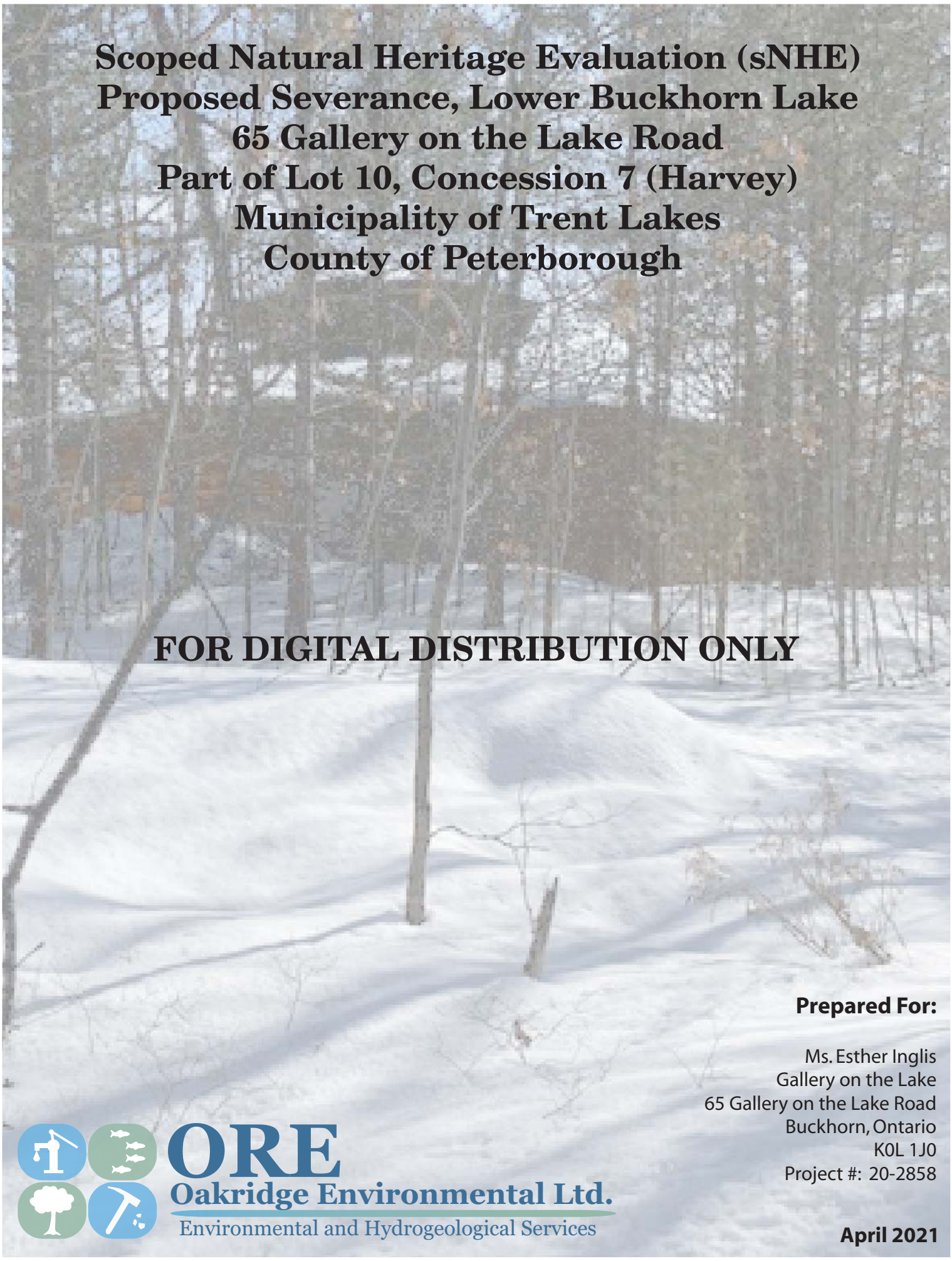
Scoped Natural Heritage Evaluation (sNHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes
County of Peterborough



FOR DIGITAL DISTRIBUTION ONLY

Prepared For:

Ms. Esther Inglis
Gallery on the Lake
65 Gallery on the Lake Road
Buckhorn, Ontario
K0L 1J0
Project #: 20-2858

ORE
Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

April 2021

ORE
Oakridge Environmental Limited
Environmental and Hydrogeological Services

April 9, 2021

Gallery on the Lake
65 Gallery on the Lake Road
Buckhorn, Ontario
K0L 1J0

Attention: Esther Inglis, Property Owner

Re: *Scoped* Natural Heritage Evaluation (*s*NHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes, County of Peterborough
ORE File No. 20-2858

Dear Ms. Inglis:

We are pleased to provide this *Scoped* Natural Heritage Evaluation (*s*NHE) for the above-referenced property. This report has been prepared as per our proposal of February 24th, 2021 and as directed through the preliminary severance review with the County of Peterborough.

The subject site contains a small unevaluated wetland and abuts Buckhorn Lake. The author has attended the site many times during the spring and summer period over the past few years and has not detected any SAR directly on the property. As such, the main concern with respect to the subject lot is the potential for any site alterations to impact Key Hydrologic Features (KHF).

These features have been identified on the site and the appropriate mitigation measures have been applied to the proposed severance.

We trust that this report will be sufficient for any agency reviews. Should you have any questions or require clarification, please do not hesitate to contact our office.

Yours truly,
Oakridge Environmental Ltd.

For Digital Distribution Only

Rob West, HBSc., CSEB
Senior Environmental Scientist

Table of Contents

List of Figures

List of Appendices

Scoped Natural Heritage Evaluation (*s*NHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes, County of Peterborough

1.0 Introduction

1.1 General

Oakridge Environmental Ltd. (ORE) is pleased to present our report outlining the results of our *Scoped* Natural Heritage Evaluation (*s*NHE) in support of the above-referenced severance situated northeast of Buckhorn, Ontario (Figure 1).

It is understood that an *s*NHE is required to support the Planning application to sever the existing residential development from the Gallery on the Lake commercial business property. If the Planning application/severance are granted, both parcels will become residentially zoned properties. No new structures are proposed to occur on either lot. Only the severance to separate the art gallery building from the existing residence is proposed.

The total property acreage is 1.6 hectares (4.0 acres). If the severance is approved, the lots would consist of approximately 1.3 ha (3.3 acres) and 0.3 ha (0.8 acres), east and west, respectively (see Appendix A). The site is located within 120 m area of influence associated with an unevaluated wetland, Buckhorn Lake. It is also within the Natural Heritage System (NHS) of the Growth Plan for the Greater Golden Horseshoe (GPGGH). As a result, a study is required to support the severance and re-zoning application. The purpose of the study is to characterize the site conditions and demonstrate that the subject property can sustainably accommodate the proposed development without resulting in unacceptable impacts to any Key Natural Heritage Features (KNHF).

1.2 Site Location and Access

The subject site is located at 65 Gallery on the Lake Road, Part of Lot 10, Concession 7 (Harvey), Municipality of Trent Lakes, County of Peterborough (Figure 1 and 2). The lot has frontage directly off of Gallery on the Lake Road and consists of approximately 4 acres (1.6 ha). Two (2) existing buildings occur on the property, including an existing residence and a commercial art gallery.

From Buckhorn, the site is accessed north on County Road 36 heading towards Burleigh Falls, south on Gallery on the Lake Road leading to the subject site. The site is located on the left hand side of Gallery on the Lake Road at 911 address # 65. Both the art gallery and the residence are currently accessed from the same laneway. The

existing lane bypasses the entryway to the art gallery, routes around the east side of the gallery and crosses beneath a segment of the gallery structure and ends at the front of the existing residence.

2.0 Policy Framework

2.1 Provincial Policy Statement

The 2020 Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development. This document stresses the need for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of Natural Heritage Features. Section 3 of the Planning Act requires that planning authorities shall "have regard for" the PPS when exercising any authority that affects municipal planning matters. Since this is a planning application, the Municipality and County will often apply the most recent version of the PPS Natural Heritage section requirements to ensure any/all natural heritage features are detected and the proposed development is cognisant of the features.

ORE is knowledgeable of and has reviewed Section 2.1 (Natural Heritage) of the 2020 PPS with specific regard to the applicability of the Policy to the subject site. In addition, ORE has reviewed and utilized the methodologies outlined in the *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005* (MNRF, 2005).

The PPS lists a number of features that must be addressed, including but not limited to the following:

- Significant Woodlands
- Significant Wetlands
- Significant Valleylands
- Significant Wildlife Habitat (SWH)
- Significant Fisheries Habitat
- Species at Risk

The Ministry of Natural Resources and Forestry's (MNRF's) assessment requirements under the *"Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E"* is applicable to Planning Applications. ORE staff reviewed the site's vegetation and formed a candidate SWH list, which was further refined based on our knowledge of the site. The SWH assessment focussed on the type of vegetation to be impacted by the development and not all of the ELC types observed on the subject property.

Similarly, the remaining Natural Heritage Features listed above have been identified on the property and these have been researched and discussed as per the PPS requirements.

This report has been prepared with regard for the relevant sections of the PPS.

2.2 Growth Plan for the Greater Golden Horseshoe (Growth Plan)

The proponent's lot is subject to a planning application, therefore, requires a Planning approval. Consequently, the Growth Plan is applicable.

In July of 2017, the Ministry of Natural Resources and Forestry (MNRF) issued the Growth Plan for the Greater Golden Horseshoe (Growth Plan). The Growth Plan is a policy document intended to assist planning authorities implement a set of standardized objectives for development within their jurisdictions. Among other things, the Growth Plan established a Natural Heritage System (NHS) in accordance with the PPS for the entire region. The NHS identifies Key Natural Heritage Features (KNHF) and water resource systems (Key Hydrologic Features - KHF). The Growth Plan prescribes certain setbacks from these features, typically in the form of a "Vegetation Protection Zone" (VPZ), also commonly referred to as a Vegetation Protection Area (VPA)[1]. The NHS and these prescribed setbacks are intended to be applicable to all new development (requiring a planning application) outside the designated settlement areas within the Greater Golden Horseshoe.

The Growth Plan was later revised in May 2019 due to its restrictive nature. It was revised to allow Municipalities more decision-making abilities in their jurisdiction by providing their own Natural Heritage System (NHS), rather than adopting the Growth Plan in its entirety.

According to Ecovue the following would apply to the proposed severance with respect to the Growth Plan:

Section 4.2.3.1 of the Growth Plan states that "outside of settlement areas, development or site alteration is not permitted in key natural *heritage features that are part of the Natural Heritage System for the Growth Plan or in key hydrologic features…". Since the Natural Heritage System for the Growth Plan has not yet been implemented by the County of Peterborough, this policy currently does not prohibit development in key natural heritage features (such as the significant woodlands on site). However, this policy provides protection to the key hydrologic features (i.e., the unevaluated wetland)*

[1] For the purpose of this report, VPA is used in place of VPZ in an attempt to prevent confusion with regards to zoning regulations and bylaws.

from development and site alteration."

It is further stated in Section 4.2.4.3 that "*development or site alteration is not permitted in the [30 metre] vegetative protection zone [VPZ], with the exception of….shoreline development as permitted in accordance with policy 4.2.4.5 of the Growth Plan*".

Section 4.2.4.5 states that "*in developed shoreline areas of inland lands that are designed or zoned for concentrations of development as of July 1, 2017, infill development…is permitted, subject to municipal and agency planning and regulatory requirements, if the development will…be integrated with existing or proposed parks and trails, and will not constrain ongoing or planned stewardship and remediation efforts; [and] restore, to the maximum extend possible, the ecological features and functions in developed shoreline areas.*"

Neither the Municipality nor County have a current NHS that would apply.

This assessment has reviewed the site conditions to determine if there are any KHF within the subject site. The applicable setbacks have been applied as per the Growth Plan.

2.3 Municipality of Trent Lakes Official Plan

The proponent's application is submitted to the Municipality of Trent Lakes for the purpose of obtaining planning approvals for the one (1) lot severance, the art gallery being the retained lot. The Municipality relies on the County and peer review process to ascertain whether the natural heritage objectives have been adequately addressed in this EIS.

2.4 Peterborough County

The Official Plan (OP) of Peterborough County states the relevant requirements for all studies to be completed in support of a proposed development application. The OP lists certain criteria that must be met for an "Environmental Impact Assessment". The applicable excerpts from the OP are included in Appendix C.

The County has not totally adopted the provincial Growth Plan requirements. Although, the County adheres to the requirements under the Growth Plan regarding Key Hydrological Features (KHF) it does not adhere to the Significant Woodland requirements. The County is in the midst of generating its own Natural Heritage System (NHS). Until then, the Significant Woodland requirement in NHE's is not

necessary.

Based on the County requirements an EIS must be completed for this severance application due to the proposed location of the severance occurring within 30 m of a watercourse that possesses significant fisheries - Buckhorn Lake. The presence of the Provincially Significant - Lower Buckhorn Lake Complex within 120 m of the subject site, also triggers the necessity for an *s*NHE.

The County also requires the proponent to discuss threatened and endangered species either on or directly adjacent to the subject site as part of a planning application.

The County may require a peer review of this report. Therefore, a second step in the *s*NHE process may be necessary to provide further information regarding the property to both satisfy their peer review consultant and Peterborough County.

3.0 Physical Setting

3.1 Topography and Drainage

The topography of the site is fairly typical of the Canadian Shield terrain, comprised of low and elongate bedrock ridges separated by linear troughs, often containing wetlands (Figure 2). The subject site contains a low ridge feature. The axis of the ridge trends from southwest to northeast, crossing through the central part of the site. From the apex of the ridge to Lower Buckhorn Lake, there is approximately 7 m of topographic relief, according to published mapping.
The northernmost area of the site includes a small part of an extensive wetland that connects to the Lower Buckhorn Lake Complex (and the lake). The southernmost part of the site fronts onto the lake. The topographic ridge is a bedrock-controlled feature that forms a local drainage divide. Runoff north of the divide is expected to flow northward to the wetland while flows south of the divide are conveyed to the lake. There are no other watercourses on the site, according to the mapping.

3.2 Geological Setting

As illustrated by Figure 3, the subject site occurs within an area mapped as Precambrian Bedrock - Drift Complex. This typically comprises ridges of bedrock outcroppings with a discontinuous mantle of silty till. The published mapping indicates that there are three types of till present in the site area, a somewhat rare occurrence.

To the north and south, deposits of the Dummer Till complex occur. This unit is a very stony silt till that follows the southern edge of the Canadian Shield throughout this

part of Ontario. Northeast of the site, deposits of Newmarket Till occur, composed of dense clay, silt and sand with minor gravel content. Immediately north of County Road 36, a band of shield-derived till occurs, representing a more continuous deposit of the silty till that occurs sporadically on the site.

In low areas, this terrain can also exhibit a surficial layer of oxidized fine sand or silty fine sand, representing a remnant of glacial outwash or a period of post-glacial innundation.

Lower Buckhorn Lake generally follows the contact between the Precambrian Shield terrain (in the north) and the Paleozoic limestones (in the south). However, the contact is not a regular feature. Large "outliers" of limestone occur within the Shield, north of the contact, forming "islands" of limestone within the Precambrian terrain. A large feature of this type occurs north and northeast of the site. No limestones are mapped on the subject site. Instead, the site's bedrock consists of granitic gneiss and pegmatite intrusives.

Perusal of local well records reveals that the overburden (where it exists) is typically described as 1.3 m of "sand", overlying granite (e.g., Well Record Nos. 5111323 and 5118811)[2] or 2.4 m of clay and gravel, overlying granite (e.g., Well Record No. 5117693).

4.0 Information Resources

4.1 Natural Heritage Information Centre (NHIC)

The NHIC provides an online database managed by MNRF. Within the database, Ontario has been divided into a grid consisting of 1 km^2 areas or regional squares, each given a unique identifier. The squares can be searched for historical Species at Risk (SAR) occurrences and for Areas of Natural and Scientific Interest (ANSI).

The property falls within the 1 km^2 squares 17QK1237 and 17QK1238.

The query indicates that there is one (1) Natural Area recorded in this area:

Natural Area

Lower Buckhorn Lake Complex

The query indicates that two (2) Species at Risk (SAR) have been recorded in the area:

[2] No. 5118811 is believed to be an on-site well.

Common Name	Scientific Name	S-Rank/SARO Status
Blanding's Turtle	*Emydoidea blandingii*	S3/Threatened
Snapping Turtle	*Chelydra serpentina*	S3/Special Concern

A brief description of these species and their preferred habitat is included in Appendix B. Our site inspections included targeted searches for potential SAR habitat of these species. An excerpt from the NHIC's website illustrating the location of the squares relative to the subject site is also included in Appendix B.

4.2 Ontario Breeding Bird Atlas (OBBA)

The OBBA provides up-to-date reliable information on birds within Ontario. The information includes species descriptions, habitats, range, documented sightings, etc. The subject site occurs within the 10 km^2 area mapped as 17TQK13, Region 16, Peterborough. The Summary Sheets for this atlas area are provided in Appendix C

From our review of the information, significant breeding species that could potentially be associated with habitats in the site area include the following:

Common Name	Scientific Name	Status
Eastern Wood-Pewee	*Contopus virens*	Special Concern
Bank Swallow	*Riparia riparia*	Threatened
Barn Swallow	*Hirundo rustica*	Threatened
Wood Thrush	*Hylocichla mustelina*	Threatened
Bobolink	*Dolichonyx oryzivorus*	Threatened
Eastern Meadowlark	*Sturnella magna*	Threatened
Eastern Whip-poor-will	*Antrostomus vociferus*	Threatened
Canada Warbler	*Cardellina canadensis*	Special Concern
Evening Grosbeak	*Coccothraustes vespertinus*	Special Concern
Golden-winged Warbler	*Vermivora chrysoptera*	Special Concern

Brief descriptions of each of the listed species and associated preferred habitats are included in Appendix C. The site inspections included a review of potential SAR habitat and targeted searches for the listed species.

4.3 eBird Database

According to the eBird Geographic Information System (GIS) database, the nearest hotspot is Deer Bay Reach Road, located approximately 3 km east of the site. A total of

116 species were recorded. Of those, six (6) species are considered SAR. They include the following:

Common Name	**Scientific Name**	**Status**
Wood Thrush	*Hylocichla mustelina*	Special Concern
Eastern Meadowlark	*Sturnella magna*	Threatened
Barn Swallow	*Hirundo rustica*	Threatened
Eastern Wood-Pewee	*Contopus virens*	Special Concern
Evening Grosbeak	*Coccothraustes vespertinus*	Special Concern
Golden-winged Warbler	*Vermivora chrysoptera*	Special Concern

A brief description of the listed species and associated preferred habitats is included in Appendix D. The site inspections included a review of potential SAR habitat and targeted searches for the listed species.

5.0 Ecological Findings

5.1 Site Inspection Summary

For this assessment, ORE staff conducted one detailed (1) site inspection on the following date:

Date of Inspection	**Time of Inspection**	**Temp. ^{o}C**	**Beaufort (Wind) Scale**	**Conditions and purpose of site inspection**
February 28, 2021	10AM - 1 PM	-7	2 - light breeze	Overcast and cool. Review site conditions, identify on-site wetland, species inventories, ELC, SAR habitat ID based on desktop review. Approx. 35 cm to 50 cm of snow.

From the site inspection data, a map of the general vegetation communities and habitats occurring on the property has been prepared (Figure 4). During the inspection, faunal observations were also recorded. Standard methodologies were utilized for the mapping exercises and species identification. A series of site photos are provided in Figure 5, identifying the site conditions in the vicinity of the development.

5.2 Survey Methodologies/Protocols

5.2.1 Vegetation

The site has been characterized by its various vegetation communities using the methodologies included in the *Ecological Land Classification (ELC) - First Approximation and Its Applications* (1998). The classification of each vegetation community has been designated in accordance with the Ecological Land Classification for Southern Ontario (FG-02), 1998. Where the 1998 ELC does not adequately identify the vegetation community, the 2008 Draft ELC is then applied.

Prior to conducting the site inspection, aerial photography of the subject site was reviewed to roughly delineate communities based on recognizable vegetation differences. The inspection was completed outside the growing season during the winter period. Each identified community was subsequently inspected through vegetation analysis. Dominant vegetation types were recorded and boundaries of the various communities mapped using a differential GPS.

The author has attended the site many times over the past few years and is very much acquainted with The Gallery on the Lake property. Therefore, the author is very familiar with the site conditions and types of vegetation present on the property.

Any wetland-type vegetation communities were investigated from the perspective of whether they are Key Hydrologic Features and/or whether they may contain Species at Risk.

5.2.2 Avifauna

ORE staff attended the site during the winter season and endeavoured to detect all available avian species by sight, calls and notes, within and proximal to the site. Bird calling devices and “pishing and squeaking” were periodically used to attract bird species from within the more densely vegetated areas or the edge of the property. ORE staff also used the I-Bird Pro app on their cellular phone to broadcast potential SAR avian that could occur within habitat types associated with the severance parcels. Broadcasting the call of the SAR may illicit a call-back from the species and/or entice it to come within range to observe it, if they are still present.

All species overheard or observed during the winter period survey were recorded.

5.2.3 Mammals

Mammals were detected utilizing the protocols outlined in the MNRF's March 1998 - Wildlife Monitoring Programs and Inventory Techniques for Ontario. Mammals were generally identified by either visual encounters or via their tracks and/or scat droppings at the site.

The winter surveys allowed ORE staff to easily detect the type of mammals present on-site based on the tracks observed in the snow. Some mammals may hibernate during the winter, and therefore may not be present during the winter months. However, a good majority of the listed mammal species, other than bats, do not hibernate during the winter months and would have been detected if they were present on-site.

5.2.4 Herptiles

It was not possible to conduct the herptile surveys during the winter months, however the author has attended the Gallery on the Lake property many times over the last few years during the spring and summer months and recalls observing several species of herp over those years.

The incidental observations and species detected have been recorded. However, no intentional surveys were conducted as per the protocols on the subject site.

ORE staff conducted a desktop review for SAR and if any potential SAR herps could occur on the site. They have been included in this *s*NHE.

5.2.5 Significant Wildlife Habitat (SWH)

SWH has been evaluated utilizing the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E*, published by the MNRF (January 2015).

Potential SWH were evaluated according to the criteria outlined in the schedules for candidate SWH. The SWH tables were consulted to assess whether the site possesses Seasonal Concentration Areas of Animals, Rare Vegetation Communities, Specialized Habitats of Wildlife considered SWH, and Animal Movement Corridors.

ORE staff is somewhat perplexed that the Gallery on the Lake site occurs within Ecoregion 6E - limestone plains region as the site contains acidic rock barren habitats and woodland and wetland landscapes that are typical of Ecoregion 5E. The contact zone is presumably in Buckhorn Lake as the limestone plain habitats are clearly present along the south shore of Buckhorn Lake and in the area of the Hamlet of

Buckhorn. The majority of the north shore in the area of the Gallery is acidic rock barren habitats.

5.3 Vegetation

ELC inspections were focussed on the development area and immediate adjacent lands, as per the recommendations of the MNRF's Natural Heritage Reference Manual. Photos of the communities are illustrated in Figures 5 and 6.

Based on our site inspection, the following vegetation communities have been identified on the site, as per the *1998 and/or the draft 2008 Ecological Land Classification (ELC) for Southern Ontario* and *Field Guide to Forest Ecosystems of Central Ontario - SCSS Field Guide FG-01 (1997*):

Dry to Moderately Fresh Habitats in the Upland Woodland Regimes:

1) Sugar Maple-Red Oak-Basswood (ES24.2)
2) White Pine-Largetooth Aspen-Red Oak (ES14.2)
3) Dry Bracken Fern Sand Barren (SB01-1)
4) Common Juniper Acidic Shrub Rock Barren (RBS3-2)

Fresh to Moist Bottomlands

5) White Cedar-White Pine-White Birch-White Spruce (ES21.2)

Aquatic and Wetland Environments:

6) White Cedar - Conifer Mineral Coniferous Swamp (SWC1-2)
7) Black Ash Mineral Deciduous Swamp (SWD2-1)
8) Willow Mineral Thicket Swamp (SWT2-2)/Red-osier Mineral Thicket Swamp (SWT2-5)/Alder Mineral Thicket Swamp (SWT2-1)
9) Forb Mineral Meadow Marsh (MAM2-10)
10) Cattail Mineral Shallow Marsh (MAS2-1)
11) Open Water Aquatic (OAO)

Upland Communities

1. Sugar Maple-Red Oak-Basswood (ES24.2)

Sugar Maple-Red Oak-Basswood dominated stands occur on fresh to moist, occasionally

very moist, soils. Associates in the main canopy include White Birch (*Betula papyrifera*), White Pine (*Pinus strobus*), Largetooth Aspen (*Populus grandidentata*), White Ash (*Fraxinus americana*) and Beech (*Fagus grandifolia*). The understory has high levels of hardwood regeneration. There are a moderate number of herbs, and a wide range of soil textures, often calcareous.

This community occurs in the upland areas just upgradient of the conifer dominated wooded swamp areas and is a transition zone between upland and wetland communities. It can also occur as an upland island area within the wooded swamp habitats where there is a slight elevation change within the wooded swamp corridor.

2. White Pine-Largetooth Aspen-Red Oak (ES14.2)

White Pine-Largetooth Aspen-Red Oak dominated stands occur on fresh to moist soils. The understory has moderate levels of hardwood and conifer regeneration, tall and low hardwood shrubs. There are a moderate number of herbs. It occurs on a wide range of soil textures.

This upland community occurs within the northern portion of the site near the parking area. The woodland contains an abundance of Bracken Fern (*Pteridium aquilinum*). The woodland contains mature deciduous species consistent with secondary succession woodlands. The occurrence of Hop Hornbeam (*Ostrya virginiana*) often suggests a secondary succession forest community.

3. Dry Bracken Fern Sand Barren (SB01-1)

The ELC describes this community as containing vegetation cover that varies from patchy to barren, with tree and shrub cover less than or equal to 25%.

This is the smallest vegetation community on-site. It occurs as sporadic/patchy areas in the openings on bedrock and at the edge of the parking areas. The parking areas possess an abundance of sand and the Bracken Fern is one of the first species to occur in these anthropogenic areas. This type of habitat occurs beneath the White Pine-Largetooth Aspen-Red Oak community.

4. Common Juniper Acidic Shrub Rock Barren (RBS3-2)

Common Juniper Acidic Shrub Rock Barrens have tree cover less than or equal to 25% and shrub cover greater than 25%. Cover is patchy and barren to continuous thicket. This community occurs over acidic bedrock

This rock barren vegetation type habitat occurs towards the shoreline and again atop the bedrock ridge just west of the art gallery building and north of the existing residence. The bedrock ridge occurs directly south of the ORE delineated wetland feature and extends across the entire south side of the wetland boundary.

Fresh to Moist Bottomlands

5) White Cedar-White Pine-White Birch-White Spruce (ES21.2)

White Cedar-White Pine-White Birch-White Spruce are mixed wood stands occurring on fresh to moist soils. The understory has moderate levels of conifer regeration, tall hardwood shrubs, *Sphagnum* species, feathermosses and liverworts. There are a moderate number of herbs. Soils are typically sandy to coarse loamy.

This community occurs on the edge of the ORE delineated wetland boundary. The Eastern White Cedar occurs directly along the edge and then disperses further up the slope. White Pine, White Birch and White Spruce intermingle with the cedar in this bottomland habitat.

Aquatic and Wetland Environments:

6. White Cedar - Conifer Mineral Coniferous Swamp (SWC1-2)

The ELC describes a White Cedar - Conifer Mineral Coniferous Swamp (SWC1-2) as having tree cover present in greater than 25% of the ecosite, with coniferous tree species being present in greater than 75% of the canopy. This ecosite is dominated by conifer species such as Eastern White Cedar (*Thuja occidentalis*), Balsam Fir (*Abies balsamea*), Eastern Hemlock (*Tsuga canadensis*) and White Pine (*Pinus strobus*). Ground cover will vary with the degree of open canopy.

This community is located within the ORE delineated wetland. It occurs around the edge of the wetland and is the transition rim between the previous bottomlands habitat and the swamp. It is dominated by Eastern White Cedar and contains trunk buttressing and micromounds where the shallow groundwater discharges during the spring freshet period.

7. Black Ash Mineral Deciduous Swamp (SWD2-1)

This type of treed swamp habitat usually contains tree and shrub cover exceeding 25% of its total area. The species must be hydrophytic, being able to withstand a variable

flooding regime whereby water levels can be up to 2 m deep. During the summer period, the wooded swamp is expected to possess vernal pools which can potentially dessicate between precipitation events.

8. Willow Mineral Thicket Swamp (SWT2-2)/Red-osier Mineral Thicket Swamp (SWT2-5)/Alder Mineral Thicket Swamp (SWT2-1)

The ELC describes the Willow Mineral Deciduous Thicket Swamp (SWT2-2) as having 75% trees being less than 5 m in height. This ecosite is typically fern and sedge rich but dominated by Pussy Willow (*Salix discolor*).

The ELC describes the Red-osier Mineral Deciduous Thicket Swamp (SWT2-5) as having 75% trees being less than 5 m in height. This ecosite is typically fern and sedge rich but dominated by Red-osier Dogwood (*Cornus sericea*).

According to the ELC, an Alder Mineral Thicket Swamp (SWT2-1) must contain greater than 25% tree and shrub cover and be dominated by hydrophytic tree and shrub species. It can experience variable flooding regimes and would possess 20% or more vernal pooling. During the drought periods in the late summer, the vernal pools can be dry. This community is dominated by Alder species (*Alnus* spp.)

These three (3) Thicket Swamp habitats occur within the ORE delineated wetland and at the edge of the PSW in the northwest corner of the site. It is a transition swamp habitat prior to the Cattail Marsh community discussed in 10. This community intermingles with the cattail and other reedy species. There are also some minor areas of Alder Thicket Swamp in the ORE delineated wetland and along the shoreline between the cultural habitat and the shoreline of Buckhorn Lake.

Because the alder, willow and red-osier compositions intermingle with one another along the shoreline, these three types have been grouped together and are referred to as SWT2 on Figure 4.

9. Forb Mineral Meadow Marsh (MAM2-10)

The MAM2 community persists due to variable flooding regimes and water depths up to 2 m. These zones have mineralized substrates, are seasonally flooded and represent the core to terrestrial interface area within the wetland. This community is dominated by broad-leaved forbs.

This community occurs as minor areas along the shoreline and is predominantly the groundcover beneath the thicket swamp habitat in the waterfront area of Buckhorn

Lake. It also occurs as small polygons within the PSW and along the edge of the parking lot areas associated with the thicket.

10. Cattail Mineral Shallow Marsh (MAS2-1)

According to ELC, the Cattail Mineral Shallow Marsh (MAS2-1) primarily possesses less than 25% tree and shrub cover while hydrophytic emergent macrophyte cover must be greater than 25%. Parent mineral substrates often consist of sand, gravel or cobble. Shallow marshes tend to have water up to 2 m deep.

This type of wetland community, occurs towards the shoreline near Buckhorn Lake as small sporadic stands. It also dominates the PSW that occurs northwest of the property.

11. Open Water Aquatic (OAO)

The ELC (2008) describes OAO as an environment containing no macrophyte vegetation and no tree or shrub cover. This ecosite tends to be dominated by plankton and has a lake trophic status.

This community refers to the deep offshore sections of Buckhorn Lake. There is very little vegetation approximately 15 m offshore and the bottom is dominated by bedrock.

5.4 Fauna

5.4.1 General

Although targeted searches for SAR could not be conducted under ideal conditions as part of this study, any previous occurrences were recorded. ORE staff also recorded any/all faunal species identified during the winter site inspection. The list of faunal species observed at the site is presented in Appendix E. Relevant observations of faunal activities on and adjacent to the site are briefly discussed below.

5.4.2 Species At Risk Fauna

NHIC

The NHIC identified Blanding's Turtle and Snapping Turtle in the vicinity of the subject site. These species were not detected during our site inspection, as the site

inspection was completed outside of the period to detect these SAR turtles. The SAR turtles are most likely overwintering in Buckhorn Lake or the nearby PSW marsh.

As ORE staff mentioned previously, they have attended the Gallery on the Lake property and other properties along Gallery on the Lake Road many times over the past few years. During these excursions, the author has observed Snapping Turtle in the past migrating across Highway 36. Snapping Turtle could occur in the general vicinity of the subject site as the entire lakefront is ideal foraging habitat. As for the Blanding's Turtle, the author has not observed this species in the past either on the property or in Buckhorn Lake. The author has observed this species from the bridge on County Road 36 that crosses the Mississauga River.

OBBA

Among those SAR detected within the 10 km^2 area during the Breeding Bird Atlas surveys, no species were detected on or within adjacent lands proximal to the proposed development. However, the site inspection was not completed during the ideal time to detect many of the SAR avian outlined in the OBBA. Among those species listed in the OBBA square, the Wood Thrush (woodland), Eastern Wood-Pewee (woodland), Red-headed Woodpecker (woodland edge), Evening Grosbeak (mixed woodlands) and Eastern Whip-poor-will (woodland) could find the wooded areas associated with the subject site and surrounding area ideal habitat for their life cycle.

Barn Swallow could also occur anywhere along the waterfront of Buckhorn Lake as this species will construct their mudnests on the side of buildings and forage overtop the lake. Mudnests were not observed on any of the existing buildings.

The Canada Warbler would most likely be associated with the Mississauga River. Similarly, the Golden-winged Warbler would prefer the willow-rich mouth of the river where it drains into Buckhorn Lake. Bank Swallow is also most likely associated with some sandy embankments associated with the Mississauga River. The shoreline areas associated with the gallery property are all hardened/bare bedrock type banks.

As for the remaining species such as Bobolink and Eastern Meadowlark, these would not attend the subject site as they require large open field environments, which does not occur on-site or in the surrounding areas.

Therefore, woodland habitat loss/fragmentation would be the main concern with respect to potential impacts to SAR avian.

eBird

The eBird and the OBBA data appear to overlap sometimes as they have similar species in their lists.

In this case, all of the species detected in the eBird database were also identified in the OBBA database, and have been addressed in the previous OBBA section.

iNaturalist

The iNaturalist database is a combination of database records. The database includes data obtained from the Butterfly Atlas, Herp Atlas, NHIC database, etc.

The following SAR and NHIC rare species have been identified in the iNaturalist database:

Butternut (*Juglans cinerea*), reported approximately 950 m northwest of the site on September 7, 2019. Butternut is listed as "Endangered" by *Species at Risk Ontario* (SARO) and is protected under the *Endangered Species Act* (ESA). Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It may also be found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges.

Monarch (*Danaus plexippus*), reported approximately 1.5 km west of the site on September 3, 2019. Monarch is listed as "Special Concern" by SARO and is not protected under the ESA. Throughout their life cycle, Monarchs use two different types of habitat in Ontario. Only the caterpillars feed on milkweed (*Asclepias* spp.) plants and are confined to meadows and open areas where milkweed grows. Adult butterflies can be found in more diverse habitats where they feed on nectar from a variety of wildflowers. Monarchs spend the winter in central Mexico.

Hooker's Orchid (*Platanthera hookeri*), reported approximately 1.8 km northwest of the site on September 27, 2002. This species of orchid is not listed as a Species at Risk in Ontario, however is a rare species according to the NHIC.

Imperial Moth (*Eacles imperialis*), reported approximately 3 km northwest of the site on July 20, 2020. This species of moth is not listed as a Species at Risk in Ontario. however is a rare species according to the NHIC.

Boreal Chorus Frog (*Pseudoacris maculata*), reported approximately 3 km northwest of the site on April 23, 2019. This species of frog is not listed as a Species at Risk in Ontario, however is a rare species according to the NHIC.

West Virginia White (*Pierus virginiensis*), reported approximately 3 km east of the site on May 31, 2017. This species of butterfly is not listed as a Species at Risk in Ontario, however is a rare species according to the NHIC.

Cerulean Warbler (*Setophaga cerulea*), reported approximately 3.1 km northeast of the site on July 7, 2020. Cerulean Warbler is listed as "Threatened" by SARO and is protected under the ESA. They spend their summers (breeding seasons) in mature, deciduous forests with large, tall trees and an open under storey. In late summer, they begin their long migration to wintering grounds in the Andes Mountains in South America. The Cerulean Warbler feeds mainly on insects during the breeding season and on nectar during the non-breeding season. Young birds are fed primarily butterfly larvae. The Cerulean Warbler feeds mainly on insects during the breeding season and on nectar during the non-breeding season.

Barn Swallow (*Hirundo rustica*), reported approximately 3.3 km northwest of the site on August 9, 2018. Barn Swallow is listed as "Threatened" by SARO and is protected under the ESA. The Barn Swallow inhabits open-rural and urban sites where buildings are situated near watercourses. Nesting is typically sporadic within loose colonies on building structures, bridges and other suitable overhanging structures. The cup-like mud nest is adhered to areas beneath the roof of the structure to conceal the nest from predators and keep it dry. The Barn Swallow feeds on insects by catching them on the wing.

5.4.3 Herptiles

The surveys were completed outside the time of year to detect herptiles. Therefore, any potential SAR herptiles would have to be identified from the database entries of the types of habitat present on the subject site.

The author has attended the site and surrounding area many times in the past and recalls the following herptiles being on or proximal to the subject property:

- Snapping Turtle - directly offshore of the gallery property.
- Pickerel Frog (*Lithobates palustris*) - observed in the grass near parking lot. Not a SAR.
- Northern Leopard Frog (*Lithobates pipiens*) - observed in large marsh towards the northwest corner of the property. Not a SAR.

- Spring Peeper (*Pseudacris crucifer*) - overheard in the large marsh in northwest corner of the property. Not a SAR.
- Red-backed Salamander (*Plethodon cinereus*) - observed beneath wooded debris towards the waterfront. Not a SAR.
- Common Watersnake (*Nerodia sipedon*) - observed along the waterfront. Not a SAR.
- Common Gartersnake (*Thamnophis sirtalis*) - observed in the grass near the parking lot. Not a SAR.
- Wood Frog (*Lithobates sylvaticus*) - observed in the southwest corner of the property on the lawn. Not a SAR.
- Gray Treefrog (*Hyla versicolor*) - overheard within the trees about the property. Not a SAR.

Snakes tend to be habitat generalists other than with respect to their hibernaculum. Snakes have an affinity for their hibernaculum and will return each year to the same location. However, for the remainder of the year, they spread out to maintain significant distances to reduce competition within the species.

The nearest hydrological feature is an unevaluated wetland/wooded swamp located on the subject site. Also, Buckhorn Lake abuts the subject site to south. The author does not recall there being any evidence of nesting turtles such as soil disturbances or egg shells near the shoreline of Buckhorn Lake or the on-site wetland.

5.4.4 Mammals

The NHIC search did not indicate the presence of SAR mammals in the general area and none were observed during the site inspections.

Among those mammal tracks observed during the site inspection, ORE has observed the following while attending the subject site and surrounding area over the past few years during the spring and summer months (not during the most recent inspection):

- Black Bear (*Ursus americanus*) - crossing County Road 36 near the transfer station.
- Northern Raccoon (*Procyon lotor*) - tracks on-site.
- North American River Otter (*Lontra canadensis*) - Buckhorn Lake waterfront.
- Muskrat (*Ondatra zibethicus*) - Buckhorn Lake waterfront.
- Beaver (Castor canadensis) - Buckhorn Lake waterfront.
- Red Squirrel (*Sciurus vulgaris*) - surrounding woodlands.
- American Mink (*Neovison vison*) - Buckhorn Lake waterfront.
- Eastern Chipmunk (*Tamias striatus*)- surrounding woodlands.

- Big Brown Bat (*Eptesicus fuscus*) - observed in a tree cavity approximately 6 ft off ground near waterfront.

None of the above are a SAR. A full list of all detected mammals within the study area is presented in Appendix E.

5.5 Species at Risk Flora

No floral SAR were observed on the subject site. None were detected during the on-site winter survey and none have been observed on the property in the past. There are no plant SAR detected in the database entries.

6.0 Significant Wildlife Habitat Assessment (SWH)

The assessment of SWH is divided into five (5) broad categories, consisting of Seasonal Concentration Area of Animals; Rare Vegetation Communities; Specialized Habitat for Wildlife; Habitat for Species of Conservation Concern (other than Endangered or Threatened), and Animal Movement Corridors. A summary table is provided in Appendix F indicating the potential for SWH to occur based on the criteria provided by the MNRF and whether the site has suitable habitat and/or species occurrences. The following provides a discussion of areas deemed to be confirmed SWH (based on the MNRF criteria) and as indicated in Appendix F.

The SWH that has been confirmed in the area of the subject lot and immediate surrounding lands is summarized below:

<u>Woodland Habitat</u>

- Bat Maternity Colonies
- Turtle Wintering Areas
- Reptile Hibernaculum (Turtles assessed separately)
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat
- Woodland Raptor Nesting Habitat
- Turtle Nesting Areas
- Special Concern and Rare Wildlife Species

<u>Wetland/Shoreline Habitat</u>

- Waterfowl Stopover and Staging Areas (Aquatic)

- Shorebird Migratory Stopover Area
- Amphibian Breeding Habitat (Wetlands)
- Marsh Breeding Bird Habitat

The different woodland types possess suitable habitat for a variety of area sensitive woodland breeding birds and/or Special Concern and Rare Wildlife Species, including those woodland avian identified in the databases.

The mature woodland could possess suitable snags for roosting bats in the spring and summer period. The breeding bats would utilize the trees within the woodland for breeding and cover during the day. The proximal location of the woodlands to both Buckhorn Lake and the PSW is ideal for bats to access these foraging habitats.

Similarly, the woodland and woodland edge within 100 m of Buckhorn Lake would be suitable SWH for Woodland Raptor nesting and Bald Eagle and Osprey Nesting, Foraging and Perching Habitat during the breeding period. The tall, large diameter Pine trees along the coast of the PSW and Buckhorn Lake are excellent vantage points to detect prey in these aquatic habitats. ORE staff observed Bald Eagle in the winter of 2020 while on the subject property. Although, the eagle was not nesting on-site, it appears as though it migrates south to Buckhorn Lake during the winter period.

Those rock outcrop areas that possess fractures which access to the water table could represent Reptile Hibernaculum. Both snakes and Five-lined Skink could occur within the bedrock outcrop and associated woodland habitats.

The disturbed areas on the subject site tend to possess sandy fill materials or native exposed sandy materials, which are suitable nesting areas for Snapping Turtle and other Special Concern turtle species that could traverse the property to access these sandy deposits.
The ORE-delineated wetland and PSW would be considered SWH for amphibians. Amphibians would utilize the ephemeral pools in this wetland to breed and lay their eggs within.

The PSW is ideal habitat for Marsh Breeding Bird habitat. The majority of the PSW occurs on an adjacent parcel, not owned by the proponent. The wetland arm off the PSW that ORE staff delineated does not possess marsh habitat and would not be considered SWH for Marsh Breeding Birds.

Buckhorn Lake possesses potential Waterfowl Stopover and Staging Areas (Aquatic) and Shorebird Migratory Stopover Area SWH. The open water and small bays are ideal resting locations for waterfowl during the migration period.

Mitigation for SWH is provided in the 2014 Significant Wildlife Habitat Mitigation Support Tool (SWHMiST). Mitigation is provided in the following sections and has regard for the tools outlined for Ecoregion 6E.

A brief description of the confirmed SWH on and immediately adjacent to the property is provided in Appendix F.

7.0 Impact Assessment and Recommended Mitigation

7.1 General Impact Considerations

If the severance is approved, it will allow the existing single residential development to be separated from the existing art gallery building on the subject site (Figure 7). Both parcels would be rezoned from commercial to a residential zoning. Therefore, this *s*NHE assesses the potential impacts severing and rezoning the commercial property to two (2) residential zonings, in relation to the on-site KNHF/KHF.

If the severance were approved the only site alteration would be associated with the construction of a new road to access the existing residence.

As described above, the Key Natural Heritage Features (KNHF), Key Hydrologic Features (KHF), Species at Risk (SAR) Habitat and Significant Wildlife Habitat (SWH) have been thoroughly examined as part of this *s*NHE. Those features are briefly summarized below as they relate to the construction of the proposed parking pad/potential future laneway:

- A small unevaluated wetland has been identified by ORE staff in the western portion of the site. Land Information Ontario (LIO) only mapped the PSW in the vicinity of the subject site. The ORE-delineated wetland consists of a small conifer-rich swamp (see Figure 7). A 30 m setback has been applied to the ORE delineated wetland.

- The only alteration resulting from the proposed severance would be the construction of a new parking pad or potential future laneway to access the existing residence, on what would be the west lot. The proposed parking pad/lane would occur within 30 m (approximately 15 to 20 m) of the ORE delineated wetland feature.

- Considering the on-site wetland has been impacted in the past by the filling and grading of the existing parking lot and overflow area to the north of Gallery on the Lake Road, a series of recommendations should be provided to mitigate the impacts of those former incursions into the on-site wetland. The mitigation

measures would also serve to compensate for the new parking pad/laneway construction.

- Although the site visit was not conducted during the appropriate time of year to identify/confirm whether certain woodland related SAR avian occur on the subject site, the setting does represent ideal habitat for Wood Thrush, Eastern Wood-Pewee, Red-headed Woodpecker, Evening Grosbeak and Eastern Whip-poor-will. Mitigation should be applied as needed to protect these species and their habitat.

- According to the NHIC database, two (2) SAR turtles have been identified in the vicinity of the subject site. Blanding's Turtle could occur within the PSW as the large marsh pond would be ideal for this species. Snapping Turtle has also been identified in the vicinity of the subject site. Both the PSW and Buckhorn Lake are ideal aquatic habitat for this species.

- A total of two (2) Special Concern SAR were detected/observed proximal to the subject site, Snapping Turtle and Bald Eagle.

  ORE staff observed a Snapping Turtle in Buckhorn Lake. The turtle was migrating west to east down the coast of the lake, presumably foraging.

  The Bald Eagle was observed in the winter period of 2020. It was not nesting during the breeding bird period and likely migrated south to Buckhorn Lake during the winter months. If it does nest on Buckhorn Lake, it does not nest within the subject site.

- The iNaturalist database identified the following species:

  Butternut (*Juglans cinerea*) - Is a calcophile species and would not be present within the Precambrian Shield - Granite dominated bedrock and soils of the subject site.
  Monarch (*Danaus plexippus*) - Prefers open meadow and wetlands where its larval food source is present. Not identified on the property over the past few years, no potential for impact.

  Hooker's Orchid (*Platanthera hookeri*) - not identified on the property over the past few years. No potential for impact.

  Imperial Moth (*Eacles imperialis*) - not identified on the property. No potential for impact over the past few years.

Boreal Chorus Frog (*Pseudoacris maculata*) - not identified on the property over the past few years. No potential for impact.

West Virginia White (*Pierus virginiensis*) - not identified on the property over the past few years. No potential for impact.

Cerulean Warbler (*Setophaga cerulea*) - not identified on the property over the past few years. No potential for impact.

Barn Swallow (*Hirundo rustica*) - not identified on the property. No mudnests on existing structures. No potential for impact.

- Potential SWH were examined on-site and confirmed using the MNRF criteria. The following SWH have been compiled based on the types of vegetation present on the property:

<u>Woodland Habitat</u>

- Bat Maternity Colonies
- Turtle Wintering Areas
- Reptile Hibernaculum (Turtles assessed separately)
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat
- Woodland Raptor Nesting Habitat
- Turtle Nesting Areas
- Special Concern and Rare Wildlife Species

<u>Wetland/Shoreline Habitat</u>

- Waterfowl Stopover and Staging Areas (Aquatic)
- Shorebird Migratory Stopover Area
- Amphibian Breeding Habitat (Wetlands)
- Marsh Breeding Bird Habitat

The SWH are summarized in tabular format in Appendix F.

The following provides further details on the potential impacts that could occur as part of the proposed severance development. Also included below are specific recommendations for avoiding negative impacts to the features listed above.

7.2 Hydrological Features

7.2.1 Potential Impacts

The most prominent sensitive hydrological feature is the wetland delineated by ORE staff, as illustrated on Figure 7. This feature is considered a Key Natural Heritage Feature (KNHF) under the Growth Plan.

Based on our assessment, it is expected that potential impacts to the hydrological features could include the following:

a) Development within an area that could hinder or redirect flows from the wetland feature.

b) Sedimentation/erosion of materials from the development being directed to the wetland feature during the construction and/or post-construction periods.

c) Clearing of woodland buffers that connect fauna to these hydrological features.

d) Removal or degradation of species SWH associated with wetland features.

e) Future clearing or impacts within the woodland once the lots are severed.

7.2.2 Recommended Mitigation

To mitigate against the potential impacts described above and to maintain the integrity of these sensitive areas, a 30 m Vegetation Protection Area (VPA) has been proposed off the above mentioned ORE wetland boundary. The purpose of the VPA is to establish an uninterrupted vegetation swath between the proposed parking pad/potential future laneway and the ORE delineated hydrological feature that will mitigate the above-mentioned potential impacts associated with the proposed development.

As a means of defining this boundary at the site, an Ontario Land Surveyor (OLS) shall be contracted to demarcate the 30 m VPA off the wetland boundary.

The 30 m VPA for this feature is illustrated on Figure 7.

The establishment of the VPA around these features satisfies the following general requirements:

- The 30 m setback requirements of the Growth Plan will protect the natural heritage features identified on the property from future development; and,

- The general setback requirements specified by the Municipality of Trent Lakes and Peterborough County Official Plans for any future developments.

The recommended VPA is illustrated on Figure 7 and satisfies the requirements of all the agencies.

In this instance, the proposed severance meets the criteria of infill development under the Growth Plan. Therefore, an attempt should be made to locate any *new* development outside the 30 m VPA. In this case, the 30 m VPA overlaps some of the existing development areas.

Fortunately, the only new site alterations within the VPA would be very minor. A new parking pad/potential future laneway must be constructed to access the proposed west lot, which contains the existing residence. The overall length and width of the new parking pad/lane would be on the order of 30 m long by 3 m wide. This should be the only new development allowed within the proposed single lot severance. If any new residences or structures are proposed as part of a Building Permit application, they should be situated outside the 30 m VPA.

The following is a list of supplementary mitigation measures that should be adhered to in addition to the 30 m VPA to protect the wetland:

- The final severance plan should identify the exact length of new parking pad/laneway necessary to access the proposed westerly lot. The length of road should be shortened to only what is necessary as this would retain the majority of the herp hibernaculum and upland woodland SWH for woodland related avian. Preserving the majority of the mature upland woodland habitat outside of the VPA will also maintain as much of the buffer to the ORE delineated wetland.

- An OLS shall attend the site and demarcate the 30 m VPA and location of the proposed new parking pad/laneway on-site. No new development such as buildings or structures can occur within the VPA.
- As a means of offsetting the tree loss in the new parking pad/laneway, the property owner shall plant native trees and shrubs at a 3:1 ratio (3 new trees for each tree over 15 cm dbh removed) within the art gallery overflow parking area.

  A list and quantity of each species shall be provided by a qualified person prior to the parking pad/laneway being constructed. The qualified person shall provide a planting plan drawing to confirm the planting locations and types of vegetation to be planted. The stock should be between 1 and 2 m tall to ensure the area gets a jumpstart towards a more mature woodland community.

- Considering there will be no commercial use on the property after the severance, the fill materials for either the overflow parking area and/or the existing parking area for the art gallery should removed and applied to the new parking pad/ potential future laneway. This would not only reduce costs by relocating on-site fill materials to the new parking pad/laneway, it would potentially restore the wetland habitat in these areas. By applying the on-site fill materials to the proposed parking pad/laneway, it will also reduce the possibility of importing any new non-native species, such as Common Reed (*Australis phragmites)* to the site.

7.3 SAR Fauna

7.3.1 Potential Impacts to Terrestrial SAR

Based on our review of the various background databases (NHIC, OBBA, eBird and iNaturalist) and our site inspection, the woodland related SAR avian would be the main concern in regards to alterations on the subject site. It is our opinion that five (5) of the ten (10) avian SAR identified by the OBBA query could find the site's vegetation communities and the associated habitats attractive. We recognize that other avian SAR could find the woodland communities to be attractive habitat, however, a development footprint that is directed within an existing cleared area of the woodland would not displace or impair these habitats.

The SAR birds that would find the on-site woodlands to be suitable habitat are as follows:

- Wood Thrush
- Eastern Wood-Pewee
- Red-headed Woodpecker
- Evening Grosbeak, and
- Eastern Whip-poor-will

Wood Thrush is listed as "Special Concern" by SARO and is protected under the ESA. The Wood Thrush enjoys relatively undisturbed, mature woodlands. Nesting occurs low in the fork of a tree as this species forages for berries and insects at ground level. Similar to the Eastern Wood-Pewee, this species prefers large tracts of woodland.

Eastern Wood-Pewee is listed as "Special Concern" by SARO and is not protected under the ESA. This species prefers mixed deciduous and coniferous woodlands which are open or considered edge habitat. Nesting occurs on a tree branch as the species catches insects from a perch.

Red-headed Woodpecker is listed as "Special Concern" by SARO and is not protected under the ESA. It prefers a combination of deciduous forests and rural development areas, similar to a park-like setting. The deciduous species can be oak or maple, however, the understory must be meadow-like or maintained lawnspace in parklands. This species will either roost within cavities constructed by other woodpeckers, or create its own cavity. It feeds on beetles, caterpillars and common insects that are found within the bark of trees.

Evening Grosbeak is listed as "Special Concern" by SARO and is not protected under the ESA. During the breeding season, Evening Grosbeak is generally found in open, mature mixed-wood forests dominated by fir species, White Spruce and/or Trembling Aspen. Its abundance is strongly linked to the cycle of its primary prey, the Spruce Budworm. Outside the breeding season, the species depends mostly on seed crops.

Eastern Whip-poor-will is listed as "Threatened" by SARO and is protected under the ESA. The Whip-poor-will prefers a combination of large natural tracts of secondary succession forest, watercourses and edge habitat consisting of meadow areas, with open deciduous and pine woodlands. The Whip-poor-will does not construct a nest, but rather uses the soft leaf litter on the ground to form a nest and lay the eggs directly on the ground. The Whip-poor-will is a nighttime hunter, calling its own name while searching for large flying insects, beetles, moths, mosquitos and sometimes grasshoppers. The Whip-poor-will often choose pine species adjacent to waterways to call from.

7.3.2 Recommended Mitigation for SAR Woodland Avian

The following is recommended with respect to the woodland SAR listed above and should become part of a Mitigation Measures Plan for the property:

- As a means of protecting the above mentioned avian SAR, it is recommend that vegetation removal for the purpose of constructing the parking pad/laneway to the west lot not occur between April 1st and August 31st which represents the main breeding bird period according to the Migratory Bird Convention Act. It may be possible to forego this requirement, provided MECP provides authorization. The MECP consent should be forwarded to the County and Municipality.

- The property owner shall provide a site plan that complies with the requirements outlined for the proposed new parking pad/laneway. It should be possible to maintain the 30 m VPA into the future with respect to any new structures or buildings on each lot.

- The remaining mature woodland areas shall be retained for both the SAR Woodland avian and other species such as deer, etc. that would use the wooded corridor for cover and migration purposes.

Provided the above mentioned measures are applied to the site, impacts to any SAR bird species will be mitigated.

7.3.3 Potential Impacts to Aquatic/Semi Aquatic SAR

According to the NHIC database, there is the potential for SAR turtles to occur within waterways both on-site and directly abutting the property limits.

There is the potential for Blanding's Turtle to occur within the large marsh habitat associated with the PSW. Snapping Turtle could also utilize the PSW, and has been observed by the author in Buckhorn Lake.

The only other SAR herp that may occur on the property would be Five-lined Skink. The bedrock crevasses, waterway, and woodland is ideal for this species. This lizard species is recluse and difficult to detect.

The only new construction or site alterations that would result from the proposed severance is the creation of a new parking pad/laneway to access the west lot. Because, the parking pad/laneway will be limited in length and width, impacts can be minimized with respect to the above mentioned SAR. The main concern would be impacts to SAR during the construction phase.

7.3.4 Recommended Mitigation for SAR Herps

ORE staff recommends that a barrier such as heavy-duty silt fence, be installed around the entire edge of the proposed new parking pad/laneway.

The heavy-duty silt fence is on the MNRF's list of exclusion fence materials to prevent snakes, turtles, etc. from entering the construction zone.

Light-duty silt fence has not been approved by the MNRF as it does not have the backing to prevent turtles and snakes from either climbing the fence material or pushing beneath the material.

The fence materials should be checked every morning before work commences to detect any herp species.

If a suspected SAR herp is detected, it should be photographed and sent to a qualified person to identify. If it is confirmed to be a SAR, then the construction should halt until the SAR has left the area. If the SAR returns, the qualified person should be contacted and an assessment may be necessary to determine if it resides in the area.

It may be necessary to contact the Ministry of Environment, Conservation and Parks (MECP) and consult with a Species at Risk Biologist with respect to the reoccurrence of the SAR.

7.4 SAR Flora

No SAR Flora were identified within the subject site.

7.5 Significant Wildlife Habitat (SWH)

7.5.1 General

Based on the tabulated assessment of SWH included in Appendix F, the candidate SWH that occurs on or immediately adjacent to the subject site were discussed in Section 6.0 of this report. As indicated in Section 6.0, the woodland communities appear to be the predominant vegetation types within the proposed development area. Therefore, the construction/alterations could impact the SWH in the area of proposed building footprint. The SWH and potential impacts are listed below:

<u>Woodland Habitat</u>

- Bat Maternity Colonies - Associated with the mature woodland habitat.
- Turtle Wintering Areas - Associated with Buckhorn Lake and PSW.
- Reptile Hibernaculum (Turtles assessed separately) - Associated with the bedrock fractures and wetland/water table conditions.
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat - Associated with the shoreline of Buckhorn Lake and the PSW
- Woodland Raptor Nesting Habitat - same as above.
- Turtle Nesting Areas - Associated with lawn-space and open sandy areas such as the roadsides, etc.
- Special Concern (SC) and Rare Wildlife Species - Potential SC Turtle and SC avian habitats associated with the waterways and woodlands.

Wetland/Shoreline Habitat

- Waterfowl Stopover and Staging Areas (Aquatic) - Buckhorn Lake and OAO habitats in the PSW.
- Shorebird Migratory Stopover Area - Buckhorn Lake and shoreline habitats within the PSW.
- Amphibian Breeding Habitat (Wetlands) - Core Marshland and ephemeral pool habitats.
- Marsh Breeding Bird Habitat - Associated with the marshland content in the PSW. This is predominantly off-site.

7.5.2 Significant Wildlife Habitat Mitigation Support Tool (SWHMiST)

The property possesses an abundance of woodland and wetland SWH. According to the Significant Wildlife Habitat Mitigation Support Tool (SWHMiST), the following shall apply to the proposed severance within the above mentioned SWH:

"*When complete avoidance is not possible, and the SWH is large, minimizing the amount of habitat affected may be a satisfactory mitigation option, e.g., make the development footprint where it affects the habitat as small as possible, and site it at the edge of the habitat to minimize habitat fragmentation. Generally, if the amount of retained habitat is large enough to support the most sensitive species present, all other species should be protected.*

The area left needs to be in one large patch rather than split up or fragmented. Patch shape is also important. Clustering development may reduce the amount of habitat that is affected. If development must occur in the woodland habitat, it should always be directed toward the edge of the habitat instead of centrally."

The above mitigation should be applied to the subject lot to comply with the SWHMiST. The newly constructed parking pad/laneway is the only alteration/disturbance necessary to provide access to the existing residence. The new parking pad/laneway would spur-off of the existing laneway. In doing so, this avoids the majority of SWH associated with the woodland and wetland as only a handful of mature trees would have to be removed in order to gain access to the existing residence (to be located on the west lot).

Figure 7 illustrates where the access parking pad/lane is to be located. This location minimizes new alteration/disturbance areas on-site and utilizes the top of a bedrock ridge to access the existing residence on the proposed west lot. By locating the lane in this specific area, it avoids the wetland SWH and majority of the woodland SWH, thus satisfying the SWHMiST. Considering how little an area the proposed parking pad/lane

will disturb, clearing the vegetation in this area will not have a significant impact on the SWH. Over 99% of the SWH will remain intact. ORE considers the whole property, including the lawnspace/openings associated with the existing development to be SWH as these areas could be utilized by Special Concern SAR turtles for nesting purposes, from year to year.

In addition to the above mitigation, the Ministry of Natural Resources and Forestry does not consider roadways development. The significant woodland content in the 2010 Natural Heritage Reference Manual by the MNRF states that roads do not fragment woodland habitat as they are less than 20 m wide. In this instance the road would be approximately 3 m wide (15% of the total width before being considered fragmented habitat).

8.0 Conclusions & Recommendations

The following section provides a brief summary of the recommended mitigation for the proposed development, as outlined in detail in Section 7 of this report. Based on our findings, it is our conclusion that the severance can proceed and it would be beneficial to rezone the lots for a single residential use, subject to the recommendations provided in this report and as illustrated on Figure 7. Other constraints may also be imposed through Planning requirements as this report only reviews the site in the context of the Natural Heritage component of the Growth Plan. These conclusions and recommendations have been based on the available protocols and policy documents available as of the date indicated on this report.

8.1 The principal Natural Heritage Features (NHF) have been identified on-site. These include Significant Wildlife Habitat (SWH), an ORE delineated wetland that spurs-off the PSW, and the potential for SAR species to occur on-site according to a thorough desktop review. ORE staff conducted an inspection in February 2021 which is outside the period to detect/confirm the presence of the majority of breeding bird species in the suitable habitat on-site. However, the author has attended the site several times over the course of a three (3) year period and if a SAR was present, would have likely tuned into identifying the SAR. This report recommends protection of these KNHFs as severing this property into two (2) parcels can be achieved without any significant habitat degradation. If the application is approved, the measures discussed in Section 7.0 should be incorporated into a Mitigation Measures Agreement and registered on title with the lots.

8.2 According to the Municipal Zoning By-law mapping and the Land Information Ontario database mapping, both recognize the area northwest of the overflow parking area to be

PSW. Therefore, the focus of the *s*NHE was to verify/confirm the location of the Key Hydrologic Features on-site and obtain the boundary for any such features. Once the inspection was completed, it was determined that the overflow parking area had crossed an arm of the PSW that corresponds to the ORE delineated wetland. Therefore, the filling and grading in this area has fragmented an arm of the PSW.

As illustrated by Figure 7, a 30 m Vegetation Protection Area setback has been applied to the ORE delineated wetland that occurs to the west of the art gallery building, as it is the primary hydrological constraint on the property. Considering the 30 m VPA overlaps the gallery building and this wetland feature crosses the entire property width to west of the gallery building, ORE staff consulted with the Ecovue planner in this regard. From an environmental perspective, the only new alterations/disturbance on the site would be the proposed new parking pad/laneway to access the west lot. ORE staff firmly believe the minor construction to establish the parking pad/lane would not impact the form and function of the ORE delineated wetland as it can be entirely constructed atop a bedrock ridge that is upgradient and greater than 15 m from the wetland feature. Furthermore, this wetland had been impacted many years ago by the filling and grading in the existing parking and overflow parking areas, south and north of Gallery on the Lake Road, respectively.

The establishment of a 30 m VPA on-site also satisfies the requirements of the Growth Plan for the Greater Golden Horseshoe (Growth Plan), the Provincial Policy Statement (PPS). It would be in the best interest of the waterways to maintain a 30 m VPA to protect the identified KHFs, for any new development proposed within either lot in the future. Typically, a 30 m VPA is sought under the Official Plan requirements and quite often implemented at the building stage.

8.3 Suitable habitat for five (5) SAR birds was detected on-site. The avian are:

1. Wood Thrush
2. Eastern Wood-Pewee
3. Red-headed Woodpecker
4. Evening Grosbeak, and
5. Eastern Whip-poor-will

A series of recommendations/mitigation measures are provided in Section 7.3.3. Provided these measures are applied to the site, impacts to the potential habitat of the above mentioned SAR would be undetectable.

8.4 There is the potential for SAR Turtles, SAR snakes and SAR lizards to occur in the area of the site.

To prevent these species from entering the proposed parking pad/laneway construction zone the following shall apply:

- A section of heavy-duty silt fence shall be installed around the entire perimeter of the work area. It will be closed-off during the evening hours when workers have left for the day.

- The area should be inspected for herp SAR and any repairs to the fence should be made prior to resuming construction.

- If a herp SAR is detected in the work area or at the side of the fence, all construction shall halt until the SAR safely vacates the area.

- If it returns, a qualified individual shall conduct an assessment as to the reoccurrence of the SAR.

- MECP may be contacted in the event a SAR is observed more than once in the area of the construction zone.

8.5 The Significant Wildlife Habitat Mitigation Support Tool primary recommendation is to avoid SWH, however, when this is not possible, the tool recommends reducing the overall footprint of any proposed residential developments to maintain the SWH.

The following list outlines which SWHMiST measure is achieved:

<u>Woodland Habitat</u>

- Bat Maternity Colonies - Avoidance, no bat snags in parking pad/laneway.
- Turtle Wintering Areas - Avoidance
- Reptile Hibernaculum (Turtles assessed separately) - minor encroachment, but fractures on side of ridge shall be retained.
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat - Avoidance
- Woodland Raptor Nesting Habitat - Avoidance
- Turtle Nesting Areas - Avoidance and potential increase nesting on side of new parking pad/laneway.
- Special Concern and Rare Wildlife Species - Avoidance and potential increase nesting on side of new parking pad/laneway.

Wetland/Shoreline Habitat

- Waterfowl Stopover and Staging Areas (Aquatic) - Avoidance
- Shorebird Migratory Stopover Area - Avoidance
- Amphibian Breeding Habitat (Wetlands) - Avoidance
- Marsh Breeding Bird Habitat - Avoidance

Therefore, it appears the severance can comply with the SWH Mitigation Support Tool's recommendations.

In addition to the above mentioned, the recommendation in 7.2.2 regarding the planting of compensatory native trees and shrubs in the northwest corner of the overflow parking and removal of the existing fill materials in this area would rehabilitate part of the site and be favourable with respect to the above mentioned SWH.

Provided the proponent can provide a site plan that reflects the above mentioned avoidance and scaling back any new alterations associated with the proposed severance, then the site plan will comply with the recommendations in this *s*NHE.

8.6 Provided the recommendations outlined in this *s*NHE report are adhered to, impacts to the KNHF/KHF and SWH identified on-site should be undetectable. Given, that all of the sensitive features identified on the site will not be impacted provided the mitigation measures are applied, then it should be possible to rezone and sever the existing commercial use property into two (2) residential use properties.

8.7 The recommendations in this *s*NHE should form the basis of a Mitigation Measures Agreement between the lot owner and the Municipality/County, prior to the subject lot being rezoned. The Mitigation Measures Agreement should be registered with each lot to ensure no matter who owns the lot, the natural heritage requirements outlined in this report will be respected.

8.8 The recommendations provided in this report are likely to be incorporated into the severance and rezoning application as a set of conditions to be sure that any/all recommended mitigation measures outlined in this *s*NHE are implemented at the site.

8.9 This *s*NHE only reviews the site in the context of the Natural Heritage Features, the proponent should consult with the Planner at Ecovue to determine if there are any other planning setback requirements that must be adhered to on each lot.

* end of report *

Sincerely,
Oakridge Environmental Ltd.

For Digital Distribution Only

Rob West, HBSc, CSEB
Senior Ecologist

Selected References

Argus, G.W. and K.M. Pryer. 1982-1987**,** *"Atlas of the Rare Vascular Plants of Ontario*". Four Parts. National Museum of Natural Sciences, Ottawa, Ontario.

Austen, M.J. et. al. 1995. "*Ontario Birds at Risk Program*". Federation of Ontario Naturalists and Long Point Observatory. 165 pp. OBAR website.

Bezener.A. 2000. "*Birds of Ontario*".Lone Pine Publishing.. 376 pp.

Bakowsky, W., 1995. *"S-ranks for Southern Ontario Vegetation Communities".* OMNR, Natural Heritage Information Centre, Peterborough, ON. 11 pp.

Bellrose F.C. 1976. *"Ducks, Geese and Swans of North America".* Stackpole Books

Cadman, M.D. et. al., 2007**,** *"Atlas of Breeding Birds of Ontario"***,** OBBA website, 2nd Edition (2001-2005).

Cheskey, E.D. 1995. *"Towards Conserving Birds of Ontario*". Federation of Ontario Naturalists. 48 pp.

Gill F.B. 2007. *"Ornithology - Third Edition".* National Audobon Society, W.H. Freeman and Company.

Habib, L., Bayne, E. M. & Boutin, S. *"Chronic Industrial Noise Affects Pairing Success and Age Structure of Ovenbirds Seiurus Aurocapilla*." Journal of Applied Ecology 44 (2007): 176-84.

Holmes et. al. 1991. "*The Ontario Butterfly Atlas".* Toronto Entomologists Association, Toronto, Ontario.

Holmgren, Noel H., "*Manual of Vascular Plants of Northeastern United States and Adjacent Canada - Second Edition* ", The New York Botanical Garden, 1998.

Jones et. al. 2008. "*The Dragonflies and Damselfies of Algonquin Park and the Surrounding Area.*" The Friends of Algonquin Park. 263 pp.

Lee, H.D. et. al.. 1998. *Ecological Land Classification for Southern Ontario -First Approximation and it's Application - SCSS FieldGuide; FG-02*. OMNR, North Bay, Ontario.

Lee, H.D. et. al.. 2008. *Ecological Land Classification for Southern Ontario -Second Approximation and it's Application - Ecosystems Catalogue*. Conservation Ontario website.

Newcomb, L., "Nerwcomb's Wildflower Guide". Little Brown and Company(Canada) Limited, 1977.

Oldham, M.J., 1996, "*Natural Heritage Resources of Ontario, Amphibians and Reptiles"* **,**Ontario Herpetofaunal Survey (OHS),, 1996, OHS website contacted August 2012.

Ontario Ministry of Natural Resources and Forestry. 2015. "*Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E*"; Regional Operations Division, Peterborough, Ontario.

Ontario Ministry of Natural Resources and Forestry. 2014. "*Significant Wildlife Habitat Mitigation Support Tool*"; Peterborough, Ontario.

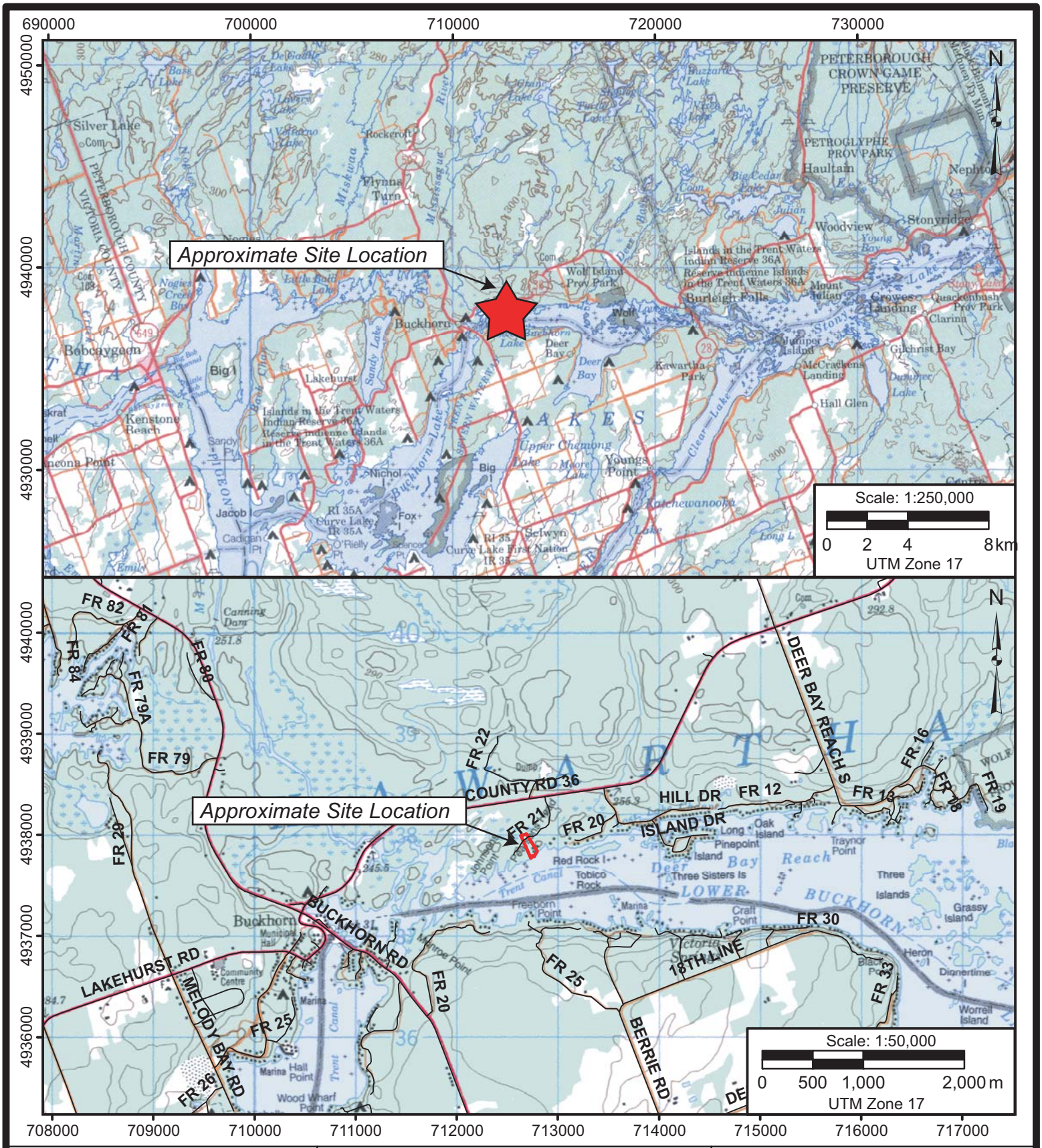
Peck G.K. & James R.D. 1983, "*Breeding Birds of Ontario Nidiology and Distribution Volume 1 : Nonpasserines and Volume 2: Passerines".* Royal Ontario Museum, Toronto.

Sibley, D.A. 2003, "*The Sibley Field Guide to Birds of Eastern North America*". New York: Alfred A. Knopf.

"**Species at Risk in Ontario List**." Ontario.ca. N.p., November 2015. <http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>.

Voss, Edward G., "*Michigan Flora - Part I to Part III*"; Cranbrook Institute of Science Bulletin 55 and The University of Michigan Herbarium, 1972.

Figures



Notes: Base maps provided by Natural Resources Canada, NTS maps 31-D (1998) and 31-D/9 (1994).

Scoped Natural Heritage Evaluation (sNHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes
County of Peterborough

North American Datum 1983

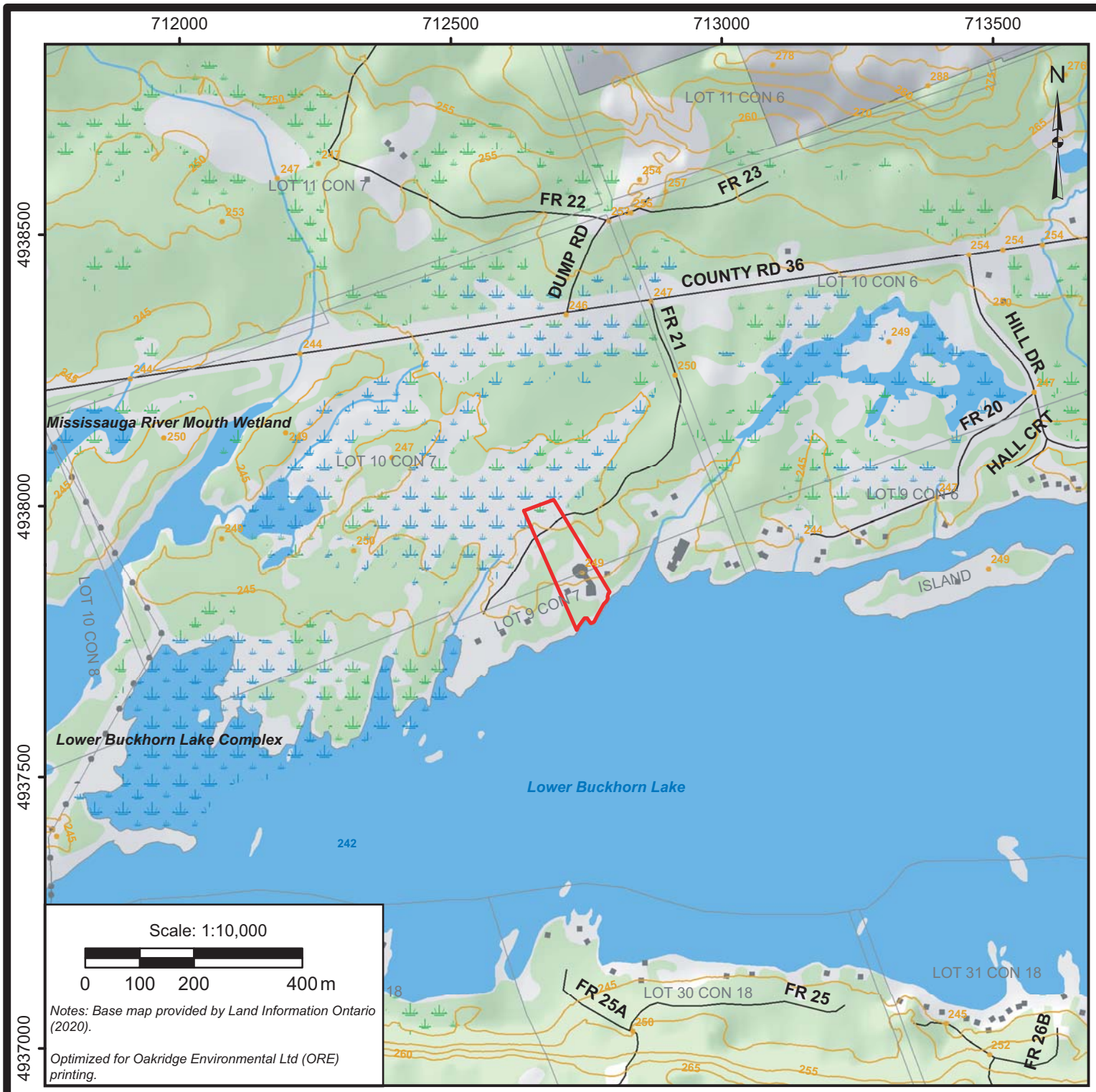
TITLE
General Location

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT # 20-2858

DATE April 2021

FIGURE NO. **1**



North American Datum 1983 - UTM Zone 17

Scoped Natural Heritage Evaluation (sNHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes
County of Peterborough

LEGEND

- Approximate Site Boundary
- Lot Fabric
- Unevaluated Wetland
- Provincially Significant Wetland
- Spot Height
- Contour (5 m interval)
- Building (symbol)
- Building (to scale)
- Utility Line
- Road
- Watercourse
- Waterbody
- Active Aggregate Site
- Wooded Area

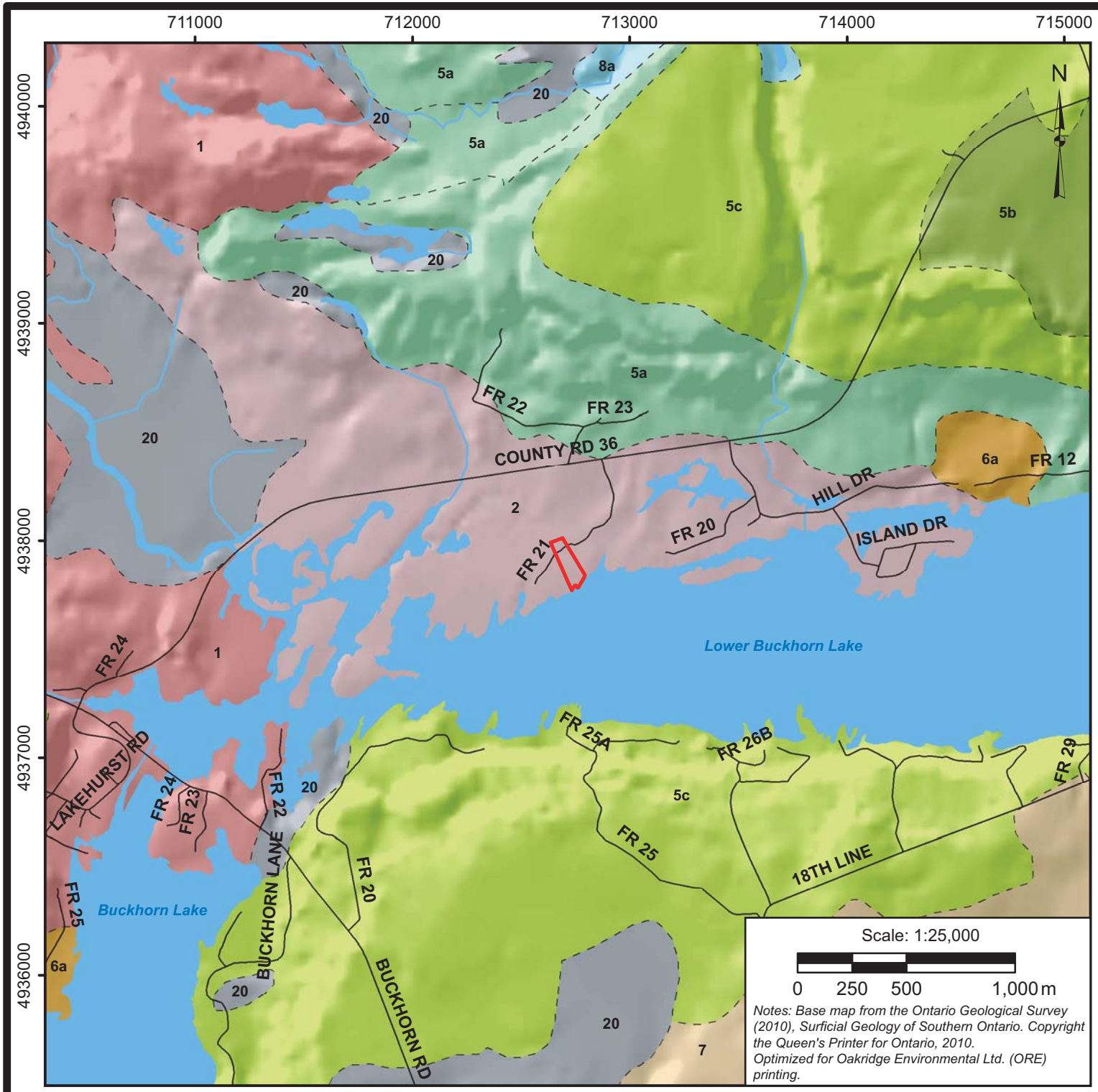
TITLE

Topography & Drainage

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT #	FIGURE NO.
20-2858	2
DATE	
April 2021	

Scoped Natural Heritage Evaluation (sNHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes
County of Peterborough



North American Datum 1983 - UTM Zone 17

LEGEND

- Approximate Site Boundary
- 1 Precambrian bedrock
- 2 Precambrian bedrock-drift complex

Glacial Deposits (Till):

- 5a Shield-derived silty to sandy till
- 5b Stone-poor, carbonate-derived silty to sandy till
- 5c Stony, carbonate-derived silty to sandy till

Ice-contact Stratified Deposits:

- 6a In moraines, kames, eskers and crevasse fills
- 7 Glaciofluvial deposits

Fine-textured Glaciolacustrine Deposits:

- 8a Massive-well laminated
- 20 Organic deposits
- Contact (approximate/assumed)
- Road
- Watercourse
- Waterbody

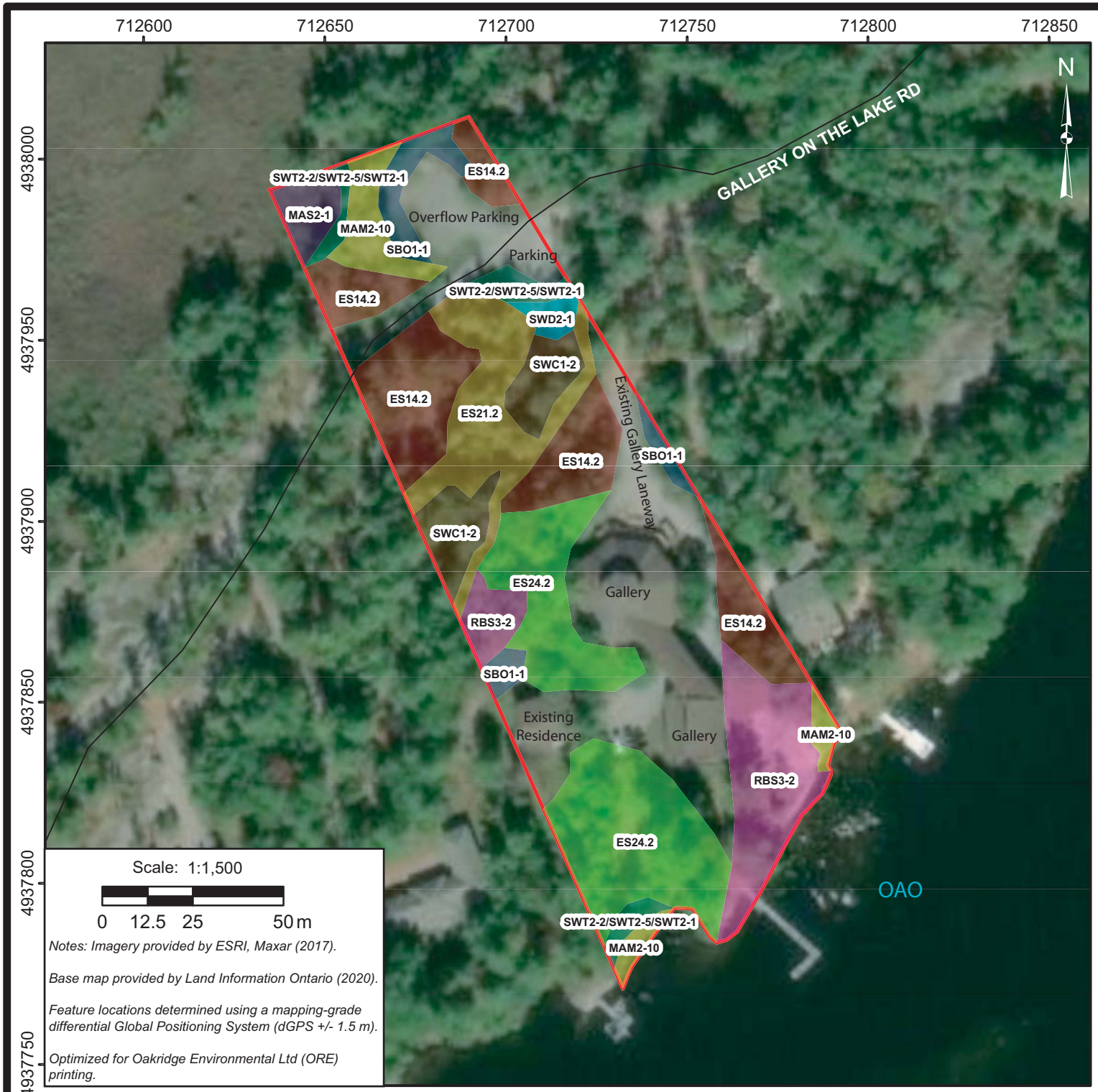
TITLE

Surficial Geology

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT #	FIGURE NO.
20-2858	3
DATE	
April 2021	

Scoped Natural Heritage Evaluation (sNHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes
County of Peterborough



Scale: 1:1,500

0 12.5 25 50 m

Notes: Imagery provided by ESRI, Maxar (2017).

Base map provided by Land Information Ontario (2020).

Feature locations determined using a mapping-grade differential Global Positioning System (dGPS +/- 1.5 m).

Optimized for Oakridge Environmental Ltd (ORE) printing.

North American Datum 1983 - UTM Zone 17

LEGEND

- Approximate Site Boundary
- White Pine-Largetooth Aspen-Red Oak (ES14.2)
- White Cedar-White Pine-White Birch-White Spruce (ES21.2)
- Sugar Maple-Red Oak-Basswood (ES24.2)
- Common Juniper Acidic Shrub Rock Barren (RBS3-2)
- Dry Bracken Fern Sand Barren (SBO1-1)
- White Cedar-Conifer Mineral Coniferous Swamp (SWC1-2)
- Black Ash Mineral Deciduous Swamp (SWD2-1)
- Willow Mineral Thicket Swamp (SWT2-2)/Red-osier Mineral Thicket Swamp (SWT2-5)/Alder Mineral Thicket Swamp (SWT2-1)
- Forb Mineral Meadow Marsh (MAM2-10)
- Cattail Mineral Shallow Marsh (MAS2-1)

Aquatic Community:
Open Aquatic (OAO)

Road

TITLE

Constraints

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT #	FIGURE NO.
20-2858	4
DATE	
April 2021	

Photo A (Above): This photo was taken looking south from the parking area into a small swamp delineated by ORE.

Photo B (Above): This is the view looking east at a small land-bridge between two wetlands that were delineated by ORE staff. The gallery can be seen in the background.

Photo C (Above): This photo was taken looking south at the southerly swamp area that was delineated by ORE staff.

Photo D (Above): This photo shows the view looking northeast towards the gallery. This exemplifies the rock barren habitat where the pad would extend to.

Site photos were taken on February 28, 2021.	**Scoped Natural Heritage Evaluation (sNHE)** **Proposed Severance, Lower Buckhorn Lake** 65 Gallery on the Lake Road Part of Lot 10, Concession 7 (Harvey) Municipality of Trent Lakes County of Peterborough	TITLE **Site Photos**
	ORE Oakridge Environmental Ltd. Environmental and Hydrogeological Services	PROJECT # 20-2858 DATE April 2021 FIGURE NO. **5**

Photo E (Above): This is the view looking southwest at the existing parking space beside the gallery. This is where the parking pad would extend off of.

Photo F (Above): This photo was taken at the end of the existing parking space beside the gallery. The parking pad would occur in background of this photo, on the rock barren dome habitat.

Photo G (Above): This photo was taken south looking towards Buckhorn Lake.

Photo H (Above): This is the view looking southwest towards the shoreline of Buckhorn Lake. The existing residence is behind the photographer.

Site photos were taken on February 28, 2021.	**Scoped Natural Heritage Evaluation (sNHE)** **Proposed Severance, Lower Buckhorn Lake** 65 Gallery on the Lake Road Part of Lot 10, Concession 7 (Harvey) Municipality of Trent Lakes County of Peterborough	TITLE **Site Photos**
	ORE Oakridge Environmental Ltd. Environmental and Hydrogeological Services	PROJECT # 20-2858 DATE April 2021 FIGURE NO. **6**

North American Datum 1983 - UTM Zone 17

Scoped Natural Heritage Evaluation (sNHE)
Proposed Severance, Lower Buckhorn Lake
65 Gallery on the Lake Road
Part of Lot 10, Concession 7 (Harvey)
Municipality of Trent Lakes
County of Peterborough

LEGEND

- Approximate Site Boundary
- Proposed Severance
- Wetland (ORE)
- Wetland Setback (30 m)
- Shoreline Setback (30 m)
- Parking Pad/Potential Future Laneway
- Snapping Turtle
- Bald Eagle
- Contour (5 m interval)
- Road
- Watercourse

Scale: 1:1,500

0 12.5 25 50 m

Notes: Imagery provided by ESRI, Maxar (2017).

Base map provided by Land Information Ontario (2020).

Severance location provided by EcoVue Consulting Services Inc. (March, 2021).

Feature locations determined using a mapping-grade differential Global Positioning System (dGPS +/- 1.5 m).

Optimized for Oakridge Environmental Ltd (ORE) printing.

TITLE

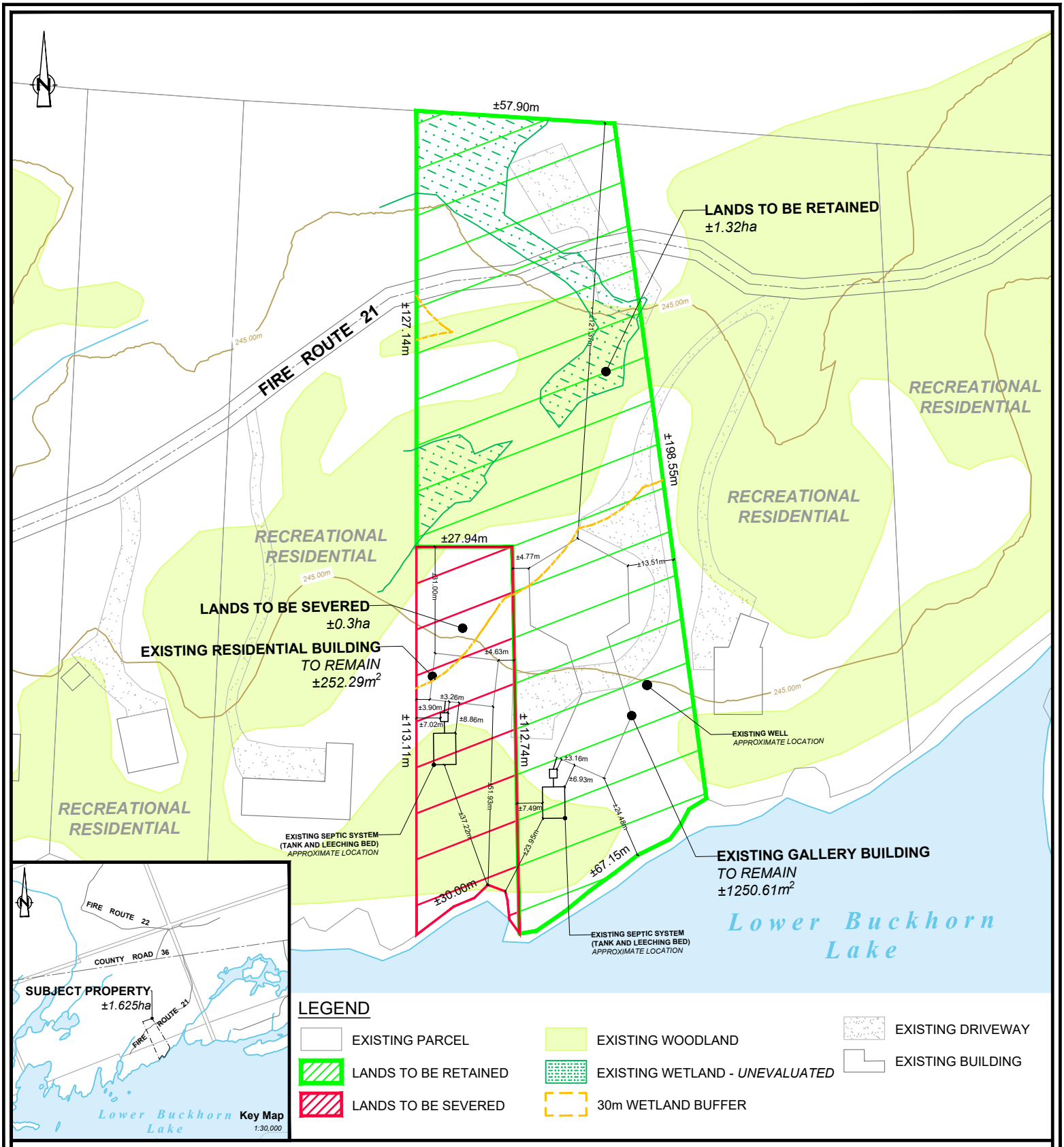
Constraints

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT #	FIGURE NO.
20-2858	7
DATE: April 2021	

Appendix A

Ecovue Severance Plan



ECOVUE consulting services inc.

www.ecovueconsulting.com

PROJECT NO: 20-2059

DATE: MARCH 23 2021

HORIZ. SCALE: 1:1,500

CONSENT SKETCH

GALLERY ON THE LAKE
ALAN HITCHON & ESTHER INGLIS

65 GALLERY ON THE LAKE ROAD (FIRE ROUTE 21)
PART OF LOT 9 AND 10, CONCESSION 7
GEOG. TWP. OF HARVEY
MUNICIPALITY OF TRENT HILLS
COUNTY OF PETERBOROUGH

Appendix B

NHIC Query and General Species Description

[Français]

Ontario

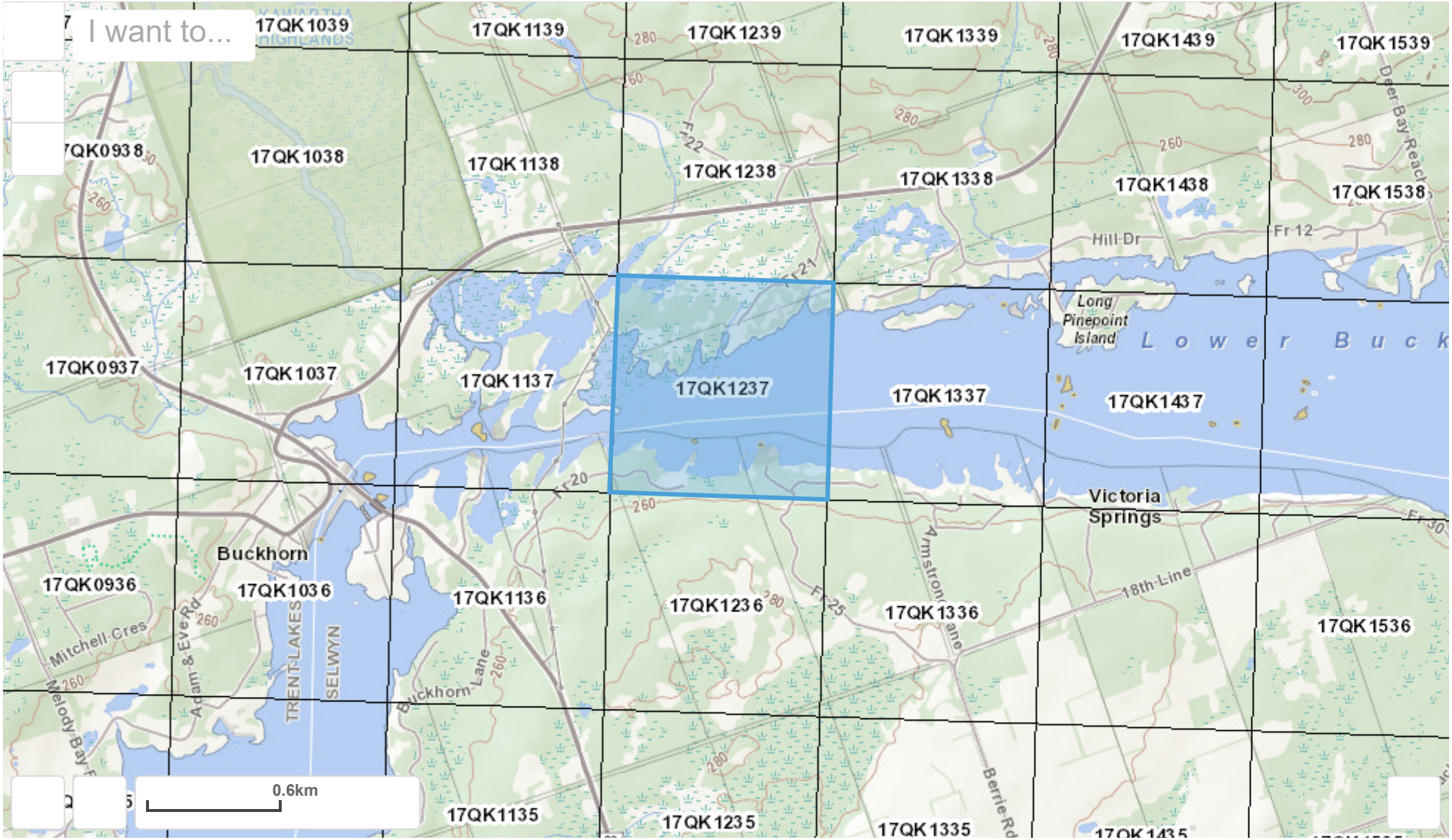
Ministry of Natural Resources and Forestry

Make A Map: Natural Heritage Areas

Looking for a Park, Reserve or Wetland? Enter the name

About | Bookmarks | Map Layers | Find Information | Markup & Printing | Measure

Printing | Export Map | Export Markup | Polygon | Styles | Edit | Erase | Clear All | Help



NHIC Data

To work further with this data select the content and copy it into your own word or excel documents.

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
1059161	NATURAL AREA	Lower Buckhorn Lake Complex					17QK1237	
1059161	SPECIES	Snapping Turtle	Chelydra serpentina	SC		SC	17QK1237	

[Français]

Ontario

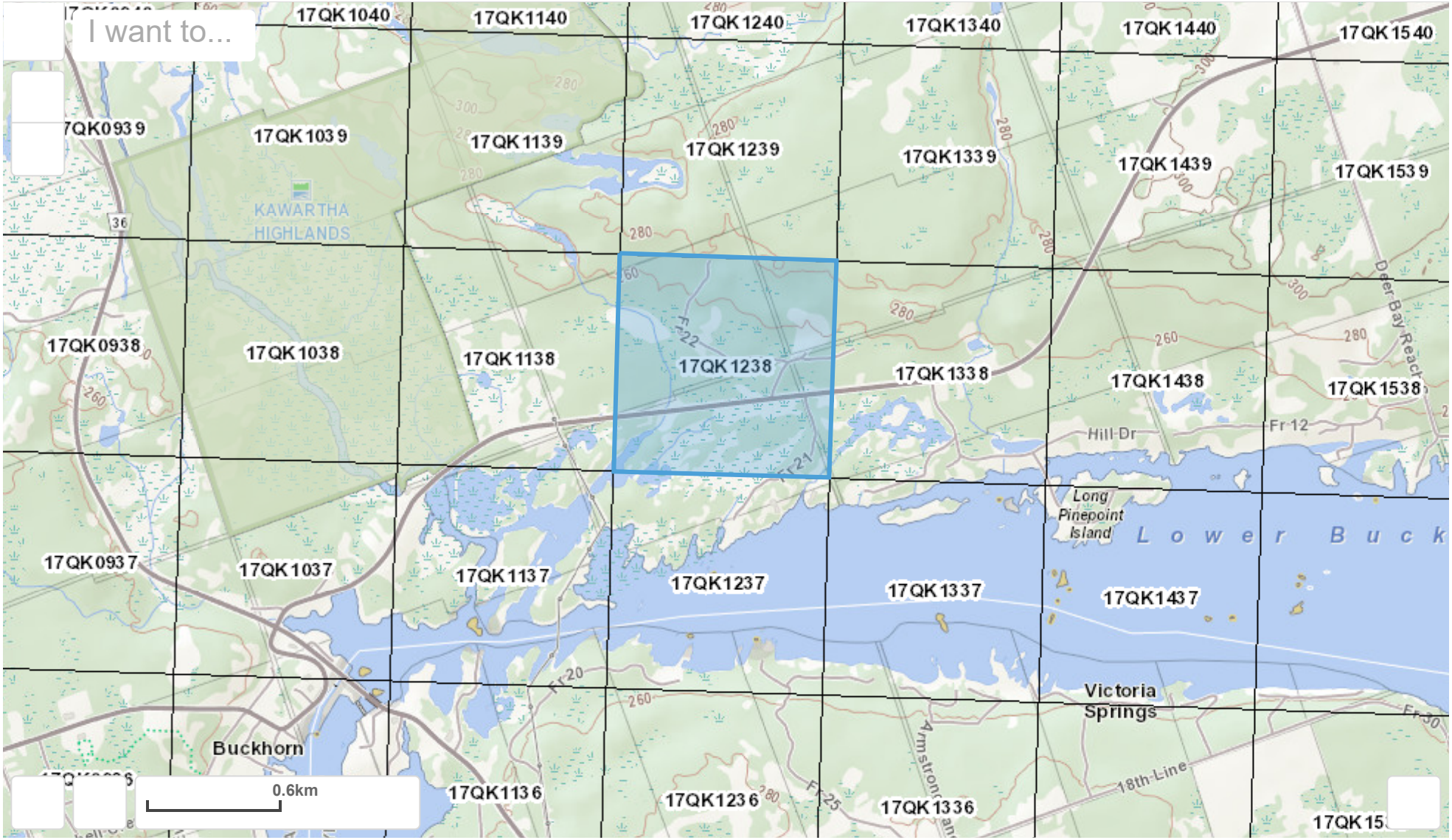
Ministry of Natural Resources and Forestry

Make A Map: Natural Heritage Areas

Looking for a Park, Reserve or Wetland? Enter the name

About | Bookmarks | Map Layers | Find Information | Markup & Printing | Measure

Printing | Export Map | Export Markup | Polygon | Styles | Edit | Erase | Clear All | Help



NHIC Data

To work further with this data select the content and copy it into your own word or excel documents.

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
1059162	NATURAL AREA	Lower Buckhorn Lake Complex					17QK1238	
1059162	SPECIES	Midland Painted Turtle	Chrysemys picta marginata			SC	17QK1238	
1059162	SPECIES	Western Chorus Frog - Great Lakes - St. Lawrence - Canadian Shield populati	Pseudacris maculata pop. 1		NAR	THR	17QK1238	
1059162	SPECIES	Snapping Turtle	Chelydra serpentina		SC	SC	17QK1238	
1059162	SPECIES	Blanding's Turtle	Emydoidea blandingii		THR	END	17QK1238	

Blanding's Turtle (*Emydoidea blandingii*) is listed as "Threatened" by SARO and is protected under the ESA. It tends to inhabit shallow waters within large wetlands or shallow lakes that have lots of aquatic plants. However, they have been known to travel hundreds of metres from a main body of water for nesting or mating. This species is most easily identified by its bright yellow throat and chin.

Snapping Turtle (*Chelydra serpentina*) is listed as "Special Concern" by SARO and is not protected under the ESA. Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. During the nesting season, from early to mid summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dam and aggregate pits.

Appendix C

OBBA Query and General Species Description

BIRDS CANADA
OISEAUX CANADA

Square Summary (17TQK13)

#species				#hours		#pc done	
poss	prob	conf	total	total	peak	road	offrd
0	0	0	0	0	0	0	0

Region summary (#16: Peterborough, ON)

#squares	#sq with data	#species	#squares (pc)	
			target	compl.
60	7	185	0	0

Target number of point counts in this square: 25 in total: 25 road side, 0 off road.

SPECIES	Prev.	Code	%
Canada Goose	FY		14
Mute Swan ‡			0
Trumpeter Swan			0
Wood Duck	P		0
Blue-winged Teal ‡	H		0
Northern Shoveler ‡			0
Gadwall ‡			0
American Wigeon ‡			0
Mallard	FY		28
American Black Duck			14
Northern Pintail ‡			0
Green-winged Teal ‡			0
Redhead †			0
Ring-necked Duck			0
Lesser Scaup ‡			0
Hooded Merganser			0
Common Merganser ‡			0
Ruddy Duck ‡			0
Ring-necked Pheasant ‡			0
Ruffed Grouse	S		28
Wild Turkey			0
Pied-billed Grebe	S		0
Rock Pigeon (Feral Pigeon)	P		28
Mourning Dove	P		28
Yellow-billed Cuckoo			0
Black-billed Cuckoo	P		0
Coccyzus sp. ‡	S		0
Common Nighthawk §			0
Eastern Whip-poor-will §	S		0
Chimney Swift ‡			0
Ruby-throated Hummingbird	FY		0
Virginia Rail			0
Sora			0

SPECIES	Prev.	Code	%
Common Gallinule ‡	S		0
American Coot ‡			0
Sandhill Crane ‡			0
Killdeer §	FY		0
Upland Sandpiper †	T		0
American Woodcock	S		0
Wilson's Snipe	S		0
Spotted Sandpiper			0
Ring-billed Gull § ‡			0
Herring Gull §			14
Caspian Tern ‡			0
Black Tern †			0
Common Tern § ‡			0
Common Loon	D		0
Double-crested Cormorant § ‡			0
American Bittern			0
Least Bittern †			0
Great Blue Heron §			0
Green Heron §			0
Turkey Vulture	H		0
Osprey	CF		0
Northern Harrier	H		0
Sharp-shinned Hawk			0
Cooper's Hawk			14
Northern Goshawk ‡	H		0
Bald Eagle ‡			14
Red-shouldered Hawk	D		0
Broad-winged Hawk	H		0
Red-tailed Hawk	D		42
Eastern Screech-Owl			28
Great Horned Owl ‡	S		28
Barred Owl	S		42
Long-eared Owl ‡			0

SPECIES	Prev.	Code	%
Short-eared Owl †			0
Northern Saw-whet Owl			0
Belted Kingfisher	FY		0
Yellow-bellied Sapsucker	FY		0
Red-headed Woodpecker †			0
Red-bellied Woodpecker			28
Black-backed Woodpecker ‡			0
Downy Woodpecker	T		14
Hairy Woodpecker	T		28
Pileated Woodpecker	NY		28
Northern Flicker	NY		0
American Kestrel §	H		0
Merlin			0
Peregrine Falcon ‡			0
Olive-sided Flycatcher ‡			0
Eastern Wood-Pewee §	T		0
Yellow-bellied Flycatcher ‡			0
Alder Flycatcher	T		0
Willow Flycatcher			0
Least Flycatcher	S		0
Eastern Phoebe	CF		0
Great Crested Flycatcher	FY		0
Eastern Kingbird	CF		0
Yellow-throated Vireo	S		0
Blue-headed Vireo			0
Philadelphia Vireo ‡			0
Warbling Vireo	CF		0
Red-eyed Vireo	FY		0
Loggerhead Shrike †			0
Canada Jay ‡			0
Blue Jay	FY		42
American Crow	CF		71
Common Raven	P		57

Breeding Bird Atlas - Summary Sheet for Square 17TQK13 (page 2 of 2)

SPECIES	Prev.	Code	%
Black-capped Chickadee	AE		57
Boreal Chickadee ‡			0
Horned Lark ‡			14
Northern Rough-winged Swallow	H		0
Purple Martin ‡	AE		0
Tree Swallow	V		0
Bank Swallow §	AE		0
Barn Swallow §	AE		0
Cliff Swallow §	H		0
Golden-crowned Kinglet			0
Ruby-crowned Kinglet ‡			0
Red-breasted Nuthatch	P		28
White-breasted Nuthatch	CF		42
Brown Creeper			14
Blue-gray Gnatcatcher ‡			0
House Wren	AE		0
Winter Wren	A		0
Sedge Wren ‡			0
Marsh Wren	T		0
Carolina Wren ‡			0
European Starling	CF		42
Gray Catbird	FY		0
Brown Thrasher	CF		0
Northern Mockingbird ‡			0
Eastern Bluebird	CF		14
Veery	CF		0
Swainson's Thrush	CF		0
Hermit Thrush	T		0
Wood Thrush §	S		0
American Robin	NY		28
Cedar Waxwing	P		0
House Sparrow			0
Evening Grosbeak ‡	P		14

SPECIES	Prev.	Code	%
House Finch	P		0
Purple Finch	P		0
Red Crossbill ‡			0
White-winged Crossbill ‡			0
Pine Siskin ‡			0
American Goldfinch	P		42
Grasshopper Sparrow §			0
Chipping Sparrow	CF		0
Clay-colored Sparrow ‡	T		0
Field Sparrow §	A		0
Dark-eyed Junco ‡	H		28
White-throated Sparrow	A		0
Vesper Sparrow	S		0
Savannah Sparrow	CF		0
Song Sparrow	CF		0
Lincoln's Sparrow ‡			0
Swamp Sparrow	A		0
Eastern Towhee §			0
Bobolink §	CF		0
Eastern Meadowlark §	CF		0
Orchard Oriole ‡			0
Baltimore Oriole	FY		0
Red-winged Blackbird	CF		14
Brown-headed Cowbird	FY		14
Common Grackle	CF		14
Ovenbird	S		0
Northern Waterthrush	DD		0
Golden-winged Warbler †	P		0
Blue-winged Warbler ‡			0
Brewster's Warbler (hybrid) ‡	T		0
Golden-winged/Blue-winged Warbler ‡	S		0
Black-and-white Warbler	P		0
Tennessee Warbler ‡			0

SPECIES	Prev.	Code	%
Nashville Warbler	N		0
Mourning Warbler	S		0
Common Yellowthroat	S		0
Hooded Warbler ‡			0
American Redstart	P		0
Cape May Warbler ‡			0
Cerulean Warbler †			0
Northern Parula ‡			0
Magnolia Warbler	S		0
Bay-breasted Warbler ‡			0
Blackburnian Warbler	H		0
Yellow Warbler	FY		0
Chestnut-sided Warbler	S		0
Black-throated Blue Warbler	A		0
Pine Warbler	S		0
Yellow-rumped Warbler	A		0
Prairie Warbler †			0
Black-throated Green Warbler	S		0
Canada Warbler §	S		0
Scarlet Tanager	S		0
Northern Cardinal	S		28
Rose-breasted Grosbeak	P		0
Indigo Bunting	A		0

This list includes all breeding species expected in the region #16 (Peterborough). Underlined species are those that you should try to add to this square (17TQK13). They have not yet been reported in this square, but have been reported in more than 50% of the squares in this region so far. "Prev." is the code for the highest breeding evidence for that species in square 17TQK13 in the previous atlas. "Code" is the code for the highest breeding evidence for that species in square 17TQK13 over the last 5 years. The % columns give the percentage of squares in that region where that species was reported (this gives an idea of the expected chance of finding that species in region #16). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), † (provincially rare). Current as of 15/03/2021. An up-to-date version of this sheet is available from http://www.birdscanada.org/birdmon/atlas/summaryform.jsp?squareID=17TQK13&lang=EN

Bank Swallow (*Riparia riparia*) is listed as "Threatened" by *Species at Risk Ontario* (SARO) and is protected under the *Endangered Species Act* (ESA). This avian species nests in burrows into the banks of silt and sand deposits. Nests tend to be found on the shorelines of rivers and lakes. The Bank Swallow may also inhabit sand and gravel pits. Typically, this species forages on insects in flight, but will also glean insects off the water.

Barn Swallow (*Hirundo rustica*) is listed as "Threatened" by SARO and is protected under the ESA. The Barn Swallow inhabits open-rural and urban sites where buildings are situated near watercourses. Nesting is typically sporadic within loose colonies on building structures, bridges and other suitable overhanging structures. The cup-like mud nest is adhered to areas beneath the roof of the structure to conceal the nest from predators and keep it dry. The Barn Swallow feeds on insects by catching them on the wing.

Bobolink (*Dolichonyx oryzivorus*) is listed as "Threatened" by SARO and is protected under the ESA. The Bobolink prefers large tracts of tallgrass areas, either true prairies or hay fields, as it forages low to the ground in search of larvae and seeds.

Canada Warbler (*Cardellina canadensis*) is listed as "Special Concern" by SARO, and is not protected under the ESA. It prefers large tracts of mixed forests on bottomlands within wetlands or drainage courses. The species nests within the upper extremities of the canopy in deciduous and coniferous trees. The Canada Warbler feeds on beetles, caterpillars and common insects. Typically, this species prefers creeks and mixed forests with a coniferous edge along a moving creek, tributary or river system.

Eastern Meadowlark (*Sturnella magna*) is listed as "Threatened" by SARO and is protected under the ESA. The Eastern Meadowlark is similar to Bobolink, as this species also prefers large tracts of agricultural fields or tallgrass prairies to nest within. Eastern Meadowlark is a ground nester, thus requires the tall grass to conceal its nest and eggs. Feeding includes beetles, crickets and spiders.

Eastern Whip-poor-will (*Anthrostomus vociferus*) is listed as "Threatened" by SARO and is protected under the ESA. The Whip-poor-will prefers a combination of large natural tracts of secondary succession forest, watercourses and edge habitat consisting of meadow areas, with open deciduous and pine woodlands. The Whip-poor-will does not construct a nest, but rather uses the soft leaf litter on the ground to form a nest and lay the eggs directly on the ground. The Whip-poor-will is a nighttime hunter, calling its own name while searching for large flying insects, beetles, moths, mosquitos and sometimes grasshoppers. The Whip-poor-will often choose pine species adjacent to waterways to call from.

Eastern Wood-Pewee (*Contopus virens*) is listed as "Special Concern" by SARO and is not protected under the ESA. This species prefers mixed deciduous and coniferous woodlands which are open or considered edge habitat. Nesting occurs on a tree branch as the species catches insects from a perch.

Evening Grosbeak (*Coccothraustes vespertinus*) is listed as "Special Concern" by SARO and is not protected under the ESA. During the breeding season, Evening Grosbeak is generally found in open, mature mixed-wood forests dominated by fir species, White Spruce and/or Trembling Aspen. Its abundance is strongly linked to the cycle of its primary prey, the Spruce Budworm. Outside the breeding season, the species depends mostly on seed crops.

Golden-winged Warbler (*Vermivora chrysoptera*) is listed as "Special Concern" by SARO and is not protected under the ESA. The Golden-winged Warbler prefers woodland edge habitat with young successional tree species and moist shrubby fields. This species gleans insects on shrubs and the forest floor and nesting occurs on the ground.

Wood Thrush (*Hylocichia mustelina*) is listed as "Special Concern" by SARO and is protected under the ESA. The Wood Thrush enjoys relatively undisturbed, mature woodlands. Nesting occurs low in the fork of a tree as this species forages for berries and insects at ground level. Similar to the Eastern Wood-pewee, this species prefers large tracts of woodland.

Appendix D

eBird Data

Deer Bay Reach Road

Peterborough County (/region/CA-ON-PB?yr=all&m=), Ontario (/region/CA-ON?yr=all&m=), CA (/region/CA?yr=all&m=)

Map(/hotspots?hs=L1286330&yr=all&m=)

Directions(https://www.google.com/maps/search/?api=1&query=44.5740226,-78.2863426)

Hotspot navigation

Overview (/hotspot/L1286330?yr=all&m=)

Illustrated Checklist (/hotspot/L1286330/media?yr=all&m=)

VIEW MY...

My eBird (/myebird/L1286330)

Life List (/MyEBird?cmd=lifeList&time=life&listType=L1286330)

Target Species (/targets?r1=L1286330&bmo=1&emo=12)

Checklists (/mychecklists/L1286330)

EXPLORE...

Hotspot Map (/hotspots?hs=L1286330&yr=all&m=)

Bar Charts (/barchart?r=L1286330&yr=all&m=)

Media (https://ebird.org/media/catalog?regionCode=L1286330)

Printable Checklist (/printableList?regionCode=L1286330&yr=all&m=)

116
Species observed (/hotspot/L1286330?yr=all&m=)

172
Complete checklists (/hotspot/L1286330/activity?yr=all&m=)

Sightings

Updated 6 sec ago.

Last seen (/hotspot/L1286330?yr=all&m=&rank=mrec) | **First seen (/hotspot/L1286330?yr=all&m=&rank=lrec)** | **High counts (/hotspot/L1286330?yr=all&m=&rank=hc)**

Show all details | Sort by

SPECIES NAME (/HOTSPOT/L1286330?YR=ALL&M=&RANK=MREC&HS_SORTBY=TAXON_ORDER&HS_O=ASC)

COUNT (/HOTSPOT/L1286330?YR=ALL&M=&RANK=MREC&HS_SORTBY=COUNT&HS_O=DESC) DATE (/HOTSPOT/L1286330?YR=ALL&M=&RANK=MREC&HS_SORTBY=DATE&HS_O=ASC) OBSERVER

1. **Blue Jay(/species/blujay/L1286330)**
   # 6 | 24 Jan 2021 (/checklist/S79863268) | Hannah Dodington
2. **Black-capped Chickadee(/species/bkcchi/L1286330)**
   # 3 | 24 Jan 2021 (/checklist/S79863268) | Hannah Dodington
3. **Golden-crowned Kinglet(/species/gockin/L1286330)**
   # 1 | 8 Jan 2021 (/checklist/S78880524) | Donald A. Sutherland
4. **Red-breasted Nuthatch(/species/rebnut/L1286330)**
   # 1 | 8 Jan 2021 (/checklist/S78880524) | Donald A. Sutherland
5. **White-breasted Nuthatch(/species/whbnut/L1286330)**
   # 2 | 8 Jan 2021 (/checklist/S78880524) | Donald A. Sutherland
6. **Wild Turkey(/species/wiltur/L1286330)**
   # 5 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
7. **Rock Pigeon(/species/rocpig/L1286330)**
   # 8 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
8. **Red-tailed Hawk(/species/rethaw/L1286330)**
   # 1 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
9. **Downy Woodpecker(/species/dowwoo/L1286330)**
   # 1 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
10. **American Crow(/species/amecro/L1286330)**
    # 1 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
11. **European Starling(/species/eursta/L1286330)**
    # 10 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
12. **Common Redpoll(/species/comred/L1286330)**
    # 1 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
13. **Hoary Redpoll(/species/hoared/L1286330)**
    # 1 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson

    Common/Hoary Redpoll
    # 150 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
14. **Snow Bunting(/species/snobun/L1286330)**
    # 20 | 1 Jan 2021 (/checklist/S78405572) | Xavier Tuson
15. **Yellow-bellied Sapsucker(/species/yebsap/L1286330)**
    # 1 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland
16. **Hairy Woodpecker(/species/haiwoo/L1286330)**
    # 2 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

17. **Common Raven(/species/comrav/L1286330)**
    # 1 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

18. **Ruby-crowned Kinglet(/species/ruckin/L1286330)**
    # 2 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

19. **Hermit Thrush(/species/herthr/L1286330)**
    # 1 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

20. **American Robin(/species/amerob/L1286330)**
    # 2 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

21. **Purple Finch(/species/purfin/L1286330)**
    # 2 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

22. **Pine Siskin(/species/pinsis/L1286330)**
    # 1 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

23. **White-throated Sparrow(/species/whtspa/L1286330)**
    # 2 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

24. **Yellow-rumped Warbler(/species/yerwar/L1286330)**
    # 1 | 4 Oct 2020 (/checklist/S74410304) | Donald A. Sutherland

25. **Ruby-throated Hummingbird(/species/rthhum/L1286330)**
    # 7 | 22 Aug 2020 (/checklist/S72714321) | R Rollo

26. **Turkey Vulture(/species/turvul/L1286330)**
    # 1 | 22 Aug 2020 (/checklist/S72714321) | R Rollo

27. **Common Loon(/species/comloo/L1286330)**
    # 1 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

28. **Eastern Wood-Pewee(/species/eawpew/L1286330)**
    # 2 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

29. **Eastern Phoebe(/species/easpho/L1286330)**
    # 1 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

30. **Great Crested Flycatcher(/species/grcfly/L1286330)**
    # 1 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

31. **Yellow-throated Vireo(/species/yetvir/L1286330)**
    # 1 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

32. **Red-eyed Vireo(/species/reevir1/L1286330)**
    # 12 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

33. **House Wren(/species/houwre/L1286330)**
    # 2 | 16 Jul 2020 (/checklist/S71538450) | Luke Berg

34. **Wood Thrush(/species/woothr/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

35. **Chipping Sparrow(/species/chispa/L1286330)**
    # 3 16 Jul 2020 (/checklist/S71538450) Luke Berg

36. **Field Sparrow(/species/fiespa/L1286330)**
    # 2 16 Jul 2020 (/checklist/S71538450) Luke Berg

37. **Song Sparrow(/species/sonspa/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

38. **Ovenbird(/species/ovenbi1/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

39. **Black-and-white Warbler(/species/bawwar/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

40. **American Redstart(/species/amered/L1286330)**
    # 2 16 Jul 2020 (/checklist/S71538450) Luke Berg

41. **Cerulean Warbler(/species/cerwar/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

42. **Pine Warbler(/species/pinwar/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

43. **Scarlet Tanager(/species/scatan/L1286330)**
    # 1 16 Jul 2020 (/checklist/S71538450) Luke Berg

44. **Indigo Bunting(/species/indbun/L1286330)**
    # 3 16 Jul 2020 (/checklist/S71538450) Luke Berg

45. **Northern Flicker(/species/norfli/L1286330)**
    # 1 8 Jul 2020 (/checklist/S71252797) Chris Risley

46. **American Goldfinch(/species/amegfi/L1286330)**
    # 1 8 Jul 2020 (/checklist/S71252797) Chris Risley

47. **Canada Goose(/species/cangoo/L1286330)**
    # 2 7 Jul 2020 (/checklist/S71224256) Sarah Bonnett

48. **Cedar Waxwing(/species/cedwax/L1286330)**
    # 2 7 Jul 2020 (/checklist/S71224256) Sarah Bonnett

49. **House Finch(/species/houfin/L1286330)**
    # 1 7 Jul 2020 (/checklist/S71224256) Sarah Bonnett

50. **Common Grackle(/species/comgra/L1286330)**
    # 2 7 Jul 2020 (/checklist/S71224256) Sarah Bonnett

51. **Black-throated Green Warbler(/species/btnwar/L1286330)**
    # 1 | 7 Jul 2020 (/checklist/S71224256) | Sarah Bonnett

52. **Rose-breasted Grosbeak(/species/robgro/L1286330)**
    # 1 | 7 Jul 2020 (/checklist/S71224256) | Sarah Bonnett

53. **Black-billed Cuckoo(/species/bkbcuc/L1286330)**
    # 2 | 22 Jun 2020 (/checklist/S70720516) | Drew Monkman

54. **Veery(/species/veery/L1286330)**
    # 1 | 22 Jun 2020 (/checklist/S70720516) | Drew Monkman

55. **Chestnut-sided Warbler(/species/chswar/L1286330)**
    # 1 | 22 Jun 2020 (/checklist/S70720516) | Drew Monkman

56. **Red-bellied Woodpecker(/species/rebwoo/L1286330)**
    # 1 | 17 Jun 2020 (/checklist/S70526302) | Donald A. Sutherland

57. **Mourning Dove(/species/moudov/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

58. **Ring-billed Gull(/species/ribgul/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

59. **Herring Gull(/species/hergul/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

60. **Great Blue Heron(/species/grbher3/L1286330)**
    # 1 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

61. **Cooper's Hawk(/species/coohaw/L1286330)**
    # 1 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

62. **Blue-headed Vireo(/species/buhvir/L1286330)**
    # 1 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

63. **Barn Swallow(/species/barswa/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

64. **Gray Catbird(/species/grycat/L1286330)**
    # 1 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

65. **Brown Thrasher(/species/brnthr/L1286330)**
    # 1 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

66. **Swamp Sparrow(/species/swaspa/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

67. **Eastern Meadowlark(/species/easmea/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

68. **Baltimore Oriole(/species/balori/L1286330)**
    # 1 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

69. **Red-winged Blackbird(/species/rewbla/L1286330)**
    # 6 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

70. **Common Yellowthroat(/species/comyel/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

71. **Yellow Warbler(/species/yelwar/L1286330)**
    # 2 | 15 Jun 2020 (/checklist/S70473467) | Dave Milsom

72. **Yellow-billed Cuckoo(/species/yebcuc/L1286330)**
    # 1 | 14 Jun 2020 (/checklist/S70417090) | David Britton

73. **Eastern Towhee(/species/eastow/L1286330)**
    # 1 | 14 Jun 2020 (/checklist/S70417090) | David Britton

74. **Ruffed Grouse(/species/rufgro/L1286330)**
    # 1 | 14 Jun 2020 (/checklist/S70416192) | Glenn Desy

75. **Red-shouldered Hawk(/species/reshaw/L1286330)**
    # 1 | 14 Jun 2020 (/checklist/S70416192) | Glenn Desy

76. **Least Flycatcher(/species/leafly/L1286330)**
    # 1 | 14 Jun 2020 (/checklist/S70416192) | Glenn Desy

77. **Winter Wren(/species/winwre3/L1286330)**
    # 1 | 14 Jun 2020 (/checklist/S70416192) | Glenn Desy

78. **Mallard(/species/mallar3/L1286330)**
    # 1 | 11 Jun 2020 (/checklist/S70302710) | Connor Thompson

79. **Broad-winged Hawk(/species/brwhaw/L1286330)**
    # 1 | 11 Jun 2020 (/checklist/S70302710) | Connor Thompson

80. **Brown-headed Cowbird(/species/bnhcow/L1286330)**
    # 1 | 9 Jun 2020 (/checklist/S70232750) | Donald A. Sutherland

81. **Double-crested Cormorant(/species/doccor/L1286330)**
    # 1 | 8 Jun 2020 (/checklist/S70196852) | Travis Cameron

82. **Nashville Warbler(/species/naswar/L1286330)**
    # 2 | 8 Jun 2020 (/checklist/S70196852) | Travis Cameron

83. **Sharp-shinned Hawk(/species/shshaw/L1286330)**
    # 1 | 5 Jun 2020 (/checklist/S70084193) | Dave Milsom

84. **Warbling Vireo(/species/warvir/L1286330)**
    # 1 | 5 Jun 2020 (/checklist/S70084193) | Dave Milsom

85. **Northern Waterthrush(/species/norwat/L1286330)**
1 5 Jun 2020 (/checklist/S70084193) Dave Milsom

86. **Blackburnian Warbler(/species/bkbwar/L1286330)**
1 5 Jun 2020 (/checklist/S70084193) Dave Milsom

87. **Yellow-bellied Flycatcher(/species/yebfly/L1286330)**
1 30 May 2020 (/checklist/S69839889) Donald A. Sutherland

88. **Caspian Tern(/species/caster1/L1286330)**
1 28 May 2020 (/checklist/S69757707) Scott Gibson

89. **Barred Owl(/species/brdowl/L1286330)**
2 23 May 2020 (/checklist/S69500185) Travis Cameron

90. **Northern Parula(/species/norpar/L1286330)**
1 23 May 2020 (/checklist/S69500185) Travis Cameron

91. **Black-throated Blue Warbler(/species/btbwar/L1286330)**
1 18 May 2020 (/checklist/S69260210) Donald A. Sutherland

92. **American Kestrel(/species/amekes/L1286330)**
2 19 Apr 2020 (/checklist/S67478112) Donald A. Sutherland

93. **Eastern Kingbird(/species/easkin/L1286330)**
1 30 Jun 2019 (/checklist/S57823386) Matthew Tobey

94. **Pileated Woodpecker(/species/pilwoo/L1286330)**
1 16 Jun 2019 (/checklist/S57419901) Donald A. Sutherland

95. **Alder Flycatcher(/species/aldfly/L1286330)**
1 16 Jun 2019 (/checklist/S57428756) Dave Milsom

woodpecker sp.
1 12 Apr 2019 (/checklist/S54864641) Ben Taylor

96. **Belted Kingfisher(/species/belkin1/L1286330)**
1 21 Jun 2018 (/checklist/S46702149) Matthew Tobey

97. **Osprey(/species/osprey/L1286330)**
1 20 Jun 2018 (/checklist/S46676472) Ben Taylor

Golden-winged/Blue-winged Warbler
1 31 May 2018 (/checklist/S46182776) Donald A. Sutherland

98. **Eastern Bluebird(/species/easblu/L1286330)**
1 13 May 2018 (/checklist/S45633572) John Bick

99. **Northern Cardinal(/species/norcar/L1286330)**
1 16 Jul 2017 (/checklist/S38418826) Stan Phippen

100. **Swainson's Thrush(/species/swathr/L1286330)**
2 26 May 2017 (/checklist/S37150583) Luke Berg

101. **Magnolia Warbler(/species/magwar/L1286330)**
1 24 Jun 2016 (/checklist/S30376012) Martin Parker

102. **American Bittern(/species/amebit/L1286330)**
1 25 May 2016 (/checklist/S29911119) Iain Rayner

103. **Tennessee Warbler(/species/tenwar/L1286330)**
1 25 May 2016 (/checklist/S29911119) Iain Rayner

104. **White-crowned Sparrow(/species/whcspa/L1286330)**
1 19 May 2016 (/checklist/S29809709) Donald A. Sutherland

Yellow-billed/Black-billed Cuckoo
1 6 Jun 2015 (/checklist/S23800211) Luke Berg

105. **Blackpoll Warbler(/species/bkpwar/L1286330)**
1 24 May 2015 (/checklist/S23607008) Luke Berg

106. **Tree Swallow(/species/treswa/L1286330)**
1 22 May 2015 (/checklist/S23596296) Donald A. Sutherland

107. **Golden-winged Warbler(/species/gowwar/L1286330)**
1 31 May 2013 (/checklist/S14301167) Simon Dodsworth

108. **Sandhill Crane(/species/sancra/L1286330)**
1 7 May 2012 (/checklist/S10683582) Donald A. Sutherland

109. **Evening Grosbeak(/species/evegro/L1286330)**
2 27 Jun 2001 (/checklist/S18970611) Donald A. Sutherland

110. **Northern Harrier(/species/norhar2/L1286330)**
1 20 May 1999 (/checklist/S15145835) Donald A. Sutherland

111. **Purple Martin(/species/purmar/L1286330)**
2 29 May 1996 (/checklist/S9333178) Donald A. Sutherland

112. **Wood Duck(/species/wooduc/L1286330)**
2 19 May 1996 (/checklist/S50852449) Bryan Wyatt

113. **American Woodcock(/species/amewoo/L1286330)**
X 19 May 1996 (/checklist/S50852449) Bryan Wyatt

114. **Killdeer(/species/killde/L1286330)**
2 20 Jun 1982 (/checklist/S51598592) Richard Knapton

Barn Swallow (*Hirundo rustica*) is listed as "Threatened" by SARO and is protected under the ESA. The Barn Swallow inhabits open-rural and urban sites where buildings are situated near watercourses. Nesting is typically sporadic within loose colonies on building structures, bridges and other suitable overhanging structures. The cup-like mud nest is adhered to areas beneath the roof of the structure to conceal the nest from predators and keep it dry. The Barn Swallow feeds on insects by catching them on the wing.

Eastern Meadowlark (*Sturnella magna*) is listed as "Threatened" by SARO and is protected under the ESA. The Eastern Meadowlark is similar to Bobolink, as this species also prefers large tracts of agricultural fields or tallgrass prairies to nest within. Eastern Meadowlark is a ground nester, thus requires the tall grass to conceal its nest and eggs. Feeding includes beetles, crickets and spiders.

Eastern Wood-Pewee (*Contopus virens*) is listed as "Special Concern" by SARO and is not protected under the ESA. This species prefers mixed deciduous and coniferous woodlands which are open or considered edge habitat. Nesting occurs on a tree branch as the species catches insects from a perch.

Evening Grosbeak (*Coccothraustes vespertinus*) is listed as "Special Concern" by SARO and is not protected under the ESA. During the breeding season, Evening Grosbeak is generally found in open, mature mixed-wood forests dominated by fir species, White Spruce and/or Trembling Aspen. Its abundance is strongly linked to the cycle of its primary prey, the Spruce Budworm. Outside the breeding season, the species depends mostly on seed crops.

Golden-winged Warbler (*Vermivora chrysoptera*) is listed as "Special Concern" by SARO and is not protected under the ESA. The Golden-winged Warbler prefers woodland edge habitat with young successional tree species and moist shrubby fields. This species gleans insects on shrubs and the forest floor and nesting occurs on the ground.

Wood Thrush (*Hylocichia mustelina*) is listed as "Special Concern" by SARO and is protected under the ESA. The Wood Thrush enjoys relatively undisturbed, mature woodlands. Nesting occurs low in the fork of a tree as this species forages for berries and insects at ground level. Similar to the Eastern Wood-pewee, this species prefers large tracts of woodland.

Appendix E

Species List

Species Occurrences

Amphibians

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
Northern Leopard Frog	Lithobates pipiens	S5	NAR	NAR
Green Frog	Lithobates clamitans	S5		
Spring Peeper	Pseudacris crucifer	S5		
Gray Treefrog	Hyla versicolor	S5		
Eastern Red-backed Salamander	Plethodon cinereus	S5		

Amphibianss

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
American Toad	Anaxyrus americanus	S5		

Birds

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
Rough-legged Hawk	Buteo lagopus	S1B,S4N	NAR	NAR
Bald Eagle	Haliaeetus leucocephalus	S2N,S4B	NAR	SC
Broad-winged Hawk	Buteo platypterus	S5B		
Osprey	Pandion haliaetus	S5B		
Turkey Vulture	Cathartes aura	S5B		
Bufflehead	Bucephala albeola	S4		
American Black Duck	Anas rubripes	S4		
Canada Goose	Branta canadensis	S5		
Common Goldeneye	Bucephala clangula	S5		
Ring-necked Duck	Aythya collaris	S5		
Hooded Merganser	Lophodytes cucullatus	S5B,S5N		
Common Merganser	Mergus merganser	S5B,S5N		
Ruby-throated Hummingbird	Archilochus colubris	S5B		
Common Tern	Sterna hirundo	S4B	NAR	NAR
American Woodcock	Scolopax minor	S4B		
Spotted Sandpiper	Actitis macularius	S5		
Ring-billed Gull	Larus delawarensis	S5B,S4N		
Killdeer	Charadrius vociferus	S5B,S5N		
Herring Gull	Larus argentatus	S5B,S5N		
Mourning Dove	Zenaida macroura	S5		
Rock Pigeon	Columba livia	SNA		

Common Ground-dove	Columbina passerina	SNA		
Ruffed Grouse	Bonasa umbellus	S4		
Wild Turkey	Meleagris gallopavo	S5		
Common Loon	Gavia immer	S5B,S5N	NAR	NAR
Red-winged Blackbird	Agelaius phoeniceus	S4		
Rose-breasted Grosbeak	Pheucticus ludovicianus	S4B		
Gray Catbird	Dumetella carolinensis	S4B		
Brown Thrasher	Toxostoma rufum	S4B		
Baltimore Oriole	Icterus galbula	S4B		
Pine Siskin	Spinus pinus	S4B		
Orange-crowned Warbler	Oreothlypis celata	S4B		
Northern Parula	Setophaga americana	S4B		
Scarlet Tanager	Piranga olivacea	S4B		
Tree Swallow	Tachycineta bicolor	S4B		
Indigo Bunting	Passerina cyanea	S4B		
Great Crested Flycatcher	Myiarchus crinitus	S4B		
Purple Finch	Haemorhous purpureus	S4B		
Pine Grosbeak	Pinicola enucleator	S4B		
Veery	Catharus fuscescens	S4B		
American Tree Sparrow	Spizella arborea	S4B		
Ovenbird	Seiurus aurocapilla	S4B		
Brown-headed Cowbird	Molothrus ater	S4B		
Northern Cardinal	Cardinalis cardinalis	S5		
Red-breasted Nuthatch	Sitta canadensis	S5		
Black-capped Chickadee	Poecile atricapillus	S5		
Blue Jay	Cyanocitta cristata	S5		
White-breasted Nuthatch	Sitta carolinensis	S5		
Chestnut-sided Warbler	Setophaga pensylvanica	S5B		
American Robin	Turdus migratorius	S5B		
American Goldfinch	Spinus tristis	S5B		
Northern Waterthrush	Parkesia noveboracensis	S5B		
Black-and-white Warbler	Mniotilta varia	S5B		
Nashville Warbler	Oreothlypis ruficapilla	S5B		
Common Yellowthroat	Geothlypis trichas	S5B		
Hermit Thrush	Catharus guttatus	S5B		
Cape May Warbler	Setophaga tigrina	S5B		

Yellow Warbler	Setophaga petechia	S5B
Black-throated Green Warbler	Setophaga virens	S5B
Common Grackle	Quiscalus quiscula	S5B
Song Sparrow	Melospiza melodia	S5B
Swamp Sparrow	Melospiza georgiana	S5B
Dark-eyed Junco	Junco hyemalis	S5B
American Redstart	Setophaga ruticilla	S5B
Brown Creeper	Certhia americana	S5B
Cedar Waxwing	Bombycilla cedrorum	S5B
American Crow	Corvus brachyrhynchos	S5B
House Wren	Troglodytes aedon	S5B
Winter Wren	Troglodytes hiemalis	S5B
Red-eyed Vireo	Vireo olivaceus	S5B
Eastern Phoebe	Sayornis phoebe	S5B
Yellow-rumped Warbler	Setophaga coronata	S5B
House Sparrow	Passer domesticus	SNA
Snow Bunting	Plectrophenax nivalis	SNA
European Starling	Sturnus vulgaris	SNA
Great Blue Heron	Ardea herodias	S4
Green Heron	Butorides virescens	S4B
Red-bellied Woodpecker	Melanerpes carolinus	S4
Northern Flicker	Colaptes auratus	S4B
Hairy Woodpecker	Picoides villosus	S5
Downy Woodpecker	Picoides pubescens	S5
Pileated Woodpecker	Dryocopus pileatus	S5
Yellow-bellied Sapsucker	Sphyrapicus varius	S5B
Pied-billed Grebe	Podilymbus podiceps	S4B,S4N

Fish

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
White Sucker	Catostomus commersonii	S5		
Northern Pike	Esox lucius	S5		
Logperch	Percina caprodes	S5		
Pumpkinseed	Lepomis gibbosus	S5		
Rock Bass	Ambloplites rupestris	S5		
Brown Bullhead	Ameiurus nebulosus	S5		

Insects

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
Hummingbird Clearwing	Hemaris thysbe	S5		
Cherry-faced Meadowhawk	Sympetrum internum	S5		
Chalk-fronted Corporal	Ladona julia	S5		
Ebony Jewelwing	Calopteryx maculata	S5		

Mammals

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
White-tailed Deer	Odocoileus virginianus	S5		
American Mink	Neovison vison	S4		
Northern Raccoon	Procyon lotor	S5		
American Black Bear	Ursus americanus	S5	NAR	NAR
Red Fox	Vulpes vulpes	S5		
Eastern Cottontail	Sylvilagus floridanus	S5		
Eastern Chipmunk	Tamias striatus	S5		
Muskrat	Ondatra zibethicus	S5		
Beaver	Castor canadensis	S5		
Red Squirrel	Tamiasciurus hudsonicus	S5		
House Mouse	Mus musculus	SNA		

Reptiles and Turtles

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
Snapping Turtle	Chelydra serpentina	S3	SC	SC
Eastern Gartersnake	Thamnophis sirtalis sirtalis	S5		
Northern Watersnake	Nerodia sipedon sipedon	S5	NAR	NAR

Vascular Plants

COMMON NAME	SCIENTIFIC NAME	SRANK	COSEWIC	SARO
Broad-leaved Arrowhead	Sagittaria latifolia	S5		
Northern Water-plantain	Alisma triviale	S5		
Wild Sarsaparilla	Aralia nudicaulis	S5		
Wild Carrot	Daucus carota	SNA		
Swamp Beggarticks	Bidens discoidea	S4		
Spotted Joe Pye Weed	Eutrochium maculatum var. maculatum	S5		
Flat-top White Aster	Doellingeria umbellata var. umbellata	S5		

Annual Fleabane	Erigeron annuus	S5
Daisy Fleabane	Erigeron hyssopifolius	S5
Common Boneset	Eupatorium perfoliatum	S5
Large-leaved Aster	Eurybia macrophylla	S5
Canada Lettuce	Lactuca canadensis	S5
Calico Aster	Symphyotrichum lateriflorum var. lateriflorum	S5
Black-eyed Susan	Rudbeckia hirta	S5
Blue-stemmed Goldenrod	Solidago caesia	S5
Canada Goldenrod	Solidago canadensis var. canadensis	S5
Zigzag Goldenrod	Solidago flexicaulis	S5
Heart-leaved Aster	Symphyotrichum cordifolium	S5
White Heath Aster	Symphyotrichum ericoides var. ericoides	S5
New England Aster	Symphyotrichum novae-angliae	S5
Common Hawkweed	Hieracium vulgatum	SNA
Colt's-foot	Tussilago farfara	SNA
Meadow Goat's-beard	Tragopogon pratensis	SNA
Common Dandelion	Taraxacum officinale	SNA
Common Yarrow	Achillea millefolium	SNA
Common Burdock	Arctium minus	SNA
Chicory	Cichorium intybus	SNA
Bull Thistle	Cirsium vulgare	SNA
Field Sow-thistle	Sonchus arvensis ssp. arvensis	SNA
Pineapple-weed Chamomile	Matricaria discoidea	SNA
Perennial Ragweed	Ambrosia psilostachya	SNA
Rock Draba	Draba arabisans	S4
Field Chickweed	Cerastium arvense ssp. arvense	SNA
Bladder Campion	Silene vulgaris	SNA
Black Holly	Ilex verticillata	S5
Red-osier Dogwood	Cornus stolonifera	S5
Gray Dogwood	Cornus racemosa	S5
Alternate-leaved Dogwood	Cornus alternifolia	S5
Old Switch Panicgrass	Panicum virgatum	S4
Dark-green Bulrush	Scirpus atrovirens	S5
Fox Sedge	Carex vulpinoidea	S5
Tussock Sedge	Carex stricta	S5

Finely-nerved Sedge	Carex leptonervia	S5
Bladder Sedge	Carex intumescens	S5
Porcupine Sedge	Carex hystericina	S5
Poverty Oatgrass	Danthonia spicata	S5
Fowl Mannagrass	Glyceria striata	S5
Canada Bluegrass	Poa compressa	SNA
Hard Fescue	Festuca trachyphylla	SNA
Hairy Crabgrass	Digitaria sanguinalis	SNA
Orchard Grass	Dactylis glomerata	SNA
Meadow Brome	Bromus erectus	SNA
Common Timothy	Phleum pratense	SNA
Downy Arrowwood	Viburnum rafinesquianum	S5
Common Elderberry	Sambucus canadensis	S5
Mountain Fly Honeysuckle	Lonicera villosa	S5
Tartarian Honeysuckle	Lonicera tatarica	SNA
Lesser Pyrola	Pyrola minor	S4
Late Lowbush Blueberry	Vaccinium angustifolium	S5
Common Labrador Tea	Rhododendron groenlandicum	S5
Snow-on-the-mountain	Euphorbia marginata	SNA
Red Clover	Trifolium pratense	SNA
Black Medic	Medicago lupulina	SNA
Low Hop Clover	Trifolium campestre	SNA
Tufted Vetch	Vicia cracca	SNA
American Beech	Fagus grandifolia	S4
Eastern Hop-hornbeam	Ostrya virginiana	S5
Speckled Alder	Alnus incana	S5
Blue-beech	Carpinus caroliniana	S5
White Oak	Quercus alba	S5
Northern Red Oak	Quercus rubra	S5
Paper Birch	Betula papyrifera	S5
Ostrich Fern	Matteuccia struthiopteris	S5
Bracken Fern	Pteridium aquilinum	S5
Spinulose Wood Fern	Dryopteris carthusiana	S5
Rock Polypody	Polypodium virginianum	S5
Sensitive Fern	Onoclea sensibilis	S5
Spreading Dogbane	Apocynum androsaemifolium	S5

Common Wood-sorrel	Oxalis montana	S5
Eel-grass	Vallisneria americana	S5
Blue Vervain	Verbena hastata	S5
Self-heal	Prunella vulgaris ssp. lanceolata	S5
Common Bugloss	Anchusa officinalis	SNA
Catnip	Nepeta cataria	SNA
Harlequin Blue Flag	Iris versicolor	S5
Yellow Trout-lily	Erythronium americanum	S5
Wild Lily-of-the-valley	Maianthemum canadense ssp. canadense	S5
American Basswood	Tilia americana	S5
Sweet Fern	Comptonia peregrina	S5
Northern Willowherb	Epilobium ciliatum ssp. ciliatum	S5
Purple Loosestrife	Lythrum salicaria	SNA
Illinois Pondweed	Potamogeton illinoensis	S4
Sago Pondweed	Stuckenia pectinata	S5
Floating Pondweed	Potamogeton natans	S5
Common Hornwort	Ceratophyllum demersum	S5
Fragrant Water-lily	Nymphaea odorata ssp. odorata	S5?
Eastern Helleborine	Epipactis helleborine	SNA
Black Spruce	Picea mariana	S5
Eastern White Pine	Pinus strobus	S5
Eastern Hemlock	Tsuga canadensis	S5
White Spruce	Picea glauca	S5
American Larch	Larix laricina	S5
Common Juniper	Juniperus communis	S5
Eastern Red Cedar	Juniperus virginiana	S5
Eastern White Cedar	Thuja occidentalis	S5
Balsam Fir	Abies balsamea	S5
Rugel's Plantain	Plantago rugelii	S5
English Plantain	Plantago lanceolata	SNA
Fringed Loosestrife	Lysimachia ciliata	S5
Wild Columbine	Aquilegia canadensis	S5
Tall Meadow-rue	Thalictrum pubescens	S5
Swamp Buttercup	Ranunculus hispidus var. caricetorum	S5
Tall Buttercup	Ranunculus acris	SNA
Virginia Creeper	Parthenocissus quinquefolia	S4?

Ditch-stonecrop	Penthorum sedoides	S5
Norwegian Cinquefoil	Potentilla norvegica	S5
Old-field Cinquefoil	Potentilla simplex	S5
Choke Cherry	Prunus virginiana	S5
Wild Red Raspberry	Rubus idaeus ssp. strigosus	S5
Black Raspberry	Rubus occidentalis	S5
Dewberry	Rubus pubescens	S5
White Meadowsweet	Spiraea alba var. alba	S5
Virginia Saxifrage	Micranthes virginiensis	S5
Wood Avens	Geum urbanum	SNA
Wild Strawberry	Fragaria virginiana ssp. virginiana	SU
Marsh Bedstraw	Galium palustre	S5
Pussy Willow	Salix discolor	S5
Trembling Aspen	Populus tremuloides	S5
Bebb's Willow	Salix bebbiana	S5
Sugar Maple	Acer saccharum	S5
Staghorn Sumac	Rhus typhina	S5
Eastern Poison Ivy	Toxicodendron radicans var. radicans	S5
Red Maple	Acer rubrum	S5
White Ash	Fraxinus americana	S4
Black Ash	Fraxinus nigra	S4
Common Lilac	Syringa vulgaris	SNA
Butter-and-eggs	Linaria vulgaris	SNA
Common Mullein	Verbascum thapsus	SNA
Common Speedwell	Veronica officinalis	SNA
Canadian St. John's-wort	Hypericum canadense	S4?
Common St. John's-wort	Hypericum perforatum	SNA
American Elm	Ulmus americana	S5
Canada Violet	Viola canadensis var. canadensis	S5

Appendix F

Significant Wildlife Habitat

Significant Wildlife Habitat Screening					
Signficant Wildlife Habitat Type	**ELC Habitat (for internal use)**	**General Habitat Description**	**ELC Observed**	**SWH Present**	**Comments**
Wildlife Concentration Areas					
Waterfowl Stopover and Staging Areas (Terrestrial)	CUM1, CUT1, plus annual spring flooding	Fields with sheet water during the spring	No	No	N/A
Waterfowl Stopover and Staging Areas (Aquatic)	MAS1 to MAS 3, SAS1, SAM1, SAF1, SWD1 to SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration	MAS2-1, SWD2-1	Yes	N/A
Shorebird Migratory Stopover Area	BBO1 to 2, BBS1 to 2, BBT1 to 2, SDO1, SDS2, SDT1, MAM1 to 5	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats	MAM2-10	Yes	N/A
Raptor Wintering Area	At least one of FOD, FOM or FOC and one of CUM, CUT, CUS, CUW	The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors	No	No	N/A
Bat Hibernacula	CCR1, CCR2, CCA1, CCA2	Caves, mine shafts, underground foundations and Karsts. Hibernacula relatively poorly known	No	No	N/A
Bat Maternity Colonies	FOD, FOM, SWD, SWM	Mature forests with >10 ha of large diameter (>25 cm dbh) wildlife trees, 21 snags per hectare preferred	ES24.2, ES14.2, ES21.1	Yes	Presumed based on contiguous forest
Turtle Wintering Areas	Classes SA, MA, OA and SA, ELC Community Series FEO and BOO	Within core habitat, water must be deep enough not to freeze and have soft mud substrates	MAM2-10, MAS2-1, OAO	Yes	N/A
Reptile Hibernaculum (Turtles assessed separately)	Any Ecosite with the exception of very wet communities, Five-lined Skink prefers FOD and FOM communities, Ecosites FOC1 & FOC3	Below frost lines in burrows, rock crevices and other natural or naturalized locations. Rock crevices, talus slopes, etc.	ES24.2, ES14.2, RBS3-1, RBS3-2, ES21.2, SWC1-2, SWD2-1	Yes	Presumed present
Colonial Nesting Bird Breeding Habitat (Bank and Cliff)	CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1	Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns. Man-made structure and disturbance over 2 years old	No	No	N/A
Colonial Nesting Bird Breeding Habitat (Tree/Shrubs)	SWM2, SWM3, SWM5, SWM6, SWD1-7, FET1	Live or dead standing trees (typically 11 to 15 m tall) in wetlands, lakes, islands and peninsulas. Occasionally shrubs and emergent vegetation.	SWD2-1	No	None observed
Colonial Nesting Bird Breeding Habitat (Ground)	MAM1 - 6, MAS1 - 3, CUM, CUT, CUS	Rocky island or peninsula within a lake or river. Close proximity to watercourses in open fields or pastures with scattered trees or shrubs	MAM2-10, MAS2-1	No	N/A
Migratory Butterfly Stopover Areas	At least one of FOD, FOM, FOC and CUP and one of CUM, CUT, CUS	At least 10 ha in size with combination of field and forest within 5 km of Lake Ontario	No	No	N/A
Landbird Migratory Stopover Areas	FOC, FOM, FOD, SWC, SWM, SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1	No	Does not meet location criteria

Significant Wildlife Habitat Screening					
Signficant Wildlife Habitat Type	**ELC Habitat (for internal use)**	**General Habitat Description**	**ELC Observed**	**SWH Present**	**Comments**
Deer Yarding Areas	FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT MNRF to confirm	Core (Stratum I) is located within Stratum II. Core is critical for survival of deer during winter months	ES24.2, ES14.2, ES21.2, SWC1-2	No	Verified using MNRF Deer Wintering layer
Deer Winter Congregation Areas	FOC, FOM, FOD, SWC, SWM, SWD	Large woodlots typically >100 ha, however smaller woodlots with densities of 0.1 - 1.5 deer/ha may also be considered	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1	No	Verified using MNRF Deer Wintering layer
Rare Vegetation Communities					
Cliffs and Talus Slopes	TAO, TAS, TAT, CLO, CLS, CLT	Cliff is vertical to near vertical >3 m tall Talus slope is rock rubble at base of a cliff made up of coarse rock debris	No	No	N/A
Sand Barren	SBO1, SBS1, SBT1	Typically >0.5 ha with exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion	SBO1-1	No	Does not meet size criteria
Alvar	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW	Typically >0.5 ha with level, mostly fractured calcareous bedrock	No	No	N/A
Old Growth Forest	FOD, FOM, SWD, SWC, SWM	Woodland areas 30 ha or greater with at least 10 ha interior habitat assuming 100 m buffer at edge of forest	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1	No	Does not meet size criteria
Savannah	TPS1, TPS2, TPW1, TPW2, CUS2	Any tallgrass prairie habitat that has tree cover between 25 - 60%	No	No	N/A
Tallgrass Prairie	TPO1, TPO2	Dominated by prairie grasses with < 25% tree cover	No	No	N/A
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities, refer to Appendix M of SWHTG	Beaches, fens, forest, marsh, barrens, dunes and swamps	No	No	N/A
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	MAS1 to 3, SAS1, SAM1, SAF1, MAM1 to 6, SWT1, SWT2, SWD1 to 4	Extends 120 m from a wetland (>0.5 ha) or a wetland (>0.5 ha) and any small wetlands or a cluster of 3 small wetlands where waterfowl nesting is known to occur	MAS2-1, MAM2-10, SWT2-2, SWT2-5	No	Does not meet size criteria
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands or in structures over water	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1, MAM2-10, MAS2-1, OAO	Yes	Not observed but could potentially occur
Woodland Raptor Nesting Habitat	All forested ecosites May also occur in SWC, SWM, SWD, CUP3	All natural or conifer plantation woodland / forest stands >30 ha with >10 ha of interior habitat	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1,	Yes	Presumed based on contiguous forest
Turtle Nesting Areas	Exposed minteral soil area adjacent (<100m) or within MAS1 to 3, SAS1, SAM1, SAF1, BOO1, FEO1	Close to water with sand and gravel that turtles are able to dig in, located in open sunny areas.	MAS2-1, SBO1-1	Yes	N/A
Seeps and Springs	Any forested Ecosite within a headwater area	Any forested area (with >25% meadow/field/pasture) within headwaters of a stream or river system	No	No	None observed

Significant Wildlife Habitat Screening					
Signficant Wildlife Habitat Type	**ELC Habitat (for internal use)**	**General Habitat Description**	**ELC Observed**	**SWH Present**	**Comments**
Amphibian Breeding Habitat (Woodland)	FOC, FOM, FOD, SWC, SWM, SWD	Presence of a wetland, pond or woodland pool >500m^2, within or adjacent to woodland	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1	No	No pools present
Amphibian Breeding Habitat (Wetlands)	Classes SW, MA, FE, BO, OA, SA Typically isolated (>120 m) from woodland ecosites	Wetlands >500m^2 (25m diameter), supporting high species diversity	SWC1-2, SWD2-1, MAM2-10, MAS2-1	Yes	N/A
Woodland Area-Sensitive Breeding Bird Habitat	FOC, FOM, FOD, SWC, SWM, SWD	Habitats where interior forest birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha	ES24.2, ES14.2, SWC1-2, SWD2-1	No	Does not meet age or size criteria
Habitat of Species of Conservation Concern (other than Threatened or Endangered)					
Marsh Breeding Bird Habitat	MAM1 to 6, SAS1, SAM1, SAF1, FEO1, BOO1 Green Heron: SW, MA, CUM1	Nesting occurs in wetlands consisting of shallow water with emergent aquatic vegetation Green Heron: edge water habitat	MAM2-10, SWC1-2, SWD2-1, SWT2-2, SWT2-5	Yes	N/A
Open Country Bird Breeding Habitat	CUM1, CUM2	Large grassland areas (including natural and cultural field and meadows) >30 ha	No	No	N/A
Shrub/Early Successional Bird Breeding Habitat	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub thicket habitats >10 ha in size	No	No	N/A
Terrestrial Crayfish	MAM1 to 6, MAS1 to 3, SWD, SWT, SWM CUM1 with inclusions above meadow marsh or swamp ecosites	Wet meadow edges of shallow marshes Only found in SW Ontario	MAM2-10, MAS2-1, SWD2-1, SWT2-2, SWT2-5	No	None observed
Special Concern and Rare Wildlife Species	Varies	All Special Concern and Provincially Rare plant and animal species. May also consider Area Sensitive and Culturally Sensitive Species	Yes	Yes	Eastern Wood-Pewee
Animal Movement Corridors					
Amphibian Movement Corridors	Corridors found in all ecosites associated with water, determined from breeding habitats	Determined as part of breeding habitat assessment	MAM2-10, MAS2-1, SWD2-1, SWT2-2, SWT2-5	Yes	N/A
Deer Movement Corridors	All forested Ecosites	All proposals within Stratum II Deer Wintering Area have potential for corridors	ES24.2, ES14.2, ES21.2, SWC1-2, SWD2-1	No	Verified using MNRF Deer Wintering layer
General Comments:					