

# **Environmental Impact Study (EIS)**

**Glen Robertson**

**Part Lot 8, Concession 9**

**Township of South Glengarry**

**United Counties of Stormont, Dundas and Glengarry**

**October 20, 2025**

Prepared By:



**BCH Environmental Consulting Inc.  
20373 Bethune Street,  
South Lancaster, On  
K0C 2C0**

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## 1.0. Introduction

As requested by Wilson Architectural Design, an Environmental Impact Study (EIS) was completed to assess the environmental impacts of a proposed development at the property located at Part of Lot 8, Concession 9, Glen Robertson, ON (Figure1).

### 1.1. Site Context

The entire property parcel (subject lands) is approximately 11.12 ha in size and the legal land description is Part Lot 8, Concession 9, Township of South Glengarry, Unites Counties of Stormont, Dundas and Glengarry. The proponent wishes to build an indoor training/gun range facility within the property. The identified building envelope is large enough to accommodate this facility, associated parking and services (well and septic). There is currently no dwelling within the property.

Within the townships Zoning by-law the subject lands were designated as rural. Portions are designated on the United Counties of Stormont, Dundas, and Glengarry Official Plan as salvage yard district, Rural district, organic soils, and aquatic habitat (watercourse). Additionally, the proposed development is located in Ecoregion 6E.

Through a background review, potential environmental constraints have been identified as: Wildland Fire Hazard, Natural Heritage Features (Wetland, Significant Wildlife Habitat, Significant Woodland and Watercourse), and Species at Risk.

The subject lands are located within the Raisin Region Conservation Authority jurisdiction. Regulated areas are present within the subject lands, additional permits may be required.

The Provincial Planning Statement (PPS) states that site development and alteration shall not be permitted in provincially significant wetlands in Ecoregion 6E and site development and alteration shall not be permitted in adjacent lands of provincially significant wetlands in Ecoregion 6E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. The PPS states that site development and alteration shall not be permitted in significant wildlife habitat and Significant Woodland in Ecoregion 6E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. Additionally, development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

## 2.0. Methodology

This report is prepared in accordance with the United Counties of Stormont, Dundas and Glengarry (2018) and with guidance from the Natural Heritage Reference Manual (OMNR, 2010). This EIS includes an assessment of the identified environmental constraints and the potential for Species at Risk.

This EIS will provide the methodology to mitigate, as required, negative impacts on natural heritage features and their functions. Potential Species at Risk in the general area were identified from the Ministry of Natural Resources and Forestry databases, the Department of Fisheries and Ocean databases, the Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas, iNaturalist and the Global Biodiversity Information Facility.

Colour aerial photography was used to assess the natural environment features in the general vicinity of the proposed development.

A field survey of the subject and adjacent lands was completed by BCH Environmental on August 27, 2025 from 0800h to 1100h (air temperature was 14°C, overcast, and light air). Staff qualifications are available in Appendix B.

The area was extensively walked and surveyed for natural heritage features, potential species at risk and their associated habitat.

Significant Wildlife Habitat was determined from the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement (OMNRF 2010).

Upland vegetation communities were described utilising the Ecological Land Classification Southern Manual (Lee et al. 1998), while wetland communities if present were described utilising the Ontario Wetland Evaluation System Southern Manual (MNRF 2022).

All butternut if present were assessed utilising Butternut Assessment Guidelines (OMRNF 2021) by Cody Fontaine. Cody has over 8 years of experience conducting butternut assessments. He is a butternut health assessor, a butternut health expert, and has aided for the Forest Gene Conservation Association of Ontario to assess the archivability of Category butternut 3 trees.

All black ash if present were assessed by utilising the Black Ash Assessment Guidelines: Assessment of Black Ash (*Fraxinus nigra*) for the purposes of the Endangered Species Act, 2007 June 2024 (MECP 2024) by Cody Fontaine.

Bat maternity roost surveys (snags, cavity, hollows, peeling bark, abandoned buildings/mines, rock crevices/outcrops, bedrock fissures, forest and foliage) were completed on August 16, 2025. BCH is aware this was during the leaf on period; the trees were highly visible to the canopy. BCH stands by the results of the survey.

Observed plants were recorded for each individual community, the plants utilized in the descriptions are the most abundant specimens observed. A complete observed species list is provided in Appendix A. Plants that could not be identified in the field were collected for a more detailed examination. Nomenclature used in this report follows the Southern Ontario Vascular Plant List (Bradley, 2013) which aligns with the Integrated Taxonomic Information System (ITIS).

FIGURE 1: SUBJECT LANDS

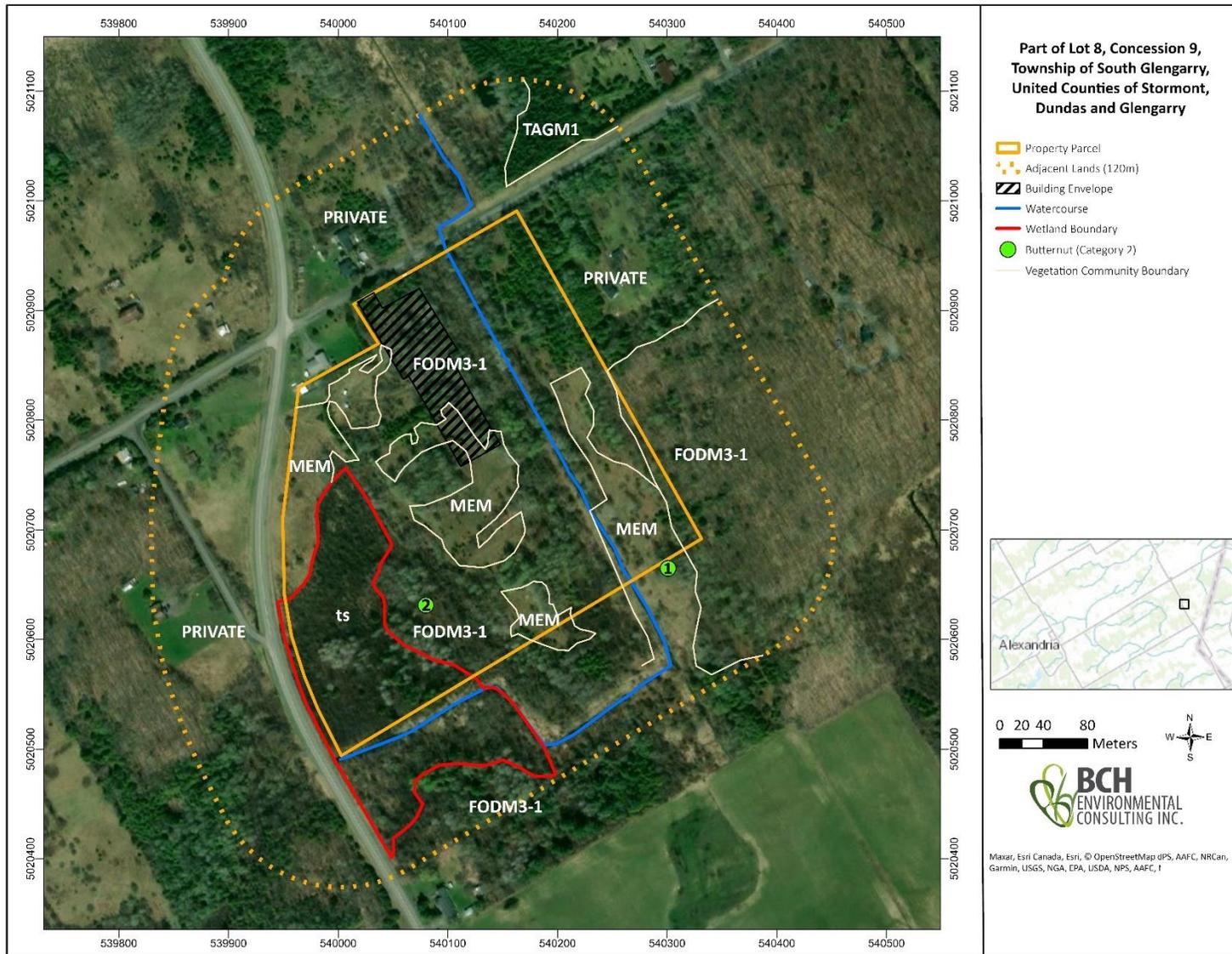
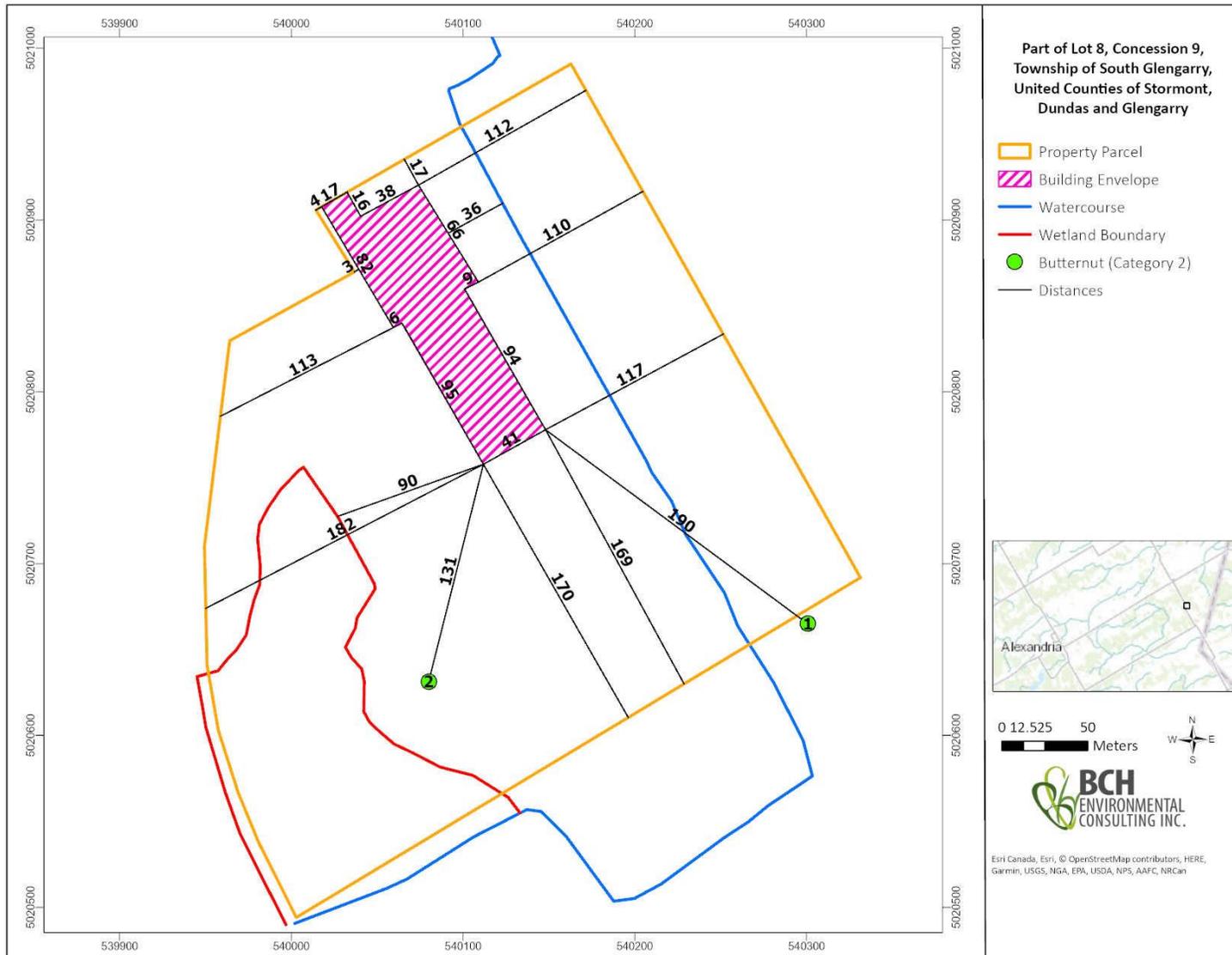


FIGURE 2: DISTANCES (Not a Survey)



### 3.0. Field Surveys

A butternut/black ash survey was conducted along with surveys for potential SAR Bat usage, pileated woodpecker nest and raptor nest by systematically moving through the subject lands and adjacent lands (discussed in section 3.2, 4.3 and 4.4). Vegetation communities are described in section 3.1.

#### 3.1. Existing Conditions

The subject lands consisted of forested and meadow areas and wetland habitat. A watercourse present within the subject lands. Forest, meadow and residential lands continued into the private adjacent lands. This site was historically disturbed, causing a mosaic of treed and meadow patches. The northwestern subject lands are within the Grenville and southern lands within the Muck soil series. Lands within the Grenville soils series is characterised by very deep, well drained loam formed in calcareous, dense till (MAFRA 2025). Lands within the Much soils series generally consist of organic deposits that have accumulated in shallow lakes, ponds or wet undrained depressions (MAFRA 2025).

##### 3.1.1. Dry – Fresh Poplar Deciduous Forest (FODM3-1)

This community makes up the entirety of the treed portions within the subject lands and continues into the adjacent lands. The average tree diameter was 15-35cm. The community consisted of 95% deciduous trees and 5% coniferous trees. The canopy was variable (10-13m tall; 25-85% cover) and consisted of trembling aspen which was much more than sugar maple which was more than black cherry which was more than white ash which was more than white cedar. The sub canopy was also variable (7-9m tall; 10-80% cover) and consisted of trembling aspen which was more than Manitoba maple which was more than sugar maple which was more than American elm which was more than black cherry which was more than green ash which was more than white cedar. The understory (0.5-3m tall; 30-60% cover) consisted of black raspberry, white ash, green ash, white cedar, sugar maple, bitternut hickory, common buckthorn, nannyberry, and apple. The ground cover (80-100% cover) included Canada goldenrod, common strawberry, grasses, Virginia creeper, lady fer, and riverbank grape.

Some small inclusions containing only trembling aspen and an area containing only white cedar were noted. Also, a narrow band containing only speckled alder was present.



**Photo 1: Dry – Fresh Poplar Deciduous Forest (August 27, 2025)**

### 3.1.2. Coniferous Plantation (TAGM1)

This community was present within the northeast adjacent lands. This community was a white pine and white spruce plantation (11-12m tall) comprised entirely of red pine or white spruce.



**Photo 2: Coniferous Plantation (August 27, 2025)**

### 3.1.3. Mixed Meadow (MEM)

This community was mixed in throughout the subject lands. Within this community the ground cover (100% cover) was dominated by goldenrods followed by grass, wild parsnip, common milkweed and daisy fleabane. A portion of one of the meadows was dominated by New England aster. The very occasional tree (apple, trembling aspen, white cedar; 1-5m tall) were noted within the meadow habitat.



Photo 3: Mixed Meadow (August 27, 2025)

#### 3.1.4. Tall Shrub Swamp (ts)

This wetland habitat was present within the southwestern portion of the subject lands. This wetland collects water from the surrounding subject lands and drains into the watercourse. During the August 27, 2025 visit, no water was present within the wetland. This wetland presented two forms: tall shrub (speckled alder, willows, glossy buckthorn, broad-leaved meadowsweet, and red osier dogwood, and robust emergent (common reed, narrow and broad-leaved cattail). The occasional American elm, trembling aspen, green ash and red maple were noted. This wetland doesn't represent suitable fish, amphibian or turtle habitat (lack of water and basking).



Photo 4: Tall Shrub Swamp (August 27, 2025)

### 3.1.5. Watercourse

This unnamed watercourse enters the subject lands within the northern border and exits through the southern border before flowing in a southwest direction within the adjacent lands. During the August 27, 2025 visit most of the watercourse was dry with small pockets of standing water. The average channel width and bank height were 3m and 25cm, respectively. The substrate consisted of fines. Aquatic vegetation was present within portions of the watercourse (reed canary grass, purple loosestrife, and spotted joe-pye weed), the remainder contained no cover.



Photo 5: Watercourse (August 27, 2025)

### 3.2. Bird Survey

A raptor nest survey was completed on August 27, 2025 by systematically traveling through the subject lands. No nesting sites were identified. Additionally, no pileated woodpecker nesting cavities were identified.

### 4.0. Potential Species at Risk

The Make a Map: Natural Heritage online database (OMNRF) was reviewed on August 26, 2025. This database provides sightings of provincially tracked species including Threatened and Endangered species covered by the 2008 Endangered Species Act in 1 km squares across most of Ontario. A search was conducted on the site and adjacent lands (18WR4019). The following species were identified for these squares:

- Eastern Wood Pewee (Special Concern)
- Eastern Meadowlark (Threatened)

The Ontario Breeding Bird Atlas provides a searchable database in the form of a 10km square grid. A query revealed the following Species at Risk were identified within the 10km square that encompasses the site and adjacent lands (18WR42):

- Chimney Swift (Threatened)
- Eastern Wood-Pewee (Special Concern)
- Wood Thrush (Special Concern)
- Barn Swallow (Special Concern)
- Bobolink (Threatened)
- Eastern Meadowlark (Threatened)

Similar to the Ontario Breeding Bird Atlas, the Ontario Reptile and Amphibian Atlas provides a searchable database in the form of a 10km square grid. A query revealed the following Species at Risk were identified within the 10km square that encompasses the subject lands and adjacent lands (18WR42):

- Snapping Turtle (Special Concern)

iNaturalist and the Global Biodiversity Information Facility provides a searchable database. A query revealed no Species at Risk in the vicinity of the Subject Lands.

The Department of Fisheries and Oceans provide species at risk sightings via their online map tool. A query found no Species at Risk in the vicinity of the site.

In addition to the above potential Species at Risk, other endangered and threatened species may potentially occur in the general area:

- Little Brown Myotis (Endangered)
- Northern Myotis (Endangered)
- Eastern Small-footed Myotis (Endangered)
- Tri-coloured Bat (Endangered)
- Eastern Red Bat (Endangered)
- Hoary Bat (Endangered)
- Silver-haired Bat (Endangered)
- Black Ash (Endangered)
- Butternut (Endangered)

#### 4.1. Turtles

Snapping turtle are designated as special concern under the Ontario Endangered Species Act (ESA). The habitat of species of special concern is not regulated under the Ontario ESA.

No suitable turtle habitat is present within the subject lands or adjacent lands. The wetland and watercourse habitat within the subject lands lacked water, basking opportunity and food source. No negative impacts to turtles are anticipated.

#### 4.2. Birds

Eastern wood-pewee, barn swallow, and wood thrush are designated special concern under the Ontario Endangered Species Act (ESA). The habitat of species of special concern is not regulated under the Ontario ESA. The eastern wood-pewee is mostly associated with the mid-canopy layer of forest clearings and edges of deciduous and mixed forests (COSEWIC 2012a). This habitat was not present. Barn swallow nest sites are commonly found along the interior or exterior of building structures, under bridges and wharves, and in road culverts (Heagy et al. 2014.). No barn swallow or barn swallow nests were

observed. The wood thrush nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers (COSEWIC 2012b). This habitat was not present.

Chimney swift, bobolink, and eastern meadowlark are designated as threatened under the Ontario Endangered Species Act (ESA). Chimney swift are aerial foragers, associated with water where insects are abundant and urban and rural areas where chimneys are available for nesting and roosting (COSEWIC 2007b). No suitable chimneys were observed for this species use. Bobolink and eastern meadowlark are associated with native and non-native larger grassland habitats such as hayfields (COSEWIC 2010, and COSEWIC 2011). This habitat was not present within the subject lands.

No direct impacts on birds are anticipated, indirect impacts on these species as a result of the proposed development can be mitigated provided the mitigation measures in this report are properly implemented.

Further to this, nesting migratory birds are protected under the Migratory Birds Convention Act (MBCA). No work is permitted that would result in the destruction of active nests (nests with eggs or young birds) or the wounding or killing of bird species protected under the MBCA and/or associated regulations.

### 4.3. Mammals

Little brown Myotis, northern Myotis, eastern small-footed Myotis, eastern red bat, hoary bat, silver-haired bat and tri-coloured bat are designated endangered under the Ontario Endangered Species Act (ESA). The Atlas of Mammals of Ontario (Dobbyn, 1994) suggests that the tri-colored bat is not present within this part of Ontario however, the NatureServe mapping in the COSSARO (2015) includes all of southeastern Ontario. Based on this information, this species is considered to have a very low potential of occurring.

Habitat for the little brown Myotis, northern Myotis, eastern small-footed Myotis and tri-coloured bat is composed of hibernacula for overwinter survival and summering areas with suitable foraging areas within commuting range to structures used for roosting or maternity colonies. None of the four species typically overwinters in buildings they instead utilize caves. In spring, females of each of these four species leave winter hibernacula and give birth and raise pups in maternity colonies. Maternity colonies are established by females in the summer, often in buildings, or large-diameter trees with suitable maternity roost (snags, cavity, hollows and peeling bark; COSEWIC 2013b). The only exception is the eastern small-footed myotis which established maternity colonies on abandoned buildings/mines (voids and crevices), large rock outcrops, rock crevices, and bedrock fissures (Humphrey 2017). No caves, bedrock fissures, mining shafts, abandoned buildings, or other features which may function as bat hibernacula habitat were noted within the subject lands. Suitable maternity roost surveys (snags, cavity, hollows, peeling bark, abandoned buildings/mines, rock crevices/outcrops and bedrock fissures) were completed during (see section 2.0 for methods). During this survey no features were identified as containing suitable maternity features for these four bats.

Eastern red bat, hoary bat, silver-haired bat migrates from summer (Canada) to winter area and then hibernate (Outside of Canada). Trees used as maternity roosts (maternity roost are solo or occasionally in small colonies) by Hoary Bats and Eastern Red Bats tend to be in forest, have a large diameter and tall, reaching or exceeding the height of the surrounding forest canopy, these species roost in the foliage (COSEWIC 2022). Within the subject and adjacent lands, the canopy was uniform with no trees exceeding the height of the forest canopy. Hoary Bats and Eastern Red Bats are not considered to be utilising the subject lands and adjacent lands as maternity roosts. Silver-haired bats generally roost in small groups

within tree cavities or under bark Suitable maternity roost surveys (snags, cavity, hollows, peeling bark,) were completed (see section 2.0 for methods). During this survey no trees were identified as containing suitable maternity features for silver-haired bats.

All bats utilise buildings and larger trees for day roosts during the summer months. To prevent impacts to bats, no clearing of trees greater than 10cm on-site should take place between March 15 and November 30 (inclusive) without a qualified biologist first confirming the absence of bats (i.e., open work timing window from December 1 to March 14). If tree clearing is conducted between December 1 and March 15, no interactions with bats are anticipated, and therefore, significant negative impacts to SAR bats would be avoided.

No negative impacts to bats are anticipated, mitigation measures present within section 10.0 will mitigate any indirect impacts.

#### 4.4. Vegetation

Butternut (designated as endangered by the ESA) tends to reach greatest abundance in rich well-drained mesic loams in floodplains, streambanks, terraces and ravine slopes, but can occur in a wide range of other situations (COSEWIC 2017a). Two butternuts were observed, one within the subject lands and one within the adjacent 50m. Both butternuts were determined to be category 2, as such, a 21m setback has been established around each respective butternut. All development is restricted to the building envelope which is at a minimum of 131m from the closest butternut, no further actions is required.

Black ash (designated as endangered by the ESA) occurs most frequently in floodplain forests, basin, seepage and lacustrine swamp forests, shoreline forest margins, and fens (COSEWIC 2018a). No black ash were observed.

#### 4.5. Species at Risk Summary

In summary, based on the field surveys and habitat present within the subject lands and adjacent lands the species utilising these lands are limited to SAR bats and butternut. As demonstrated throughout section 4.0 no negative impacts to the species at risk are anticipated. Mitigation measures present in section 10.0 will mitigate any potential negative impacts to species at risk.

### 5.0. Natural Heritage Features

Natural Heritage Features have been identified in accordance with the direction of the Provincial Policy Statement. Its intent is to reinforce the conservation, restoration, and enhancement of identified natural heritage features and areas and promote the overall diversity and interconnectivity of natural heritage features and areas.

A refined search identified the following Potential Natural Heritage Features (discussion below):  
Wetland, Watercourse (Fish Habitat), Significant Wildlife Habitat and Significant Woodland.

#### 5.1. Wetland

The wetland has been taken into account while establishing the building envelope, a 30m setback has been established and all development is outside of said setback.

The counties OP states that “It is a policy to conserve and protect wetlands for their ecological functions including flood prevention, water quality improvement, economic and recreational opportunities, and wildlife habitat. Development and/or site alteration will not be permitted in a provincially significant wetland. This protection shall also be reflected in the implementing zoning by-laws and supported by Conservation Authority regulations and policies”

The wetland in question is unevaluated, it is the authors opinion that evaluation is unnecessary as this wetland is small, and not ecologically diverse therefore would not meet the requirements for significance. The OP protects provincially significant wetland and locally significant wetlands. This wetland is neither of those two and is not protected under the OP. Regardless of lack of protection in the OP, all wetlands are regulated by the Conservation Authority and if encroachment (within 30m) or disturbances is sought authorization from the CA is required. Currently all development is setback 30m from the wetland. Potential impacts to this feature include sedimentation, change in hydrology and change in water quality. No negative impacts to the wetland are anticipated. The 30m setback will remain naturally vegetated which will protect the wetland from sedimentation, and changes in water quality.

Mitigation measures present within section 10 will limit the potential for indirect impacts on the wetland.

## 5.2. Watercourse (Fish Habitat)

This watercourse was a man-made dug drainage ditch and flows in a south direction through the subject lands before turning and flowing west within the southern adjacent lands. During the field visit the watercourse was dry. This watercourse may represent seasonal fish habitat and amphibian breeding habitat. As no sampling for fish has occurred, a 30m setback will be put into place. The building envelope is at a minimum of 30m from the watercourse.

The counties OP states that:

*‘It is the intent of this Official Plan to conserve shoreline features, protect the ecological functions of shorelines and preserve or improve water quality. In order to achieve these goals, all site alteration and development shall be generally setback a minimum of 30 metres from the normal high-water mark of any water body. For new lot creation, the minimum setback shall be the greater of: the development limits established by the regulatory flood line, the development limits as established by a geotechnical study, or 30 metres from the normal high-water mark of any water body. Reductions to any setback shall not require an amendment to this plan and may be considered in consultation with the local Conservation Authority. Standards for vegetation clearing to provide for shoreline access and views shall be established in implementing zoning by-laws. For existing lots of record that cannot meet a 30 metre setback from the normal high-water mark due to physical constraints, the configuration of the lot or other development restrictions, the minimum setback may be reduced provided that any alterations to an existing structure or the construction of a new structure occurs at a setback from the normal high-water mark that is as far back from the shoreline as the constraints of the lot will allow, in consultation with the local Conservation Authority. Standards for vegetation clearing to provide for shoreline access and views shall be established in implementing zoning by-laws’.*

Regulations under the Conservation Authorities Act is used to govern the placing or dumping of fill, the straightening, changing, altering, diverting or interfering with an existing channel, stream or waterway or the construction of any buildings or structures within the areas defined by those regulations (30m from the watercourse) for the Raisin Region Conservation Authority. A permit shall be obtained from the respective authority prior to the issuance of a building permit within 30m of the watercourse.

Potential impacts to this feature include sedimentation, change in hydrology and change in water quality. No negative impacts to the watercourse is anticipated. The 30m setback will remain naturally vegetated which will protect the watercourse from sedimentation, and changes in water quality.

Mitigation measures present within section 10 will limit the potential for indirect impacts on the wetland.

### 5.3. Significant Wildlife Habitat

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNRF (2015). Potential components which may lead to a designation of significant wildlife habitat include seasonal concentration areas of animals, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern, and animal movement corridors. No rare vegetative communities, raptor overwintering sites, old growth forest, caves were located within the subject or adjacent lands. No targeted surveys for breeding birds, breeding waterfowl, turtles & lizards, and amphibians as it was deemed unnecessary (for SWH associated with these species assumptions were made based on field visits and the characteristics of the study area). SWH was determined to be present through desktop review and field visits.

There is potential for Significant Wildlife Habitat within the wetland present in the subject lands (Specialized Habitats of Wildlife- Amphibian Breeding Habitat).

No significant wildlife is present within the building envelope; all development is outside of Amphibian Breeding Habitat (30m setback surrounding the wetland and watercourse). Additionally, it is the responsibility of the municipality to determine what significant wildlife habitat gets protected, it appears that these features are not specifically addressed within the official plans and therefore receive no protection (unless directed by the municipality to do otherwise).

Prescribed mitigation measures in section 10.0 will limit the potential for indirect impacts.

### 5.4. Significant Woodland

The significance of woodlands has been evaluated using the criteria in the Natural Heritage Reference Manual (OMNR, 2010) by The Ministry of Natural Resources and Forestry (MNRF).

The woodland within the subject lands is part of a larger woodland that totals approximately 85.56 ha in size. Clearing for this project would result in the removal of 0.67 ha of forest. The significance of this woodland was evaluated using the criteria in the Natural Heritage Reference Manual (OMNR, 2010). The PPS does not permit development in significant woodlands south and east of the Canadian Shield unless it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions. Woodlands are significant if they meet the criteria presented by the NHRM: size, ecological function, uncommon characteristics, and economical and social functional values. If the woodland meets

any one of these criteria, then it could be deemed to be significant. Table 1 demonstrates the factors determining significance pre and post construction.

Within the portion proposed to be removed there were no seasonal concentration areas of animals, rare vegetative communities, raptor overwintering sites, or caves.

TABLE 1: WOODLAND ANALYSIS

CRITERIA		PRE CONSTRUCTION	POST CONSTRUCTION	DISCUSSION
WOODLAND SIZE		MEETS THE CRITERIA		The woodland is located within the Raisin River watershed where the percent forest cover is on average 36%. For woodlands about 30–60% of the land cover, woodlands 50 ha in size or larger should be considered significant. This woodland is 85.56ha in size before removal and 84.89 ha after removal. Therefore, the size of this woodland meets the criteria.
ECOLOGICAL FUNCTION CRITERIA	Woodland Interior	MEETS THE CRITERIA		For woodlands cover that occupies about 30-60% of the land cover, woodlands 8 ha or more of interior habitat should be considered significant  The interior forest 21.08ha and remains unimpacted by removal. Therefore, woodland interior meets the criteria before and after removal
	Proximity to other woodlands or other habitats	MEETS THE CRITERIA		Both inside and outside of the subject lands this woodland connects with watercourse habitat. They are likely receiving ecological benefit from the woodland.
	Linkages	DOES NOT MEET THE CRITERIA		Woodland is not located within a defined natural heritage system or providing a connecting link

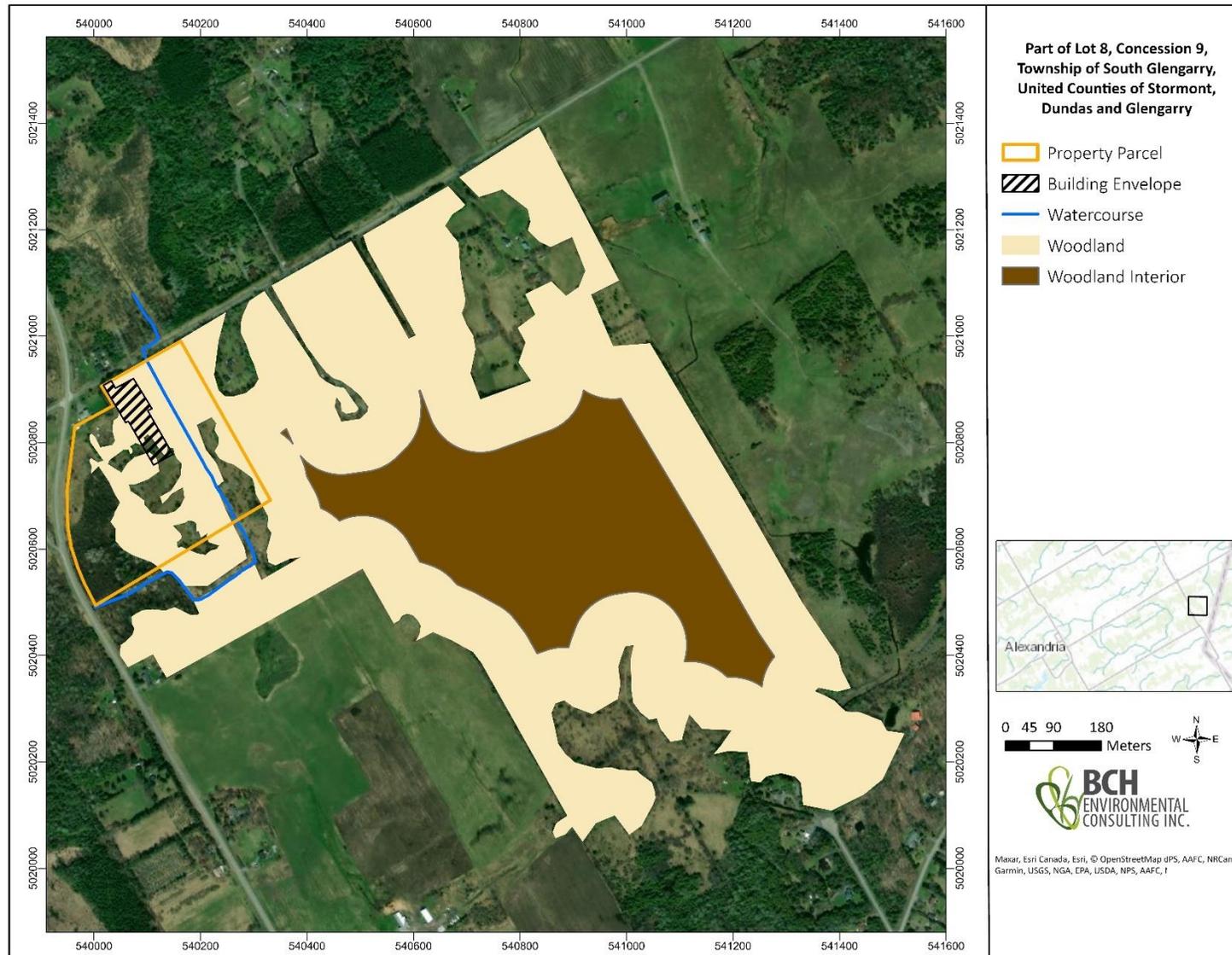
CRITERIA	PRE CONSTRUCTION	POST CONSTRUCTION	DISCUSSION
			between two other significant features
Water protection	MEETS THE CRITERIA		Woodland is located within watercourses and fish habitat.
Woodland diversity	DOES NOT MEET THE CRITERIA		Within the subject lands this forest did not contain any declining natural communities or a high variety of native diversity through composition or terrain.
<b>UNCOMMON CHARACTERISTICS CRITERIA</b>	DOES NOT MEET THE CRITERIA		Within the subject lands there are no uncommon species composition, cover type, age, or structure.
<b>ECONOMIC AND SOCIAL FUNCTIONAL VALUES CRITERIA</b>	DOES NOT MEET THE CRITERIA		Within the subject lands the woodlands did not have high economic or social values through particular site characteristics or deliberate management.

As per the criteria set out in the NHRM this woodland should be considered significant, furthermore the woodland retains this designation of significant even after construction is completed. This woodlands significance was established from the following criteria: size, woodland interior, proximity to other habitats and water protection. After removal (0.67ha), the woodland (84.89ha after removal) still meets the criteria for significance (Table 1).

The NHRM defined the ecological function of significant woodlands as Woodland Interior, Proximity to other woodlands or other habitats, Linkages, Water protection and Woodland diversity. As demonstrated in Table 1 the ecological function of the significant woodland is preserved.

Removal of 0.67ha of the forest at this location will not negatively impact this feature or its ecological functions. Woodland significance is retained. Indirect impacts on this woodland as a result of the proposed development can be mitigated provided the mitigation measures in this report are properly implemented.

FIGURE 3: WOODLAND



## 6.0. Organic Soils

Where lands that are the subject of development proposals have been identified as potentially possessing organic soils, development will be encouraged to locate outside of areas identified with organic soils, where feasible. Where development is proposed in areas containing organic soils, the approval authority may request sufficient soils and geotechnical engineering information to indicate that the lands are either suitable or can be made suitable for development. Organic soil has been identified by the township as potentially occurring within the subject lands. The approval authority may request sufficient soils and geotechnical engineering information to indicate that the lands are either suitable or can be made suitable for development.

## 7.0. Tree Protection

Tree removal will occur as needed within the subject lands; a reasonable effort will be made to retain a majority of the trees. Potential impacts during construction include impacts on wildlife, increased erosion and release of sediments and other potential contaminants from truck traffic and construction activity, harm to wildlife remaining in the work area during construction, and impacts associated with an increase in noise, dust, and light. Tree removal within the building envelope is not anticipated to result in significant negative impacts to the environmental features and functions of the general area. Any tree in the vicinity of works but not slated for removal will have its critical roots zone protected by temporary fencing (snow fencing) to ensure it is not affected.

Prescribed mitigation measures in section 10.0 will limit the potential for indirect impacts.

## 8.0. Wildland Fire

The wildland fire policy was introduced in the 2014 Provincial Policy Statement to ensure communities consider and plan for avoiding and mitigating losses to their communities due to wildland fire. As outlined in the Provincial Policy Statement, "Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards".

The subject lands have no designation within the counties official plan.

### 8.1. Level 1 Site Assessment

Following review of the available information provided in this report and the guidelines as outlined in the MNR Wildland Fire Risk Assessment and Mitigation Guidebook the subject lands have been deemed a low risk to wildland fires as such no further mitigation measures are required for the proposed development. This was determined by multiple factors: (1) Species compositions, deciduous trees are present within the subject lands surrounding coniferous species. (2) The majority of the site was fresh to moist (3) No needle buildup. (4) The white cedar present onsite represent a fairly low risk tree. (5) Minimal understory. All these factors indicate that there is a low risk of wildland fires, and no further action is required. See section 3.1. for description and pictures of the vegetation communities.

## 9.0. Development Constraints, Cumulative Impacts and Climate Change

No significant constraints, regulatory requirements, or buffer requirements have been identified in relation to Significant Woodland and Significant Wildlife Habitat.

Wetland and Watercourse: Has been taken into account while establishing the developable areas the design incorporates a 30m watercourse/wetland setback.

Species at Risk: Constraints regarding potential species at risk is examined in depth within section 4.0.

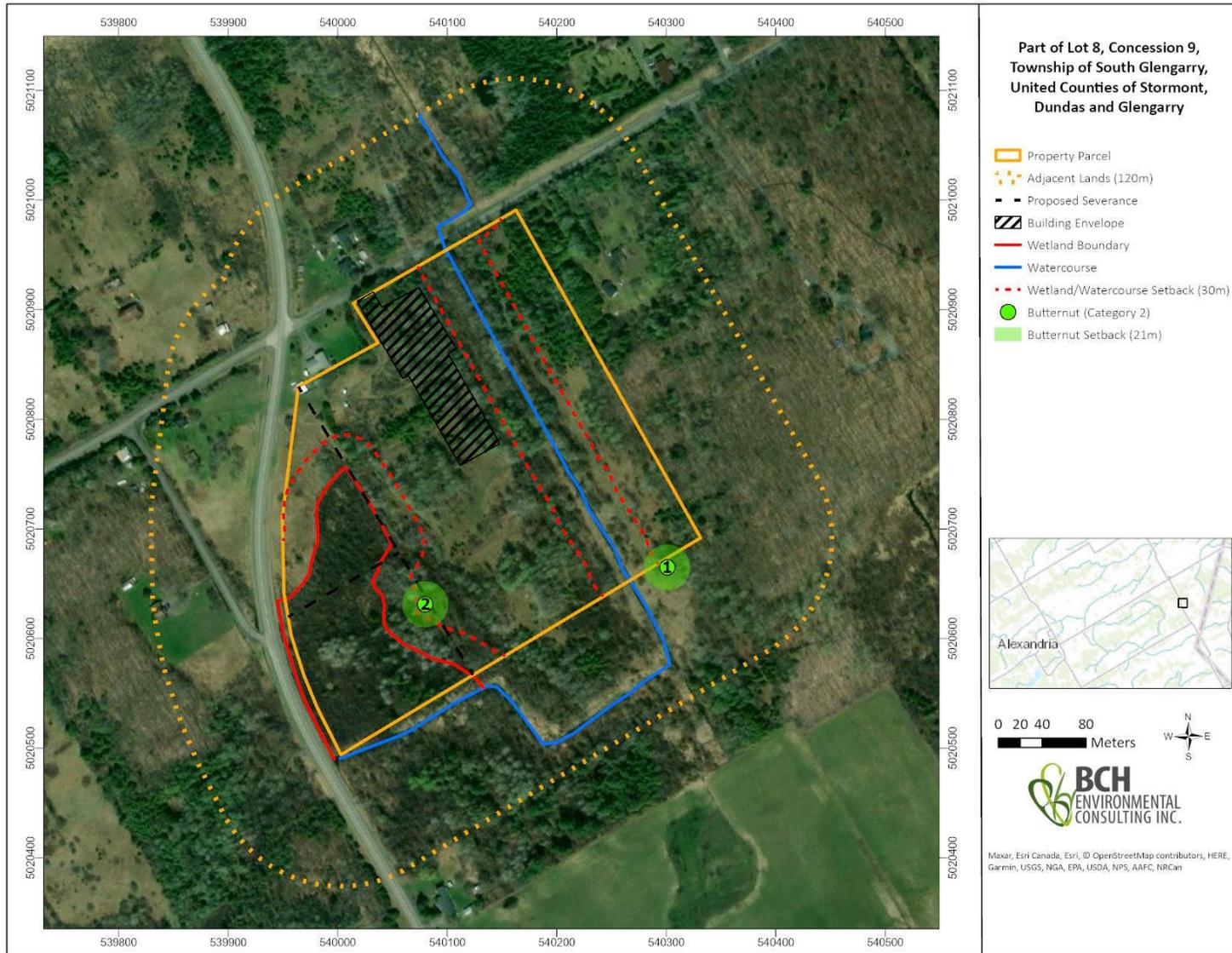
The Canadian Environmental Assessment Agency (CEAA) defines cumulative effects as...“the effects on the environment caused by an action in combination with other past, present, and future human actions...” They occur when two or more project-related environmental effects, or two or more independent projects, combine to produce an augmented effect. These cumulative effects may be positive or negative.

Given the small nature of these proposed works, there is very little impacts to the natural landscape, but continual development within the surrounding area could result in a slow chipping away at the natural landscape. The EIS limits further development within this property parcel (development limited to the building envelope).

The subject lands currently consist of forested areas, meadow, watercourse and wetland. To aid in mitigating the potential for extreme heat and drought where possible native trees should be considered for planting within remnant green spaces after development along with retaining, where possible, present tree cover. The shade produced by these trees will aid in mitigating heat being produced by hardened surfaces. Additional measures such as designing building and infrastructure to be resilient in future climate conditions such as extreme weather, greater rainfall and higher temperatures should be considered.

With proper implementation of the mitigation measures described in this report it is anticipated that the proposed development will not increase the potential for cumulative effects in the general landscape.

FIGURE 4: ENVIRONMENTAL CONSTRAINTS



## 10.0. Recommendations and Conclusion

This study's recommendations are intended to mitigate potential negative impacts due to the proposed severance and should be implemented through a development agreement between the owners and the municipality in order to control development of the site.

### 10.1. Mitigation for the Species at Risk and Migratory Birds Convention Act

- 1- To protect breeding birds, no tree or shrub removal should occur between March 31<sup>st</sup> and August 31<sup>st</sup>, unless a breeding bird survey is completed by a qualified biologist within five days of the woody vegetation removal and identifies no nesting activity.
- 2- To prevent impacts to bats, no clearing of trees greater than 10cm on-site should take place between March 15 and November 30 (inclusive) without a qualified biologist first confirming the absence of bats (i.e., open work timing window from December 1 to March 14). If tree clearing is conducted between December 1 and March 14, no interactions with bats are anticipated, and therefore, significant negative impacts to SAR bats would be avoided.
- 3- No works are to occur within 21m of any butternut. Works restricted to the building envelope.
- 4- Construction staff is to be made aware of the characteristics of species at risk and in the event that any Species at Risk (SAR) are encountered during site clearing, work in the area will be stopped immediately. Measures will be undertaken to ensure the animal is not harmed and the project biologist and the Ministry of the Environment, Conservation and Parks contacted to discuss how to proceed.

### 10.2. Wetland, Watercourse and Fish Habitat Protection Recommendations and Mitigation Measures

- 1- All buildings or associated services will occur more than 30 m from the edge of the wetland and watercourse and be restricted to the 0.79ha building envelope.
- 2- The hydrology and quality of the wetland and watercourse should not be impacted and should be maintained.
- 3- A 30m setback has been established along the wetland boundary and watercourse.
- 4- All lands within 30m of any wetlands and watercourse are to be maintained in a natural vegetated state.

### 10.3. Mitigation for Tree Protection

- 1- Development shall be limited to the identified building envelope.
- 2- Any tree in the vicinity of works but not slated for removal will have its critical roots zone protected by sturdy temporary fencing at least 1.3 metres in height installed from the tree trunk to a distance of ten times the retained tree's diameter where possible.
- 3- No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling, or other activities that may cause soil compaction are to occur within three metres of the critical root zone of the trees to be protected.
- 4- The root system, trunk, and branches of the trees to be protected are to be protected and not damaged. If any roots of trees to be retained are exposed during site alterations, the roots shall

be immediately reburied with soil or covered with filter cloth, burlap or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Overhanging branches from protected trees that may be damaged during construction are to be pruned by a qualified arborist prior to construction.

- 5- Exhaust fumes from all equipment during construction will not be directed towards the canopy of the adjacent protected trees.

#### 10.4. Additional Mitigation Measures

- 1- The extent of any vegetation removal is to be minimized where possible and restricted to the building envelope.
- 2- All rules governing septic systems and wells must be followed and be kept in good operational order.
- 3- There will be no use of herbicides in clearing of vegetation.
- 4- Municipal by-laws and provincial regulations for noise will be followed.
- 5- To discourage wildlife from entering the work areas during construction, the site should be kept clear of food wastes and other garbage. Proper drainage should be provided to avoid accumulation of standing water, which could attract amphibians, birds, and other wildlife to the work areas.

To conclude this EIS, no negative impact to natural heritage features present, or any habitat of species at risk are anticipated. Mitigation measures present will limit indirect impact of the proposed development on any natural heritage features present, or any habitat of species at risk.

Thank you for the opportunity to work with you. If you have any questions or comments, please do not hesitate to contact our office.



Shaun St.Pierre, B.Sc. Biology



Cody Fontaine, Wildlife Technologist

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APPENDIX A: OBSERVED SPECIES LIST

COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	COEFF. CONSERVATISM
Field Horsetail	<i>Equisetum arvense</i>	S5			0
Bracken Fern	<i>Pteridium aquilinum</i>	S5			2
New England Aster	<i>Symphotrichum novae-angliae</i>	S5			2
Common Lady Fern	<i>Athyrium filix-femina</i>	S5			4
Ostrich Fern	<i>Matteuccia struthiopteris</i>	S5			5
Sensitive Fern	<i>Onoclea sensibilis</i>	S5			4
Balsam Fir	<i>Abies balsamea</i>	S5			5
Tamarack	<i>Larix laricina</i>	S5			7
White Spruce	<i>Picea glauca</i>	S5			6
Red Pine	<i>Pinus resinosa</i>	S5			8
Eastern White Pine	<i>Pinus strobus</i>	S5			4
Eastern White Cedar	<i>Thuja occidentalis</i>	S5			4
Narrowleaf Cattail	<i>Typha angustifolia</i>	SNA			
Lake Sedge	<i>Carex lacustris</i>	S5			5
Slender Willow	<i>Salix petiolaris</i>	S5			3
Common Reed	<i>Phragmites australis</i>	S4?			0
Softstem Bulrush	<i>Schoenoplectus tabernaemontani</i>	S5			5
Trembling Aspen	<i>Populus tremuloides</i>	S5			2
Pussy Willow	<i>Salix discolor</i>	S5			3
Bitternut Hickory	<i>Carya cordiformis</i>	S5			6
Butternut	<i>Juglans cinerea</i>	S2?	END	END	6
Speckled Alder	<i>Alnus incana ssp. rugosa</i>	S5			6
White Birch	<i>Betula papyrifera</i>	S5			2
Gray Birch	<i>Betula populifolia</i>	S4			5
Bur Oak	<i>Quercus macrocarpa</i>	S5			5
American Elm	<i>Ulmus americana</i>	S5			3
Virginia Virgin's-bower	<i>Clematis virginiana</i>	S5			3
Tall Meadow-rue	<i>Thalictrum pubescens</i>	S5			5
Wild Black Currant	<i>Ribes americanum</i>	S5			4
Common Strawberry	<i>Fragaria virginiana</i>	S5			2
Common Apple	<i>Malus pumila</i>	SNA			
Common Blackberry	<i>Rubus allegheniensis</i>	S5			2
Black Raspberry	<i>Rubus occidentalis</i>	S5			2
Dwarf Raspberry	<i>Rubus pubescens</i>	S5			4
Goldenrods	<i>Solidago sp.</i>				
Canada Goldenrod	<i>Solidago canadensis</i>	S5			1
Zigzag Goldenrod	<i>Solidago flexicaulis</i>	S5			6
Wild Red Raspberry	<i>Rubus idaeus ssp. strigosus</i>	S5			2

COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	COEFF. CONSERVATISM
Black Medic	<i>Medicago lupulina</i>	SNA			
White Sweet Clover	<i>Melilotus albus</i>	SNA			
Red Clover	<i>Trifolium pratense</i>	SNA			
White Clover	<i>Trifolium repens</i>	SNA			
Cow Vetch	<i>Vicia cracca</i>	SNA			
Poison Ivy	<i>Toxicodendron radicans</i>	S5			2
Staghorn Sumac	<i>Rhus hirta</i>	S5			1
Manitoba Maple	<i>Acer negundo</i>	S5			0
Red Maple	<i>Acer rubrum</i>	S5			4
Silver Maple	<i>Acer saccharinum</i>	S5			5
Sugar Maple	<i>Acer saccharum</i>	S5			4
Black Maple	<i>Acer nigrum</i>	S4?			7
Spotted Jewelweed	<i>Impatiens capensis</i>	S5			4
Common Buckthorn	<i>Rhamnus cathartica</i>	SNA			
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	S4?			6
Riverbank Grape	<i>Vitis riparia</i>	S5			0
American Basswood	<i>Tilia americana var. americana</i>	S5			4
Purple Loosestrife	<i>Lythrum salicaria</i>	SNA			
Wild Sarsaparilla	<i>Aralia nudicaulis</i>	S5			4
Wild Carrot	<i>Daucus carota</i>	SNA			
Wild Parsnip	<i>Pastinaca sativa</i>	SNA			
Alternate-leaved Dogwood	<i>Cornus alternifolia</i>	S5			6
Red-osier Dogwood	<i>Cornus sericea</i>	S5			2
White Ash	<i>Fraxinus americana</i>	S4			4
Green Ash	<i>Fraxinus pennsylvanica</i>	S4			3
Spreading Dogbane	<i>Apocynum androsaemifolium</i>	S5			3
Common Milkweed	<i>Asclepias syriaca</i>	S5			0
White Turtlehead	<i>Chelone glabra</i>	S5			7
Red Elderberry	<i>Sambucus racemosa</i>	S5			5
Common Plantain	<i>Plantago major</i>	SNA			
Tatarian Honeysuckle	<i>Lonicera tatarica</i>	SNA			
Maple-leaved Viburnum	<i>Viburnum acerifolium</i>	S5			6
Nannyberry	<i>Viburnum lentago</i>	S5			4
Common Ragweed	<i>Ambrosia artemisiifolia</i>	S5			0
Chicory	<i>Cichorium intybus</i>	SNA			
Canada Thistle	<i>Cirsium arvense</i>	SNA			
Daisy Fleabane	<i>Erigeron annuus</i>	S5			0
Spotted Joe Pye Weed	<i>Eutrochium maculatum</i>	S5			3
Common White Snakeroot	<i>Ageratina altissima var. altissima</i>	S5			5
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	S5			2

COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	COEFF. CONSERVATISM
Black-eyed Susan	<i>Rudbeckia hirta</i>	S5			0
Early Goldenrod	<i>Solidago juncea</i>	S5			3
Field Sow-thistle	<i>Sonchus arvensis</i>	SNA			
Black-girdle Bulrush	<i>Scirpus atrocinctus</i>	S5			5
Common Timothy	<i>Phleum pratense ssp. pratense</i>	SNA			
Canada Enchanter's Nightshade	<i>Circaea canadensis ssp. canadensis</i>	S5			2
Black Cherry	<i>Prunus serotina var. serotina</i>	S5			3
Reed Canary Grass	<i>Phalaris arundinacea var. arundinacea</i>	S5			0
Grasses					
Blue Jay	<i>Cyanocitta cristata</i>	S5			
Black-capped Chickadee	<i>Poecile atricapilla</i>	S5			
American Crow	<i>Corvus brachyrhynchos</i>	S5B			

## APPENDIX B: QUALIFICATIONS

### **SHAUN M. ST.PIERRE, B.Sc. Biology**

#### **EDUCATION**

B.Sc. Biology, Trent University 2007

Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2005

Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2004

#### **LANGUAGES**

Fluent in French and English

#### **POSITIONS HELD**

2018 - : BCH Environmental Consulting Inc., Biologist / Owner

2006-2017: Bowfin Environmental Consulting Inc., Biologist / GIS Specialist / Environmental Site Inspector

2005: St. Lawrence River Institute of Environmental Sciences, Field Research Assistant

2004: MNR Kawartha Lakes, Field Research Assistant

2003: DFO- Experimental Lake Area, Field Research Assistant

2001: Resource Stewardship S, D &G, Stewardship Ranger

#### **CERTIFICATIONS / PROFESSIONAL AFFILIATIONS**

MTO/DFO/OMNR Fisheries Protocol, Ecological Land Classification, Certified in Inventory and Identification Methods for Ontario's Reptiles and Amphibians, North American Benthological Society (NABS) Certified Family Level Taxonomist, Ontario Benthos Biomonitoring Network (OBBN), Ontario Stream Assessment Protocol (OSAP), Certified Ontario Wetland Evaluator (OWES), Butternut Health Assessor (BHA), first aid, CPR, Pleasure Craft Operator Card, Marine Radio Operator, WHMIS, WHSA, Hazard Identification, Assessment and Control, All Terrain Vehicle Riders Course (issued by the Manitoba Safety Council), Water Safety Training (Bronze Cross), Possession / Acquisition Firearms Licence, Ontario Hunter Education Course Certificate, Ontario Trapper Education Course Certificate, Wildlife Chemical Immobilization, Vaccination, and Euthanasia- Certificate of Knowledge, South Lancaster Fish and Game Club (SLFGC; president 2012 and 2013; executive member 2014-2018), Ontario class G driver's license, and Snowmobile License.

#### **EXPERIENCE**

Experience in environmental impact assessments, environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, avian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of aquatic invertebrate, collection and identification of fish, fish salvage, fish behavioral studies, winter bat hibernaculum inventories and fisheries inventories including habitat mapping, electroshocking, FWIN and RIN. Other experience include GIS mapping.

#### **Environmental and Fisheries Inspections**

- Provided environmental and fisheries inspections for the construction of the Cataraqui Crossing HWY 401-MTO (Kingston, ON).
- Provided environmental and fisheries inspections for the construction of the Three Nations Bridge including surveys for nesting species at risk (Cornwall, ON).
- Provided environmental and fisheries inspections for construction (Ottawa, ON).
- Conducted nest surveys (Kemptonville, ON.; Stittsville, ON.; Cornwall, ON.)
- Conducted environmental inspections for the construction of the Clarkson WWTP outfall, Lake Ontario.
- Conducted environmental inspections for the construction of a new bridge crossing Bearbrook Creek along the 417.
- Provided environmental and fisheries inspections for the blasting and drilling operation for the Burloak Water Purification Tunnel project (Burlington, ON).

- Provided environmental and fisheries inspections for the construction of the Poole Creek Re-alignment/Huntmar Drive Crossing.

### **Species at Risk Inventories / Monitoring**

- Butternut survey and assessment for proposed developments (Brockville, Carleton Place, Carp, Clarence-Rockland, Cornwall, Munster, Hawkesbury, Kemptville, Ottawa, South Lancaster, Smith Falls, Stittsville, Prospect, Vars, Moose Creek, Prescott, Westminster, Renfrew, Battersea, Jones Falls, and Millbrook).
- American Eel surveys using the boat electrofisher on the Mississippi River (Almonte, ON), South Nation River (Casselman, ON) and Ottawa River (Renfrew, ON; Ottawa, ON: Shawville, QC)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- American Ginseng survey for proposed development (Kanata, South Lancaster and Renfrew).
- Whip-poor-will survey for proposed development (Navan, ON; Kemptville, ON; Stittsville, ON; Prescott, ON; Alexandria, ON) and quarries (Avonmore, Moosecreek, Prospect, Stittsville, Kanata, Ottawa)
- Assisted in a Least Bittern survey (Avonmore, ON)
- Conducted turtle surveys: Blanding's turtle, Eastern musk turtle (Carleton Place, ON; Ottawa, ON; Stittsville, ON; Kanata, ON, Prospect, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Bat maternal nesting site surveys (Prescott, ON; Battersea, ON; Prescott, ON; Hawkesbury, ON; Russell, ON)

### **Aquatic Inventories**

- Boat electrofishing along the shoreline of the Ottawa River (Chat Falls, ON) along the shoreline of the Cataraqui River (Kingston, ON), downstream of the Carillion Dam (Pointe-Fortune, QC), Lake St. Francis (South Lancaster, ON), South Nation River (Casselman, ON), Raisin River (Lancaster, ON), and the St. Lawrence River (Cornwall, ON)
- Collecting and data entry for benthic macroinvertebrate community surveys on several watercourses within Ontario including: Bonnechere River (Renfrew, ON), Montreal River (Latchford, ON), Jock River (Ottawa, ON), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributary to Chippewa Creek (North Bay, ON) and tributary to the Beaudette River (Alexandria, ON).
- Collecting and data entry for several fish community surveys including: Black Creek (Westminster, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), East Branch of Little Cataraqui Creek (Kingston, ON), Kehoe Ditch (Greely, ON), Lac Opemisca (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), Montreal River (Latchford, ON), tributaries of Laval Creek (Carleton Place), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Beaudette River (Alexandria, ON), tributaries to the Bonnechere River (Renfrew, ON), tributaries to the Ottawa River (Carp, ON; Ottawa, ON; Wendover, ON; Clarence-Rockland, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to Hawkesbury Creek (Hawkesbury, ON), Hawkesbury Creek (Hawkesbury, ON), tributary to the St. Lawrence River (Prescott, ON) and tributary to the North Castor River (Greely, ON).
- Mapped fish habitat in many watercourses including: Black Creek (Westminster, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), Kehoe Ditch (Greely, ON), Lac Opemisca/Lac Barlow Bypass channel (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), McKinnons Creek (Navan, ON), Montreal River (Latchford, ON), tributaries of Laval Creek (Carleton Place), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to McKinnons Creek (Navan, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the North Castor River (Greely, ON), tributaries to the Ottawa River (Ottawa, ON; Wendover, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to the St. Lawrence River (Prescott, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in YOY sampling on the Raisin River (Lancaster, ON).
- Conducted riverine index netting on the Bonnechere River (Renfrew, ON).
- Assisted in gill netting on Bonnechere River (Renfrew, ON), Lac Barlow (Ouje-Bougoumou, QC), Lac Opemisca (Ouje-Bougoumou, QC), Montreal River (Latchford, ON), and Raisin River (Lancaster, ON).
- Assisted in conducting larvae surveys on Bonnechere River, Hoople Creek, Montreal River and Raisin River,

- Collected walleye eggs from the spawning grounds on the Bonnechere River, Montreal River, Raisin River and Hoople Creek.
- Assisted in the monitoring of a new wetland channel created in the Little Cataraqui River.
- Marsh monitoring program breeding amphibian survey at Stittsville, ON; Cornwall, ON; Kanata, ON; Hoople Creek and the Bonnechere River.
- Assisted in conducting fall walleye index netting for the MNR in Kawartha Lakes
- Conducted turtle surveys (Carleton Place, ON; Ottawa, ON)
- Conducted headwater waters assessment (Kanata, ON; Navan, ON, Ottawa, ON)

#### **Terrestrial Inventories**

- Multiple Environmental Impact Assessments across Ontario
- Tree Inventory for construction of the light rail (LRT; Ottawa, ON)
- Winter white-tailed deer survey (Edwardsburgh, ON)
- Plant community inventories for proposed developments, quarries, sand pits and road extensions (Brockville, Carleton Place, Carp, Casselman, Elgin, Griffith, Hamilton, Jessup Falls, Navan, Ottawa, Stittsville, Rockland, Simcoe, Cornwall, Kemptville, Hawkesbury, Smith Falls, Wendover, Moosecreek, Westminster, Prescott, Renfrew, Jones Falls, Michipicoten Island and in Ouje-Bougoumou in QC)

#### **Aquatic Habitat Mapping for Municipal, City Roads and Provincial Highways**

- Conducted MTO habitat assessments at Galetta Side Road, Torbolton Road, Kinburn Side Road (Ottawa, ON)
- Conducted MTO habitat assessments at Prince of Wales, Fernbank Road, Fallowfield Road, HWY 115, Arbuckle drain, the Carp river, tributaries to the Carp river and tributaries to Mud creek (Ottawa, ON)
- Conducted MTO habitat assessments at Innes Road, Ottawa, ON.
- Conducted MTO habitat assessments at MacLaren Side Road, Ottawa, ON.

#### **Other**

- Fish salvage: Mississippi River (Almonte, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptonville, ON), and tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON)
- Assisted in conducting a winter bat hibernaculum inventory (Plantagenet, ON)
- Field research assistant for the Metalicuous study and EDC study (Experimental Lakes Area, ON)
- Captured, pit tagged, telemetry tagged and tracked Northern Pike (Experimental Lakes Area, ON)
- Construction and maintenance of nature trail (the Cornwall Outdoor Recreational Area, ON)
- Conducted frog deformities surveys (Glengarry, ON)
- Organized youth fishing derbies through SLFGC (2011-2013; South Lancaster)
- Organized the St. Francis Walleye Tournament through SLFGC (2012-2013; South Lancaster)

**CODY J.C FONTAINE, Fisheries and Wildlife Technologist**

**EDUCATION**

Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2012  
Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2011

**LANGUAGES**

Fluent in English

**POSITIONS HELD**

2022: BCH Environmental Consulting Inc., Fisheries and Wildlife Technologist  
2014: Bowfin Environmental Consulting Inc., Fisheries and Wildlife Technologist  
2009: Raisin Region Conservation Authority, Field Research Assistant

**CERTIFICATIONS / PROFESSIONAL AFFILIATIONS**

MTO/DFO/OMNR Fisheries Protocol, Environmental Monitoring For Construction Projects Practitioner (EMCPP), Ontario Stream Assessment Protocol (OSAP), Class 2 Electroshocking, first aid, CPR, Pleasure Craft Operator Card, WHMIS, WSHA, Hazard Identification, Assessment and Control, Ice Safety Training, Possession / Acquisition Firearms License, Fish Identification Certificate, Radio Telemetry Certificate, Fish Hatchery Operations Certificate, Ontario Hunter Education Course Certificate, Ontario trapper Education Course Certificate, Ontario class G driver's license.

**EXPERIENCE**

Experience in environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of fish, fish salvage, bat hibernaculum inventories and fisheries inventories including netting and electroshocking. Other experiences include GIS mapping.

**Aquatic Inventories**

- Assisted with boat electrofishing along the shoreline of the Ottawa River (Chat Falls and Ottawa, ON), Lake St. Francis (South Lancaster, ON), Bonnechere (Renfrew, ON), Raisin River (Lancaster, ON), Buckhorn Lake (Peterborough, ON) and the St. Lawrence River (Cornwall, ON)
- Assisted in collecting and data entry for several fish community surveys including: Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Ottawa River (Ottawa, ON), tributaries to the Rideau River (Manotick, ON), tributaries to the Castor River (Vars, ON), tributaries to the Otonabee River (Lakefield, ON), tributary to the Madawaska River (Arnprior, ON), tributaries to Kemptville Creek (Kemptville, ON), tributary to Blairs Creek (Clarence Creek, ON), tributaries to South Indian Creek River (Russell, ON) tributaries to the South Nation River (Casselman, ON), tributaries to Fraser Clarke Drain (Nepean, ON), tributaries to the Raisin River (Long Sault, ON), Oliver-Magee drain (South Glengarry, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in collecting walleye eggs from the spawning grounds on the Raisin River.
- Marsh monitoring program breeding amphibian surveys (Stittsville, Lakefield, Cornwall, Long Sault, South Glengarry, Bourget, Manotick and Kanata, ON).
- Conducted turtle surveys (Carleton Place, Ottawa, Cornwall and Lancaster, ON)
- Conducted Headwater Assessments (Ottawa, Stittsville and Manotick, ON)
- Invasive Species Survey (Ottawa, ON)

**Species at Risk Inventories / Monitoring**

- Assisted in butternut surveys, inventories and assessments for proposed developments (Carleton Place, Casselman, Cornwall, South Glengarry, Long Sault, Kemptville, Smiths Falls, Ottawa, Stittsville, Peterborough, Lakefield, Brockville, Alfred, Orleans, Kanata and Prescott, ON).

- American Eel surveys using the boat electrofisher on the Ottawa River (Ottawa, ON)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- Conducted tailrace surveys for hydro facilities regarding American eel and lake sturgeon fatalities (Almonte, Renfrew, Ottawa and Fitzroy Harbour, ON)
- Whip-poor-will survey for proposed development (Ottawa, Kemptville, Bourget, Stittsville, Alfred, South Glengarry and Alexandria, ON) and quarries (Ottawa and Cornwall, ON)
- Surveyor for Little Brown bat, Eastern Small Footed Bat and Northern Long Eared Bat surveys at Ernestown Windpark (Ernestown, ON)
- Gray Ratsnake Survey (Smiths Falls and Lakefield, ON)
- Bat Cavity Survey (Lakefield, Smiths Falls, Bourget, Clarence Creek, Casselman, Orleans, Kanata, South Glengarry and Embrun, ON)
- Conducted Least Bittern surveys (Prospect, Alexandria, and Lancaster, ON)
- Conducted Black Tern nest surveys (Alexandria, and Cornwall, ON)
- Conducted turtle surveys: Blanding's turtle, Musk turtle and Northern Map turtle, Painted turtle and Snapping turtle (Carleton Place, Ottawa, Stittsville, Kanata, Rockland, Cornwall, Lakefield, Alfred, Clarence Creek and Lancaster, ON)
- Conducted American Ginseng Survey (Alfred, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Conducted Osprey nest surveys (Cornwall, ON)

#### **Terrestrial Inventories**

- Assisted plant community inventories for proposed developments (Ottawa, Cornwall and Prescott, ON)
- Assisted in ELC inventories (Ottawa, Lakefield, Alfred, Kanata, Long Sault, South Glengarry and Peterborough ON)
- Nesting Bird Survey (Stittsville and Brockville ON)
- Large Tree Survey (Carp, Kanata and Orleans, ON)
- Deer and Moose Overwintering Survey (Alfred, ON)

#### **Environmental and Fisheries Inspections**

- Assisted in providing environmental and fisheries inspections for construction (Ottawa, ON)
- Assisted in turtle salvage during construction at the Cavanagh Snow Dump (Kanata, ON)

#### **Fish Salvage**

- Highway 401 Fish Salvage – Brockville, ON and Prescott, ON (Cruikshank, MTO Contract)
- Other fish salvages: Cardinal Creek (Ottawa, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON), Mississippi River (Almonte, ON), Ottawa River (Ottawa, ON), Tributary to Fraser Clarke Drain (Nepean, ON), tributary to St.Lawrence River (Newington, ON), Davidson Pond (Ottawa, ON),. Hazeldean tributary (Ottawa, ON), tributary to Jock River (Richmond, ON), culvert on Thunder Road (Gloucester, ON), culvert on Dunning Road (Cumberland, ON)

#### **Other**

- Organized fishing derby through RRCA (2008-2012; Cornwall, ON)
- Conducted environmental education presentations to many school groups (Cornwall, and Lancaster, ON)
- Tree Planting (2008-2012; Cornwall, ON)