

Scoped Environmental Impact Study

Con. 28, Pt. Lot 28, (Roll No. 15420202003494000000),
0 Fire Access Route, Municipality of Trent Lakes

October 2025



Prepared For:	Rodney Kingdon
Prepared By:	Aster Environmental Services Ltd.
Date:	October 14, 2025
Project ID:	AES-25062

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Sent to: grichards@mhbcplan.com

Technical Report: Scoped Environmental Impact Study, Con. 28, Pt. Lot 28, (Roll No. 15420202003494000000), 0 Fire Access Route, Municipality of Trent Lakes

Dear Graham:

Aster Environmental Services Ltd. has prepared the attached report to address submission requirements for your development application(s).

We trust that the enclosed addresses the scope of work agreed upon in our contract and/or as established through consultation with the approval agency.

For the benefit of the reviewing authority, all applicable and actionable recommendations are provided under Section 5 of the report. Recommended development constraints, if/where applicable, are displayed on Figure 3. These key items should be reviewed in detail to ensure an understanding of proponent's requirements to demonstrate due diligence and compliance with respect to environmental policies and regulations.

Best regards,

Aster Environmental Services Ltd.

A handwritten signature in black ink that reads "M Francis".

Mike Francis, M.E.S., H.B.Sc., E.P.
Principal – Senior Ecologist



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1) INTRODUCTORY CONTEXT & BACKGROUND

Aster Environmental Services Inc. (hereafter 'Aster Environmental' or 'AES') was retained by MHBC Planning (hereafter 'proponent') to prepare an Environmental Impact Study (EIS) for proposed development on a property described as Con. 28, Pt. Lot 28, (Roll No. 15420202003494000000), 0 Fire Access Route, Municipality of Trent Lakes (the 'subject property'; see **Figure 1**). The property measures approximately 10 ha and is located in a rural area represented by waterfront recreational properties, crown-owned lands, and mixed natural cover.

To summarize our understanding of planning context, AES has reviewed various land use planning schedules applicable to the local jurisdiction. According to the Trent Lakes Zoning Bylaw and Official Plan, the subject property is zoned and designated as 'Rural'. Schedule B to the Trent Lakes OP does not apply any natural heritage designations or overlays to the subject property or adjacent lands. For convenient reference, various applicable land-use schedules are provided in **Appendix 1**, with the property location highlighted.

From a natural heritage perspective, the subject property is represented entirely by existing natural cover. This includes a mix of natural hardwood/mixed forest and the shoreline of a small lake, parts of which support aquatic vegetation/riparian wetlands. Natural feature coverage on the local landscape is notably very high, being located within the extensively forested Precambrian Shield ecoregion. All areas of natural cover on the local landscape have the potential to support various wildlife habitat functions, including habitat for species protected under the provincial *Endangered Species Act*.

It is our understanding that the proponent is seeking approvals to develop a portion of the subject property through construction of a dwelling and associated amenities (e.g., private septic, accessory structure). This report has been requested by the Municipality to accompany an application for a Zoning Bylaw Amendment (ZBA) to permit access on an unmaintained/private road. Additionally, the application may need to be accompanied by a Site Plan Agreement (SPA), presumably pertaining to the location and design of the proposed dwelling and amenities.

The initial goal of this assessment is to determine the presence, extent, and function of natural heritage features distributed throughout a defined study area. This allows for a review of application conformity with various local and provincial policies that support protection of natural heritage. The EIS also includes consideration for compliance with commonly applicable environmental regulations, including the provincial *Endangered Species Act*, federal *Fisheries Act*, and federal *Migratory Birds Convention Act*. Based on this review, the report offers an opinion on the proposed development location and design, including site-specific recommendations for mitigation, where applicable.

2) ASSESSMENT APPROACH

The approach and methods used to carry out this assessment include the following general stages:

1. Confirm an understanding of key project context, including the trigger and purpose for conducting the study and the nature of proposed development (as outlined in **Section 1**).
2. Identify a study area in which to focus assessment efforts.
3. Gather background biophysical information for the study area to become familiar with existing natural heritage feature mapping and records of features and species of conservation interest.
4. Conduct a comprehensive site investigation and targeted survey methods (where necessary/appropriate) to further support an assessment of the presence or absence of natural heritage features that are considered significant and requiring protection.
5. Determine whether implementation of the proposed development plan will result in negative impacts to significant/key natural heritage features, and identify ways in which such impacts can be mitigated via avoidance, minimization, and/or compensation measures.



6. Provide an assessment of consistency and conformity of the proposed development plan with applicable municipal, provincial, and federal environmental policies and regulations.

2.1 Identification of Study Area

The primary focus or 'study area' for this assessment is the subject property on which development is proposed (see **Figure 1**). The study area is further refined to focus only on the portion of the property where development is proposed (see **Figure 2**). General, cursory consideration is given to lands within 120 m from the proposed limits of development. The 120 m assessment radius is a measure that is intended to ensure appropriate consideration for natural heritage features and functions of adjacent lands, consistent with direction in the Natural Heritage Reference Manual (NHRM) under the Provincial Policy Statement (PPS). Assessment of other privately owned lands are typically limited to a desktop review and only discussed if/where relevant.

2.2 Review of Background Information Sources

Background biophysical information pertaining to the study area was collected from a variety of sources. These include:

- **The Official Plan of the Township of Galway-Cavendish and Harvey (Municipality of Trent Lakes) & Schedules (2011 Consolidation)**
- **Municipality of Trent Lakes Zoning By-Law B2014-070 & Schedules (July 2014)**
- **Ministry of Natural Resources and Forestry (MNR) Natural Heritage Areas and Natural Heritage Information Centre (NHIC) database** regarding information on occurrences of SAR and provincially tracked species (squares: 17QK0057 and adjoining squares; accessed Oct 2025, at: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).
- **Ontario Breeding Bird Atlas (OBBA) database and the Atlas of the Breeding Birds of Ontario, 2001–2005** (Cadman et al. 2007) regarding birds that were documented to be breeding in the vicinity of the study area during the 2001–2005 period (accessed Oct 2025 at: <http://www.birdsontario.org/atlas/squareinfo.jsp>).
- **Ontario Reptile and Amphibian Atlas (ORAA) database** regarding records of reptiles and amphibians that have been observed within the vicinity of the study area (accessed Oct 2025 at: http://www.ontarioinsects.org/herpatlas/herp_online.html).
- **Department of Fisheries and Oceans – Aquatic Species at Risk Mapping:** <https://www.dfo-mpo.gc.ca/species-especies/sara-lep/map-carte/index-eng.html>
- **Department of Fisheries and Oceans – Fish and Fish Habitat Protection Program Website:** <https://www.dfo-mpo.gc.ca/pnw-ppe/ffhpp-ppph-eng.html>
- **Atlas of the Mammals of Ontario** (Dobbyn 1994) regarding mammal records within and adjacent to the study area.
- **Species at Risk (SAR) range maps** (accessed Oct 2025 at: <http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>).
- **iNaturalist** (accessed Oct 2025 at: <https://www.inaturalist.org>).
- **Physiography of Southern Ontario** (Chapman and Putnam 2007) for information pertaining to the physiography and soils of the study area and adjacent lands.
- Digital Ontario base maps and aerial photography resources.

2.3 Site Assessment Methods

The sections below outline the various methods used to characterize and assess natural heritage features and functions potentially associated with the subject property and/or study area.



2.3.1 Functional Habitat Assessment

One of the key elements of any environmental/natural heritage assessment is a review of fish and/or wildlife habitat. In conducting such a review, AES relies foremost on a functional assessment approach. This involves the identification of potential habitat based on the characterization of the biophysical conditions of a site, including classifying vegetation communities, identifying hydrologic features (wetlands, watercourses), and describing other physical characteristics of a specified study area.

The process includes a review of existing background mapping to determine if significant features have been previously identified by the planning authority. We then consider the potential for significant species to occur based on general habitat requirements, background occurrence records, and published reports. If conditions are suitable within the study area for a species that may be known to occur in a local area, it is often simplest to assume that such a species is present, rather than undertake targeted assessments to demonstrate absence. This approach is suitable to apply to most small-scale and/or low-risk development applications.

2.3.2 Targeted Wildlife Assessment

In certain circumstances, AES completes species-specific or otherwise targeted assessments in accordance with applicable standard methods and protocols (or modified versions thereof). Targeted survey efforts may be undertaken due to one or more triggers, such as a specific request from an approval authority. In some cases, when a species of conservation concern may occur in conflict with a development proposal, it becomes critical to confirm presence/absence to inform mitigation planning or potential authorization requirements (e.g., *Endangered Species Act* permits).

Given the scoped nature of this study, a robust targeted survey program was not considered necessary to inform an impact assessment. This is because the nature and context of the proposal present relatively low risk to areas that represent wildlife habitat. While significant species may be expected to occur within the local landscape, it is our opinion that presence/absence of most species/guilds can be reasonably interpreted from habitat context. Therefore, it is our opinion that further in-season, targeted survey effort (beyond the single, summer-season survey) is not necessary to draw reasonable conclusions regarding the potential for negative impacts.

2.3.3 Physical Assessment (Topography, Surficial Geology, & Drainage)

The geophysical setting of the study area was determined using various background resources, including topographic maps, provincial soil survey data, and aerial imagery. On-site investigations further characterize general physical conditions, describing notable features such as steeply sloping land, micro-topographical conditions, exposed bedrock, etc. Soil sampling may be undertaken where determination of specific soil conditions would influence other ecological characterization of the site, e.g., confirming presence/absence of hydric soils to inform wetland mapping. No specific soil sampling was undertaken to support this assessment. The potential for drainage features was determined through the review of background mapping resources and further assessed during the on-site investigation.

2.3.4 Vegetation Assessment

Natural vegetation communities within the study area were reviewed in accordance with applicable Ecological Land Classification (ELC) community tables (Banton et al 2015), which is generally intended for use in Ecoregion 5E. ELC defines ecological units or communities based on bedrock, climate (temperature, precipitation), physiography (soils, slope, aspect), and corresponding vegetation. The key value of applying the ELC system in an EIS context is the potential to identify communities that are known to be rare/sensitive or otherwise likely to support certain other natural heritage features or functions (e.g., rare species or specialized wildlife habitat).

In our experience, the ELC classification key is not comprehensive, and improvised classifications are occasionally used to describe communities, e.g., anthropogenic features. Moreover, it is commonplace to employ a scoped, streamlined approach to ELC for the purpose of conducting site-specific EIS work. In most cases, vegetation communities are pre-delineated via aerial photo interpretation and subsequently confirmed and refined in the field using a general wandering survey approach. The boundaries of any



identified wetland features are delineated in accordance with the “50% wetland vegetation rule” as directed by the Ontario Wetland Evaluation System (OWES), where feasible.

Vascular plants are typically inventoried during vegetation community classification efforts and other on-site surveys (where applicable). Additional observations may be recorded incidentally as part of any other field data collection efforts. AES may maintain a working list of observed vascular plant species and collect field samples of unidentified species for future verification. A summarized vegetation list is prepared and reviewed to determine if any observed species support a conservation status that is relevant within the jurisdiction. Conservation status may include a listing as special concern, threatened, or endangered under the provincial ESA and/or a sub-national conservation rank of S1-S3 (*i.e.*, provincially rare), as administered by the provincial Natural Heritage Information Center (NHIC).

2.3.5 On-Site Investigation

The background review of biophysical information and general preliminary assessment informed the scoping of field data collection activities undertaken on Aug 13, 2025. Conditions during the on-site investigation were described as 25-50% cloud cover, low wind, with temperatures ranging from 19-25 degrees. Approximately five hours were spent conducting the on-site survey, beginning at around 9 am. The site investigation was undertaken by a qualified ecologist with significant experience in conducting ecological site assessment. The investigation was timed appropriately to assess presence/absence and/or the habitat potential of constraining species, including potential rare or at-risk wildlife and vascular plants.

The level of on-site data collection effort was considered appropriate given the location and natural heritage context of the study area. Any discrete feature boundaries were delineated with a high-accuracy GPS; all relevant features were photographed and catalogued for inclusion in this report (**Appendix 2**). Existing conditions, as characterized through our on-site investigation, are described in **Section 3**.

2.4 Significant Natural Heritage Feature Assessment

Provincial and local planning policies employ varying terms for natural heritage/environmental features and designations that have recognized ‘statuses’ within individual planning jurisdictions. Planning in this jurisdiction is administered under the Municipality of Trent Lakes OP. Therefore, the terminology used in this report is consistent with those features identified for protection under Section 5.1.10.1 of the OP, including the following:

- Flood Plains
- Steep Slopes
- Unstable Soils
- Significant Wetlands & Other Wetlands
- Fish Habitat
- Significant Woodlands
- Significant Valleylands
- Habitat of Endangered Species and Threatened Species
- Significant Wildlife Habitat
- Areas of Natural and Scientific Interest

The listed features are assessed in accordance with applicable technical guidance documents, including but limited to the following:

- *Natural Heritage Reference Manual (NHRM) for the Natural Heritage Policies of the Provincial Policy Statement* (MNR 2010)
- *Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E* (MNR 2015).



- *Department of Fisheries and Oceans Fish and Fish Habitat Protection Program guidelines.*
- *General habitat descriptions, recovery strategies, and other official technical documents related to species listed as endangered or threatened under the Endangered Species Act.*

The potential presence/absence of relevant species of conservation interest, such as endangered and threatened species, are assessed using a combination of the background information review outlined in **Section 2.2** and the habitat-based approach outlined in **Section 2.3.1**. Our assessment of significant natural heritage features is provided in **Section 4** of this report.

2.5 Impact Assessment and Mitigation Planning

The impact assessment process is a systematic evaluation of the potential environmental consequences and risks of a proposed project or development. It is typically predictive and interpretative, relying on a melding of hard data and professional judgement. Once a study site is characterized through an existing conditions assessment, site characteristics are defined for their significance and sensitivities. The impact assessment then focuses on predicting how features may be subject to change, degradation, or outright elimination through the life of a development.

Where negative impacts to a feature may be expected, a review is undertaken to determine the potential scale of impacts and opportunities for mitigation. The ultimate goal is to outline a mitigation plan that allows for avoidance of anticipated impacts, thereby achieving a scenario of 'no negative impacts' and/or 'no net negative impacts'. Site-specific mitigation can take any of the following forms:

- **Avoidance:** identifying an alternative approach that avoids the predicted impact.
- **Minimization:** refining the proposal to reflect a scenario where predicted impacts are either negligible or acceptable.
- **Active Mitigation:** developing a plan to mitigate various impact pathways through the development process, the successful implementation of which will avoid impacts.
- **Offsetting:** undertaking one or more measures to compensate for unavoidable impacts, thereby pursuing a scenario of no *net* negative impacts.

Our impact assessment and recommended mitigation measures/plan are provided in **Section 5**.

2.6 Conformity & Compliance Review

There are several environmental policies (*e.g.*, statutes, regulations, plans, guidance documents, etc.) that may apply to the study area and proposed development, which are listed below. A general assessment of the proposed development's consistency and conformity with these environmental policies is presented in **Section 6**.

- Federal *Fisheries Act*, R.S.C. 1985
- Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22
- Provincial Planning Statement, 2024, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13
 - Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2010.
 - Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E.
- Provincial *Endangered Species Act*, S.O. 2007, c. 6
- The Official Plan of the Township of Galway-Cavendish and Harvey (Municipality of Trent Lakes) & Schedules (2011 Consolidation)



3) EXISTING CONDITIONS – STUDY AREA CHARACTERIZATION

3.1 General Site Conditions & Land Uses

The subject property measures approximately 10 ha, with the study area comprising approximately 1/3 of the total property area, or ~3.5 ha. The parcel fronts onto a single roadway known as 'Forest Access Rd.'. It is our understanding that this is either an unmaintained municipal roadway or a privately maintained roadway through crown lands. The property supports two existing points of entry from the roadway, both rough laneways of sufficient width to accommodate single vehicle passage (see **Figure 2**). These laneways provide access to the lake shoreline, as well as to a small camping area near the shoreline. The property encompasses almost all of the lake, except for the very eastern shoreline, which borders crown-owned lands to the east. There are no existing permanent structures present.

Signs of active land use on the broader landscape are limited, with most surrounding lands being in crown ownership. In addition to the subject property, there is a private parcel adjacent to the south, with shoreline frontage on a separate but adjacent small lake. The local area also supports a network of off-road vehicle trails, and local crown lands are presumably used for recreational hunting and fishing. We observed no evidence of recent tree harvesting; however, local forests are assumed to be managed for rotational timber harvest. A popular cottage lake, Crystal Lake, is located approximately 1.5 km to the north. The nearest rural settlement area, Kinmount, is located ~15 km to the northwest.

3.2 Physiography, Topography, and Drainage

The study area is contained within the broader physiographic region known as the Algonquin Highlands, a broad-spanning region that encompasses large portions of central Ontario surrounding and including Algonquin Provincial Park. The local area is described as supporting Shallow Till and Rock Ridges (Chapman and Putnam 1984). The property itself appears characteristic of this, with minor bedrock exposures present but not overly prominent. Underlying bedrock characteristics on the local landscape are mostly composed of carbonate metasedimentary formations (e.g., marble). The Ontario Soil Survey classifies surficial soils in the local area as Tweed Sandy Loam, a well-drained soil type occurring on irregular, bedrock-controlled landscapes.

The study area supports a variety of slope classes, ranging from moderate to steep, with the gentlest grades occurring along the roadway frontage. Mildly steep slopes occur along most the lake perimeter, with sections of prominent steep slopes (e.g., 30-40 degrees) occurring in limited isolated areas (see **Figure 2**). This topography is characteristic of the surrounding landscape.

Background mapping resources do not depict any defined drainage features occurring within the subject property or directly adjacent lands. Based on our site investigation, it is assumed that drainage in the study area occurs as diffuse overland flow in the direct of the lake. It is possible that small, seasonal flow pathways occur down the slopes during spring melt and larger storm events; however, we observed no evidence of defined overland drainage. The small lake within the study area drains southward, representing a headwater source to St. Croix Creek, which in turn represents a tributary to a larger watercourse known as Miskwaa Ziibi. This drainage network flows southward into Little Bald Lake, which is connected to Pigeon Lake, one of the larger waterbodies in the Kawartha Lakes chain.

3.3 Aquatic/Shoreline Conditions

The study area contains an extensive length of shoreline frontage onto an unnamed lake. Portions of this shoreline are represented by a floating aquatic marsh ecosite, while other areas are represented by a deeper, open-water lake environment. The general lake environment is described in terms of ELC as a mix of 'Open Water Marsh' and 'Open Aquatic' (G150 and OA on **Figure 2**).

Much of the immediate shoreline associated with the property is represented by an overhanging tree canopy composed primarily of coniferous species such as White Cedar (*Thuja occidentalis*). The typical immediate shore fringe supports a sparse mix of riparian species such as Blue Flag Iris (*Iris versicolor*), Lake Sedge (*Carex lacustris*), Swamp Milkweed (*Asclepias incarnata*), Canada Bluejoint (*Calamagrostis canadensis*), Arrowhead (*Sagittaria sp.*), Marsh Fern (*Thelypteris palustris*), and Sensitive Fern (*Onoclea sensibilis*). The immediate near-shore zone (e.g., up to ~10 m from shore) is highly variable in depth, with



certain locations supporting exposed marble bedrock and a rapid drop to 2 m or more of depth. Areas with a shallower transition zone (e.g., ecosite G150) support patches of submerged and floating aquatic vegetation dominated by White Water Lily (*Nymphaea odorata*).

3.4 Terrestrial/Wetland Vegetation Conditions

Vegetation community mapping with classifications generally based on Banton et al (2015) is provided on **Figure 2**, and descriptions are provided below. Each description includes a list of representative plant species within each community, with a full list of observed plants provided in **Appendix 3**. Various photos in **Appendix 2** can be viewed to support an understanding of on-the-ground conditions.

The dominant vegetation cover within the study area is described as ‘Shallow, Dry to Fresh: Maple Hardwood’ (G018Tt). This is a second-growth hardwood forest with a canopy dominated by Sugar Maple (*Acer saccharum*), and associate components of Paper Birch (*Betula papyrifera*) and Basswood (*Tilia americana*). The sub-canopy layer contains a dense mix of younger hardwood growth, with some additional diversity including White Ash (*Fraxinus americana*), Black Cherry (*Prunus serotina*), Ironwood (*Ostrya virginiana*), and Eastern Hemlock (*Tsuga canadensis*). In most locations, this ecosite is notably quite young with small canopy trees averaging <30 cm; however, some scattered mature Sugar Maples are present on sheltered slopes.

Lower woody growth within this community includes an abundance of mixed hardwood regeneration, with mixed shrubs such as Purple-Flowering Raspberry (*Rubus odoratus*), Leatherwood (*Dirca palustris*), Bush Honeysuckle (*Diervilla lonicera*), Striped Maple (*Acer pensylvanica*), and trace Elderberry (*Sambucus racemosa*). Common groundcover vegetation includes Sarsaparilla (*Aralia nudicaulis*), Spikenard (*A. racemosa*), Bellwort (*Uvularia grandiflora*), Blue Cohosh (*Caulophyllum thalictroides*), False Solomon’s Seal (*Maianthemum racemosum*), Wood Ferns (*Dryopteris marginalis*), Mayflower (*Maianthemum canadense*), sedges (*Carex pedunculata*), and Trillium (*Trillium grandiflorum*). The soil in this location appears dry and thin, with subtle hummocky microtopography along a gradual east-facing slope. Many of the groundcover species here are more prominent on the southern Ontario landscape, indicative of neutral to alkaline soils influenced by the underlying marble bedrock.

The local landscape supports a mosaic of forest cover, with the above hardwood-dominant community transitioning to more prominent coniferous cover along lower elevations near the lake shoreline. These areas are described on **Figure 2** as ‘Shallow, Dry to Fresh: Hemlock – Cedar Conifer’ (G013Tt). Canopy vegetation includes a mix of Eastern Hemlock, White Cedar, trace Balsam Fir (*Abies balsamea*), and variable hardwood components, including some larger Sugar Maples, Red Maples (*Acer rubrum*), and Red Oak (*Quercus rubra*). The sub-canopy structure is generally equivalent to the canopy, while shrub and groundcover layers are minimal due to dense shading. Where present, common groundcover species include Sarsaparilla and Wood Ferns, with riparian species occurring along direct transitional zones with the lake shoreline.

3.5 Fish & Wildlife Habitat Conditions

The combined results of our background review and on-site assessment indicate that the subject property and/or adjacent lands have the potential to support a range of fish and/or wildlife habitat functions, as discussed in the following sections.

3.5.1 Fish Habitat

Regarding fish habitat, there is a single aquatic feature documented within the study area, i.e., an unnamed lake that inherently supports direct fish habitat. The lake is ~4 ha in area, with an unknown average depth. The near-shore aquatic zone within the study area is variable, ranging from treed bedrock shoreline with minimal aquatic vegetation or in-water structure, to areas with extensive riparian vegetation, overhanging trees, and downed woody debris. This review did not include a comprehensive assessment or any targeted sampling of fish habitat; however, we provide the general conclusion that the shoreline area can be expected to provide general fish habitat. The most sensitive/functional areas are likely those associated with identified wetland ecosites (see **Figure 2**).



No background information is available regarding fish habitat communities in this lake. The provincial Fish On-Line database lists the following species catch records associated with Loom Lake, which is located directly north of the unnamed lake: Brown Bullhead, Largemouth Bass, Pumpkinseed, Smallmouth Bass, Walleye, White Sucker, and Yellow Perch. Given the assumed shallow depth and recorded local fish species, it is estimated that the unnamed lake supports a relatively warm-water thermal regime. The DFO Aquatic Species at Risk (SAR) mapping application displays no areas of known aquatic SAR habitat in association with local lakes.

3.5.2 Wildlife Habitat

Regarding wildlife habitat, the extent and diversity of natural land cover on the local landscape has inherent potential to support various habitat functions for local wildlife. The surrounding landscape contains extensive natural cover, including a mosaic of woodlands, wetlands, and drainage corridors. These areas can be expected to support a range of common and sensitive wildlife.

3.5.2.1 *Mammals*

No targeted survey efforts were undertaken with respect to general mammalian diversity; however, all incidental species observations were documented during our on-site investigation, which included White-tailed Deer, Moose, Beaver, Red Squirrel, Eastern Chipmunk, Eastern Coyote, and Raccoon. We expect there is potential for various other mammalian species to occur on the property or surrounding landscape, such as Black Bear, and a variety of smaller rodent species, etc. Additionally, the study area has some potential to support one or more bat species. Potentially significant habitat functions related to mammals are discussed under **Section 4**.

3.5.2.2 *Birds*

In addition to mammals, we expect that the study area has the potential to support various migratory and resident bird species. The on-site investigations were undertaken outside of the core breeding bird season, but within a timeframe when locally breeding species would be present and potentially detectable. Species documented during surveys included: Red-Eyed Vireo, White-breasted Nuthatch, Northern Flicker, Red-bellied Woodpecker, Eastern Wood-Pewee, Black-capped Chickadee, Wild Turkey, Broad-winged Hawk, Common Yellowthroat, Gray Catbird, Red-winged Blackbird, Yellow Warbler, Mallard, and Great Blue Heron.

The species documented during on-site surveys are generally considered common locally; however, one or more observed species are listed as SAR in Ontario (see **Appendix 4**). Where applicable, potential occurrences of bird species of conservation concern are assessed in **Section 4** based on a combination of habitat assessment and review of background databases.

3.5.2.3 *Herptiles*

Targeted reptile and/or amphibian surveys were not considered necessary to inform this scoped review; however, our site visit was undertaken at a time of year that would allow for identification of key habitat features. The property supports extensive frontage on a small lake, include a broad area of floating marsh vegetation that could support various anurans, such as Green Frog, Leopard Frog, and Bull Frog.

The lake and wetland complex also offers extensive habitat opportunities for turtles, including Snapping Turtle, Midland Painted Turtle, and potentially Blanding's Turtle. Multiple individual Midland Painted Turtles were observed basking on logs near the shoreline within the study area. No evidence of turtle nesting sites was observed during surveys. Most of the study area would be expected to represent general habitat for snakes and lizards (i.e., Five-lined Skink); however, we observed no features that would indicate the presence of significant habitat for snakes or skinks (e.g., table rocks, bedrock fissures, rock barren ecosites).

Potential occurrences of herptile species of conservation concern and/or related significant wildlife habitat are assessed in **Section 4** based on combination of habitat assessment and review of background databases.



3.5.2.4 Species at Risk

We note that the subject property and/or surrounding landscape may represent habitat for one or more species protected under the ESA, as evidenced by existing records within background databases (NHIC, OBBA, iNaturalist), as well as indicative habitat features observed by AES during the assessment. All relevant observations of wildlife species and/or habitat features, including individuals of species at risk or other species of conservation concern, are discussed in **Section 4** of this report within the context of KNHFs.

4) **SIGNIFICANT NATURAL HERITAGE FEATURE ASSESSMENT**

Based on review of the biophysical information collected during background information gathering, and analysis of the existing conditions of the study area as described above, there are multiple significant natural heritage features that may occur on the local landscape. As discussed under **Section 2.4** of this report, the Municipal OP lists 'Environmentally Sensitive Features' and other significant features under Section 5.1.10.1 of the Municipal OP. The following features are considered both applicable and present (or potentially present) within the study area:

- Steep Slopes
- Wetlands
- Fish Habitat
- Habitat of Endangered & Threatened Species
- Significant Wildlife Habitat

All potentially relevant features defined under the Municipal OP are listed in the section below, with rationale provided regarding the conclusion of presence/absence of each feature.

4.1 **Flood Plains**

This study did not include an assessment of potential floodplain constraints associated with the property. However, the property is not associated with a watercourse, and it is assumed that floodplains do not represent a potential hazard in this setting. Any quantitative assessment of flood plain constraints would require investigation by other qualified professionals, if deemed a concern by the approval authority. No further assessment undertaken.

4.2 **Steep Slopes**

Limited areas of steeply sloping land are present within the study area. This report does not provide an exact delineation of steep slopes vs. other slope classes, noting that the municipal OP does not appear to provide an exact definition for what constitutes a steep slope. **Figure 2** highlights some example locations where localized slopes may exceed 40% and are considered very steep. Discussion of potential development implications is provided under **Section 5.1**.

4.3 **Unstable Soils**

Terrestrial portions of the study area support shallow till soils over bedrock. We observed no areas with deep organic substrates, karst indicators, or areas with signs of active erosion. While this report does not provide an assessment of geotechnical stability, we did not observe any indication of the presence of unstable soils. Any quantitative assessment of unstable soil constraints would require investigation by other qualified professionals, if deemed a concern by the approval authority. No further assessment undertaken.

4.4 **Significant Wetlands & Other Wetlands**

Wetlands are commonplace across the local and regional landscape in which the study area is located. Background mapping, including provincial resources, depict small areas of wetland occurring along the shoreline of the unnamed lake. Other patches of wetland are distributed throughout the surrounding



landscape, generally represented by poorly drained organic deposits between bedrock ridges. Per the provincial wetland layer, wetlands on local landscape are limited to 'unevaluated' features, with no wetlands in the vicinity regarded as 'provincially significant' (PSW).

As part of the site investigation, AES conducted a review of potential wetland ecosites within the study area, with none identified in the terrestrial portions of the property. Broad sections of the near-shore aquatic zone support shallow depths and dense floating aquatic vegetation that support some wetland functions (see **Figure 2**). Typical vegetative characteristics of this feature are described under **Section 3.3**.

Shoreline wetlands can be assumed to support various ecological functions, with potentially significant functions discussed further under sections below. Hydrologically, wetland ecosites within the study area are closely influenced by lake levels. These features may receive some additional influence from minor overland flow/groundwater seepage, but are generally a product of permanent connectivity with the lake environment.

Wetlands typically receive some level of protection under local planning policies. Furthermore, wetland systems may receive protections related to the provision of habitat for protected species. Further discussion, including an assessment of potential impacts to wetlands resulting from implementation of the proposed development, is provided in **Section 5.2**.

4.5 Fish Habitat

A general assessment of potential fish habitat functions within the study area is provided under **Section 3.5.1**. To summarize, the only area of direct fish habitat within the study area is the small unnamed lake, which is assumed to support a generic warmwater fish community. The shoreline area can generally be regarded as general fish habitat, with portions containing downed woody debris and wetland vegetation being most likely to support important fish habitat functions.

Further discussion, including an assessment of potential impacts to fish habitat resulting from implementation of the proposed development, is provided in **Section 5.2**.

4.6 Significant Woodlands

The study area is located in Ecoregion 5E, an extensively forested landscape associated with the Precambrian Shield. Per provincial direction of the PPS, significant woodland features are only regarded as a development constraint in Ecoregions 6E and 7E. While significant woodlands are identified as a natural heritage constraint in the Municipal OP, it is assumed that this is only applicable to portions of the Municipality within the Ecoregion 6E. No further assessment undertaken.

4.7 Significant Valleylands

Similar to significant woodlands, the PPS prescribes that significant valleyland features are only regarded as a development constraint in Ecoregions 6E and 7E. While significant valleylands are identified as a natural heritage constraint in the Municipal OP, it is assumed that this is only applicable to portions of the Municipality within the Ecoregion 6E. No further assessment undertaken.

4.8 Habitat of Endangered and Threatened Species

To assess the potential presence of individuals and/or habitat for endangered and threatened species within the study area, AES conducted the following:

- Review the range maps for all species designated as endangered and threatened in Ontario, as per Schedules 2 and 3 of Ontario Regulation 230/08 [(Species at Risk in Ontario List (SARO List)), located here: <https://www.ontario.ca/laws/regulation/080230>]. In our experience, the potential presence of most provincially endangered and/or threatened species can be ruled out based on their limited geographical ranges in the province and/or a lack of specific habitat conditions that are required to carry out key life processes.



- Reviewed the NHIC database for existing records of element occurrences for endangered or threatened species (17QK0057 and adjoining squares). Databases of iNaturalist, OBBA, and ORAA were also reviewed as of Oct 2025.
- On-site investigation undertaken in 2025, during which vegetation conditions were characterized for habitat-based assessment.

Information from the above assessment process was used to inform a site-specific screening, as contained in **Appendix 4**. The screening is based on a list of species that are known to occur within the upper-tier municipal jurisdiction (*i.e.*, County of Peterborough). Through this screening, the species discussed below were identified as having the potential to be present within the study area. Where relevant, potential impacts to these species are discussed further in **Section 5.3**.

4.8.1 Blanding's Turtle (*Emydoidea blandingii*; Threatened)

This species may be associated with a broad range of wetland conditions and is known to occur on the local landscape. The NHIC database displays one or more local records for this species on the surrounding landscape. According to the ORAA database, the subject property is generally set within the core provincial range for the species.

Blanding's Turtles are highly dependent on wetlands and aquatic features to carry out key life processes. Individuals are typically found in wetlands with permanent standing water that offer basking structures (e.g., logs, hummocks) and vegetation structure that supports thermoregulation. Overwintering habitat is typically represented by deeper organic substrates under sufficient depth of standing water to avoid freezing. Nesting occurs in exposed mineral substrates, such as gravel, sand, etc. with appropriate sun exposure to support incubation.

The study area contains areas of wetland and shallow aquatic habitat associated with the unnamed lake. These settings have the potential to support overwintering habitat as well as general basking and foraging areas. No evidence of potential nesting sites was observed within the study area. Individuals of this species could be expected to occur elsewhere on the property through regular seasonal movements.

An assessment of potential impacts to this protected species resulting from implementation of the development plan is provided in **Section 5.3**.

4.8.2 Endangered Bat Species (*Myotis lucifugus*, *M. septentrionalis*, *Lasiurus borealis*, *L. cinereus*, *Lasionycteris noctivagans*, *Perimyotis subflavus*)

These species, assessed as a species guild (related species with similar habitat characteristics), include several bat species listed as endangered in Ontario. Bats are highly mobile; however, individuals and groups of the noted bat species are also recognized as having some degree of fidelity to suitable local sites for daily and seasonal 'roosting' activities. While some species (*i.e.*, *Myotis lucifugus*) exhibit a preference for roosting in anthropogenic structures, natural roosting sites are also important. Natural roosting sites are generally associated with mature forests containing a sufficient density of large trees in various stages of decay, otherwise known as 'snags'. Snags can provide features such as cavities and/or loose bark, on which bats rely for shelter and thermoregulation throughout the active season.

Most of the study area supports established tree cover as described in **Section 3.4**. Ecosites G018Tt and G013Tt support a predominantly young canopy, lacking many larger trees of advanced age. No quantitative surveying of the study area has occurred to identify the location of individual snags or potential bat roosting sites. Based on a qualitative review of this ecosite, we noted that the canopy appears in good health with no observed prominent clusters of dead-standing trees. Regardless, it is expected that this forest ecosite can provide general roosting opportunities for bats. Additionally, wetland and shoreline areas associated with the unnamed lake can be expected to support foraging opportunities for bats.

Further discussion, including an assessment of potential impacts to individuals of endangered bat species resulting from implementation of the proposed development plan, is provided in **Section 5.3**.



4.9 Significant Wildlife Habitat

Significant wildlife habitat (SWH) represents a range of habitat features that are recognized as providing specialized or otherwise important functions for various forms of wildlife. Designation of confirmed SWH is ultimately the responsibility of the relevant planning authority, and it is our understanding that no specific SWH designations have been applied to the study area. Notwithstanding, candidate SWH can be identified on a site-specific basis, often triggered through a proposed change in land use or a large-scale development application.

To ensure due diligence in this regard, AES has reviewed applicable technical guidance for the identification of specific SWH features and functions as contained in the SWH Criteria Schedules for Ecoregion 5E (MNR 2015). A preliminary screening and assessment of the criteria schedules is contained within **Appendix 5**. As detailed in this assessment, the results of our field program and background review indicate that the following SWH features/functions have the potential to occur within the study area. An impact assessment is provided for potential SWH features in **Section 5.4**.

4.9.1 Bat Maternity Colonies

This function may occur in association with forests across the local and regional landscape, including on and adjacent to the property. Refer to **Section 4.8.2** for discussion regarding the potential for bat maternity habitat to be present on the subject property. While the discussion in **Section 4.8.2** is provided specifically for endangered bat species, the assessment and conclusions are comparable to species that are not protected under the ESA.

4.9.2 Amphibian Breeding Habitat

The study area supports potential breeding habitat for anuran species that prefer open wetlands. Shoreline areas and wetlands associated with the unnamed are likely to provide breeding habitat for various species, such as Leopard Frog, Green Frog, and potentially Bullfrog.

4.9.3 Special Concern & Rare Wildlife Species

AES conducted a review of the list of species designated as special concern or identified as rare (S1-S3) in Ontario, as per Schedule 4 of Ontario Regulation 230/08, located here:

<https://www.ontario.ca/laws/regulation/080230>. We further reviewed several biodiversity databases for existing records of element occurrences for special concern or rare species, including: NHIC, iNaturalist, OBBA, and ORAA. The primary basis for this review is the NHIC database, and we include discussion on all observations of relevant species within the overlapping 1km² data square, as well as records from all adjoining squares (*i.e.*, within 1-2 km radius of the site). The species listed under **Table 1** have been recorded locally or otherwise have the potential to occur based on observed habitat conditions.

Table 1. Special Concern & Rare Species with potential to occur in the study area.

Species	Status	Discussion
Evening Grosbeak (<i>Coccothraustes vespertinus</i>)	Special Concern	There are NHIC records on the local landscape for Evening Grosbeak, a species that exhibits preference for open, coniferous or mixed woodlands dominated by Balsam Fir, White Spruce, and/or Aspen. No individuals were documented during the on-site investigation, and the study area lacks this type of structural cover. In general, it is not expected that habitat for this species would occur within the study area. No further assessment undertaken.
Eastern Wood-Pewee (<i>Contopus virens</i>)	Special Concern	Eastern Wood-Pewee and Wood Thrush are both common woodland birds that are ubiquitous in many areas of woodland cover in southern and central Ontario. The structure of woodland ecosystems on the local



Species	Status	Discussion
Wood Thrush (<i>Hylocichla mustellina</i>)	Special Concern	landscape represents suitable habitat for either species. A calling Eastern Wood-Pewee was documented during on-site investigations. See impact assessment for further discussion.
Snapping Turtle (<i>Chelydra serpentina</i>)	Special Concern	There are NHIC records on the local landscape for Snapping Turtle, which rely on open water wetlands and exposed mineral substrates to carry out key life process such as basking, nesting, and overwintering. In general, we expect that this species is likely present in association with the unnamed lakes and shoreline wetlands in the study area. See impact assessment for further discussion.

In general, there is potential for one or more special concern and/or rare plant and wildlife species to occur in association with the study area. Additional discussion, including a review of potential impacts to habitat functions for one or more these species resulting from implementation of the proposed plan, is provided in **Section 5.4.**

4.10 Areas of Natural and Scientific Interest (Life Science)

It is the responsibility of the Ministry of Natural Resources and Forestry (MNRF) to designate and administer mapping for areas of natural and scientific interest (ANSIs). Based on available background mapping, the nearest provincial life science ANSI is ~12 km to the east of the subject property. There are no ANSIs present in association with the study area. No further assessment undertaken.

5) IMPACT ASSESSMENT & RECOMMENDATIONS

It is our understanding that this EIS has been requested by the Municipality of Trent Lakes to accompany an application to develop a portion of the subject property through construction of a dwelling and associated amenities (e.g., private septic, accessory structure). The development requires approval of a Zoning Bylaw Amendment (ZBA) to permit access on an unmaintained/private road. Additionally, the application may need to be accompanied by a Site Plan Agreement (SPA), presumably pertaining to the location and design of the proposed dwelling and amenities.

AES has been supplied with a site plan that depicts the surveyed located of the proposed dwelling, accessory structure, and septic. The applicant has also identified a general location of a proposed docking envelope to support recreational water access (e.g., swimming). The general location of the proposed development in relation to natural features is displayed on **Figure 3**. We note that report figures should not be considered survey grade (*i.e.*, for discussion and reference purpose only).

Our impact assessment below is intended to inform a review of the proposal by the approval authority. Our assessment is based on a review of existing conditions at the time of site investigation, as illustrated on **Figure 2** and in the photo record contained in **Appendix 2**. As discussed in **Section 4**, one or more significant natural heritage features are confirmed or have the potential to occur within the study area. The primary purpose of this report is to assess impacts and support impact mitigation for these and any other applicable features. The potential for negative impacts is discussed in the sections below, with recommendations provided to support a scenario of no net negative impacts.

In assessing and identifying potential negative impacts through any development or related process, it is important to highlight how the PPS defines negative impacts, *i.e.*:

“...degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities”

Importantly, as stated in Section 13.2 of the Natural Heritage Reference Manual (for Natural Heritage Policies of the PPS):



The PPS definition for “negative impacts” does not state that all impacts are negative, nor does it preclude the use of mitigation to prevent, modify or alleviate the impacts to the significant natural heritage feature or area”.

Our impact assessment is intended to be reflective of the above guidance, with consideration for the integrity and function of each feature, and in acknowledgement that not all development and site alteration represents a negative impact.

5.1 Potential Constraints & Impacts Related to Steep Slopes

The study area contains areas of steeply sloping land; however, the proposed development location (**Figure 3**) is entirely located within areas of moderate slopes averaging 10-15°. The chosen development footprint represents the most appropriate location from a slope perspective. No additional recommendations are provided herein with respect to placement of the development as it pertains to on-site slopes.

5.2 Potential Impacts to Wetlands & Fish Habitat

To summarize, wetlands occur in association with the shoreline of the unnamed lake. Well-defined wetlands are characterized as a single ecosite (G150), including elements of floating marsh and emergent riparian species along the direct shoreline. Other aquatic areas, including those with sparse aquatic vegetation, are most accurately described as open-water components of the lake.

Open aquatic and shoreline marsh areas represent direct fish habitat. We provide a combined discussion of wetlands and aquatic fish habitat herein, as the pathways of potential impacts to these features are comparable. In general, development and/or site alteration activities that occur proximate to wetland, waterbodies, and associated fish habitat have the potential to cause negative impacts via the following pathways:

- Alterations of surface water and/or groundwater contributions that may result from:
 - Construction staging requirements (e.g., dewatering, etc.);
 - Increased post-construction coverage of impervious surfaces (e.g., roads, roofs, etc.); and,
 - Permanent modifications to existing topography or drainage alignments;
- Increased sediment and/or nutrient loadings to features via runoff exiting the development area from construction to post-completion of the project. This may adversely affect water quality via increased turbidity, nutrient enrichment, contamination by toxic substances, changes in pH, etc.;
- Long-term disruption, degradation, and/or loss of habitat for fish and/or wetland-dependent wildlife, as well as impacts to same during the construction process; and,
- Increased human activity/encroachment within drainage features/wetlands post construction, which may result in increased soil compaction, channel alterations, dumping, vandalism, or other disturbances.

A key impact mitigation measure for wetlands and waterbodies/fish habitat is provision of a physical/spatial setback from development and disturbance. Such a setback should generally be vegetated or at least pervious so as to intercept, slow down, and infiltrate surface runoff from the local landscape. This is especially important where development would introduce impervious surfaces upgradient from these features.

To avoid impacts to the wetlands and fish habitat associated with the unnamed lake, we provide the recommendation that future development and site alteration be set back by 30 m from the direct shoreline, as well as the delineated limits of wetlands, as depicted on **Figure 3**. All intervening lands should be maintained as naturally vegetated buffers between development and these potentially sensitive natural features.



Some exceptions to this setback may be acceptable without risking adverse impacts, such as passive lake access (e.g., water access trail, docking structure). Notably, the proponent has identified a location along the shoreline for a prospective future docking envelope (see **Figure 3**). We provide the recommendation that any future dock be anchored directly to the bedrock shoreline, outside of dense aquatic vegetation beds. We expect further action may be warranted to ensure consistency with applicable protective regulations (e.g., *Fisheries Act*). More detailed recommendations are provided at the end of this section.

It is important to highlight that the proposed development will inherently require site alteration and excavation, which has the potential to increase the risk of soil erosion. Therefore, construction activities could result in migration of sediment toward the lake and wetland features. Additionally, the use of machinery on site has the potential to introduce pollutants/contaminants and seed sources of non-native species, both of which have the potential to degrade the quality and function of local natural features. These potential issues must be mitigated through construction best management practises, as discussed below.

Provided that future development adheres to appropriate buffers and construction mitigation measures, it is expected that proposed development can avoid negative impacts to wetlands, fish habitat, and general functions of the lake. The following general measures are recommended to avoid future negative impacts through the various pathways identified above.

- **Future development should maintain a minimum 30 m distance from the delineated limits of wetlands and the lake shoreline (see Figure 3).**
- **Any future construction of shoreline amenities (e.g., dock, boathouse) must ensure regard for *Fisheries Act* compliance. This can often be accomplished by adhering to the standard Code of Practise for *repair, maintenance and construction of docks, moorings and boathouses*, outlined on the DFO website, here: <https://www.dfo-mpo.gc.ca/pnw-ppe/practice-practique-eng.html>
 - **Conducting works under a standard Code of Practise requires submission of a notice form to DFO. The notice form must be submitted 10 working days before starting work. The form can be downloaded here: <https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/forms-formes/notification-eng.pdf>**
 - **Note that adherence to the Code of Practise for *repair, maintenance and construction of docks, moorings and boathouses* will require avoidance of aquatic vegetation that may support high-value fish habitat. This report provides the recommendation that a future dock be anchored to a specific location supporting a bedrock shoreline and minimal near-shore aquatic vegetation (see Figure 3).****
- **Any future shoreline access infrastructure (e.g., stairs, pathway) should select an alignment that avoids or minimizes tree and vegetation removal within the 30 m shoreline setback. The design should incorporate the existing grade and be limited to a width required for single person passage.**
- **Where feasible, any future site grading/filling, as required, should occur after the spring ‘freshet’ window to minimize the potential for sediment migration toward the lake.**
- **Future development should be supported by a construction mitigation plan. At a minimum, this should include:**
 - **Installation of heavy-duty silt fence barriers immediately downgradient of any proposed clearing/grading areas per provincial standard (e.g., OPSD 219.130).**
 - **Preparation of a spill response plan, including a spill response kit and assignment of roles and responsibilities in the event of a hazardous material spill.**
 - **Ensuring that all machinery arrives to site washed and in good working order, inspected for fuel or fluid leaks prior to entering the site.**



- Ensuring that all machinery arrives free of invasive plant materials per the Ontario Invasive Plant Council Clean Equipment Protocol for Industry: https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf
- The construction contractor must maintain all machinery in proper working order, with daily monitoring to occur, including daily start-up checks for fuel leaks. Machinery must be refueled, washed, and serviced within a pre-designated area isolated by sediment fencing.
- Locate all fuel and other potentially deleterious substances within the area isolated by sediment fencing.
- Offloading of construction and aggregate/fill materials (where required) should be completed during fair weather conditions.
- Temporary storage locations of aggregate/fill material (where required) should be located within the area isolated by sediment fencing. All stockpiled topsoil/overburden (where required) should be maintained in low piles and stabilized as quickly as possible (e.g., erosion-prone areas covered with textile) to minimize the potential for runoff.

5.3 Potential Impacts to Habitat of Endangered & Threatened Species

5.3.1 Blanding's Turtle

With one or more recorded element occurrences of Blanding's Turtle on the local landscape, it can be assumed that wetlands in the study area could support habitat for this species. In general, proposed development is recommended to occur at a functional distance from wetland ecosites that may support habitat for this species. On this basis, we expect that the development can proceed without resulting in negative impacts to individuals or habitat for Blanding's Turtle. Importantly, it is acknowledged that Blanding's Turtle is a wide-ranging species, meaning that there is potential for individuals to traverse through the property on a seasonal basis. Various general measures are provided under **Section 5.4.1** pertaining to general wildlife mitigation during construction.

5.3.2 Endangered Bats

The forested ecosite that encompasses the study area may be expected to support some level of seasonal bat activity, which may include endangered bat species. It is noted that this is a generic conclusion that would be drawn for any area containing tree cover. Based on a qualitative review conducted during our general vegetation assessment, the on-site tree canopy generally appears healthy, lacking an abundance of diseased or over-mature trees with signs of decay.

In recent years, MECP staff have distributed a summary guidance memo (Species at Risk Bats Survey Note 2022) pertaining to bat survey standards. This memo provides clear notes on when targeted survey efforts may be warranted, implying discretion on the part of the proponent, as follows:

If a proposed activity will avoid impairing or eliminating the function of habitat for supporting bat life processes (e.g. remove, stub, etc. a proportionally small number of potential maternity or day roost trees in treed habitats which would not result in fragmentation/barriers) and the timing of tree removal will avoid the bat active season (April 1 – September 30 in Southern Ontario / May 1 to August 31 in Northern Ontario), then there is no need to conduct species at risk bat surveys of treed habitats. The damage and destruction assessment may vary geographically as the availability of other nearby maternity and day roost trees differs across the province of Ontario.

Per the guidance above, factors such as scale of development and forested landscape context are critical in determining whether further action regarding endangered bat habitat is necessary to support development. The proposed residential envelope, inclusive of dwelling, accessory structure, and septic bed, are likely to require <0.2 ha of tree removal. Tree removal at this scale is negligible in comparison to the extent of woodland coverage on the broader landscape. While future development may result in the



removal of one or more individual snags, this would not be expected to result in a loss of habitat functionality at a site scale.

In general, given the nature of the proposed development and assuming implementation of all mitigation measures recommended herein, there is no expectation that the proposal will result in a negative impact to the local availability of habitat for endangered bats. Conversely, tree clearing activity does represent the potential for impacts to *individual* bats during the active season. Recommendations related to vegetation removal timing windows are provided under **Section 5.4.1**.

5.4 Potential Impacts to Significant Wildlife Habitat

Section 4.9 describes one or more significant wildlife habitat functions that have the potential to occur within the study area based on a review of applicable criteria and background information sources. These include the following:

- Seasonal Concentration Areas of Animals
 - Bat Maternity Colonies
- Specialized Habitat for Wildlife
 - Amphibian Breeding Habitat
- Habitat of Species of Conservation Concern
 - Special Concern and Rare Wildlife Species
 - Eastern Wood-Pewee
 - Wood Thrush
 - Snapping Turtle

The study area has the potential to support one or more of the above-listed habitat functions. Some of these functions are closely associated with woodlands, including potential bat maternity roosting areas, as well as potential habitat for special concern forest birds. As previously discussed, the proposed extent of tree removal is considered very minor and not anticipated to impact local woodland-related habitat functions. We provide applicable recommendations under **Section 5.4.1** below that tree removals should be minimized and appropriately timed. In general, we expect that small-scale site alteration to facilitate residential development is compatible with these and other general wildlife habitat functions associated with the woodland.

Other listed habitat functions are closely associated with wetland ecosites. As discussed in the report, proposed development can avoid causing negative impacts to the form and function of on-site wetlands. Provided that future development adheres to the recommendations contained herein, it is our opinion that the proposal can avoid impacts to wetland habitat functions for turtles and amphibians. **Section 5.4.1** below provides a list of additional recommended wildlife impact mitigation measures intended to support this conclusion.

5.4.1 General Wildlife Mitigation

Many of the development mitigation measures discussed in this report relate directly to protection of wildlife habitat functions. In addition, there may be other functions supported in the study area that are not significant but do otherwise warrant consideration to demonstrate compliance with protective regulations. For example, most breeding migratory birds receive protection under the federal *Migratory Birds Convention Act*, and many wildlife species receive general protections under the provincial *Fish & Wildlife Conservation Act*.

Several standard mitigation recommendations are provided below to ensure that any future development adheres to provincial/federal requirements for wildlife protection and to provide an overview of best management practices pertaining to construction isolation and vegetation removals.

- **To maximize tree retention, tree removal limits should be flagged or otherwise marked in the field prior to start of construction. Trees should be removed in advance of construction**



implementation, and all trees being retained (adjacent to working areas) should be clearly marked (e.g., with fluorescent flagging tape). Individual trees that do not conflict with structural footprints should be retained throughout the disturbance envelope, where feasible.

- Post-construction landscaping should utilize native, site-appropriate species only, where applicable.
- **Avoid removal of any vegetation, including residential/ornamental plantings, between April – August of any given year.** If vegetation removals must occur during this period, a nest survey should be conducted by a qualified biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by the MBCA or FWCA. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.
- Any tree removals required for the purposes of future development should only occur in the fall, winter, and early spring (from October 1 to April 15). This timeframe is outside of the typical bat maternal roosting period. This means that no tree clearing shall occur between April 15-Oct 1 of any given year.
- The construction process should adhere to a standard for wildlife impact mitigation. At a minimum, this should include:
 - Physical isolation of construction areas through the installation of a fencing barrier, e.g., staked-in erosion and sediment control fencing.
 - Surveying of construction sites each morning to ensure that wildlife are not sheltered in construction equipment, material piles, etc.
 - If any wildlife is identified on site during construction processes, stop all active construction activities, and verify the identity of the species. Individuals of species protected under the ESA should be permitted to move off the site and/or relocated by a qualified biologist. Other wildlife should either be gently relocated off the active construction site or avoided to the extent possible.
- Building design should explore the use of wildlife-friendly measures, such as:
 - Use of exterior motion-sensors and downward-facing directional lighting to avoid negative impacts to nocturnal wildlife.
 - Installation of wildlife-window collision deterrents.
 - Waste disposal and storage areas should be designed and located to discourage wildlife scavenging and avoid human/wildlife conflict.

6) COMPLIANCE WITH ENVIRONMENTAL LEGISLATION AND POLICIES

The following sections outline the federal, provincial, and municipal environmental legislation, including plans, regulations, and/or bylaws that are understood to be most applicable to the proposal. AES provides a list of policies and provisions and summarizes how the proposal can demonstrate conformity and consistency. Where potential conformity issues exist, we cite recommended mitigation strategies that are intended to guide the proposal toward meeting the intent of relevant requirements. Our interpretations regarding planning policy conformity are provided for consideration and verification by the applicable approval authority.



6.1 Federal Fisheries Act, R.S.C. 1985

Portions of the proposed works occur within and adjacent to areas representing fish habitat. The DFO Fish and Fish and Habitat Protection Program provides abundant direction to project proponents seeking to undertake projects/works in or near water. The intent of the program guidelines is to ensure projects are conducted in compliance with provisions of the *Fisheries Act*. Critical provisions of the *Fisheries Act* include protection against the ‘death of fish, other than by fishing’ and the ‘harmful alteration, disruption or destruction of fish habitat’ (HADD).

The DFO provides guidance on measures to avoid impacts, including various standard ‘measures to protect fish and fish habitat’. If followed, implementation of such measures avoids the needs for *Fisheries Act* authorization or further site-specific review by DFO. Further to these measures, the program provides a series of ‘standards and codes of practice’, intended to guide specific projects and undertakings in implementing appropriate mitigation planning. By meeting the conditions and standard mitigation requirements of a specific code of practice, project proponents can avoid the need for authorization or further review. Proceeding with a project that falls under a code of practice requires that notification be provided to DFO.

Any future dock installation should fall under an ‘interim’ code of practice classified as ‘*Repair, Maintenance, and Construction of Docks, Moorings, and Boathouses*’. Each code of practice contains a series of conditions that describe when an individual code can be used. The conditions for this specific code of practice are listed under **Table 2** below, with interpretation provided:

Table 2. Discussion of conditions for Code of Practise for *Repair, Maintenance, and Construction of Docks, Moorings, and Boathouses*’.

Condition #	Condition	Discussion
1	<i>Determine if there are aquatic species at risk within the affected area by consulting our aquatic species at risk map, and confirm that the work will not take place within</i> <ul style="list-style-type: none"> ○ <i>the distribution area of molluscs listed under schedule 1 of the Species at Risk Act</i> ○ <i>the critical habitat or residences of any other aquatic species at risk</i> 	Based on our background review, the study area does not support any known habitat for aquatic species at risk.
2	<i>The work does not include</i> <ul style="list-style-type: none"> ○ <i>the use of explosives</i> ○ <i>pile driving using impact hammer</i> ○ <i>removal of vegetation, natural wood debris, rocks, sand or other materials from the banks, shoreline or the bed of the water body</i> ○ <i>placing fill, excavating or grading the bed or bank of the water body, or dredging (If dredging for the purpose of maintaining a previously dredged navigational area, consult the code of practice for Routine Maintenance Dredging for Navigation)</i> ○ <i>construction of a dock, mooring or boathouse over aquatic vegetation</i> 	Future dock installation should avoid the use of explosives, impact hammer, filling, excavating, dredging, or grading the bank or bed of the lake. The dock should be anchored to the bedrock shoreline, in a location where aquatic vegetation is sparse or absent (per Figure 3). Tree removal along the shoreline should be avoided or minimized to ensure adherence to this condition.
3	<i>Ensure there is no temporary or permanent increase in the existing footprint below the ordinary high water mark except for the area of the pipes, piles, poles, anchors and cement blocks</i>	A future dock should be constructed as a floating structure where feasible.
4	<i>Pile installation is only allowed in freshwater environment and completed using a vibratory hammer or drilling methods</i>	It is not expected that a future dock will require pile installation.



5	<i>New construction is limited to 1 dock, mooring and boathouse per property.</i>	Only a single dock should be installed in order to adhere to the Code of Practise. Any additional docks may require further DFO review.
6	<i>implement the measures in section 3 to protect fish and fish habitat when carrying out the works, undertakings and activities</i>	Construction mitigation measures recommended under Section 5 of this report are intended to address all of the ‘measures to protect fish and fish habitat’ specified under this code of practise.

Per the explanations above, it is our opinion that the project appropriately falls under the code of practice for ‘Repair, Maintenance, and Construction of Docks, Moorings, and Boathouses’. Part of this code of practice requires submission of notice to DFO, which is included as one of the recommendations under **Section 5.1**. If the recommendations under **Section 5.1** are implemented as prescribed, this should result in avoidance of any death to fish or HADD, and compliance with the federal *Fisheries Act*.

6.2 Federal Migratory Birds Convention Act (1994)

Part 1, Section 5 of the Migratory Birds Regulations under the *Migratory Birds Convention Act, 1994* (MBCA) prohibits the disturbance or destruction of nests, eggs, or nest shelters of a migratory bird. The provincial *Fish and Wildlife Conservation Act, 1997* (FWCA) extends the protection of bird nests and eggs to species that are not listed under the Migratory Birds Regulations (e.g., Corvids).

For most migratory bird species, nest protections under the MBCA apply for the duration of time that a nest is occupied; however, protections extend beyond the period of occupation for several species that may be common locally, including Pileated Woodpecker, Green Heron, and Great Blue Heron, amongst others (see Schedule 1 under the Act for full list). For the species listed under Schedule 1, specific conditions must be met in order to damage/remove a nest, including providing notice to the minister in charge, and demonstrating that the nest has not been occupied by an applicable species for a time period specified under Schedule 1.

Based on our assessment, there does not appear to be any potential conflict between the proposed development and suitable nesting habitat of any species listed under Schedule 1 to the MBCA. If/where vegetation removals within the study area are determined to be required, restricting clearing of vegetation to times outside of the period of April 1 to August 31 inclusive, will avoid destruction of other species’ nests and prevent contravention of Section 5 of the regulations. If vegetation removal must occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by the MBCA or FWCA.

6.3 Provincial Endangered Species Act, S.O. 2007, c. 6

The ESA protects designated endangered and threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). **Section 4.8** identified one or more species or its habitat having the potential to occur within or adjacent to the study area. **Section 5.3** provided a subsequent discussion of potential impacts to such species and/or associated habitat features, should those species be present within or adjacent to the study area.

Based on this assessment, and assuming full implementation of mitigation measures (if/where recommended), we do not expect that approval of the application will result in a negative impact to any endangered or threatened species or their habitats. On this basis, there is no expectation that the proposed development will result in a contravention of the ESA. Several recommendations are provided in this report to guide any future development and support this conclusion. It is noted that this assessment does not represent ‘clearance’ with respect to ESA compliance. It remains a proponent’s continued and sole responsibility to ensure that a project does not result in a contravention of the ESA.



Important note: as of the drafting of this report, the ESA has recently been subject to various amendments enacted through the passing of provincial 'Bill 5'. Various amendments are now in place, such as a revision to ways in which the ESA defines 'habitat' for threatened and endangered species. The ESA is due to be repealed and replaced with a new '*Species Conservation Act*'. It is our understanding that this new legislation will be put in place following the drafting of key regulations. At this time, the current amendments and future repeal of the ESA are not expected to change the opinions or conclusions provided in this report regarding potential impacts to Species at Risk.

6.4 Provincial Planning Statement, pursuant to the *Planning Act*, 2024

The Provincial Planning Statement (PPS) is promulgated under the *Planning Act* and provides direction to municipalities on matters of provincial interest related to land-use planning. The PPS was most recently updated in October 2024. Municipal OP's must be consistent with the PPS. Key natural heritage-related provisions of the PPS, as assessed in this report, are listed below:

4.1.4 Development and site alteration shall not be permitted in:

- a) significant wetlands in Ecoregions 5E, 6E, and 7E1; and
- b) significant coastal wetlands.

4.1.5 Development and site alteration shall not be permitted in:

- a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E1;
- b) significant woodlands in Ecoregions 6E and 7E;
- c) significant valleylands in Ecoregions 6E and 7E;
- d) significant wildlife habitat;
- e) significant areas of natural and scientific interest; and
- f) coastal wetlands in Ecoregions 5E, 6E and 7E¹ that are not subject to policy 2.1.4(b)

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

4.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

4.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

4.1.8 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.

Based on the results of the impact assessment contained herein, and contingent on the implementation of the recommendations outlined in **Section 5**, it is our opinion that the development can be accomplished in a manner that is consistent with Sections 4.1.4 to 4.1.8 of the PPS.

6.5 The Official Plan of the Township of Galway-Cavendish and Harvey (Municipality of Trent Lakes) & Schedules (2011 Consolidation)

According to the Trent Lakes Zoning Bylaw and Official Plan, the subject property is zoned and designated as 'Rural'. Schedule B to the Trent Lakes OP does not apply any natural heritage designations or overlays to the subject property or adjacent lands.

General development policies related to the municipal natural heritage system are contained under Section 5.1.10 of the OP. The OP describes several significant natural heritage features and provides various policies regarding permitted uses and protection mechanisms pertaining to these features. This report



provides a review of each feature identified for protection within the OP, including a discussion of presence/absence, and associated mitigation measures/setbacks, where applicable.

The study area contains areas of confirmed steep slopes, fish habitat, wetland (non-significant), wildlife habitat, and potential habitat for endangered and threatened species. The proposed development adheres to setbacks prescribed in the OP, including 30 m from fish habitat and the high water mark of a lake, in conformance with Sections 5.1.10.7 and 5.1.10.11. The report discusses the potential presence of various wildlife habitat functions, and concludes that impacts to these functions can be avoided through standard mitigation practises, in conformance with Sections 5.1.10.7 and 5.1.10.12.

Finally, policies applicable to the Rural designation (Section 5.2 of the OP) appear inherently permissive of low-density permanent and recreational residential uses.

7) CONCLUSIONS

The preceding report provides the results of our scoped Environmental Impact Study. This report includes details regarding existing physical and ecological conditions within a defined study area, a description of the development proposal, an assessment of potential impacts to identified features, a mitigation plan, and a general assessment of consistency and conformity with relevant municipal, provincial, and federal environmental policies.

Based upon the findings presented in this report and contingent upon the implementation of and adherence to the recommendations made herein, it is our conclusion that the proposal can be accomplished without negatively impacting the functions of significant natural heritage features or the associated natural heritage system. Various detailed recommendations are provided to support this opinion, including recommendations that will influence when, where, and/or how development should occur on the property.

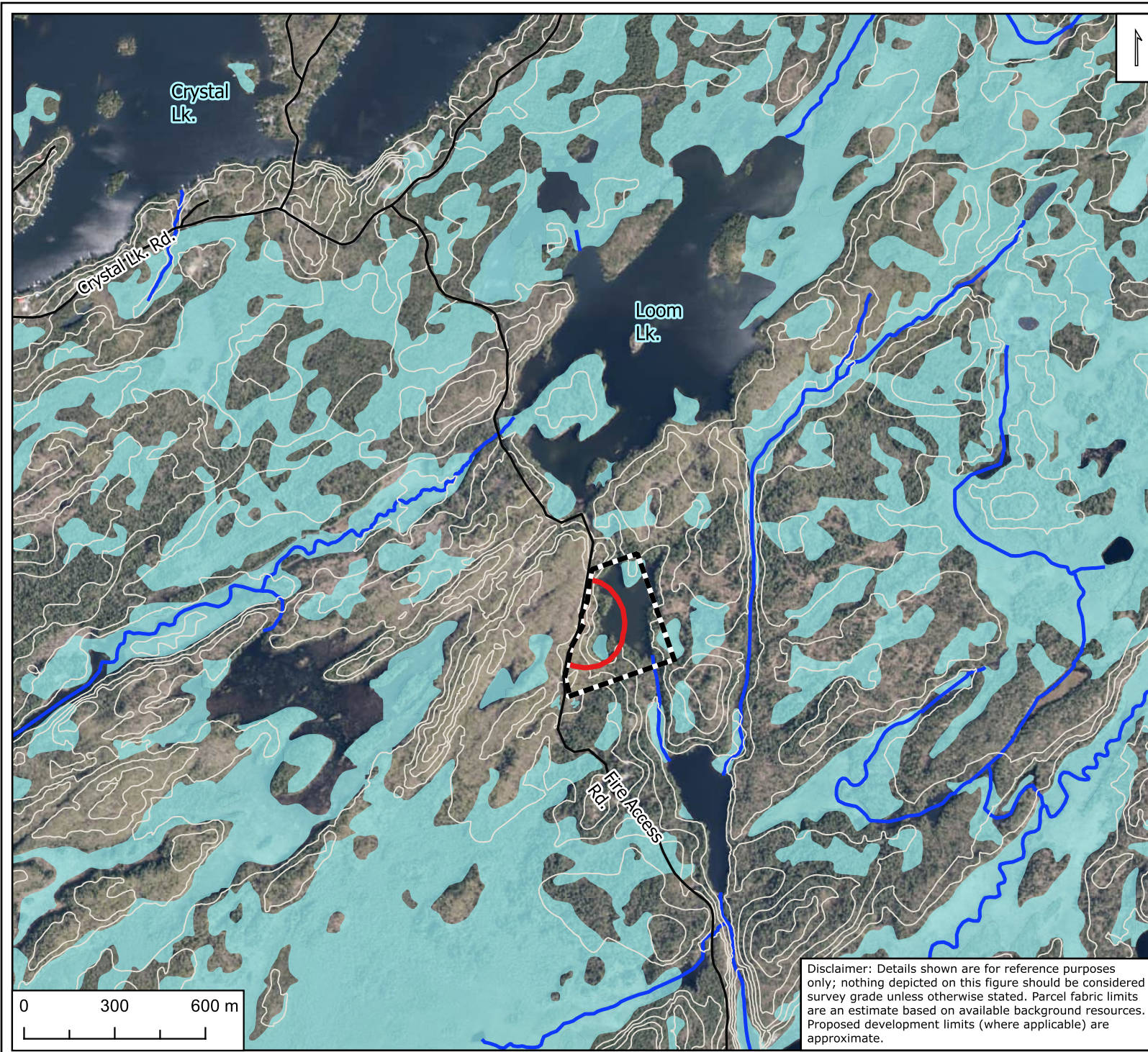
This report and the recommendations contained within are provided to support the approval authorities in their review of any required planning applications and/or regulatory permits. We advise that any recommended mitigation/preventative measures outlined in **Section 5** be implemented through appropriate mechanism as determined by the approval authority.

8) REFERENCES

- Armstrong, D. K. and J. E. P. Dodge.** 2007. Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 219.
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- Gillespie, J.E. and N.R. Richards.** 1957. Soils of Victoria County, Ontario. Report No. 25 of the Ontario Soil Survey. Canada Department of Agriculture & Ontario Department of Agriculture. 64 pp.








- MECP.** 2021. Blanding's Turtle General Habitat Description. Reviewed at: <https://files.ontario.ca/mecp-blandings-turtle-general-habitat-description-en-2021-04-20.pdf>
- MECP.** 2022. Memo re: Bat survey standards note. Distributed via email by MECP Management Biologists.
- OMNR.** 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second edition. Toronto: Queen's Printer for Ontario.
- OMNR.** 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E. Ontario Ministry of Natural Resources. January 2015.




**Figure 1:
Property Location & Landscape
Context**

Legend

-  Subject Property
-  Study Area
-  Contours (5 m)
-  Local Road Network
-  Local Drainage Network

Provincial Wetland Layer

-  Unevaluated Wetland


Project No & Description:

AES-25062
Kingdon Property EIS/SER - Trent Lakes

Date Prepared: Oct 03, 2025	Prepared By: MF
Last Revision: N/A	Checked By: N/A

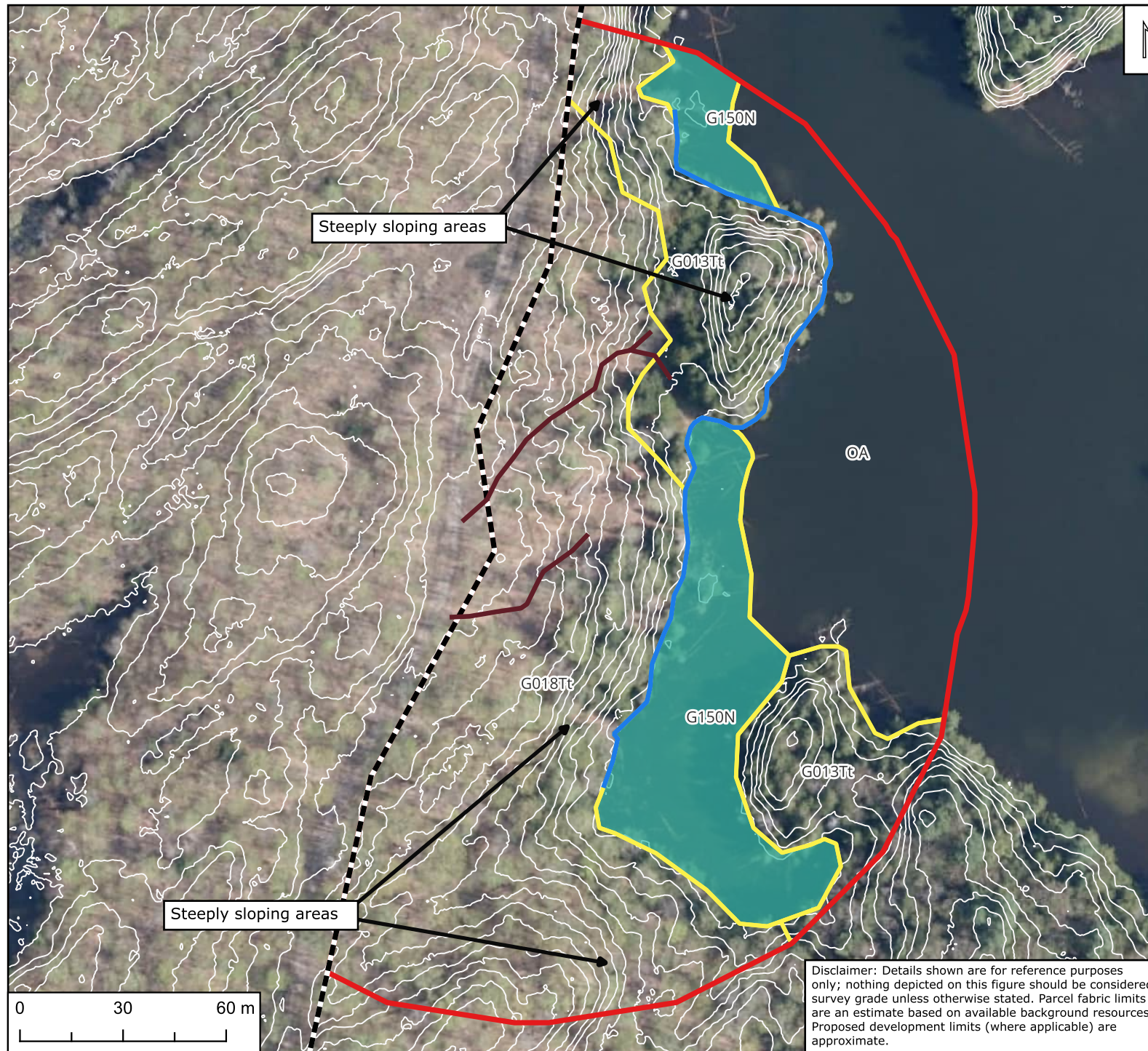
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Ontario Imagery
Web Service










Disclaimer: Details shown are for reference purposes only; nothing depicted on this figure should be considered survey grade unless otherwise stated. Parcel fabric limits are an estimate based on available background resources. Proposed development limits (where applicable) are approximate.

**Figure 2:
Existing Site Conditions.**



Legend

-  Subject Property
-  Study Area
-  Contours (1 m)
-  Existing Access Lanes
-  Shoreline
-  Shoreline Marsh/Wetland
-  Vegetation/Land Cover (ELC)

ELC Classifications:

- G013Tt: Shallow, Dry to Fresh: Hemlock - Cedar Conifer
- G018Tt: Shallow, Dry to Fresh: Maple Hardwood
- G150N: Open Water Marsh
- OA: Open Aquatic

Project No & Description:

AES-25062
Kingdon Property EIS/SER - Trent Lakes

Date Prepared: Oct 03, 2025 Prepared By: MF

Last Revision: N/A Checked By: N/A

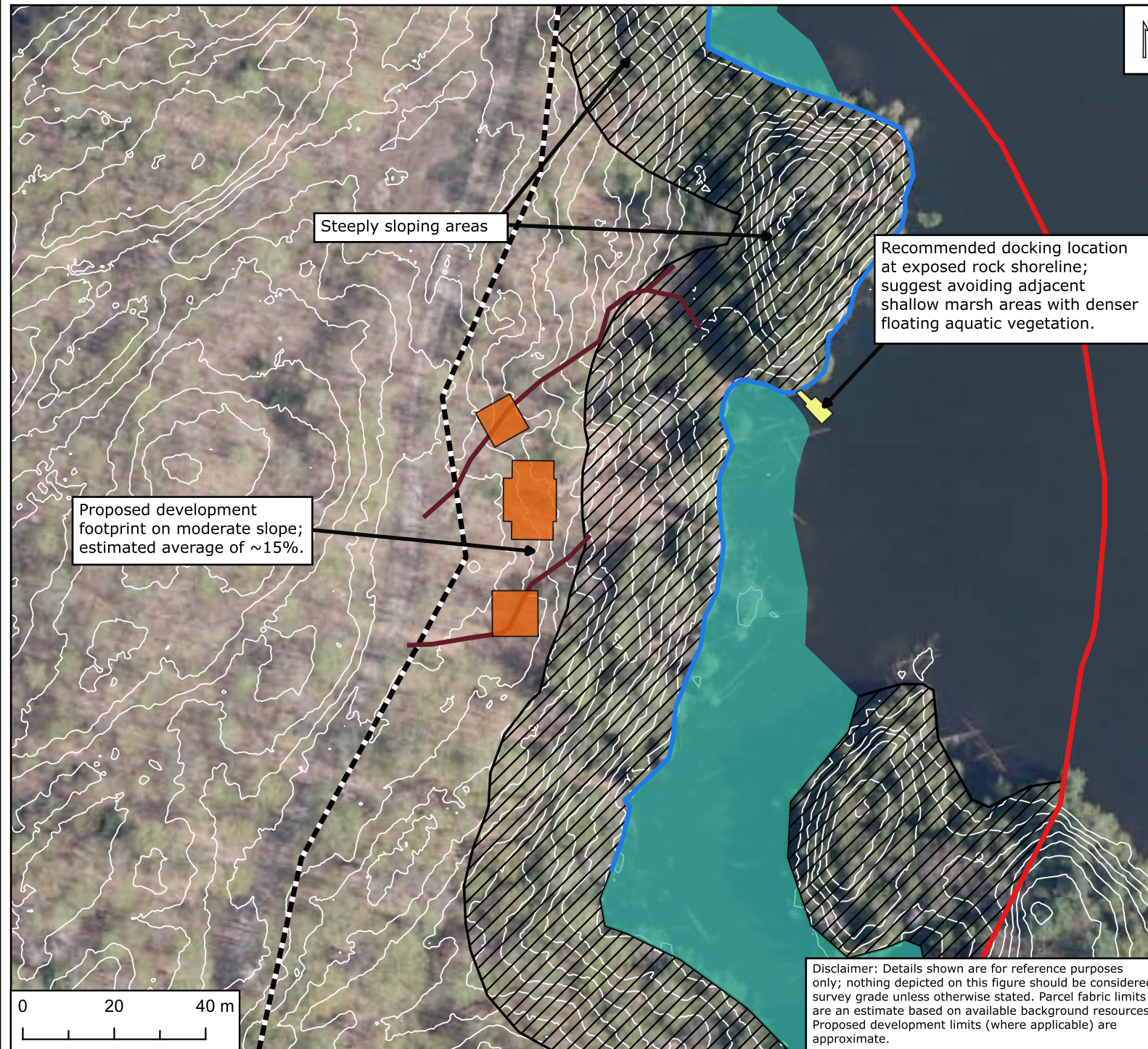
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








Disclaimer: Details shown are for reference purposes only; nothing depicted on this figure should be considered survey grade unless otherwise stated. Parcel fabric limits are an estimate based on available background resources. Proposed development limits (where applicable) are approximate.

**Figure 3:
Proposed Development.**



Legend

-  Subject Property
-  Study Area
-  Contours (1 m)
-  Existing Access Lanes
-  Shoreline
-  Shoreline Marsh/Wetland
-  Proposed Structure Footprint
-  Recommended Docking Location
-  Shoreline Setback (30 m)

Steeply sloping areas

Recommended docking location at exposed rock shoreline; suggest avoiding adjacent shallow marsh areas with denser floating aquatic vegetation.

Proposed development footprint on moderate slope; estimated average of ~15%.

Disclaimer: Details shown are for reference purposes only; nothing depicted on this figure should be considered survey grade unless otherwise stated. Parcel fabric limits are an estimate based on available background resources. Proposed development limits (where applicable) are approximate.

Project No & Description:

AES-25062
Kingdon Property EIS/SER - Trent Lakes

Date Prepared: Oct 03, 2025	Prepared By: MF
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Last Revision: N/A	Checked By: N/A
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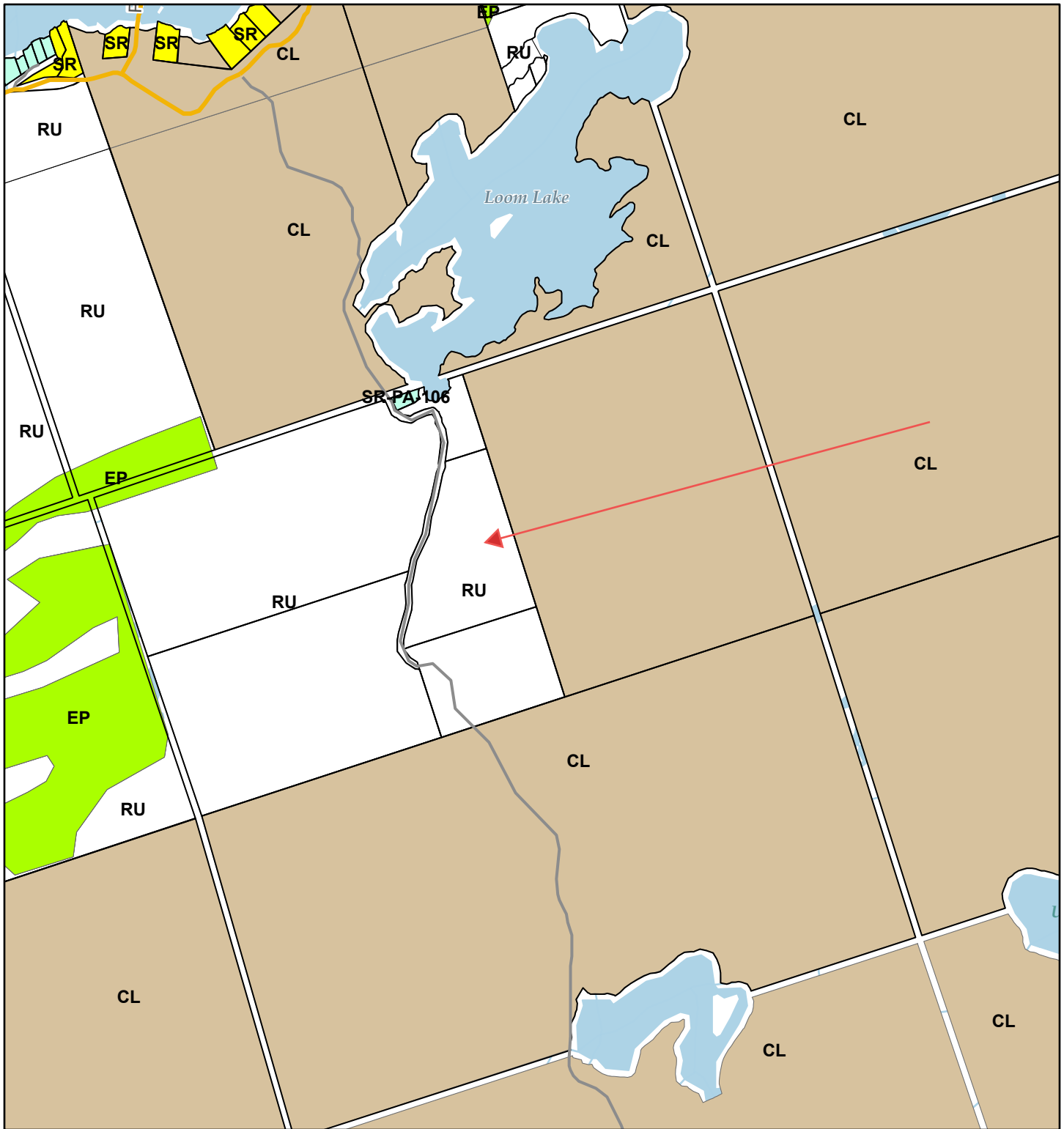
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Ontario Imagery Web Service



Appendix 1. Land Use Schedules.

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Roads

— Township Road

— Private Road

▭ Parcel Fabric

Trent Lakes Zoning By-Law

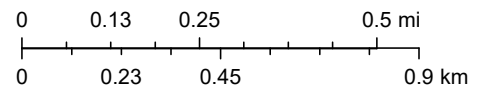
▭ Shoreline Residential Zone

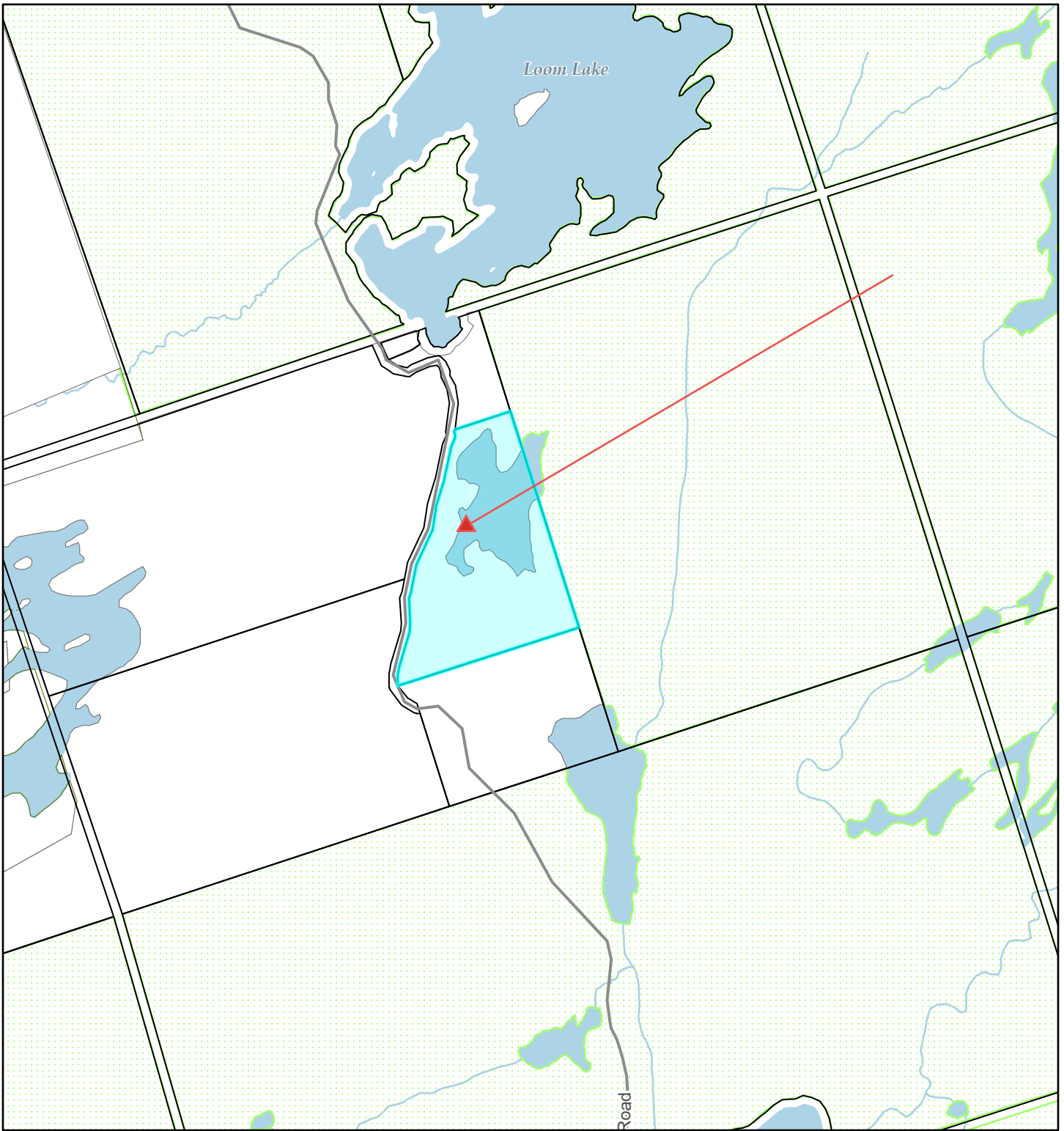
▭ Shoreline Residential-Private Access Zone

▭ Environmental Protection Zone

▭ Rural Zone

▭ Crown Land





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Roads

TL OP Land Use

— Private Road



Crown Land



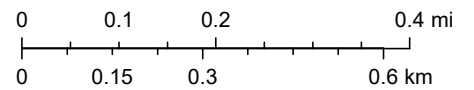
Parcel Fabric

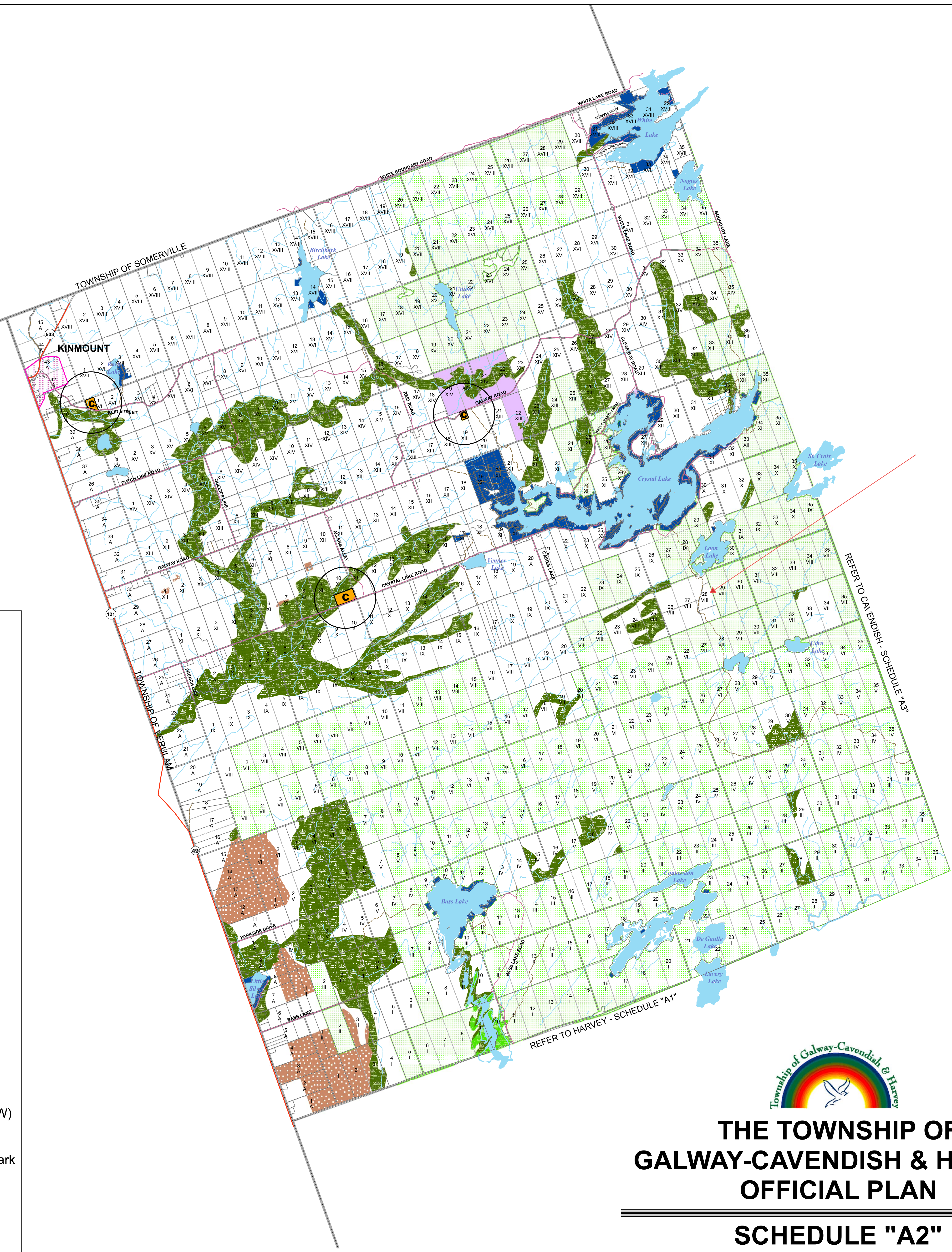


Environmental Protection








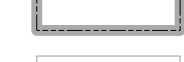
















Rural

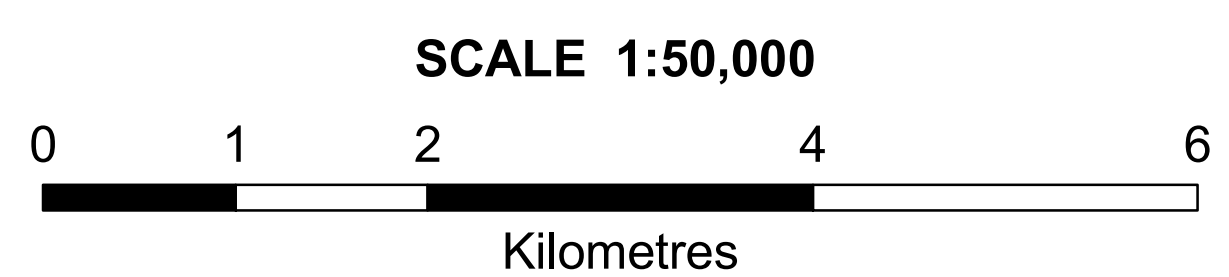





Legend

-  County Road
-  Township Road
-  Private Road
-  Watercourses
-  Lakes
-  Lot and Concession Boundary
-  Municipal Boundary
-  Parcel Fabric
-  Hamlet
-  Rural
-  Recreational Dwelling Area
-  Estate Residential
-  Commercial
-  Industrial
-  Aggregate Resource Extraction
-  Mining Area
-  Environmental Protection
-  Environmental Protection/
Provincially Significant Wetlands (PSW)
-  Crown Land
-  Kawartha Highlands Signature Site Park
- Disposal Industrial**
-  Closed Landfill Site
-  Landfill Site Area of Influence

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 Date Revised: December 2009
 As Approved by the County of Peterborough February 26, 2010.
 Plot Date: May 10, 2010

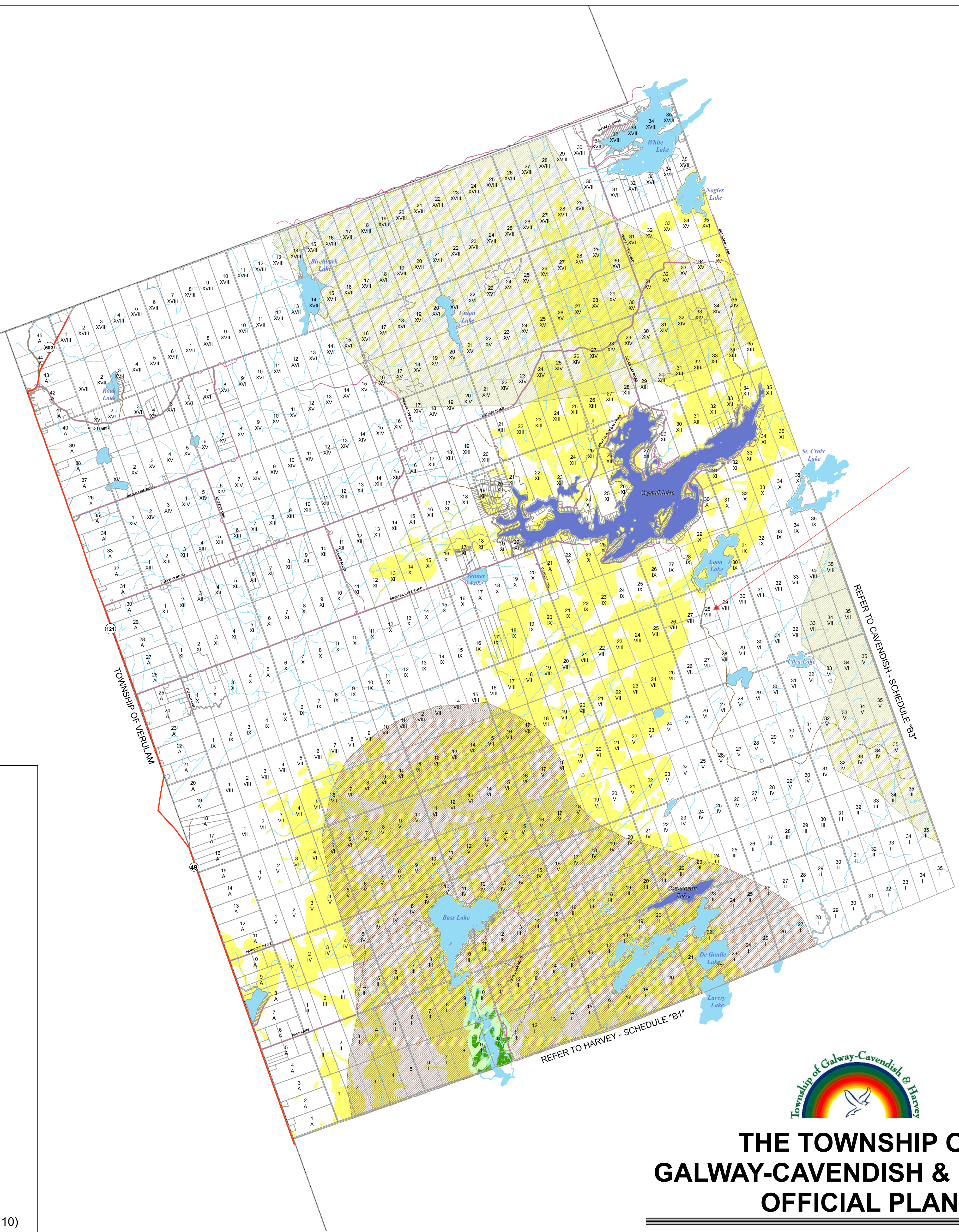



**THE TOWNSHIP OF
GALWAY-CAVENDISH & HARVEY
OFFICIAL PLAN**














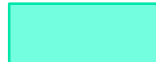

**SCHEDULE "A2"
LAND USE &
TRANSPORTATION PLAN
GALWAY**




TOWNSHIP OF SOMERVILLE



Legend

-  County Road
-  Township Road
-  Private Road
-  Watercourses
-  Lakes
-  Lot and Concession Boundary
-  Municipal Boundary
-  Provincially Significant Wetland
-  120m Wetland Influence
-  KRCA Regulated Area 182/06
- Coldwater Lake Area**
-  Highly Sensitive
-  Moderately Sensitive
- Wintering Areas**
-  Deer Wintering Area
-  Moose Wintering Area
-  Bat Hibernaculum (LOT 25, CON 10)

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 Date Revised: December 2009
 As Approved by the County of Peterborough February 26, 2010.
 Plot Date: May 10, 2010.

SCALE 1:50,000



THE TOWNSHIP OF GALWAY-CAVENDISH & HARVEY OFFICIAL PLAN

SCHEDULE "B2" NATURAL FEATURES GALWAY

REFER TO HARVEY - SCHEDULE "B1"

REFER TO CAVENDISH - SCHEDULE "B3"

Appendix 2. Photos of Representative Site Conditions.



Photo 1. Road frontage at existing property entry point.



Photo 2. Narrow laneway into property.



Photo 3. Small camping area near shoreline.



Photo 4. Mixed/coniferous forest near lake shoreline.



Photo 5. Coniferous forest on small ridge near shoreline in center of study area.



Photo 6. Hardwood forest cover throughout most of study area.



Photo 7. Lake shoreline with abundant floating aquatic vegetation.



Photo 8. Dense floating aquatic vegetation at proposed docking location.



Photo 9. Facing east across small lake.



Photo 10. Partly maintained shoreline area at proposed docking location.

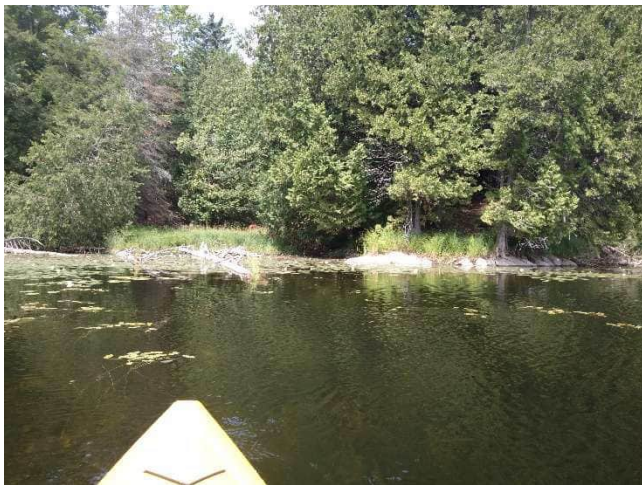


Photo 11. Facing shoreline at proposed docking location; recommended location with minimum vegetation to right side of frame.



Photo 12. Recommended docking location.



Photo 13. Aerial view of subject property and lake.



Photo 14. Aerial view of shoreline in central portion of study area; proposed docking location in center of frame; recommended location to right of frame where shoreline vegetation is sparse.



Photo 15. Aerial view of shoreline facing south.

Appendix 3. List of Documented Plant Species.

Scientific Name	Common Name(s)	S Rank	ESA Status	OWES Wetland Plant List
<i>Abies balsamea</i>	Balsam Fir	S5		X
<i>Acer pensylvanicum</i>	Striped Maple	S4		
<i>Acer saccharum</i>	Sugar Maple	S5		
<i>Achillea millefolium</i>	Common Yarrow	S5		
<i>Actaea pachypoda</i>	White Baneberry	S5		
<i>Adiantum pedatum</i>	Northern Maidenhair Fern	S5		
<i>Anemone virginiana</i> var. <i>virginiana</i>	Tall Anemone	S5?		
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	S5		
<i>Aquilegia canadensis</i>	Red Columbine	S5		
<i>Aralia nudicaulis</i>	Wild Sarsaparilla	S5		
<i>Aralia racemosa</i>	American Spikenard	S5		
<i>Arctium minus</i>	Common Burdock	SNA		
<i>Asclepias incarnata</i>	Swamp Milkweed	S5		X
<i>Asclepias syriaca</i>	Common Milkweed	S5		
<i>Athyrium filix-femina</i> var. <i>angustum</i>	Northeastern Lady Fern	S5		X
<i>Betula alleghaniensis</i>	Yellow Birch	S5		X
<i>Betula papyrifera</i>	Paper Birch	S5		X
<i>Bidens frondosa</i>	Devil's Beggarticks	S5		X
<i>Botrypus virginianus</i>	Rattlesnake Fern	S5		
<i>Brachyelytrum aristosum</i>	Northern Shorthusk	S5?		
<i>Calamagrostis canadensis</i>	Bluejoint Reedgrass	S5		X
<i>Carex bebbii</i>	Bebb's Sedge	S5		X
<i>Carex disperma</i>	Two-seeded Sedge	S5		X
<i>Carex hystericina</i>	Porcupine Sedge	S5		X
<i>Carex lacustris</i>	Lake Sedge	S5		X
<i>Carex pedunculata</i>	Long-stalked Sedge	S5		
<i>Carex plantaginea</i>	Plantain-leaved Sedge	S5		
<i>Cicuta bulbifera</i>	Bulbous Water-hemlock	S5		X
<i>Circaea alpina</i>	Small Enchanter's Nightshade	S5		X
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	S5		
<i>Cirsium arvense</i>	Canada Thistle	SNA		
<i>Clintonia borealis</i>	Yellow Clintonia	S5		X
<i>Cornus rugosa</i>	Round-leaved Dogwood	S5		
<i>Corylus cornuta</i>	Beaked Hazelnut	S5		
<i>Danthonia spicata</i>	Poverty Oatgrass	S5		
<i>Diervilla lonicera</i>	Northern Bush-honeysuckle	S5		
<i>Doellingeria umbellata</i>	Flat-top White Aster	S5		
<i>Dryopteris intermedia</i>	Evergreen Wood Fern	S5		
<i>Dryopteris marginalis</i>	Marginal Wood Fern	S5		
<i>Dulichium arundinaceum</i>	Three-way Sedge	S5		X
<i>Epipactis helleborine</i>	Broad-leaved Helleborine	SNA		

Scientific Name	Common Name(s)	S Rank	ESA Status	OWES Wetland Plant List
<i>Equisetum arvense</i>	Field Horsetail	S5		X
<i>Erigeron annuus</i>	Annual Fleabane	S5		
<i>Eupatorium perfoliatum</i>	Common Boneset	S5		X
<i>Fragaria virginiana ssp. glauca</i>	Smooth Wild Strawberry	SU		
<i>Fraxinus americana</i>	White Ash	S4		
<i>Gaultheria procumbens</i>	Eastern Teaberry	S5		
<i>Gymnocarpium dryopteris</i>	Common Oak Fern	S5		X
<i>Hepatica americana</i>	Round-lobed Hepatica	S5		
<i>Hypericum fraseri</i>	Fraser's St. John's-wort	S5		X
<i>Hypericum perforatum</i>	Common St. John's-wort	SNA		
<i>Impatiens capensis</i>	Spotted Jewelweed	S5		X
<i>Iris versicolor</i>	Harlequin Blue Flag	S5		X
<i>Laportea canadensis</i>	Canada Wood Nettle	S5		X
<i>Leucanthemum vulgare</i>	Oxeye Daisy	SNA		
<i>Lobelia inflata</i>	Indian Tobacco	S5		
<i>Lonicera canadensis</i>	Canada Fly-honeysuckle	S5		
<i>Lycopus uniflorus</i>	Northern Water-horehound	S5		X
<i>Lysimachia borealis</i>	Northern Starflower	S5		
<i>Maianthemum canadense</i>	Wild Lily-of-the-valley	S5		
<i>Maianthemum racemosum</i>	Large False Solomon's-seal	S5		
<i>Medeola virginiana</i>	Indian Cucumber-root	S5		
<i>Menyanthes trifoliata</i>	Bog Buckbean	S5		X
<i>Mitchella repens</i>	Partridgeberry	S5		
<i>Nabalus albus</i>	White Rattlesnakeroot	S5		X
<i>Nuphar variegata</i>	Variegated Pond-lily	S5		X
<i>Nymphaea odorata</i>	Fragrant Water-lily	S5		X
<i>Oenothera biennis</i>	Common Evening Primrose	S5		
<i>Onoclea sensibilis</i>	Sensitive Fern	S5		X
<i>Osmunda claytoniana</i>	Interrupted Fern	S5		X
<i>Osmunda regalis</i>	Royal Fern	S5		X
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	S5		
<i>Oxalis montana</i>	White Wood-sorrel	S5		X
<i>Parthenocissus vitacea</i>	Thicket Creeper	S5		
<i>Patis racemosa</i>	Black-seeded Ricegrass	S4		
<i>Persicaria amphibia</i>	Water Smartweed	S5		X
<i>Phryma leptostachya</i>	Lopseed	S4S5		
<i>Pinus strobus</i>	Eastern White Pine	S5		X
<i>Plantago major</i>	Common Plantain	SNA		
<i>Poa palustris</i>	Fowl Bluegrass	S5		X
<i>Polygonatum pubescens</i>	Hairy Solomon's Seal	S5		
<i>Populus tremuloides</i>	Trembling Aspen	S5		

Scientific Name	Common Name(s)	S Rank	ESA Status	OWES Wetland Plant List
<i>Prunella vulgaris</i>	Common Self-heal	S5		
<i>Prunus serotina</i>	Black Cherry	S5		
<i>Pteridium aquilinum</i>	Bracken Fern	S5		
<i>Quercus rubra</i>	Northern Red Oak	S5		
<i>Ranunculus acris</i>	Common Buttercup	SNA		X
<i>Rhus typhina</i>	Staghorn Sumac	S5		
<i>Ribes cynosbati</i>	Eastern Prickly Gooseberry	S5		
<i>Rubus allegheniensis</i>	Alleghany Blackberry	S5		
<i>Rubus idaeus ssp. strigosus</i>	North American Red Raspberry	S5		
<i>Rubus odoratus</i>	Purple-flowering Raspberry	S5		
<i>Sagittaria cuneata</i>	Northern Arrowhead	S5		X
<i>Sagittaria latifolia</i>	Broad-leaved Arrowhead	S5		X
<i>Sagittaria latifolia</i>	Broad-leaved Arrowhead	S5		X
<i>Sambucus racemosa</i>	Red Elderberry	S5		
<i>Schoenoplectus tabernaemontani</i>	Soft-stemmed Bulrush	S5		X
<i>Scutellaria lateriflora</i>	Mad-dog Skullcap	S5		X
<i>Silene vulgaris</i>	Bladder Campion	SNA		
<i>Solanum dulcamara</i>	Climbing Nightshade	SNA		X
<i>Solidago canadensis</i>	Canada Goldenrod	S5		
<i>Sparganium eurycarpum</i>	Broad-fruited Burreed	S5		X
<i>Symphyotrichum cordifolium</i>	Heart-leaved Aster	S5		
<i>Symphyotrichum lanceolatum</i>	Panicled Aster	S5		
<i>Taraxacum officinale</i>	Common Dandelion	SNA		
<i>Thalictrum dioicum</i>	Early Meadow-rue	S5		
<i>Thelypteris palustris</i>	Marsh Fern	S5		X
<i>Thuja occidentalis</i>	Eastern White Cedar	S5		X
<i>Toxicodendron radicans var. rydbergii</i>	Western Poison Ivy	S5		
<i>Trifolium aureum</i>	Yellow Clover	SNA		
<i>Trifolium pratense</i>	Red Clover	SNA		
<i>Tsuga canadensis</i>	Eastern Hemlock	S5		X
<i>Tussilago farfara</i>	Coltsfoot	SNA		X
<i>Typha latifolia</i>	Broad-leaved Cattail	S5		X
<i>Ulmus americana</i>	White Elm	S5		X
<i>Uvularia grandiflora</i>	Large-flowered Bellwort	S5		
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum	S5		
<i>Viburnum lantanoides</i>	Hobblebush	S5		

Appendix 4. Endangered and Threatened Species Screening.

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>American Ginseng (<i>Panax quinquefolius</i>): Endangered</p>	<p>American Ginseng requires well-drained but moist acidic to neutral soils generally overlying calcareous bedrock. They are obligate understory plants found in undisturbed mature deciduous and mixed forests, and occasionally in coniferous forests and swamps.</p>	<p>Local Range Context & Database Review: The local landscape is potentially within the range of this species. Applicable local databases (NHIC) do not contain records for this species (which would be listed as Restricted).</p> <p>Habitat Structural Suitability: The forest structure observed within the study area is not considered suitable for this species.</p> <p>Survey Result: No individuals were observed during our on-site investigation.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Bank Swallow (<i>Riparia riparia</i>): Threatened</p>	<p>The Bank Swallow is a small aerial insectivore bird that nests colonially in burrows they excavate within banks. Colonies will nest in bluffs, riverbanks, aggregate pits, roadside embankments, and topsoil piles near open habitat that provides a steady source of insects, such as wetlands.</p>	<p>Local Range Context & Database Review: The local landscape is generally within the range of this species. At least one applicable local database (OBBA) contains records for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not considered suitable for this species.</p> <p>Survey Result: No individuals were observed during our on-site investigation. No indicators of nesting habitat observed.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Black Ash (<i>Fraxinus nigra</i>): Endangered</p>	<p>The Black Ash grows everywhere in Ontario except the Far North. These trees require moisture, and are commonly found in northern swampy woodlands, from eastern Manitoba, throughout Ontario, and as far east as Newfoundland.</p>	<p>Local Range Context & Database Review: The local landscape is within the range of this species. Applicable local databases do not contain records for this species.</p> <p>Habitat Structural Suitability: The forest structure observed within portions of the study area is considered suitable for this species.</p> <p>Survey Result: No individuals were observed during our on-site investigation.</p> <p>Conclusion: Species not documented. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Blanding's Turtle (<i>Emydoidea blandingii</i>): Threatened</p>	<p>Blanding's Turtle are semi-aquatic and use wetland habitats with shallow water and abundant vegetation. Their habitat includes a broad range of wetlands, forest clearings, and meadows. They breed in aquatic habitat and nest in open natural and anthropogenic upland areas.</p>	<p>Local Range Context & Database Review: The local landscape is within the provincial range of this species. Applicable local databases (NHIC, ORAA) contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area subject property is considered suitable for this species. The small lake and associated shoreline wetlands can support various habitat functions.</p> <p>Survey Result: No individuals during our on-site investigation.</p> <p>Conclusion: There is potential habitat for this species within the study area. See report for further discussion.</p>	<p>Y</p>
<p>Bobolink (<i>Dolichonyx oryzivorus</i>): Threatened</p>	<p>Nests and forages in meadows, grasslands, hayfields, and pastureland. Fields must have 25% or less woody plant cover. They typically require large fields (>4ha) and avoid small, fragmented habitats. They also avoid habitat within 75 m of a forest edge.</p>	<p>Local Range Context & Database Review: The local landscape is generally within the range of this species. Applicable databases (OBBA) contain sparse records for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not considered suitable for this species.</p> <p>Survey Result: N/A.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Butternut (<i>Juglans cinerea</i>): Endangered</p>	<p>Butternut is shade intolerant and grows in rich, moist, well-drained loams often along streambanks. Butternut is also found in well-drained gravel sites. It is often found at forest edges where it can access abundant sunlight.</p>	<p>Local Range Context & Database Review: The local landscape is on the periphery of the provincial range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The forest structure observed within portions of the study area is potentially suitable for this species.</p> <p>Survey Result: No individuals were observed during our on-site investigation.</p> <p>Conclusion: Species not observed. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Cerulean Warbler (<i>Setophaga cerulea</i>): Threatened</p>	<p>Found in two small breeding clusters in the Carolinian Forest and the Frontenac Axis. They breed in hilly, mature deciduous forests with a preference for oak and/or maple dominated forests with swampy bottomlands. They are area and edge-sensitive and require large continuous tracts of forest.</p>	<p>Local Range Context & Database Review: The local landscape is on the periphery of the provincial range of this species. One local database (OBBA) contains a single record historical for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not considered highly suitable for this species.</p> <p>Site-specific Survey Result: No individuals were observed during our on-site investigation.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Chimney Swift (<i>Chaetura pelagica</i>): Threatened</p>	<p>The Chimney Swift historically nested and roosted in large hollow trees, rock walls, and other vertical surfaces. They now use human-made structures like uncapped chimneys and have high site fidelity to nesting chimneys. 95% of nests are within 1 km of a waterbody.</p>	<p>Local Range Context & Database Review: The local landscape is generally within the range of this species. At least one applicable local database (OBBA) contains local records for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not suitable for this species.</p> <p>Survey Result: No individuals were documented during our on-site investigation.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Eastern Hog-nosed Snake (<i>Heterodon platirhinos</i>): Threatened</p>	<p>Eastern Hog-nosed snakes require a mosaic of habitats with sandy, well-drained soil and open vegetation close to water with a supply of American Toads. Their Ontario distribution is limited by climate and soil to the French River/Lake Nipissing and Carolinian areas.</p>	<p>Local Range Context & Database Review: The local landscape is within the provincial range of this species. Applicable local databases do not contain records for this species.</p> <p>Habitat Structural Suitability: The property could represent general/generic habitat for this species; however, no specialized habitat features were observed.</p> <p>Survey Result: No individuals or areas of key habitat were observed during our on-site investigation. Targeted presence/absence surveys are not considered applicable.</p> <p>Conclusion: There is potential for this species to occur within the study area; however, no areas of important/functional habitat were observed. The potential presence of this species is not considered applicable to the assessment. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Eastern Meadowlark (<i>Sturnella magna</i>): Threatened</p>	<p>Nests and forages in meadows, grasslands, shrubby fields, hayfields and pastureland. Prefers habitat with >80% grass cover. Needs a minimum of 5 ha of continuous habitat.</p>	<p>Local Range Context & Database Review: The local landscape is generally within the range of this species. Applicable databases (OBBA) contain sparse records for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not considered suitable for this species.</p> <p>Survey Result: N/A.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Eastern Red Bat (<i>Lasiurus borealis</i>): Endangered</p>	<p>Eastern Red Bat overwinter in the southern United States. Summer habitat is primarily deciduous and coniferous forests of any age class. Roosting occurs among the foliage of trees and tend to be on large diameter and tall trees reaching or exceeding the height of the surrounding canopy. Roost sites are selected based on overhead foliage for cover with open flight space below.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area may be suitable for this species.</p> <p>Site-specific Survey Result: A general review of potential habitat function was undertaken to support this assessment, with minimal evidence of potential habitat documented.</p> <p>Conclusion: There is minor potential for this species to occur within portions of the study area. See report for further discussion.</p>	<p>Y</p>
<p>Eastern Small-footed Myotis (<i>Myotis leibii</i>): Endangered</p>	<p>Eastern Small-footed Myotis overwinter in caves and mines in Ontario and do not disperse far from their hibernacula during the summer. They can be found roosting in rocky habitats singly or in groups but will also use human structures as day roosts. They are aerial insectivores and forage in forests, rocky habitats, and ponds.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within the study area is not ideally suited for this species. The property contains no rock exposures, notable crevices, talus slopes, or other ideal roosting opportunities.</p> <p>Site-specific Survey Result: No individuals or evidence of habitat was observed during our on-site investigation that included a general habitat-based wildlife survey.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Henslow's Sparrow (<i>Ammodramus henslowii</i>): Endangered</p>	<p>Henslow's Sparrows' current breeding habitat is generally limited to Prince Edward County and the Regional Municipality of Halton. Their habitat is open grasslands with dense vegetation at least 30 cm tall, thick standing dead material, <1% shrub cover, and intermediate moisture. They prefer larger, continuous grasslands and are sensitive to edge effects.</p>	<p>Local Range Context & Database Review: The local landscape is generally outside of the current provincial range of this species. Applicable local databases (OBBA) do not contain records for this species.</p> <p>Habitat Structural Suitability: The vegetation structure observed within the study area is not considered suitable for this species.</p> <p>Site-specific Survey Result: No individuals were observed during our on-site investigation that included breeding bird surveys.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Hoary Bat (<i>Lasiurus cinereus</i>): Endangered</p>	<p>Hoary Bats live in coniferous or deciduous forests. Roosting occurs among the foliage of trees and tend to be on large diameter and tall trees reaching or exceeding the height of the surrounding canopy. Like Eastern Red Bats, Hoary Bats tend to roost individually or with pups.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area may be suitable for this species.</p> <p>Site-specific Survey Result: A general review of potential habitat function was undertaken to support this assessment, with minimal evidence of potential habitat documented.</p> <p>Conclusion: There is minor potential for this species to occur within portions of the study area. See report for further discussion.</p>	<p>Y</p>
<p>Least Bittern (<i>Ixobrychus exilis</i>): Threatened</p>	<p>Breeds in large marshes within Southern Ontario. Creates nest platforms from tall, dense emergent vegetation within 10m of water and prefers Typha spp. Needs 200 ha of wetland for nesting and foraging but does not need to be continuous wetland. Prefers complexes of smaller wetlands.</p>	<p>Local Range Context & Database Review: The local landscape is on the periphery of the provincial range of this species. At least one applicable local database (OBBA) contains sparse local records for this species.</p> <p>Habitat Structural Suitability: The vegetation structure observed within the study area is not considered suitable for this species. Minor areas of shoreline marsh are present, but lacking large stands of emergent vegetation that represent typical habitat for this species.</p> <p>Site-specific Survey Result: No individuals were observed during our on-site investigation.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Little Brown Myotis (<i>Myotis lucifugus</i>): Endangered</p>	<p>Their hibernacula are within caves and abandoned mines, wells, and tunnels. Maternity colonies are within a few kilometers of hibernacula within snag trees, rock crevices, exfoliating tree bark, and anthropogenic structures. Roosts and swarming sites are in similar areas around the hibernacula.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area may be suitable for this species.</p> <p>Site-specific Survey Result: A general review of potential habitat function was undertaken to support this assessment, with minimal evidence of potential habitat documented.</p> <p>Conclusion: There is minor potential for this species to occur within portions of the study area. See report for further discussion.</p>	<p>Y</p>
<p>Northern Myotis/Northern Long-eared Bat (<i>Myotis septentrionalis</i>): Endangered</p>	<p>Northern Myotis are found below the tree line in Canada and are mostly absent from the prairies. They use live and dead trees near water in forest habitats when active and migrate to caves and abandoned mines for hibernation.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area may be suitable for this species.</p> <p>Site-specific Survey Result: A general review of potential habitat function was undertaken to support this assessment, with minimal evidence of potential habitat documented.</p> <p>Conclusion: There is minor potential for this species to occur within portions of the study area. See report for further discussion.</p>	<p>Y</p>
<p>Red-Headed Woodpecker (<i>Melanerpes erythrocephalus</i>): Endangered</p>	<p>The Red-headed Woodpecker lives in open woodland and woodland edges and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, that the bird uses for nesting and perching. The Red-headed Woodpecker is found across southern Ontario, where it is widespread but rare.</p>	<p>Local Range Context & Database Review: The local landscape is on the periphery of the provincial range of this species. Applicable local databases (NHIC, OBBA) do not contain records for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not considered highly suitable for this species.</p> <p>Site-specific Survey Result: No individuals were observed during our on-site investigation.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Short-eared Owl (<i>Asio flammeus</i>): Threatened</p>	<p>The Short-eared Owl breeds in northern Ontario and is found year-round in southern Ontario. They use open habitats (tundra, grassland, pasture) to nest on the ground and overwinter in open areas with nearby roosting trees. They shelter from inclement weather in conifers and emergent wetland vegetation.</p>	<p>Local Range Context & Database Review: The local landscape is generally outside of the typical provincial range of this species. Local databases (OBBA, NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The vegetation and landscape structure observed within the study area is not considered suitable for this species.</p> <p>Site-specific Survey Result: N/A.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>
<p>Silver-haired Bat (<i>Lasionycteris noctivagans</i>): Endangered</p>	<p>Silver-haired bats are among the most common bats in forested areas, most closely associated with coniferous, mixed coniferous and deciduous forests, especially in old growth forests. They form maternity colonies almost exclusively in tree cavities or small hollows.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area may be suitable for this species.</p> <p>Site-specific Survey Result: A general review of potential habitat function was undertaken to support this assessment, with minimal evidence of potential habitat documented.</p> <p>Conclusion: There is minor potential for this species to occur within portions of the study area. See report for further discussion.</p>	<p>Y</p>
<p>Spotted Turtle (<i>Clemmys guttata</i>): Endangered</p>	<p>The Spotted Turtle uses a mix of terrestrial and aquatic habitats. Aquatic habitats include wetlands, ponds, vernal pools, creeks, streams, sheltered bay edges, stormwater ponds, and man-made channels. Their terrestrial habitats are shorelines, rocky outcrops, upland forests, open fields, and meadows.</p>	<p>Local Range Context & Database Review: The local landscape may be within the historic range of this species; however, location information for this species is extremely confidential. Applicable local databases (NHIC) do not appear to contain records for this species (which would be listed as Restricted).</p> <p>Habitat Structural Suitability: The habitat structure observed within the study area is not considered suitable for this species.</p> <p>Site-specific Survey Result: N/A.</p> <p>Conclusion: There is no expectation that this species occurs within the study area. No further evaluation or mitigation required.</p>	<p>N</p>

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
<p>Tricolored Bat (<i>Perimyotis subflavus</i>): Endangered</p>	<p>The Tri-colored Bat have a scattered distribution and are found as far north as Sudbury. They are found in a variety of forested habitats. They overwinter alone in caves and mines and roost in dead vegetation clumps and lichen in forested habitats near water.</p>	<p>Local Range Context & Database Review: The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species.</p> <p>Habitat Structural Suitability: The habitat structure observed within portions of the study area may be suitable for this species.</p> <p>Site-specific Survey Result: A general review of potential habitat function was undertaken to support this assessment, with minimal evidence of potential habitat documented.</p> <p>Conclusion: There is minor potential for this species to occur within portions of the study area. See report for further discussion.</p>	<p>Y</p>

Appendix 5. Significant Wildlife Habitat Screening.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Category 1: Seasonal Concentration Areas for Wildlife Species					
Waterfowl Stopover and Staging Areas (Terrestrial)	American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall	G060-062, G077-079, G093-095, G109-111, in addition to evidence of spring flooding	Fields flooded with sheet water during Spring (mid March to May)	<p>Studies Confirm: Annual mixed species aggregations of 100 or more total birds</p> <p>Area of SWH Defined As: Ecosite plus 100-300m radius</p>	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Waterfowl Stopover and Staging Areas (Aquatic)	Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Common Merganser, Lesser Scaup, Greater Scaup, Long-tailed Duck, Surf Scoter, White-winged Scoter, Black Scoter, Ring-necked Duck, Common Goldeneye, Bufflehead, Redhead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback	G142-152	<p>Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration.</p> <p>Reservoirs managed as large ponds qualify.</p>	<p>Studies Confirm: Mixed species aggregations of 100 or more total birds for 7 days, and/or annual use by Ruddy Ducks, Canvasbacks, or Redheads</p> <p>Area of SWH Defined As: Ecosites plus 100m radius, includes wetlands and shorelines</p>	The subject property provides frontage onto a small, sheltered lake. While this feature could support small numbers of waterfowl staging, the small size would likely preclude significant and diverse congregations of waterfowl. No further assessment provided - not SWH.
Shorebird Migratory Stopover Areas	Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden-Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Purple Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy Turnstone, Sanderling, Dunlin	G005-G006, G160-G162, G170-G172, G176-G178, G186-G188, G204-G214	Shorelines of lakes, rivers and wetlands, including beach areas, bars, groynes, armour rock, and seasonally flooded, muddy and un-vegetated shoreline habitats.	<p>Studies Confirm: Mixed species aggregations of 3 or more listed species with >1000 shorebirds counted over the migration period, and/or any site with >100 Whimbrel for 3 or more years</p> <p>Area of SWH Defined As: ELC shorelines plus 100m radius</p>	The subject property provides frontage onto a lake; however, the actual frontage of the property does not support suitable structure for shorebird aggregations. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Raptor Wintering Area	Rough-legged Hawk, Long-Eared Owl, Boreal Owl, Northern Saw-whet Owl Special Concern: Short-eared Owl	Combination of one of: G011-G019, G023-G028, G033-G043, G048-G059, G064-G076, G081-G092, G097-G108, G113-G125 And at least one of: G020-G022, G029-G032, G044-G047, G060-G063, G077-G080, G093-G096, G109-G112	Combination of fields and woodlands that provide roosting, foraging and resting habitats; >20 ha with a combination of forest and upland; >15ha undisturbed field habitat; field area windswept with adjacent woodlands; wind swept with limited snow depth.	Studies Confirm: 1 or more Short-eared Owls or at least 10 individuals and 2 of the listed species and used ≥3 times in 5 years for a minimum of 20 days Area of SWH Defined As: n/a	The study area contains forest but lacks open field areas that are required to support this habitat function. No further assessment provided - not SWH.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	May be found in association with cliffs and rock talus in Ecosites; G158-G159, G164, G180-G181	Caves, mine shafts, underground foundations, Karsts Does not include active mines	Studies Confirm: confirmed hibernating bats Area of SWH Defined As: 200m radius around hibernaculum entrance, 1000m radius for wind farms	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	ELC Ecosites: G016-G019, G028, G040-G043, G055-G059, G070-G076, G088-G092, G103-G108, G118-G125	Tree cavities and snags; mature deciduous or mixed stands with >10/ha >25cm dbh trees, Silver-haired Bats prefer forests with 21 snags/ha	Studies Confirm: confirmed use by >10 Big Brown Bats or >5 adult female Silver-haired Bats Area of SWH Defined As: entire woodland/forest ELC or Ecoelement containing maternity colonies	Woodland areas on and adjacent to the subject property have the potential to support this habitat function. See report for further discussion.
Turtle Wintering Areas	Midland Painted Turtle Special Concern: Northern Map Turtle, Snapping Turtle	Snapping and Midland Painted Turtles: Ecosites G128-G135 G140-G152 Northern Map Turtle: open water areas with current (Not sewage lagoons or stormwater ponds)	Water deep enough to not freeze, soft mud substrates; permanent water bodies, large wetlands, bogs or fens with adequate Dissolved Oxygen	Studies Confirm: 5 over-wintering Midland Painted Turtles, or 1 or more overwintering Northern Map Turtles or Snapping Turtles Area of SWH Defined As: ELC with overwintering turtles, if site is within a stream or river only the deep-water pool is protected	The subject property provides frontage onto a lake; however, the direct shoreline is relatively shallow and lacks soft mud substrate. While it is assumed that turtles occur within the lake, it is not expected that the immediate shoreline associated with the property represents a significant overwintering area. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Reptile Hibernaculum	<p>Snakes: Eastern Gartersnake, Northern Watersnake, Northern Red-bellied Snake, Northern Brownsnake, Smooth Green Snake, Northern Ring-necked Snake</p> <p>Special Concern: Five-lined Skink, Milksnake, Eastern Ribbonsnake</p>	<p>Snakes: any forest ecosite other than very wet ones; talus, rock barrens, crevice, cave, and alvar sites; rock piles or slopes, stone fences, crumbling foundations</p> <p>Skink: ELC Ecosites: G056-G059, G070-G076, G087-G092, G103-G108, G118-G125</p>	<p>Snakes: sites with access below the frost line, wetlands with hummocks</p> <p>Skink: mixed forests with rock outcrops providing cover rock overlaying granite bedrock with fissures</p>	<p>Studies Confirm: use by ≥5 individuals from one species or use by individuals from ≥2 species; congregation of ≥5 individuals from one species or individuals from ≥2 species near potential hibernacula; if SC species are present site is SWH; any active skink hibernaculum</p> <p>Area of SWH Defined As: feature containing hibernacula plus 30m radius</p>	<p>Site investigations did not identify any features that would be expected to support this habitat function. No snakes were observed during the on-site investigation. No further assessment provided - not SWH.</p>
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, Northern Rough-winged Swallow	G001-G004, G007-G008, G020-G021, G029-G031, G044-G046, G060-G062, G077-G079, G093-G095, G109-G111, G173-G175, G201-G203, G210-G212	<p>Exposed banks, sandy hills, borrow pits, steep slopes, sand piles that are undisturbed or naturally eroding</p> <p>Does not include man-made structures or active aggregate pits</p>	<p>Studies Confirm: 1 or more nesting sites with ≥8 Cliff Swallow pairs and/or Rough-winged Swallow Pairs during the breeding season</p> <p>Area of SWH Defined As: colony and 50m radius from peripheral nests</p>	<p>Site investigations did not identify any features or areas that would be expected to support this habitat function. No indicator species were observed during on-site investigations. No further assessment provided - not SWH.</p>
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned Night Heron	ELC Ecosites: G064-G076, G081-G092, G097-G108, G113-G125, G128-G136	Live or dead standing trees in wetlands, lakes, islands, peninsulas, may use shrubs or other emergent vegetation; most nests 11-15m from ground	<p>Studies Confirm: ≥10 active Great Blue Heron or ≥1 active Black-crowned Night Heron nests</p> <p>Area of SWH Defined As: colony plus 300m radius or extent of forest ecosite containing colony or any island <15ha with a colony</p>	<p>Site investigations did not identify any features or areas that would be expected to support this habitat function. No indicator species or nests were observed during on-site investigations. No further assessment provided - not SWH.</p>

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	G001-G004, G007-G008, G020-G021, G029-G031, G044-G046, G060-G062, G077-G079, G093-G095, G109-G111, G142-G145 Brewer's Blackbird: Close proximity to watercourses in open fields or pastures with scattered trees or shrubs	Gulls and Terns: rocky islands or peninsulas in open water, marshy areas Brewer's Blackbird: near streams and irrigation ditches in farmland	Studies Confirm: >25 active nests of Herring Gulls or Ring-billed Gulls, >5 active nests of Common Terns, >2 active nests of Caspian Terns, ≥5 Brewer's Blackbird pairs, any active nesting colony of Little Gulls or Great Black-backed Gulls Area of SWH Defined As: colony plus 150m radius or extent of ecosites containing colony or any island <3ha	Site investigations did not identify any features or areas that would be expected to support this habitat function. No indicator species were observed during on-site investigations. No further assessment provided - not SWH.
Deer Yarding Areas	White-tailed Deer	May be found in all Tall Treed forest and swamp ELC Ecosites; G12-G15, G23-G27, G33-G38, G48-G54, G64-G69 G81-G87,, G97-G103 G113-G118, G128-G129	Stratum I: coniferous forest with >60% canopy cover Stratum II: mixed or deciduous forest surrounding Stratum I	Confirm Studies: mapping by MNRF Area of SWH Defined As: n/a	The subject property is not contained within an area identified by MNRF as Deer Yarding Area. No further assessment provided - not SWH.
Category 2: Rare Vegetation Communities					
Beach/ Beach Ridge/ Bar/ Sand Dunes	Indicator species: Marram Grass, Beach Pea	G005-G006, G166-G168, G182-G184, G213-G214	Any beach, beach ridge, or sand dune	Studies Confirm: at least one indicator plant species Area of SWH Defined As: Ecosite area for Beach Ridge, Bar, or Sand Dune	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Shallow Atlantic Coastal Marsh	Indicator species: Virginia Meadow-beauty Other Associated species: Rhynchospora capitellata, Xyris difformis, Panicum spretum, Triadenum virginicum, Polygonum careyi, Juncus militaris	G143-G145, G148-G152	Mineral (sand) or mineral organic (sandy peat) shoreline with low wave energy, on inland lakes and beaver ponds	Studies Confirm: the Indicator species and >4 Other Associated species Areas of SWH Defined As: the ELC	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Cliffs and Talus Slopes	Characteristic Flora: Rock Tripe, Polypodium virginianum, Cystopteris fragilis, Woodsia ilvensis, Cryptogramma stelleri, Woodsia alpina, Saxifraga paniculata	G158-G159, G166-G168, G173-G175, G182-G184, G201-G203	Any cliff > 3m or talus slope	Studies Confirm: lichen Umbilicaria spp and ≥3 listed species, or Fragrant Cliff Fern, or Woodsia scopulina ssp. Laurentiana Areas of SWH Defined As: ELC for cliff or talus slope	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Rock Barren, Precambrian Bedrock	Cladina spp., Polytrichum spp., Danthonia spicata, Deschampsia flexuosa, Juniperus communis, Vaccinium angustifolium, Comptonia peregrina, stunted trees (Quercus alba, Quercus rubra, Pinus strobus), Pteridium aquilinum, Aralia hispida, Spiranthes casei, Saxifraga virginensis, Gaylussacia baccata, Corydalis sempervirens, Prunus pensylvanica, Comandra umbellata	G163-G165, G179-G181	<60% tree cover, vegetation from patchy to barren,	Studies Confirm: rock barren >1ha, >4 listed plant spp. Areas of SWH Defined As: ELC	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Sand Barren	Cladina spp., Carex houghtoniana, Carex merritt-feraldii, Comptonia peregrina, Rubus flagellaris, Selaginella rupestris, Viola labradorica, Polygonella articulata, Stipa spartea	G007, G215	Exposed sand, sparsely vegetated, <60% tree cover	Studies Confirm: any listed plant species, <50% exotic or introduced species Areas of SWH Defined As: ELC	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Alvar	Indicator Species: Penstemon hirsutus, Panicum philadelphicum, Scutellaria parvula, Rhus aromatica, Monarda fistulosa, Senecio pauperculus	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Level calcerous bedrock, rock pavement, overlain by thin veneer of soil, <60% tree cover	Studies Confirm: alvar >0.5ha, ≥1 Indicator species, <50% exotic or introduced species Areas of SWH Defined As: n/a	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Old Growth Forest	Undisturbed, mosaic of canopy gaps creating multi-layered canopy	Long-lived forest within: G011-G015, G017-G018, G023, G027, G033, G036, G039-G042, G048, G051, G054-G058, G064, G066, G069, G071-G075, G081, G084, G087, G089-G091, G103, G105-G107, G113, G115, G118, G120-G124	Undisturbed forest with mosaic of canopy gaps creating multi-layered canopy, stands ≥30ha or with ≥10ha interior habitat assuming 100m edge buffer	Studies Confirm: dominant trees are >140 years old, no recognizable forestry activities Area of SWH Defined As: combined ecosites or ecoelements containing old growth characteristics	The age of on-site woodlands is not sufficient to be considered old growth. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Bog	Sphagnum mosses, ericaceous shrubs, sedges	G126, G137-G138	Nutrient poor, water table near surface, isolated from mineral soil waters, any size bog	Studies Confirm: bog ELC Area of SWH Defined As: bog ELC	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Savannah	See Appendix N of the Significant Wildlife Habitat Technical Guide.	TPS1, TPS2, TPW1, TPW2, CUS2	Tallgrass prairie with 25-60% tree cover, cannot be remnant site	Studies Confirm: ≥1 Savannah indicator species and <50% exotic vegetative cover Area of SWH Defined As: ecosite	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Tallgrass Prairie	See Appendix N of the Significant Wildlife Habitat Technical Guide.	TPO1, TPO2	Dominated by prairie grasses, <25% tree cover	Studies Confirm: ≥1 Prairie indicator species Area of SWH Defined As: ecosite	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Rare Forest Type: Red Spruce	Red Spruce	G036, G051, G066, G084, G086, G100, G102, G116, G117	No minimum size	Studies Confirm: ≥10% red spruce Area of SWH Defined As: ELC ecosites containing red spruce dominated stand	No Red Spruce was observed during on-site investigation. No further assessment provided - not SWH.
Rare Forest Type: White Oak	White Oak	G017, G041, G057, G072, G090, G106, G121	No minimum size	Studies Confirm: ≥10% white oak Area of SWH Defined As: ELC ecosites containing white oak dominated stand	No White Oak was observed during on-site investigation. No further assessment provided - not SWH.
Category 3: Specialized Habitats for Wildlife					
Waterfowl Nesting Area	American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Common Merganser, Red-breasted Merganser, Mallard, Canada Goose, American Wigeon, Bufflehead, Common Goldeneye	Upland habitat adjacent to G129-G135, G142-G152	Area extending 120m from a >0.5ha wetland, or a cluster of ≥3 <0.5ha wetlands, upland areas are at least 120m wide, trees >40cm dbh with nesting cavities	Studies Confirm: ≥3 nesting pairs from listed species excluding Mallards, or ≥10 nested pairs including Mallards, or nesting American Black Ducks Area of SWH Defined As: wetland and 120m boundary, boundary size may vary to provide enough nesting habitat	Site investigations did not identify any features that would be expected to support this habitat function. No waterfowl were observed during our on-site investigation. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey Special Concern: Bald Eagle	Forest communities adjacent to riparian areas	Forested shorelines along lakes, ponds, rivers, or wetlands Osprey: nest at the top of tree Eagle: nest in notch of super canopy tree (Does not include nests on man-made structures)	Studies Confirm: one or more active nests in area, nest must be used annually, must be inactive ≥3 years to be non-significant Area of SWH Defined As: Osprey nest and 300m radius or contiguous woodland stand Bald Eagle nest and 400-800m radius plus perching and foraging habitat	The study area does not contain any features that may support this habitat function. No nests or individuals of indicator species were observed during on-site assessment. No further assessment provided - not SWH.
Woodland Raptor Nesting Habitat	Red-tailed Hawk, Great Horned Owl, Broad-winged Hawk, Sharp-shinned Hawk, Merlin, Barred Owl, Red-shouldered Hawk, Coopers Hawk, Northern Goshawk	All forested Ecosites, also forested swamps: G128-G133	Natural or conifer plantation stands, stick nests found in conifer, deciduous, or mixed forests; Barred Owl, Great Horned Owl, and Merlin nest in cavities	Studies Confirm: ≥1 active nests from listed species Area of SWH Defined As: active Red-shouldered Hawk and Northern Goshawk nest and 400m radius or 28ha of suitable habitat, active Barred Owl nest and 200m radius, active Broad-winged Hawk, Coopers Hawk, Great Horned Owl, Red-tailed Hawk nest and 100m radius, active Merlin and Sharp-shinned Hawk nest and 50m radius	The on-site investigation did not document any of the indicator species or stick nests that may be associated with these species. While it is possible that this function could occur in association with the property, the survey documented no evidence to support this. No further assessment provided - not SWH.
Turtle & Lizard Nesting Areas	Midland Painted Turtle Special Concern: Northern Map Turtle, Snapping Turtle, Five-lined Skink	Turtles: G138, G140-G149 Skink: G056-G059, G070-G076, G087-G092, G103-G108, G118-G125	Turtles: Close to water with open, sunny areas containing sand and gravel turtles can dig in, does not include road shoulders Skink: logs, stumps, loose rock in partially wooded areas	Studies Confirm: ≥5 nesting Midland Painted Turtles, or ≥1 nesting Northern Map Turtle or Snapping Turtle Area of SWH Defined As: area/areas with exposed mineral soils plus a 30-100m radius, including travel routes from wetland to nesting area, Skink nest plus 30m radius	The study area contains closed canopy forest with no signs of exposed surface sand/gravel that could support turtle nesting. While turtles and skinks likely occur on the local landscape, we observed no evidence of nesting sites for either. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, Moose, White-tailed Deer, Salamander spp.	Any forested ecosite near headwaters	Forested area with <25% meadow/field/pasture within headwaters of river or stream	<p>Studies Confirm: ≥2 seeps/springs</p> <p>Area of SWH Defined As: area containing seeps/springs</p>	No seeps or springs were documented during on-site investigations.
Aquatic Feeding Habitat	Moose, White-tailed Deer	Any forested ecosite next to water	Areas providing an abundance of submerged aquatic vegetation such as Pondweeds, Water Milfoil, and Yellow Water Lily, adjacent stands of lowland conifer or mixed woods	<p>Studies Confirm: observed or demonstrated moose use</p> <p>Area of SWH Defined As: wetland and 120m of adjacent forest</p>	The shoreline area adjacent to the subject property contains beds of primarily floating aquatic vegetation. While it is possible that Moose may utilize these areas for feeding, it is not expected that such areas would represent significant habitat. Notably, we observed no evidence of Moose during the on-site investigation. No further assessment provided - not SWH.
Mineral Licks	Moose, White-tailed Deer	Any forested ecosite	Upwelling groundwater and seepage in a forest habitat	<p>Studies Confirm: confirmed mineral lick</p> <p>Area of SWH Defined As: mineral lick and 120m radius or wetland/seep/spring containing mineral lick and 100-200m radius of undisturbed contiguous forest</p>	No seeps or springs were documented during on-site investigations.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Denning Sites for Mink, Otter, Marten Fisher and Eastern Wolf	Mink, Otter, Marten, Fisher, Special Concern: Eastern Wolf	Any forested ecosite	<p>Mink: shorelines dominated by coniferous and mixed forests, old muskrat lodges</p> <p>Otter: undisturbed shorelines along waterbodies with productive fish populations, abundant downed woody debris, old beaver lodges or log jams, crevices in rock piles</p> <p>Marten and Fisher: large tracts of coniferous or mixed forest, cavities in large trees or under downed woody debris</p>	<p>Studies Confirm: known active site</p> <p>Area of SWH Defined As: active denning site and 100m radius, active wolf den and 200m radius</p>	No evidence of mammal denning sites was documented during on-site investigation. No further assessment provided - not SWH.
Amphibian Breeding Habitat (Woodland)	Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, Northern Two-lined Salamander, Spring Peeper, Wood Frog, American Toad	Any forested ecosite with permanent, seasonal, or ephemeral ponds in or adjacent to the woodland	Wetland or pond >500m ² within 120m of woodland	<p>Studies Confirm: breeding population of ≥1 listed newt/salamander species or ≥2 listed frog species with at least 20 individuals (adults or egg masses) or ≥2 listed frog species with Call Level Codes of 3</p> <p>Area of SWH Defined As: wetland plus 230m radius of woodland, including travel corridor</p>	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Amphibian Breeding Habitat (Wetlands)	Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bullfrog	G129-G135, G142-G152	Wetland or pool >500m ² , may include small or ephemeral habitats, may contain shrubs and logs, bullfrogs require permanent water bodies with emergent vegetation	<p>Studies Confirm: breeding population of 1 or more listed newt/salamander species or 3 or more of the listed frog/toad species with at least 20 individuals (adults or egg masses) or 3 or more of the listed frog/toad species with Call Level Codes of 3 or confirmed breeding Bullfrogs</p> <p>Area of SWH Defined As: wetland ELC and shoreline</p>	Shoreline areas associated with the property are assumed to support this function. See report for further discussion.
Mast Producing Areas	Black Bear, White-tailed Deer, Wild Turkey, Ruffed Grouse	G015, G017, G019, G027-G028, G041-G043, G057, G059, G072, G090, G106, G108, G121	Mature forests >0.5ha with large Beech and Red Oak trees, other important trees are Hickory, Basswood, Black Cherry, Ironwood, Mountain Ash, Pin Cherry, Butternut, important shrubs are Blueberries, wild Blackberry, Serviceberry, Raspberry, Beaked Hazel, Choke Cherry, Hawthorn	<p>Studies Confirm: >50% mast producing species >40-65cm dbh or an opening within a forest ELC with 50% ground cover of mast producing shrubs</p> <p>Area of SWH Defined As: mast producing area of ELC</p>	Woodland ecosites within the study area do not contain significant components of mast-bearing tree species (e.g., Oak). No further assessment provided - not SWH.
Category 4: Habitats of Species of Conservation Concern					
Marsh Bird Breeding Habitat	American Bittern, Sora, Red-necked Grebe, Pied-billed Grebe, Redhead, Ring-necked Duck, Lesser Scaup, Ruddy Duck, Common Moorhen, American Coot, Wilson's Phalarope, Common Loon, Sandhill Crane, Green Heron, Sedge Wren, Marsh Wren, Trumpeter Swan Special Concern: Yellow Rail, Black Tern	G138-G152 Green Heron: G138-G152, G129-G36	Shallow water with emergent vegetation Green Heron: edge of sluggish streams, ponds, marshes sheltered by shrubs and trees	<p>Studies Confirm: ≥5 nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes, or breeding by ≥5 of any combination of the listed species, or ≥1 pairs of Trumpeter Swans, Black Terns, Green Herons, or Yellow Rails</p> <p>Area of SWH Defined As: area of ELC used for breeding</p>	The study area does not contain any features that may support this habitat function. The adjacent lake environment contains sparse to moderate aquatic vegetation, but no area of dense emergent cover that would support breeding marsh bird habitat. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow Special Concern: Short-eared Owl	G008-G009, G020-G021, G029-G031, G044-G046, G060-G062, G077-G079, G093-G095, G109-G111	Grassland areas >30ha	Studies Confirm: nesting/breeding of ≥2 listed species or ≥1 breeding Short-eared Owls Area of SWH Defined As: contiguous grassland ELC	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Shrub/Early Successional Bird Breeding Habitat	Willow Flycatcher, Brown Thrasher, Blue-winged Warbler, Tennessee Warbler, Prairie Warbler, Eastern Towhee, Clay-coloured Sparrow, Field Sparrow Special Concern: Golden-winged Warbler	G009-G010, G021-G022, G031-G032, G046-G047, G062-G063, G079-G080, G095-G096, G111-G112, G134-G135	Large fields >30ha succeeding to shrub and thicket	Studies Confirm: nesting/breeding of ≥2 listed species or breeding Golden-winged Warblers Area of SWH Defined As: contiguous field/thicket ELC	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Special Concern and Rare Wildlife Species	Species tracked by NHIC	n/a	ELC surrounding recorded occurrence	Studies Confirm: confirmation species is present Area of SWH Defined As: area of habitat to the finest ELC scale that protects habitat form and function	The study area has the potential to support habitat for one or more special concern or rare species. See report for further discussion.
Category 5: Animal Movement Corridors					
Amphibian Movement Corridors	Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bullfrog	Any ecosite associated with water	Corridor linking summer and breeding habitat	Studies Confirm: confirmed Amphibian Breeding Habitat-Wetland, at least 15m of vegetation on both sides of waterway or up to 200m wide Area of SWH Defined As: corridor is part of buffer surrounding Amphibian Breeding Habitat- Wetland	Amphibian breeding habitat is assumed to occur in association with the small lake on the subject property. However, the remainder of the property is not expected to provide any definable movement corridors.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Cervid Movement Corridors	White-tailed Deer, Moose	Any forested ecosite	Identified by MNRF, follow riparian areas, woodlots, ravines, or ridges	<p>Studies Confirm: confirmed Deer Wintering Habitat or Moose Aquatic Feeding Area or Mineral Lick Habitat</p> <p>Area of SWH Defined As: corridors at least 200m wide with gaps <20m, with 15m of vegetation on both sides of waterways</p>	N/A
Furbearer Movement Corridor	Mink, Otter	Any forested ecosite adjacent to shoreline habitats	n/a	<p>Studies Confirm: confirmed Denning Sites for Mink, Otter, Marten, Fisher and Eastern Wolf</p> <p>Area of SWH Defined As: n/a</p>	N/A
Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 5E					
5E-11 Rare Forest Types: Jack Pine	Jack Pine	G012, G023, G034-G035, G049, G065, G068, G082-G083, G098-G099, G114	No minimum size, plantations are not significant	<p>Studies Confirm: ≥40% jack pine</p> <p>Area of SWH Defined As: ELC containing jack pine</p>	N/A
5E-13 Late Winter Moose Habitat	Moose	G012-G014, G024-G026, G035-G038, G050-G053, G066-G068, G083-G086, G099-G102	Dense conifer cover with >50% canopy closure and >10m in height, stands >50ha dominated by >10m trees, gentle to moderately rugged sites with deep soils	<p>Studies Confirm: moose or moose tracks/sign in March and April</p> <p>Area of SWH Defined As: forest ELC containing moose</p>	N/A