APPENDIX B

Rare Plants

Point Rousse Project – Terrestrial Baseline Study, 2021 Rare Plants Survey

Report

July 22, 2022

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Abbreviations

AC CDC	Atlantic Canada Conservation Data Centre
Signal	Signal Gold Inc.
ANPC	Alberta Native Plant Council
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
NLFLR	Newfoundland and Labrador Department of Fisheries and Land Resources
FNA	Flora of North America
GIS	geographic information system
GPS	global positioning system
NL	Newfoundland and Labrador
NL ESA	Newfoundland and Labrador *Endangered Species Act*
RPS	Rare Plant Survey
SAR	Species at Risk
SARA	*Species at Risk Act*
SOCC	Species of Conservation Concern
S-rank	Sub-national (provincial) rarity ranking for a species
SSAC	Species Status Advisory Committee
VASCAN	Database of Canadian Vascular Plants

1.0 INTRODUCTION

Signal Gold Inc., (Signal) currently operates gold mining and milling operations in Newfoundland and Labrador (NL) under the Point Rousse Project, located approximately 6 km northeast of the town of Baie Verte, NL. The area encompassing the Point Rousse Project includes five mining leases and seven mineral licences and covers an area of approximately 5,552 hectares (ha) (55.52 km^2). Three prospective gold trends (Scrape Trend, Goldenville Trend and Deer Cove Trend) span approximately 20 linear km, with current activities at the Pine Cove, Stog'er Tight and Argyle deposits.

As part of the overall Point Rousse Project, Signal is planning to develop a new gold mine pit at Camp Pond (the Project), adjacent to its ongoing operations at the Stog'er Tight site (see Figure 1.1 for the proposed footprint at the time of baseline surveys). The Project will consist of a small open pit and associated infrastructure, with processing occurring at the nearby Pine Cove facility. To support the enhanced Registration for this Project, Stantec Consulting Ltd. (Stantec) was retained by Signal to conduct a series of environmental surveys at the Project Site, including avifauna, rare plants, and fish and fish habitat. The Plumby Point area was also surveyed for rare plants. This report presents the results of the 2021 rare plant surveys (RPS) in the two Project Areas.

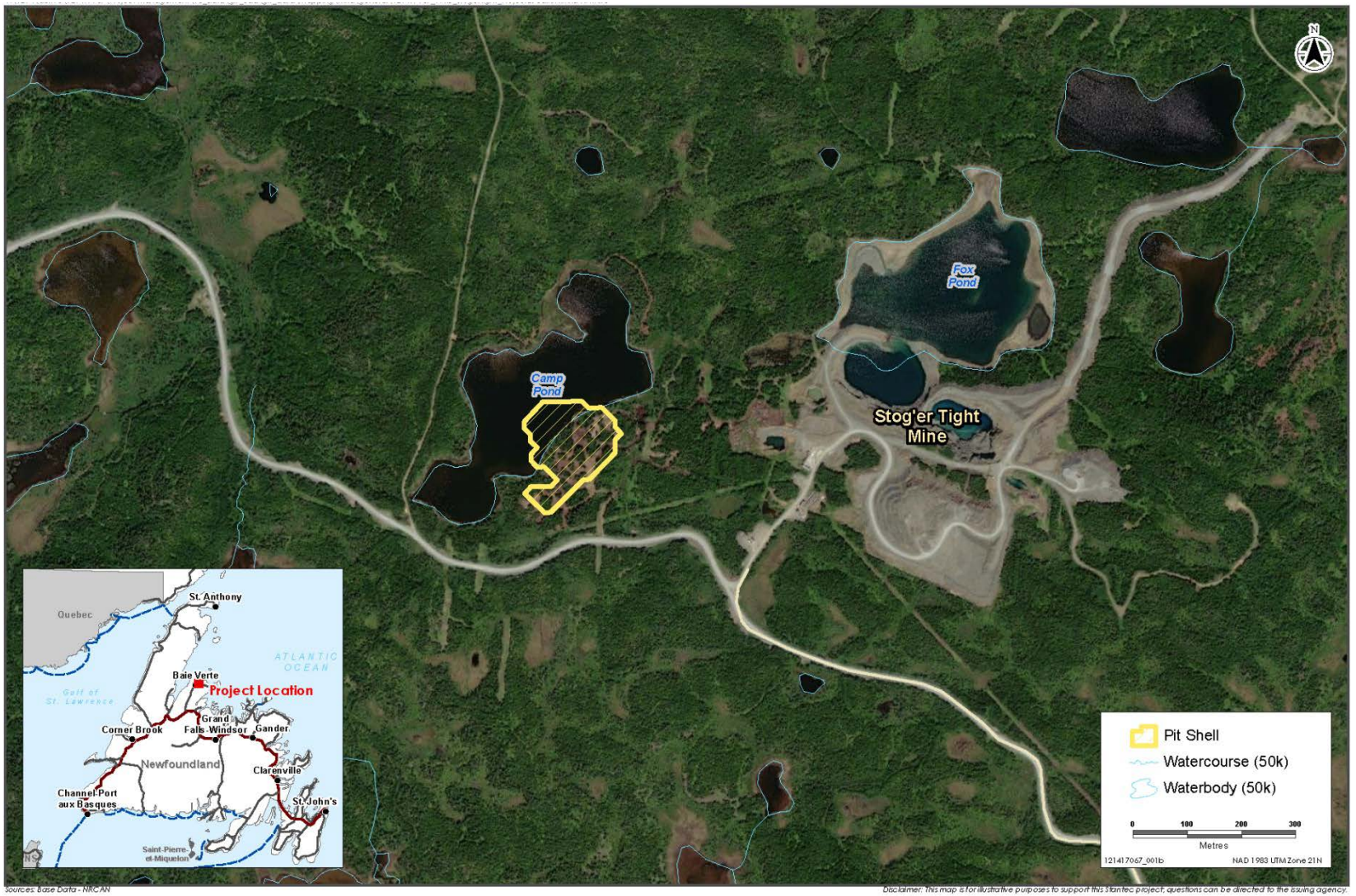

Figure 1 Project Site Plan

2.0 RARE PLANTS BACKGROUND AND REGULATORY CONTEXT

2.1 PROJECT OBJECTIVES

The RPS program is intended to determine, quantify, and present information on key aspects of the environment (e.g., rare vascular plant taxa). Objectives of the RPS program are to:

- Establish the floristic diversity and develop a list of vascular plant species for the Project Area
- Determine whether provincially rare species of vascular plants, as determined by the Atlantic Canada Conservation Data Center (AC CDC), are present in the Project Area
- Provide information on the location (spatial distribution), population size, and habitat of rare vascular plant taxa occurring within the Project Area
- Provide information to Signal for consideration in Project planning

2.2 OVERVIEW OF RARE PLANTS

A species is considered rare because it has relatively few individuals, it is uncommon or scarce, or it occurs within a limited geographical range. The rarity of a species may also be a matter of scale, meaning that a species may not be rare in Canada, but may be considered “regionally rare” in a respective province or territory. The rarest species are those with small geographic ranges, few occurrences, and few individuals in each occurrence.

Although an understanding of rare plant species and their protection is important for a variety of reasons, the protection of the rarest species is also a legal requirement for species listed under Schedule 1 of the federal *Species at Risk Act* (SARA) and the Newfoundland and Labrador *Endangered Species Act* (NL ESA). There are presently several plant species designated or listed under the federal and provincial legislation in Newfoundland and Labrador.

In the context of the Project, a rare plant species is generally defined as a native species that, because of its biological characteristics, or because it occurs at the periphery of its range, or for some other reason, exists in low numbers or in very restricted areas, in Canada and / or Newfoundland and Labrador. The terms Species at Risk (SAR) and Species of Conservation Concern (SOCC) are used in this report when discussing rare vascular plants and are defined in the following sections.

2.2.1 Species at Risk

In Canada and in Newfoundland and Labrador, SAR include those plant species listed as *extirpated*, *endangered*, *threatened*, *vulnerable,* or *special concern* under the NL ESA, SARA, or by the Committee on the Status of Endangered Wildlife Species in Canada (COSEWIC).

2.2.2 Species of Conservation Concern

For this RPS program, SOCC include those plant species:

- recommended for listing by the Species Status Advisory Committee (SSAC) as *endangered*, *threatened*, *vulnerable*, or *special concern* but not yet listed under NL ESA or SARA
- considered provincially rare, i.e., those species with provincial status ranks (S-ranks), of S1 (*critically imperiled*), S2 (*imperiled*)[1], or combinations thereof (e.g., S1S2, S2S3) upon review by the Atlantic Canada Conservation Data Centre (AC CDC 2021a)

Unlike some SAR, SOCC are not protected by federal or provincial legislation. Rather, they are included as a precautionary measure, reflecting observations and trends in their provincial population status. SOCC may be important indicators of ecosystem health and regional biodiversity, thus their presence in an area may warrant mitigation, given their rarity or importance. They are also often indicators of the presence of unusual and / or sensitive habitat, and their protection as umbrella species could possibly result in protection on their associated unusual habitats and co-existing species.

A summary of the ranking systems outlined by SARA, COSEWIC, NL ESA, and AC CDC are provided in Appendix A.

2.3 REGULATION

2.3.1 Federal

The status of plant species is assessed and designated by COSEWIC, which then recommends a designation for legal protection by being officially listed under Schedule 1 of SARA. One of the key considerations under SARA for protection of listed SAR is protection of the species' habitat.

SARA is one part of a three-part Government of Canada strategy for the protection of plant SAR, and applies to *extirpated*, *endangered*, or *threatened* species listed as being at risk and their critical habitat. SARA-listed species designated as *special concern* are not protected by the prohibitions of Sections 32-36 of SARA; however, it is required that provincial or regional management plans be developed to protect the species. The other two parts of this strategy include commitments under the Accord for the Protection of Species at Risk and activities under the Habitat Stewardship Program for SAR, which protect SAR on federal land.

There are three main prohibitions in SARA relevant to *extirpated*, *endangered,* or *threatened* plant SAR and their critical habitat:

- Section 32, which prohibits killing, harming, or taking SAR
- Section 33, which prohibits damage or destruction of residences of SAR
- Subsection 58(1), which prohibits destruction of critical habitat of SAR

[1] While *S3* species may be of concern from a provincial biodiversity perspective, they are often not included, as their populations are considered less sensitive. This determination is typically at the discretion of the Newfoundland and Labrador Department of Fisheries and Land Resources (NLFLR) – Wildlife Division.

Definitions of COSEWIC and SARA species status categories are summarized in Appendix A.

2.3.2 Provincial

In addition to SARA, each province and territory has a regulatory body that determines what species are rare in each of their respective jurisdictions. In Newfoundland and Labrador, vascular plant SAR are protected under the NL ESA. Designation under the Act follows the recommendations of the Species Status Advisory Committee (SSAC) on the appropriate assessment of a species and referring concerns about the status of species to COSEWIC, where the species is of national importance.

The purpose of NL ESA is to:

- Prevent listed species from being extirpated from Newfoundland and Labrador
- Provide for the recovery of species listed as *extirpated*, *endangered*, or *threatened* as a result of human activity
- Conserve species listed as special concern to prevent them from becoming *endangered* or *threatened*

Prohibitions of NL ESA include Section 16, which states "a person shall not disturb, harass, injure, or kill an individual of a species designated as *threatened*, *endangered* or *extirpated*". Species are listed under the *Endangered Species List Regulations.*

3.0 METHODS

3.1 PRE-SURVEY PLANNING

Prior to conducting the rare plant survey, an AC CDC data request was made for a 5 km radius surrounding the centre of the Camp Pond Study Area (AC CDC 2021b), and the results of the data request were reviewed. Aerial imagery of the Study Areas was reviewed to gain an understanding of the types of habitats likely to be encountered.

3.2 SURVEY STANDARDS

Standardized guidelines for rare plant surveys have not been adopted on a national scale; however, several provinces and associated regulating agencies do follow guidelines from within their respective regions. For the purposes of this RPS, focused field surveys were conducted in accordance with the standardized guidelines issued by the Alberta Native Plant Council (ANPC) (ANPC 2012). Requirements for a thorough RPS include:

- The RPS must be floristic in nature
- It must provide reasonable geographic coverage of the survey area, including:
  - Sampling of representative plant communities or habitat types
  - All unique or uncommon plant associations
  - All features or biotic patterns with high probability of supporting rare plants

- Surveys must be conducted during the appropriate season. Timing surveys to occur during periods when potential rare species are most visible (when diagnostic features are most identifiable), and when the probability of encountering both cool and warm season perennials is highest. Surveys will not target a single species, but rather aim to identify most rare species and rare plant communities in the area
- An adequate number of sites where rare plant element occurrences have been previously recorded must be revisited

Although surveys can confirm the presence of rare plant species on a site, negative results do not guarantee that rare plant species are absent. For practical purposes, surveys that adhere to the aforementioned ANPC 2012 Update guidelines should provide reasonable evidence that the specified plant taxa do not occur in the survey area.

3.2.1 Study Team

Experienced professionals were responsible for the design, logistical planning, and data collection of this RPS program. Plant verification, data analysis, and interpretation was performed by qualified professionals (i.e., biologists / botanists) with knowledge and experience in these areas. The members of the study team are provided in Table 1.

Table 1 Study Team – Rare Plant Survey

Role	Personnel
Project Manager	Barry Wicks, B.Sc.
Project Scientist	Michael Crowell, M.Sc.
Quality / Independent Review	Michael Crowell, M.Sc.
	Elizabeth Way, M.Sc.
Data Analysis and Report Preparation	Krystal Mathieson, M.Sc.
Information Management / GIS	Megan Blackwood, B.Sc., Dip. GIS

3.3 SURVEY METHODS

A survey of key habitats was completed from August 10 to 13, 2021, and a list of observed plant taxa complied. Surveys were conducted within the Camp Pond and Pumbly Point Study Areas (Figure 1). Within the Camp Pond Study Area, surveys focused on the area surrounding Camp Pond and between Camp Pond and the existing mine. Within the Pumbly Point Study Area, surveys specifically targeted species that had previously been recorded within 5 km of the Study Areas.

Plant taxa were recorded using a Stantec-developed ArcGIS Collector-based data collection tool on an iPhone paired with an external GPS to improve accuracy. All encountered species were recorded once, and all encounters of rare plants (i.e., SAR or SOCC) were recorded, along with an estimation of abundance (number of plants or area covered). In accordance with the ANPC 2012 Update, field surveys were floristic in nature and completed through random meander searches of the Project Area, with the surveyor walking transects through each of the plant communities / habitat types identified (Figure 2).

Plants that could not be identified in the field were collected for later identification using floristic identification keys and dissecting scopes, as necessary.

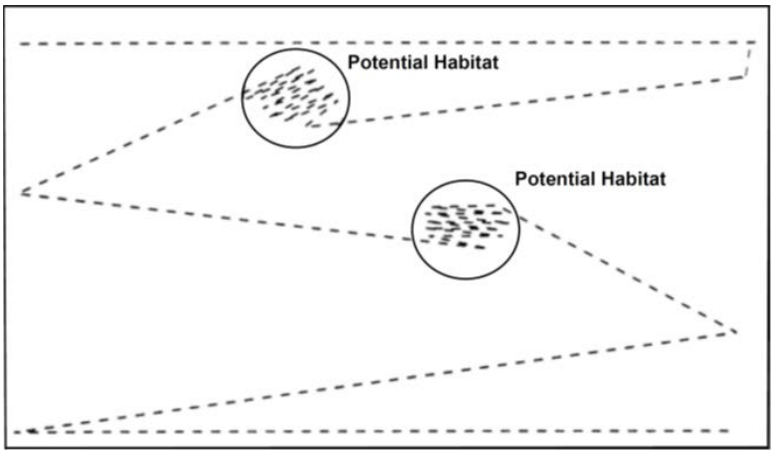

Figure 2 Illustration of Floristic Habitat Sampling Method

Floristic habitat sampling involves a survey of identified natural plant community types, with the greatest search effort applied to those areas (i.e., microhabitats) having the highest potential to support rare vascular plant species (Figure 2). This method was used to account for different areas (or strata) that are identified within a larger habitat polygon. Individual plant associations or plant communities were rarely uniform throughout their extent, and there were often smaller, identifiable areas within a habitat that were substantially different from that of the larger habitat polygon. These strata were inclusions within the larger habitat matrix; as such, they were sampled separately from the main body of the habitat type. If sufficient biodiversity information was available on the habitat requirements of potentially occurring species (plant community, substrate), and portions of the survey location were believed to be potentially suitable for those species, the stratified sample technique was used to document and validate the assumptions regarding species presence or absence (no detection) within the Project Area.

4.0 RESULTS

The AC CDC data request for a 5 km radius around the centre of the Camp Pond Study Area returned records for two vascular plant SOCC: common wintergreen (*Chimaphila umbellata*), ranked S2 by the AC CDC on the Island of Newfoundland which had 100 individual observations; and floating bur-reed (*Sparganium fluctuans*), ranked S2S3 by the AC CDC on the Island of Newfoundland (AC CDC 2021c). These records are from an area northeast of the Camp Pond Study Area and were the target species for the Pumbly Point Study Area survey.

During the vascular plant survey, 166 vascular plant species were observed during the survey (Appendix B, Table B.1). This includes three vascular plant SOCC: common wintergreen, large-leaf pondweed (*Potamogeton amplifolius*), and white-stem pondweed (*P. praelongus*) (Table 2). No vascular plant species listed under either SARA or NL ESA were observed during surveys. The geographic locations for each SOCC observation are provided in Appendix B (Table B.2) Common wintergreen is a

subshrub (i.e., a relatively small, weakly woody perennial plant). Approximately 200 shoots of this species were observed within the Pumbly Point Study Area (Figure 3).

Large-leaf pondweed is an aquatic plant with both floating and submerged leaves, which is ranked S2S3 by the AC CDC on the Island of Newfoundland. This species was observed in 77 unique locations, each of which represented from one to over 200 individual plants. In total, approximately 950 individual plants were observed, all of which were around the periphery of Camp Pond (Figure 3). There are likely additional individuals of this species further from shore that were not accessible during the survey. Of the 77 unique records, 17 records were observed within the footprint of the western pit shell, representing approximately 118 individual plants.

White-stem pondweed is also an aquatic plant, ranked S2S4 by the AC CDC on the Island of Newfoundland. The AC CDC S rank definitions (Appendix A, Table A.3) indicate that the range rank for a species cannot skip more than one rank, and that a rank of SU (unrankable - possibly in peril, but status is uncertain - more information is needed) should be used instead. Therefore, it is not clear whether white-stem pondweed should be considered an SOCC. White-stem pondweed was observed at two locations near the edge of Camp Pond, near the northern and southern ends. More individuals of this species may be present further from the Camp Pond shore, at depths that were not accessible during the survey.

Table 2 Vascular Plant Species of Conservation Concern Observed during Rare Plant Surveys

Scientific Name	Common Name	Conservation Status Rank (S-rank)
Chimaphila umbellate	Common Wintergreen	S2
Potamogeton amplifolius	Large-Leaf Pondweed	S2S3
Potamogeton praelongus	White-Stem Pondweed	S2S4

The Camp Pond Study Area is currently occupied by four main habitat types, pole-sized coniferous forest, recently disturbed upland habitat, wetland, and lacustrine habitat. Most of the area is occupied by second growth coniferous forest that appears to be 30 to 40 years old. The tree layer is characterized by a dense canopy and is composed mostly of balsam fir (*Abies balsamea*) along with lesser amounts of black spruce (*Picea mariana*) and heartleaf paper birch (Betula cordifolia). Shrub cover is relatively sparse and consists mostly of advanced regeneration of balsam fir and heart-leaved paper birch. The ground vegetation layer consists mostly of moss along with some ferns and forbs. The most abundant ground vegetation species in descending order of abundance include Schreber's feather moss (*Pleurozium schreberi*), stair-step moss (*Hylocomium splendens*), broom moss (*Dicranum* spp.), dwarf dogwood (*Cornus canadensis*), knight's-plume moss (*Ptilium crista-castrensis*), Clinton's lily (*Clintonia borealis*), glandular wood fern (*Dryopteris intermedia*), and northern oak fern (*Gymnocarpium dryopteris*).

Much of the area in the proposed pit sites has been heavily disturbed by exploration drilling. These areas were formerly coniferous forest. The forest cover has been harvested and the vegetation in these areas now consists of a relatively dense cover of herbaceous species and a sparse cover of shrubs. There are no trees present in these areas. The sparse shrub layer is composed mostly of green alder (*Alnus alnobetula*) along with small amounts of red-osier dogwood (*Cornus stolonifera*) and seedlings of balsam fir. The ground vegetation layer is composed mostly of red raspberry (*Rubus idaeus*) and pearly everlasting (*Anaphalis margaritacea*) along with lesser amounts of swamp aster (*Symphyotrichum puniceum*), dwarf dogwood, flat-topped fragrant goldenrod (*Euthamia graminifolia*), colts-foot (*Tussilago farfara*), and blue-joint reedgrass (*Calamagrostis canadensis*).

Several small wetlands are scattered through the areas where the proposed pit will be established. Several types of wetlands are present, including lacustrine swamp, riparian swamp, and stream fen. Lacustrine swamp was found along the shore of a small pond and at one location on Camp Pond. The vegetation of this wetland type was characterized by a relatively dense low shrub canopy composed largely of sweet bayberry (*Myrica gale*), leatherleaf (*Chamaedaphne calyculata*), and speckled alder (*Alnus incana*) along with lesser amounts of red-osier dogwood and mountain fly-honeysuckle (*Lonicera villosa*). Tree cover consisted of a few scattered black spruce. The ground vegetation layer is relatively sparse and consists of a mixture of yellow sedge (*Carex flava*), Canada burnet (*Sanguisorba canadensis*), dwarf red raspberry (*Rubus pubescens*), rough-leaf goldenrod (*Solidago rugosa*), and blueflag (*Iris versicolor*).

Riparian swamp is found around the margins of small streams and ponds in the study area. This wetland type has a dense tall shrub canopy that is punctuated by scattered trees. The ground vegetation layer is also dense. Tree cover consists of scattered black spruce and balsam fir. The upper shrub canopy is dominated by speckled alder and mountain maple (Acer spicatum) as well as some balsam fir saplings. There is a well-developed low shrub layer that is composed mostly of alderleaf buckthorn (*Rhamnus alnifolia*) and Bartram shadbush (*Amelanchier bartramiana*). The most abundant ground vegetation species are dwarf red raspberry, dwarf dogwood and tall meadow-rue (*Thalictrum pubescens*). Other common ground vegetation species include lady-fern (*Athyrium filix-femina*), Canada burnet, cow parsnip (*Heracleum maximum*), and purple avens (*Geum rivale*).

Stream fen is found in old beaver floodings in the Camp Pond Study Area. These wetlands are characterized by a dense ground vegetation layer, a moderately dense shrub layer and a sparse tree layer. The ground vegetation layer consists mostly of a mixture of Canada burnet, tall meadow-rue, dwarf red raspberry, dwarf dogwood, and bristle-stalk sedge (*Carex leptalea*), along with lesser amounts of yellow sedge, blue-joint reedgrass, and swamp aster. Sweet bayberry and saplings of balsam fir are the most abundant shrub species. Other common shrub species in this wetland type include speckled alder, green alder, black spruce saplings, alderleaf buckthorn, and red-osier dogwood. Tree cover consists of scattered paper birch (*Betula papyrifera*), black spruce and balsam fir.

Shallow water lacustrine plant communities are associated with Camp Pond and several other water bodies in the study area. It was not possible to observe aquatic plant communities in deeper waters. Species composition varied between locations depending on substrate type and exposure to waves and ice scour. These plant communities consisted of mixtures of submerged and floating leaf plants. In larger water bodies such as Camp Pond, the density of aquatic plants in shallow water was relatively low possibly due to scouring by ice and wave action. The most abundant species here were seven-angled pipewort (*Eriocaulon aquaticum*), water lobelia (*Lobelia dortmanna*), and large-leaf pondweed (*Potamogeton amplifolius*). Patches of yellow cowlily (*Nuphar variegata*) were present in sheltered coves.

In smaller ponds the abundance of aquatic plants was typically higher than in the larger water bodies. Species that were abundant in these ponds included yellow cowlily, lanceleaf mare's-tail (*Hippuris vulgaris*), alternate-flowered water milfoil (*Myriophyllum alterniflorum*), Nuttall pondweed (*Potamogeton epihydrus*), and northern pondweed (*Potamogeton alpinus*).

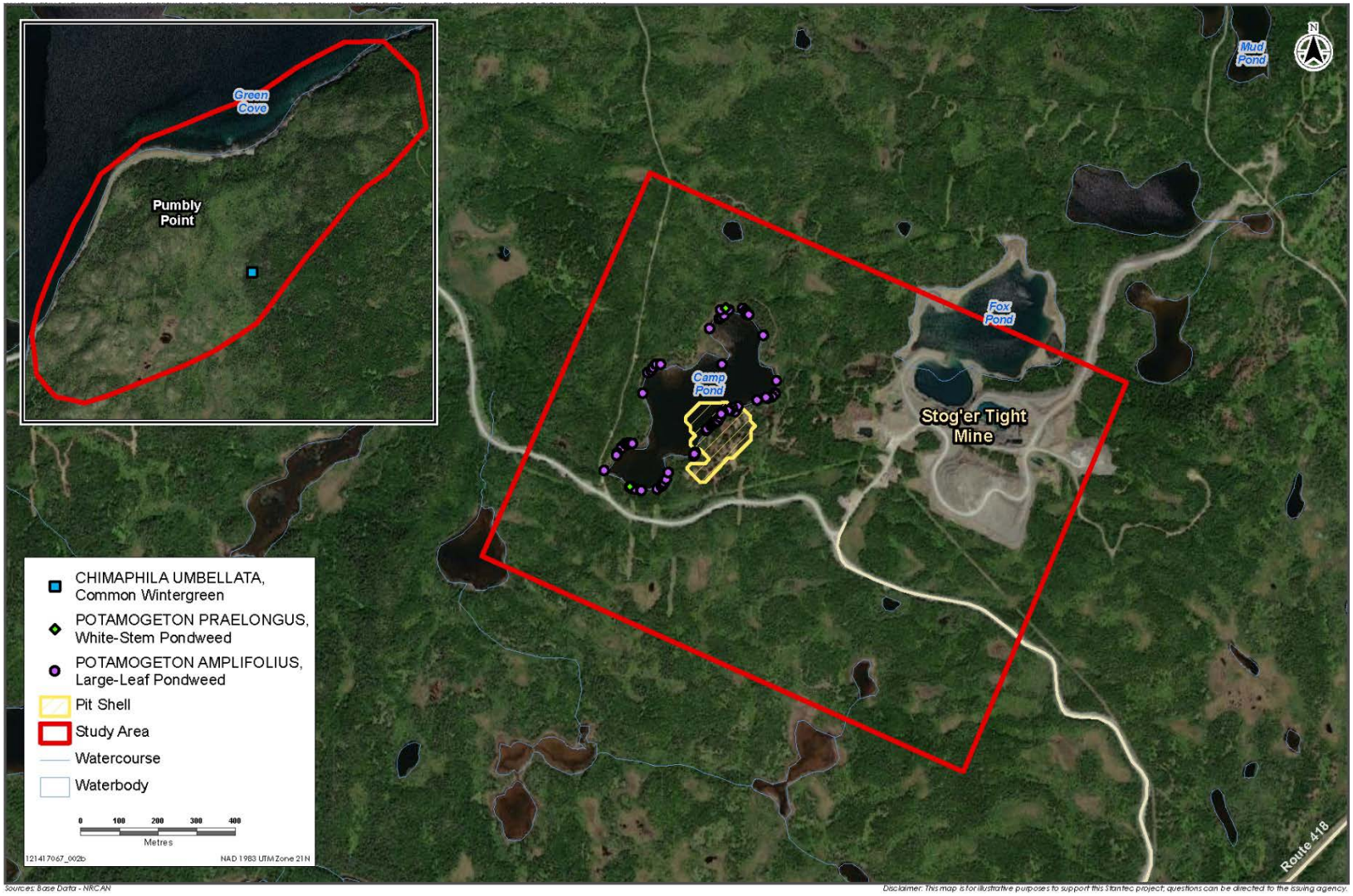

Figure 3 Vascular Plant Species of Conservation Concern Observed during Rare Plant Surveys

5.0 SUMMARY

Rare plant surveys were conducted in the Camp Pond and Pumbly Point Study Areas in mid-August 2021. No vascular plant species listed under either SARA or NL ESA were observed during surveys. Three SOCC were observed: large-leaf pondweed (*Potamogeton amplifolius*) and white-stem pondweed (*P. praelongus*) were observed along the shore of Camp Pond within the Camp Pond Study Area, and common wintergreen (*Chimaphila umbellata*) was observed within the Pumbly Point Study Area. Of the 77 unique records of large-leaf pondweed, 17 records representing approximately 118 individual plants (approximately 12.4% of recorded individuals) were observed within the footprint of the western pit shell.

6.0 REFERENCES

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COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2021. COSEWIC wildlife species assessment: status categories. Available online: https://cosewic.ca/index.php/en-ca/assessment-process/wildlife-species-assessment-process-categories-guidelines/status-categories.html Last accessed: September 30, 2021.

NLFLR. (Newfoundland and Labrador Department of Fisheries and Land Resources). No date. Designations under the Newfoundland & Labrador *Endangered Species Act*. Available online: https://www.flr.gov.nl.ca/wildlife/endangeredspecies/Designations.pdf. Last accessed: September 30, 2021.

APPENDIX A

Explanation of National and Provincial Species at Risk and General Status Ranking

Appendix A EXPLANATION OF NATIONAL AND PROVINCIAL SPECIES AT RISK AND GENERAL STATUS RANKING

A.1 COMMITTEE ON THE STATUS OF ENDANGERED WILDLIFE IN CANADA AND *SPECIES AT RISK ACT* WILDLIFE SPECIES STATUS CATEGORIES

COSEWIC and SARA wildlife species status categories are described in Table A.1.

Table A.1 Committee on the Status of Endangered Wildlife in Canada and *Species at Risk Act* Species Status Category Descriptions

Status Category	Description*
Extinct (X)	A wildlife species that no longer exists.
Extirpated (XT)	A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.
Endangered (E)	A wildlife species facing imminent extirpation or extinction.
Threatened (T)	A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern (SC)	A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
Not at Risk (NAR)	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD)	A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

COSEWIC 2021. Excerpt from https://cosewic.ca/index.php/en-ca/assessment-process/wildlife-species-assessment-process-categories-guidelines/status-categories.html

A.2 DESIGNATIONS UNDER THE NEWFOUNDLAND AND LABRADOR *ENDANGERED SPECIES ACT*

Species assessment and listings under the Newfoundland and Labrador *Endangered Species Act* (NL *ESA*) are coordinated by the Wildlife Division of the Newfoundland and Labrador Fisheries and Land Resources Department. Designations under the NL *ESA* are described in Table A.2.

Table A.2 Newfoundland and Labrador *Endangered Species Act* Designations and Descriptions

Designation	Description*
Extinct	A wildlife species that no longer exists.
Extirpate	A wildlife species that no longer exists in the wild, but exists elsewhere.
Endangered	A wildlife species facing imminent extirpation or extinction.
Threatened	A wildlife species that is likely to become endangered if nothing is done to reverse the factors limiting its survival.
Vulnerable	A wildlife species that has characteristics which make it particularly sensitive to human activities or natural events, or restricted habitat or food requirements that are themselves under threat.
Data Deficient (DD)	A category that applies when all sources of available information have been investigated but the information in the status report is insufficient to determine risk of extinction based on distribution and/or population status.
Not at Risk (NAR)	Generally applied to widespread and abundant taxa.

NLFLR no date. Excerpt from https://www.flr.gov.nl.ca/wildlife/endangeredspecies/Designations.pdf

A.3 ATLANTIC CANADA CONSERVATION DATA CENTRE RANKINGS

The AC CDC status ranks (S-rank) for the Island of Newfoundland were used to assess the rankings for vascular plant species. Definitions of the AC CDC rankings are provided in Table A.3.

Table A.3 Definitions of the Atlantic Canada Conservation Data Centre S-Ranks

Provincial Ranking (S-rank)	Definition
SX	Presumed Extirpated - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
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 nation or 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 - Possibly in peril, but status is uncertain - more information is needed
SNA	Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#/S#	Range Rank - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4)
SH	Possibly Extirpated (Historical)—Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
Not Provided	Species is not known to occur in the province.

AC CDC 2021a. Excerpt from http://accdc.com/en/rank-definitions.html

APPENDIX B

Vascular Plant Survey Results

Appendix B VASCULAR PLANT SURVEY RESULTS

Table B.1 Vascular Plant Species Observed in the Camp Pond and Pumbly Point Study Areas

Scientific Name	Common Name	Conservation Status Rank (S-rank)[1]
Abies balsamea	Balsam Fir	S5
Acer spicatum	Mountain Maple	S5
Agrostis scabra	Rough Bentgrass	S5
Agrostis stolonifera	Spreading Bentgrass	SNA
Alnus incana	Speckled Alder	S5
Alnus viridis	Green Alder	S5
Amelanchier bartramiana	Bartram Shadbush	S5
Anaphalis margaritacea	Pearly Everlasting	S5
Aralia nudicaulis	Wild Sarsaparilla	S5
Athyrium filix-femina	Lady-Fern	S5
Betula cordifolia	Heartleaf Birch	S4S5
Betula papyrifera	Paper Birch	S5
Bromus ciliatus	Fringed Brome	S5
Calamagrostis canadensis	Blue-Joint Reedgrass	S5
Carex buxbaumii	Buxbaum's Sedge	S4S5
Carex canescens	Hoary Sedge	S5
Carex castanea	Chestnut-Colored Sedge	S3S4
Carex crawfordii	Crawford Sedge	S4S5
Carex echinata	Little Prickly Sedge	S5
Carex flava	Yellow Sedge	S4S5
Carex interior	Inland Sedge	S3S4
Carex lasiocarpa	Slender Sedge	S5
Carex lenticularis	Shore Sedge	S4
Carex leptalea	Bristly-Stalk Sedge	S4S5
Carex leptonervia	Finely-Nerved Sedge	S4S5
Carex livida	Livid Sedge	S5
Carex panicea	A Sedge	SNA
Carex stipata var. stipata	Stalk-Grain Sedge	S4S5
Carex trisperma	Three-Seed Sedge	S5
Carex utriculata	Bear Sedge	S4S5
Carex viridula	Little Green Sedge	S5
Chamaedaphne calyculata	Leatherleaf	S5

Table B.1 Vascular Plant Species Observed in the Camp Pond and Pumbly Point Study Areas

Scientific Name	Common Name	Conservation Status Rank (S-rank)[1]
Chamerion angustifolium	Fireweed	S5
Chimaphila umbellata	**Common Wintergreen**	**S2**
Cinna latifolia	Slender Wood Reedgrass	S5
Circaea alpina	Small Enchanter's Nightshade	S5
Cirsium arvense	Creeping Thistle	SNA
Clintonia borealis	Clinton Lily	S5
Cornus canadensis	Dwarf Dogwood	S5
Cornus stolonifera	Red-osier Dogwood	S5
Cystopteris fragilis	Fragile Fern	S4
Drosera intermedia	Spoon-Leaved Sundew	S4S5
Drosera rotundifolia	Roundleaf Sundew	S5
Dryopteris campyloptera	Mountain Wood-Fern	S5
Dryopteris carthusiana	Spinulose Shield Fern	S4
Dryopteris intermedia	Glandular Wood Fern	S5
Eleocharis palustris	Creeping Spike-Rush	S4S5
Epilobium ciliatum	Hairy Willow-Herb	S5
Equisetum arvense	Field Horsetail	S5
Equisetum sylvaticum	Woodland Horsetail	S5
Eriocaulon aquaticum	Seven-Angled Pipewort	S5
Eriophorum tenellum	Rough Cotton-Grass	S3S4
Euphrasia nemorosa	Common Eyebright	S4S5
Eurybia radula	Rough-Leaved Aster	S5
Euthamia graminifolia	Flat-Top Fragrant-Golden-Rod	S5
Eutrochium maculatum	Spotted Joe-Pye Weed	S4S5
Galium triflorum	Sweet-Scent Bedstraw	S5
Gaultheria hispidula	Creeping Snowberry	S5
Geum macrophyllum	Large-Leaved Avens	S4S5
Geum rivale	Purple Avens	S4S5
Glyceria canadensis	Canada Manna-Grass	S5
Glyceria striata	Fowl Manna-Grass	S5
Gymnocarpium dryopteris	Northern Oak Fern	S5
Heracleum maximum	Cow Parsnip	S5
Hippuris vulgaris	Common Mare's-Tail	S4S5
Hypopitys monotropa	American Pinesap	S3

Table B.1 Vascular Plant Species Observed in the Camp Pond and Pumbly Point Study Areas

Scientific Name	Common Name	Conservation Status Rank (S-rank)[1]
Ilex mucronata	Mountain Holly	S5
Iris versicolor	Blueflag	S5
Isoetes echinospora	Spiny-Spored Quillwort	S5
Juncus articulatus	Jointed Rush	S5
Juncus brevicaudatus	Narrow-Panicled Rush	S5
Juncus effusus	Soft Rush	S5
Juncus pelocarpus	Brown-Fruited Rush	S4
Juncus tenuis	Slender Rush	S4
Juniperus communis	Ground Juniper	S5
Kalmia angustifolia	Sheep-Laurel	S5
Kalmia polifolia	Pale Laurel	S5
Leontodon autumnalis	Fall Dandilion	SNA
Linnaea borealis	Twinflower	S5
Lobelia dortmanna	Water Lobelia	S5
Lonicera villosa	Mountain Fly-Honeysuckle	S5
Lycopus uniflorus	Northern Bugleweed	S5
Maianthemum canadense	Wild Lily-of-The-Valley	S5
Maianthemum trifolium	Three-Leaf Solomon's-Plume	S5
Matricaria discoidea	Pineapple-Weed Chamomile	SNA
Melilotus albus	White Sweet-clover	SNA
Menyanthes trifoliata	Bog Buckbean	S5
Mitella nuda	Naked Bishop's-Cap	S5
Moneses uniflora	One-Flower Wintergreen	S5
Myrica gale	Sweet Bayberry	S5
Myriophyllum alterniflorum	Alternate-Flowered Water Milfoil	S4
Nuphar variegata	Yellow Cowlily	S5
Orthilia secunda	One-Side Wintergreen	S5
Osmunda claytoniana	Interrupted Fern	S4
Osmundastrum cinnamomeum	Cinnamon Fern	S5
Packera aurea	Golden Groundsel	S3S4
Phegopteris connectilis	Northern Beech Fern	S5
Picea glauca	White Spruce	S5
Picea mariana	Black Spruce	S5
Pilosella aurantiaca	Orange Hawkweed	SNA

Table B.1 Vascular Plant Species Observed in the Camp Pond and Pumbly Point Study Areas

Scientific Name	Common Name	Conservation Status Rank (S-rank)[1]
Pilosella caespitosa	Meadow Hawkweed	SNA
Plantago major	Nipple-Seed Plantain	SNA
Platanthera aquilonis	Leafy Northern Green Orchis	S4
Platanthera dilatata	Leafy White Orchis	S5
Platanthera orbiculata	Large Roundleaf Orchid	S3S4
Poa compressa	Canada Bluegrass	SNA
Poa palustris	Fowl Bluegrass	S5
Potamogeton alpinus	Northern Pondweed	S3S4
Potamogeton amplifolius	**Large-Leaf Pondweed**	**S2S3**
Potamogeton epihydrus	Nuttall Pondweed	S4S5
Potamogeton gramineus	Grassy Pondweed	S5
Potamogeton praelongus	**White-Stem Pondweed**	**S2S4**
Potentilla norvegica	Norwegian Cinquefoil	S4S5
Prunella vulgaris	Self-Heal	S3S5
Prunus pensylvanica	Fire Cherry	S4S5
Pteridium aquilinum	Bracken	S4S5
Pyrola chlorantha	Greenish-Flowered Wintergreen	S3S4
Pyrola minor	Lesser Wintergreen	S4
Ranunculus acris	Tall Butter-Cup	SNA
Ranunculus flammula	Greater Creeping Spearwort	S5
Ranunculus repens	Creeping Butter-Cup	SNA
Rhamnus alnifolia	Alderleaf Buckthorn	S5
Rhododendron canadense	Rhodora	S5
Rhododendron groenlandicum	Common Labrador-tea	S5
Rhynchospora fusca	Brown Beakrush	S3S4
Ribes lacustre	Bristly Black Currant	S4
Rubus chamaemorus	Cloudberry	S5
Rubus idaeus	Red Raspberry	S5
Rubus pubescens	Dwarf Red Raspberry	S5
Salix discolor	Pussy Willow	S5
Sanguisorba canadensis	Canada Burnet	S5
Scirpus atrocinctus	Black-Girdle Bulrush	S5
Scirpus cyperinus	Cottongrass Bulrush	S3S4
Scirpus microcarpus	Small-Fruit Bulrush	S4S5

Table B.1 Vascular Plant Species Observed in the Camp Pond and Pumbly Point Study Areas

Scientific Name	Common Name	Conservation Status Rank (S-rank)[1]
Senecio viscosus	Sticky Groundsel	SNA
Senecio vulgaris	Old-Man-In-The-Spring	SNA
Solidago brendae	Brenda's Goldenrod	S3
Solidago macrophylla	Large-Leaf Goldenrod	S5
Solidago rugosa	Rough-Leaf Goldenrod	S5
Solidago uliginosa	Bog Goldenrod	S5
Sorbus americana	American Mountain-Ash	S4S5
Sorbus decora	Northern Mountain-Ash	S5
Sparganium angustifolium	Narrow-Leaf Burreed	S5
Sparganium emersum	Green-fruited Burreed	S4
Sparganium natans	Small Bur-Reed	S3S4
Spergularia rubra	Purple Sandspurry	SNA
Spiranthes romanzoffiana	Hooded Ladies'-Tresses	S4S5
Symphyotrichum puniceum	Swamp Aster	S5
Taraxacum officinale	Common Dandelion	SNA
Taxus canadensis	Canadian Yew	S3S4
Thalictrum pubescens	Tall Meadow-Rue	S5
Trichophorum alpinum	Alpine Cotton-Grass	S4S5
Trichophorum cespitosum	Deergrass	S5
Trientalis borealis	Northern Starflower	S5
Trifolium repens	White Clover	SNA
Triglochin palustris	Slender Bog Arrow-Grass	S4S5
Tussilago farfara	Colt's-foot	SNA
Utricularia cornuta	Horned Bladderwort	S5
Utricularia intermedia	Flatleaf Bladderwort	S5
Utricularia minor	Lesser Bladderwort	S4S5
Vaccinium angustifolium	Late Lowbush Blueberry	S5
Vaccinium boreale	Northern Blueberry	S4S5
Vaccinium vitis-idaea	Mountain Cranberry	S5
Veronica serpyllifolia	Thyme-Leaved Speedwell	S3S4
Viburnum edule	Squashberry	S5
Viola macloskeyi	Smooth White Violet	S5
[1] Ranks from AC CDC 2021c		

Table B.2 Latitude and Longitude of Observed Rare Plants within the Study Areas

Latitude	Longitude	Approximate Number of Plants
Common Wintergreen (*Chimaphila umbellata*)		
49.980334	-56.124304	200
Large-leaf pondweed (*Potamogeton amplifolius*)		
49.964646	-56.086788	1
49.965195	-56.086292	1
49.965611	-56.085555	1
49.964849	-56.089177	1
49.964851	-56.089286	1
49.964849	-56.08932	1
49.964828	-56.089362	2
49.964788	-56.089403	3
49.964765	-56.089441	4
49.964649	-56.089578	4
49.964603	-56.089611	13
49.964249	-56.090059	57
49.964863	-56.08928	8
49.964862	-56.089286	12
49.964864	-56.089261	15
49.964881	-56.089164	5
49.964881	-56.089164	14
49.964864	-56.089061	5
49.964861	-56.08903	3
49.96603	-56.088639	8
49.966512	-56.088454	2
49.966551	-56.088336	1
49.966555	-56.088338	1
49.966627	-56.088251	2
49.966693	-56.088161	1
49.966692	-56.088123	1
49.966692	-56.087981	6
49.966682	-56.08579	4
49.967522	-56.0862	2
49.967731	-56.085852	12
49.967767	-56.085779	2
49.967822	-56.085685	5
49.967944	-56.085804	4

Table B.2 Latitude and Longitude of Observed Rare Plants within the Study Areas

Latitude	Longitude	Approximate Number of Plants
49.967943	-56.085495	100
49.967962	-56.085011	3
49.967904	-56.084924	5
49.967861	-56.084878	5
49.967832	-56.084837	5
49.96782	-56.084793	13
49.967335	-56.084274	16
49.966286	-56.083823	1
49.96599	-56.083882	3
49.965976	-56.083889	1
49.965913	-56.083983	3
49.96589	-56.08412	6
49.9659	-56.08421	2
49.965837	-56.084525	19
49.965576	-56.085319	11
49.965697	-56.085228	12
49.965671	-56.085424	21
49.965611	-56.085493	7
49.96561	-56.085578	21
49.965573	-56.085778	3
49.963863	-56.089144	200
49.963868	-56.089119	40
49.963829	-56.089076	22
49.963808	-56.088953	17
49.963776	-56.088759	5
49.963774	-56.088728	4
49.963803	-56.088161	13
49.963872	-56.088002	17
49.963899	-56.087954	13
49.96395	-56.087916	15
49.96402	-56.08783	9
49.964186	-56.087768	8
49.964566	-56.08684	64
49.964611	-56.086813	11
49.965145	-56.086386	1
49.965173	-56.086341	16

Table B.2 Latitude and Longitude of Observed Rare Plants within the Study Areas

Latitude	Longitude	Approximate Number of Plants
49.965173	-56.086341	2
49.965253	-56.086206	9
49.965295	-56.086146	6
49.965339	-56.086075	2
49.965354	-56.085982	3
49.965368	-56.085952	5
49.965449	-56.085882	7
49.965526	-56.085822	2
White-stem pondweed (*Potamogeton praelongus*)		
49.963876	-56.089148	16
49.967991	-56.085633	20