Environmental Impact Assessment
7335 Wellington County Road 34
Puslinch, Ontario

Prepared For:

Shade Springs Inc.

Prepared By:

Beacon Environmental Limited

Date:	*Project:*
2026-09-15	**225084**

BEACON ENVIRONMENTAL

GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

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Report Versions Issued

Version	Date	Revisions
1.	August 2026	First submission

1. Introduction

Beacon Environmental Limited (Beacon) was retained by Shade Springs Inc. to prepare an Environmental Impact Assessment (EIA) for construction of an industrial development at 7335 Wellington Road 34 in Puslinch, Wellington County (hereafter referred to as the "subject property"). The location of the subject property is illustrated in **Figure 1**. Much of the property is occupied by agricultural lands, with an area of woodland and wetland present at the western end.

According to the County's Official Plan, an Environmental Impact Assessment is required to demonstrate that development within and adjacent to certain natural heritage features will meet the relevant policies under the plan. Several natural heritage features have been identified on the subject property, including a Provincially Significant Wetland (PSW) and woodland communities.

The EIA identifies and characterizes the natural heritage features on the subject property, evaluates their ecological function and significance, identifies natural heritage constraints and development limits, assess impacts of the proposed development on these features, and recommends mitigation measures to avoid or minimize impacts.

2. Natural Heritage Policy Review

The following is a summary of the applicable natural heritage/environmental policies and regulations from the federal, provincial, and municipal jurisdictions.

2.1 *Species Conservation Act (2025)*

On March 30, 2026, the Province of Ontario repealed the *Endangered Species Act, 2007* (ESA) and enacted the *Species Conservation Act, 2025* (SCA), including several supporting regulations. The purpose of the SCA is, per Section 1:

> *(a) to identify species at risk based on the best available scientific information, including information obtained from community knowledge and Indigenous traditional knowledge; and*
> *(b) to provide for the protection and conservation of species at risk while taking into account social and economic considerations, including the need for sustainable economic growth in Ontario.*

Ontario Regulation (O. Reg) 60/26 provides the Protected Species in Ontario List under the SCA. Notably, this list no longer includes avian or fish species which receive protection under the federal *Migratory Birds Convention Act* (MBCA), and/or *Species at Risk Act* (SARA).

Should a protected species or its habitat be identified on the subject property, approvals under the SCA may be required. These approvals are generally granted through a proponent-led registration process per O. Reg. 75/26, whereas permit activities are governed under O. Reg. 74/26. There are also exemptions as provided under O. Reg. 61/26, which prescribes activities impacting protected species or their habitat that can proceed without a registration or permit.

2.2 Migratory Birds Convention Act (1994)

The federal *Migratory Birds Convention Act* protects active nests, eggs and young of migratory bird species from harm or destruction. Environment Canada considers the "general nesting period" of breeding birds in southern Ontario to be between late March and the end of August. These dates are provided as guidance; any nesting bird listed under the *Act* is protected regardless of the date. Nests of a small subset of birds listed on Schedule 1 of the MBCA are protected year-round for one to three years (unless proven abandoned), depending on the species, and some species have "residences" which also receive protection.

Active nests and young and eggs of almost all birds are also protected from destruction by the *Fish and Wildlife Conservation Act*.

2.3 Federal Fisheries *Act* (1985)

Fish and fish habitat are protected under the federal *Fisheries Act*, which was last amended on August 28, 2019, and is administered by the Fish and Fish Habitat Protection Program within Fisheries and Oceans Canada (DFO). The protection provisions of the *Fisheries Act* apply to all fish and fish habitat throughout Canada and the Act sets out authorities for the regulation of works, undertakings or activities that risk harming fish and fish habitat. The Fish and Fish Habitat Protection Program ensures compliance with relevant provisions under the *Fisheries Act* and *Species at Risk Act* (SARA). The program reviews proposed works, undertakings and activities that may impact fish and fish habitat. If a project is taking place in or near water, the proponent is responsible for understanding project related impacts on fish and fish habitat and applying measures to avoid and/or mitigate potential impacts (i.e., harmful, alteration, disruption, or destruction) to fish and fish habitat. Fish habitat is defined in subsection 2(1) of the *Fisheries Act* to include all waters frequented by fish and any other areas upon which fish depend directly or indirectly to carry out their life processes. The types of areas that can directly or indirectly support life processes include, but are not limited to, spawning grounds and nursery, rearing, food supply and migration areas.

In cases where HADD of fish and fish habitat cannot be avoided and/or mitigated, activities take place in a waterbody where (DFO) review is not required or the scope of work cannot be covered under a Standard or Code of Practice, proponents are asked to submit a request for review to DFO to determine if a *Fisheries Act* Authorization is required.

2.4 Provincial Planning Statement (2024)

The Provincial Planning Statement (PPS) (MMAH 2024) provides policy direction to municipalities on matters of provincial interest as they relate to land use planning and development. The PPS provides for appropriate land use planning and development while protecting Ontario's natural heritage. Development governed by the *Planning Act* must be consistent with the policy statements issued under the PPS. These are outlined in Section 4.1 - Natural Heritage, Section 4.2 – Water, and Section 5.1 - Natural Hazards of the PPS, and relevant sections from each are provided in the following pages.

The PPS includes policies that speak to the identification and protection of natural heritage systems, as well as levels of protection for the various components that comprise such systems. Some of these features are present on the subject property and must be assessed in the context of these policies.





Site Location	Figure 1
7335 Wellington County Road 34, Puslinch	
BEACON ENVIRONMENTAL	Project: 225084 Last Revised: August 2026
Client: Shade Springs Inc.	Prepared by: BD Checked by: RM
N 1:9,400	Inset Map: 1:94,000

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The policies specific to natural heritage are found in Section 4.1 of the PPS and are provided in their entirety below:

The Provincial Planning Statement (PPS) (MMAH 2024) provides policy direction to municipalities on matters of provincial interest as they relate to land use planning and development. The PPS provides for appropriate land use planning and development while protecting Ontario's natural heritage. Development governed by the *Planning Act* must be consistent with the policy statements issued under the PPS. These are outlined in Section 4.1 - Natural Heritage, Section 4.2 – Water, and Section 5.1 - Natural Hazards and Human Made Hazard of the PPS, and relevant sections from each are provided in the following pages.

The PPS includes policies that speak to the identification and protection of natural heritage systems, as well as levels of protection for the various components that comprise such systems. Some of these features are present on the subject property and must be assessed in the context of these policies.

The policies specific to natural heritage are found in Section 4.1 of the PPS and are provided in their entirety below:

1) *Natural features and areas shall be protected for the long term.*
2) *The diversity and connectivity of natural features in an area, and the long-term* ecological function *and biodiversity of* natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among* natural heritage features and areas, surface water features *and* ground water features*.*
3) *Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.*
4) Development *and* site alteration *shall not be permitted in:*
    a) Significant wetlands *in Ecoregions 5E, 6E and 7E; and*
    b) Significant coastal wetlands*.*
5) Development *and* site alteration *shall not be permitted in:*
    a) Significant wetlands *in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
    b) Significant woodlands *in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
    c) Significant valleylands *in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
    d) Significant wildlife habitat*;*
    e) Significant areas of natural and scientific interest; and
    f) Coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 4.1.4(b).

Unless it has been demonstrated that there will be no negative impacts *on the natural features or their* ecological functions*.*

6) *Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*
7) *Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

8) *Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5 and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*

Nothing in policy 4.1 is intended to limit the ability of agricultural uses to continue

2.5 County of Wellington Official Plan (1999, updated as of May 2025)

The Wellington County Official Plan is the only plan applicable to the study area, as the Township of Puslinch does not have a separate official plan.

The Wellington County OP includes policies related to the Greenlands System. The Greenlands System includes features that are part of the county's natural heritage or have conditions that may pose a threat to public safety. The Greenlands System has policies that protect features such as wetlands, woodlands, and floodplains. The purpose of the Greenlands System is to ensure that these features will be retained for future generations, to protect function of the environment to provide for healthy communities, and to reduce exposure to natural hazards.

The woodland and wetland communities along western portion of the Subject Property are mapped as "Core Greenlands" and "Greenlands" on Schedule B7 of the OP.

The "Core Greenlands" designation includes the following areas:

- *provincially significant wetlands*
- *all other wetlands;*
- *habitat of endangered or threatened species and fish habitat; and*
- *hazardous lands.*

Per Section 5.4.1 of the OP, development and site alteration will not be permitted in Provincially Significant Wetlands (PSW), and in other wetlands development that would seriously impair their ecological functions is not permitted.

Per Section 5.4.2 of the OP, development and site alteration will not be permitted in significant habitat for threatened and endangered species except in accordance with provincial and federal requirements. Similarly, development and site alteration will not be permitted in fish habitat except in accordance with provincial and federal requirements.

Per Section 5.5.1 of the OP, development and site alteration will not be permitted in Significant Wildlife Habitat unless it has been demonstrated that there will be no negative impacts on the habitat or its ecological functions.

Per Section 5.5.3 of the OP, streams and valleylands will be protected from development or site alterations which would negatively impact them or their ecological functions.

Per Section 5.5.4 of the OP, significant woodlands will be protected from development or site alterations which would negatively impact the woodlands or their ecological functions. In the rural system, which the study area is located within, woodlands over 4 hectares are considered significant. Significant

woodlands may also be identified based on other criteria such as proximity to wetlands, or presence of endangered and threatened species.

2.6 Grand River Conservation Authority Regulations and Policies (2024 & 2015)

2.6.1 Conservation Authorities Act (Ontario Regulation 41/24; 2024)

Part VI of the Conservation Authorities Act (2024) sets out the regulatory powers of conservation authorities. The CA Act prohibits, in the absence of a permit, development activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland are prohibited. Development activities are also prohibited in hazardous lands in the absence of a permit issued by the GRCA.

Under Ontario Regulation 41/24 (2024) of the CA Act, the GRCA regulates hazard lands including floodplains, watercourses, valleylands, shorelines, and wetlands. GRCA also regulates other areas which include areas within 30 m of a wetland.

The GRCA may issue a permit for a prohibited activity within this regulated area if, in its opinion,

- the activity is not likely to affect the control of flooding, erosion, dynamic beaches, or unstable soil or bedrock;
- the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and
- any other requirements that may be prescribed by the regulations are met.

The GRCA may issue a permit with or without conditions.

3. Methodology

To characterize natural heritage resources and functions associated with the subject property and adjacent lands, Beacon completed a review of available background information and undertook seasonal field investigations. The scope of the EIA was discussed at a Pre-Consultation Meeting on September 18, 2025 and further clarified with the Town's Peer Review Consultant, Aboud and Associates on October 29, 2025. A Terms of Reference was prepared and submitted to the GRCA and the County on December 17, 2025 (**Appendix A**), at the time of this submission a response had not yet been received.

3.1 Background Review

Background information was gathered and reviewed at the outset of the project. This involved consideration of the following documents/information sources relevant to the subject property:

- Provincial Planning Statement (PPS; 2024);

- Wellington County Official Plan (1999; latest consolidation May 2025);
- Grand River Conservation Authority (GRCA) regulations (2024) and policies (2015);
- Department of Fisheries and Oceans (DFO) aquatic species at risk mapping (last accessed November 2025).
- *Endangered Species Act* (ESA; 2007); and
- Federal *Fisheries Act* (1985).

Other sources of information, such as current and historical aerial photographs and local topographic survey data, were also reviewed before commencing field investigations. Further, Beacon's background review also includes analysis of numerous information sources in a Geographic Information System (GIS) environment that facilitates an assessment of the likelihood that species at risk and other natural heritage features are present in an area of interest. This system allows Beacon to combine the most current information provided by the MNRF through the Land Information Ontario (LIO) portal with GIS layers from other provincial and local datasets, including but not limited to, floral and faunal atlas data.

This system enables the creation of a list of Species at Risk for which there are records or which might be expected to occur within 5 km of a location. All relevant layers can then be overlaid on the most recent high resolution ortho-imagery. The screening process helps identify areas that can then be targeted (for example, potential habitat) during the field program to maximize the efficiency and effectiveness of on-site investigations.

Information sources reviewed included:

- Provincially tracked species layer (1 km grid LIO dataset);
- Ontario Reptile and Amphibian Atlas (ORAA);
- Ontario Breeding Bird Atlas (OBBA);
- Natural Heritage Information Centre (NHIC) Data via the Make-A-Map application;
- Species at risk range maps (Government of Ontario);
- High resolution aerial photography of the property;
- Natural and physical feature layers (e.g. topographic, wetland, waterbody, watercourse data), LIO and Aquatic Resource Area (ARA) datasets;
- Ontario Geological Survey (OGS) and soil physiography (Chapman and Putnam) datasets; and
- Natural heritage records in eBird and iNaturalist citizen science databases (accessed October 2025).

3.2 Field Investigations

Field investigations of terrestrial natural heritage features on the subject property were conducted in 2025 by Beacon's team of ecologists specializing in vegetation and wildlife inventory and assessment protocols. Field investigations included Ecological Land Classification (ELC), flora surveys, breeding bird surveys, and headwater drainage feature assessments, as well as staking of the woodland feature limits. The methodology of each survey is described below, with survey results discussed in **Section 4.**

A summary of the field visits and survey dates is presented in **Table 1**. More detailed survey descriptions are provided in the subsections that follow.

Table 1. Summary of Field Investigations

Field Investigation	Dates
Ecological Land Classification and Flora	April 2 and July 27, 2025
Headwater Drainage Feature Assessment	April 4 and June 2, 2025
Dripline Staking	November 19, 2025
Breeding Bird Surveys	June 4, 12, and 28, 2025

3.2.1 Ecological Land Classification and Flora Inventory

Site visits were conducted on April 2 and July 27, 2025 to document vegetation resources associated with the study area. Ecological communities were mapped and described following the protocols of the (ELC) system for Southern Ontario (Lee *et al.* 1998).

This involved delineating the boundaries of ecological communities on aerial photos of the subject property and recording pertinent information relating to vegetation structure and composition.

A floristic inventory was completed in conjunction with ELC surveys. A checklist of vascular plant species was compiled for each vegetation community.

3.2.2 Breeding Bird Surveys

Three early morning breeding bird surveys were undertaken on June 4, 12, and 28, 2025, to determine what species of birds are breeding or nesting on or adjacent to the subject property. The method used was a roving survey by an experienced bird biologist, with all parts of the property apart from active crop fields walked to within 50 m and all birds heard or observed recorded. All species in appropriate breeding habitat and/or showing breeding behaviour are presumed to be nesting on or adjacent to the subject property.

In addition, Red-headed Woodpecker (*Melanerpes erythrocephalus*) was specifically targeted using the protocol described by the Wisconsin Department of Natural Resources (2017), which involves playing Red-headed Woodpecker calls from a speaker at points within suitable habitat no more than 183 metres apart.

A summary of the survey details and conditions is included in **Table 2**.

Table 2. Breeding Bird Survey Details

	Survey 1	Survey 2	Survey 3
Date	June 4, 2025	June 12, 2025	June 28, 2025
Time (start–finish)	6:15-8:45	6:10-8:20	6:50-9:15
Temperature (°C)	20	17	26
Wind (Beaufort scale)	2	2	2
Cloud cover (%)	10	90	0
Precipitation	None	None	None

3.2.3 Headwater Drainage Feature Assessment

An assessment of the drainage features within or immediately adjacent to the subject property was completed in accordance with TRCA and CVC's *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (2014) which included three rounds of seasonal assessments. Headwater drainage features (HDFs) were characterized based on flow regime, form, riparian vegetation, fish and fish habitat, and terrestrial habitat. Each drainage feature reach was evaluated individually based on each of these parameters and assigned a rating of important, valued, contributing, or limited based on functional significance. These ratings were then used to determine an overall management recommendation for each reach based on the following categories:

- *Protection* – Important Functions: i.e., swamps with amphibian breeding habitat; perennial headwater drainage features; seeps and springs; SAR habitat; permanent fish habitat with woody riparian cover;
- *Conservation* – Valued Functions: i.e., seasonal fish habitat; with woody riparian cover; marshes with amphibian breeding habitat; or general amphibian habitat with woody riparian cover;
- *Mitigation* – Contributing Functions: i.e., contributing fish habitat with meadow vegetation or limited cover;
- *Recharge Protection* – Recharge Functions: i.e., features with no flow with sandy or gravelly soils;
- *Maintain or Replicate Terrestrial Linkage* – Terrestrial Functions: i.e., features with no flow with woody riparian vegetation and connects two other natural features identified for protection; and
- *No Management Required* – Limited Functions: i.e., features with no or minimal flow; cropped land or no riparian vegetation; no fish or fish habitat; and no amphibian habitat.

Based on the findings of the HDFA (i.e. that no permanent or defined watercourses are present, see below), further aquatic habitat assessments are not applicable.

3.2.4 Feature Staking

The driplines of the woodlands on the subject property were surveyed in the field by Beacon Staff on November 19, 2025, with Shannon Davison from Aboud and Associates in attendance.

3.2.5 Incidental Wildlife

Incidental observations of other wildlife, including reptiles, amphibians and/or mammals were made during field investigations. This included sounds heard, scat, tracks and visual observations. At this time, potential for significant wildlife habitat was also considered.

4. Existing Conditions

The subject property is approximately 37 ha in area and is situated within the Mill Creek subwatershed with rolling topography. The subject property is currently used primarily for agriculture.

4.1 Aquatic Resources

The subject property lies within the Mill Creek subwatershed. It is a moderately sized catchment within the Township of Puslinch and the City of Cambridge, forming part of the Grand River watershed. Mill Creek drains an area of roughly 104 km², with its headwaters originating in the glacial moraine uplands of Puslinch Township. These upper headwaters are sustained largely by groundwater recharge, seepage, and wetland systems, including several provincially significant wetlands located throughout the forested and low-lying areas of the moraine. From its headwaters, Mill Creek flows southwest through Puslinch and Cambridge, providing sustained cold-water baseflow and aquatic habitat, before eventually discharging into the Grand River. The watershed supports significant ecological functions, including wetland hydrology, cold-water fish habitat, and biodiversity associated with groundwater-fed stream systems (Grand River Conservation Authority 1996).

4.1.1 Headwater Drainage Features

Two rounds of surveys were conducted in 2025, with round one being completed on April 4, 2025, and round two being completed on June 4, 2025. In total, four (4) HDFs were identified and delineated within the subject property through background and field investigations (**Figure 2**). The HDFs were further divided into five (5) reaches and linked to a management recommendation. The management recommendation discussion and associated table can be found in the Impact Assessment section below.

All HDFs on the subject property have been classified as contributing hydrology (i.e., ephemeral) based on field observations, as no flow was observed during the round two survey.

HDF 1

HDF 1 enters the property from the aggregate property drainage swale to the east and traverses the southern portion of the subject property, directing flows in a westward direction before exiting under Wellington Road. The feature lacks defined bed and bank, exhibiting diffuse overland and shallow subsurface flow throughout the surrounding wetland communities (**Photograph 1**). HDF 1 was flowing during the round one assessment and observed with standing water during the round 2 assessment.

HDF 2

HDF 2 originates at a tile drain outlet situated at the border of the agricultural (AG) and deciduous forest (FOD5) communities and conveys flow in a southerly direction toward the downstream wetland communities. During the first field survey the tile outlet exhibited active discharge, whereas the second survey recorded standing water at the outlet; consistent with backwater conditions produced by saturated conditions in the downstream wetland.

The upstream reach, HDF 2A, displays a defined channelized flow path within a wide swale, likely formed by concentrated flows exiting the tile drain (**Photograph 2**). Downstream of this reach, the channel loses confinement as flows become threaded and dissipates into the wetland, transitioning into HDF 2B.

HDF 3

HDF 3 originates off property through a small, ~0.2m corrugated steel pipe (CSP) culvert directing flows southward under Wellington County Road 34. It enters the subject property as a threaded channel flowing through the wetland community (**Photograph 3**). Flow was observed during the round one assessment, and the feature was found with standing water during the round two assessment, consistent with backwater conditions created by the downstream wetland.

HDF 4

HDF 4 drains a cultural meadow in the northeastern portion of the property. A narrow, poorly defined swale travels along the exterior of the gravel parking lot, flowing into the off-line pond located north of the barn (**Photograph 4**). It is a disconnected feature exhibiting limited riparian vegetation and terrestrial habitat.



Photograph 1. View of HDF 1 Within the Wetland Community (April 4, 2025)



Existing Conditions

Figure 2

7335 Wellington County Road 34, Puslinch

Legend

- Subject Property
- Ecological Communities
- Headwater Drainage Feature (Beacon 2025)
- Reach Break
- Staked Dripline (Aboud 2025)

Code	Wetland Communities
MAS2-1	Cattail Mineral Shallow Marsh
SWD3-3	Swamp Maple Mineral Deciduous Swamp
	Forest Communities
FOD4	Dry - Fresh Deciduous Forest
FOD5	Dry - Fresh Sugar Maple Deciduous Forests
	Cultural Communities
CUM1	Mineral Cultural Meadow
CUW1	Mineral Cultural Woodland

BEACON ENVIRONMENTAL

Project: 225084
Last Revised: August 2026

Client: Shade Springs Inc.

Prepared by: BD
Checked by: RM

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Photograph 2. Downstream View of HDF 2A Exiting the Tile Drain in Round 1 (April 4, 2025)



Photograph 3. Downstream View of HDF 3 as it Enters the Subject Property (April 4, 2025)



Photograph 4. Downstream View of HDF 4 Adjacent to the Parking Lot (April 4, 2025)

4.2 Ecological Land Classification

A map showing the vegetation communities identified on the subject property is shown in **Figure 2.** The communities identified on the subject property are described below.

4.2.1 Mineral Cultural Meadow

Cultural meadow communities are upland communities dominated by grasses and other herbaceous plants, with few trees and shrubs. A small meadow community is present in the eastern half of the subject property. This area is heavily disturbed and portions are used for parking equipment and storing materials. Dominant plant species include Red Clover (*Trifolium pratense*), White Clover (*Trifolium repens*), Canada Thistle (*Cirsium arvense*), and Garden Bird's-foot Trefoil (*Lotus corniculatus*).

4.2.2 Mineral Cultural Woodland

Cultural woodland communities are upland communities with a history of or ongoing disturbance with an intermediate level of tree canopy cover. A small area of cultural woodland is present in the western corner of the subject property between the agricultural fields and the shallow marsh. It has trees such as Black Walnut (*Juglans nigra*) and White Mulberry (*Morus alba*), and a dense understory of European Buckthorn (*Rhamnus cathartica*).

4.2.3 Dry-Fresh Sugar Maple Deciduous Forest

The majority of the upland portions of the western woodland are occupied by mature forests, with a canopy dominated by Sugar Maple (*Acer saccharum*) and a few American Beech (*Fagus grandifolia*). The sub-canopy contains more Sugar Maple as well as Eastern Hemlock (*Tsuga canadensis*). The ground layer is dominated by Blue Cohosh (*Caulophyllum* sp.), Wood's Sedge (*Carex woodii*), Long-stalked Sedge (*Carex pedunculata*), and seedling Sugar Maples. This is a relatively high-quality forest community with few invasive species and little disturbance in most areas.

The forest adjacent to the northeastern edge of the subject property could not be directly accessed, but appears to be a similarly mature forest with heavy dominance by Sugar Maple.

4.2.4 Dry-Fresh Deciduous Forest

A portion of the eastern edge of the main area of forest is dominated by large Black Walnut and has higher levels of disturbance, with evidence of historical soil dumping and more invasive plant species, and has been mapped separately on **Figure 2**.

4.2.5 Cattail Mineral Shallow Marsh

The marsh at the western corner of the subject property is heavily dominated by Hybrid Cattail (*Typha* x *glauca*), with few other plant species mixed in. This marsh community gradually grades into the swamp community described below, with Glossy Buckthorn (*Frangula alnus*) and Freeman's Maple (*Acer x freemanii*) increasingly prevalent towards the eastern edges of the marsh.

This wetland feature, including this marsh community as well as the swamp described below, occupies a total area of about 1.4 ha.

4.2.6 Swamp Maple Mineral Deciduous Swamp

An area of treed swamp is present along the western side of the subject property. The canopy throughout is heavily dominated by Freeman's Maple, with scattered White Elm (*Ulmus americana*) and Red Ash (*Fraxinus pennsylvanica*) in some areas. The understory and ground layers of this swamp are highly variable, with portions dominated by dense growth of Glossy Buckthorn, areas with few shrubs or ground cover, and areas with a dense ground layer composed of sedges, Sensitive Fern (*Onoclea sensibilis*), Thicket Creeper (*Parthenocissus vitacea*), and other species.

4.3 Flora

A total of 167 vascular plant species were observed on the subject property (**Appendix B)**. No species listed as rare in Ontario or that are protected under provincial or federal species at risk legislation were observed. One species considered to be rare in Wellington County (Anderson and Frank 2009) was observed: Black Maple (*Acer nigrum*), observed in the woodland on the west end of the subject property. This is a southern species and is more expected here at the extreme southern end of Wellington County.

4.4 Breeding Birds

A total of 31 species of birds were observed during breeding bird surveys on the subject property. A full list and summary of species observed is provided in **Appendix C.** The most abundant bird species recorded were Red-winged Blackbird (*Agelaius phoeniceus*), Song Sparrow (*Melospiza melodia*), American Redstart (*Setophaga ruticilla*) and American Robin (*Turdus migratorius*).

Several forest species were recorded, including Red-eyed Vireo (*Vireo olivaceus*) and Great Crested Flycatcher (*Myiarchus crinitus*). One forest species recorded, American Redstart, is area-sensitive, requiring large areas of forest for successful breeding.

No specialised grassland or wetland species were recorded. None of the bird species observed are considered rare in Ontario, all having provincial rarity ranks of S4 or S5.

No species listed as Endangered, Threatened, or Special Concern under the Ontario ESA were recorded on the subject property. However, one species listed as Special Concern was heard calling from the adjacent woodland at the north end of the subject property: Eastern Wood-pewee (*Contopus virens*). Eastern Wood-pewee is presumed to be nesting in this woodland.

4.5 Incidental Observations

Incidental sightings of other wildlife during field investigations included Eastern Chipmunk (*Tamias striatus*), Eastern Gray Squirrel (*Sciurus carolinensis*), and Red Squirrel (*Tamiasciurus hudsonicus*). Beacon staff have not observed any reptile or amphibian species on the subject property.

Records for Species of Conservation Concern in the vicinity of the subject property are summarized in **Table 3**. Habitat for Eastern Wood-pewee has been identified.

Table 3. Background Review Records for Species of Conservation Concern in Vicinity of the Study Area

Common Name	Scientific Name	ESA Status	SARA Status	Assessment of Study Area
Barn Swallow	*Hirundo rustica*	Special Concern	Special Concern	Potentially suitable habitat, but not observed during breeding bird surveys.
Common Nighthawk	*Chordeiles minor*	Special Concern	Special Concern	No suitable habitat present.
Eastern Wood-pewee	*Contopus virens*	Special Concern	Special Concern	Confirmed through breeding bird surveys in off-site woodlands adjacent to east end of subject property.
Grasshopper Sparrow	*Ammodramus savannarum*	Special Concern	Special Concern	Marginally suitable habitat present, but not observed during breeding bird surveys.
Wood Thrush	*Hylocichla mustelina*	Special Concern	Threatened	Potentially suitable habitat, but not observed during breeding bird surveys.

Common Name	Scientific Name	ESA Status	SARA Status	Assessment of Study Area
Midland Painted Turtle	*Chrysemys picta marginata*	Not listed	Special Concern	Likely no suitable habitat, may be present in wetlands on west side of property.
Snapping Turtle	*Chelydra serpentina*	Special Concern	Special Concern	No suitable habitat present.
Double-striped Bluet	*Enallagma basidens*	Not listed	Not listed	. No suitable habitat present.

4.6 Habitat of Endangered or Threatened Species

Beacon screened the features in the study area through a list of threatened and endangered species known for the general area (within approximately 5 km of the study area) based on background information, including records from the NHIC, wildlife atlases, and citizen science sources. The results of the endangered and threatened species assessment are based on site investigations combined with knowledge of the habitat preferences and natural history of the species known to occur or have a high potential to occur within 5 km of the subject property (**Table 4**).

Based on the background review and the observed habitat conditions, it was determined that the deciduous forest, deciduous swamp, and cultural woodland ecosites represent potentially suitable maternity roost habitat for endangered bats. Potentially suitable habitat is present for several other species, however these species were the subject of targeted surveys and were not recorded during field investigations.

Table 4. Background Review Records of Endangered and Threatened Species in the Vicinity of the Study Area

Common Name	Scientific Name	ESA	SARA	Assessment of Study Area
Birds				
Bank Swallow	*Riparia riparia*	Threatened	Threatened	No suitable habitat present.
Bobolink	*Dolichonyx oryzivorus*	Threatened	Threatened	Marginally suitable habitat present but species not recorded during breeding bird surveys.
Chimney Swift	*Chaetura pelagica*	Threatened	Threatened	No suitable habitat – building chimneys are capped.
Eastern Meadowlark	*Sturnella magna*	Threatened	Threatened	Marginally suitable habitat present but not observed during breeding bird surveys.
Least Bittern	*Ixobrychus exilis*	Threatened	Threatened	No suitable habitat present.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	Endangered	Endangered	Marginally suitable habitat present but not recorded during species specific, targeted breeding bird surveys.
Mammals				
Eastern Red Bat	*Lasiurus borealis*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.
Eastern Small-footed Myotis	*Myotis leibii*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.

Common Name	Scientific Name	ESA	SARA	Assessment of Study Area
Hoary Bat	*Lasiurus cinereus*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.
Little Brown Myotis	*Myotis lucifugus*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.
Northern Myotis	*Myotis septentrionalis*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.
Silver-haired Bat	*Lasionycteris noctivagans*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.
Tricolored Bat	*Perimyotis subflavus*	Endangered	Endangered	Potentially suitable habitat – woodlands that will be retained and buffered.
Reptiles				
Blanding's Turtle	*Emydoidea blandingii*	Threatened	Endangered	No suitable habitat present.
Plants				
Black Ash	*Fraxinus nigra*	Endangered	Endangered	Potentially suitable habitat, none observed during seasonal surveys.
Butternut	*Juglans cinerea*	Endangered	Endangered	Potentially suitable habitat, none observed during seasonal surveys.
Smooth Yellow False Foxglove	*Aureolaria flava*	Threatened	Not listed	No suitable habitat present.

4.7 Significant Wildlife Habitat

To determine if the subject property and/or adjacent lands support potential for SWH, the Significant Wildlife Habitat Technical Guide (OMNR 2000) and Significant Wildlife Habitat Criteria Schedules for Ecoregions 6E and 7E (MNRF 2015) were consulted.

According to the Significant Wildlife Habitat Technical Guidelines (MNR 2000), there are four broad categories of SWH:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities or Specialized Habitat for Wildlife;
- Habitat for Species of Conservation Concern; and
- Animal Movement Corridors.

Within each of these categories, there are multiple types of SWH, each intended to capture a specialized type of habitat that may or may not be captured by other existing feature-based categories (e.g., significant wetlands, significant woodlands).

The results of the SWH screening are presented in **Appendix D**. Based on the screening, there is potential SWH for the following in areas adjacent to the proposed development:

- Bat Maternity Colonies
- Reptile Hibernaculum
- Amphibian Breeding Habitat
- Habitat for Special Concern and Rare Wildlife Species

Bat Maternity Colonies are locations where Big Brown Bats and Silver-haired Bats raise their young. There is potential for this habitat to be present in the woodlands on the west side of the subject property, as well as in woodlands adjacent to the east end of the property. Species-specific surveys were not conducted, as the woodland communities will be retained and provided with a buffer from the proposed development.

Reptile Hibernaculum habitat has the potential to be present in the woodland features on and around the subject property. No specific features that may support a hibernaculum have been identified.

Amphibian Breeding Habitat is very likely to be present in the wetlands at the western end of the subject property.

Habitat for species ranked as Special Concern or Provincially Rare may qualify as SWH. One species of Special Concern, Eastern Wood-pewee, was identified in the forests adjacent to the east of the subject property, and these forests likely provide habitat for the species.

In summary, no SWH is believed to be present within the proposed development area on the subject property based on the field studies completed in 2025. Potential SWH may be present in adjacent natural features (i.e. woodlands and wetlands) which are outside of the proposed development area. These areas are assumed to provide SWH and will remain with an appropriate buffer.

5. Evaluation of Significance

Based on the background review and field investigations, features on the subject property were evaluated for significance under the PPS, based on provincial and municipal policies and guidelines, including;

- Habitat for Endangered or Threatened Species;
- Significant Woodlands;
- Significant Wetlands;
- Significant Wildlife Habitat;
- Areas of Natural and Scientific Interest (ANSI);
- Significant Valleyland; and
- Fish Habitat.

5.1 Significant Woodlands

Based on the size criteria in the Wellington County Official Plan, both the woodlands in the western portion of the subject property, and the woodlands adjacent to the eastern end of the subject property qualify as significant.

5.2 Significant Wetlands

In regard to wetlands, significance is defined by the PPS (2024) as:

> *An area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.*

The wetlands in the western portion of the study area are designated as PSW and are therefore significant under the official plan. No other wetlands are present.

5.3 Significant Valleylands

There are no valleylands on the subject property.

5.4 Significant Wildlife Habitat (SWH)

Based on the findings from field investigations, there are four forms of SWH that have the potential to be present on the subject property, including Bat Maternity Colonies, Amphibian Breeding Habitat, Reptile Hibernaculum, and Habitat for Eastern Wood-pewee (as a species of Conservation Concern). None of these habitats have been confirmed as significant; however, this EIA assumes that they are present. All these habitats are associated with the woodland and wetland features on the west side of the subject property and the woodland adjacent to the east side. These areas of habitat will be preserved and provided with a buffer.

5.5 Significant Areas of Natural and Scientific Interest

ANSIs are identified and designated by MNRF. There are no ANSIs on or adjacent to the subject property.

5.6 Fish Habitat

There are no permanent watercourses on the subject property, and the HDFs do not provide direct fish habitat. HDFs 1 through 3 have been classified as contributing fish habitat because, while these features do not provide direct fish habitat, these features provide the transport of allochthonous materials (detritus, insects, etc.) to fish habitat downstream of the subject property. HDF 4 is not considered fish habitat as it is not connected downstream.

5.7 Summary of Natural Heritage Features and Constraints

In summary, the study area supports the following natural heritage features which represent development constraints based on provincial, municipal, and conservation authority policies and regulations:

- Significant Woodland – west side of subject property, and adjacent to the east end of the subject property;
- Significant Wetland – within the woodlands on west side of subject property;
- Fish Habitat – drainage features associated with these same woodlands;
- Potential SWH, Bat Maternity Colonies – within these same woodlands;
- Potential SWH, Reptile Hibernaculum – within these same woodlands;
- Potential SWH, Amphibian Breeding Habitat – within these same woodlands and Significant Wildlife Habitat, Eastern Wood-pewee Habitat present within woodlands adjacent to east end of subject property.

To minimize impacts on these features, the development is designed to be limited to the portions of the study area outside the woodlands and wetlands.

6. Proposed Development

The proposed development is shown in **Figure 3**. The development consists of an industrial building and associated parking and landscaping, as well as a stormwater pond adjacent to the woodlands at the southwest corner of the subject property. Site access will be via Wellington Road 34, in areas that are currently occupied by agricultural lands.

A Functional Servicing Report (FSR) has been prepared for the proposed industrial development (Urbantech 2025) and has been submitted as a companion report. The proposed servicing is summarized below.

Stormwater management consists of a stormwater pond that will drain the majority of the site, including the building and adjacent parking areas. This pond will drain to the south, towards the gravel pit on the adjacent property. The drainage from the woodland and wetland complex on the west side of the subject property will continue to drain through the existing wetland.

Sanitary servicing will be managed through the installation of a septic system in the northwest corner of the property, in an area currently occupied by agricultural fields. Total sewage flow is estimated at 50 000 L/day. Domestic water supply will be installed in the building, with an average demand of 55 000 L/day.

7. Impact Assessment

The following sections present the potential effects of the proposed development and identify mitigation opportunities and compensation measures to be utilized to minimize the adverse effects of the project.

7.1 Direct Impacts on Woodland and Wetland Vegetation

The proposed development is located outside the identified significant woodlands, wetlands, fish habitat, and SWH, with buffers of 10 metres from the woodlands and 30 metres from the wetlands. As

such, provided other basic mitigation measures are followed (see below), no vegetation removals or other direct impacts on these features or their ecologic functions are expected.

Encroachment of approximately 0.25 ha into the 10 m buffer of a woodland is proposed to accommodate parking and grading. No site alteration is proposed within the feature.

7.2 Wetlands

Urbtech Engineering (2025) has prepared a functional servicing and stormwater management report for the subject property. Their findings indicate that the wetlands on the west side of the property receive drainage from the adjacent woodlands and from a small area of agricultural field, for a total of 9.5 hectares. The majority of the agricultural fields on the property drain elsewhere. Under the proposed development, this drainage area will be maintained, drainage from elsewhere on the property will continue to drain elsewhere, and, as such, no changes to the hydrology of the wetlands are expected.

7.3 Drainage Features

HDFs 1 through 3 have been classified as contributing fish habitat because while these features do not provide direct fish habitat, these features provide the transport of allochthonous materials (detritus, insects, etc.) to fish habitat downstream of the subject property. HDF 4 is disconnected from any downstream connections to Mill Creek and therefore does not require a management recommendation.

Based on the HDFA protocol, there is a total of one (1) reach recommended for “No Management Required” and four (4) reaches recommended as “Protection”. The corresponding management recommendations for all respective reaches can be found in **Table 5.**

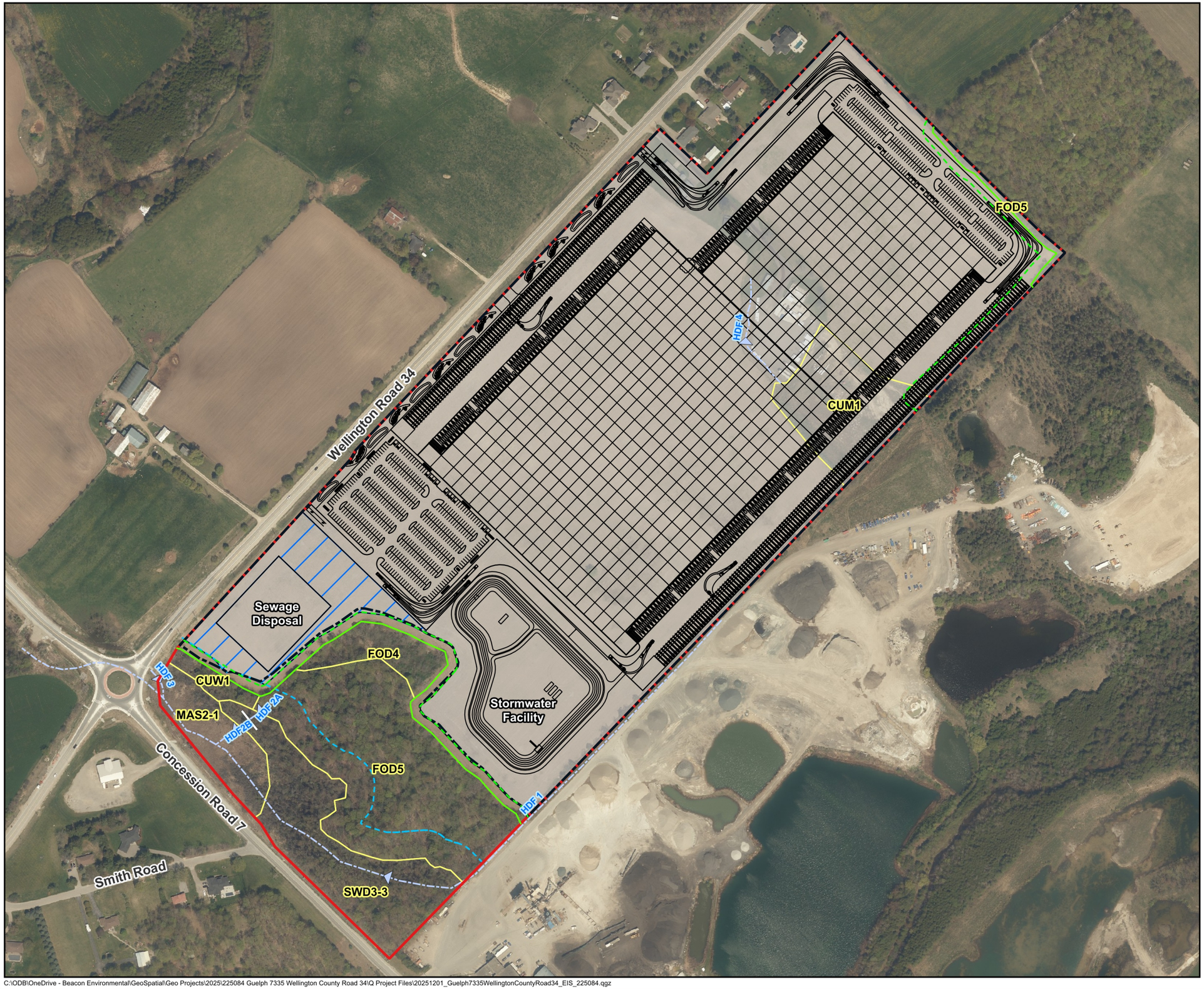
Table 5. Headwater Drainage Features Management Recommendations

HDF	Hydrology	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	Recommendations
HDF 1	Contributing	None	Important	Contributing	Important	Protection
HDF 2A	Contributing	Tile Drain	Important	Contributing	Important	Protection
HDF 2B	Contributing	None	Important	Contributing	Important	Protection
HDF 3	Contributing	None	Important	Contributing	Important	Protection
HDF 4	Limited	None	Limited	None	Limited	No Management Required

The features recommended for protection are located within the wetland and woodland community that will be maintained and buffered from the proposed development.

7.4 Wildlife Habitat

Since direct impacts on the woodland and wetland features are not expected, potential impacts on wildlife habitat are limited. However, intrusions of light, noise, and dust pollution have the potential to negatively affect wildlife using the habitat features.



Proposed Development

Figure 3

7335 Wellington County Road 34, Puslinch

Legend

- Subject Property
- Ecological Communities
- Headwater Drainage Feature (Beacon 2025)
- Reach Break
- Staked Dripline (Aboud 2025)
- Woodlands + 10 m
- Wetlands + 30 m
- Proposed Development
- Proposed Restoration Area
- Development Limit

Code	Wetland Communities
MAS2-1	Cattail Mineral Shallow Marsh
SWD3-3	Swamp Maple Mineral Deciduous Swamp
	Forest Communities
FOD4	Dry - Fresh Deciduous Forest
FOD5	Dry - Fresh Sugar Maple Deciduous Forests
	Cultural Communities
CUM1	Mineral Cultural Meadow
CUW1	Mineral Cultural Woodland

BEACON ENVIRONMENTAL

Project: 225084
Last Revised: August 2026

Client: Shade Springs Inc.

Prepared by: BD
Checked by: RM

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7.5 Post-development Impacts

Post-construction, industrial use of the subject property could potentially impact the adjacent natural areas. Potential impacts include:

- Dumping waste and accumulation of debris in natural areas;
- Informal trails and trampling of vegetation;
- Introduction of invasive species used in landscaping;
- Removal of natural vegetation; and
- Storage of materials, placement of structures.

These impacts will be mitigated by providing the recommended buffers and setbacks.

8. Recommended Mitigation

Based on the assessment of existing conditions within the subject property and the proposed development, the following recommendations for mitigation have been provided to ensure impacts to natural heritage features are avoided.

The proposed development will occur entirely outside of the natural features and their ecological buffers.

Design Mitigation

As impact avoidance is generally the most effective means of reducing the risk of development impacts on the natural environment, the development limits have been established outside the boundaries of the Key Natural Heritage feature limits (i.e., wetlands and woodlands). The limits of the natural features present on the western portion of the subject property have been confirmed with County's Peer Review Consultant in the field.

Protective buffers have been applied 10 metres from the significant woodlands and 30 metres from the wetlands. Drainage features are maintained within this natural heritage block.

Buffer Enhancements and Naturalization

The buffers to the natural features will be planted and converted from existing agricultural areas to become part of the natural heritage system. Planting plans will be prepared for the buffers at detailed design. Species selected for planting will be native to the area and will complement the existing vegetation communities.

Planting plans should be established for the area around the stormwater pond, and any other portions of the site that will be naturalised, that make uses of native plants and provide wildlife habitat functions.

Landscape plantings should also use locally sourced, native species to avoid spread of non-native species within adjacent natural features;

This area of additional naturalized buffers create a larger, more robust feature contributing to the overall natural heritage system of the property and over time will enhance the ecological functions through the creation of additional cover and habitat for wildlife.

Restoration Area

An area of approximately 1.23 ha has been identified within the sewage treatment block, adjacent to the Natural Heritage System (NHS), for ecological restoration. Following grading and construction activities, this area will be established using a native seed mix comprised of species compatible with the adjacent woodland and wetland communities.

The proposed restoration area will more than offset the 0.23 ha encroachment into the woodland buffer, resulting in a substantial net increase in naturalized habitat adjacent to the NHS. Over time, the restored area is expected to naturalize and integrate with the surrounding natural features, enhancing ecological connectivity, increasing habitat availability, and contributing to a larger and more resilient natural heritage block. As a result, the restoration initiative is anticipated to provide an overall net benefit to the Natural Heritage System through both the expansion and long-term enhancement of ecological functions and habitat values.

Sediment and Erosion Control

Construction works such as grading, grubbing and excavation have the potential to result in the movement of sediment into adjacent natural features. An erosion and sediment control (ESC) plan should be developed and implemented to the satisfaction of the County and GRCA prior to the start of construction works. The ESC plan should follow the standards presented in Erosion and Sediment Control Guidelines for Urban Construction (TRCA 2019).

Prior to construction, sediment and erosion control fencing (silt fence) should be established along the limit of development to prevent runoff into the adjacent woodlands and wetlands during construction. Silt fence will also serve as tree protection fencing to prevent impacts on trees outside the development area.

Any grading or site-alteration-related activities should, where possible, be confined to the established limit of development. Fencing at the development limit should be regularly inspected and maintained in good working order throughout the construction period. Fencing should be removed upon completion of construction, after exposed soils have been stabilized. Standard Best Management Practices, including the provision of sediment control measures, should also be employed during the construction process.
All construction materials and equipment should be stored inside the limits of development.

Timing of Works

Birds

The federal *Migratory Bird Convention Act* (1994) protects the nests, eggs and young of most bird species from harm or destruction. Environment Canada considers the general nesting period of breeding birds in southern Ontario to be between late March and the end of August. This includes times at the beginning and end of the season when only a few species might be nesting.

Considering this we recommend that during the peak period of bird nesting, no vegetation clearing or disturbance to nesting bird habitat occur. In the "shoulder" seasons of April 1 to 30, and July 16 to August 31, vegetation clearing could occur, but only after an ecologist with appropriate avian knowledge has surveyed the area to confirm lack of nesting. If a nest is found, then vegetation clearing (in an area around the nest) must wait until nesting has concluded.

From September 1 through to March 31, of any year, vegetation clearing can occur without nest surveys, but the law for nest protection still holds (i.e., if an active nest is known it should be protected).

Bats

To protect roosting bats, tree removals should take place between December 1 and March 14 to ensure compliance with the *Ontario Endangered Species Act.*

Wildlife

Restrict construction activities to day-light hours to reduce disturbances to wildlife.

To summarise, vegetation clearing should not interfere with breeding bird activity or bat roosting; and as such removals in and around the existing cultural meadow area should take place outside the season described above.

9. Policy Conformity

A summary of federal, provincial, and municipal environmental protection and planning policies and regulations applicable to the study area were discussed in **Section 2**. An evaluation of how the proposed development complies with the applicable environmental policies and legislation are summarized below in **Table 6**.

This summary assumes that recommended mitigation measures are followed.

Table 6. Policy Conformity Summary

Applicable Policy / Legislation	Relevant EIA Findings and Recommendations
Species Conservation Act (2025)	Potential habitat for endangered bats has been identified in the woodland features. No direct impacts on these woodlands are proposed, and no negative impacts are expected. No other habitat for species protected under the SCA has been identified. Therefore, there are no additional requirements to address the SCA.
Provincial Planning Statement (2024)- Natural Heritage	
Habitat for Threatened and Endangered Species	See above.
Significant Valleylands	No valleylands are present on the subject property.
Significant Wetlands	A 30 metre buffer has been established from the PSW on the west end of the property. No changes to the area of land draining to this wetland have been proposed. As such, no impacts to the wetland are expected.

Applicable Policy / Legislation	Relevant EIA Findings and Recommendations
Significant Woodlands	A 10 metre buffer has been established from the significant woodland driplines, and no impacts are expected.
Significant Wildlife Habitat	Confirmed and potential SWH has been identified associated with the woodland and wetland features, which will be protected with the buffers described above. No other SWH is present.
Significant Areas of Natural and Scientific Interest	No ANSIs are present.
Fish Habitat	Contributing fish habitat is present in drainage features associated with the woodland and wetland blocks, which will be protected by the buffers described above.
Fisheries Act	See above.
Wellington County Official Plan	The OP identifies a natural heritage system comprised of Greenlands and Core Greenlands Areas. The subject property includes areas meeting the descriptions of both areas. No development is proposed within the features described, and appropriate setbacks/buffers and other mitigation measures have been recommended to mitigate impact of development on adjacent lands.
Grand River Conservation Authority policies and regulations	A 30 metre buffer has been established from the PSW on the west end of the property.

10. Conclusion

This EIA has been prepared to support an industrial development at 7335 Wellington Road 34 in Puslinch, Ontario.

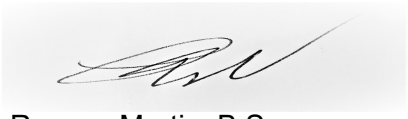
The EIA identifies and describes the natural heritage and hydrologic features associated with the subject property, assess the potential direct and indirect impacts of the proposed development, and recommends mitigation and enhancement measures to protect and restore the natural heritage and hydrologic features.

Based on a review of available background information, field investigations, and detailed analysis, the EIA determined that the subject property contains or is associated with significant woodland, significant wetland, fish habitat, potential Significant Wildlife Habitat (SWH), and potential habitat for endangered bat species. These features are primarily located within the woodland and wetland complex at the western portion of the property, as well as within woodlands adjacent to, and extending marginally into, the eastern portion of the site. To protect these natural heritage features and their ecological functions, appropriate buffers and setbacks have been applied to establish the limits of development and maintain the integrity of the natural heritage system.

The EIA identifies several potential indirect impacts to the natural heritage system resulting from development and recommends mitigation measures to avoid or minimize impacts, such that residual impacts are limited.

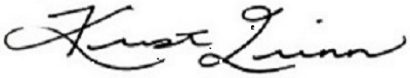
In conclusion, the EIA has determined that the proposed development conforms to applicable environmental policies and regulations and will not adversely affect the natural heritage features and ecological functions associated with the subject property provided that the mitigation measures identified in this report are implemented.

Prepared by:
Beacon Environmental Ltd.



Reuven Martin, B.Sc.
Ecologist

Reviewed by:
Beacon Environmental Ltd.



Kristi Quinn, B.E.S, Cert. Env. Assessment. Principal,
Senior Environmental Planner

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Appendix A



Terms of Reference

DRAFT

December 17, 2025 BEL 225084

Monika Farcombe
Planning and Corporate Services Coordinator
Township of Puslinch
7404 Wellington Rd 34, Puslinch ON N0B 2J0

via email: mfarncombe@puslinch.ca

And

Jessica Conroy
Resource Planner
Grand River Conservation Authority
400 Clyde Road
Cambridge, ON N1R 5W6

Re: Terms of Reference – Environmental Impact Assessment: 7335 Wellington County Road 34, Puslinch, Ontario

Dear Monika Farcombe and Jessica Conroy:

Beacon Environmental Limited (Beacon) has prepared the following Terms of Reference (TOR) for an Environmental Impact Assessment (EIA), for your review and comment, in support of a proposed development for the subject property. The he subject property, located at 7335 Wellington County Road 34, which is located in Puslinch, Wellington County (herein referred to as the subject property; **Figure 1**)

Natural features are present on the property including woodland communities and a Provincially Significant Wetland (PSW). The subject property is subject to the Wellington County Official Plan and to the regulations of the Grand River Conservation Authority (GRCA). The EIA is required to demonstrate that the proposed development will not have negative impacts on natural heritage features protected under the official plan or GRCA regulations and policies.

Beacon will prepare an EIA including the following key components:

- Background/Context;
- Identification of Natural Heritage Features and Functions;
- Impact Identification and Analysis;
- Response to Impacts; and
- Conclusion/Recommendations.

In preparing the EIA, Beacon proposes to undertake the following tasks.

Background Review

Background information was gathered and reviewed at the outset of the project. This involved consideration of the following documents/information sources relevant to the subject property:

- Provincially tracked species layer (1 km grid LIO dataset);
- Ontario Reptile and Amphibian Atlas (ORAA);
- Ontario Breeding Bird Atlas (OBBA);
- Natural Heritage Information Centre (NHIC) Data via the Make-A-Map application;
- Species at risk range maps (Government of Ontario);
- High resolution aerial photography of the property;
- Natural and physical feature layers (e.g. topographic, wetland, waterbody, watercourse data), LIO and Aquatic Resource Area (ARA) datasets; and
- Natural heritage records in eBird and iNaturalist citizen science databases.

Field Investigations

The following field investigations have been or will be completed to identify existing natural heritage features on the subject property.

Ecological Land Classification and Flora Inventory

Site visits were conducted on April 2 and July 27, 2025 to document vegetation resources associated with the study area. Ecological communities were mapped and described following the protocols of the (ELC) system for Southern Ontario (Lee *et al.* 1998). This involved delineating the boundaries of ecological communities on aerial photos of the subject property and recording pertinent information relating to vegetation structure and composition.

A floristic inventory was completed in conjunction with ELC surveys. A checklist of vascular plant species was compiled for each vegetation community.

Breeding Bird Surveys

Three early morning breeding bird surveys were undertaken on June 4, 12, and 28, 2025, to determine what species of birds are breeding or nesting on or adjacent to the subject property. The method used was a roving survey by an experienced bird biologist, with all parts of the property apart from active crop fields walked to within 50 m and all birds heard or observed recorded. All species in appropriate breeding habitat and/or showing breeding behaviour are presumed to be nesting on or adjacent to the subject property.

In addition, Red-headed Woodpecker (*Melanerpes erythrocephalus*) was specifically targeted using the protocol described by the Wisconsin Department of Natural Resources (2017), which involves playing Red-headed Woodpecker calls from a speaker at points within suitable habitat no more than 183 metres apart.

Headwater Drainage Feature Assessment

An assessment of the drainage features within or immediately adjacent to the subject property was completed in accordance with TRCA and CVC's *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (2014) which included three rounds of seasonal assessments. Headwater drainage features (HDFs) were characterized based on flow regime, form, riparian vegetation, fish and fish habitat, and terrestrial habitat. Each drainage feature reach was evaluated individually based on each of these parameters and assigned a rating of important, valued, contributing, or limited based on functional significance. These ratings were then used to determine an overall management recommendation for each reach based on the following categories:

- *Protection* – Important Functions: i.e., swamps with amphibian breeding habitat; perennial headwater drainage features; seeps and springs; SAR habitat; permanent fish habitat with woody riparian cover;
- *Conservation* – Valued Functions: i.e., seasonal fish habitat; with woody riparian cover; marshes with amphibian breeding habitat; or general amphibian habitat with woody riparian cover;
- *Mitigation* – Contributing Functions: i.e., contributing fish habitat with meadow vegetation or limited cover;
- *Recharge Protection* – Recharge Functions: i.e., features with no flow with sandy or gravelly soils;
- *Maintain or Replicate Terrestrial Linkage* – Terrestrial Functions: i.e., features with no flow with woody riparian vegetation and connects two other natural features identified for protection; and
- *No Management Required* – Limited Functions: i.e., features with no or minimal flow; cropped land or no riparian vegetation; no fish or fish habitat; and no amphibian habitat.

Based on the findings of the HDFA (i.e. that no permanent or defined watercourses are present, see below), further aquatic habitat assessments are not applicable.

Feature Staking

The driplines of the woodlands on the subject property were surveyed in the field by Beacon Staff on November 19, 2025, with Shannon Davison from Aboud and Associates in attendance.

Amphibian Surveys

Breeding amphibian surveys will be completed in 2026. Surveys will be conducted according to the Marsh Monitoring Program protocol (Bird Studies Canada 2009). According to the protocol, the survey dates will be spaced to record amphibian species that call during different times in the spring. Species, calling locations and approximate numbers of calling individuals will be recorded and mapped. The survey method provides an indication of amphibian abundance during the breeding season using the following scale:

0 no calls;
1 individuals of one species can be counted, calls not simultaneous;
2 some calls of one species simultaneous, numbers can be reliably estimated and shown in brackets; or

3 full chorus, calls continuous and overlapping.

Incidental Wildlife

Incidental observations of other wildlife, including reptiles, amphibians and/or mammals were made during field investigations. This included sounds heard, scat, tracks and visual observations.

Environmental Impact Assessment

The EIA will summarize the findings of the background review and field investigations, evaluate the impacts of the proposed development, recommend mitigation and enhancement opportunities, and assess conformity with provincial, municipal and GRCA policies and regulations. The EIA will be prepared according to the following outline.

- Background and Policy Framework;
- Identification of Natural Heritage Features and Functions (including methodology and results of field studies);
- Description of the Proposed Development;
- Impact Identification and Analysis;
- Mitigation and Enhancement Recommendations;
- Policy Conformity; and
- Conclusion/Recommendations.

The EIA will take a collaborative approach and integrate work from other members of the consulting time as it pertains to existing conditions, impacts and mitigation measures.

Please advise if you are in agreement with the above noted work plan. Should you have any questions, comments, or points for discussion, please do not hesitate to contact us.

Prepared by:
Beacon Environmental

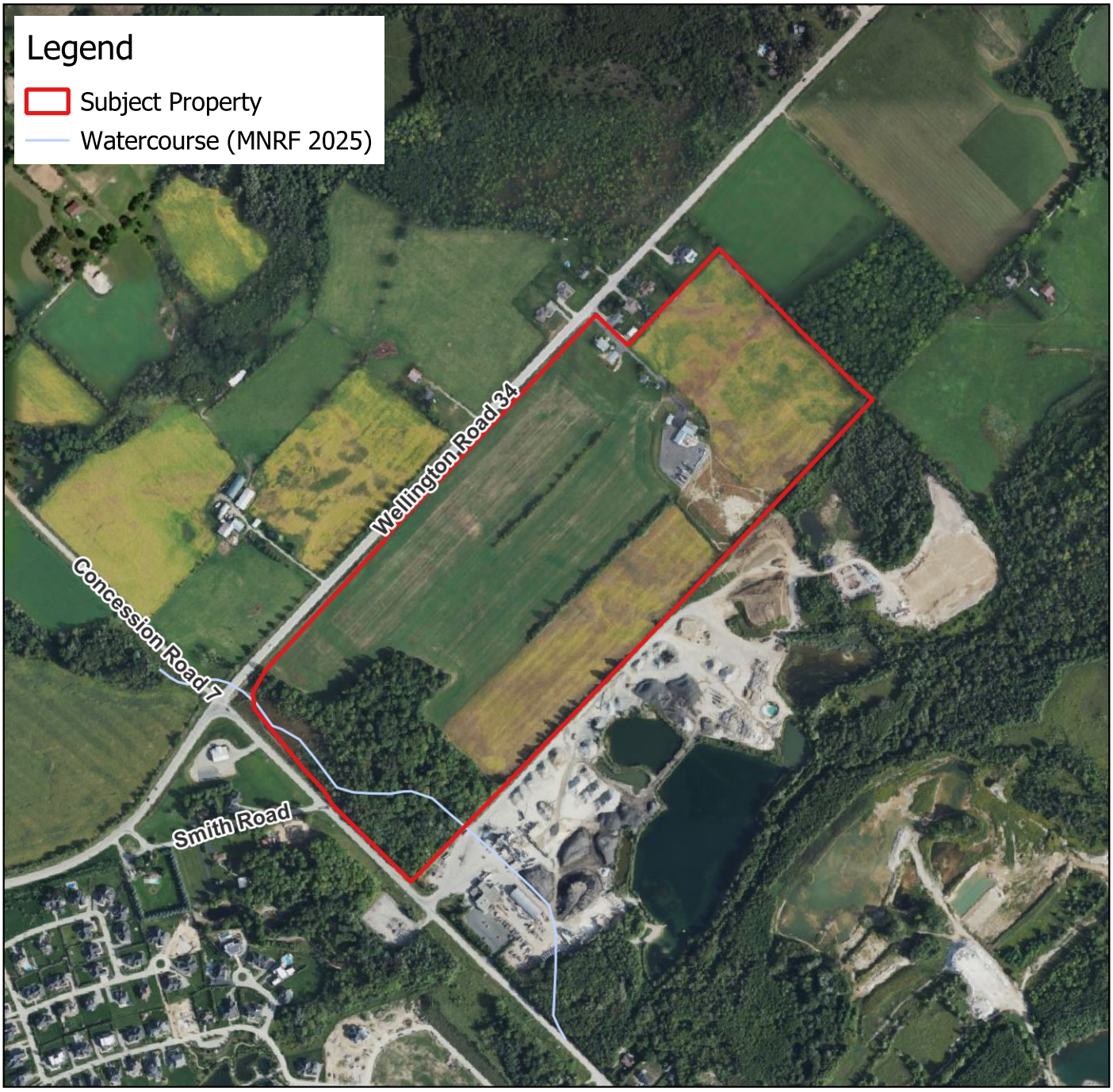
DRAFT

Reuven Martin, B.Sc.,
Ecologist

Reviewed by:
Beacon Environmental

DRAFT

Kristi Quinn, B.E.S, Cert. Env. Assessment.
Principal, Senior Environmental Planner





Site Location	Figure 1
7335 Wellington County Road 34, Puslinch	
BEACON ENVIRONMENTAL	Project: 225084 Last Revised: December 2025
Client: Shade Springs Inc.	Prepared by: BD Checked by: RM **DRAFT**
N 1:9,400	Inset Map: 1:94,000
Contains information licensed under the Open Government License–Ontario Orthoimagery Baselayer: Bing Aerial ()	

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Appendix B



Vascular Plant Species List

Appendix B

Vascular Plant Species List

Common Name	Scientific Name	SRANK[c]
Manitoba Maple	*Acer negundo*	S5
Black Maple	*Acer nigrum*	S4?
Sugar Maple	*Acer saccharum*	S5
(Acer rubrum X Acer saccharinum)	*Acer x freemanii*	SNA
White Baneberry	*Actaea pachypoda*	S5
Redtop	*Agrostis gigantea*	SNA
Water-plantain species	*Alisma sp.*	
Wild Leek	*Allium tricoccum*	S4
Amaranth species	*Amaranthus sp.*	
Common Ragweed	*Ambrosia artemisiifolia*	S5
Canada Anemone	*Anemonastrum canadense*	S5
Common Burdock	*Arctium minus*	SNA
Jack-in-the-pulpit	*Arisaema triphyllum*	S5
Canada Wild-ginger	*Asarum canadense*	S5
Swamp Milkweed	*Asclepias incarnata*	S5
Common Milkweed	*Asclepias syriaca*	S5
Yellow Birch	*Betula alleghaniensis*	S5
Paper Birch	*Betula papyrifera*	S5
Smooth Brome	*Bromus inermis*	SNA
Two-leaved Toothwort	*Cardamine diphylla*	S5
Spiny Plumeless Thistle	*Carduus acanthoides*	SNA
Nodding Thistle	*Carduus nutans*	SNA
Brome-like Sedge	*Carex bromoides*	S5
Crested Sedge	*Carex cristatella*	S5
Yellow Sedge	*Carex flava*	S5
Graceful Sedge	*Carex gracillima*	S5

Common Name	Scientific Name	SRANK[c]
Limestone Meadow Sedge	*Carex granularis*	S5
Pubescent Sedge	*Carex hirtifolia*	S4S5
Inland Sedge	*Carex interior*	S5
Bladder Sedge	*Carex intumescens*	S5
Loose-flowered Sedge	*Carex laxiflora*	S5
Hop Sedge	*Carex lupulina*	S5
Long-stalked Sedge	*Carex pedunculata*	S5
Plantain-leaved Sedge	*Carex plantaginea*	S5
Eastern Star Sedge	*Carex radiata*	S5
Retrorse Sedge	*Carex retrorsa*	S5
Awl-fruited Sedge	*Carex stipata*	S5
Blunt Broom Sedge	*Carex tribuloides*	S4
Fox Sedge	*Carex vulpinoidea*	S5
Wood's Sedge	*Carex woodii*	S4
Blue-beech	*Carpinus caroliniana*	S5
Blue cohosh species	*Caulophyllum sp.*	
Common Lamb's-quarters	*Chenopodium album*	SNA
Wild Chicory	*Cichorium intybus*	SNA
Broad-leaved Enchanter's Nightshade	*Circaea canadensis*	S5
Canada Thistle	*Cirsium arvense*	SNA
Virginia Clematis	*Clematis virginiana*	S5
Alternate-leaved Dogwood	*Cornus alternifolia*	S5
Smooth Hawksbeard	*Crepis capillaris*	SNA
Orchard Grass	*Dactylis glomerata*	SNA
Wild Carrot	*Daucus carota*	SNA
Eastern Leatherwood	*Dirca palustris*	S4
Spinulose Wood Fern	*Dryopteris carthusiana*	S5
Spikerush species	*Eleocharis sp.*	
Beechdrops	*Epifagus virginiana*	S5
Broad-leaved Helleborine	*Epipactis helleborine*	SNA
Field Horsetail	*Equisetum arvense*	S5
Annual Fleabane	*Erigeron annuus*	S5

Common Name	Scientific Name	SRANK[c]
Philadelphia Fleabane	*Erigeron philadelphicus*	S5
Yellow Trout-lily	*Erythronium americanum*	S5
Running Strawberry-bush	*Euonymus obovatus*	S4
Grass-leaved Goldenrod	*Euthamia graminifolia*	S5
American Beech	*Fagus grandifolia*	S4
Wild Strawberry	*Fragaria virginiana*	S5
Glossy Buckthorn	*Frangula alnus*	SNA
White Ash	*Fraxinus americana*	S4
Red Ash	*Fraxinus pennsylvanica*	S4
Common Marsh Bedstraw	*Galium palustre*	S5
Canada Avens	*Geum canadense*	S5
Wood Avens	*Geum urbanum*	SNA
Fowl Mannagrass	*Glyceria striata*	S5
Common St. John's-wort	*Hypericum perforatum*	SNA
Yellow Iris	*Iris pseudacorus*	SNA
Black Walnut	*Juglans nigra*	S4?
Dudley's Rush	*Juncus dudleyi*	S5
Common Motherwort	*Leonurus cardiaca*	SNA
Tall Ryegrass	*Lolium arundinaceum*	SNA
Perennial Ryegrass	*Lolium perenne*	SNA
Bell's Honeysuckle	*Lonicera x bella*	SNA
Dwarf Honeysuckle	*Lonicera xylosteum*	SNA
Garden Bird's-foot Trefoil	*Lotus corniculatus*	SNA
Northern Water-horehound	*Lycopus uniflorus*	S5
Fringed Yellow Loosestrife	*Lysimachia ciliata*	S5
Tufted Yellow Loosestrife	*Lysimachia thyrsiflora*	S5
Wild Lily-of-the-valley	*Maianthemum canadense*	S5
Large False Solomon's Seal	*Maianthemum racemosum*	S5
Ostrich Fern	*Matteuccia struthiopteris*	S5
Black Medick	*Medicago lupulina*	SNA
Alfalfa	*Medicago sativa*	SNA
White Sweet-clover	*Melilotus albus*	SNA

Common Name	Scientific Name	SRANK[c]
White Mulberry	*Morus alba*	SNA
Rattlesnake-root species	*Nabalus sp.*	
Catnip	*Nepeta cataria*	SNA
Common Evening-primrose	*Oenothera biennis*	S5
Sensitive Fern	*Onoclea sensibilis*	S5
Eastern Hop-hornbeam	*Ostrya virginiana*	S5
Wood-sorrel species	*Oxalis sp.*	
Thicket Creeper	*Parthenocissus vitacea*	S5
Reed Canarygrass	*Phalaris arundinacea*	S5
Common Reed	*Phragmites australis*	SU
English Plantain	*Plantago lanceolata*	SNA
Common Plantain	*Plantago major*	SNA
Canada Bluegrass	*Poa compressa*	SNA
Fowl Bluegrass	*Poa palustris*	S5
May-apple	*Podophyllum peltatum*	S5
Prostrate Knotweed	*Polygonum aviculare*	S4?
Christmas Fern	*Polystichum acrostichoides*	S5
Eastern Cottonwood	*Populus deltoides*	S5
Trembling Aspen	*Populus tremuloides*	S5
Common Self-heal	*Prunella vulgaris*	S5
Black Cherry	*Prunus serotina*	S5
Chokecherry	*Prunus virginiana*	S5
Common Buttercup	*Ranunculus acris*	SNA
Hooked Buttercup	*Ranunculus recurvatus*	S5
European Buckthorn	*Rhamnus cathartica*	SNA
Allegheny Blackberry	*Rubus allegheniensis*	S5
Red Raspberry	*Rubus idaeus*	S5
Black Raspberry	*Rubus occidentalis*	S5
Sandbar Willow	*Salix interior*	S5
Crack Willow	*Salix x fragilis*	SNA
Red Elderberry	*Sambucus racemosa*	S5
Bloodroot	*Sanguinaria canadensis*	S5

Common Name	Scientific Name	SRANK[c]
Soft-stemmed Bulrush	*Schoenoplectus tabernaemontani*	S5
Red-tinged Bulrush	*Scirpus microcarpus*	S5
Hanging Bulrush	*Scirpus pendulus*	S5
Purple Crown-vetch	*Securigera varia*	SNA
White Campion	*Silene latifolia*	SNA
Bladder Campion	*Silene vulgaris*	SNA
Common Water-parsnip	*Sium suave*	S5
Bittersweet Nightshade	*Solanum dulcamara*	SNA
Tall Goldenrod	*Solidago altissima*	S5
Zigzag Goldenrod	*Solidago flexicaulis*	S5
Giant Goldenrod	*Solidago gigantea*	S5
Rough-stemmed Goldenrod	*Solidago rugosa*	S5
Field Sow-thistle	*Sonchus arvensis*	SNA
Prickly Sow-thistle	*Sonchus asper*	SNA
White Heath Aster	*Symphyotrichum ericoides*	S5
Panicled Aster	*Symphyotrichum lanceolatum*	S5
Calico Aster	*Symphyotrichum lateriflorum*	S5
New England Aster	*Symphyotrichum novae-angliae*	S5
Purple-stemmed Aster	*Symphyotrichum puniceum*	S5
Common Dandelion	*Taraxacum officinale*	SNA
Early Meadow-rue	*Thalictrum dioicum*	S5
Eastern White Cedar	*Thuja occidentalis*	S5
Heart-leaved Foamflower	*Tiarella stolonifera*	S5
Basswood	*Tilia americana*	S5
Poison Ivy	*Toxicodendron radicans*	S5
Red Clover	*Trifolium pratense*	SNA
White Clover	*Trifolium repens*	SNA
Red Trillium	*Trillium erectum*	S5
White Trillium	*Trillium grandiflorum*	S5
Scentless Chamomile	*Tripleurospermum inodorum*	SNA
Eastern Hemlock	*Tsuga canadensis*	S5
Coltsfoot	*Tussilago farfara*	SNA

Common Name	Scientific Name	SRANK[c]
Hybrid Cattail	*Typha x glauca*	SNA
White Elm	*Ulmus americana*	S5
Stinging Nettle	*Urtica dioica*	SNA
Common Mullein	*Verbascum thapsus*	SNA
Common Speedwell	*Veronica officinalis*	SNA
Cranberry Viburnum	*Viburnum opulus*	S5
European Field Pansy	*Viola arvensis*	SNA
Yellow Violet	*Viola pubescens*	S5
Woolly Blue Violet	*Viola sororia*	S5
Riverbank Grape	*Vitis riparia*	S5

[a] COSEWIC = Committee on the Status of Endangered Wildlife in Canada

[b] Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)
END = Endangered, THR = Threatened, SC = Special Concern

[c] SRANK (from Natural Heritage Information Centre) for breeding status if:
S1 (Critically Imperiled), S2 (Imperiled),S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)
SNA (Not applicable…'because the species is not a suitable target for conservation activities'; includes non-native species)

[d]Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

Appendix C



Bird Species List

Appendix C

Breeding Bird List

Common Name	Scientific Name	National Species at Risk COSEWIC[a]	Species at Risk in Ontario Listing[b]	Provincial breeding season SRANK[c]	Area-sensitive (OMNR)[e]	Maximum Number Observed
Mourning Dove	Zenaida macroura			S5		1
Killdeer	Charadrius vociferus			S4		1
Spotted Sandpiper	Actitis macularius			S5		1
Downy Woodpecker	Dryobates pubescens			S5		1
Northern Flicker	Colaptes auratus			S5		1
Great Crested Flycatcher	Myiarchus crinitus			S5		1
Eastern Kingbird	Tyrannus tyrannus			S4		1
Warbling Vireo	Vireo gilvus			S5		2
Red-eyed Vireo	Vireo olivaceus			S5		3
Blue Jay	Cyanocitta cristata			S5		2
Horned Lark	Eremophila alpestris			S4		2
Black-capped Chickadee	Poecile atricapillus			S5		2
Northern House Wren	Troglodytes aedon			S5		1
American Robin	Turdus migratorius			S5		8
Gray Catbird	Dumetella carolinensis			S5		1
European Starling	Sturnus vulgaris			SNA		2
Cedar Waxwing	Bombycilla cedrorum			S5		2
House Sparrow	Passer domesticus			SNA		1
American Goldfinch	Spinus tristis			S5		2
Chipping Sparrow	Spizella passerina			S5		2
Song Sparrow	Melospiza melodia			S5		7
Swamp Sparrow	Melospiza georgiana			S5		1
Baltimore Oriole	Icterus galbula			S4		1
Red-winged Blackbird	Agelaius phoeniceus			S5		4
Brown-headed Cowbird	Molothrus ater			S5		1

Common Name	Scientific Name	National Species at Risk COSEWIC[a]	Species at Risk in Ontario Listing[b]	Provincial breeding season SRANK[c]	Area-sensitive (OMNR)[e]	Maximum Number Observed
Common Yellowthroat	Geothlypis trichas			S5		2
American Redstart	Setophaga ruticilla			S5	A	3
Yellow Warbler	Setophaga petechia			S5		2
Northern Cardinal	Cardinalis cardinalis			S5		3
Rose-breasted Grosbeak	Pheucticus ludovicianus			S5		1
Indigo Bunting	Passerina cyanea			S5		2

[a] COSEWIC = Committee on the Status of Endangered Wildlife in Canada

[b] Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)
END = Endangered, THR = Threatened, SC = Special Concern

[c] SRANK (from Natural Heritage Information Centre) for breeding status if:
S1 (Critically Imperiled), S2 (Imperiled),S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)
SNA (Not applicable…'because the species is not a suitable target for conservation activities'; includes non-native species)

[d]Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

Appendix D



Significant Wildlife Habitat Assessment

Appendix D

Significant Wildlife Habitat (SWH) Assessment

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
Seasonal Concentration Areas			
Waterfowl Stopover and Staging Areas (Terrestrial)	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Suitable Habitat • Fields with sheet water during Spring (mid-March to May) Suggested Criteria • Studies carried out and verified presence of an annual concentration of any listed species	No suitable Habitat
Waterfowl Stopover and Staging Areas (Aquatic)	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	Suitable Habitat • Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration • Sewage treatment ponds and storm water ponds do not qualify as SWH, however a reservoir managed as a large wetland or pond/lake does qualify • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) Suggested Criteria Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH • Wetland area and shorelines associated with sites identified within the Significant Wildlife Habitat Technical Guide (SWHTG) (MNRF 2000) Appendix K are SWH	No suitable habitat
Shorebird Migratory Stopover Area	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	Suitable Habitat • Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH Suggested Criteria • Presence of 3 or more of listed species and > 1000[í] shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100 m radius area	No suitable habitat

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
Raptor Wintering Area	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area)	Suitable Habitat • The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors • Raptor wintering (hawk/owl) sites need to be > 20 ha with a combination of forest and upland Suggested Criteria Studies confirm the use of these habitats by: • One or more Short-eared Owls or; One or more Bald Eagles or at least 10 individuals and two listed hawk/owl species • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area	No suitable habitat
Bat Hibernacula	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	Suitable Habitat • Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Suggested Criteria • All sites with confirmed hibernating bats are SWH • The area includes 200m radius around the entrance of the hibernaculum for most development types and for wind farms	No suitable habitat

Bat Maternity Colonies	Maternity colonies considered SWH are found in forested Ecosites.
	All ELC Ecosites in ELC Community Series:
	FOD
	FOM
	SWD
	SWM
		Suitable Habitat
		• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH)
		• Maternity colonies located in mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees
		• Female bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2
		• Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred
		
		Suggested Criteria
		• Maternity colonies with confirmed use by;
		  • >10 Big Brown Bats
		  • >5 Adult Female Silver-haired Bats
		  • The area of the habitat includes the entire woodland or the forest stand ELC Ecosite or an Ecoelement containing the maternity colonies
			Potentially suitable habitat in woodland communities

Turtle Wintering Areas	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering	Suitable Habitat • For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH Suggested Criteria • Presence of 5 over-wintering Midland Painted Turtles is significant • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH	No suitable habitat

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
Reptile Hibernaculum	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.	Suitable Habitat • For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural locations • The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying Candidate SWH • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover Suggested Criteria Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in spring	Potentially suitable habitat in woodland communities
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	Suitable Habitat • Any site or areas with exposed soil banks, undisturbed or naturally eroding that is No licensed/permitted aggregate area • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles • Does not include a licensed/permitted Mineral Aggregate Operation Suggested Criteria Studies confirming: • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs or 50 bank swallow and/or rough-winged swallow pairs during the breeding season • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests	No suitable habitat
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	Suitable Habitat • Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used • Most nests in trees are 11 to 15 m from ground, near the top of the tree Suggested Criteria Studies confirming: • Presence of 2 or more active nests of Great Blue Heron or other listed species • The habitat extends from the edge of the colony and a minimum 300m radius or extent of the forest ecosite containing the colony or any island <15.0 ha with a colony is the SWH	Potenitally suitable habitat, but nesting of relevant species not observed during field investigations.
Colonially-Nesting Bird Breeding Habitat (Ground)	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3;	Suitable Habitat • Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas • Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands Suggested Criteria Studies confirming: • Presence of >25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern	No suitable habitat

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
	CUM CUT CUS	• Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant • Presence of 5 or more pairs for Brewer's Blackbird • The edge of the colony and a minimum 150m area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH	
Migratory Butterfly Stopover Areas	Combination of ELC Community Series; need tov have present one Community Series from each landclass: Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	Suitable Habitat • A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest Suggested Criteria Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. • Numbers of butterflies can range from 100-500/day - significant variation can occur between years and multiple years of sampling should occur • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admirals is to be considered significant	Not applicable, too far from Lake Ontario
Landbird Migratory Stopover Areas	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Suitable Habitat • Woodlots >5 ha in size and within 5 km of Lake Ontario • If woodlands are rare in an area of shoreline, woodland fragments 2 ha to 5ha can be considered for this habitat • If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Ontario are more significant • Sites have a variety of habitats; forest, grassland and wetland complexes • The largest sites are more significant • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH Suggested Criteria Studies confirm: • Use of the woodlot by >200 birds/day and with >35 species with at least 10 bird spp. recorded on at least 5 different survey dates • This abundance and diversity of migrant bird species is considered above average and significant	Not applicable, too far from Lake Ontario
Deer Winter Congregation Areas White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	Suitable Habitat • Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots >50 ha • Deer movement during winter in Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands • Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha • Woodlots with high densities of deer due to artificial feeding are not significant Suggested Criteria Studies confirm:	Not identified.

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
		• Deer management is an MNR responsibility, deer winter congregation areas considered significant will be mapped by MNRF • Use of the woodlot by white-tailed deer will be determined by MNR, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF	
Cliffs and Talus Slopes	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	• A Cliff is vertical to near vertical bedrock >3m in height • A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris • Most cliff and talus slopes occur along the Niagara Escarpment Suggested Criteria • ELC Communities: TAO, TAS, TAT, CLO, CLS or CLT	Not present.
Sand Barren	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow, (SBO1), thicket- like (SBS1), or more closed and treed (SBT1). Tree cover always < 60%.	• Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion • Usually located within other types of natural habitat such as forest or savannah • Vegetation can vary from patchy and barren to tree covered but less than 60% Suggested Criteria • A sand barren area >0.5 ha in size • ELC Communities: SBO1, SBS1, SBT1 • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics)	Not present.
Alvar	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Indicator Species: 1) Carex crawei 2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 7E	• An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil • The hydrology of alvars is complex, with alternating periods of inundation and drought • Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant • Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. • Vegetation cover varies from patchy to barren with a less than 60% tree cover Suggested Criteria • An Alvar site > 0.5 ha in size • Alvar is particularly rare in ecoregion 7E where the only known sites are found in the western islands of Lake Erie • Five indicator species specific to alvars within Ecoregion 7E: *1) Carex crawei 2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum* • Field studies identify four of the five Alvar indicator species within ELC communities: ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2 • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics) • The Alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses	Not present.
Old Growth Forest	Community Series: FOD FOC FOM SWD SWC SWM	• Old-growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris. Suggested Criteria • Woodland area is >0.5 ha	Not present.

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
		• If dominant trees species of the ecosite are >140 years old, then stand is SWH • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) • The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH	
Savannah	TPS1 TPS2 TPW1 TPW2 CUS2	• A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60% • In ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario) Suggested Criteria • No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH • Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 7E should be used • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics)	Not present.
Tallgrass Prairie	TPO1 TPO2	• A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover • In ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario) Suggested Criteria • No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH • ELC communities TPO1, TPO2 • Field studies confirm one or more of the Prairie indicator species listed in Appendix N in SWHTG (MNRF 2000) should be present • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics)	Not present.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	• Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG (MNRF 2000) • Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps • ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in SWHTG (MNRF 2000) Appendix M • The MNRF/NHIC will have up to date listing for rare vegetation communities	Not present.
Specialized Habitat for Species			
Waterfowl Nesting Area	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2	Suitable Habitat • A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5 ha) with small wetlands (<0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur • Upland areas should be at least 120m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests Suggested Criteria Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or presence of 10 or more nesting pairs for listed species including Mallards	Criteria not met

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
	SWD3 SWD4	• Any active nesting site of an American Black Duck is considered significant • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Suitable Habitat • Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy • Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms) Suggested Criteria Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH [ccvii], maintaining undisturbed shorelines with large trees within this area is important • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for >3 years or suspected of not being used for >5 years before being considered not significant	Criteria not met
Woodland Raptor Nesting Habitat	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD, CUP3	Suitable Habitat • All natural or conifer plantation woodland/forest stands combined >30ha or with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore island • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest Suggested Criteria Studies confirm: • Presence of 1 or more active nests from species list is considered significant • Red-shouldered Hawk and Northern Goshawk – a 400m radius around the nest or 28 ha of suitable habitat is the SWH. (the 28-ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) • Barred Owl – a 200m radius around the nest is the SWH • Broad-winged Hawk and Coopers Hawk, – a 100m radius around the nest is the SWH • Sharp-Shinned Hawk – a 50m radius around the nest is the SWH	Potentially suitable habitat, but nesting not observed during field investigations.
Turtle Nesting Areas	Exposed mineral soil (sand or gravel) areas adjacent (<100m) cxlviii or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1	Suitable Habitat • Exposed mineral soil (sand or gravel) areas adjacent (<100 m) to within the following Ecosites:MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1, FEO1 • Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas • Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH	No suitable habitat

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
	BOO1 FEO1	• Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used Suggested Criteria Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles • One or more Northern Map Turtle or Snapping Turtle nesting • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH • Travel routes from wetland to nesting area are to be considered within the SWH	
Seeps and Springs	Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Suitable Habitat • Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system (could contain a seep or spring - areas where ground water comes to the surface) • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species • The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat Suggested Criteria Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH • The area of an ELC forest ecosite containing the seeps/springs is the SWH	No suitable habitat
Amphibian Breeding Habitat (Woodland)	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians	Suitable Habitat • Presence of a wetland, pond, or woodland pool within or adjacent (within 120m) to a woodland (no minimum size) • Some small wetlands may not be mapped and may be important breeding pools for amphibians • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat Suggested Criteria Studies confirm; • Presence of breeding population of 1 or more of the listed salamander species or 2 or more of the listed frog species with at least 20 individuals (adults, juveniles, eggs/larval masses) or 2 or more of the listed frog species with Call Level Codes of 3	Potentially suitable habitat present, which is likely used by amphibians.
Amphibian Breeding Habitat (Wetland)	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands	Suitable Habitat • Wetlands >500 m^2 (about 25 m diameter) supporting high species diversity are significant • Some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators • Bullfrogs require permanent water bodies with abundant emergent vegetation. Suggested Criteria Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog or toad species and with at least 20 individuals (adults, juveniles, eggs/larval masses) or 2 or more of the listed frog species with Call Level Codes of 3	Potentially suitable habitat present, which is likely used by amphibians.

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
		• The ELC ecosite wetland area and the shoreline are the SWH	
Woodland Area-Sensitive Bird Breeding Habitat	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Suitable Habitat • Habitats where interior forest breeding birds are breeding • Typically large mature (>60 yrs old) forest stands or woodlots >30 ha • Interior forest habitat is at least 200 m from forest edge habitat Suggested Criteria Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH	Forests are too small for this habitat to be present.
Habitat for Species of Conservation Concern			
Marsh Bird Breeding Habitat	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	Suitable Habitat • Nesting occurs in wetlands • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water Suggested Criteria Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 or more of the listed species • Note: any wetland with breeding of 1 or more Trumpeter Swans, Black Terns or Yellow Rail is SWH • Area of the ELC ecosite is the SWH	No suitable habitat of sufficient size.
Open Country Bird Breeding Habitat	CUM1, CUM2	Suitable Habitat • Large grassland areas (includes natural and cultural fields and meadows) >30 ha • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years) • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species Suggested Criteria Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas	No suitable habitat of sufficient size.
Shrub/Early Successional Bird Breeding Habitat	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2	Suitable Habitat • Large natural field areas succeeding to shrub and thicket habitats >10ha[clxiv] in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years) • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.	No suitable habitat

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
		Suggested Criteria Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat • The area of the SWH is the contiguous ELC ecosite field/thicket area	
Terrestrial Crayfish	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish.	Suitable Habitat • Wet meadow and edges of shallow marshes (no minimum size) identified should be surveyed for terrestrial crayfish • Constructs burrows in marshes, mudflats, meadows; the ground can't be too moist • Can often be found far from water • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels; usually the soil is not too moist so that the tunnel is well formed Suggested Criteria Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable marsh meadow or terrestrial sites • Area of ELC Ecosite polygon is the SWH	Not observed.
Special Concern and Rare Wildlife Species	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	• All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species • When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially rare species • Linking candidate habitat on the site needs to be completed to ELC Ecosites Suggested Criteria Studies confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable • Habitat form and function needs to be assessed from the assessment of ELC vegetation types and an area of significant habitat that protects the rare or special concern species identified • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH; this must be delineated through detailed field studies • The habitat needs be easily mapped and cover an important life stage component for a species (e.g. specific nesting habitat or foraging habitat)	Eastern Wood-pewee observed.
Animal Movement Corridors			
Amphibian Movement Corridors	Any ecosite	• Animal movement corridors should only be identified as SWH where a confirmed or Candidate SWH has been identified by MNRF or the planning authority • Movement corridors between breeding habitat and summer habitat • Movement corridors must be considered when amphibian breeding habitat is confirmed as SWH • Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites • Corridors should consist of native vegetation, with several layers of vegetation • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant • Corridors should be at least 15 m of vegetation on both sides of waterway or be up to 200 m wide of woodland habitat and with gaps <20 m	Potentially present off subject property nearby connecting wetlands at west of property to other areas off-site. No suitable habitat on subject property.

Wildlife Habitat Category	ELC Communities	Provincial Guidance for Ecoregion 7E*	Assessment of Study Area
		• Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat	
Deer Movement Corridors	Any ecosite	• Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges) • Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200m wide	Deer wintering habitat not identified, not applicable.