
APPENDIX C

Natural Heritage Study





NATURAL HERITAGE EXISTING CONDITIONS REPORT
SIX MILE CREEK FLOODING PROJECT
SCHEDULE B MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
AND CONCEPTUAL DESIGN

Prepared for: **TOWN OF FORT ERIE**

Prepared by: **MONTROSE ENVIRONMENTAL SOLUTIONS CANADA INC.**

Version 1.0
April 2026
Guelph, Ontario

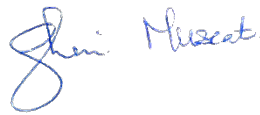
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SIX MILE CREEK FLOODING PROJECT
SCHEDULE B MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT AND CONCEPTUAL DESIGN

Prepared for the Town of Fort Erie, April 2026



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VERSION CONTROL

Version	Date	Issue Type	Filename	Description
V0.1	14-Oct-2025	Draft	34481 NH Report 2025-10-14 draft v0.1.docx	Issued to client for review
V1.0	15-Apr-2026	Final	34481 NH Report 2026-04-15 final v1.0.docx	Issued to client

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1 INTRODUCTION

Six Mile Creek is a watercourse in the Town of Fort Erie that originates north of Highway 3, west of Prospect Point Road North and travels adjacent to several residential neighbourhoods before flowing into Lake Erie. The Town of Fort Erie is undertaking a Schedule B Municipal Class Environmental Assessment (EA) for a portion of the Six Mile Creek watershed adjacent to Lake Erie. This community is locally known as Thunder Bay and for decades has experienced localized flooding along Shirley Road, with nuisance yard/street flooding occurring as recently as December 2022. The area is vulnerable to both chronic coastal and riverine flooding; coastal flooding is caused by high water levels in Lake Erie, whereas riverine flooding is caused by high stream flows in Six Mile Creek.

The objective of the EA is to:

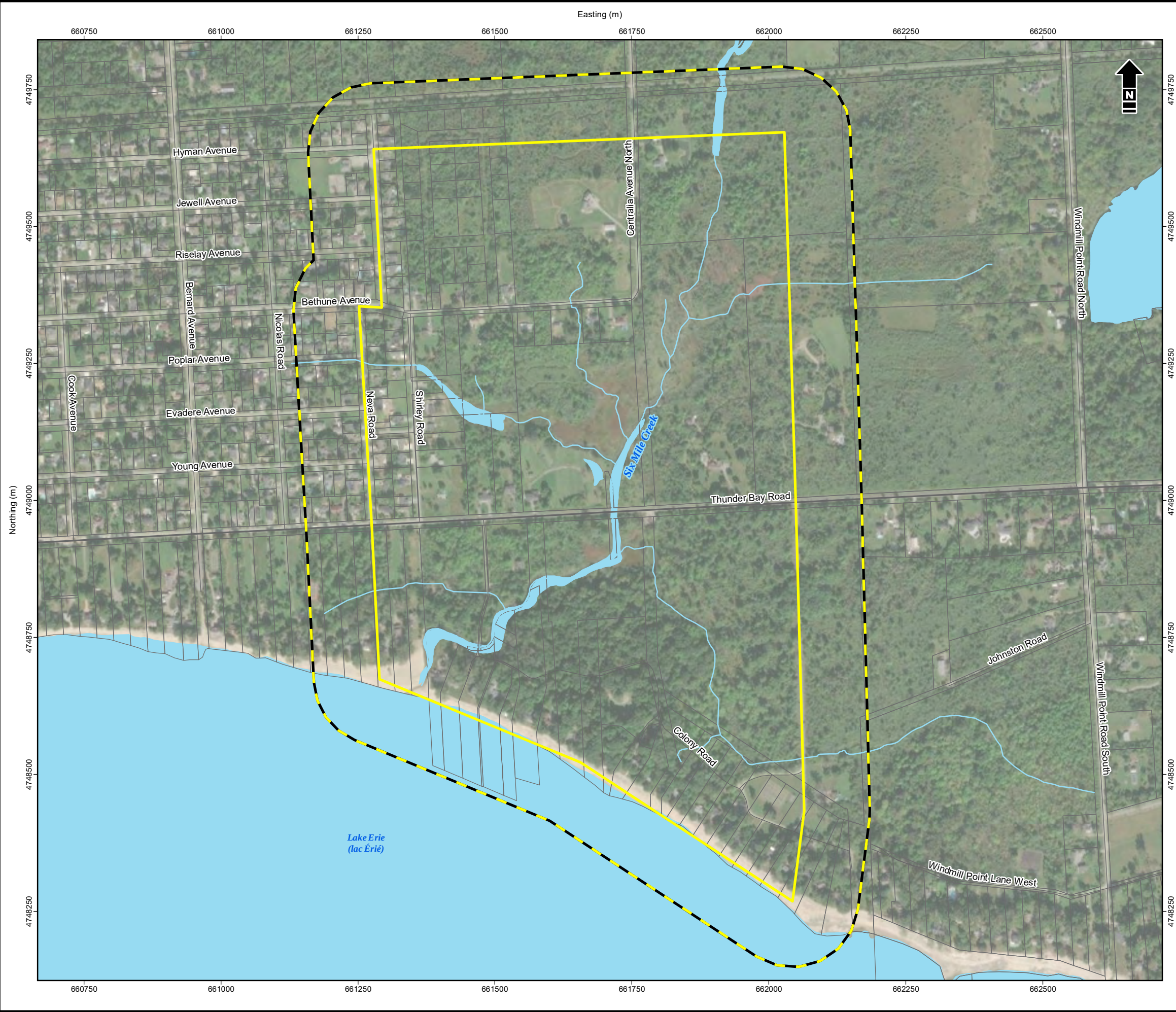
- determine the causes of the coastal and riverine flooding;
- review performance of existing drainage infrastructure;
- identify drainage improvements to reduce the potential for flooding; and,
- suggest an accompanying financial strategy for the preferred solution.

1.1 Study Area

The study area is located just east of the community of Thunder Bay, within the Township of Fort Erie and Regional Municipality of Niagara. The study area is contained by the Lake Erie shoreline to the south, Friendship Trail to the north, Neva Road to the west, and 500 m west of Windmill Point Road North. The study area and identified features can be seen in Figure 1. The area is largely rural, with the primary land use associated with the Regulation Lands of Niagara Peninsula Conservation Authority (NPCA); remaining portions area allocated to urban and rural residential land uses.

The west side of the study area falls within the Ridgeway/Thunder Bay Secondary Plan (Town of Fort Erie, 2025). Land uses within and adjacent to the study area include Low Density Residential, Environmental Protection, Environmental Conservation, Rural Residential, Rural, and Open Space (Town of Fort Erie, 2025).

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- Study Area
- Subject Lands
- Parcels
- Water Body
- Watercourse
- Highway
- Road



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1:7,000 metres
70 0 70 140
NAD 1983 UTM Zone 17N



Town of Fort Erie
Six Mile Creek Flooding - NH Existing Conditions Report

Study Area Overview

Date:	October 2025	Project:	36481	Submitter:	S. Dehens	Reviewer:	S. Muscat
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2 REGULATORY FRAMEWORK

2.1 Ontario's Environmental Assessment Act

The project is subject to the provisions of Ontario's Environmental Assessment Act. The Act requires that, for any major public sector project that has the potential for significant environmental effects, an environmental assessment be undertaken prior to implementation to determine the ecological, cultural, economic, and social impact of the project.

The Act exists to "provide for the protection, conservation, and wise management of Ontario's environment." The Act mandates clear terms of reference, focused assessment hearings, ongoing consultation with all parties involved including public consultation and, if necessary, referral to mediation for decision. Environmental assessment is a key part of the planning process and must be completed before decisions are made to proceed on a project.

To comply with the requirements of the Act, two types of environmental assessment processes can be applied to projects:

- **Individual Environmental Assessment:** This process includes the development of a project-specific terms of reference that are submitted for review and approval to the Minister of the Environment. This process is typically applied to large, unique or complex projects that do not have precedents that demonstrate a predictable and manageable environmental impact.
- **Class Environmental Assessment:** This process applies to routine projects that have predictable and manageable environmental effects and follow a terms of reference that has been previously approved for certain types of projects.

2.2 Municipal Environmental Assessment Process

This Class Environmental Assessment (EA) for the Six Mile Creek study area follows the Municipal Class EA process as outlined in the Municipal Class Environmental Assessment Manual (MEA 2023), under the Ontario Environmental Assessment Act, Revised Statutes of Ontario (R.S.O.) 1990, Chapter E.18, as amended. The Municipal Class EA process allows for strategic planning of multiple integrated systems that impact the environment (defined as the natural, social, cultural, built, and economic environments). The consultation process for this project complies with the Code of Practice for Consultation in Ontario's Environmental Assessment Process (MOE 2014).

2.3 Natural Heritage Legislation Policy

The community of Thunder Bay is located within the Township of Fort Erie, and subsequently the Region of Niagara. As such, it is subject to the planning policies for both the Township of Fort Erie (lower tier) and the Region of Niagara (upper tier). The study area is also located within the jurisdiction of the NPCA and contains several features that are regulated by the NPCA.

Where species at risk or natural heritage features are present, the area may be subject to additional legislation through the Ontario Ministry of Environment, Conservation and Parks (MECP); the Ontario Ministry of Natural Resources and Forestry (MNRF); and Fisheries and Oceans Canada (DFO). The following sections and Table 1 provide a summary of the legislation and guidelines relevant to this project.

TABLE 1 Applicable Natural Heritage Legislation, Regulations, and Policies

Legislation	Policies and Regulations	Summary of Contents
<i>Species at Risk Act</i> (SARA; Government of Canada 2025)	N/A	- The <i>Species at Risk Act</i> (SARA) incorporates a number of prohibitions to protect SAR, providing recovery strategies for extirpated, endangered, or threatened species, as well as managing species of special concern (Government of Canada, 2016). On private or provincially owned lands, only aquatic species listed as endangered, threatened, or extirpated and migratory birds listed on Schedule 1 are protected under SARA, unless ordered by the Governor in Council, or for those species that have critical habitat identified. Schedule 1 migratory birds where critical habitat has been identified require consideration under SARA. Should a species also be listed under SARA and the <i>Endangered Species Act</i> (ESA), where the ESA provides equal or greater protection, the ESA takes precedence. Applicability to Project: Fish species at risk have been identified within the study area. There are known occurrences within Six Mile Creek, its tributaries and within Lake Erie. No critical habitat for any species at risk has been identified by the DFO within the study area.
<i>Fisheries Act</i> (1985, amended 2024)	Fish Protection Policy Statement (2013)	- The <i>Fisheries Act</i> outlines the framework for the management and regulation of fisheries and the conservation and protection of fish and fish habitat within the fishing zones of Canada, all waters in the territorial sea of Canada, and all internal waters of Canada. Applicability to Project: Any activities that may impact a watercourse or waterbody (including Lake Erie and Six Mile Creek and its tributaries), would require a Request for Review (RFR) from the DFO. It is anticipated that this project would require, at minimum, a RFR from the DFO.
<i>Migratory Birds Convention Act</i> (MBCA; 1994, amended on 2018)	Migratory Birds Regulation (2022) Migratory Bird Sanctuary Regulations (2022)	- The <i>Migratory Birds Convention Act</i> (MBCA) affords protection to birds listed under Article 1 of the MBCA. General prohibitions protect migratory birds, their nests, and their eggs, and prohibits the deposition of harmful substances in waters and other areas frequented by them. - The Migratory Birds Regulation clarifies the nest protection timelines for 18 species that are listed on Schedule 1. These timelines include a waiting period until the nest can be deemed abandoned and subsequently removed. The waiting period for these 18 species remains in effect even if the nest is unoccupied. Nest protection for all other species which are not listed in Article 1 remains the same, with nest removal occurring once the young have fledged. Applicability to Project: All vegetation removal shall occur outside of the migratory bird nesting window of April 1 to August 31 of any given year to avoid disturbing active nests.
<i>Planning Act</i> (1990, amended 2025a)	Provincial Planning Statement, 2024 (MMAH 2024) Provincial Policy Statement, 2020 (MMAH 2020a) Natural Heritage Reference Manual (NHMR; MNR 2010)	- The Provincial Planning Statement (PPS) provides policy direction on provincial matters of interest related to land use planning and development. It sets the policy framework for regulating development and use of land and is issued under the authority of Section 3 of the Planning Act. - The PPS (2024), which is intended to update the PPS 2020, was implemented in October of 2024. The PPS 2024 does not include any notable changes to natural heritage policies but does include minor policy changes with respect to development projects and energy generation. - Section 4.1 of the PPS outlines policies that provide legislative protection for the natural environment. These policies include the exclusion of development and site alteration within PSWs, habitat of Endangered or Threatened species, fish habitat, as well as within SWH, significant woodlands, significant valleylands, ANS, or adjacent lands “...unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions”

Legislation	Policies and Regulations	Summary of Contents
	Significant Wildlife Habitat Technical Guide (SWHTG; MNR 2000) Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNR 2015)	(MMAH 2020). The NHRM was developed to provide technical guidance for implementing the natural heritage policies of the PPS. - The NHRM and SWHTG outline protection of natural heritage features within Ontario including significant wetlands, woodlands, and wildlife habitat. Applicability to Project: The purpose of this EA is to alleviate flooding concerns within the study area, which could alleviate human health and safety concerns, ultimately with the purpose of allowing for additional development or growth opportunities for the Town of Fort Erie.
<i>Places to Grow Act</i> (2005, amended 2024b)	<i>A Place to Grow. Growth Plan for the Greater Golden Horseshoe</i> (MMAH 2020b) O. Reg. 416/05: Growth Plan Areas	- The <i>Places to Grow Act</i> enables the development of regional growth plans that guide government investments and land use planning policies. - The Growth Plan for the Greater Golden Horseshoe provides a framework for long-term management of growth within the region. It builds upon the policies in the PPS 2020 provides direction on how and where the region will grow. - While the Growth Plan for the Greater Golden Horseshoe focuses on the compact, sustainable growth of healthy complete communities, which offer a variety of housing options and encourage mixed-use development, public safety must be prioritized within these developments. To mitigate and prevent future flood risks, growth shall generally be directed away from hazardous areas, including those that have been identified as Special Policy Areas in accordance with the PPS 2020. Applicability to Project: The Niagara Region has been designated as a Growth Plan Area. Limits on development are currently present within the study area due to provincial policies with respect to flooding and natural hazards. The purpose of this EA is to alleviate flooding concerns within the study area, which could allow for additional development or growth opportunities for the Town of Fort Erie.
<i>Endangered Species Act</i> (2007, amended 2025b)	O. Reg.'s: 230/08 242/08 829/21 830/21 832/21	- The <i>Endangered Species Act</i> (ESA) provides conservation and protection of species in Ontario. Species listed as endangered or threatened under the ESA are afforded legal protection from harm and harassment. The ESA also prohibits damage or destruction of habitat of endangered or threatened species. Habitat protection for a species can be general or subject to the specific provisions of a habitat regulation as set out in O. Reg. 832/21. Applicability to Project: The ESA applies to all SAR within provincially regulated lands. Any impacts to these species, or their habitats protected under the ESA, would require a permit.
<i>Fish and Wildlife Conservation Act</i> (1997, amended 2024c)	O. Reg.'s: 670/98 668/98 666/98 667/98 665/98 664/98 663/98 O. Reg. 669/98: Wildlife Schedules (1998)	- The <i>Fish and Wildlife Conservation Act</i> affords protection for some species of birds, amphibians, reptiles, and mammals in Ontario. - Some bird species which are not afforded protection under the MBCA are afforded protection under the <i>Fish and Wildlife Conservation Act</i>. Applicability to Project: Suitable habitat for some of these species, including raptors and fur bearing mammals has been identified within the study area. Environmental management considerations should include timing windows for vegetation clearing and for construction.

Legislation	Policies and Regulations	Summary of Contents
<i>Conservation Authorities Act</i> (1990, amended 2024a)	O. Reg. 41/24: Prohibited Activities, Exemptions and Permits Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority (NPCA 2024)	- The <i>Conservation Authorities Act</i> empowers conservation authorities to regulate development within hazardous lands, wetlands, river or stream valleys; within areas that are adjacent to the shoreline of the Great Lakes; inland lakes subject to flooding, erosion, or dynamic beach hazards; as well as any activities that interfere with an existing watercourse or wetland. On April 1, 2024, portions of the <i>Conservation Authorities Act</i> were repealed and substituted, including but not limited to Part VI (Section 28 and Section 29) and Part VII. - On April 1, 2024, O. Reg. 41/24 was enacted under the <i>Conservation Authorities Act</i>, which supersedes previous Conservation Authority specific Regulation's of Development, like as NPCA's O. Reg 155/06. O. Reg. 41/24 includes updated definitions for key terms; an updated list of prohibited activities, or activities that would require permission; clarification on the pre-consultation requirements for permits; and updates to floodplain and regulated area mapping standards. Notably, the regulated areas surrounding wetlands has been updated to a standard 30 m regulation limit for all wetlands (including PSW's and wetlands greater than 2 ha in size) Applicability to Project: The study area contains features that are regulated by the NPCA including but not limited to a watercourse (Six Mile Creek), a great lake (Lake Erie), and hazardous lands (floodplain, and dynamic beach hazards). Permission from the NPCA would be required, in the form of a permit, prior to conducting any works within their regulated areas.
<i>Niagara Official Plan</i> (Niagara Region 2024a)	N/A	- The Niagara Region's Official Plan was adopted by Council on June 23, 2022, and approved by the Minister on November 4, 2022. The policies of this Official Plan manage where and how the region will grow to create a sustainable community until the year 2051. - As of March 31, 2025, the Niagara Official Plan is no longer a Regional Plan. It is now an official plan of the 12 local municipalities in Niagara. Applicability to Project: The study area is located within the Niagara Region. Under the Niagara Official Plan, activities that create or maintain infrastructure authorized under an environmental assessment are exempt from development prohibitions in key natural heritage features, provincial natural heritage system, and key hydrologic features.
<i>Official Plan for the Town of Fort Erie</i> (Town of Fort Erie 2021)	N/A	- The Official Plan for the Town of Fort Erie was adopted by Council on August 25, 2025. The Official Plan focus on maintaining the unique character of the Town of Fort Erie; while addressing social and community needs, developing strong, liveable and healthy communities, preserving agricultural lands, and providing residents with a high-quality living environment that protects, conserves, enhances, and restores natural features. Applicability to Project: The study area is located within the Town of Fort Erie. Under the Official Plan for the Town of Fort Erie, essential public uses include public infrastructure are permitted in all land use designations, provided that there are no reasonable and feasible alternative locations, and that the use can be made compatible with its surroundings.

3 NATURAL ENVIRONMENT EXISTING CONDITIONS

Natural heritage information available for the site has been compiled as part of the background review. Species records, natural features, and habitat types were reviewed, and their results can be found in the following subsections. These findings will be used to evaluate and assess the short list of alternatives through the EA process. Findings will help inform any necessary mitigation measures and, if required, any additional studies for the preferred solution.

3.1 Background Review

A desktop background review was conducted to collect information regarding natural heritage features and wildlife within the study area. This included a review of numerous atlases, databases, and aerial imagery, as listed in Table 2. The Niagara Region Official Plan and the Town of Fort Erie Official Plan were also reviewed, in conjunction with Ontario's, the NPCA's, and Niagara Region's open data portals to identify any natural heritage features that may be present. A complete list of species obtained from the background review can be found in **Appendices B and C**.

TABLE 2 Background Review Sources

Source	Citation	Information Reviewed
Land Information Ontario (LIO)	MNR 2000	Natural heritage features data layers
Ontario GeoHub	MNRF 2023a	Natural heritage features data layers
Aquatic Species at Risk Map	DFO 2023	Aquatic species at risk map
Natural Heritage Information Centre (NHIC)	MNRF 2023b	Data records for the study area
Ontario Breeding Bird Atlas (OBBA)	Birds Canada 2023	Species records for the study area
Ontario Butterfly Atlas	TEA 2023a	Species records for the study area
Ontario Moth Atlas	TEA 2023b	Species records for the study area
Ontario Reptile and Amphibian Atlas	Ontario Nature 2023	Species records for the study area
Important Bird Areas	Bird Studies Canada 2023	Data records for the study area
eBird	Cornell Lab of Ornithology 2023	Species records for the study area
Ontario Mammals, iNaturalist	CAS 2023a	Species records for the study area
iNaturalist	CAS 2023b	Species records for the study area
NPCA Open Data Portal	NPCA 2022	ELC, ESA, and water quality records for the study area
NPCA Watershed Report Card	NPCA 2023	Watershed health indicators
Niagara Region Open Data Portal	Niagara Region 2024b	Natural heritage features data layers
Niagara Region Official Plan	Niagara Region 2024a	Natural heritage features
Town of Fort Erie Official Plan	Town of Fort Erie 2021	Natural heritage features

An information request was sent to the NHIC on May 1, 2024, to request additional information on restricted species and rare plant community records within the study area. A response was received from the NHIC on May 3,

2024, containing more information on the restricted species and rare plant community. A copy of all agency correspondence can be found in **Appendix A**.

3.1.1 Identified Natural Heritage Features

Under the Niagara Official Plan, the Region's Natural Environment System (NES) is made up of the natural heritage system (NHS), the water resource system (WRS), the Natural Heritage System for the Growth Plan, and the Greenbelt Plan Natural Heritage System. Each component overlaps with, relies on, and supports the others.

Through a review of the sources listed in Table 2, the following natural heritage features were identified within the study area:

- Provincially significant wetlands
- Significant woodlands
- Valleylands
- Environmentally sensitive areas
- Environmental corridors and linkages
- Watercourses and waterbodies

These features are illustrated in Figure 2.

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- Subject Lands
- Study Area (120 m Adjacent Lands)
- Provincially Significant Wetland
- Woodland
- Water Body
- Watercourse
- Highway
- Road



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Town of Fort Erie
Six Mile Creek Flooding Project - NH Existing Conditions Report

Study Area and Identified Features

Date:	October 2025	Project:	36481	Submitter:	S. Dehens	Reviewer:	S. Muscat
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3.1.1.1 Wetlands

Wetlands are defined by the MNRF as “lands that are seasonally or permanently flooded by shallow water as well as lands where the water table is close to the surface; in either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants” (MNRF 2022). These lands include ecosystems such as marshes, swamps, fens, bogs, and open water communities.

One Provincially Significant Wetland (PSW), Six Mile Wetland Complex was identified within the study area using LIO mapping. The MNRF provided the wetland evaluation for the Six Mile PSW, which was completed in 2004 and is summarized as follows:

The Six Mile Wetland Complex encompasses 226 ha spread across 19 individual wetlands, consisting of deciduous swamp and herbaceous marsh vegetation communities. Hydrologically, the wetland complex consists of riverine, palustrine and isolated site types and contributes to ground water recharge and some nutrient trapping. The wetland experiences anthropogenic use such as hunting, fishing, and nature enjoyment and it experiences moderate disturbance and localized water pollution. No breeding, migration, or feeding habitats for SAR were identified within the wetland complex. Six provincially significant animal species were present: milk snake, eastern hognose snake, Fowler’s toad, red-headed woodpecker, tufted titmouse, and hooded warbler. Two provincially significant plant species were also noted: pin oak (*Quercus palustris*) and tall swamp beggar’s ticks (*Bidens coronata*). The wetland complex was assessed to provide locally significant winter cover for wildlife and locally significant (<5.0 ha) fish spawning and nursery habitat.

As per Figure 2, the Six Mile Wetland Complex is located within the central portion of the subject property and generally follows Six Mile Creek. As of April 1, 2024, per O. Reg 41/24, all land located within 30 m of the PSW is considered adjacent land.

3.1.1.2 Significant Woodlands

Woodlands are treed areas that provide environmental and economic benefits to the landowner as well as the general public. These woodlands provide benefits such as wildlife habitat, erosion prevention, hydrological and nutrient cycling, long-term storage of carbon, as well as recreational and harvesting opportunities. Woodlands vary in their level of significance at the local, regional, and the provincial levels.

The Town of Fort Erie’s Official Plan divides woodlands into three categories, woodlands <2 ha in size, woodlands >2 ha in size, and woodlands that are part of the Significant Natural Areas designation. Woodlands that are greater than 2 ha in size and those that are part of the Significant Natural Areas (SNA) designation receive protections.

The Town of Fort Erie’s Official Plan has identified woodlands >2 ha and woodlands that are part of the SNA within the study area.

3.1.1.3 Valleylands

Valleylands are natural areas that occur in a valley or landform depression that has flowing or standing water for some period of the year. Provincially Significant Valleylands are those that valleylands that are ecologically important in terms of features, functions, representation, or amount.

No significant valleylands have been identified within the study area under the Town of Fort Erie or the Niagara Region Official Plan. Valleylands associated with Six Mile Creek and its unnamed tributaries are present within the study area and may be considered provincially significant.

3.1.1.4 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESA's) are natural heritage features that have been identified as significant and worthy of protection based on their ecological, hydrological, and geological features and values.

Within the Town of Fort Erie, ESAs are included in their SNA designation in their official plan. SNAs include significant woodlands, thickets, meadowlands, significant wildlife habitat areas, ESAs, corridors, and linkages.

One ESA has been identified within the study area:

- **Wavecrest Bush.** This is a large wetland complex located within the central portion of the study area. It is located east of Shirley Road, extending from Lake Erie north to just past Nigh Road; as well as the areas north of the Friendship trail, between Bernard Avenue and Centralia Avenue North.

Two Locally Significant Natural Areas (SNA's) have been identified within the study area according to the Ridgeway-Thunder Bay Secondary Plan:

- **Wavecrest Bush.** The SNA expands upon the PSW boundary adjacent to Shirley Road.
- **South of Thunder Bay Road,** between Colony Road and Bernard Avenue.

* It should be noted that the Ridgeway-Thunder Bay Secondary Plan does not cover the entire study area boundary, it only covers a small portion of the far west side.

3.1.1.5 Environmental Corridors and Linkages

Environmental corridors link together components of the natural heritage system. They are important for ecological diversity and to support complex species and ecosystems, including those that require differing habitats during different phases of their lifespans. Four environmental corridors have been identified within the Town of Fort Erie Official Plan. These corridors generally run north-south and east-west within this area. The first runs east-west along the Lake Erie shoreline, the second runs east-west just south of Dominion Road, the third runs north-south along Six Mile Creek, and the fourth runs north-south along Windmill Point Rd N.

3.1.1.6 Watercourses and Waterbodies

The study area is located within the Lake Erie basin, within the Six Mile Creek Lake Erie subwatershed. The study area contains a portion of Six Mile Creek and its unnamed tributaries. It also contains a portion of Lake Erie, into which Six Mile Creek drains. The Mann Municipal Drain is located outside of the study area (approximately 600 m northeast) but drains into this reach of Six Mile Creek.

Six Mile Creek is a warm water watercourse that originates at Bertie Street and drains into Lake Erie. In its 2023 Watershed Report Card, Six Mile Creek received a grade of D (poor) in surface water quality due to exceedances in phosphorus, *E. coli*, and chloride. The forest conditions indicator received a grade of C (fair) through measuring percentages of forest cover, forest interior, and forested riparian zone within the watershed.

NPCA operates a surface water quality monitoring station (SM001) on Six Mile Creek at Thunder Bay Road. 2022's water quality results from station SM001 showed that the water quality at Six Mile Creek was poor. Exceedances in chloride, copper, *E. coli*, total phosphorus, zinc, and total suspended solids were detected. Notably, total phosphorus samples exceeded provincial targets 100% of the time. Total phosphorus is found in fertilizers, pesticides, and sewage discharge. Stressors for the watershed included agricultural and rural runoff.

Six Mile Creek has a general timing window for in-water work of March 15 – July 15.

Critical Stream Fish Habitat has been identified within Six Mile Creek and its tributaries, according to the Fort Erie Official Plan and the Ridgeway-Thunder Bay Secondary Plan. Critical Stream Fish Habitat receives a larger natural vegetated buffer area (>30 m) as compared to 'Other' or 'Marginal' Stream Fish Habitat (15 m buffer)

3.2 Natural Environment Existing Conditions

3.3 Aquatic Habitat

An aquatic habitat assessment was not conducted by Montrose staff. Aquatic habitat and the species known to occur within the area were identified through a review of secondary source information from the NPCA.

No information regarding fish barriers could be found for Six Mile Creek. However, based off the fish species data available for the creek on Ontario GeoHub, the same five fish species are recorded at both the upstream and downstream extents of Six Mile Creek. This implies that fish passage is possible throughout the extent of Six Mile Creek.

DFO mapping identified Silver Chub (*Macrhybopsis storeriana*), Silver Lamprey (*Ichthyomyzon unicuspis*), Grass Pickerel (*Esox americanus vermiculatus*), and Spotted Sucker (*Minytrema melanops*) within the study area. Based on the results of the background review, 16 fish and zero mollusc records were identified as potentially occurring within the study area.

Thirteen of the Sixteen aquatic SAR/ SC that have been identified during our background review as potentially occurring within the study are isolated to Lake Erie. Many of these species native ranges and known populations occur on the far western side of the Lake. These species are unlikely to be found in Six Mile Creek or its river mouth.

Three of the Sixteen aquatic SAR/SC that have been identified during our background review as potentially occurring within the study area are found within both Lake Erie and Six Mile Creek. This includes the American Eel (*Ammocrypta pellucida*) (END), Eastern Sand Darter (*Erimyzon sucetta*) (END), and Lake Sturgeon (*Acipenser fulvescens*) (END). These species use both large lake systems as well as smaller tributaries during a part of their lifecycle.

3.4 Ecological Land Classification

Ecological Land Classification (ELC) of southern Ontario was established in 1994 to manage natural resources and the information about those resources. ELC provides a uniform and consistent way to identify, describe, name, map, manage, and conserve important landscape patterns and communities (Lee et al. 1998).

Ecological Land Classification data is available for the Niagara Region on the NPCA's open data hub. This data was collected through GIS analysis of orthoimagery from 2020 and subsequent field verification by staff from Dougan & Associates, North-South Environmental, and the NPCA, in the Mapping Methods and Field Verification Summary (Dougan & Associates 2022).

Montrose ecologists compiled this data, and verified it using orthoimagery, photos from the site visit conducted during the RFP process (non-natural heritage staff) and google street view images. NHIC and the Significant Wildlife Habitat Technical Guide were also referenced to identify any rare vegetation communities that could occur within the study area. Montrose ecologists did not complete any field verification of ELC communities for this project.

A total of 14 vegetation communities were identified within the study area by Montrose, NPCA, and NHIC, outlined in Table 3 below. 13 of these community types are both common and secure within Ontario. One rare vegetation community was identified by NHIC as potentially occurring within the study area.

TABLE 3 Ecological Land Classification Communities within the Study Area

ELC Code	ELC Community Type	Source/Comments
BBO	Open Beach/Bar	Montrose orthoimagery analysis
FOD	Deciduous Forest	NPCA. Verified through Montrose orthoimagery analysis
FOM	Mixed Forest	NPCA. Verified through Montrose orthoimagery analysis
HOD	Deciduous Hedgerow	NPCA. Verified through Montrose orthoimagery analysis
MAM	Meadow Marsh	NPCA. Verified through Montrose orthoimagery analysis
MAS	Shallow Marsh	NPCA. Verified through Montrose orthoimagery analysis
MEM	Mixed Meadow	NPCA. Verified through Montrose orthoimagery analysis
SAF	Floating-leaved Shallow Aquatic	Montrose orthoimagery analysis
SHO	Open Shoreline	NPCA. Reclassified as BBO by Montrose.
SWD	Deciduous Swamp	NPCA. Verified through Montrose orthoimagery analysis
SWT	Thicket Swamp	NPCA. Verified through Montrose orthoimagery analysis
THD	Deciduous Thicket	NPCA. Verified through Montrose orthoimagery analysis
WOD	Deciduous Woodland	NPCA. Verified through Montrose orthoimagery analysis
BBO1-1⁽¹⁾	Sea Rocket Sand Open Beach	NHIC. Potential to occur within study area.

Notes:

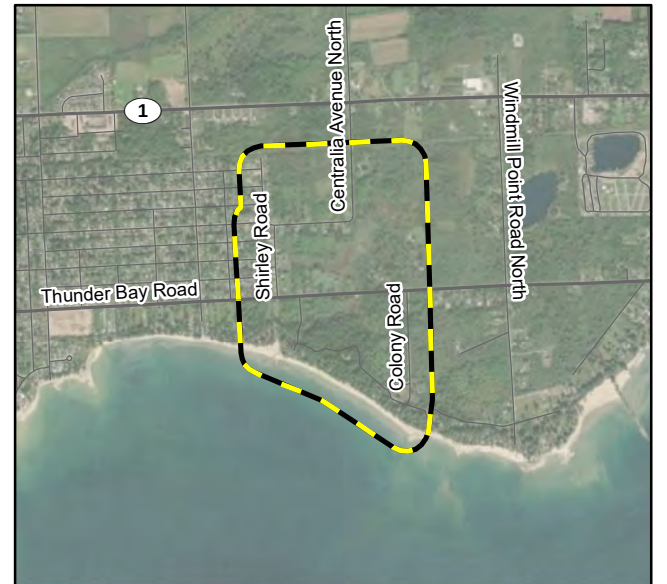
ELC - Ecological Land Classification

(1) Rare plant community

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- Legend**
- Subject Lands
 - Study Area (120 m Adjacent Lands)
 - Highway
 - Road
- Ecological Land Classification (Matrix)**
- FOD: Deciduous Forest
 - FOM: Mixed Forest
 - HOD: Deciduous Hedgerow
 - MAM: Meadow Marsh
 - MAS: Shallow Marsh
 - MEM: Mixed Meadow
 - SAF: Floating-leaved Shallow
 - SHO: Open Shoreline (equivalent to BBO)
 - SWD: Deciduous Swamp
 - SWT: Thicket Swamp
 - THD: Deciduous Thicket
 - WOD: Deciduous Woodland



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1:7,000 metres
70 0 70 140
NAD 1983 UTM Zone 17N



Town of Fort Erie
Six Mile Creek Flooding Project - NH Existing Conditions Report

Ecological Land Classification

Date:	October 2025	Project:	36481	Submitter:	S. Dehens	Reviewer:	S. Muscat
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Disclaimer: The information contained herein may be compiled from numerous third party materials that are subject to periodic change without prior notification. While every effort has been made by Montrose Environmental Solutions to ensure the accuracy of the information presented at the time of publication, Montrose Environmental Solutions assumes no liability for any errors, omissions, or inaccuracies in the third party material.

3.4.1 Rare Vegetation Communities – Sea Rocket Sand Open Beach

The Sea Rocket Sand Open Beach (BBO1-1) community is ranked by Appendix M of the *Significant Wildlife Habitat Technical Guide* (SWHTG, MNR 2000) as S2S3. This community is subject to active shoreline processes such as wave energy, erosion, deposition, and ice scour. The openness of the community is maintained by active shoreline processes. The substrate is composed of unconsolidated sand. Vegetation cover can range from patchy and barren to continuous meadow, with sea rocket (*Cakile edentula*) being the dominant vegetation cover.

Sea rocket is a hardy plant that is adapted to the harsh environment of sandy shoreline habitats that lack nutrients, soil moisture, and are exposed to disturbance by wind and wave action. However, the establishment and survival of this community type can be negatively affected by excessive disturbance caused by pedestrian traffic.

Based on satellite imagery analysis of the Lake Erie shoreline within the study area, the shoreline is sandy with little vegetative cover. This provides candidate habitat for sea rocket. The NHIC was contacted on May 1, 2024, to request additional information about the presence of this community. Their response on May 3, 2024, indicated that the community had an Element Occurrence quality rank of C (fair estimated viability). This rank was given because of the residential pedestrian traffic from the numerous cottages along the beach which could have a negative effect on the establishment and survival of this plant community.

3.5 Species at Risk and Species of Conservation Concern

Species at Risk are floral or faunal species where populations have declined (or are at risk of declining) to such an extent that the species is at risk of extinction or extirpation. Throughout this study, SAR collectively refers to species listed as Threatened or Endangered under the ESA.

Species of Conservation Concern (SCC) refers to species that are listed as special concern under the ESA, species listed as Threatened or Endangered under SARA with weaker ESA protections, and provincially rare species with an S-rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) as assigned by the NHIC. These species receive protection under the Provincial Planning Statement (PPS), 2024 (MMAH 2024), and their habitat is considered significant wildlife habitat. It should be noted that species listed as special concern under the ESA are also considered SAR but have no protection under the ESA. These species only receive protection under the PPS where SWH is concerned.

Using the list of SAR and SCC compiled during the background review, a screening exercise was completed to rank the probability of presence of each species within the study area. This screening was based on the known habitat preferences of each species and used the following criteria:

- **Low Probability:** Study area lacking either sufficient size, geographic location, or required characteristics to be considered suitable habitat using aerial interpretation.
- **Moderate Probability:** Study area containing candidate habitat features using aerial interpretation.
- **High Probability:** Study area containing both candidate habitat using aerial interpretation as well as evidence of the SAR identified during a field visit or known to occur on the site through background information.

23 SAR and 24 SCC had been identified as potentially present within the study area, this list was refined using the probability ranking described above. A total of 13 SAR and 8 SCC have a moderate to high potential of occurring with the study area. The full SAR and SCC screening can be found in **Appendix D**.

TABLE 4 Species at Risk Potentially Present Within the Study Area

Common Name	Latin Name	ESA Status	SARA Status	Probability
Avian				
Bank Swallow	<i>Riparia riparia</i>	THR	THR	Moderate
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	Moderate
Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	Low
Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	Moderate
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	END	THR	Moderate
Flora				
Black Ash	<i>Fraxinus nigra</i>	END	No Status	Moderate
Butternut	<i>Juglans cinerea</i>	END	END	Moderate
Eastern Flowering Dogwood	<i>Cornus florida</i>	END	END	Moderate
White Wood Aster	<i>Eurybia divaricata</i>	THR	THR	Moderate
Herpetofauna				
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	THR	THR	Low
Fowler's Toad	<i>Anaxyrus fowleri</i>	END	END	High
Mammals				
Eastern Small-footed Myotis	<i>Myotis leibii</i>	END	N/A	Moderate
Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	Moderate
Northern Myotis	<i>Myotis septentrionalis</i>	END	END	Moderate
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	END	Moderate

Notes:

END - endangered

ESA - Endangered Species Act

SARA - Species at Risk Act

THR – threatened

TABLE 5 Species of Conservation Concern Potentially Present Within the Study Area

Common Name	Latin Name	ESA Status	SARA Status	Probability
Avian				
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC	No Status	Moderate
Black Tern	<i>Chlidonias niger</i>	SC	No Status	Low
Barn Swallow	<i>Hirundo rustica</i>	SC	SC	Moderate
Canada Warbler	<i>Cardellina canadensis</i>	SC	THR	Low
Common Nighthawk	<i>Chordeiles minor</i>	SC	SC	Low
Eastern Wood-pewee	<i>Contopus virens</i>	SC	SC	Moderate
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	SC	SC	Low
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC	SC	Low
Wood Thrush	<i>Hylocichla mustelina</i>	SC	THR	Moderate
Flora				
Common Hoptree	<i>Ptelea trifoliata</i>	SC	SC	Moderate
Swamp Rose-mallow	<i>Hibiscus moscheutos</i>	SC	SC	Moderate

Common Name	Latin Name	ESA Status	SARA Status	Probability
Herpetofauna				
Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	Moderate
Invertebrates				
Monarch	<i>Danaus plexippus</i>	SC	SC	Moderate
Mammals				
Woodland Vole	<i>Microtus pinetorum</i>	SC	SC	Low

Notes:

ESA - Endangered Species Act

SARA - Species at Risk Act

SC - special concern

THR - threatened

4 IDENTIFICATION OF ALTERNATIVE SOLUTIONS

A series of alternatives have been developed to reduce the flood risk from both riverine and lake flooding hazards, and to reduce impacts to both municipal infrastructure and private dwellings. The following sections are meant to provide an overview of the environmental impacts of each alternative, meanwhile the complementing *Six Mile Creek Flooding Project* (Montrose 2025) will provide a more detailed description of these alternatives.

4.1 Do Nothing Alternative

A ‘do nothing’ scenario, in which no new infrastructure, changes or improvements to existing infrastructure are made, must be considered as part of the EA process. Flood risk to public and private properties from both riverine and lake flooding hazards would remain as is. The natural environment would remain as is. The ‘do nothing’ alternative provides a baseline for comparison of other Alternatives.

4.2 Alternative 1: Landform Barrier

Alternative 1 proposes the creation of a landform barrier (dyke) along rear property lines southeast of Shirley Road and Bethune Avenue, adjacent to the wetland, to block Lake Erie storm surge flows from reaching the areas northwest of the barrier. Proposed land elevation would equal the 5-year lake surge level, plus freeboard, additional height for resiliency. Two culverts within Six Mile Creek, downstream of Shirley Road and downstream of Bethune Avenue, would also be outfitted with backflow prevention. Online storage would be available upstream of both backflow culverts. One property falling within the 5-year storm surge area, south of Thunder Bay Road would be purchased to eliminate flood risk.

4.3 Alternative 2: Road Right-of-Way Barrier with Property Purchase

Alternative 2 proposes the re-profiling of sections of municipal roads, Shirley Road and Bethune Avenue, to raise elevation equal to the 5-year lake surge level, plus freeboard, protecting residents north and west of these roads from lake surge induced flooding. Two culverts within Six Mile Creek, at the crossing of Shirley Road and Bethune Avenue, would also be outfitted with backflow prevention. This alternative would also include enhancements and upgrades along the roadway to prevent spill-over. Online storage would be available upstream of Shirley Road and Bethune Avenue, with a much larger online storage area north of Bethune Avenue. Several properties to the

east of Shirley Road and to the South of Bethune Avenue, as well as one property south of Thunder Bay Road would remain susceptible to flooding, falling within the 5-year storm surge area, and would be purchased to eliminate flood risk.

4.4 Alternative 3: Property Purchase

Alternative 3 proposes the purchase of properties within the 5-year storm surge area to eliminate lake surge induced flooding. This would total to 16 properties located east and west of Shirley Road, as well as one property south of Thunder Bay Road. These properties would remain susceptible to flooding. No other corrective actions would be undertaken in this alternative. Individual residents could accept flooding risk, thereby negating the need for property purchase, similar to a 'do nothing' scenario.

4.5 Alternative 4: Thunder Bay Road Barrier and Backflow Prevention System

Alternative 4 proposes the re-profiling a section of Thunder Bay Road, between Shirley Road and Colony Road, to raise the elevation equal to the 5-year lake surge level plus free board, as well as incorporating a backflow prevention system into the municipal roadway/bridge to block Lake Erie storm surge flows from reaching the areas to the north. This alternative makes use of existing municipal infrastructure but would require the existing bridge to be replaced or retrofitted, and for a pump station be added to relieve upland flooding potential during concurrent storm surge and rainfall events. Online storage for Six Mile Creek would be located within the portions of Six Mile Provincially Significant Wetland that are north of Thunder Bay Road. One property falling within the 5-year storm surge area, south of Thunder Bay Road would be purchased to eliminate flood risk.

4.6 Alternative 5: Lake Front Barrier

Alternative 5 proposes the creation of a lake front barrier and installation of a backflow prevention system at the mouth of Six Mile Creek along the Lake Erie shoreline, protecting residents along Six Mile Creek from lake storm surge induced flooding. The proposed landform barrier elevation would be equal to the 5-year lake surge level, plus freeboard. A pump station would be required to relieve upland flooding potential during concurrent storm surge and rainfall events. Online storage for Six Mile Creek would be located within the entirety of the Six Mile Provincially Significant Wetland (i.e., both north and south of Thunder Bay Road). This alternative impacts property owners adjacent to the proposed works and would require road access for maintenance/operations.

5 PREFERRED ALTERNATIVE

Alternative 1 was selected as the preferred alternative, depicted in Figure 4. The anticipated ecological impacts of the preferred alternative, as well as provides supporting rationale for mitigation, permitting, and approvals are outlined in Table 6, below.

TABLE 6 Preferred Alternative Impacts, Mitigation and Permitting

Alternative 1						
Impacts	Aquatic Habitat and Fisheries	Terrestrial Habitat and Features	SAR Impacts	Aquatic Habitat Mitigation Measures	Terrestrial Mitigation Measures	Regulatory and Permitting Requirements
Short-term	Moderate Aquatic Impacts: • Disturbance: Construction to occur directly within a previously undisturbed area of Six Mile Creek. • Flow Diversion: Dewatering and water bypass pumping could decrease creek flows temporarily, or adversely affect connectivity, movement and migration as well as reduce available fish habitat. • Impacts to Aquatic Species: Temporary fish relocation. Temporary diversions of flow, baseflow disruption, and introduction of sediment and contaminants into the watercourse have the potential to cause serious harm, injury, or mortality to fish. • Sediment and Erosion: Sediment and erosion control failures, grading and clearing activities will expose soils potentially resulting in sediment runoff discharging into Six Mile Creek and the PSW. • Construction Equipment: use of heavy machinery could introduce the risk for spills and/or leaks which could enter the watercourse.	Substantial Terrestrial Impacts: • Natural Heritage System Disturbance: Construction to occur directly within the natural heritage system. Direct impacts to PSW, watercourses, woodlands, and ESA. • Rooting Zones: Impacts to the root zone of trees due to grading and construction activities. • Soil Compaction and Contamination: Soil compaction and soil contamination potential as a result of heavy machinery operation, and spills or leaks. • Sediment and Dust: Increased levels of sediment and erosion potential due to land clearing may impact adjacent vegetation communities and increase dust deposition.	Moderate Impacts: • Wildlife Movement: Short-term, temporary disruption to wildlife movement due to construction zone exclusion fencing and temporarily diverting flows through Six Mile Creek during proposed works. There is a risk of wildlife entrapment or mortality due to exclusion fencing and use of heavy equipment. • Non-native Species: Introduction of non-native species from equipment, increased site activity and disturbance to site from traffic. • Noise/Vibration Pollution: Short-term increases in noise, vibration, human activity, and disturbances from construction traffic may interfere with species carrying out life processes, including breeding.	• Erosion and Sediment Control: Mitigation measures must be used for erosion and sediment control to prohibit sediment from entering the areas. The primary principles associated with sedimentation and erosion protection measures are to: minimize the duration of soil exposure, retain existing vegetation, where feasible, encourage revegetation, divert runoff away from exposed soils, keep runoff velocities low, and trap sediment as close to the source as possible. • Exposed Soil: Any soils exposed during construction shall be seeded as soon as possible once grading is complete. Should any soils be left exposed after November 15, erosion control blankets or similar material shall be used to stabilize the soils. • Construction Timing (Fish): In-water works and construction shall adhere to the MNR and DFO restricted activity window for in-water works, between March 15 and July 15, which indicates the timing window that construction works are required to avoid. • DFO Request for Review (RfR): DFO approval is required prior to the commencement of any in-water works through the RfR submission process. • In-Water Work: Any areas requiring in-water work shall be done through the isolation of work areas using coffer dams. • Invasive Species Management and Control: aquatic invasive species are introduced and spread through transporting sands and sediments and using contaminated construction equipment. Any equipment used in water should be cleaned, drained and dry to prevent the spread of aquatic invasive species during in-water work. • Riparian Vegetation Removals: Clearing of riparian trees and/or shrubs should be minimized such that physical and biological functional attributes of the terrestrial vegetation can be maintained as they relate to aquatic ecological function. Removals should be completed through consultation with an ecologist to avoid any sensitive species.	Vegetation Protection: • Tree Removals: All tree removals must comply with applicable Town of Fort Erie bylaws. Tree removal shall be completed by or overseen by a Certified Arborist using proper arboricultural techniques. • Protective Fencing: The installation of different types of protection fencing such as sediment and erosion fencing (silt fencing) and exclusion fencing shall be considered. These fences can minimize construction impacts such as damage to trees or sediment transport into adjacent natural heritage features. Protective fencing should be installed adjacent to vegetation communities being protected and around all trees not identified for removal. Proper installation and maintenance of installed fencing is necessary to reduce the risk of potential impacts. • Exposed Soil: Any soils exposed during construction shall be seeded as soon as possible once grading is complete. Should any soils be left exposed after November 15, erosion control blankets or similar material shall be used to stabilize the soils. • Invasive Species Management and Control: Construction shall follow the Clean Equipment Protocol (2016) during construction activities to prevent the further spread of invasive species. Removal of all invasive species within the construction limits shall occur, including root systems. Disposal of invasive species shall be administered in an appropriate manner following accepted and approved disposal guidelines from governing agencies. • Water Balance Study - Hydrological Impacts to Six Mile Creek PSW: A water balance study could be required to ensure maintenance of flow quantity to the PSW to avoid compositional shifts in the vegetation community/available SAR habitat. • Compensation for Vegetation Removals/Wetland Removal: compensation for vegetation and /or wetland removal should be provided during the design stage.	• Wildlife Scientific Collectors Authorization and Animal Care: No wildlife is to be handled or relocated without a Wildlife Scientific Collectors Authorization from the MNR. This permit shall be obtained by a qualified individual prior to construction. • DFO RfR: DFO approval is required prior to the start of in-water work. • Licence to Collect Fish for Scientific Purposes: A fish salvage shall be completed in the tributary during dewatering. A Licence to Collect Fish for Scientific Purposes will be required to capture and handle fish and will be obtained from the MNR. • ESA Section 23.18: Approval from the MECP for SAR could be required. • Ontario Regulation (O. Reg) 41/24: a permit under O. Reg. 41/24: Prohibited Activities, Exemptions and Permits will be required from the Niagara Region Conservation Authority.
Long-term	Moderate Aquatic Impacts: • Habitat Degradation/Loss: Permanent loss of some aquatic habitat within the construction footprint.	Substantial Terrestrial Impacts: • Habitat Degradation/Loss: Permanent destruction/loss of portions of the PSW, watercourses, woodlands, and ESA.	Moderate Impacts: • Loss/Disturbance of Candidate SAR Habitat: Tree removals may result in the loss of habitat for SAR birds and bats. Wetland			

Alternative 1						
Impacts	Aquatic Habitat and Fisheries	Terrestrial Habitat and Features	SAR Impacts	Aquatic Habitat Mitigation Measures	Terrestrial Mitigation Measures	Regulatory and Permitting Requirements
	• Barriers to Fish Movement: Year-round barrier to fish passage through tributaries of Six Mile Creek. Fish will be stuck during flood events and when backflow culverts are closed. • Fish passage to be maintained on a long-term basis through the timed opening and closing of backflow culverts.	• Vegetation Removal: Removal of vegetation and trees. • Wildlife Movement: Permanent barrier to movement of terrestrial species (reptiles, amphibians, small mammals) across the land barrier. • Hydrological Impacts: Decreased flooding frequency to portions of the Six Mile PSW that are north/west of the land barrier. Potential for water balance decrease in these areas, resulting in the loss of wetland habitats and wetland obligate species. • Restoration/Compensation Plantings: Targeted replanting and restoration plants focused on planting native and hardy vegetation types.	removal/disturbance may result in habitat loss for SAR flora and herpetofauna, specifically Snapping Turtle [SC] and Fowler's Toad [END]. • Barrier to Wildlife Movement: The land barrier may prevent movement of terrestrial species (reptiles, amphibians, small mammals).		Wildlife and Species at Risk Protection: • Timing Restrictions for Wildlife: Restricting construction related activities outside of sensitive periods for local or significant wildlife species can limit disturbance during important life cycle stages. Construction- related activities shall be limited to the daylight hours (i.e., 7 a.m. to 7 p.m.) to reduce the amount of noise disturbance to resident wildlife. Any vegetation clearing shall occur outside of the breeding bird window (i.e., April 1 to August 31) to reduce impacts to breeding birds by avoiding incidental take which is regulated under the MBCA. Vegetation clearing should also respect the bat roosting period (April 1 to September 30) to maintain compliance with the ESA. • Active Nest: Should an active nest be observed during construction, a 10 to 15 m setback shall be delineated and designated as a no work area. The nest shall be monitored by a qualified biologist until no eggs or fledglings are present. Work may resume once the nest is vacant under the advice of a qualified biologist. • On-Call Biologist: A qualified biologist/ecologist shall be retained to be on-call should any wildlife be encountered. The biologist/ecologist shall provide appropriate recommendations in the identification, relocation, or transport of any encountered wildlife. • Wildlife Salvage: Prior to construction, a qualified biologist/ecologist will inspect the areas of construction and relocate any wildlife away from the construction zone. • Visual Encounter Surveys: Daily inspection of work areas should be completed by construction staff to confirm no wildlife is present in the work area prior to commencing activities for the day. When wildlife is encountered the on-call biologist shall be contacted. • Protective Fencing: Wildlife exclusion fencing shall be installed adjacent to the construction zone to prevent wildlife entry into the areas of impact and shall be periodically inspected by qualified environmental specialists.	

6 CONCLUSION

This Natural Heritage Existing Conditions report provides the required supporting documentation for the Six Mile Creek Municipal Class EA Environmental Assessment for the Conceptual Design.

This report provides:

- A description of the existing natural heritage conditions within the Study Area as delineated through a review of available background information.
- The identification of vegetation communities, plants, wildlife, and natural heritage features.
- An assessment of significance based on federal, provincial, and municipal criteria for the delineated natural heritage features.
- An assessment of potential impacts of the Preferred Alternative on natural heritage features and functions.
- Recommendations to protect natural heritage features, where feasible, including recommended mitigation measures to reduce or avoid risk of impacts on natural features, compensation for loss of vegetation, and the restoration of degraded habitats within the Study Area.
- A summary of permits and regulatory approvals that may be required.

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APPENDIX A

Agency Correspondence



Andrea Perez

From: Andrea Perez
Sent: May 7, 2024 3:04 PM
To: Species at Risk (MECP)
Cc: Bailey Cole
Subject: Fowler's Toad Habitat Mapping

Good afternoon,

Matrix Solutions has been retained by the Town of Fort Erie to complete a natural heritage assessment in support of a flood control EA close to the community of Thunder Bay in Niagara, Ontario. As part of this project, we are responsible for reviewing all the natural heritage information that is available for the study area.

A search of NHIC's Make a Map showed Fowler's Toad records within the study area in the below NHIC squares:

1041663	SPECIES	Fowler's Toad	Anaxyrus fowleri	S2	END	END	17PH6249
1041652	SPECIES	Fowler's Toad	Anaxyrus fowleri	S2	END	END	17PH6148
1041662	SPECIES	Fowler's Toad	Anaxyrus fowleri	S2	END	END	17PH6248

Recent correspondence with the NHIC confirmed that Fowler's Toad has been recorded in this area as recently as 2018. We were wondering whether the MECP has done any habitat mapping for the Fowler's Toad within this area that could be provided to us?

The study area contains a portion of the Six Mile Creek PSW that extends from Lake Erie to Dominion Road. An address within the study area is 2815 Bethune Ave, Ridgeway, ON.

Thanks,

Andrea Perez, B.Sc (She/Her) | Ecologist, Eastern Ecological Services

MATRIX SOLUTIONS INC. | A Montrose Environmental Company

Unit 7B, 650 Woodlawn Rd. W, Guelph, ON, N1K 1B8

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Andrea Perez

From: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Sent: May 7, 2024 8:39 AM
To: Bailey Cole
Cc: Andrea Perez; NHIC-Requests (MNRF)
Subject: RE: [External] RE: Rare Plant Community and Restricted Species Record

Hello Bailey,

We do have many *Anaxyrus fowleri* records for that location, the most recent reported date is from 2018-05-17. While we do have coordinates, we can only provide specific locations through a Sensitive Data Use License. At a glance, the records for those squares are where you'd expect them to be based on where it typically lives: [Fowler's toad | ontario.ca](#)

If you would like to request access to the detailed locations, please complete this [form](#).

Let us know if you have any additional questions.

Regards,
Tanya

From: Bailey Cole <blcole@matrix-solutions.com>
Sent: May 6, 2024 4:42 PM
To: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>; Andrea Perez <aperez@matrix-solutions.com>
Subject: RE: [External] RE: Rare Plant Community and Restricted Species Record

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hi Tanya,

Thanks for getting back to us so quickly, it is much appreciated!

Do you have any additional information on the Fowler's toads within the area? Just wondering what the observation dates look like and if there are coordinates/locations associated with them? We are trying to piece together some information to determine if there is general habitat/occupancy.

1041663	SPECIES	Fowler's Toad	Anaxyrus fowleri	S2	END	END	17PH6249
1041652	SPECIES	Fowler's Toad	Anaxyrus fowleri	S2	END	END	17PH6148
1041662	SPECIES	Fowler's Toad	Anaxyrus fowleri	S2	END	END	17PH6248

Thanks!

Bailey Cole, B.Sc., CAN-CISEC (She/Her) | Environmental Planner

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From: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>

Sent: Friday, May 3, 2024 11:18 AM

To: Andrea Perez <aperez@matrix-solutions.com>

Cc: Bailey Cole <blcole@matrix-solutions.com>; NHIC-Requests (MNRF) <nhicrequests@ontario.ca>

Subject: [External] RE: Rare Plant Community and Restricted Species Record

Hello Andrea,

The name of the restricted species associated with those squares is Small White Lady's-slipper (Cypripedium candidum). It is based on a vague historical record (undated), with a noted location "Near Crystal Beach".

Regarding the plant community record, Sea Rocket Sand Beach Type. It has an Occurrence Rank of "C - Fair estimated viability". It includes the comments "Low sandy dune ridge, with areas of gravel and shelving limestone. Areas of moist sand and moist limestone cracks." The record extends beyond the two squares noted (17PH6148, 17PH6248).

In Ontario, sea rocket is primarily found on beaches along the lower Great Lakes. It is adapted to the harsh environment of these sandy shoreline habitats, which lack nutrients and soil moisture, and experience physical disturbance by wind and wave action. However, excessive disturbance caused by pedestrian traffic has a harmful effect on the establishment and survival of this and other beach and coastal dune species. Due to the residential traffic from the numerous cottages along the beaches in this area, this particular occurrence has been assigned an Element Occurrence quality rank of C.

Species associated with this plant community occurrence record (and not necessarily exhaustive or up to date): *Ammophila breviligulata*; *Andropogon gerardii*; *Apocynum androsaemifolium*; *Artemisia campestris* ssp. *Caudata*; *Cakile edentula*; *Carex crawei*; *Carex garberi*; *Carex viridula*; *Clinopodium arkansanum*; *Deschampsia cespitosa*; *Desmodium canadense*; *Dichanthelium lindheimeri*; *Eleocharis elliptica*; *Eutrochium maculatum* var. *maculatum*; *Hypericum kalmianum*; *Juncus balticus*; *Juncus dudleyi*; *Lythrum salicaria*; *Panicum virgatum*; *Physostegia virginiana*; *Potentilla anserina* ssp. *Anserina*; *Ptelea trifoliata*; *Potentilla reptans*; *Schizachyrium scoparium*; *Schoenoplectus pungens*; *Sisyrinchium mucronatum*; *Solidago nemoralis* ssp. *Nemoralis*; *Spiranthes lucida*; *Sporobolus michauxianus*; *Strophostyles helvola*; *Vitis riparia*; *Xanthium strumarium*.

Regards,

Tanya Taylor

NHIC Information Analyst, Natural Heritage Information Centre | Science and Research Branch
Ministry of Natural Resources and Forestry | Ontario Public Service
705-313-1937 | tanya.taylor@ontario.ca



Taking pride in strengthening Ontario, its places and its people

Please note: As part of providing [accessible customer service](#), if you have any accommodation needs, require communication supports, or alternate formats please let me know.

From: Andrea Perez <aperez@matrix-solutions.com>
Sent: May 1, 2024 12:42 PM
To: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Cc: Bailey Cole <blcole@matrix-solutions.com>
Subject: Rare Plant Community and Restricted Species Record

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Matrix Solutions has been retained by the Town of Fort Erie to complete a natural heritage assessment in support of a flood control EA close to the community of Thunder Bay in Niagara, Ontario. As part of this project, we are responsible for reviewing all the natural heritage information that is available for the study area.

We have identified a Restricted Species record in squares 17PH6248, 17PH6148, 17PH6249, 17PH6149, 17PH6250, 17PH6150, as well as a Sea Rocket Sand Beach plant community in squares 17PH6148 and 17PH6248. Could you tell us what species the restricted record is and the date of its most recent sighting? Is it a piping plover? In addition, do you have any additional information about the Sea Rocket Sand Beach community at this location?

Thank you,

Andrea Perez, B.Sc (She/Her) | Ecologist, Eastern Ecological Services

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APPENDIX B

Vegetation Species



Table B1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS NIAGARA	All Species	NHIC	iNaturalist	OWES	NPCA
	Reference										Oldham 2017	Oldham 2017					
FERNS & ALLIES	PTERIDOPHYTES												x	o	o	o	o
Wood Fern Family	Dryopteridaceae												x	o	o	o	
Sensitive Fern	<i>Onoclea sensibilis</i>	4	-3			S5				G5	C	C	x		x		
CONIFERS	GYMNOSPERMS												x	o	o	o	
Pine Family	Pinaceae												x	o	o	o	
DICOTS	DICOTYLEDONS												x	o	o	o	o
Maple Family	Aceraceae												x	o	o	o	
Dogbane Family	Apocynaceae												x				
Indian Hemp	<i>Apocynum cannabinum</i>	3	0			S5				G--TS?	C	C	x		x		
Milkweed Family	Asclepiadaceae												x	o		o	
Swamp Milkweed	<i>Asclepias incarnata</i>	6	-5			S5				G5	C	C	x		x		
Common Milkweed	<i>Asclepias syriaca</i>	0	5			S5				G5	C	C	x		x		
Composite or Aster Family	Asteraceae												x	o	o	o	o
White Wood Aster	<i>Eurybia divaricata</i>	10	5			S3	THR	THR	THR	G5	U	U	x	x		x	
Chicory	<i>Cichorium intybus</i>		5	-1		SNA				GNR	IC	IC	x		x		
Philadelphia Fleabane	<i>Erigeron philadelphicus</i>	1	-3			S5				G5	C	C	x		x		
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	2	0			S5				G5	C	C	x		x		
White Rattlesnakeroot	<i>Nabalus albus</i>	6	3			S5				G5	C	U	x		x		
Barberry Family	Berberidaceae												x	o	o	o	
May-apple	<i>Podophyllum peltatum</i>	5	3			S5				G5	C	C	x		x		
Caper Family	Capparidaceae												x				
Common Clammyweed	<i>Polanisia dodecandra</i>	3	5			S4				G5	U	U	x		x		
Honeysuckle Family	Caprifoliaceae												x	o	o	o	
Cranberry Viburnum	<i>Viburnum opulus</i>	5	-3			S5				G5		IC	x		x		
Staff-tree Family	Celastraceae												x	o	o	o	
Running Strawberry-bush	<i>Euonymus obovatus</i>	6	5			S4				G5	C	C	x		x		
Dogwood Family	Cornaceae												x	o	o	o	
Eastern Flowering Dogwood	<i>Cornus florida</i>	7	3			S2?	END	END	END	G5	U	U	x	x		x	
Pea Family	Fabaceae												x	o	o	o	o
Honey Locust	<i>Gleditsia triacanthos</i>	8	0			S2?				G5	R	R	x	x			
Everlasting Pea	<i>Lathyrus latifolius</i>		5	-1		SNA				GNR	IU	IR	x		x		
Beech Family	Fagaceae												x	o	o	o	
Swamp Pin Oak	<i>Quercus palustris</i>	9	-3			S4				G5	C	C	x		x		
Walnut Family	Juglandaceae												x	o	o	o	
Bitternut Hickory	<i>Carya cordiformis</i>	6	0			S5				G5	C	C	x		x		
Pignut Hickory	<i>Carya glabra</i>	9	3			S3				G5	U	U	x			x	
Butternut	<i>Juglans cinerea</i>	6	2			S2?	END	END	END	G4	U	U	x	x			
Black Walnut	<i>Juglans nigra</i>	5	3			S4?				G5	C	C	x			x	
Mint Family	Lamiaceae												x	o	o	o	o
Virginia Mountain-mint	<i>Pycnanthemum virginianum</i>	6	-3			S4				G5	U	R	x			x	
Loosestrife Family	Lythraceae												x	o	o	o	
Purple Loosestrife	<i>Lythrum salicaria</i>		-5	-3	1	SNA				G5	IC	IC	x		x		
Magnolia Family	Magnoliaceae												x	o	o	o	
Tulip Tree	<i>Liriodendron tulipifera</i>	8	3			S4				G5	C	C	x		x	x	
Mallow Family	Malvaceae												x	o	o	o	
Swamp Rose-mallow	<i>Hibiscus moscheutos</i>	9	-5			S3	SC	SC	SC	G5	R	R	x	x			
Olive Family	Oleaceae												x		o	o	
Pokeweed Family	Phytolaccaceae												x		o		
American Pokeweed	<i>Phytolacca americana</i>	3	1			S4				G5	C	C	x		x		
Plane-tree Family	Platanaceae												x				
American Sycamore	<i>Platanus occidentalis</i>	8	-3			S4				G5	C	U	x			x	
Smartweed Family	Polygonaceae												x	o	o	o	o
Halberd-leaved Tearthumb	<i>Persicaria arifolia</i>	8	-5			S3				G5	R	U	x		x		
Primrose Family	Primulaceae												x	o	o	o	o
Creeping Jenny	<i>Lysimachia nummularia</i>		-4	-3	2	SNA				GNR	IC	IC	x		x		
Buttercup Family	Ranunculaceae												x	o	o	o	o
Sharp-lobed Hepatica	<i>Anemone acutiloba</i>	6	5			S5				G5	C	U	x		x		
Yellow Marsh-marigold	<i>Caltha palustris</i>	5	-5			S5				G5	C	U	x		x		
Buckthorn Family	Rhamnaceae												x		o	o	
Glossy Buckthorn	<i>Frangula alnus</i>		-1	-3		SNA				GNR	IU	IC	x		x		
Rose Family	Rosaceae												x	o			o
Small-flowered Agrimony	<i>Agrimonia parviflora</i>	4	-1			S4				G5	R	R	x		x	x	
Sweet Crabapple	<i>Malus coronaria</i>	5	5			S4				G5	C	U	x			x	
Madder Family	Rubiaceae												x	o	o	o	o
Eastern Buttonbush	<i>Cephalanthus occidentalis</i>	7	-5			S5				G5	C	C	x		x		
Rue Family	Rutaceae												x	o	o	o	

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS NIAGARA	All Species	NHIC	iNaturalist	OWES	NPCA
Common Hoptree	<i>Ptelea trifoliata</i>	9	2			S3		SC	THR	G5	R	R	x	x	x	x	
Lizard's-tail Family	Saururaceae												x	o			
Lizard's-tail	<i>Saururus cernuus</i>	8	-5			S3				G5	R	R	x	x			
Nightshade Family	Solanaceae												x		o	o	o
Jimsonweed	<i>Datura stramonium</i>		5	-1		SNA				GU	IR	IR	x		x		
Linden Family	Tiliaceae												x		o	o	o
American Basswood	<i>Tilia americana</i>	4	3			S5				G5	C	C	x		x		x
Violet Family	Violaceae												x		o	o	
Bird's-foot Violet	<i>Viola pedata</i>	10	5			S1		END	END	G5	R	H	x			x	
MONOCOTS	MONOCOTYLEDONS												x		o		o
Water-plantain Family	Alismataceae												x		o		
Broad-leaved Arrowhead	<i>Sagittaria latifolia</i>	4	-5			S5				G5	C	C	x		x		
Arum Family	Araceae												x		o		
Calamus	<i>Acorus calamus</i>		-5	-1		SNA				G4?	IR		x		x		
Lily Family	Liliaceae												x		o		
Sleepydicik	<i>Ornithogalum umbellatum</i>		1	-1		SNA				G3G5	IR	IR	x		x		
Red Trillium	<i>Trillium erectum</i>	6	1			S5				G5	C	C	x		x		
White Trillium	<i>Trillium grandiflorum</i>	5	5			S5				G5	C	C	x		x		
Grass Family	Poaceae												x		o		o
Big Bluestem	<i>Andropogon gerardii</i>	7	1			S4				G5	C	U	x		x		
Common Reed	<i>Phragmites australis</i>	0	-4			SNA				G5T5		DD	x		x		
European Reed	<i>Phragmites australis ssp. australis</i>		-4	-3	1						IC	IC	x		x		

Legend

Co-efficient of Conservatism: This value, ranging from 0 (low) to 10 (high), is based on a species tolerance of disturbance and fidelity to a specific habitat integrity.

Wetness Index: This value, ranging from -5 (obligate wetland) to 5 (upland) provides the probability of a species occurring in wetland or upland habitats.

Weediness Index: This value, ranging from -1 (low) to -3 (high) quantifies the potential invasiveness of non-native plants. In combination with the percentage of non-native plants, it can be used as an indicator of disturbance.

Local Status:

X: native species present (collection-based) and all exotic species

R: native species locally rare (number of stations): Durham (<10 stations), GTA (<40 stations), Site District 6E7 (<20 stations)

U: native species locally uncommon Durham (11-20 stations), GTA (41-80 stations), Site District 6E7 (21-40 stations)

Provincial Status

Provincial ranks are used by the NHIC to set protection priorities for rare species and natural communities. These rankings are based on the total number of extant Ontario populations and the degree to which they are potentially or actively threatened with destruction. The ranks are:

S1: Critically Imperiled—Critically imperiled in the nation or state/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 state/province

S2: Imperiled—Imperiled in the nation or state/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 state/province

S3: Vulnerable—Vulnerable in the nation or state/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 nation or state/province

SH: Possibly Extirpated (Historical)—Species or community occurred historically in the nation or state/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 NH or SH without such a 20-40 year delay if the only known

SNR Unranked—Nation or state/province conservation status not yet assessed

SX: Presumed Extirpated—Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered

SNA Not Applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

SU: Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends

Rank ranges, e.g. S2S3, indicate that the rank is either S2 or S3, but that current information is insufficient to differentiate.

X/O Descriptions

x: represents vegetation species present in the study area, ELC community, or background search.

o: represents a vegetation family present in the study area or ELC community.

References

- 1 Oldham, Michael J. "List of the Vascular Plants of Ontario's Carolinian Zone (Ecoregion 7E)". Natural Heritage Information Centre, Science and Research Branch, Ontario Ministry of Natural Resources and Forestry, March 2017

APPENDIX C

Wildlife Species



TABLE C1 Bird Species

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
Accipitridae	Hawks, Kites, Eagles & Allies											
<i>Accipiter cooperii</i>	Cooper's Hawk	S4						x	x			Level 3 Forest
<i>Accipiter striatus</i>	Sharp-shinned Hawk	S5							x			Level 3 Forest
<i>Buteo jamaicensis</i>	Red-tailed Hawk	S5							x			
<i>Buteo lineatus</i>	Red-shouldered Hawk	S4B,S2N							x			
<i>Buteo platypterus</i>	Broad-winged Hawk	S5B							x			
<i>Haliaeetus leucocephalus</i>	Bald Eagle	S4						x	x			
Alaudidae	Larks											
<i>Eremophila alpestris</i>	Horned Lark	S4							x			Level 3 Open Country
Alcedinidae	Kingfishers											
<i>Megaceryle alcyon</i>	Belted Kingfisher	S5B, S4N						x	x			
Apodidae	Swifts											
<i>Chaetura pelagica</i>	Chimney Swift	S3B	THR	THR	THR				x			
Anatidae	Ducks, Geese & Swans											
<i>Aix sponsa</i>	Wood Duck	S5B, S3N						x	x		x	Level 4 Forest
<i>Anas acuta</i>	Northern Pintail	S5B, S4N							x			
<i>Anas americana</i>	American Wigeon	S4B, S4N, S5M							x			
<i>Anas clypeata</i>	Northern Shoveler	S4B, S4N, S5M							x			
<i>Anas crecca</i>	Green-winged Teal	S4B, S4N, S5M							x			
<i>Anas discors</i>	Blue-winged Teal	S3B,S4M							x			Level 2 Marsh
<i>Anas platyrhynchos</i>	Mallard	S5						x	x		x	
<i>Anas rubripes</i>	American Black Duck	S4							x			
<i>Anas strepera</i>	Gadwall	S4B, S4N, S5M							x			
<i>Aythya americana</i>	Redhead	S2B/S4N							x			
<i>Branta canadensis</i>	Canada Goose	S5							x			
<i>Branta hutchinsii</i>	Cackling Goose	SUB, S4M							x			
<i>Bucephala albeola</i>	Bufflehead	S5							x			
<i>Bucephala clangula</i>	Common Goldeneye	S5							x			
<i>Clangula hyemalis</i>	Long-tailed Duck	S3B, S5N							x			
<i>Cygnus buccinator</i>	Trumpeter Swan	S4							x			
<i>Cygnus olor</i>	Mute Swan	SNA							x			
<i>Lophodytes cucullatus</i>	Hooded Merganser	S5							x			
<i>Melanitta fusca</i>	White-winged Scoter	S4B/S5N							x			
<i>Melanitta perspicillata</i>	Surf Scoter	S4B/S5N							x			
<i>Mergus serrator</i>	Red-breasted Merganser	S4B/S5N							x			
<i>Aythya affinis</i>	Lesser Scaup	S4B, S4N, S5M							x			
<i>Aythya valisineria</i>	Canvasback	S1B, S3N, S4M							x			
<i>Chen rossii</i>	Ross's Goose	S2B							x			
<i>Cygnus columbianus</i>	Tundra Swan	S2B, S4N, S3M							x			
<i>Melanitta americana</i>	Black Scoter	S4							x			

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
<i>Mergus merganser</i>	Common Merganser	S5							x			
Ardeidae	Herons and Bitterns											
<i>Ardea alba</i>	Great Egret	S2B, S3M							x			
<i>Ardea herodias</i>	Great Blue Heron	S4							x		x	
<i>Butorides virescens</i>	Green Heron	S4B							x			Level 4 Marsh
Bombycillidae	Waxwings											
<i>Bombycilla cedrorum</i>	Cedar Waxwing	S5						x	x			
Calcariidae	Longspurs & Snow Buntings											
<i>Plectrophenax nivalis</i>	Snow Bunting	S4N							x			
Caprimulgidae	Nightjars											
<i>Chordeiles minor</i>	Common Nighthawk	S4B	SC	SC	SC				x			
Cardinalidae	Cardinals, Grosbeaks & Allies											
<i>Cardinalis cardinalis</i>	Northern Cardinal	S5						x	x			
<i>Passerina cyanea</i>	Indigo Bunting	S5B						x	x			
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	S5B						x	x	x		
<i>Piranga olivacea</i>	Scarlet Tanager	S5B							x			Level 2 Forest
Cathartidae	Vultures											
<i>Cathartes aura</i>	Turkey Vulture	S5B, S3N						x	x	x		Level 3 Forest
Certhiidae	Creepers											
<i>Certhia americana</i>	Brown Creeper	S5							x			
Charadriidae	Plovers											
<i>Charadrius semipalmatus</i>	Semipalmated Plover	S4B, S5M							x			
<i>Charadrius vociferus</i>	Killdeer	S4B						x	x		x	
<i>Pluvialis dominica</i>	American Golden-Plover	S2B, S4M							x			
<i>Pluvialis squatarola</i>	Black-bellied Plover	S4M							x			
Columbidae	Pigeons & Doves											
<i>Columba livia</i>	Rock Pigeon	SNA							x			
<i>Zenaida macroura</i>	Mourning Dove	S5						x	x			
Corvidae	Crows & Jays											
<i>Corvus brachyrhynchos</i>	American Crow	S5						x	x			
<i>Corvus corax</i>	Common Raven	S5							x			
<i>Cyanocitta cristata</i>	Blue Jay	S5						x	x		x	
Cuculidae	Cuckoo & Anis											
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	S4B							x			Level 3 Forest
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	S4S5B							x			Level 1 Forest
Emberizidae	New World Sparrows & Allies											
<i>Junco hyemalis</i>	Dark-eyed Junco	S5							x			
<i>Melospiza georgiana</i>	Swamp Sparrow	S5B, S4N							x			Level 2 Marsh
<i>Melospiza lincolni</i>	Lincoln's Sparrow	S5B							x			
<i>Melospiza melodia</i>	Song Sparrow	S5						x	x			
<i>Passerculus sandwichensis</i>	Savannah Sparrow	S5B, S3N							x			Level 1 Open Country

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
<i>Passerella iliaca</i>	Fox Sparrow	S5B, S3N							x			
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	S4B, S3N							x			Level 2 Forest
<i>Spizella arborea</i>	American Tree Sparrow	S5							x			
<i>Spizella pallida</i>	Clay-colored Sparrow	S4B							x			
<i>Spizella passerina</i>	Chipping Sparrow	S5B, S3N						x	x			
<i>Zonotrichia albicollis</i>	White-throated Sparrow	S5							x			
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	S5B, S3N							x			
<i>Spizella pusilla</i>	Field Sparrow	S4B, S3N							x			Level 3 Open Country
Falconidae	Carcaras & Falcons											
<i>Falco columbarius</i>	Merlin	S5							x			
<i>Falco peregrinus</i>	Peregrine Falcon	S4	SC						x			
<i>Falco sparverius</i>	American Kestrel	S4							x			Level 2 Open Country
Fringillidae	Finches & Allies											
<i>Coccothraustes vespertinus</i>	Evening Grosbeak	S4	SC	SC	SC				x			
<i>Haemorhous mexicanus</i>	House Finch	SNA						x	x			
<i>Haemorhous purpureus</i>	Purple Finch	S5							x			
<i>Spinus pinus</i>	Pine Siskin	S5							x			
<i>Spinus tritis</i>	American Goldfinch	S5						x	x			Level 3 Open Country
Gaviidae	Loons											
<i>Gavia immer</i>	Common Loon	S5							x			
Haematopodidae	Oystercatchers											
<i>Haematopus palliatus</i>	American Oystercatcher	SNA							x			
Hirundinidae	Swallows											
<i>Hirundo rustica</i>	Barn Swallow	S4B	SC	SC	THR		x		x			Level 3 Open Country
<i>Progne subis</i>	Purple Martin	S3B							x			Level 2 Marsh
<i>Riparia riparia</i>	Bank Swallow	S4B	THR	THR	THR				x			Level 2 Open Country
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	S4B							x			Level 2 Open Country
<i>Tachycineta bicolor</i>	Tree Swallow	S4S5B							x			
Icteridae	New World Blackbird											
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	S5						x	x		x	
<i>Dolichonyx oryzivorus</i>	Bobolink	S4B	THR	SC	THR		x		x			Level 2 Open Country
<i>Euphagus carolinus</i>	Rusty Blackbird	S4B, S3N	SC	SC	SC				x			
<i>Icterus galbula</i>	Baltimore Oriole	S4B						x	x			
<i>Icterus spurius</i>	Orchard Oriole	S4B							x			Level 3 Forest
<i>Molothrus ater</i>	Brown-headed Cowbird	S5						x	x			
<i>Quiscalus quiscula</i>	Common Grackle	S5						x	x			
<i>Sturnella magna</i>	Eastern Meadowlark	S4B, S3N	THR	THR	THR				x			Level 2 Open Country
Laridae	Gulls, Terns & Skimmers											
<i>Chlidonias niger</i>	Black Tern	S3B, S4M	SC						x			
<i>Chroicocephalus philadelphia</i>	Bonaparte's Gull	S5							x			
<i>Hydrocoloeus minutus</i>	Little Gull	S1S2B, S3M							x			

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
<i>Hydroprogne caspia</i>	Caspian Tern	S3B, S5M							x			
<i>Larus argentatus</i>	Herring Gull	S4B, S5N							x			
<i>Larus delawarensis</i>	Ring-billed Gull	S5							x			
<i>Larus fuscus</i>	Lesser Black-backed Gull	S3N, S4M							x			
<i>Larus marinus</i>	Great Black-backed Gull	S1B, S4N							x			
<i>Sterna forsteri</i>	Forster's Tern	S3B							x			
<i>Sterna hirundo</i>	Common Tern	S4B							x			
Mimidae	Mockingbirds, Thrashers & Allies											
<i>Dumetella carolinensis</i>	Gray Catbird	S5B, S3N						x	x			Level 4 Forest
<i>Mimus polyglottos</i>	Northern Mockingbird	S4							x			Level 1 Open Country
<i>Toxostoma rufum</i>	Brown Thrasher	S4B							x			Level 1 Open Country
Motacillidae	Wagtails, Longclaws & Pipits											
<i>Anthus rubescens</i>	American Pipit	S4B							x			
Pandionidae	Osprey											
<i>Pandion haliaetus</i>	Osprey	S5B							x			
Paridae	Chickadees and Titmice											
<i>Poecile atricapillus</i>	Black-capped Chickadee	S5						x	x		x	Level 4 Forest
<i>Baeolophus bicolor</i>	Tufted Titmouse	S3					x	x	x		x	Level 3 Forest
Parulidae	Wood Warblers											
<i>Cardellina canadensis</i>	Canada Warbler	S5B	SC	SC	THR				x			
<i>Cardellina pusilla</i>	Wilson's Warbler	S5B							x			
<i>Geothlypis philadelphia</i>	Mourning Warbler	S5B							x			Level 2 Forest
<i>Geothylupis trichas</i>	Common Yellowthroat	S5B, S3N						x	x			
<i>Mniotilta varia</i>	Black-and-white Warbler	S5B							x			
<i>Oporornis agilis</i>	Connecticut Warbler	S5B							x			
<i>Oreothlypis celata</i>	Orange-crowned Warbler	S5B							x			
<i>Oreothlypis peregrina</i>	Tennessee Warbler	S5B							x			
<i>Oreothlypis ruficapilla</i>	Nashville Warbler	S5B							x			
<i>Seiurus aurocapilla</i>	Ovenbird	S5B							x			Level 4 Forest
<i>Setophaga americana</i>	Northern Parula	S5B							x			
<i>Setophaga caerulescens</i>	Black-throated Blue Warbler	S5B							x			
<i>Setophaga castanea</i>	Bay-breasted Warbler	S5B							x			
<i>Setophaga citrina</i>	Hooded Warbler	S4B							x		x	Level 1 Forest
<i>Setophaga coronata</i>	Yellow Rumped Warbler	S5B, S4N							x			
<i>Setophaga fusca</i>	Blackburnian Warbler	S5B							x			
<i>Setophaga magnolia</i>	Magnolia Warbler	S5B							x			
<i>Setophaga pensylvanica</i>	Chestnut-sided warbler	S5B							x			Level 1 Forest
<i>Setophaga petechai</i>	Yellow Warbler	S5B						x	x			
<i>Setophaga pinus</i>	Pine Warbler	S5B, S3N							x			
<i>Setophaga ruticilla</i>	American Redstart	S5B						x	x	x		Level 2 Forest
<i>Setophaga striata</i>	Blackpoll Warbler	S5B							x			

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
<i>Setophaga tigrina</i>	Cape May Warbler	S5B							x			
<i>Setophaga virens</i>	Black-throated Green Warbler	S5B							x		x	
<i>Vermivora cyanoptera</i>	Blue-winged Warbler	S4B							x			
Passeridae	Sparrows											
<i>Passer domesticus</i>	House Sparrow	SNA						x	x			
Phalacrocoracidae	Cormorants											
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	S5B, S4N							x			
Phasianidae	Patridges, Grouse, Turkeys											
<i>Meleagris gallopavo</i>	Wild Turkey	S5							x			
<i>Phasianus colchicus</i>	Ring-necked Pheasant	SNA						x				
Picidae	Woodpeckers											
<i>Colaptes auratus</i>	Northern Flicker	S5						x	x			
<i>Dryocopus pileatus</i>	Pileated Woodpecker	S5						x	x			
<i>Leuconotopicus villosus</i>	Hairy Woodpecker	S5						x	x		x	
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	S5						x	x		x	Level 2 Forest
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	S3	END	END	END		x	x	x		x	Level 1 Forest
<i>Picoides pubescens</i>	Downy Woodpecker	S5						x	x	x		
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	S5B, S3N							x			
Podicipedidae	Grebes											
<i>Podiceps auritus</i>	Horned Grebe	S1B, S3N, S4M	SC		SC				x			
<i>Podiceps nigricollis</i>	Eared Grebe	S2M							x			
<i>Podilymbus podiceps</i>	Pied-billed Grebe	S4B, S2N							x			
Poliioptilidae	Gnatcatchers											
<i>Poliioptila caerulea</i>	Blue-gray Gnatcatcher	S4B						x	x			
Procellariidae	Shearwaters and Petrels											
<i>Pterodroma hasitata</i>	Black-capped Petrel	SNA							x			
Regulidae	Kinglets											
<i>Regulus calendula</i>	Ruby-crowned Kinglet	S5B, S3N							x			
<i>Regulus satrapa</i>	Golden-crowned Kinglet	S5							x			
Scolopacidae	Sandpipers, Phalaropes &Allies											
<i>Actitis macularius</i>	Spotted Sandpiper	S5B						x	x			Level 3 Open Country
<i>Arenaria interpres</i>	Ruddy Turnstone	S4M							x			
<i>Bartramia longicauda</i>	Upland Sandpiper	S2B					x					Level 2 Open Country
<i>Calidris alba</i>	Sanderling	S4M							x			
<i>Calidris alpina</i>	Dunlin	S4B, S5M							x			
<i>Calidris bairdii</i>	Baird's Sandpiper	S4M							x			
<i>Calidris fuscicollis</i>	White-rumped Sandpiper	S5M							x			
<i>Calidris himantopus</i>	Stilt Sandpiper	S3B, S4M							x			
<i>Calidris mauri</i>	Western Sandpiper	SNA							x			
<i>Calidris melanotos</i>	Pectoral Sandpiper	S1B, S4M							x			
<i>Calidris minutilla</i>	Least Sandpiper	S4B, S5M							x			

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
<i>Calidris pusilla</i>	Semipalmated Sandpiper	S2B, S4M							x			
<i>Gallinago delicata</i>	Wilson's Snipe	S5B							x			
<i>Limnodromus griseus</i>	Short-billed Dowitcher	S3B, S4M							x			
<i>Numenius phaeopus</i>	Whimbrel	S3B, S4M							x			
<i>Scolopax minor</i>	American Woodcock	S4B						x	x			Level 4 Forest
<i>Tringa flavipes</i>	Lesser Yellowlegs	S3S4B, S5M	THR	THR					x			
<i>Tringa incana</i>	Wandering Tattler	SNA							x			
<i>Tringa melanoleuca</i>	Greater Yellowlegs	S4B, S5M							x			
<i>Tringa semipalmata</i>	Willet	S2M							x			
<i>Tringa solitaria</i>	Solitary Sandpiper	S4B, S5M							x			
Sittidae	Nuthatches											
<i>Sitta canadensis</i>	Red-breasted Nuthatch	S5							x			Level 3 Forest
<i>Sitta carolinensis</i>	White-breasted Nuthatch	S5						x	x			
Stercorariidae	Skuas											
<i>Bubo scanidiacus</i>	Snowy Owl	S4N							x			
<i>Bubo virginianus</i>	Great Horned Owl	S4						x	x			
Sturnidae	Starlings											
<i>Sturnus vulgaris</i>	European Starling	SNA						x	x			
Trochillidae	Hummingbirds											
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	S5B						x	x			Level 2 Forest
Troglodytidae	Wrens											
<i>Cistothorus palustris</i>	Marsh Wren	S4B, S3N							x			
<i>Thyrothorus ludovicianus</i>	Carolina Wren	S4						x	x		x	Level 3 Forest
<i>Troglodytes aedon</i>	House Wren	S5B						x	x			Level 4 Forest
<i>Troglodytes hiemalis</i>	Winter Wren	S5B, S4N							x			Level 4 Forest
Turdidae	Thrushes											
<i>Catharus fuscescens</i>	Veery	S5B							x			Level 3 Forest
<i>Catharus guttatus</i>	Hermit Thrush	S5B, S4N							x			
<i>Catharus minimus</i>	Gray-cheeked Thrush	S4?B, S4M							x			
<i>Catharus ustulatus</i>	Swainson's Thrush	S5B							x			
<i>Hylocichla mustelina</i>	Wood Thrush	S4B	SC	THR	THR		x	x	x			Level 4 Forest
<i>Sialia sialis</i>	Eastern Bluebird	S5B, S4N							x			Level 1 Open Country
<i>Turdus migratorius</i>	American Robin	S5						x	x		x	
Tyrannidae	Tyrant Flycatchers											
<i>Contopus cooperi</i>	Olive-sided Flycatcher	S4B	SC	SC	SC				x			
<i>Contopus virens</i>	Eastern Wood-pewee	S4B	SC	SC	SC		x	x	x			
<i>Empidonax alnorum</i>	Alder Flycatcher	S5B						x	x			Level 3 Forest
<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher	S5B							x			
<i>Empidonax minimus</i>	Least Flycatcher	S5B							x			
<i>Empidonax traillii</i>	Willow Flycatcher	S4B							x			
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	S5B						x	x			

Species		Conservation Rank					Source				LOCAL DATA	
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	OBBA ⁽²⁾	eBird ⁽³⁾	iNaturalist ⁽⁴⁾	OWES	Niagara
<i>Sayornis phoebe</i>	Eastern Phoebe	S5B							x			Level 3 Forest
<i>Tyrannus tyrannus</i>	Eastern Kingbird	S4B							x			Level 3 Open Country
Vireonidae	Vireos											
<i>Vireo gilvus</i>	Warbling Vireo	S5B						x	x			
<i>Vireo olivaceus</i>	Red-eyed Vireo	S5B						x	x			
<i>Vireo solitarius</i>	Blue-headed Vireo	S5B							x			
<i>Vireo flavifrons</i>	Yellow-throated Vireo	S4B							x			
<i>Vireo philadelphicus</i>	Philadelphia Vireo	S5B							x			
Total							7	52	205	4	15	

Notes:

S-rank
S1 - Critically Imperiled
S2 - Imperiled
S3 - Vulnerable
S4 - Apparently Secure
S5 - Secure
SU - Unrankable
SNA - Unranked
SX - Presumed Extirpated
SH - Possibly Extirpated
S#? - Rank Uncertain

COSEWIC
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated
DD - Data Deficient

SARA Schedule
Schedule 1 - Officially protected under SARA
Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1

ESA
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated

COSSARO
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXP - Extirpated
DD - Data Deficient

Additional Notes
ESA - *Endangered Species Act*
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - *Species at Risk Act*
NHIC - Natural Heritage Information Centre
OBBA - Ontario Breeding Bird Atlas

Sources:

- 1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2023. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed Dec 2023. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA
- 2 Birds Canada et al. 2023. *Ontario Breeding Bird Atlas Data Summary Tool*. NatureCounts platform. Accessed Dec 2023. <https://naturecounts.ca/nc/onatlas/findsquare.jsp>
- 3 Cornell Lab of Ornithology. 2023. *eBird* . Accessed Dec 2023. <https://ebird.org/home>
- 4 iNaturalist. 2023. *Observations* . Accessed Dec 2023. <https://www.inaturalist.org/observations>

TABLE C2 Reptile and Amphibian Species

Species		Conservation Rank					Source			
Scientific Name	Common Name	Provincial (S-RANK)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Regional (Peel)	NHIC (1)	ORAA (2)	iNaturalist (3)	OWES Evaluation
Cryptodeira	Turtles									
<i>Chelydra serpentina</i>	Snapping Turtle	S4	SC	SC	SC		x	x	x	
<i>Chrysemys picta marginata</i>	Midland Painted Turtle	S4		SC	SC			x		
Squamata	Snakes									
<i>Heterodon platirhinos</i>	Eastern Hog-nosed Snake	S3	THR	THR	THR					x
<i>Lampropeltis triangulum</i>	Eastern Milksnake	S4		SC	SC					x
<i>Thamnophis sirtalis sirtalis</i>	Eastern Gartersnake	S5								x
Anura	Frogs and Toads									
<i>Anaxyrus americanus</i>	American Toad	S5						x		x
<i>Anaxyrus fowleri</i>	Fowler's Toad	S2	END	END	END		x	x	x	x
<i>Lithobates catesbeianus</i>	American Bullfrog	S4								x
<i>Lithobates clamitans</i>	Green Frog	S5							x	
<i>Lithobates pipiens</i>	Northern Leopard Frog	S5						x		x
<i>Pseudacris crucifer</i>	Spring Peeper	S5						x		
<i>Pseudacris triseriata</i> pop. 2	Western Chorus Frog (Carolinian population)	S4						x		
Total:							2	7	3	7

Notes:

<u>S-rank</u>	<u>COSEWIC</u>
S1 - Critically Imperiled	NAR - Not at Risk
S2 - Imperiled	SC - Special Concern
S3 - Vulnerable	THR - Threatened
S4 - Apparently Secure	END - Endangered
S5 - Secure	EXT - Extinct
SU - Unrankable	EXP - Extirpated
SNA - Unranked	DD - Data Deficient
SX - Presumed Extirpated	
SH - Possibly Extirpated	<u>SARA Schedule</u>
S#? - Rank Uncertain	Schedule 1 - Officially protected under SARA
	Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
	Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1

ESA

SC - Special Concern	
THR - Threatened	<u>COSSARO</u>
END - Endangered	NAR - Not at Risk
EXT - Extinct	SC - Special Concern
EXP - Extirpated	THR - Threatened
	END - Endangered
	EXP - Extirpated
	DD - Data Deficient

Additional Notes

ESA - Endangered Species Act
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - Species at Risk Act
NHIC - Natural Heritage Information Centre
ORAA - Ontario Reptile and Amphibian Atlas

Sources:

- 1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2023. *Make a Map: Natural Heritage Areas*. Mapping application. Accessed Dec 2023. https://www.liaapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA
- 2 Ontario Nature. 2023. Ontario Reptile and Amphibian Atlas. Accessed Dec 2023. <https://www.ontarioinsects.org/herp/index.html?Sort=1&area2=squaresCounties&records=all&myZoom=5&Lat=42.95&Long=-81>
- 3 iNaturalist. 2023. *Observations*. Accessed Dec 2023. <https://www.inaturalist.org/observations>

TABLE C3 Fish Species

Scientific Name	Species Name Common Name	Conservation Rank					Source				
		Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	iNaturalist ⁽²⁾	DFO ⁽³⁾	LIO ⁽⁴⁾	OWES Evaluation
Acipenseriformes											
<i>Acipenser fulvescens</i> pop. 3	Lake Sturgeon (Great Lakes - Upper St. Lawrence River population)	S2	END	THR						x	
Amiiformes											
<i>Amia calva</i>	Bowfin	S4								x	
Anguilliformes											
<i>Anguilla rostrata</i>	American Eel	S1S2	END	THR						x	
Atheriniformes											
<i>Labidesthes sicculus</i>	Brook Silverside	S4								x	
Clupeiformes											
<i>Alosa pseudoharengus</i>	Alewife	SNA								x	
<i>Dorosoma cepedianum</i>	Gizzard Shad	S4								x	
Cypriniformes											
<i>Camptostoma anomalum</i>	Central Stoneroller	S4								x	
<i>Carassius auratus</i>	Goldfish	SNA								x	
<i>Couesius plumbeus</i>	Lake Chub	S5								x	
<i>Ctenopharyngodon idella</i>	Grass Carp	SNA								x	
<i>Cyprinus carpio</i>	Common Carp	SNA								x	x
<i>Hybognathus hankinsoni</i>	Brassy Minnow	S5								x	
<i>Natemigonus crysoleucas</i>	Golden Shiner	S5								x	
<i>Notropis anogenus</i>	Pugnose Shiner	S2	THR	THR	THR					x	
<i>Notropis atherinoides</i>	Emerald Shiner	S5								x	
<i>Notropis buechanani</i>	Ghost Shiner	S3								x	
<i>Notropis heterodon</i>	Blackchin Shiner	S4								x	
<i>Notropis heterolepis</i>	Blacknose Shiner	S5								x	
<i>Notropis hudsonius</i>	Spottail Shiner	S5								x	
<i>Notropis photogenis</i>	Silver Shiner	S2S3	THR	THR	THR					x	
<i>Notropis rubellus</i>	Rosyface Shiner	S4								x	
<i>Notropis stramineus</i>	Sand Shiner	S4								x	
<i>Notropis volucellus</i>	Mimic Shiner	S5								x	
<i>Chrosomus eos</i>	Northern Redbelly Dace	S5								x	
<i>Pimephales notatus</i>	Bluntnose Minnow	S5								x	
<i>Pimephales promelas</i>	Fathead Minnow	S5								x	
<i>Rhinichthys atratulus</i>	Western Blacknose Dace	S5								x	
<i>Rhinichthys cataractae</i>	Longnose Dace	S5								x	
<i>Semotilus atromaculatus</i>	Creek Chub	S5								x	
<i>Luxilus cornutus</i>	Common Shiner	S5								x	
<i>Macrhybopsis storeriana</i>	Silver Chub (Great Lakes - Upper St. Lawrence populations)	S2	THR	END	END				x	x	
<i>Margariscus margarita</i>	Northern Pearl Dace	S5								x	
<i>Carpiodes cyprinus</i>	Quillback	S4								x	
<i>Catostomus catostomus</i>	Longnose Sucker	S5								x	
<i>Catostomus commersonii</i>	White Sucker	S5								x	
<i>Erimyzon sucetta</i>	Lake Chubsucker	S2	END	END	END					x	
<i>Ictiobus cyprinellus</i>	Bigmouth Buffalo	S2?								x	
<i>Minytrema melanops</i>	Spotted Sucker	S2	SC	SC	SC				x	x	
<i>Moxostoma anisurum</i>	Silver Redhorse	S4								x	
<i>Moxostoma macrolepidotum</i>	Shorthead Redhorse	S5								x	
<i>Moxostoma valenciennesi</i>	Greater Redhorse	S3								x	
Cyprinodontiformes											
<i>Fundulus diaphanus</i>	Banded Killifish	S5								x	
Esociformes											
<i>Esox americanus vermiculatus</i>	Grass Pickerel	S3	SC	SC	SC		x		x	x	
<i>Umbra limi</i>	Central Mudminnow	S5								x	
<i>Esox lucius</i>	Northern Pike	S5								x	
<i>Esox masquinongy</i>	Muskellunge	S4								x	
<i>Esox niger</i>	Chain Pickerel	SNA								x	
Gadiformes											
<i>Lota lota</i>	Burbot	S5								x	
Gasterosteiformes											
<i>Culaea inconstans</i>	Brook Stickleback	S5								x	
<i>Gasterosteus aculeatus</i>	Threespine Stickleback	S4S5								x	
Hiodontiformes											
<i>Hiodon tergisus</i>	Mooneye	S4								x	
Lepisosteiformes											

Scientific Name	Species Name Common Name	Conservation Rank					Source				
		Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	INaturalist ⁽²⁾	DFO ⁽³⁾	LIO ⁽⁴⁾	OWES Evaluation
<i>Lepisosteus oculatus</i>	Spotted Gar	S1	END	END	END					x	
<i>Lepisosteus osseus</i>	Longnose Gar	S4								x	
<i>Osmorhiza</i>											
<i>Osmorhiza marmorata</i>	Rainbow Smelt	S5								x	
<i>Perciformes</i>											
<i>Aplodinotus grunniens</i>	Freshwater Drum	S5								x	
<i>Morone americana</i>	White Perch	SNA								x	
<i>Morone chrysops</i>	White Bass	S4								x	
<i>Ambloplites rupestris</i>	Rock Bass	S5								x	
<i>Lepomis cyanellus</i>	Green Sunfish	S4								x	
<i>Lepomis gibbosus</i>	Pumpkinseed	S5								x	
<i>Lepomis gulosus</i>	Warmouth	S1	END	END	SC					x	
<i>Lepomis humilis</i>	Orangespotted Sunfish	SNA								x	
<i>Lepomis macrochirus</i>	Bluegill	S5								x	
<i>Micropterus dolomieu</i>	Smallmouth Bass	S5								x	
<i>Micropterus salmoides</i>	Largemouth Bass	S5								x	
<i>Pomoxis annularis</i>	White Crappie	S4								x	
<i>Pomoxis nigromaculatus</i>	Black Crappie	S4								x	
<i>Etheostoma blennioides</i>	Greenside Darter	S4								x	
<i>Etheostoma caeruleum</i>	Rainbow Darter	S4								x	
<i>Etheostoma exile</i>	Iowa Darter	S5								x	
<i>Etheostoma flabellare</i>	Fantail Darter	S4								x	
<i>Etheostoma microperca</i>	Least Darter	S4								x	
<i>Etheostoma nigrum</i>	Johnny Darter	S5								x	
<i>Ammocrypta pellucida</i>	Eastern Sand Darter	S2	END	THR	THR					x	
<i>Perca flavescens</i>	Yellow Perch	S5								x	
<i>Percina caprodes</i>	Logperch	S5								x	
<i>Percina capelandi</i> pop. 1	Channel Darter (Lake Erie population)	S1	SC	END	END					x	
<i>Percina maculata</i>	Blackside Darter	S4								x	
<i>Sander canadensis</i>	Sauger	S4								x	
<i>Sander vitreus vitreus</i>	Walleye	S5								x	
<i>Neogobius melanostomus</i>	Round Goby	SNA								x	
<i>Proterorhinus marmoratus</i>	Tubenose Goby	SNA								x	
<i>Lepomis peltastes</i>	Northern Sunfish	S3	SC	SC	SC					x	
<i>Percopsiformes</i>											
<i>Percopsis omiscomaycus</i>	Trout-perch	S5								x	
<i>Petromyzontiformes</i>											
<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	S3	SC	SC	SC					x	
<i>Lethenteron appendix</i>	American Brook Lamprey	S3								x	
<i>Petromyzon marinus</i>	Sea Lamprey	SNA								x	
<i>Ichthyomyzon unicuspis</i> pop. 1	Silver Lamprey (Great Lakes - Upper St. Lawrence populations)	S3	SC	SC	SC				x	x	
<i>Salmoniformes</i>											
<i>Coregonus artedii</i>	Cisco	S5								x	
<i>Coregonus clupeaformis</i>	Lake Whitefish	S5								x	
<i>Salmo trutta</i>	Brown Trout	S5								x	
<i>Salvelinus namaycush</i>	Lake Trout	S5								x	
<i>Scorpaeniformes</i>											
<i>Cottus cognatus</i>	Slimy Sculpin	S5								x	
<i>Cottus ricei</i>	Spoonhead Sculpin	S4								x	
<i>Siluriformes</i>											
<i>Ictalurus punctatus</i>	Channel Catfish	S4								x	
<i>Naturus flavus</i>	Stonecat	S4								x	
<i>Naturus gyrinus</i>	Tadpole Madtom	S4								x	
<i>Naturus insignis</i>	Margined Madtom	SU		DD						x	
<i>Naturus miurus</i>	Brindled Madtom	S2								x	
<i>Naturus stigmosus</i>	Northern Madtom	S1	END	END	END					x	
<i>Pylodictis olivaris</i>	Flathead Catfish	SNA		DD						x	
<i>Ameiurus melas</i>	Black Bullhead	S4								x	
<i>Ameiurus natalis</i>	Yellow Bullhead	S4								x	x
<i>Ameiurus nebulosus</i>	Brown Bullhead	S5								x	
Total							1	0	4	104	2

Notes:

S-rank
S1 - Critically Imperiled

COSEWIC

NAR - Not at Risk

Species Name		Conservation Rank					Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC ⁽¹⁾	iNaturalist ⁽²⁾	DFO ⁽³⁾	LIO ⁽⁴⁾	OWES Evaluation
S2 - Imperiled	SC - Special Concern										
S3 - Vulnerable	THR - Threatened										
S4 - Apparently Secure	END - Endangered										
S5 - Secure	EXT - Extinct										
SU - Unrankable	EXP - Extirpated										
SNA - Unranked	DD - Data Deficient										
SX - Presumed Extirpated											
SH - Possibly Extirpated											
S#? - Rank Uncertain											
ESA	SARA Schedule										
SC - Special Concern	Schedule 1 - Officially protected under SARA										
THR - Threatened	Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1										
END - Endangered	Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1										
EXT - Extinct											
EXP - Extirpated											
Additional Notes											
ESA - Endangered Species Act											
COSEWIC - Committee on the Status of Endangered Wildlife in Canada											
SARA - Species at Risk Act											
NHIC - Natural Heritage Information Centre											
DFO - Fisheries and Oceans Canada											
LIO - Land Information Ontario											

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2023. *Make a Map: Natural Heritage Areas*. Mapping application. Accessed Dec 2023. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&iocale=en-CA

2 iNaturalist. 2023. *Observations*. Accessed Dec 2023. <https://www.inaturalist.org/observations>

3 Fisheries and Oceans Canada (DFO). 2023. *Aquatic Species at Risk Map*. Accessed Dec 2023. <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>

4 Ontario Ministry of Natural Resources and Forestry (MNRF). 2023. *Ontario GeoHub*. Open data resource through Land Information Ontario. Accessed Dec 2023. <https://geohub.lio.gov.on.ca/>

TABLE C4 Insect Species

Species Name		Conservation Rank				Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC ⁽¹⁾	Ontario Butterfly Atlas ⁽²⁾	iNaturalist ⁽³⁾	Ontario Moth Atlas ⁽⁴⁾	Montrose Field Observations
<i>Hymenoptera</i>	Sawflies, Wasps, Bees, and Ants									
<i>Camponotus pennsylvanicus</i>	Eastern Black Carpenter Ant	S5						x		
<i>Lepidoptera</i>	Butterflies									
<i>Celastrina neglecta</i>	Summer Azure	S5					x	x		
<i>Colias eurytheme</i>	Orange Sulphur	S5					x			
<i>Danaus plexippus</i>	Monarch	S2N,S4B	SC	END	SC		x	x		
<i>Ennomos magnaria</i>	Maple Spanworm Moth	S5						x		
<i>Euphyes dion</i>	Dion Skipper	S4					x	x		
<i>Euphyes vestris</i>	Dun Skipper	S5					x	x		
<i>Feniseca tarquinius</i>	Harvester	S4					x	x		
<i>Hemaris thysbe</i>	Hummingbird Clearwing	S5						x		
<i>Nymphalis antiopa</i>	Mourning Cloak	S5					x	x		
<i>Papilio glaucus</i>	Eastern Tiger Swallowtail	S5					x			
<i>Pieris rapae</i>	Cabbage White	SNA					x			
<i>Poanes viator</i>	Broad-winged Skipper	S4					x	x		
<i>Prochoerodes lineola</i>	Large Maple Spanworm Moth	S5						x		
<i>Pyrrharctia isabella</i>	Isabella Tiger Moth	S5						x		
<i>Speyeria cybele</i>	Great Spangled Fritillary	S5					x	x		
<i>Wallengrenia egeremet</i>	Northern Broken-Dash	S5					x	x		
<i>Mantodea</i>	Mantises									
<i>Tenodera sinensis</i>	Chinese Mantis	SNA						x		
<i>Orthoptera</i>	Grasshoppers, Katydids, Crickets, and related insects									
<i>Gryllus pennsylvanicus</i>	Fall Field Cricket	S5						x		
Total						0	12	16	0	0

Notes:

- S-rank
S1 - Critically Imperiled
S2 - Imperiled
S3 - Vulnerable
S4 - Apparently Secure
S5 - Secure
SU - Unrankable
SNA - Unranked
SX - Presumed Extirpated
SH - Possibly Extirpated
S#? - Rank Uncertain

- COSEWIC
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated
DD - Data Deficient
- SARA Schedule
Schedule 1 - Officially protected under SARA
Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1

- ESA
SC - Special Concern
THR - Threatened
END - Endangered
- COSSARO
NAR - Not at Risk

Species Name		Conservation Rank				Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC ⁽¹⁾	Ontario Butterfly Atlas ⁽²⁾	iNaturalist ⁽³⁾	Ontario Moth Atlas ⁽⁴⁾	Montrose Field Observations

EXT - Extinct	SC - Special Concern
EXP - Extirpated	THR - Threatened
	END - Endangered
	EXP - Extirpated
	DD - Data Deficient

Additional Notes
ESA - *Endangered Species Act*
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - *Species at Risk Act*
NHIC - Natural Heritage Information Centre

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2023. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed Dec 2023. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA

2 Macnaughton, A., Layberry, R., Cvasin, R., Edwards, B., and C. Jones. 2023. *Ontario Butterfly Atlas* . Accessed Dec 2023. <https://www.ontarioinsects.org/atlas/>

3 iNaturalist (iNaturalist). 2023. *Observations* . Accessed Dec 2023. <https://www.inaturalist.org/observations>

4 Kaposi, D., Macnaughton, A., and B. Edwards. 2023. *Ontario Moth Atlas* . Accessed Dec 2023. <https://www.ontarioinsects.org/moth/index.html>

Table C5 Mammal Species

Species Name		Conservation Ranking				Source			
Scientific Name	Common Name	S-RANK	ESA	COSEWIC	SARA	NHIC (1)	Ontario Mammals (2)	iNaturalist (3)	Montrose Field Observations
Artiodactyla	Deer and Bison								
<i>Odocoileus virginianus</i>	White-tailed Deer	S5					x	x	x
Carnivora	Carnivores								
<i>Canis latrans</i>	Coyote	S5					x		
<i>Lontra canadensis</i>	North American River Otter	S5					x		
<i>Martes americana</i>	American Marten	S5					x		
<i>Mephitis mephitis</i>	Striped Skunk	S5					x		
<i>Mustela frenata</i>	Long-tailed Weasel	SU					x		
<i>Mustela nivalis</i>	Least Weasel	SU					x		
<i>Neogale vison</i>	American Mink	S4					x		
<i>Procyon lotor</i>	Northern Raccoon	S5					x		x
<i>Ursus americanus</i>	American Black Bear	S5					x		
<i>Vulpes vulpes</i>	Red Fox	S5					x		x
Chiroptera	Bats								
<i>Eptesicus fuscus</i>	Big Brown Bat	S4					x		
<i>Lasionycteris noctivagans</i>	Silver-haired Bat	S4	END	END			x		
<i>Lasiurus borealis</i>	Eastern Red Bat	S4	END	END			x		
<i>Lasiurus cinereus</i>	Hoary Bat	S4	END	END			x		
<i>Myotis leibii</i>	Eastern Small-footed Myotis	S2S3	END				x		
<i>Myotis lucifugus</i>	Little Brown Myotis	S3	END	END	END		x		
<i>Myotis septentrionalis</i>	Northern Myotis	S3	END	END	END		x		
<i>Perimyotis subflavus</i>	Tricolored Bat	S3?	END	END	END		x		
Didelphimorphia	Opposums								
<i>Didelphis virginiana</i>	Virginia Opossum	S4					x		
Lagomorpha	Rabbits and Hares								
<i>Sylvilagus floridanus</i>	Eastern Cottontail	S5					x		x
Rodentia	Rodents								
<i>Castor canadensis</i>	Beaver	S5					x		
<i>Glaucomys sabrinus</i>	Northern Flying Squirrel	S5					x		
<i>Glaucomys volans</i>	Southern Flying Squirrel	S4					x		
<i>Marmota monax</i>	Woodchuck	S5					x		
<i>Microtus pennsylvanicus</i>	Meadow Vole	S5					x		x
<i>Microtus pinetorum</i>	Woodland Vole	S3?	SC	SC	SC		x		
<i>Mus musculus</i>	House Mouse	SNA					x		
<i>Myodes gapperi</i>	Southern Red-backed Vole	S5					x		
<i>Napaeozapus insignis</i>	Woodland Jumping Mouse	S5					x		
<i>Ondatra zibethicus</i>	Muskrat	S5					x		x
<i>Peromyscus leucopus</i>	White-footed Mouse	S5					x		
<i>Peromyscus maniculatus</i>	Deer Mouse	S5					x		
<i>Sciurus carolinensis</i>	Grey Squirrel	S5					x		
<i>Synaptomys cooperi</i>	Southern Bog Lemming	S4					x		
<i>Tamias striatus</i>	Eastern Chipmunk	S5					x		

Species Name		Conservation Ranking				Source			
Scientific Name	Common Name	S-RANK	ESA	COSEWIC	SARA	NHIC (1)	Ontario Mammals (2)	iNaturalist (3)	Montrose Field Observations
<i>Tamiasciurus hudsonicus</i>	Red Squirrel	S5					x		
<i>Zapus hudsonius</i>	Meadow Jumping Mouse	S5					x		
Soricomorpha									
<i>Blarina brevicauda</i>	Northern Short-tailed Shrew	S5					x		
<i>Condylura cristata</i>	Star-nosed Mole	S5					x		
<i>Cryptotis parva</i>	Least Shrew	SH					x		
<i>Parascalops breweri</i>	Hairy-tailed Mole	S4					x		
<i>Sorex cinereus</i>	Masked Shrew	S5					x		
<i>Sorex hoyi</i>	Pygmy Shrew	S4					x		
TOTAL:						0	44	1	6

Sources:

- 1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2023. *Make a Map: Natural Heritage Areas*. Mapping application. Accessed Dec 2023. https://www.liaapplications.lrc.gov.on.ca/Natural_Heritage/index.html?view=card
- 2 Mammal Atlas (see list of potential references below):
iNaturalist. 2023. Ontario Mammals. Accessed Dec 2023 <https://www.inaturalist.org/guides/1327?view=card>
- 3 iNaturalist. 2023. *Observations*. Accessed Dec 2023. <https://www.inaturalist.org/observations>

APPENDIX D
Species at Risk and Species of Conservation
Concern Screening



TABLE D1 Species At Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat ^{1,2}	Known Species Range ^{1,2}	Source Identifying Species Record	Probability of Occurrence within Study Area	Conclusions/ Recommendations
Aquatics	American Eel <i>Anguilla rostrata</i>	END	No Status	THR	- All freshwater, estuaries, and coastal marine waters that have access to the Atlantic Ocean.	- North Bay south to Hamilton, east to Quebec.	LIO	Moderate: Known populations within Lake Erie.	No work is proposed within Lake Erie. An ESC plan should be prepared an implemented to avoid any sediment entering the watercourse.
Aquatics	Eastern Sand Darter (Ontario populations) <i>Ammocrypta pellucida</i>	END	THR Schedule 1	THR	- Shallow habitats in lakes, streams, and rivers with clean, sandy bottoms, including sandy shoals. - OAQ with sandy bottoms.	- Lake St. Clair, Lake Erie, West Lake (Prince Edward County), Big Creek (Lake Erie), and in the Grand, Sydenham, Thames and Detroit rivers.	LIO	Low. Known populations within Lake Erie, but they are isolated to areas west of Turkey Point.	No further action is required.
Aquatics	Lake Chubsucker <i>Erimyzon sucetta</i>	END	END Schedule 1	END	- Marshes, lakes, bays, channels, ponds and coastal wetlands with clear, still, warmer water and ample aquatic plants. - Preferred substrate includes gravel, sand, and silt mixed with organic debris. - OAQ, SAS, SAM and SAF with warm, shallow, clear water and an abundance of aquatic plants.	- Long Point, Point Pelee, Lake St. Clair and Rondeau Park, Grand Bend, and between Niagara Falls and Fort Erie	LIO	Moderate: Known populations nearby, but not within Six Mile Creek (within a tributary to the Niagara River).	No work is proposed within systems with known populations. An ESC plan should be prepared an implemented to avoid any sediment entering the watercourse.
Aquatics	Lake Sturgeon (Great Lakes-Upper St. Lawrence River populations) <i>Acipenser fulvescens</i>	END	No Status	THR	- Freshwater lakes and rivers with soft bottoms of mud, sand or gravel, typically between 5 - 20 m deep. - Spawning occurs in relatively shallow, fast-flowing water with gravel and boulders at the bottom or on open shoals with strong currents. - OAQ, large lakes/rivers > 20m deep with soft mud, sand, or gravel bottoms required.	- Rivers of the Hudson Bay basin, Great Lakes basin, and major connecting waterways, including the St. Lawrence River.	LIO	Low: Known populations within Lake Erie. Study area only contains a small portion of the Lake Erie shoreline, waters are not suitably deep.	No work is proposed within Lake Erie. An ESC plan should be prepared an implemented to avoid any sediment entering the watercourse.
Aquatics	Northern Madtom <i>Noturus stigmosus</i>	END	END Schedule 1	END	- Large creeks and rivers with moderate to swift current and a sandy, gravel, or mud bottom. - Can tolerate slightly turbid water. - Associated with large aquatic plants. - OAQ with a moderate to swift current and a sand gravel or mud bottom.	- Restricted to southwestern Ontario; St. Clair River, Lake St. Clair, the Detroit River, and the Thames River.	LIO	Low. Known populations within Lake Erie, but they are isolated to the northwestern portion of the Lake.	No further action is required.
Aquatics	Pugnose Shiner <i>Notropis anogenus</i>	THR	THR Schedule 1	THR	- Clear and slow-moving rivers, creeks and lakes with sandy or muddy bottoms. - Preferably includes plenty of aquatic vegetation. - OAQ with abundant aquatic vegetation in rivers and creeks with clear water with sand, mud, or organic substrate.	- Southern Lake Huron drainage area, Lake St. Clair, Lake Erie, and eastern Lake Ontario/ upper St. Lawrence River drainage.	LIO	Low. Known populations within Lake Erie, but they are isolated to the northwestern portion of the Lake.	No further action is required.
Aquatics	Silver Chub (Great Lakes- Upper St. Lawrence populations) <i>Macrhybopsis storeriana</i>	THR	END Schedule 1	END	- Medium to large rivers with substantial current and silt, sand, gravel, rubble, boulder, or bedrock bottoms. - Typically does not include aquatic vegetation. - OAQ characterized as medium to large rivers with a substantial current with a silt, sand, or gravel substrate or lake habitat.	- North shore of Lake Erie, Lake St. Clair, and extreme southern coast of Lake Huron.	DFO (records), LIO	Low. Known populations within Lake Erie, but they are isolated to areas west of Turkey Point.	No further action is required.
Aquatics	Silver Shiner <i>Notropis photogenis</i>	THR	THR Schedule 1	THR	- Moderate to large sized streams with swift currents and moderate to high gradients. - Streams should be free of weeds and have clean gravel or boulder bottoms. - OAQ characterized as moderate to large streams with swift currents, no weeds, and gravel or boulder substrates.	- Thames and Grand Rivers, and in Bronte Creek and Sixteen Mile Creek, which flow into Lake Ontario.	LIO	Low. No known populations are located east of the Grand River watershed.	No further action is required.
Aquatics	Spotted Gar <i>Lepisosteus oculatus</i>	END	END Schedule 1	END	- Calm, clear pools and bays with plenty of aquatic plants. - Lakes with soft mud bottoms (clays, organic debris, soft muck). - May be warm water with low dissolved oxygen levels. - Warmwater habitats; silt-free marshes, ponds, open water swamps, and lakes with abundant aquatic plants and mucky bottoms.	- North shore of Lake Erie and in East Lake (Lake Ontario). - Point Pelee, Long Point Bay, and Rondeau Bay.	LIO	Low. Known populations within Lake Erie, but they are isolated to areas west of Turkey Point.	No further action is required.
Aquatics	Warmouth <i>Lepomis gulosus</i>	END	SC Schedule 1	END			LIO	Low. Known populations within Lake Erie, but they are isolated to the northwestern portion of the Lake.	No further action is required.
Avian	Bank Swallow <i>Riparia riparia</i>	THR	THR Schedule 1	THR	- Requires vertical faces in sand or silt deposits; river and lake banks, active/inactive sand and gravel pits, road cuts, soil stockpiles. - Breeding sites are located close to aerial foraging areas such as grasslands, meadows, pastures, and cropland. - Large wetlands used for nocturnal roost sites during post-breeding, migration and wintering periods.	- Common across southern Ontario, especially along Lake Erie and Lake Ontario shorelines and the Saugeen River. - Sparse populations scattered across northern Ontario.	eBird	Moderate. Suitable sandy soils present with frequent (2yr) erosion. Watercourses, wetlands, and meadows present.	Considerations should be made during the construction period to avoid creating vertical slope faces.
Avian	Bobolink <i>Dolichonyx oryzivorus</i>	THR	THR Schedule 1	SC	- Hayfields, pastures, wet prairie, graminoid peatlands, abandoned farm fields dominated by tall grasses, no-till cropland, small-grain fields, restored surface mining sites. - Small nests are often built on the ground in dense grasses. - Typically not abundant in short-grass prairie, alfalfa, or in row crop monocultures (corn, soybean, wheat). - TPQ, TPS, CUM1.	- Southern Ontario north to James Bay.	NHIC, eBird	Moderate. Small patches of suitable nesting areas (MEM: Mixed Meadow) are present within northern and eastern portions of the study area. No agricultural lands or other dry meadows are present.	Consideration during construction should be made to clear all vegetation including meadows, grasslands, and suitable crops after breeding season has completed.
Avian	Chimney Swift <i>Chaetura pelagica</i>	THR	THR Schedule 1	THR	- Historically included hollow trees. - More commonly found in and around urban settlements, including chimneys and other manmade structures. - Typically close to water. - TPQ, CUM1, MAM, MAS, OAQ, SAS1, SAM1, SAF1 adjacent to suitable nesting habitat.	- Southern Ontario north to Timmins.	eBird	Low. Suitable MAS (Shallow Marsh) and MAM (Meadow Marsh) habitat is present within the study area. Within heavily urbanized settings, Chimney Swifts prefer to nest within man-made structures.	Tree cavity survey to be completed within any areas to be impacted, prior to any tree removal. Should suitable cavity trees be present, targetted surveys may be required.
Avian	Eastern Meadowlark <i>Sturnella magna</i>	THR	THR Schedule 1	THR	- Moderately tall grasslands; prairies, savannahs, pastures and hayfields, alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, overgrown fields. - Small trees, shrubs, or fence posts used as elevated song perches. - TPQ, TPS, CUM1, CUS, and MAM2.	- Southern Ontario north to Timmins, as well as Lake of the Woods area.	eBird	Moderate. Small patches of suitable nesting areas (MEM: Mixed Meadow) are present within northern and eastern portions of the study area. No agricultural lands or other dry meadows are present.	Consideration during construction should be made to clear all vegetation including meadows, grasslands, and suitable crops after breeding season has completed.
Avian	Lesser Yellowlegs <i>Tringa flavipes</i>	THR	Status Pending	THR	- Typically boreal forest areas and taiga. Frequents coastal salt marshes, freshwater wetlands, and anthropogenic wetlands such as sewage lagoons. - Nests on dry ground near peatlands, marshes, ponds, and other wetlands	- Extreme northern Ontario (boreal forest) - Migration routes and stopover grounds are located within wetlands of Southern Ontario	eBird	None. Study area is not located within the known breeding range.	No further action is required.
Avian	Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	END	THR Schedule 1	END	- Woodlands and woodland edges, including oak and beech forests, grasslands, orchards, riparian forests, beaver ponds, burns, parks, golf courses, and cemeteries. - Dead trees used for nesting and perching. - TPS, TPW, CUW, FOD1, FOD2, FOD4-1, FOD6, FOD7, and FOD9 that are open with an abundance of dead trees.	- Woodland Caribou Provincial Park southeast to Cornwall.	NHIC, OBBA, eBird, OWES (2004)	Moderate. Study area contains suitable FOD (Deciduous Forest) dominated by Black Walnut, within close proximity to Six Mile Creek and Lake Erie.	Tree cavity survey to be completed within any areas to be impacted, prior to any tree removal. Should suitable cavity trees be present, targetted surveys may be required.
Flora	Bird's-foot Violet <i>Viola pedata</i>	END	END Schedule 1	END	- Black oak savannah; widely spaced trees with an understory of tallgrass prairie herbs on sandy, acidic, and well-drained soil. - TPS1-1 and TPW1-1.	- Sarnia, Niagara Falls, Brantford, Falkland, Norfolk County.	OWES (2004)	Low. No suitable habitat or known observations are present within the study area. The wetland evaluation record (2004) identifies that Bird's-foot Violet is present within the Niagara Region, but does not mention any observations within the wetland complex itself.	Vegetation surveys to be completed prior to any vegetation removal or grubbing.
Flora	Black Ash <i>Fraxinus nigra</i>	END	No Status	THR	- Commonly in mixed deciduous-conifer or conifer dominated swamps, with poorly drained soil pH of 4.4 to 8.2. Frequently in very wet, seasonally flooded, habitats including floodplain forests, basins, seepage and lacustrine swamp forests, shoreline forest margins, fens and bogs. - Moderately shade-tolerant.	- Northern limit in western Ontario near 53°N with a Southern limit in southwestern Virginia.	None	Moderate. Species is newly listed, so no records of the species within the study area exist, but it abundant within southern Ontario and may be found within the site.	Tree inventory to be completed prior to the removal of any trees. Should any Black Ash trees require removal, MECP approval may be required, which includes completing a Black Ash assessment for each tree.

Flora	Butternut <i>Juglans cinerea</i>	END	END Schedule 1	END	- Deciduous forests with moist, well-drained soil of pH 5.5 to 8; commonly found along streams. - Often grows alone in sunny openings and near forest edges. - FOD and mature hedgerows.	- South of Pembroke to Port Elgin.	NHIC	Moderate. Species is abundant within Southern Ontario. Prefers moist forested habitats such as FOD (Deciduous Forest) which is present in the study area.	Tree inventory to be completed prior to the removal of any trees. Should any Butternut trees require removal, MECP registration and/or approval may be required, which includes completing a Butternut Health Assessment for each tree.
Flora	Eastern Flowering Dogwood <i>Cornus florida</i>	END	END Schedule 1	END	- Underneath middle-aged to mature deciduous or mixed forests, on floodplains, slopes, bluffs, and in ravines. - Typically found in drier sandy soils. - FOD and FOM. - Open, dry to moist deciduous forests that are dominated by sugar maple and American beech. - Ideally areas with low levels of disturbance.	- South of Oakville to Lambton shores.	NHIC, OWES (2004)	Moderate. Known observations within the Niagara area.	Tree and vegetation inventory to be completed prior any tree or vegetation removal, or grubbing. Should any Eastern Flowering Dogwood require removal, MECP approval may be required.
Flora	White Wood Aster <i>Eurybia divaricata</i>	THR	THR Schedule 1	THR	- Open, dry to moist deciduous forests that are dominated by sugar maple and American beech. - Ideally areas with low levels of disturbance.	- Restricted to the Niagara region.	NHIC, OWES (2004)	Moderate. Known observations within the Niagara area.	Vegetation removal to be completed prior to the removal of any vegetation or grubbing. Should any White Wood Aster require removal, MECP approval may be required.
Herpetofaunas	Eastern Hog-nosed Snake <i>Heterodon platirhinos</i>	THR	THR Schedule 1	THR	- Sandy, well-drained habitats and open vegetative cover; open woods, brushland, fields, forest edges, and disturbed sites, commonly near water. - Eggs are laid in the sand or in sandy soils. - BBO, FOD with sandy soils.	- Killarney across to North Bay and south to Southwestern Ontario. - Considered extirpated from Halton, Peel, and York municipalities, as well as Point Pelee and Pelee Island.	OWES (2004)	Low. No known observations are present within the study area. Suitable habitat with sandy soils may be present within FOD (Deciduous Forest) or BBO (Open Beach Bar) communities. The wetland evaluation record (2004) identifies that Eastern Hog-nosed Snake is present within the Niagara Region, but does not mention any observations within the wetland complex itself.	No further action is required.
Herpetofaunas	Fowler's Toad <i>Anaxyrus fowleri</i>	END	END Schedule 1	END	- Open beaches, dunes, sandy shorelines, rocky pools, creek and stream mouths, backshore wetlands, and marshes.	- Gulf Coast north to the Great Lakes. - Sustainable populations restricted to three locations on the Lake Erie shoreline; Rondeau, Long Point, and Point Abino (Niagara).	NHIC, ORAA, iNaturalist, OWES (2004)	High. Known observations within the study area as recently as 2018 (NHIC) and 2019 (iNaturalist). Location data is confidential/obscured.	Any works within or adjacent to the Fowler's Toad habitat may require permission from the MECP.
Mammals	Eastern Small-footed Myotis (Eastern Small-footed Bat) <i>Myotis leibii</i>	END	No Status	No Status	- Primarily roosts in open, sunny, rocky habitats, including cracks and crevices in cliffs and boulders, in talus slopes, beneath stones on rock barrens and in rock outcrops containing crevices. - Occasionally roosts in buildings (including barns, sheds, and exterior walls). - Maternity roosts have been documented in rocky habitats, on bridge structures, and in or on buildings. - Overwinterers in caves and abandoned mines. - Hunts in forests.	- South of Georgian Bay to Lake Erie and east to the Pembroke area, the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park.	Ontario Mammals	Moderate. Suitable forested habitat is present within the study area.	Tree cavity survey to be completed within any areas to be impacted, prior to any tree removal. Should any bat cavity trees require removal, consultation with the MECP may be required. Tree removal is to be completed outside of the bat maternity window.
Mammals	Little Brown Myotis (Little Brown Bat) <i>Myotis lucifugus</i>	END	END Schedule 1	END	- Large-diameter trees, attics, abandoned buildings, and barns often used for summer colonies. - Foraging occurs over water, along waterways, and forest edges, while open areas such as clearcuts or fields are typically avoided. - Hibernacula used in winter include mines and caves that are humid and remain above freezing.	- All across Ontario; concentrated in southern Ontario.	Ontario Mammals	Moderate. Suitable forested habitat is present within the study area.	Tree cavity survey to be completed within any areas to be impacted, prior to any tree removal. Should any bat cavity trees require removal, consultation with the MECP may be required. Tree removal is to be completed outside of the bat maternity window.
Mammals	Northern Myotis (Northern Long-eared Bat) <i>Myotis septentrionalis</i>	END	END Schedule 1	END	- Typically within the boreal forest, under loose bark or in the cavities of trees. - Foraging occurs over water, along waterways, and forest edges, while open areas such as clearcuts or fields are typically avoided. - Overwintering occurs in cold and humid sites such as caves or mines. - FOC, FOM, FOD, SWC, SWM, and SWD where suitable roosting (i.e. cavity trees and trees with loose bark) habitat is available.	- Forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon.	Ontario Mammals	Moderate. Suitable forested habitat is present within the study area.	Tree cavity survey to be completed within any areas to be impacted, prior to any tree removal. Should any bat cavity trees require removal, consultation with the MECP may be required. Tree removal is to be completed outside of the bat maternity window.
Mammals	Tri-colored Bat <i>Perimyotis subflavus</i>	END	END Schedule 1	END	- Day roost and maternity colonies are formed in older forests with large-diameter trees, barns, or other structures. - Foraging occurs over water or along streams in a forest. - Winter hibernacula include caves and mines.	- Southern Ontario north to Sudbury.	Ontario Mammals	Moderate. Suitable forested habitat is present within the study area.	Tree cavity survey to be completed within any areas to be impacted, prior to any tree removal. Should any bat cavity trees require removal, consultation with the MECP may be required. Tree removal is to be completed outside of the bat maternity window.

TOTAL	26
Herpetofaunas	2
Avian	6
Aquatics	10
Invertebrates	0
Flora	4
Mammals	4

ESA Status	
END	16
THR	10
TOTAL SAR	26

TABLE B2 Species of Conservation Concern Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat ^{1,2}	Known Species Range ^{1,2}	Source Identifying Species Record	Probability of Occurrence within Study Area	Conclusions/ Recommendations
Aquatics	Channel Darter (Lake Erie populations) <i>Percina capelandi</i>	SC	END Schedule 1	END	- Pools and riffle margins of small to medium-sized rivers, or sand and gravel lakeshore beaches where current is slow or sluggish. - Rivers commonly located in undisturbed forested or agricultural areas with natural shorelines and good water quality. - Spawning grounds consist of moderate or fast flowing areas with gravel or rubble substrate. - OAQ with sandy or gravel substrates.	- Select locations around Lake St. Clair, Pelee Island, and nearby to Port Dover	LIO	Low. Known populations within Lake Erie, but they are isolated to the northwestern portion of the Lake.	No further action is required.
Aquatics	Grass Pickerel <i>Esox americanus vermiculatus</i>	SC	SC Schedule 1	SC	- Warm, slow-moving streams, ponds, and shallow bays of larger lakes, with clear to tea-coloured water, muddy bottoms and abundant aquatic vegetation. - OAQ, SAS, SAM and SAF with warm, shallow, clear water and an abundance of aquatic plants.	- Lower Ottawa and St. Lawrence Rivers (north of Kingston), near Gravenhurst, Lake St. Clair, Point Pelee, shallow bays and tributaries of eastern and southwestern Lake Ontario.	DFO (records), LIO	Low. Known populations within Lake Erie, but they are isolated to the northwestern portion of the Lake.	No further action is required.
Aquatics	Northern Brook Lamprey (Great Lakes – Upper St. Lawrence populations, DU1) <i>Ichthyomyzon fossor</i>	SC	SC Schedule 1	SC	- Clear, coolwater streams. - Larvae require soft substrates for burrowing. - Adults are found in spawning areas, including fast flowing areas with rock or gravel bottoms. - OAQ characterized as clear, coolwater streams with silt and sand substrates.	- Uncommon in Ontario. - Great Lakes basin and in some areas of the St. Lawrence River system.	LIO	Low: Known populations within Lake Erie.	No work is proposed within systems with known populations. An ESC plan should be prepared an implemented to avoid any sediment entering the watercourse.
Aquatics	Northern Sunfish (Great Lakes – Upper St. Lawrence populations) <i>Lepomis peltastes</i>	SC	SC Schedule 1	SC	- Clear, slow flowing rivers and streams or warm lakes and ponds, with sandy banks or rocky bottoms and aquatic vegetation.	- Southern Ontario including waters flowing into Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie, and Lake Ontario, as well as rivers and small lakes in eastern Ontario. - Northwestern Ontario near Lake of the Woods.	LIO	Low: Known populations within Lake Erie.	No work is proposed within systems with known populations. An ESC plan should be prepared an implemented to avoid any sediment entering the watercourse.
Aquatics	Silver Lamprey (Great Lakes – Upper St. Lawrence River populations) <i>Ichthyomyzon unicuspis</i>	SC	SC Schedule 1	SC	- Clear water with clean stream beds of sand and organic debris.	- 41 streams and nine lakes including Lake Ontario, Lake Huron, Lake Superior, Lake Erie, Lake St. Clair, Lake Nipissing, Lake Champlain, Lac St. Pierre, and Lac St. Louis.	LIO	Low: Known populations within Lake Erie.	No work is proposed within systems with known populations. An ESC plan should be prepared an implemented to avoid any sediment entering the watercourse.
Aquatics	Spotted Sucker <i>Minytrema melanos</i>	SC	SC Schedule 1	SC	- Clear, slow-moving creeks and small to moderate sized rivers with sand, gravel, or hard clay bottoms. - Can also include turbid waters. - OAQ characterized as creeks or small to moderate sized rivers with clear water and sand, gravel, or hard-clay substrates.	- Southwestern Ontario; Lake St. Clair, western basin of Lake Erie, and in the Thames and east Sydenham Rivers.	DFO (records), LIO	Low. Known populations within Lake Erie, but they are isolated to areas west of Turkey Point.	No further action is required.
Avian	Bald Eagle <i>Haliaeetus leucocephalus</i>	SC	No Status	No Status	- Wide variety of habitats near major lakes or rivers. - Tall trees (i.e. pine or poplar) typically used for nesting. - Diet consists of fish and dead animals (i.e. white-tailed deer). - FOC, FOM, FOD, SWC, SWM and SWD.	- Can be found across Ontario, from US border north to Lake of the Woods.	OBBA, eBird	Moderate. Suitable habitat can be found in the FOD (Deciduous Forest) and SWD (Deciduous Swamp) habitats within the study area. Suitably tall trees are present along Lake Erie and Six Mile Creek.	Complete nest surveys prior to the removal of any vegetation or trees (year round).
Avian	Black Tern <i>Chlidonias niger</i>	SC	No Status	No Status	- Floating nests built in shallow marshes, especially in cattails. - MAS2-1 and OAQ immediately adjacent to each other, with sufficient water to construct floating nests.	- Small populations scattered throughout Ontario; breeding area is concentrated in marshes along edges of the Great Lakes.	eBird	Low. Known populations within the Niagara area. Shoreline within the study area is BBO (Open Beach Bar), with MAS (Shallow Marsh) habitat types further upstream Six Mile Creek.	No further action is required.
Avian	Barn Swallow <i>Hirundo rustica</i>	SC	THR Schedule 1	SC	- Cup-shaped mud nests are built on human-made structures such as open barns, under bridges, and in culverts. - Preferably constructed on rough-cut wood surfaces with right angles. - Foraging habitat includes grassy fields, pastures, cropland, lake and river shorelines, cottage areas and farmyards, islands, wetlands, and tundra. - TPO, CUM1, MAM, MAS, OAQ, SAS1, SAM1, and SAF1, adjacent to suitable nesting structures.	- From southern Ontario north to Hudson Bay.	NHIC, eBird	Moderate. Suitable habitat present within the study area.	Vegetation and structure removal should be conducted outside of the breeding bird window of April 1 to August 31 of any given year.
Avian	Canada Warbler <i>Cardellina canadensis</i>	SC	THR Schedule 1	SC	- Deciduous or coniferous forests with well-developed, dense shrub layer; commonly wet or in riparian areas. - May also include stands regenerating after natural disturbances (i.e. logging). - FOC3, FOC4, FOM6, FOM7, FOM8, FOD6, FOD7, FOD8, FOD9, SWC, SWM and SWD.	- All of Ontario.	eBird	Low. Suitable habitat can be found in the FOD (Deciduous Forest), FOM (Mixed Forest), and SWD (Deciduous Swamp) habitats within the study area. Wet and riparian conditions are present along Six Mile Creek.	Any tree removal shall occur outside of the breeding bird window of April 1 to August 31 of any given year.
Avian	Common Nighthawk <i>Chordeiles minor</i>	SC	SC Schedule 1	SC	- Open areas with little to no ground vegetation; logged or burned areas, rock barrens, peat bogs, lakeshores, dunes, beaches, and mine tailings. - Less commonly found in cultivated fields, orchards, mine tailings, and along gravel roads and railways. - Nesting habitat is typically open and vegetation free; may include grasslands, pastures, marshes, and riverbanks. - May also include mixed and coniferous forests. - SD, BB, RB, CUM, BO, FOM, FOX and FOD with sparsely vegetated openings. - Mid-canopy layer of forest clearings, edges of deciduous and mixed forests, early successional clearings. - FOC, FOM, FOD, SWD, SWM and CUW.	- All of Ontario except for coastal regions of James Bay and Hudson Bay.	eBird	Low. No suitable habitat within the study area.	No further action is required.
Avian	Eastern Wood-pewee <i>Contopus virens</i>	SC	SC Schedule 1	SC	- Open, mature mixed-wood forests dominated by fir, white spruce, and/or trembling aspen. - Attracted to ornamental trees and bird feeders. - FOC and FOM.	- Southern Ontario north to Lake Nipigon.	eBird	Low. FOD (Deciduous Forest) and FOM (Mixed Forest) are present within the study area but are Black Walnut dominated.	No further action is required.
Avian	Horned Grebe (Western population) <i>Podiceps auritus</i>	SC	SC Schedule 1	No Status	- Small ponds, marshes, and shallow bays with open water and ample emergent vegetation. - Nests often built within a few metres of small semi-permanent or permanent ponds.	- Extreme Northwestern Ontario east to Lake Nipigon - Nipigon Opasquia Provincial Park, Pikangikum Lake, Rainy River sewage lagoons, Fort Severn (observed in 1981-1985, but not in 2001-2005).	eBird	None. Study area is not located within the known breeding range.	No further action is required.
Avian	Olive-sided Flycatcher <i>Contopus cooperi</i>	SC	SC Schedule 1	SC	- Coniferous or mixed forests containing white spruce, black spruce, jack pine, or balsam fir, and adjacent to wetlands. - Commonly found along natural forest edges and openings adjacent to rivers, swamps, burned forest, or logged areas. - Requires snags and tall trees for foraging perches. - CUW, FOC, and FOM.	- All of Ontario.	eBird	Low. FOD (Deciduous Forest) and FOM (Mixed Forest) are present within the study area but are Black Walnut dominated.	No further action is required.
Avian	Peregrine Falcon <i>Falco peregrinus</i>	SC	No Status	No Status	- Tall, steep cliff ledges or tall buildings from 50 m to 200 m in height, close to large bodies of water. - Can be found in tundra, coastal, prairie or urban areas. - CLO.	- Breeding population centered around Lake Superior in northwest Ontario. - May be found migrating across rest of the province.	eBird	None. Study area is not located within the known breeding range.	No further action is required.
Avian	Rusty Blackbird <i>Euphagus carolinus</i>	SC	SC Schedule 1	SC	- Wet woodlands, swamps, pond edges. - Agricultural land is used for foraging. - Boreal forest is used for breeding; conifer-dominated forests adjacent to wetlands, peat bogs, sedge meadows, marshes, swamps, and beaver ponds.	- Breeding habitat spans Hudson Bay south to Orillia. - May be seen in southern Ontario during migration.	eBird	None. Study area is not located within the known breeding range.	No further action is required.
Avian	Wood Thrush <i>Hylocichla mustelina</i>	SC	THR Schedule 1	THR	- Mature deciduous and mixed forests; moist stands of trees with well-developed undergrowth. - Tall trees are used for singing perches. - Nests are built in live saplings, trees, or shrubs, especially sugar maple or American beech. - Preferably large forest mosaics. - FOD and FOM greater than 1 ha.	- Southern Ontario north to Hearst.	NHIC, OBBA, eBird	Moderate. Suitable habitat can be found in the FOD (Deciduous Forest) and FOM (Mixed Forest) habitats within the study area. These forests are greater than 1 ha and contain moist soils.	Any tree removal shall occur outside of the breeding bird window of April 1 to August 31 of any given year.
Flora	Common Hoptree <i>Ptelea trifoliata</i>	SC	SC Schedule 1	SC	- Along shorelines in full-sun areas with nutrient-poor sandy soils or thin soils overlying limestone. - BBO2, BBS1, BBT1, SDO, SDS, SDT, SBO, SBS, SBT, ALO, ALS and ALT typically in fairly open areas near water.	- Southwestern Ontario south of Brantford.	NHIC, iNaturalist	Moderate. Suitable habitat can be found in the BBO (Open Beach Bar) along Lake Erie. Known observations within the study area (NHIC)	Tree inventory to be completed prior to the removal of any trees.

Flora	Swamp Rose-mallow <i>Hibiscus moscheutos</i>	SC	SC Schedule 1	SC	- Shoreline marshes, dyked wetlands, deep water cattail marshes, meadow marshes, open wet woods, thickets, spoil banks, and drainage ditches. - MASZ-1 and MAM.	- South of Hamilton, Prince Edward County and Main Duck island.	NHIC	Moderate. Suitable habitat can be found withing the MAS (Shallow Marsh) and MAM (Meadow Marsh) communities present within the study area. Known observations within the study area (NHIC).	Vegetation inventory to be completed prior to the removal of any vegetation or grubbing.
Herpetofaunas	Eastern Milksnake <i>Lampropeltis triangulum</i>	No Status	SC Schedule 1	SC	- Open habitats adjacent to areas with relatively high forest cover; rocky outcrops, meadows, barns, sheds, and rural houses. - BL, TA, AL, RB, TP, CUM, FOC, FOM, and FOD.	- Southwest Ontario to Lake Nipissing.	OWES (2004)	Low. Suitable habitat can be found in the FOD (Deciduous Forest) and FOM (Mixed Fores) habitats within the study area. The wetland evaluation record (2004) identifies that Milksnake is present within the Niagara Region, but does not mention any observations within the wetland complex itself.	No further action is required. Study area is not on federally regulated lands.
Herpetofaunas	Snapping Turtle <i>Chelydra serpentina</i>	SC	SC Schedule 1	SC	- Shallow wetland habitats with slow-moving water and soft bottoms; ponds, sloughs, shallow bays, river edges, or slow streams. - Nesting occurs on sandy or gravel banks or man-made structures such as roads, dams, and aggregate pits. - Overwintering occurs underwater, underneath logs, sticks, or overhanging banks, deep in mud in marshy areas, or underneath floating mats of vegetation. - DAO, SA near gravelly or sandy areas.	- Primarily southern Ontario north to Timmins; also found near Thunder Bay and Kenora.	NHIC, ORAA, iNaturalist	Moderate. Suitable habitat can be found within the Six Mile Wetland PSW Complex. Adjacent areas may be used for travel between suitable sites.	Reptile exclusion fencing shall be installed for the duration of works.
Invertebrates	Monarch <i>Danaus plexippus</i>	SC	END Schedule 1	END	- Open or disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests. - Trees along the north shore of the Great Lakes are used for roosting before migrating across open water. - Caterpillars are confined to meadows and open areas where milkweed grows. - AL, TP, and CUM where milkweed is present.	- South of 50° of latitude.	Ontario Butterfly Atlas, iNaturalist	Moderate. Suitable habitat wherever milkweed is present.	Grubbing should be conducted outside of growing season. Restoration and planting plans to consider planting additional host species (i.e. milkweed)
Mammals	Woodland Vole <i>Microtus pinetorum</i>	SC	SC Schedule 1	SC	- Mature deciduous forest in the Carolinian region with ample depth of litter. - Can also be found in scrubby sand dunes, swamps, and orchards; preferably with dense herbaceous vegetation and friable soils with low saturation. - FOD with a deep leaf litter and loose soils.	- From Chatham to Fort Erie and north to Oakville and Pinery Provincial Park. - May inhabit other areas of the province.	Ontario Mammals	Low. Suitable habitat may be found within the study area. Forest floor conditions are unknown.	Vegetation removal and grubbing should be conducted outside of the general wildlife activity period.

TOTAL	24
Herpetofaunas	2
Avian	12
Aquatics	6
Invertebrates	1
Flora	2
Mammals	1

ESA Status	
SC	23
No Status	1
EXP	0
TOTAL SCC	24