	Alpine blueberry	-	-	S5	x	
	Fabaceae	<i>Trifolium pratense</i>	Red clover	-	-	SNA	x	
		<i>Lathyrus palustris</i>	Vetchling peavine	-	-	S4	x	
		<i>Lathyrus japonicus</i>	Beach pea	-	-	S5	2	x
	Iridaceae	<i>Iris versicolor</i>	Blueflag	-	-	S5	x	x
		<i>Iris hookeri</i>	Beach-head iris	-	-	S4S5	5	
	Juncaceae	<i>Juncus effusus</i>	Soft rush	-	-	S5	x	
		<i>Juncus gerardii</i>	Black grass	-	-	S2S3	x	
		<i>Juncus filiformis</i>	Thread rush	-	-	S5	x	x
		<i>Juncus balticus</i>	Baltic rush	-	-	S5	x	
		<i>Luzula multiflora</i>	Common woodrush	-	-	S5	x	
	Lamiaceae	<i>Galeopsis tetrahit</i>	Brittle-stem hempnettle	-	-	SNA	x	
	Liliaceae	<i>Maianthemum stellatum</i>	Starflower Solomon's-plume	-	-	S5	x	
	Onagraceae	<i>Chamerion angustifolium</i>	Fireweed	-	-	S5	x	x
		<i>Epilobium ciliatum</i>	Hairy willow-herb	-	-	S5	x	
	Osmundaceae	<i>Osmundastrum cinnamomeum</i>	Cinnamon fern	-	-	S5	x	
	Plantaginaceae	<i>Plantago maritima</i>	Seaside plantain	-	-	S5	x	x
	Poaceae	<i>Poa compressa</i>	Canada bluegrass	-	-	SNA		x
		<i>Leymus mollis</i>	Wild rye	-	-	S5	x	
		<i>Lolium perenne</i>	Perennial ryegrass	-	-	SNA	x	
		<i>Agrostis capillaris</i>	Colonial bentgrass	-	-	SNA	x	
		<i>Calamagrostis canadensis</i>	Blue-joint reedgrass	-	-	S5		x
		<i>Festuca</i> sp.	A fescue	-	-	(Not SoCC)		x
		<i>Spartina pectinata</i>	Fresh water cordgrass	-	-	S3S4		x

Table 1. Vascular Plant and Lichen Inventory from Vardys Island, 2019 and 2020 surveys.

Group	Family	Scientific Name	Common Name	SARA	NL ESA	NL S-Rank	2020	2019
	Polygonaceae	<i>Rumex crispus</i>	Curly dock	-	-	SNA	x	x
		<i>Rumex acetosa</i>	Garden sorrel	-	-	SNA	x	
	Ranunculaceae	<i>Ranunculus repens</i>	Creeping butter-cup	-	-	SNA	x	
		<i>Thalictrum pubescens</i>	Tall meadow-rue	-	-	S5	x	
	Rosaceae	<i>Rubus idaeus</i>	Red raspberry	-	-	S5	x	x
		<i>Sanguisorba canadensis</i>	Canada burnet	-	-	S5	x	x
		<i>Rubus chamaemorus</i>	Cloudberry	-	-	S5	x	
		<i>Aronia melanocarpa</i>	Black chokeberry	-	-	S2S4	x	x
		<i>Potentilla anserina</i>	Silverweed	-	-	S5		x
		<i>Ribes</i> sp.	A currant species	-	-	(Not SoCC)	x	
		<i>Rubus pubescens</i>	Dwarf red raspberry	-	-	S5	x	
	Scrophulariaceae	<i>Rhinanthus minor</i>	Little yellow-rattle (introduced subspecies)	-	-		x	
	Typhaceae	<i>Typha latifolia</i>	Broad-leaf cattail	-	-	SNA	x	
	Violaceae	<i>Viola cucullata</i>	Marsh blue violet	-	-	S4S5	x	x
Lichens	Parmeliaceae	<i>Parmelia saxatilis</i>	Salted shield lichen	-	-	S5	x	x
	Peltigeraceae	<i>Peltigera canina</i>	Dog lichen	-	-	S5	x	
	Ramalinaceae	<i>Ramalina</i> sp.	A Ramalina species	-	-	(Not SoCC)	x	x
	Xanthoraceae	<i>Xanthoria parietina</i>	Maritime sunburst lichen	-	-	S2S3		x
		<i>Xanthoria polycarpa</i>	Pincushion sunburst lichen	-	-	S3S4	x	x

Table 2. Vascular Plant and Lichen Inventory from Pikes Island, 2020.

Group	Family	Scientific Name	Common Name	National Protection (SARA)	NL ESA	NL S-Rank
Vascular Plant	Apiaceae	<i>Ligusticum scoticum</i>	Scot's lovage	-	-	S5
		<i>Heracleum maximum</i>	Cow parsnip	-	-	S5
	Ranunculaceae	<i>Thalictrum pubescens</i>	Tall meadow-rue	-	-	S5
		<i>Ranunculus repens</i>	Creeping butter-cup	-	-	SNA
		<i>Halerpestes cymbalaria</i>	Seaside crowfoot	-	-	S5
	Iridaceae	<i>Iris versicolor</i>	Blueflag	-	-	S5
		<i>Sisyrinchium montanum</i>	Strict blue-eyed-grass	-	-	S5
		<i>Iris hookeri</i>	Beach-head iris	-	-	S4S5
	Rosaceae	<i>Rubus idaeus</i>	Red raspberry	-	-	S5
		<i>Rubus chamaemorus</i>	Cloudberry	-	-	S5
		<i>Aronia melanocarpa</i>	Black chokeberry	-	-	S2S4
		<i>Halerpestes cymbalaria</i>	Seaside crowfoot	-	-	S5
		<i>Sibbaldia tridentata</i>	Three-toothed cinquefoil	-	-	S4S5
		<i>Potentilla anserina</i>	Silverweed	-	-	S5
		<i>Sanguisorba canadensis</i>	Canada burnet	-	-	S5
		<i>Comarum palustre</i>	Marsh cinquefoil	-	-	S4S5
		<i>Sorbus americana</i>	American mountain-ash	-	-	S4S5
		<i>Rosa rugosa</i>	Rugosa rose	-	-	No rank
	Plantaginaceae	<i>Plantago maritima</i>	Seaside plantain	-	-	S5
	Scrophulariaceae	<i>Euphrasia nemorosa</i>	Common eyebright	-	-	S4S5
		<i>Rhinanthus minor</i>	Little yellow-rattle	-	-	S3
	Asteraceae	<i>Taraxacum officinale</i>	Common dandelion	-	-	SNA
		<i>Achillea millefolium</i>	Common yarrow	-	-	SNA
		<i>Solidago uliginosa</i>	Bog goldenrod	-	-	S5
		<i>Solidago rugosa</i>	Rough-leaf goldenrod	-	-	S5
		<i>Nabalus trifoliolatus</i>	Threeleaf rattlesnake-root	-	-	S5

Table 2. Vascular Plant and Lichen Inventory from Pikes Island, 2020.

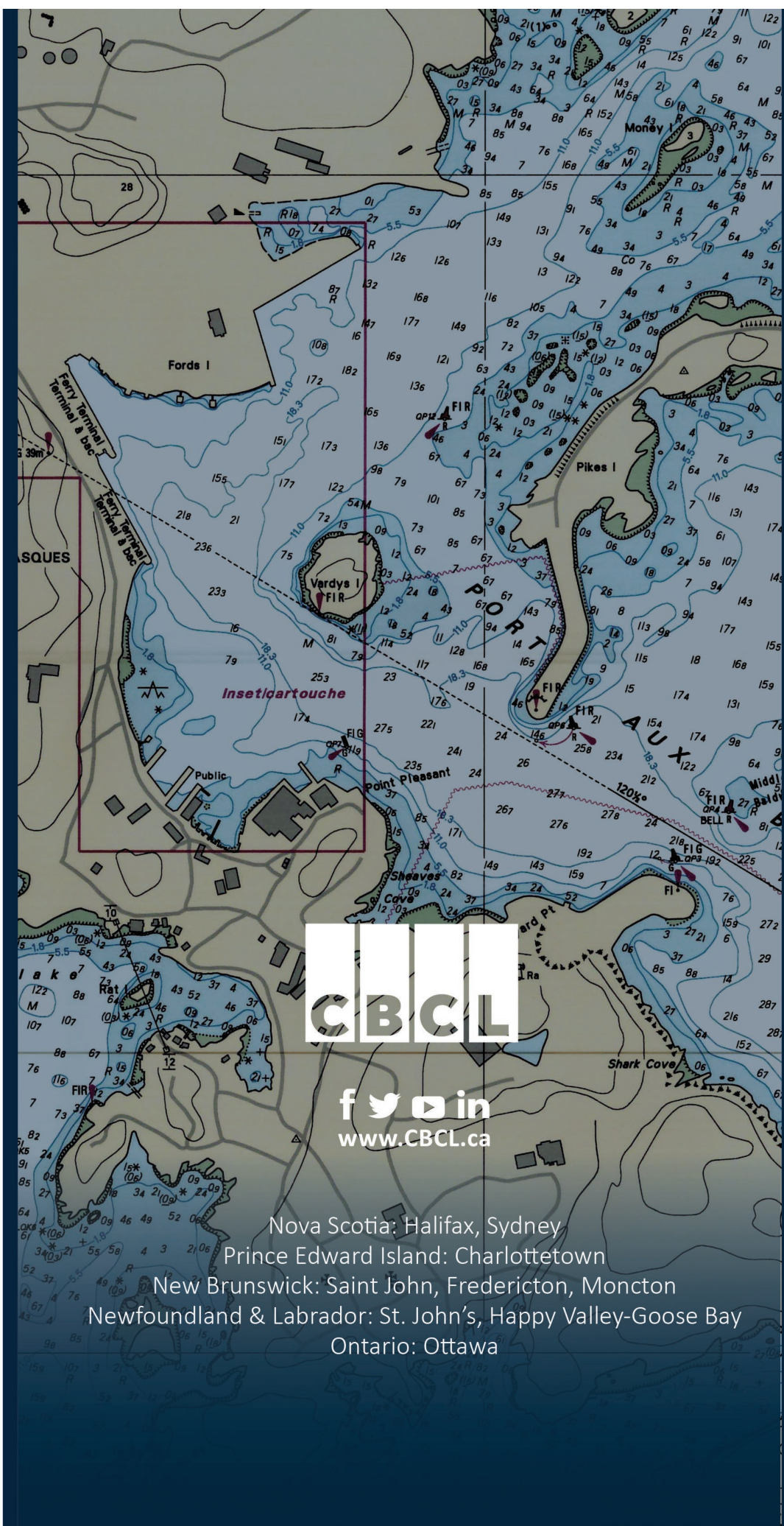
Group	Family	Scientific Name	Common Name	National Protection (SARA)	NL ESA	NL S-Rank
		<i>Matricaria discoidea</i>	Pineapple-weed chamomile	-	-	SNA
		<i>Senecio pseudoarnica</i>	Seabeach groundsel	-	-	S3S4
		<i>Anaphalis margaritacea</i>	Pearly everlasting	-	-	S5
		<i>Hieracium</i> sp.	A hawkweed	-	-	(Not SoCC)
		<i>Bidens frondosa</i>	Devil's beggar-ticks	-	-	SU
		<i>Leucanthemum vulgare</i>	Oxeye daisy	-	-	SNA
		<i>Pilosella caespitosa</i>	Meadow hawkweed	-	-	SNA
	Ericaceae	<i>Vaccinium angustifolium</i>	Late lowbush blueberry	-	-	S5
		<i>Vaccinium macrocarpon</i>	Large cranberry	-	-	S4S5
		<i>Empetrum nigrum</i>	Black crowberry	-	-	S5
		<i>Arctostaphylos uva-ursi</i>	Bearberry	-	-	S4S5
		<i>Vaccinium oxycoccos</i>	Small cranberry	-	-	S5
		<i>Vaccinium vitis-idaea</i>	Mountain cranberry	-	-	S5
		<i>Kalmia polifolia</i>	Pale laurel	-	-	S5
		<i>Vaccinium uliginosum</i>	Alpine blueberry	-	-	S5
		<i>Kalmia angustifolia</i>	Sheep-laurel	-	-	S5
		<i>Rhododendron groenlandicum</i>	Common Labrador-tea	-	-	S5
	Fabaceae	<i>Trifolium campestre</i>	Low hop clover	-	-	SNA
	Myricaceae	<i>Myrica gale</i>	Sweet bayberry	-	-	S5
	Betulaceae	<i>Alnus incana</i>	Speckled alder	-	-	S5
	Equisetaceae	<i>Equisetum arvense</i>	Field horsetail	-	-	S5
	Juncaceae	<i>Juncus gerardii</i>	Black grass	-	-	S2S3
		<i>Juncus filiformis</i>	Thread rush	-	-	S5
		<i>Eleocharis uniglumis</i>	Creeping spike-rush	-	-	S3S4

Table 2. Vascular Plant and Lichen Inventory from Pikes Island, 2020.

Group	Family	Scientific Name	Common Name	National Protection (SARA)	NL ESA	NL S-Rank
	Poaceae	<i>Juncus balticus</i>	Baltic rush	-	-	S5
		<i>Phleum pratense</i>	Meadow timothy	-	-	SNA
		<i>Poa compressa</i>	Canada bluegrass	-	-	SNA
		<i>Agrostis capillaris</i>	Colonial bentgrass	-	-	SNA
		<i>Calamagrostis canadensis</i>	Blue-joint reedgrass	-	-	S5
		<i>Leymus mollis</i>	Wild rye	-	-	S5
		<i>Trisetum spicatum</i>	Narrow false oats	-	-	S5
	Cyperaceae	<i>Carex paleacea</i>	Chaffy sedge	-	-	S4
		<i>Carex lenticularis</i>	Shore sedge	-	-	S4
		<i>Carex</i> sp.	A sedge	-	-	(Not Socc)
	Cornaceae	<i>Cornus suecica</i>	Swedish dwarf dogwood	-	-	S4
		<i>Cornus canadensis</i>	Dwarf dogwood	-	-	S5
	Osmundaceae	<i>Osmundastrum cinnamomeum</i>	Cinnamon fern	-	-	S5
	Orchidaceae	<i>Platanthera psycodes</i>	Small purple fringed orchid	-	-	S4S5
	Liliaceae	<i>Maianthemum canadense</i>	Wild lily-of-the-valley	-	-	S5
		<i>Maianthemum stellatum</i>	Starflower Solomon's-plume	-	-	S5
	Polygonaceae	<i>Rumex crispus</i>	Curly dock	-	-	SNA
		<i>Rumex acetosa</i>	Garden sorrel	-	-	SNA
	Caryophyllaceae	<i>Stellaria graminea</i>	Little starwort	-	-	SNA
		<i>Sagina procumbens</i>	Procumbent pearlwort	-	-	S4S5
		<i>Cerastium arvense</i>	Mouse-ear chickweed	-	-	S4S5
		<i>Moehringia lateriflora</i>	Grove sandwort	-	-	S5
	Campnulaceae	<i>Campanula gieseckiana</i>	Giesecke's bellflower	-	-	S5

Table 2. Vascular Plant and Lichen Inventory from Pikes Island, 2020.

Group	Family	Scientific Name	Common Name	National Protection (SARA)	NL ESA	NL S-Rank
	Onograceae	<i>Chamerion angustifolium</i>	Fireweed	-	-	S5
		<i>Epilobium ciliatum</i>	Hairy willow-herb	-	-	S5
	Typhaceae	<i>Typha latifolia</i>	Broad-leaf cattail	-	-	SNA
	Droseraceae	<i>Drosera rotundifolia</i>	Roundleaf sundew	-	-	S5
	Convolvulaceae	<i>Calystegia sepium</i>	Hedge bindweed	-	-	SNA
	Cupressaceae	<i>Juniperus communis</i>	Ground juniper	-	-	S5
		<i>Juniperus horizontalis</i>	Creeping juniper	-	-	S5
	Empetraceae	<i>Empetrum nigrum</i>	Black crowberry	-	-	S5
		<i>Empetrum eamesii</i>	Rock crowberry	-	-	S4
	Clusiaceae	<i>Hypericum canadense</i>	Canadian St. John's-wort	-	-	S4
	Violaceae	<i>Viola</i> sp.	A violet	-	-	(Not SoCC)
Lichens	Parmeliaceae	<i>Parmelia saxatilis</i>	Salted shield lichen	-	-	S5
		<i>Xanthoparmelia conspersa</i>	Peppered rock-shield lichen	-	-	SU
	Teloschistaceae	<i>Xanthoria parietina</i>	Maritime sunburst lichen	-	-	SxS3
		<i>Xanthoria polycarpa</i>	Pincushion sunburst lichen	-	-	S3S4
		<i>Xanthoria elegans</i>	Elegant sunburst lichen	-	-	S3S5
	Umbilicariaceae	<i>Umbilicaria deusta</i>	Peppered rocktripe lichen	-	-	S3S4
	Rhizocarpaceae	<i>Rhizocarpon geographicum</i>	Map lichen	-	-	No Rank
	Cladoniaceae	<i>Cladonia rangiferina</i>	Gray reindeer lichen	-	-	S5
		<i>Cladonia arbuscula</i>	Green reindeer lichen	-	-	S5
		<i>Cladonia boryi</i>	Fishnet lichen	-	-	S5
		<i>Cladonia</i> sp.	A cladonia	-	-	(Not SoCC)
	Peltigeraceae	<i>Peltigera canina</i>	Dog lichen	-	-	S5



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