

**Report**

**Natural Heritage Assessment Report**

**H376108-0000-840-066-0002**

|             |             |                  |                       |                          |   |
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## Table of Concordance

The following concordance table cross-references the contents of this Natural Heritage Report with requirements identified in O.Reg. 359/09 so that the information can be easily found within this report.

| O.Reg. 359/09 Section Reference | O.Reg. 359/09 Requirement  | Natural Heritage Report Section |
|---------------------------------|--|---------------------------------|
| Section 25                      | Conduct a Natural Heritage Records Review.   | Section 2                       |
| Section 26                      | Conduct a Natural Heritage Site Investigation.   | Section 3                       |
| Section 27                      | Determine if natural features are significant (Evaluation of Significance).  | Section 4                       |
| Section 28                      | Confirmation letter from MNR.  | Forthcoming                     |
| Section 38(2)                   | Class 3 solar facility projects cannot be located within 50 m of a provincially significant wetland, an ANSI (earth science or life science), a significant woodland, significant wildlife habitat, provincial park, or conservation reserve, unless an Environmental Impact Study is prepared in accordance with the Natural Heritage Assessment Guide. | Section 5                       |

## Glossary

|         |  |
|---------|--|
| ANSI    | Area of Natural and Scientific Interest                  |
| APRD    | Approvals and Permitting Requirements Document           |
| CLUPA   | Ontario Crown Land Use Policy Atlas                      |
| COSEWIC | Committee on the Status of Endangered Wildlife in Canada |
| EC      | Environment Canada                                       |
| EIS     | Environmental Impact Study                               |
| EoS     | Evaluation of Significance                               |
| EPA     | Environmental Protection Act                             |
| ESA     | Endangered Species Act                                   |
| HONI    | Hydro One Networks Inc.                                  |
| HVA     | Highly Vulnerable Aquifers                               |
| IBA     | Important Bird Areas                                     |
| IESO    | Independent Electricity System Operator                  |
| kW      | Kilowatt   |
| LIO     | Land Information Ontario                                 |
| MBCA    | Migratory Birds Convention Act                           |
| MNR     | Ministry of Natural Resources and Forestry               |
| MECP    | Ministry of the Environment, Conservation and Parks      |
| NHA     | Natural Heritage Assessment                              |
| NHAG    | Natural Heritage Assessment Guide                        |
| NHA MaM | Natural Heritage Areas Make a Map                        |
| NHIC    | Natural Heritage Information Center                      |
| NHRM    | Natural Heritage Reference Manual                        |
| OBBA    | Ontario Breeding Bird Atlas                              |
| OP      | Official Plans   |
| ORAA    | Ontario Reptile and Amphibian Atlas                      |
| PV      | Photovoltaic   |
| REA     | Renewable Energy Approval                                |
| SAR     | Species at Risk  |
| SARA    | Species at Risk Act                                      |
| SARO    | Species at Risk in Ontario                               |

|       |  |
|-------|--|
| SGRA  | Significant Groundwater Recharge Areas       |
| SoCC  | Species of Conservation Concern              |
| SWH   | Significant Wildlife Habitat                 |
| SWHTG | Significant Wildlife Habitat Technical Guide |
| SWP   | Source Water Protection                      |

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**Appendix A Species Identified in the Records Review**

**Appendix B Site Investigator Qualifications**

## 1. Introduction

CarbonFree Kynoch Ltd. (CarbonFree) is proposing to develop a 154 megawatt (MW) Class 3 solar photovoltaic (PV) (“the Project”) project adjacent to Highway 554 in the unincorporated District of Algoma, within the unincorporated geographic townships of Parkinson and Grasett, approximately 18 km north of Iron Bridge, Ontario. The Project is located in Ecodistrict 5E within the Ministry of Natural Resources (MNR) Thessalon District.

The Project will require a Renewable Energy Approval (REA) under Ontario Regulation (O.Reg.) 359/09 (as amended in May 2016) – Renewable Energy Approvals under Part V.0.1 of the *Environmental Protection Act* (EPA) (herein referred to as the REA Regulation). Construction is anticipated to start in early 2027, pending receipt of requisite permits and approvals.

This Natural Heritage Assessment (NHA) report has been prepared in partial fulfillment of the REA requirements, specifically those outlined in Sections 24 through 28, 37 and 38 of the REA Regulation, and in accordance with the Natural Heritage Assessment Guide (NHAG) (MNR, 2012). This NHA report will be submitted to Ministry of Natural Resources (MNR) for review and comment and issuance of a confirmation letter. The NHA and MNR confirmation letter will be included as part of the overall REA application package to the Ministry of Environment, Conservation and Parks (MECP).

The following sections provide an overview of the REA Regulation related to the NHA, study approach, and report format.

### 1.1 REA Regulation – Natural Heritage Assessment

The REA Regulation prescribes the requirements for renewable energy projects based on the class of solar facility. As set out in the table of Section 4 of the REA Regulation, the Project meets the requirements of a Class 3 solar facility (i.e., >10 kW).

The NHA requirements, as outlined in Section 24 of the REA Regulation, consists of a Records Review (Section 25), Site Investigation (Section 26), and where applicable, an Evaluation of Significance (EoS) (Section 27) to confirm the significance of features where the Project Location<sup>1</sup> is in or within 50 m of a provincial park, conservation reserve or natural feature. An Environmental Impact Study (EIS) (Subsections 37(2)(a) and 38(2)(b)) is required where a significant or provincial significant natural feature is identified. Written confirmation and any comments from MNR in respect of the NHA (Section 28, Subsections 37(2)(b)(c) and 38(2)(b)(c)) are also required as part of the application for the issuance of a REA.

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<sup>1</sup> “Project Location” is defined in the REA Regulation as “a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project.”

The REA Regulation defines natural feature as, all or part of the following:

- Area of Natural and Scientific Interest (ANSI) (earth science).
- ANSI (life science).
- Wetland (coastal wetland, northern wetland and southern wetland).
- Wildlife Habitat.
- Woodland.

Note that as per the definition laid out within the REA, Woodland is defined as being located south and east of the Canadian Shield and is therefore not applicable to this Project location.

## 1.2 NHA Approach

The following sections include a description of the features that need to be confirmed in or within 50 m of the Project Location. An assessment of Species at Risk<sup>2</sup> (SAR) is not part of the NHA. Provincially protected SAR will be discussed in the Approvals and Permitting Requirements Document (APRD) that will be submitted to MNR separately. Federally listed species on Schedule 1 of the *Species at Risk Act* (SARA) are not protected under the *Endangered Species Act* (ESA), 2007, and will be considered a species of conservation concern (SoCC) in this report. Consultation with Environment and Climate Change Canada (ECCC) may be required for species listed in Schedule 1, including aquatic species and migratory birds listed in the *Migratory Birds Convention Act* (MBCA), 1994 that are also listed in Schedule 1.

### 1.2.1 Provincial Plan Areas

The Project is not within any provincial land use plan areas (i.e., Greenbelt Plan, Oak Ridges Moraine Conservation Plan (ORMCP), Niagara Escarpment Plan (NEP), Lake Simcoe Protection Plan).

### 1.2.2 Provincial Parks and Conservation Reserves

Provincial Parks and Conservation Reserves are protected under the *Provincial Parks and Conservation Reserves Act, 2006*. Renewable energy projects are generally prohibited within these areas, unless they meet the exceptions listed in Section 19 of the Act. Projects that meet the requirements of the Act are subject to a NHA. The REA Regulation requires a determination, including a confirmation letter from MNR, on the presence/absence of provincial parks and conservation reserves on and within 50 m of the Project Location. The MNR maintains records related to provincial parks and conservation reserves and their locations.

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<sup>2</sup> SAR include species that are designated as Extirpated, Endangered or Threatened and listed on the SARO List (O.Reg. 230/08) made under the *Endangered Species Act* (ESA), 2007.

This NHA report will review whether the Project Location is in or within 50 m of a Provincial Park or Conservation Reserve and a determination will be made in the Records Review (Section 2).

### 1.2.3 **Natural Features**

The REA Regulation defines natural features to include all or part of an ANSI (Earth Science or Life Science), wetland (Coastal, Northern or Southern) and wildlife habitat. As part of the NHA, an assessment and determination on the presence/absence and significance (if applicable) of a natural feature in or within 50 m of the Project Location is required. Each of the natural features to be assessed is described in the subsequent sections.

#### 1.2.3.1 *Area of Natural and Scientific Interest*

MNR recognizes two types of ANSIs based on natural heritage values related to protection, scientific study or education: Earth Science ANSI and Life Science ANSI. MNR is responsible for identifying and assessing whether they are provincially, regionally, or locally significant. Only provincially significant ANSIs are protected through the REA Regulation.

This NHA report will review whether the Project Location is in or within 50 m of an Earth Science or Life Science ANSI and a determination made in the Records Review (Section 2). As a general practice, all ANSIs regardless of designation will be identified as part of this NHA and MNR will be consulted for further guidance. If there are no ANSIs identified during the Records Review, no further consideration or verification of presence/absence is required.

#### 1.2.3.2 *Wetland*

The REA Regulation defines wetland as “*land such as a swamp, marsh, bog or fen, other than land that is being used for agricultural purposes and no longer exhibits wetland characteristics, that, is seasonally or permanently covered by shallow water or has the water table close to or at the surface, and has hydric soils and vegetation dominated by hydrophytic or water-tolerant plants.*” The REA Regulation further distinguishes a wetland as a

- **Coastal Wetland** – defined in the REA Regulation as “*a wetland that is located on Lake Ontario, Lake Erie, Lake Huron, Lake Superior, Lake St. Clair, St. Mary’s River, St. Clair River, Detroit River, Niagara River or St. Lawrence River; or on a tributary to any of these waterbodies and, either in whole or in part, downstream of a line located two kilometers (km) upstream of the 1:100 year floodline.*”
- **Northern Wetland** – defined in the REA Regulation as “*a wetland located north of the northern limit of Ecoregions 5E, 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under Section 3 of the Planning Act.*”
- **Southern Wetland** – defined in the REA Regulation as “*a wetland located south of the northern limit of Ecoregions 5E, 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under Section 3 of the Planning Act.*”

The Northern Wetland definition is applicable to this Project Location. This NHA report reviews whether the Project Location is in or within 50 m of a wetland. A determination will be made in the Records Review (Section 2) and Site Investigation (Section 3) and whether an EoS and EIS are required.

### 1.2.3.3 *Wildlife Habitat*

The REA Regulation defines wildlife habitat as *“an area where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, water, shelter and space to sustain their population, including an area where a species concentrates at a vulnerable point in its annual or life cycle and an area that is important to a migratory or non-migratory species.”*

The MNR provides specific guidance on identifying and assessing wildlife habitat in the Significant Wildlife Habitat (SWH) Criteria Schedules. Ecoregion 5E (MNR, 2015) has been adopted in order to assess the site under REA with reference to the Natural Heritage Reference Manual (NHRM) (MNR, 2010) and Significant Wildlife Habitat Technical Guide (SWHTG) (MNR, 2000). A brief overview of the wildlife habitats to be considered in the NHA is provided below, with more specific details provided in Section 3.3.8.2.

The MNR recognizes five main categories of wildlife habitat, each with several wildlife habitat types (further described in Section 3.3.8.2).

- **Seasonal Concentration Areas of Animals** – Defined as *“areas where animals occur in relatively high densities for the species at specific periods in their life cycles and/or in particular seasons” and areas that are “localized and relatively small in relation to the area of habitat used at other times of the year”* (MNR, 2010).
- **Rare Vegetation Communities** – Defined as *“areas that contain a provincially rare vegetation community and areas that contain a vegetation community that is rare within the planning area”* (MNR, 2010).
- **Specialized Habitat for Wildlife** – Defined as *“areas that support wildlife species that have highly specific habitat requirements, areas with high species and community diversity, and areas that provide habitat that greatly enhances species’ survival”* (MNR, 2010).
- **Habitat for Species of Conservation Concern** – Defined as *“habitats of species that are designated at the national level as endangered or threatened by COSEWIC, which are not protected in regulation under Ontario’s ESA; habitats of species listed as special concern under the ESA on the SARO List (formerly referred to as “Vulnerable” in the SWHTG); and habitats of species that are rare or substantially declining, or have a high percentage of their global population in Ontario”* (MNR, 2010). More specifically, species of conservation concern (SoCC) include the following:

- ◆ **Globally Rare Species** – These species are assessed by NatureServe and assigned a global conservation status rank (G-rank) of G1 to G3.
- ◆ **Nationally Rare Species** – These species are designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered or Threatened and not protected in regulation under the *Ontario Endangered Species at Risk Act* (ESA).
- ◆ **Provincially Rare Species** – These species are designated by the MNR and assessed under two categories: species listed as Special Concern on the Species at Risk in Ontario (SARO) List; and species that are assigned a provincial (i.e., subnational) conservation status rank of S1 to S3 and are not on the SARO List. There are species that can be found in both categories.
- ◆ **Regionally Rare Species** – These species are not assigned a formal designation; however, they have been recognized as declining within a planning jurisdiction by government and/or non-government authorities.
- ◆ **Conservation Priority Species** – These include priority species that are recognized in government and/or non-government conservation plans and assigned a conservation objective.
- **Animal Movement Corridors** – defined as “*elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another*” (MNR, 2000).

#### 1.2.3.4 Woodland

The REA Regulation defines woodland as “*a treed area, woodlot or forested area, other than a cultivated fruit or nut orchard or a plantation established for the purpose of producing Christmas trees*”, that is located in Ecoregions 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under Section 3 of the *Planning Act* (King’s Printer for Ontario, 2024).

As this Project Location falls outside of the applicable definition of a woodland, this will not be considered throughout this NHA report.

## 1.3 Report Format

The report format is provided below, which includes a summary of the regulatory requirements for each section. A flowchart showing the NHA process, as reproduced from the NHAG (MNR, 2012), is provided in Figure 1-1:

- **Records Review** – Section 2.
- **Site Investigation** – Section 3.
- **Evaluation of Significance (EoS)** – Section 4.
- **Environmental Impact Study (EIS)** – Section 5.

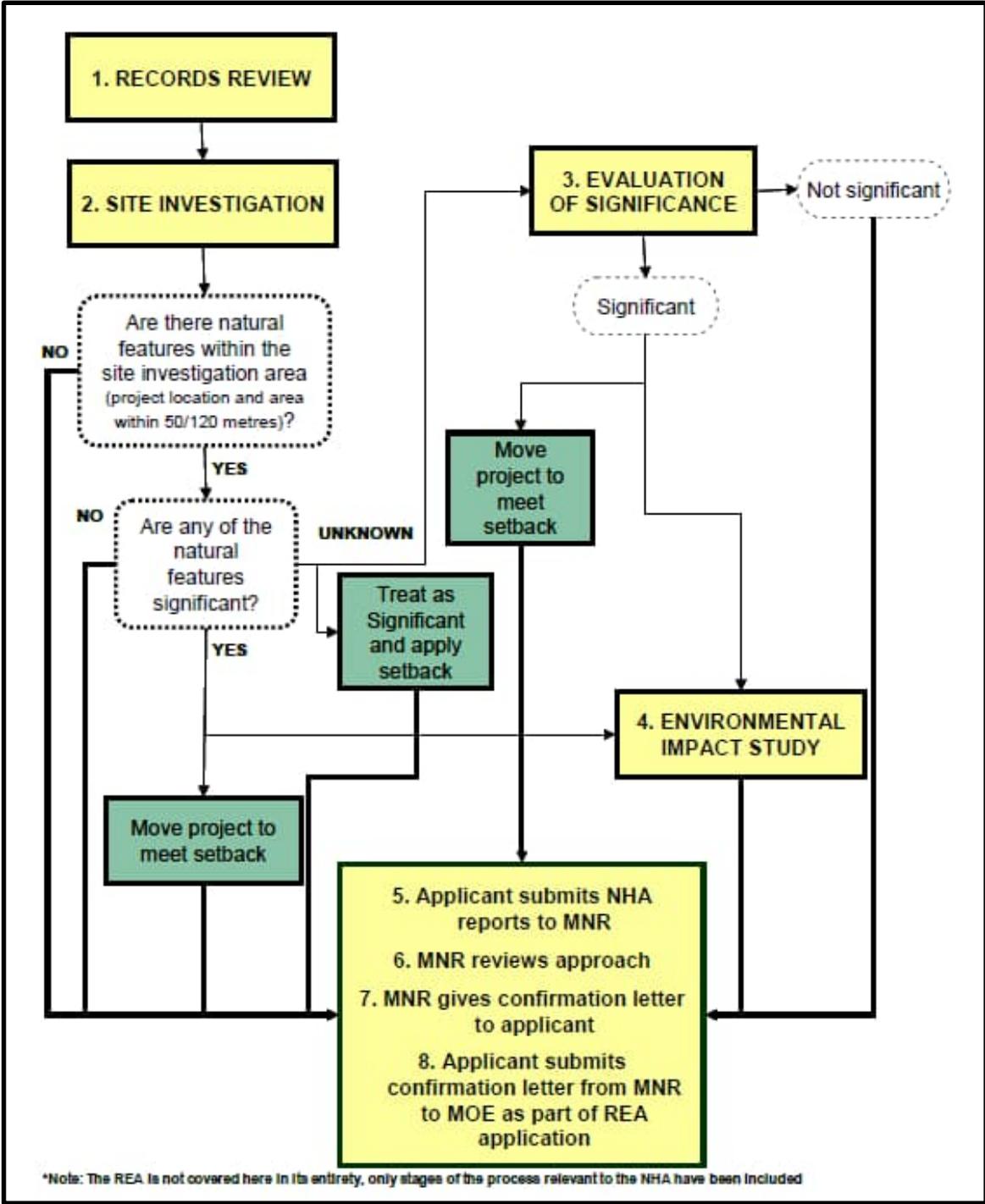


Figure 1-1: Flowchart of the NHA Process, Reproduced from the NHAG (MNR, 2012)

## **2. Records Review**

A Records Review is required as part of the NHA, as outlined in Subsection 25(1) of the REA Regulation. A search for records is required to determine if the Project Location is on or within 50 m of a Provincial Park, Conservation Reserve and Natural Feature (as defined in Section 1.2.2).

Publicly available records maintained by government and non-government sources were reviewed. Key information sources included: MNR, Ontario GeoHub, and other non-government organizations.

The following sources were considered but not discussed further as they are not within the jurisdiction of the Project and do not apply to this Project: Municipal Planning Authority, Local Planning Board, Local Roads Board, Local Services Board, Niagara Escarpment Commission, Greenbelt Plan, and Oak Ridges Moraine Conservation Plan.

A compilation of all species identified in the Records Review is provided in Figure 2-1, and includes the source where the information was obtained for each species, scientific names, conservation rank (global, provincial, regional, and priority species) and at-risk status (national and provincial).

### **2.1 REA Regulation – NHA Records Review**

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to conduct a Records Review and prepare a report summarizing the results and determinations made whether the Project Location is in or within 50 m of a

- Provincial Park or Conservation Reserve.
- Natural Feature.

The following sections have been prepared to meet these requirements and include

- The methodology used to complete the Records Review, including a summary of the information sources and data analyzed.
- Results of the Records Review.
- Summary of the determinations made.

### **2.2 Records Review Methodology**

The following background documents and information sources were reviewed for records related to provincial parks, conservation reserves and natural features on and within 50 m of the Project Location.

### 2.2.1 **Ministry of Natural Resources and Forestry Records**

The following information sources from the MNR were reviewed for records related to Provincial Parks, Conservation Reserves, and Natural Features within 1 km<sup>2</sup> of the Project Location:

- **Land Information Ontario Mapping** – *Land Information Ontario* (LIO) data is maintained by the MNR and provides key provincial geospatial data about Ontario. Shapefiles obtained from the LIO open datasets were obtained and used to prepare a map showing the presence/absence of Provincial Policy Plan Areas, Provincial Parks, Conservation Reserves, and Natural Features on and within 50 m of the Project Location. The data layers reviewed are provided in Section 2.3.
- **MNR Algoma District** – Information on provincial policy plan areas, provincial parks, conservation reserves, and natural features on and within 50 m of the Project Location was reviewed using public sources and online tools.
- **Natural Heritage Information Centre (NHIC) Make a Map (NHIC MaM)** – The NHIC MaM is a web application that provides information on
  - ◆ Provincial Parks.
  - ◆ Conservation Reserves.
  - ◆ Natural Features (i.e., ANSIs, wetlands, natural heritage systems related to provincial policy plan areas, such as the Niagara Escarpment, Oak Ridges Moraine and Greenbelt Plans).

As mentioned in Section 1.2, SAR are not discussed in this NHA and will be assessed separately in the APRD. The NHIC data is organized into 1 km<sup>2</sup> map squares. The map squares reviewed and that overlap the Project Location, include: 17LM2545, 17LM2442, 17LM2445, 17LM2441, 17LM2745, 17LM2646, 17LM2746, 17LM2647, 17LM2747. Species identified in these map squares (excluding SAR) are considered as part of the Records Review and listed in Figure 2-1.

- **Ontario Crown Land Use Policy Atlas** – The *Ontario Crown Land Use Policy Atlas* (CLUPA) is an interactive web browser that provides boundaries of crown land use areas and associated land use policies. This interactive map was used to determine the presence/absence of crown land within 1 km<sup>2</sup> of the Project Location.
- **Natural Heritage Information Center (NHIC) Sensitive Data Request** – A sensitive data use license was obtained from the NHIC by Hatch.

### 2.2.2 **Atlas of the Mammals of Ontario**

A review of the Atlas of the Mammals of Ontario (Dobbyn, 1994) was completed in support of the wildlife habitat assessment. A search was completed for mammals whose ranges overlap with the Project and that are listed in the Significant Wildlife Habitat (SWH) Criteria Schedules

for Ecoregion 5E (MNR, 2015) or that are considered to be a species of conservation concern. Species considered as part of the Records Review are listed in Figure 2-1.

### **2.2.3 Ontario Reptile and Amphibian Atlas**

A review of the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) and interactive range maps were completed. The Atlas provides known ranges of reptiles and amphibian species in Ontario based on historic and current species occurrences. The information is displayed in 10 x 10 km<sup>2</sup> map squares. The species documented within map squares 15VP59, 15VP68, 15VP58 which overlaps the Project Location, was included in the Records Review and considered in respect of the wildlife habitat assessment. Species documented on the map squares are listed in Figure 2-1.

### **2.2.4 Important Bird Areas of Canada**

The Important Bird Areas (IBA) Canada website was reviewed to determine whether any IBAs are in or within 50 m of the Project Location. IBAs are discrete sites that support specific groups of birds such as threatened birds, large groups of birds, and birds restricted by range or by habitat. No IBAs were located within the Project footprint or within 50 m of the Project location.

### **2.2.5 Ontario Breeding Bird Atlas**

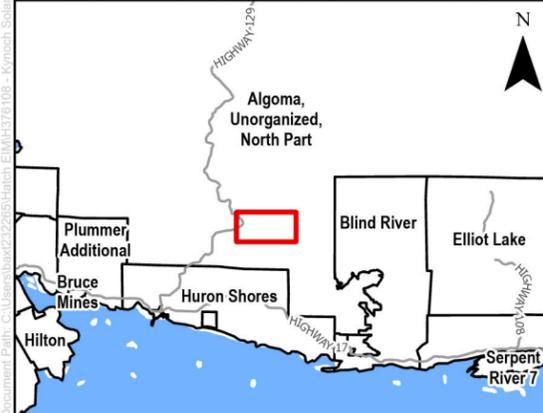
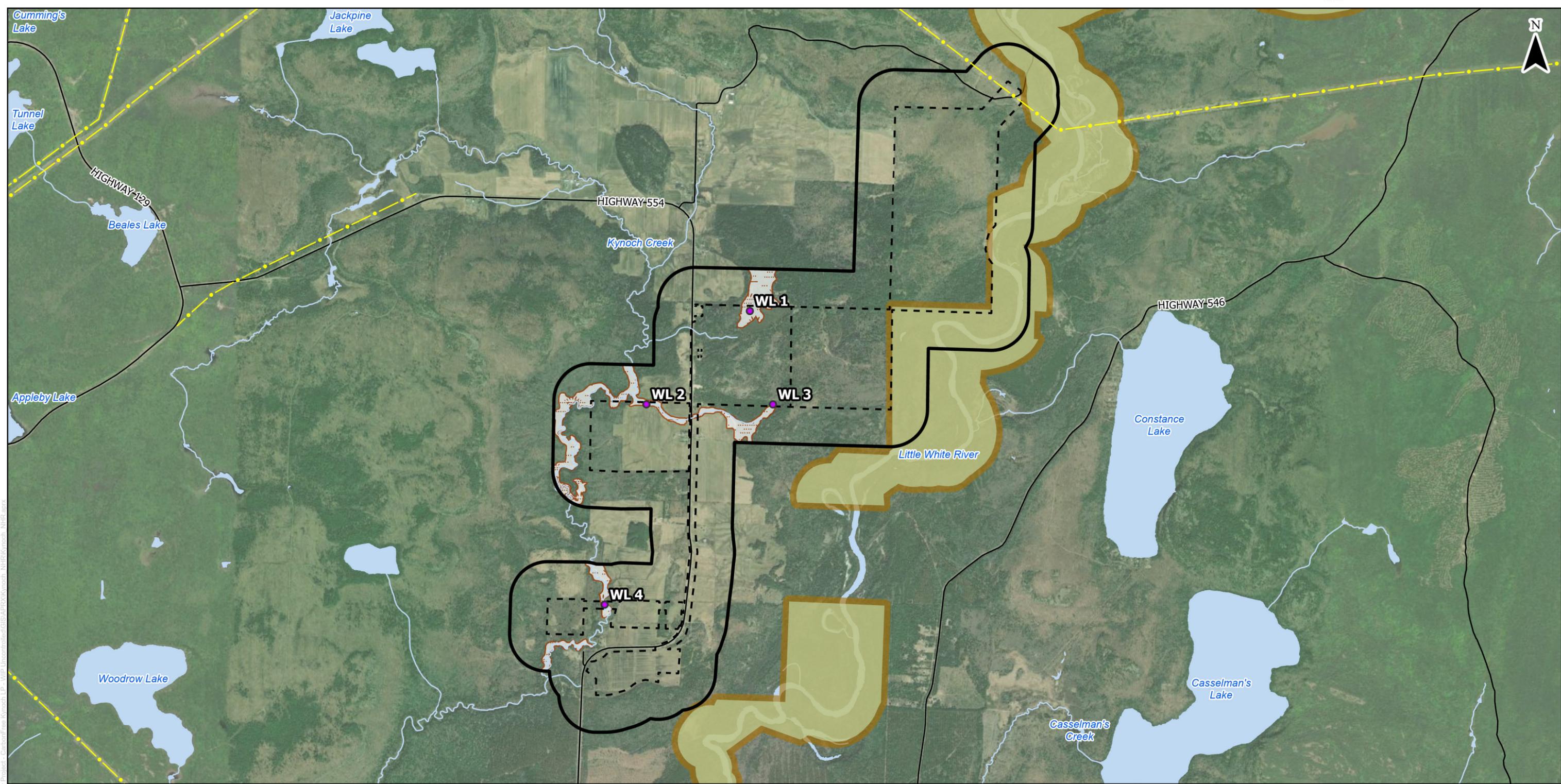
The Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada *et al.*, 2006) was reviewed to determine which species have the potential to occur on or within 50 m of the Project Location. The OBBA provides a list of bird species that have been observed within a 10 x 10 km<sup>2</sup> area during surveys completed between 1981 to 1985 and 2001 to 2005. Species that were documented between 2001 and 2005 were considered as part of the Records Review. The OBBA map square that overlaps the Project Location is 17TLM24. The species observed within this map square (between 2001 and 2005) are considered as part of the wildlife habitat assessment and listed in Figure 2-1.

### **2.2.6 Ontario Butterfly Atlas**

The Ontario Butterfly Atlas (Toronto Entomologists Association, 2016) was reviewed to determine which species have the potential to occur on or within 50 m of the Project Location. The Ontario Butterfly Atlas provides a list of butterfly species that have been observed within a 10 x 10 km<sup>2</sup> map square. The map squares that overlap the Project Location are 17LM24. The species observed within this map square are considered as part of the wildlife habitat assessment and listed in Figure 2-1.

## **2.3 Records Review Results**

A Records Review was conducted in order to determine the presence/absence of Provincial Parks, Conservation Reserves and Natural Features in or within 50 m of the Project Location. The results of the Records Review and determinations made are provided in the subsequent sections and illustrated in Figure 2-1.



**LEGEND**

- Wetland
- Road
- .-.- Transmission Line
- Watercourse
- - - - Project Location
- ▭ Study Area (300m Buffer)

- Provincial Park
- Provincial Park (50m Buffer)
- Waterbody
- Unevaluated Wetland (MNR)

**NOTES:**  
 1. Produced by Hatch, contains information licensed under the Open Government License – Ontario  
 2. Spatial referencing: NAD 1983 UTM Zone 17N



**PROJECT:** CarbonFree Kynoch – Natural Heritage Assessment

**FIGURE TITLE:** Desktop Results

**CLIENT:** CarbonFree Kynoch LTD

|                             |                           |                        |                      |
|-----------------------------|---------------------------|------------------------|----------------------|
| <b>DWG BY:</b><br>V. BAXTER | <b>CHK BY:</b><br>C. SEHL | <b>FIG NO.:</b><br>2-1 | <b>REV NO.:</b><br>1 |
| <b>DATE:</b><br>05/02/26    | <b>PAGE:</b><br>1         |                        |                      |



**2.3.1 Provincial Plan Areas**

A Records Review was completed to determine whether the Project Location is in or within 50 m of a Provincial Plan area. The information sources and data reviewed to make the determinations are provided in Table 2-1.

The Project Location is not in or within a provincial Plan area (i.e., NEP, Greenbelt Plan, ORMCP), as shown in Table 2-1 and Figure 2-1. Verifying the results of the Records Review as it relates to policy plan areas is not required as the Project is outside of these plan areas. Therefore, no further consideration or assessment is required in this NHA as it relates to the NEP, Greenbelt Plan, ORMCP and associated Natural Features.

**Table 2-1: Summary of Data Reviewed for Provincial Plan Areas**

| Information Source                                      | Provincial Plan Areas (NEP, Greenbelt Plan, ORMCP) |   |             |                           |
|---|--|---|-------------|---------------------------|
|   | In Project Location (Y/N)                          | Within 50 m of the Project Location (Y/N) | Description | Data Reviewed             |
| <b>Ministry of Natural Resources and Forestry (MNR)</b> |  |   |             |                           |
| LIO Mapping   | N  | N   | N/A         | CLUPA datasets            |
| Crown Land Use Policy Atlas                             | N  | N   | N/A         | Crown Land Use Data layer |

**2.3.2 Provincial Parks and Conservation Reserves**

The REA Regulation requires a determination on the presence/absence of provincial parks and conservation reserves on and within 50 m of the Project Location. The information sources and data reviewed to make the determinations are provided in Table 2-2.

As shown in Table 2-2 and Figure 2-1, there is a regulated Provincial Park both in the Project Location and within 50 m of the Project Location, known as Little White River Provincial Park. Project components will be set back at least 50 m from the Provincial Park. There are no Conservation Reserves in or within 50 m of the Project location. Therefore, no further consideration or assessment is required in this NHA.

**Table 2-2: Summary of Data Reviewed for Provincial Parks and Conservation Reserves**

| Information Source                                      | Provincial Parks and Conservation Reserves |   |             |   |
|---|--|---|-------------|---|
|   | In Project Location (Y/N)                  | Within 50 m of the Project Location (Y/N) | Description | Data Reviewed   |
| <b>Ministry of Natural Resources and Forestry (MNR)</b> |  |   |             |   |
| LIO Mapping   | Y  | Y   | N/A         | CLUPA datasets, Provincial Parks Regulated dataset, Conservation Reserve dataset, Natural Heritage Area dataset |

| Information Source          | Provincial Parks and Conservation Reserves |   |                                    |  |
|-----------------------------|--|---|------------------------------------|--|
|                             | In Project Location (Y/N)                  | Within 50 m of the Project Location (Y/N) | Description                        | Data Reviewed                                    |
| NHIC MaM                    | Y  | Y   | Little White River Provincial Park | Provincial Park, and Conservation Reserve layers |
| Crown Land Use Policy Atlas | Y  | Y   | N/A                                | Crown Land Use Data layer                        |

### 2.3.3 *Natural Features*

A Records Review was completed to determine presence/absence of Natural Features (as described in Section 1.2.3) in or within 50 m of the Project Location. Confirmed<sup>3</sup> provincially significant (i.e., ANSIs, wetlands) or significant natural features (i.e. wildlife habitat) are also identified, where found. The results of the Records Review and determinations made are provided in the subsequent sections and shown in Figure 2-1.

#### 2.3.3.1 *Earth Science and Life Science ANSI*

As shown in Table 2-3 and Figure 2-1, there are no Earth Science or Life Science ANSIs in or within 50 m of the Project Location. As the MNR is responsible for identifying and evaluating the significance of ANSIs, confirmation of presence/absence and field verification is not required. Therefore, no further consideration or assessment is required in this NHA.

**Table 2-3: Summary of Data Reviewed for Earth Science and Life Science ANSIs**

| Information Source                                      | Provincial Plan Areas (NEP, Greenbelt Plan, ORMCP) |   |             |               |
|---|--|---|-------------|---------------|
|   | In Project Location (Y/N)                          | Within 50 m of the Project Location (Y/N) | Description | Data Reviewed |
| <b>Ministry of Natural Resources and Forestry (MNR)</b> |  |   |             |               |
| LIO Mapping   | N  | N   | N/A         | ANSI dataset  |
| NHA MaM   | N  | N   | N/A         | ANSI layer    |

#### 2.3.3.2 *Wetlands*

As shown in Table 2-4 and Figure 2-1, there are several unevaluated wetlands within the Project Location. A Site Investigation was completed to verify the information obtained during the Records Review and determine the presence of wetlands not previously mapped.

<sup>3</sup> Confirmed provincially significant ANSIs and wetlands and significant wildlife habitat are identified by MNR.

**Table 2-4: Summary of Data Reviewed for Wetlands**

| Information Source                                      | Provincial Plan Areas (NEP, Greenbelt Plan, ORMCP) |   |  | Description                                   | Data Reviewed   |
|---|--|---|--|---|-----------------|
|   | In Project Location (Y/N)                          | Within 50 m of the Project Location (Y/N) |  |   |                 |
| <b>Ministry of Natural Resources and Forestry (MNR)</b> |  |   |  |   |                 |
| LIO Mapping   | Y  | Y   |  | Wetland Types including swamp, marsh, and fen | Wetland dataset |
| NHIC MaM  | Y  | Y   |  | Unevaluated, mapped wetlands                  | Wetland layer   |

**2.3.3.3 Wildlife Habitat**

The results of the Records Review are shown in below and Figure 2-1. Wildlife habitat is present in and within 50 m of the Project Location based on the broad definition in the REA Regulation. While most records searched do not provide specific wildlife habitat information (as defined in Section 1.2.3), the broadly defined term provided in the REA Regulation, suggests that all lands meet the definition. As such, it is not possible to scope out wildlife habitat at the Records Review stage. Therefore, Site Investigations were completed to determine presence/absence of wildlife habitat (as described in Section 3) and more specifically the wildlife habitat types listed in the Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 5E (MNR, 2015). Species identified in the Records Review (Appendix A) were considered in respect of potential wildlife habitat to assist in focusing Site Investigation surveys.

**Table 2-5: Summary of Data Reviewed for Wildlife Habitat**

| Information Source                                      | Provincial Plan Areas (NEP, Greenbelt Plan, ORMCP) |   |  | Description   | Data Reviewed  |
|---|--|---|--|---|--|
|   | In Project Location (Y/N)                          | Within 50 m of the Project Location (Y/N) |  |   |  |
| <b>Ministry of Natural Resources and Forestry (MNR)</b> |  |   |  |   |  |
| LIO Mapping   | N  | N   |  | No wildlife habitats from the data reviewed, are found in or within 50 m of the Project Location. | The following datasets were reviewed: Wetland, Wooded Area, Nesting Site, Breeding Area, Den Site, Feeding Area Wildlife, FRI Wetland, Mast Producing Area, Natural Heritage Area, NHS Area, Nursery Area Wildlife, Resting Area, Significant Ecological Area, Staging Area Wildlife, Travel Corridor Wildlife, Wilderness Area, Wintering Area. |

| Information Source                              | Provincial Plan Areas (NEP, Greenbelt Plan, ORMCP) |   |   |  |
|---|--|---|---|--|
|   | In Project Location (Y/N)                          | Within 50 m of the Project Location (Y/N) | Description   | Data Reviewed                                    |
| NHIC MaM  | Y<br>(possible NHIC species)                       | Y<br>(possible NHIC species)              | No specific wildlife habitat information is available.  | NHIC MaM   |
| <b>Non-Government Species-Related Documents</b> |  |   |   |  |
| Atlas of the Mammals of Ontario                 | Possible   | Possible                                  | No wildlife habitat information available. However, mammals whose ranges overlap the Project are considered in respect of potential wildlife habitat.                                       | Species range maps                               |
| Ontario Reptile and Amphibian Atlas (ORAA)      | Possible   | Possible                                  | No wildlife habitat information available. However, species recorded within the ORAA map square that overlaps the Project Location are considered in respect of potential wildlife habitat. | ORAA map square 17LM24 (and associated species)  |
| IBA of Canada                                   | N  | N   | The nearest IBAs are located in Sault Ste. Marie and Manitoulin Ontario (ON018: St. Mary's River Complex and ON150: Manitoulin Island North Shore, respectively).                           | IBA web viewer                                   |
| OBBA  | Possible   | Possible                                  | No wildlife habitat information available. However, species recorded within the OBBA map square that overlaps the Project Location are considered in respect of potential wildlife habitat. | OBBA map square 17TLM24 (and associated species) |

## 2.4 Summary of Records Review

A summary of the results of the Records Review and determinations made is provided in Table 2-6. A Site Investigation is required to confirm the findings of the Records Review and determine the presence of any additional features not previously identified. As shown in Table 2-6, there is one Provincial Park, but no conservation reserves or ANSIs (earth science or life science) in or within 50 m of the Project Location. The Project Location will be modified

to accommodate a 50 m setback from the Little White River Provincial Park. A survey is being completed to verify the location of property boundaries adjacent to the Provincial Park.

A Site Investigation is required to verify the results and determine if any corrections or additional natural features not identified in the Records Review are present, for wetlands and wildlife habitats.

**Table 2-6: Summary of the Records Review Determinations for the Kynoch Solar Project**

| Determination to be Made  | Yes/No         | Site Investigation Required to Verify Records Review Findings?                                 |
|---|----------------|--|
| Is the Project Location in or within 50 m of a Provincial Park or Conservation Reserve? | Yes            | Provincial Park: Yes<br>1 Conservation Reserve: No   |
| Is the Project Location in a Natural Feature?   | Yes (possible) | 1 Earth Science ANSI: No<br>1 Life Science ANSI: No<br>Wetland: Yes<br>2 Wildlife Habitat: Yes |
| Is the Project Location within 50 m of a natural feature                                | Yes (possible) | 1 Earth Science ANSI: No<br>1 Life Science ANSI: No<br>Wetland: Yes<br>2 Wildlife Habitat: Yes |

**Notes:**

1. Provincial Parks, Conservation Reserves and ANSIs do not need to be field verified if the Records Review confirmed they are not present.
2. No specific wildlife habitats have been identified. However, based on the definition of wildlife habitat in the REA Regulation, all lands in and within 50 m of the Project Location have the potential to support wildlife habitat. Further studies are required to verify presence/absence and types of wildlife habitats present.

### 3. Site Investigation and Targeted Studies

#### 3.1 Regulatory Requirements

Part IV, Subsection 26 (1) of the REA Regulation requires proponents of Class 3 solar projects to conduct an investigation of the air, land and water within 50 m of the Project Location either by visiting the site or by an alternative investigation of the site. Determinations to be made include

- Whether the results of the analysis summarized in the Records Review are correct or require correction and identifying any required corrections.
- Whether any additional natural features exist, other than those that were identified in the Records Review.
- The boundaries, located within 50 m of the Project Location, of any natural feature that was identified in the Records Review or the Site Investigation.
- The distance from the Project Location to the boundaries of any natural feature that was identified in the Records Review or the Site Investigation.

A checklist of the report requirements, as prescribed in Subsection 26 (3) of the REA Regulation are provided below, in Table 3-1.

**Table 3-1: Site Investigation Requirements under the REA Regulation**

| Site Investigation Report Requirements  | Report Section             |
|---|----------------------------|
| A summary of any corrections to the Records Review and the determinations made as a result of conducting the Site Investigation and Baseline Studies.   | Section 3.4                |
| Information establishing the type of each natural feature identified in the Records Review and in the Site Investigation and Baseline Studies.  | Section 3.3                |
| A map showing: <ol style="list-style-type: none"> <li>1. All boundaries located within 50 m of the Project Location, of any natural feature that was identified in the Records Review, Site Investigation or Baseline Studies;</li> <li>2. The location and type of each natural feature identified in relation to the Project Location, and;</li> <li>3. All distances required to be determined for any natural feature that was identified in the Records Review, the Site Investigation or Baseline Studies.</li> </ol> | Figure 3-1 and Figure 3-2  |
| A summary of the methods used to make observations for the purposes of the Site Investigation and Baseline Studies.   | Section 3.2                |
| The name and qualifications of the person conducting the Site Investigation and Baseline Studies.   | Appendix B                 |
| If an investigation was conducted by visiting the site: <ol style="list-style-type: none"> <li>1. The dates and times of the beginning and completion of the Site Investigation and Baseline Studies.</li> <li>2. The duration of the Site Investigation and Baseline Studies.</li> <li>3. The weather conditions during the Site Investigation and Baseline Studies.</li> <li>4. Field notes kept by the person conducting the Site Investigation.</li> </ol>  | Sections 3.2.1.1 and 3.3.1 |

| Site Investigation Report Requirements   | Report Section                    |
|--|-----------------------------------|
| <p>If an alternative investigation of the site was conducted:</p> <ol style="list-style-type: none"> <li data-bbox="212 373 1159 426">1. The dates of the collection of the data used in the Site Investigation and Baseline Studies.</li> <li data-bbox="212 436 1159 506">2. An explanation of why the person who conducted the alternative investigation determined that it was not reasonable to conduct the Site Investigation by visiting the site.</li> </ol> | <p>Sections 3.2.1.2 and 3.3.1</p> |

## 3.2 Site Investigation Methodology

### 3.2.1 Site Investigation Type

The REA Regulation distinguishes between two different Site Investigation types: a physical Site Investigation and alternative Site Investigation. The details of the type of Site Investigation completed for the Project are outlined below:

#### 3.2.1.1 Physical Site Investigation

A physical Site Investigation was completed for the Project Location, on privately-owned lands subject to purchase for the Project. This included walking throughout the Project Location to investigate the site conditions (air, land and water) and verify the presence/absence of Natural Features. Dates and details of the Site Investigation and targeted studies are provided in Section 3.3.1.

#### 3.2.1.2 Alternative Site Investigation

An alternative Site Investigation was completed for privately-owned lands within 50 m of the Project Location where abutting lands are active agricultural fields or where generalized candidate SWH (cSWH) was identified. The air, land, water and verification of natural features were assessed from within the Project Location through observations made on foot. Information from the Records Review as well as a review of Google Earth latest and historical imagery (accessed April 15, 2025), used in making determinations regarding Natural Features. Dates and details of the Site Investigation are provided in Section 3.3.1.

### 3.2.2 Field Study Methodologies

The methodologies and field studies completed to determine the presence/absence of Natural Features on and within 50 m of the Project Location are provided in the subsequent sections below. All species documented in this report are referred to by common name, with the scientific name only provided once.

#### 3.2.2.1 Ecological Land Classification

Ecological Land Classification (ELC) is the recommended approach for identifying Natural Features, delineating boundaries and informing the types of field studies that may be required and in order to determine sensitive features present for Species of Conservation Concern (SoCC), Species at Risk (SAR), and Significant Wildlife Habitat (SWH).

As the Project sits within the Northwestern portion of the province, the Forest Ecosystem Classification for Northwestern Ontario was adopted (Banton *et al.*, 2009). Ecological Land

Classification: Southern Ontario (Lee, 2008) was used to describe meadow communities given the descriptions offered more detail to explain habitat in respect to Grassland Birds.

Google Earth imagery was reviewed prior to the site visit to map out vegetation communities for field verification. The minimum size for mapping polygons is 0.5 ha based on the ELC protocol. All vegetation communities within 50 m of the Project Location were mapped using ArcGIS and uploaded to a tablet for use in the field. A mobile application called Field Maps for ArcGIS was used in the field to verify and refine pre-mapped boundaries, as required. Vegetation communities were characterized based on dominant species observed and appropriate ELC codes were assigned to each polygon and habitat based on these criteria.

#### 3.2.2.2 *Wetlands*

A determination of the presence/absence of wetlands in and within 50 m of the Project Location is required. Wetlands identified through the Records Review and any additional wetlands not previously recorded were verified and their boundaries were delineated.

Similar to what was described for ELC, a review of Google Earth imagery was completed to map out any wetlands not identified through the Records Review. All wetlands in and within 50 m of the Project Location were characterized following the protocols established in the Ontario Wetland Evaluation System (OWES) Northern Manual (MNR, 2022).

The size requirement for evaluating wetlands is typically  $\geq 2.0$  ha<sup>4</sup> (OWES protocol); however, wetlands as small as 0.5 ha can be evaluated if there is some ecological significance for doing so (e.g., presence/habitat of species at risk). This Project has taken a conservative approach and will consider wetlands  $\geq 0.5$  ha that are in and/or within 50 m of the Project. Wetlands within 50 m of the Project Location will be treated as significant and assessed in the EoS following the procedures in Appendix C of the NHAG (MNR, 2012).

The mobile application (Field Maps for ArcGIS) was used in the field to verify and refine pre-mapped boundaries and any additional wetlands not previously identified. Wetland indicator species and the 50-50 rule (i.e., 50% wetland species and 50% upland vegetation) were used to determine the wetland boundaries. All flora and fauna observed within the wetland were documented. Wetlands were classified based on the dominant vegetation form. Photographs of all wetlands identified were also taken. All wetland units were mapped for consideration of wildlife habitat regardless of size. Corrections to the Records Review will only apply to wetlands  $\geq 0.5$  ha.

#### 3.2.2.3 *Wildlife Habitat*

An assessment of wildlife habitat was completed following the Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E (MNR, 2015). The MNR recognizes five main categories

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<sup>4</sup> In general, wetlands smaller than 2 ha are not evaluated unless they provide important ecological benefit (e.g., SARs, rare species, specialized wildlife habitat). Where an unevaluated wetland is identified and development is not proposed within the wetland itself, the wetland can be treated as provincially significant and conduct an EIS. In this case, the procedures for assessing the wetland are found in Appendix C (Wetland Characteristics and Ecological Functions Assessment for Renewable Energy Projects) of the NHAG (MNR, 2012).

of wildlife habitat (seasonal concentration areas of animals, rare vegetation communities, specialized habitat for wildlife, habitats for SoCC, and animal movement corridors), each with several wildlife habitat types. Indicator species, ELC requisite ecosites, and habitat criteria were used to assess the presence/absence of candidate significant wildlife habitat (cSWH) (i.e., habitat use studies required) or generalized cSWH (i.e., habitat use studies not required).

While habitat use studies are required for cSWH in the Project Location, Appendix D of the NHAG provides additional guidance for habitat use studies within 50 m (or 120 m) of an associated Project Location component. Accordingly, based on the requirements for solar projects, habitat use studies are required for any of the following habitat types found within 50 m of the Project Location:

- Colonially – Nesting Bird Breeding Habitat (Ground) – Terns.
- Colonially – Nesting Bird Breeding Habitat (Trees and Shrubs) – Herons.
- Reptile Hibernaculum.
- SoCC.
- Amphibian Movement Corridors.
- Deer Migration corridors.
- Wolf Rendezvous Sites.
- Sharp-tailed Grouse Leks.

To assist in the identification of cSWH, all incidental wildlife species encountered during the Site Investigation were recorded, as well as any features associated with the provision of wildlife habitat. Wildlife habitat features (e.g., tree cavities, crevices, rock piles, basking sites) were documented throughout the Site Investigation. Observations were also made where disturbance (such as, trail disturbance invasive species, etc.) was noted.

### **3.2.3 Wildlife Habitat Studies**

Formal and targeted surveys (e.g., breeding bird surveys, anuran call surveys, grassland bird surveys) were conducted as part of the Site Investigation, all data was collected via Field Maps. Any incidental observations or evidence of wildlife use outside of structured surveys (e.g., scat, tracks, depredated turtle nests) and their locations were recorded using a handheld GPS.

#### **3.2.3.1 Anuran Call Surveys**

Anuran Call Surveys were conducted in accordance with the Marsh Monitoring Program (Bird Studies Canada, 2000). Each amphibian survey station is to be visited a minimum of 3 nights, approximately 15 days apart, between April 15 and June 30. Surveys began one half hour after sunset and ended near midnight. The locations of the amphibian call stations were

selected based on available potential habitat such as wetlands, lakes, ponds, rivers, streams, and vernal pools, while trying to maintain a minimum of 500 m apart to reduce individuals or choruses being recorded twice. In total, eight amphibian surveys stations were completed on the dates presented in Table 3-5.

The three temperature thresholds outlined by the Marsh Monitoring Program designed to cover the calling initiation period of most Great Lakes frogs and toads were utilized and are described below.

The first visit should coincide with minimum night-time air temperatures of at least 5°C (41°F) and the first or second warm spring shower. The second survey visit should occur with nighttime air temperatures of at least 10°C (50°F) and the third visit should coincide with nighttime air temperatures of at least 17°C (63°F).

In total, eight amphibian surveys stations were completed on the dates presented in Table 3-5.

Each amphibian station was surveyed for 3 minutes, and one of three Call Level Codes was recorded to categorize the intensity of calling activity for each species. The Call Level Codes are adapted from the Ontario Amphibian Road Call Count (Bishop, Pettit, Gartshore, & MacLeod, 1997).

- **Code 1:** Calling individuals can be counted and calls are not simultaneous. In this instance, exact counts can be made of the number of calling individuals and surveyors are asked to record both the code and their count.
- **Code 2:** Calls of individuals can be distinguished but some calling is simultaneous. Under these conditions, an exact count is not possible or expected but the surveyor should be able to make a reliable estimate of the number of individuals calling. Surveyors are asked to record both the code and their count estimate.
- **Code 3:** A full calling chorus with calls continuous and overlapping. Reliable counts and even estimates are unrealistic at this level of calling intensity. No counts are requested.

### 3.2.3.2 *Bat Maternity Roost Surveys and Acoustic Monitoring*

Snag surveys were conducted following the methodology outlined in the Maternity Roost Surveys (Forests/Woodlands) and Species at Risk Bats Survey Note (MECP, 2022). Ecological Land Classification (ELC) is used to determine presence of deciduous or mixed wood forests that may contain suitable roosting features. Surveys were conducted during the leaf-off period (Spring 2025) in order to provide adequate viewing of target roost features.

The following criteria were used to assess potential maternity roost features within the Project boundaries:

- Tallest snag/cavity tree.

- Exhibits cavities/crevices originating from cracks, scars, knot holes or woodpecker cavities.
- Has the largest diameter breast height (dbh).
- Within the highest density of snags/cavity trees (i.e., clusters of snags).
- Species that provide good cavity characteristics/habitat (i.e., white pine, maple, aspen, ash, oak).
- Canopy is more open than cluttered or densely vegetated.
- Exhibits early stages of decay (decay Class 1-3).

Following the ELC exercise, snag density was calculated to attribute a high or low potential for quality maternity roost features. When calculating snag density, random plots with a radius of 12.9 m (equivalent of 0.05 hectares) are selected across a representative area of the ELC community. The number of snags and cavity trees with a diameter at breast height of >25 cm is recorded and used to calculate an approximate number of snags per hectare. Plots were then averaged, with average number of snags being calculated alongside the equation  $\pi r^2$  to determine number of snags per hectare. Where snag density was calculated to be greater than 10 snags per hectare, the community is considered high quality potential maternity roost habitat and was subject to acoustic monitoring.

Acoustic monitors were deployed during the maternal roosting season (June) over a minimum of 10 nights of appropriate weather. A total of three acoustic monitoring units were utilized to collect ultrasonic bat data within the Project Location (Figure 3-1). A biologist experienced in bat acoustic analysis and identification undertook the analysis of the data, as required by the MECP.

### 3.2.3.3 *Breeding Bird Surveys*

Breeding bird surveys were conducted following the OBBA methodology (Ontario Breeding Bird Atlas, 2021). All surveys were conducted between sunrise and 5 hours after sunrise, within a 150 m circular station, with the surveyor identifying all birds by sight and/or sound. A total of 18 breeding bird survey stations were surveyed across the Project Location (Figure 3-1) during late June and again in early July.

The methodology requires certain weather conditions to ensure the highest probability of detecting variety and presence/absence of avian species. As a result, surveys were not conducted in thick fog or when winds were >3 on the Beaufort scale (over 19 km/h). The following information was recorded on the data sheets:

- All species names in tabular format with the total number of individuals observed.
- Relative distance to the observer (within 0 to 50 m, 50 to 100 m or greater than 100 m).
- Breeding evidence recorded.

- Any SAR species, location, breeding evidence, and general behaviour.
- Sampling details (date, surveyor, location, mapping, etc.).

#### 3.2.3.4 Grassland Bird Surveys

Both Eastern Meadowlark (*Sturnella magna*) and Bobolink (*Dolichonyx oryzivorus*) are grassland avian SAR that inhabit similar open grass dominated terrestrial habitats primarily in the form of abandoned or fallow fields as well as active agricultural hayfields. The range of both species is known to overlap with the Study Area, focus was placed on both Eastern Meadowlark and Bobolink presence and habitat suitability within the Project Location.

A map of the survey station locations is shown in Figure 3-1. For the purposes of these surveys, any area greater than 2 ha in size with <25% tree cover and the presence of terrestrial grasses or herbaceous vegetation, as informed by the Ontario Recovery Strategy and Ontario's General Habitat Description document (MECP, 2025), was considered potential habitat. Furthermore, a Habitat Suitability Index (HSI) was developed and outlined within the Recovery strategy for the Eastern Meadowlark in Canada (Environment and Climate Change Canada, 2022). For Eastern Meadowlark the HSI indicates optimal breeding habitat consisted of dense grasses of moderate height (12.5 to 35 cm), low shrub cover (<5% preferred, >35% not generally used) and low forb cover with adequate perches present. Ideal vegetation height for nesting was found to be 25 to 50 cm while heights of 10 to 30 cm were found to be ideal for resting within breeding habitat. Accordingly, the Project used the below to inform survey locations:

- Eastern Meadowlark were listed as 'Threatened' on the SARO List on January 13, 2012. Eastern Meadowlark habitat preferences include moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas with small trees, shrubs or fence posts are used as elevated song perches (MNR, 2019a).
- Bobolink were listed as 'Threatened' on the SARO List on September 28, 2010. Bobolink habitat preferences include tallgrass prairies, open meadows, and hayfields, building their small nests on the ground in dense grasses and forbs (MNR, 2019b).
- The survey methodology followed the MNR Survey Protocol for Eastern Meadowlark (MNR, 2013). The protocol utilizes a point count survey methodology at locations with appropriate HSI breeding habitat. Desktop research and on-site investigations identified suitable habitat for survey locations, which included the following ELC polygon types:
  - ◆ MEFM1: Dry-Fresh Forb Meadow Ecosite.
  - ◆ MEGM3: Dry-Fresh Graminoid Meadow Ecosite.
  - ◆ MEFM4: Fresh – Moist Forb Meadow Ecosite, Open Graminoid Meadow Type.

Surveys were conducted in the summer when birds were singing and expected to defend their territories. Surveys were repeated three times at evenly spaced intervals throughout the survey period. Due to the potential presence of both SAR species, the ideal timing window for targeted surveys according to the Ontario protocol is between May 15 and July 3 (MNR, 2013). Thus, surveys were completed during this timeframe to account for both species (Appendix A):

- Surveys were conducted in conditions with good visibility, little to no precipitation, and during wind conditions of a maximum of three on the Beaufort wind scale (wind speed not exceeding 12 km/h).
- The protocol requires one-point count (200 m fixed radius) to cover a potential area of 12.6 ha of suitable habitat. For the purposes of this project, point count radii and transect widths were reduced to 150 m to align with the OBBA.
- Surveys were conducted between sunrise and concluded 4 hours after sunrise, as per the protocol guidelines.
- Surveys were repeated three times during the determined survey period to provide sufficient data for determining presence/absence of these species.

### 3.2.3.5 *Semi-Aquatic Turtles Surveys*

To facilitate discussions surrounding the presence/absence of turtles in relation to habitat availability, targeted semi-aquatic turtle surveys were completed by characterizing the potential habitat in the two present watercourses within the Project Location and completing Visual Encounter Survey per MNR recommended protocols (MNR, 2015).

#### 3.2.3.5.1 Habitat Characterization

Two linear aquatic features that are hydrologically connected to known semi-aquatic turtle overwintering and nesting habitat were identified from aerial imagery and confirmed to be present during Hatch's preliminary site investigation.

The features were characterized, documenting the following criteria:

- Flow velocity (None, Slow, Moderate, Fast).
- % Low Shrub, % Tall Shrub, % Treed, % Open/Herbaceous.
- In-Water Substrates.
- Bank Substrates.
- Presence of Nesting Habitat.
- Presence of Pools over 1 m in depth, Oxbows, Shrub Thickets, Ephemeral Pools and Potential nesting Habitat.

#### 3.2.3.5.2 Visual Encounter Surveys

Identification of habitat to be surveyed was determined through high resolution aerial imagery, orthophotos and preliminary ELC work. Historical semi-aquatic turtle occurrences were identified through a sensitive data request from the MNR as described in Section 2.

Visual Encounter Surveys (VES) were completed from May 5 to June 4 following MNR survey protocols (MNR, 2015). Given the northern latitude of the property and with significant snow and ice cover persisting into late April, VES were delayed to early May to align the survey effort with delayed spring seasonal behaviors (emergence). All surveys took place between 8 am and 5 pm. Surveys were typically focused within the water (where shallow) and within 10 m of the water's edge, with covered area being extended where features that may be used by semi aquatic turtles (i.e., ephemeral pools, shrub thickets). Two lateral transects were completed on each side of (and within) watercourse features were completed during each survey period.

Kynoch Creek was surveyed following the MNR's respective turtle survey protocol (MNR, 2015) given the typical meandering nature of the watercourse and shrub/herbaceous communities. Water was typically visible to the bottom with polarized glasses, except for certain deep pools where suspended sediment concealed the streambed. In all, the area was readily accessible for surveys, and all suitable habitats were searched extensively.

Beaver ponds associated with Wetland 3 (Figure 3-1) required more extensive binocular use for observation given it was not characteristic of habitat typically utilized by semi-aquatic turtles. Surveyors on each side of the feature would utilize binoculars extensively while walking banks of the wetland/pond environment in an attempt to identify target individuals without alerting escape responses. Habitat in the area was described as steep, with challenging slopes and beaver dams present throughout the water feature. Generally, water features were stagnant with only the inlet into Little White River exhibiting flow.

The following data was recorded for each survey:

- All species names in tabular format with the total number of individuals observed.
- Geolocation.
- Behavior at the time of observation.
- Approximate age and sex.
- Sampling details (date, surveyor, location, start/end times, weather conditions, etc.).

### 3.3 Site Investigation Results

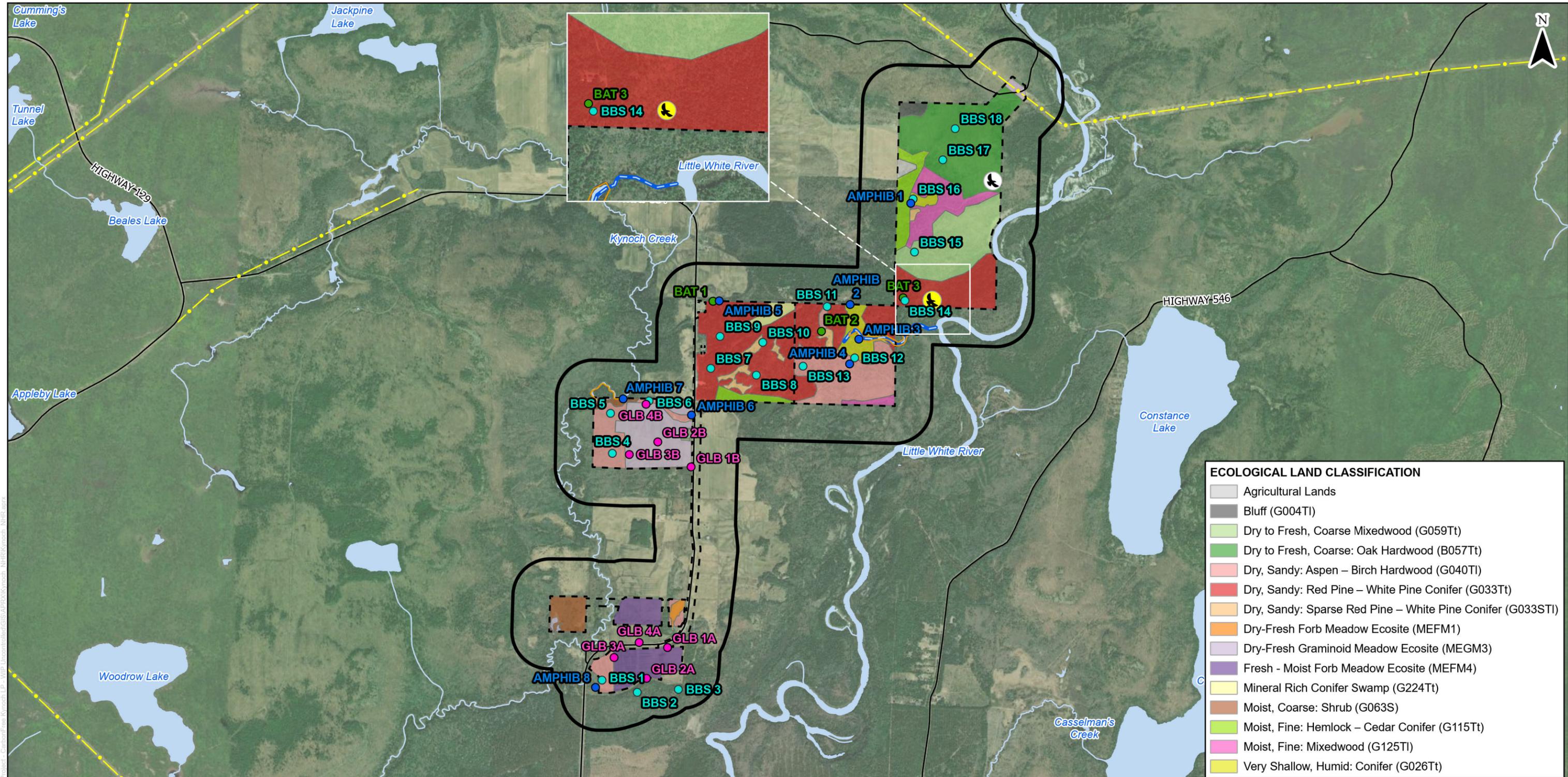
The results of the Site Investigation are discussed in the following sections and are intended to fulfill the requirements of the REA Regulation. A map showing the vegetation communities and natural features documented during the Site Investigation are provided in Figure 3-1 and Figure 3-2 summarized in the following sections.

### 3.3.1 *Site Investigation Details*

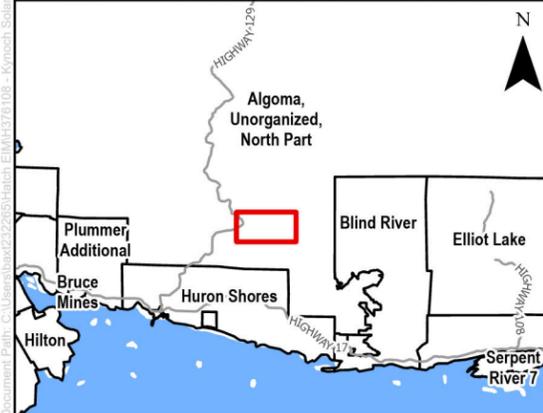
The details of the site investigation related to the dates, times and weather conditions are provided in Table 3-2 below and are intended to satisfy the requirements under Subsection 26(3) of the REA Regulation. Weather conditions are based on the weather network results for Kynoch, Ontario.

**Table 3-2: Site Investigation Details – Dates, Times and Weather Conditions**

| Date    | Survey Type   | Site Investigator        | Start Time (24 hr) | End Time (24 hr) | Duration (hr) | Weather Conditions |                             |                           |                    |
|---------|---|--------------------------|--------------------|------------------|---------------|--------------------|-----------------------------|---------------------------|--------------------|
|         |   |                          |                    |                  |               | Temp (°C)*         | Wind Speed (Beaufort Scale) | Cloud Cover (%)           | Precipitation (mm) |
| May 5   | Physical Site Investigation<br>Alternative Site Investigation<br>(50 m of Project Location) | M. Babin,<br>A. Hoffmann | 10:00              | 18:00            | 8             | 14                 | 1                           | 0                         | 0                  |
| May 19  | Physical Site Investigation<br>Alternative Site Investigation<br>(50 m of Project Location) | M. Babin,<br>A. Hoffmann | 9:00               | 18:00            | 9             | 14                 | 1                           | 80                        | 0                  |
| May 20  | Physical Site Investigation   | M. Babin,<br>A. Hoffmann | 8:00               | 16:00            | 8             | 14                 | 2                           | 0                         | 0                  |
| May 21  | Physical Site Investigation   | M. Babin,<br>A. Hoffmann | 9:15               | 12:00            | 2.75          | 14                 | 1                           | 50                        | 0                  |
| June 3  | Physical Site Investigation   | M. Babin,<br>T. Simpanen | 12:00              | 15:30            | 8             | 15                 | 1                           | Over-<br>cast<br>wildfire | 0                  |
| June 4  | Physical Site Investigation   | M. Babin,<br>T. Simpanen | 5:30               | 23:00            | 16            | 14                 | 1                           | 100                       | 0.02               |
| June 18 | Physical Site Investigation   | M. Babin,<br>T. Simpanen | 21:00              | 23:00            | 2             | 15                 | 0                           | 100                       | 0                  |
| June 19 | Physical Site Investigation   | M. Babin,<br>T. Simpanen | 5:30               | 8:30             | 3             | 16                 | 1                           | 100                       | 0                  |
| July 17 | Physical Site Investigation<br>Alternative Site Investigation<br>(50 m of Project Location) | M. Babin,<br>A. Hoffmann | 13:00              | 17:30            | 4.5           | 25                 | 1                           | N/A                       | 0                  |
| July 18 | Physical Site Investigation<br>Alternative Site Investigation<br>(50 m of Project Location) | M. Babin,<br>A. Hoffmann | 8:00               | 12:00            | 4             | 25                 | 1                           | N/A                       | 0                  |



| ECOLOGICAL LAND CLASSIFICATION |  |
|--------------------------------|--|
|                                | Agricultural Lands   |
|                                | Bluff (G004T1)   |
|                                | Dry to Fresh, Coarse Mixedwood (G059Tt)                    |
|                                | Dry to Fresh, Coarse: Oak Hardwood (B057Tt)                |
|                                | Dry, Sandy: Aspen – Birch Hardwood (G040T1)                |
|                                | Dry, Sandy: Red Pine – White Pine Conifer (G033Tt)         |
|                                | Dry, Sandy: Sparse Red Pine – White Pine Conifer (G033STI) |
|                                | Dry-Fresh Forb Meadow Ecosite (MEFM1)                      |
|                                | Dry-Fresh Graminoid Meadow Ecosite (MEGM3)                 |
|                                | Fresh - Moist Forb Meadow Ecosite (MEFM4)                  |
|                                | Mineral Rich Conifer Swamp (G224Tt)                        |
|                                | Moist, Coarse: Shrub (G063S)                               |
|                                | Moist, Fine: Hemlock – Cedar Conifer (G115Tt)              |
|                                | Moist, Fine: Mixedwood (G125T1)                            |
|                                | Very Shallow, Humid: Conifer (G026Tt)                      |



| LEGEND |                               |  |                              |  |                                  |
|--------|-------------------------------|--|------------------------------|--|----------------------------------|
|        | Bald Eagle (General Habitat)  |  | Grassland Bird Station       |  | Wood Turtle Observation Transect |
|        | Raptor Nesting Habitat        |  | Road                         |  | Project Location                 |
|        | Amphibian Station             |  | Transmission Line            |  | Study Area (300m Buffer)         |
|        | Bat Monitor                   |  | Field Identified Watercourse |  | Waterbody                        |
|        | Breeding Bird Survey Location |  | Watercourse                  |  |                                  |

NOTES:  
 1. Produced by Hatch, contains information licensed under the Open Government License – Ontario  
 2. Spatial referencing: NAD 1983 UTM Zone 17N



|               |         |   |          |  |
|---------------|---------|---|----------|--|
| PROJECT:      |         | CarbonFree Kynoch – Natural Heritage Assessment |          |  |
| FIGURE TITLE: |         | Site Investigation Results                      |          |  |
| CLIENT:       |         | CarbonFree Kynoch LTD                           |          |  |
| DWG BY:       | CHK BY: | FIG NO.:  | REV NO.: |  |
| V. BAXTER     | C. SEHL | 3-1   | 1        |  |
| DATE:         | PAGE:   |   |          |  |
| 05/02/26      | 1       |   |          |  |

### 3.3.2 Breeding Bird Surveys

Breeding bird surveys took place on June 4 and June 19, 2025, where 44 species, including three Species at Risk (SAR) were recorded. An additional eight avian species, including one SAR were recorded throughout other survey types. Table 3-3 below outlines the species detected during breeding bird surveys

**Table 3-3: Breeding Bird Survey Results**

| Common Name             | Scientific Name                  | SARO | SARA |
|-------------------------|----------------------------------|------|------|
| American Redstart       | <i>Setophaga ruticilla</i>       | -    | -    |
| Magnolia Warbler        | <i>Setophaga magnolia</i>        | -    | -    |
| Yellow-rumped Warbler   | <i>Setophaga coronata</i>        | -    | -    |
| American Robin          | <i>Turdus migratorius</i>        | -    | -    |
| Ovenbird                | <i>Seiurus aurocapilla</i>       | -    | -    |
| Cedar Waxwing           | <i>Bombycilla cedrorum</i>       | -    | -    |
| Chipping Sparrow        | <i>Spizella passerina</i>        | -    | -    |
| Red-eyed Vireo          | <i>Vireo olivaceus</i>           | -    | -    |
| Veery                   | <i>Catharus fuscescens</i>       | -    | -    |
| Winter Wren             | <i>Troglodytes hiemalis</i>      | -    | -    |
| Northern Parula         | <i>Setophaga americana</i>       | -    | -    |
| Black-and-white Warbler | <i>Mniotilta varia</i>           | -    | -    |
| White-throated Sparrow  | <i>Zonotrichia albicollis</i>    | -    | -    |
| Downy Woodpecker        | <i>Dryobates pubescens</i>       | -    | -    |
| Common Yellowthroat     | <i>Geothlypis trichas</i>        | -    | -    |
| American Crow           | <i>Corvus brachyrhynchos</i>     | -    | -    |
| Blue Jay                | <i>Cyanocitta cristata</i>       | -    | -    |
| Mourning Warbler        | <i>Geothlypis philadelphia</i>   | -    | -    |
| American Goldfinch      | <i>Spinus tristis</i>            | -    | -    |
| Eastern Meadowlark      | <i>Sturnella magna</i>           | THR  | THR  |
| Nashville Warbler       | <i>Leiothlypis ruficapilla</i>   |      |      |
| Canada Warbler          | <i>Cardellina canadensis</i>     | SC   | THR  |
| Savannah Sparrow        | <i>Passerculus sandwichensis</i> | -    | -    |
| Chestnut-sided Warbler  | <i>Setophaga pensylvanica</i>    | -    | -    |
| Song Sparrow            | <i>Melospiza melodia</i>         | -    | -    |
| Sandhill Crane          | <i>Antigone canadensis</i>       |      | -    |
| Blackburnian Warbler    | <i>Setophaga fusca</i>           | -    | -    |
| Indigo Bunting          | <i>Passerina cyanea</i>          | -    | -    |
| Wood Thrush             | <i>Hylocichla mustelina</i>      | SC   | THR  |
| Alder Flycatcher        | <i>Empidonax alnorum</i>         | -    | -    |

| Common Name                  | Scientific Name                  | SARO | SARA |
|------------------------------|----------------------------------|------|------|
| Yellow Warbler               | <i>Setophaga petechia</i>        | -    | -    |
| Wild Turkey                  | <i>Meleagris gallopavo</i>       | -    | -    |
| Northern Flicker             | <i>Colaptes auratus</i>          | -    | -    |
| Black-billed Cuckoo          | <i>Coccyzus erythrophthalmus</i> | -    | -    |
| Least Flycatcher             | <i>Empidonax minimus</i>         | -    | -    |
| Red-breasted Nuthatch        | <i>Sitta canadensis</i>          | -    | -    |
| Swainson's Thrush            | <i>Catharus ustulatus</i>        | -    | -    |
| Rose-breasted Grosbeak       | <i>Pheucticus ludovicianus</i>   | -    | -    |
| Hermit Thrush                | <i>Catharus guttatus</i>         | -    | -    |
| Eastern Phoebe               | <i>Sayornis phoebe</i>           | -    | -    |
| Black-capped Chickadee       | <i>Poecile atricapillus</i>      | -    | -    |
| Black-throated Blue Warbler  | <i>Setophaga caerulescens</i>    | -    | -    |
| Black-throated Green Warbler | <i>Setophaga virens</i>          | -    | -    |
| Hairy Woodpecker             | <i>Dryobates villosus</i>        | -    | -    |
| Eastern Bluebird             | <i>Sialia sialis</i>             | NAR  | -    |
| Bobolink                     | <i>Dolichonyx oryzivorus</i>     | THR  | THR  |
| Common Raven                 | <i>Corvus corax</i>              | -    | -    |
| American Kestrel             | <i>Falco sparverius</i>          | -    | -    |
| Barred Owl                   | <i>Strix varia</i>               | -    | -    |
| Broad-Winged Hawk            | <i>Buteo platypterus</i>         | -    | -    |
| American Woodcock            | <i>Scolopax minor</i>            | -    | -    |
| Ruffed Grouse                | <i>Bonasa umbellus</i>           | -    | -    |

### 3.3.3 Grassland Bird Surveys

Surveys were conducted as outlined in Table 3-4 below on May 20, June 5 and June 19, 2025, to capture various potential grassland bird species within the Study Area. As depicted in Figure 3-1, a total of eight survey locations were placed in areas thought to provide suitable habitat. All eight stations were surveyed three times during the survey window (May 15 to July 3), with two target species recorded.

**Table 3-4: Grassland Bird Survey Results Summary**

| Date            | Site Investigator(s)     | Point | Observations  | Time (24 hr) | Temp (°C) | Wind Speed (Beaufort) | Precipitation (mm) |
|-----------------|--------------------------|-------|---|--------------|-----------|-----------------------|--------------------|
| <b>Survey 1</b> |                          |       |   |              |           |                       |                    |
| May 20, 2025    | M. Babin,<br>A. Hoffmann | 1A    | No target grassland bird species observed.                        | 8:00         | 6         | 2                     | 0                  |
|                 |                          | 1B    | Eastern Meadowlark and Bobolink observed on neighboring property. | 8:53         | 8         | 2                     | 0                  |
|                 |                          | 2A    | No target grassland bird species observed.                        | 8:16         | 6         | 1                     | 0                  |
|                 |                          | 2B    | Eastern Meadowlark observed.                                      | 9:04         | 8         | 2                     | 0                  |
|                 |                          | 3A    | Eastern Meadowlark observed.                                      | 8:32         | 6         | 2                     | 0                  |
|                 |                          | 3B    | No target grassland bird species observed.                        | 9:16         | 8         | 2                     | 0                  |
|                 |                          | 4A    | Eastern Meadowlark observed.                                      | 8:45         | 7         | 2                     | 0                  |
|                 |                          | 4B    | No target grassland bird species observed.                        | 9:31         | 8         | 2                     | 0                  |
| <b>Survey 2</b> |                          |       |   |              |           |                       |                    |
| June 5, 2025    | M. Babin,<br>T. Simpanen | 1A    | Eastern Meadowlark observed.                                      | 7:31         | 14        | 1                     | 0                  |
|                 |                          | 1B    | Eastern Meadowlark and Bobolink observed on neighboring property. | 8:30         | 14        | 1                     | 0                  |
|                 |                          | 2A    | No target grassland bird species observed.                        | 7:42         | 14        | 1                     | 0                  |
|                 |                          | 2B    | Eastern Meadowlark and Bobolink observed on neighboring property. | 8:40         | 14        | 1                     | 0                  |
|                 |                          | 3A    | No target grassland bird species observed.                        | 7:53         | 14        | 1                     | 0                  |
|                 |                          | 3B    | Eastern Meadowlark observed.                                      | 8:55         | 14        | 1                     | 0                  |
|                 |                          | 4A    | No target grassland bird species observed.                        | 8:03         | 14        | 1                     | 0                  |
|                 |                          | 4B    | No target grassland bird species observed.                        | 8:59         | 15        | 1                     | 0                  |
| <b>Survey 3</b> |                          |       |   |              |           |                       |                    |
| June 19, 2025   | M. Babin,<br>T. Simpanen | 1A    | No target grassland bird species observed.                        | 5:40         | 15        | 1                     | 0                  |
|                 |                          | 1B    | Eastern Meadowlark and Bobolink observed on neighboring property. | 7:00         | 15        | 1                     | 0                  |
|                 |                          | 2A    | No target grassland bird species observed.                        | 5:53         | 15        | 1                     | 0                  |
|                 |                          | 2B    | No target grassland bird species observed.                        | 7:13         | 15        | 1                     | 0                  |
|                 |                          | 3A    | Eastern Meadowlark observed from across the street.               | 6:03         | 15        | 1                     | 0                  |
|                 |                          | 3B    | No target grassland bird species observed.                        | 7:23         | 15        | 1                     | 0                  |
|                 |                          | 4A    | No target grassland bird species observed.                        | 6:45         | 6         | 2                     | 0                  |
|                 |                          | 4B    | No target grassland bird species observed.                        | 7:55         | 8         | 2                     | 0                  |

### 3.3.4 Anuran Call Surveys

Surveys were conducted as outlined in Table 3-5 during May and June 2025 to capture various potential breeding amphibian species within the Study Area. As depicted in Figure 3-1, a total of eight survey locations were placed in areas thought to provide suitable habitat. All eight stations were surveyed three times during the survey window (April 15 to June 30), with six species recorded.

**Table 3-5: Anuran Survey Results Summary**

| Date            | Site Investigator(s)     | Station | Species Detected  | Calling Code (1-3) | Start Time (24 hr) | End Time (24 hr) | Weather Conditions |                             |                 |                    |
|-----------------|--------------------------|---------|---|--------------------|--------------------|------------------|--------------------|-----------------------------|-----------------|--------------------|
|                 |                          |         |   |                    |                    |                  | Temp (°C)          | Wind Speed (Beaufort Scale) | Cloud Cover (%) | Precipitation (mm) |
| <b>Survey 1</b> |                          |         |   |                    |                    |                  |                    |                             |                 |                    |
| May 20          | M. Babin,<br>A. Hoffmann | 1       | Spring Peeper, Wood Frog                                | 3                  | 9:20               | 9:23             | 12                 | 1                           | 0               | 0                  |
| May 20          |                          | 2       | Spring Peeper, Wood Frog                                | 3                  | 9:36               | 9:39             | 12                 | 1                           | 0               | 0                  |
| May 20          |                          | 3       | Spring Peeper, Wood Frog, Leopard Frog                  | 3                  | 10:02              | 10:05            | 10                 | 1                           | 0               | 0                  |
| May 20          |                          | 4       | Spring Peeper   | 2                  | 9:52               | 9:55             | 11                 | 1                           | 0               | 0                  |
| May 20          |                          | 5       | Spring Peeper, Wood Frog                                | 3                  | 10:26              | 10:29            | 8                  | 1                           | 0               | 0                  |
| May 20          |                          | 6       | None  | 0                  | 10:48              | 10:51            | 7                  | 1                           | 0               | 0                  |
| May 20          |                          | 7       | None  | 0                  | 11:05              | 11:08            | 6                  | 1                           | 0               | 0                  |
| May 20          |                          | 8       | Spring Peepers, Green Frog (Visual)                     | 1                  | 10:38              | 10:41            | 7                  | 1                           | 0               | 0                  |
| <b>Survey 2</b> |                          |         |   |                    |                    |                  |                    |                             |                 |                    |
| June 4          | M. Babin,<br>T. Simpanen | 1       | Gray Treefrog, Spring Peeper                            | 3                  | 9:39               | 9:42             | 16                 | 1                           | 100             | 0                  |
| June 4          |                          | 2       | Gray Treefrog, Spring Peeper                            | 3                  | 9:55               | 9:58             | 16                 | 1                           | 100             | 0                  |
| June 4          |                          | 3       | Gray Treefrog, Spring Peeper                            | 3                  | 10:00              | 10:03            | 16                 | 1                           | 100             | 0                  |
| June 4          |                          | 4       | Peepers   | 1                  | 10:07              | 10:10            | 14                 | 1                           | 100             | 0                  |
| June 4          |                          | 5       | Gray Treefrog, American Toad, Spring Peeper, Green Frog | 3                  | 10:25              | 10:28            | 10                 |                             |                 |                    |
| June 4          |                          | 6       | None  | 0                  | 10:30              | 10:33            | 9                  | 0                           | 80              | 0                  |
| June 4          |                          | 7       | None  | 0                  | 10:39              | 10:42            | 8                  | 0                           | 80              | 0                  |

| Date            | Site Investigator(s)     | Station | Species Detected  | Calling Code (1-3)                                  | Start Time (24 hr) | End Time (24 hr) | Weather Conditions |                             |                 |                    |
|-----------------|--------------------------|---------|---|---|--------------------|------------------|--------------------|-----------------------------|-----------------|--------------------|
|                 |                          |         |   |   |                    |                  | Temp (°C)          | Wind Speed (Beaufort Scale) | Cloud Cover (%) | Precipitation (mm) |
| June 4          |                          | 8       | Gray Treefrog, Spring Peeper, Green Frog                | 3 (Spring Peeper, 1 (Gray Treefrog) and Green Frog) | 10:52              | 10:55            | 10                 | 1                           | 100             | 0                  |
| <b>Survey 3</b> |                          |         |   |   |                    |                  |                    |                             |                 |                    |
| June 18         | M. Babin,<br>T. Simpanen | 1       | None  | 0   | 9:40               | 9:43             | 25                 | 1                           | 100             | 0                  |
| June 18         |                          | 2       | Gray Treefrog, Spring Peeper                            | 3   | 9:55               | 9:58             | 24                 | 1                           | 100             | 0                  |
| June 18         |                          | 3       | Gray Treefrog   | 3   | 10:02              | 10:05            | 24                 | 1                           | 100             | 0                  |
| June 18         |                          | 4       | None  | 0   | 10:09              | 10:12            | 24                 | 1                           | 100             | 0                  |
| June 18         |                          | 5       | Gray Treefrog, Spring Peeper, Green Frog, American Toad | 3   | 10:25              | 10:28            | 24                 | 1                           | 100             | 0                  |
| June 18         |                          | 6       | None  | 0   | 10:32              | 10:35            | 24                 | 1                           | 100             | 2                  |
| June 18         | M. Babin                 | 7       | None  | 0   | 10:42              | 10:45            | 24                 | 1                           | 100             | 2                  |
| June 18         | T. Simpanen              | 8       | Gray Treefrog, American Toad                            | 2   | 10:45              | 10:48            | 24                 | 1                           | 100             | 2                  |

### 3.3.5 Turtle Visual Encounter Surveys

#### 3.3.5.1 Habitat Characterization

No observations of turtles were made within Kynoch Creek throughout the targeted surveys. Based on the sites' characteristics, the reach of Kynoch Creek subject to surveys does appear to offer some suitability for semi-aquatic turtles as described in Table 3-6. Kynoch Creek is not considered high quality in comparison to other watercourses nearby (Little White River) and is unlikely to serve as overwintering habitat.

In a scenario where water levels within Wetland 3 exceed the capacity of the existing beaver dams, water could flow into the Little White River. Given the proximity to known semi-aquatic turtle observations (under 500 m) it is possible that individuals could use the feature for dispersal or limited foraging opportunities. However, the high residence time of the water, poor terrestrial and shoreline compositions, lack of usable habitat features, and poor substrate composition suggests this feature does not meet the definition of habitat, nor qualifies as SWH per Ecoregion Schedule 5E (MNR, 2015).

**Table 3-6: Semi-Aquatic Turtle Habitat Characterization Results Summary**

| Transect Name | Substrate   | Transect Length (One Way) | Aquatic Habitat Description   | Adjacent Terrestrial Habitat | Shoreline Composition                               | Habitat Features Observed  | Water Body Flow                 |
|---------------|---|---------------------------|---|------------------------------|---|--|---------------------------------|
| Kynoch Creek  | <i>Gravel (10%), Sand (40%), Silt (40%), Cobble (10%)</i> | 500 m                     | Meandering Creek, Banks ~1 m higher than water level, pools and riffles present intermittently, bottom typically visible outside of deep pools, no or very limited emergent or floating vegetation.                                   | Deciduous Forest             | 15% Open, 25% Short Shrub, 35% Tall Shrub, 25% Tree | Shrub Thickets, Deep Pools, Ephemeral Pools (Limited), Potential Nesting Habitat | Low – Below Banks, Low Velocity |
| Beaver Ponds  | <i>Organic (80%), Silt (20%)</i>                          | 650 m                     | Stagnant, putrid water. Bottom not visible. Plenty of basking features for basking turtles but no turtles observed. Unlikely to be able to support fish. Emergent vegetation present near banks, little floating vegetation observed. | Mixed Forest                 | 100% Tree   | None   | Stagnant                        |

### 3.3.5.2 Visual Encounter Surveys

Visual Encounter Surveys occurred for approximately 2 to 2.5 hours per survey. In total approximately 1150 m of potential habitat was surveyed. As forested edges were typically deeply encroached on aquatic habitat, surveys typically occurred within 25 m of the banks at all times, with entire width of terrestrial habitat suitable for seasonal behaviors (open, shrub, herbaceous, etc.) being thoroughly searched until the tree line.

No turtles were observed within the Project Location or within 50 m of the during any survey.

**Table 3-7: Visual Encounter Survey Results Summary**

| Survey Dates | Air Temp (°C) | Start Time (24 hr) | End Time (24 hr) | Weather Conditions |                             |                 |                    | Number of Observations |
|--------------|---------------|--------------------|------------------|--------------------|-----------------------------|-----------------|--------------------|------------------------|
|              |               |                    |                  | Water Temp (°C)    | Wind Speed (Beaufort Scale) | Cloud Cover (%) | Precipitation (mm) |                        |
| May 5, 2025  | 14            | 10:00              | 4:00             | 12.9               | 0                           | 50-100          | 0                  | 0                      |
| May 19, 2025 | 14            | 12:54              | 2:54             | 12                 | 0                           | 80              | 0                  | 0                      |
| May 20, 2025 | 14            | 12:00              | 2:30             | 12                 | 0                           | 0               | 0                  | 0                      |
| May 21, 2025 | 13            | 9:15               | 12:00            | N/A                | 1                           | 50              | 0                  | 0                      |
| June 3, 2025 | 20            | 1:30               | 3:30             | N/A                | 0                           | 100             | 0                  | 0                      |

### 3.3.6 *Bat Surveys*

#### 3.3.6.1 *Snag and Potential Roosting Habitat Results*

Snag surveys were conducted following the methodology outlined in the Maternity Roost Surveys (Forests/Woodlands) and Species at Risk Bats Survey Note (MECP, 2022). Snag density was recorded within representative plots across each ELC community identified as potential maternity roost habitat for bat species. Overall, snag density was relatively high within the Project Location, with all communities having an average snags per hectare of greater than 5. Several of the identified communities were determined to have a significant number of average snags per hectare (>10 snags per hectare) and are considered to be high potential maternity roost habitat. The following ecosites as shown in Figure 3-1 were characterized as potentially high-quality maternity roost habitat:

- Dry to Fresh, Coarse Mixedwood G059Tt.
- Dry to Fresh, Coarse: Oak Hardwood B057Tt.
- Dry, Sandy: Red Pine – White Pine Conifer G033Tt.
- Moist, Fine: Hemlock – Cedar Conifer G115Tt.
- Very Shallow, Humid: Conifer G026Tt.

Snag densities were used to inform acoustic monitor placement to collect data for Bat Acoustic Monitoring Surveys in Section 3.3.6.2.

#### 3.3.6.2 *Bat Acoustic Monitoring Results*

A total of three acoustic monitoring units were placed within high quality habitat to determine the presence/absence of bat species within the area in an attempt to inform the potential quality of maternity roost habitat. All three began recording the night of June 4 and remained operational until retrieval on June 30.

**Table 3-8: Bat Acoustic Results Summary**

| Species                     | Scientific Name                  | SARO | COSEWIC Status | Unit 1 | Unit 2 | Unit 3 | Total All Units (Combined) |
|-----------------------------|----------------------------------|------|----------------|--------|--------|--------|----------------------------|
| Big Brown Bat               | <i>Eptesicus fuscus</i>          | -    | -              | 52     | 419    | 59     | 530                        |
| Hoary Bat                   | <i>Lasiurus cinereus</i>         | END  | END            | 85     | 78     | 36     | 199                        |
| Eastern Red Bat             | <i>Lasiurus borealis</i>         | END  | END            | 0      | 8      | 4      | 12                         |
| Eastern Small-footed Myotis | <i>Myotis leibii</i>             | END  | END            | 0      | 0      | 62     | 62                         |
| Little Brown Myotis         | <i>Myotis lucifugus</i>          | END  | END            | 3      | 78     | 143    | 224                        |
| Silver-haired Bat           | <i>Lasionycteris noctivagans</i> | END  | END            | 60     | 111    | 103    | 274                        |
| Unknown (NoID)              | N/A                              |      | N/A            | 155    | 118    | 721    | 994                        |
| Total Counts (All Species)  |                                  |      |                | 355    | 812    | 1,128  | 2,295                      |

A total of six bat species were detected during the monitoring period. ‘Unknown’ detections are recordings that could not be attributed or narrowed down to the species level as call structure was weak or did not have enough call notes to confirm down to the species level but are distinct from noise files and are within the ultrasonic bat call range.

Majority of the bat activity was attributed to ‘Unknown’ and Big Brown Bat between all units. Two Myotis species were detected during the monitoring period; however, Eastern Small-footed Myotis was detected only at Bat Unit 3. A noticeable abundance of Myotis activity was noted at Bat Unit 3, with the highest Little Brown Myotis detections occurring at this station, totaling 143 confirmed detections.

### **3.3.7 Ecological Land Classification**

The proposed Project is located on several private properties within the Kynoch area that have historically been used for agricultural, logging, and recreational usage inclusive of trails for motorized vehicles, rock climbing and access to the Little White River. Currently, the properties serve agricultural, residential and commercial (cottage rental) purposes.

ELC was carried out during the leaf-on season, on July 17 and 18, 2025. Field verification included species inventories (trees, shrubs, vascular plants, rare plants, ground cover, etc.) and characterization of each vegetation community. Additional focus was placed on grassland habitats given the occurrence of SAR grassland birds in the area. Meadow species identification took place to rank and assess the quality of the grasslands throughout the proposed footprint. In addition, forested communities were characterized using aerial imagery and hierarchical dominance of woody species. Changes in topography are frequent in the area with lowlands, mid-slopes, rolling uplands and flat, graded areas being present.

General avoidance of wetlands with a 30 m buffer has been incorporated into proposed project design. Wetlands are typically characterized by Treed Swamp with bogs being sporadic in forested areas. Water courses are also avoided within the proposed footprint, with a general 120 m buffer being incorporated into proposed project layout. However, these features were still subject to Ecological Land Classification to better understand the landscape and how features interact with one another.

Boreal Ecosites of Ontario (Banton *et al.*, 2009) was used to describe all forested communities. Ecological Land Classification: Southern Ontario (Lee, 2008) was used to describe meadow communities given the descriptions offered more detail to explain habitat in respect to Grassland Birds.

A summary of the ELC communities identified in and within 50 m of the Project Location is provided in Table 3-9.

**Table 3-9: Summary of ELC Communities and Watercourses on and Within 50 m of the Project Location**

| ELC Community       | ELC Code | ELC Ecosite                                      | Community Description  |
|---------------------|----------|--|--|
| Coniferous Woodland | G033Tt   | Dry, Sandy: Red Pine – White Pine Conifer        | Old legacy pines often dominate the canopies where this community type is present, with poplars and regenerating pines filling in the remaining gaps where Historic clearing had taken place. Tamarack and Spruce become equal in poplars in dominance when the community type borders a wetland. Soils are typically very sandy and dry.  |
| Deciduous Woodland  | G040TI   | Dry, Sandy: Aspen-Birch Hardwood                 | This community type is often seen where no legacy pines remained from prior clearing. It is typically a Trembling Aspen monoculture, with Bigtooth Aspen, Red Maple, Sugar Maple and Balsam Poplar varying in abundance according to moisture regime. This community type is typically dry given the deep sandy soils present in the area, with some fresh areas (where maples begin to share dominance) when loam is more present in the substrate. |
| Deciduous Woodland  | G039TI   | Dry, Sandy: Aspen – Birch Hardwood               | This community type appears where Pine and Poplars are of equal dominance and with a clear distinction in overall stand maturity from trees observed elsewhere. Understory in this area is typically comprised of maple and balsam, with some red oaks taking up abundance in limited locations.   |
| Coniferous Woodland | G033STI  | Dry, Sandy: Sparse Red Pine – White Pine Conifer | This Community Type has legacy White Pines as the only canopy trees, with open sand, grasses and patches of small regenerating shrub, red pine and poplars. They are typically found at higher elevations where the substrate composition is nearly 100% sand.   |
| Mixed Woodland      | G059Tt   | Dry to Fresh, Coarse Mixedwood                   | This community serves as the transition point from the sandy pine dominated forests to the Oak and Sugar Maple dominated areas in the northern extremes of the study area. These areas vary from fresh to moist based on elevation with higher species diversity in groundcover.   |

| ELC Community       | ELC Code | ELC Ecosite                          | Community Description   |
|---------------------|----------|--------------------------------------|---|
| Coniferous Woodland | G026Tt   | Very Shallow, Humid: Conifer         | The most abundant forest found in many low-lying areas in the southeastern portions of the property. Associate species include Black spruce and Tamarack with the soils often being saturated or very moist with a characteristic sphagnum moss carpet overlying the mineral soils.   |
| Coniferous Swamp    | G224Tt   | Mineral Rich Conifer Swamp           | A very distinct regenerating area where Tamarack is abundant. Moisture in this area is thought to persist longer than other swamps and has delayed tree growth as a result. Tree Composition includes Tamarack and Black Spruce nearly exclusively here.  |
| Mixedwood Swamp     | G125Tl   | Moist, Fine: Mixedwood               | A permanently wet swamp which occurs at a central low point of the property prior to a dramatic increase in elevation leading to the northern deciduous forests. Most trees central to the feature have drowned with Balsam, Spruce, poplars and Red-Maple dominating the features edges. Herbaceous plants and shrubs are abundant in the water but have not been identified given difficulty of access. |
| Deciduous Forest    | G057Tt   | Dry to Fresh, Coarse: Oak Hardwood   | As the dominant community type in the northern portions of the study area, this community type is representative of an increase in elevation as you move towards the bluff area northwest on the site. Soils are sandy loam and associate species include yellow birch, striped maple, red maple and alder.   |
| N/A                 | G004Tl   | Bluff                                | The highest point of elevation in the area. These bluffs vary from exposed rock, shallow mineral soils. Sugar Maple and Striped Maple are dominant here, with White Pine becoming increasingly prominent as soils become deeper away from exposed rock. Characteristic bluff species like Rock Polypody, Smooth Rock Tripe, Shortbush Blueberry and Rock Harlequin occur here.                            |
| Coniferous Woodland | G115Tt   | Moist, Fine: Hemlock – Cedar Conifer | A low-lying community found at the slope's toe heading towards the Kynoch bluffs. White Cedar and Balsam Fir share dominance with few other treed species occurring. Several wetlands indicator species can be found around the community's edges because of dispersal from adjacent wetland communities.   |
| Meadow              | MEFM4    | Fresh - Moist Forb Meadow Ecosite    | A meadow community where forbs are more prominent than graminoid species. Moisture varies greatly in this community due to the presence of historic agricultural drainage. In moist areas, Gray Willow and Poplars are beginning early succession of the meadow.  |
| Meadow              | MEGM3    | Dry-Fresh Graminoid Meadow Ecosite   | A meadow community where graminoid species are more prominent than forbs. Moisture availability varies in this community due to the presence of historic agricultural drainage but is typically considered dry given the rolling upland topography and clay soils limiting water residence time within the meadow.  |

### **3.3.8 Confirmation and Assessment of Natural Features**

The following sections include the natural features to be assessed as part of the Natural Heritage Assessment (NHA). Confirmation of the Records Review (Section 2) findings and any additional natural features discovered during the Site Investigation are discussed in the following sections.

#### **3.3.8.1 Wetlands**

The Records Review identified four unevaluated wetlands in or within 50 m of the Project Location, as confirmed during the Site Investigation. Additional wetlands were added based on observations made during the Site Investigation. A portion of a wetland (Wetland 2 in Figure 2-1) was determined to be absent. All wetlands present over 2 ha will be assumed significant for the purposes of this NHA and will be carried forward to an EIS. A summary of wetland results and corrections to the Desktop Review are available within Figure 3-2.

#### **3.3.8.2 Wildlife Habitat**

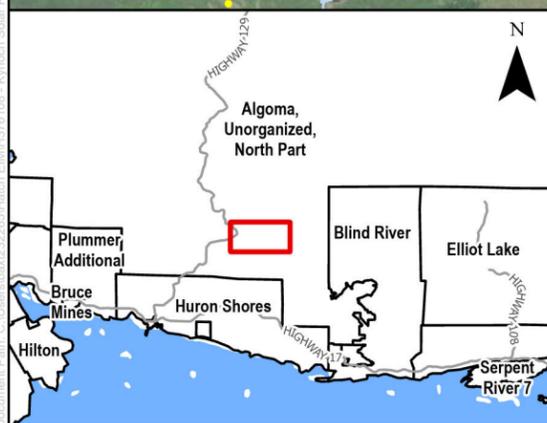
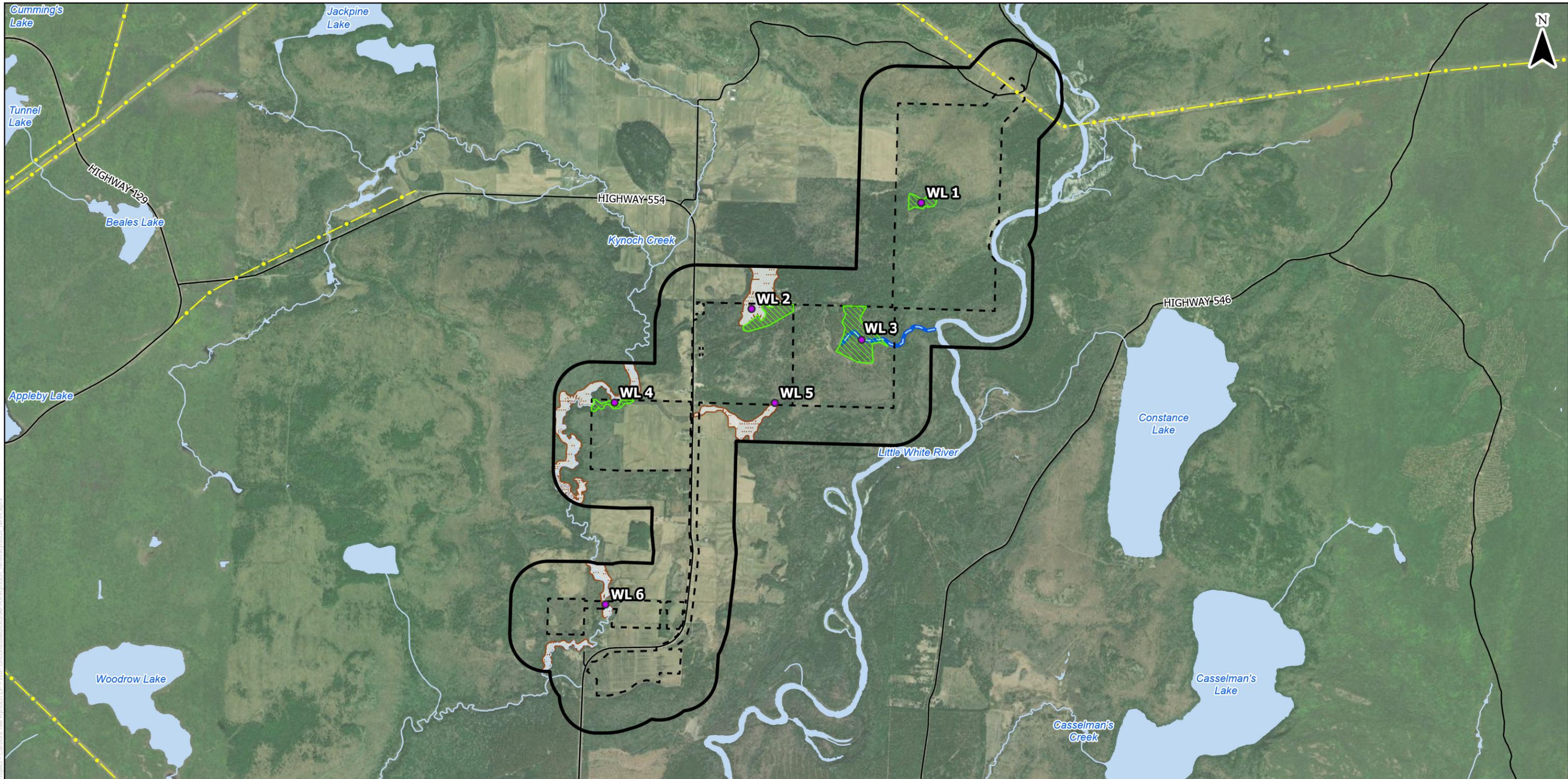
The REA Regulation requires determination on whether any wildlife habitats identified through the NHA are significant. The Records Review did not identify any specific wildlife habitat types or confirmed significant wildlife habitat (SWH) on or within 50 m of the Project Location.

The definition of wildlife habitat in the REA Regulation includes an area

- Where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, water, shelter and space to sustain their population, including
  - ◆ Where a species concentrates at a vulnerable point in its annual or life cycle.
  - ◆ Important to a migratory or non-migratory species.

The purpose of the Site Investigation was to confirm the existence of candidate Significant Wildlife Habitat (cSWH) or generalized cSWH and verify the existence of any previously confirmed SWH identified in the Records Review.

All wildlife habitats identified in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E (MNR, 2015) were assessed to determine presence/absence and candidate significance in and within 50 m of the Project Location.



**LEGEND**

- Wetland
- Road
- Transmission Line
- Watercourse
- Field Identified Watercourse
- Project Location
- Study Area (300m Buffer)
- Waterbody
- Additional Identified Wetland
- Unevaluated Wetland (MNR)

NOTES:  
 1. Produced by Hatch, contains information licensed under the Open Government License – Ontario  
 2. Spatial referencing: NAD 1983 UTM Zone 17N



**PROJECT:** CarbonFree Kynoch – Natural Heritage Assessment

**FIGURE TITLE:** Delineated Wetlands

**CLIENT:** CarbonFree Kynoch LTD

|                             |                           |                        |                      |              |
|-----------------------------|---------------------------|------------------------|----------------------|--------------|
| <b>DWG BY:</b><br>V. BAXTER | <b>CHK BY:</b><br>C. SEHL | <b>FIG NO.:</b><br>3-2 | <b>REV NO.:</b><br>1 | <b>HATCH</b> |
| <b>DATE:</b><br>05/02/26    | <b>PAGE:</b><br>1         |                        |                      |              |

The MNR recognizes five main categories of wildlife habitat (seasonal concentration areas of animals, rare vegetation communities, specialized habitat for wildlife, habitats for SoCC, and animal movement corridors), each with several wildlife habitat types. Indicator species, ELC requisite ecosites and habitat criteria were used to assess the presence/absence of cSWH or generalized cSWH. An assessment of each of these habitat categories is provided in the following sections.

#### 3.3.8.2.1 Seasonal Concentration Areas of Animals

The Natural Heritage Reference Manual (NHRM) (MNR, 2010) describes seasonal concentration areas of animals as

- Areas where animals occur in relatively high densities for the species at specific periods in their life cycles and/or in particular seasons.
- Seasonal concentration areas, which tend to be localized and relatively small in relation to the area of habitat used at other times of the year.

The criteria outlined in the SWH Ecoregion 5E Criterion Schedule (MNR, 2015) was used to determine the presence/absence and evaluate the significance of seasonal concentration areas within the study area. An assessment of each of the habitat types associated with this category is provided in Table 3-10.

#### 3.3.8.2.2 Rare Vegetation Communities

The NHRM (MNR, 2010) describes rare vegetation communities as

- Areas that contain a provincially rare vegetation community.
- Areas that contain a vegetation community that are rare within the planning area.

The criteria outlined in the SWH Ecoregion 5E Criterion Schedule (MNR, 2015) was used to determine the presence/absence and evaluate the significance of rare vegetation communities within the study area. An assessment of each of the rare vegetation communities considered rare within Ecoregion 5E is provided in Table 3-11.

#### 3.3.8.2.3 Specialized Habitat for Wildlife

The NHRM (MNR, 2010) describes specialized habitats for wildlife as

- Areas that support wildlife species that have highly specific habitat requirements.
- Areas with high species and community diversity.
- Areas that provide habitat that greatly enhance species' survival.

The criteria outlined in the SWH Ecoregion 5E Criterion Schedule (MNR, 2015) was used to determine the presence/absence and evaluate the significance of specialized wildlife habitat within the study area. An assessment of each of the habitat types associated with this category is provided in Table 3-12.

#### 3.3.8.2.4 Habitat for Species of Conservation Concern

The NHRM (MNR, 2010) defines habitats of SoCC as

- Species that are designated at the national level as endangered or threatened by COSEWIC, which are not protected in regulation under the ESA.
- Species listed as special concern under the ESA on the SARO List.
- Habitat for species that are rare or substantially declining or have a high percentage of their global population in Ontario.

The SWHTG (MNR, 2000) defines rare or significant species at six levels: globally significant; nationally significant; provincially significant; regionally significant; locally significant (within a Site District); significant within a planning authority's jurisdiction. The levels of rarity are defined in Section 1.

SoCC does not include Provincially or Federally designated species listed as Endangered or Threatened and protected in regulation under the ESA or Schedule 1 of SARA. Those species are identified as "Species at Risk" and are engaged on with the MECP separately.

A list of SoCC that have been recorded within the study area is provided in Appendix A. The habitat guides and criteria outlined in the SWH Ecoregion 5E Criterion Schedule (MNR, 2015) were used to determine the presence/absence and evaluate the significance of habitat for SoCC recorded within the Project Location. An assessment of each of the habitat guides associated with this category is provided in Table 3-13.

#### 3.3.8.2.5 Animal Movement Corridors

The NHRM (MNR, 2010) describes animal movement corridors as

- Habitats that link two or more wildlife habitats that are critical to the maintenance of a population of a particular species or group of species.
- Habitats with a key ecological function to enable wildlife to move, with minimum mortality, between areas of significant wildlife habitat or core natural areas.

The criteria outlined in the SWH Ecoregion 5E Criterion Schedule (MNR, 2015) were used to determine the presence/absence and evaluate the significance of animal movement corridors within the study area. An assessment of each of the habitat types associated with this category is provided in Table 3-14.

**Table 3-10: cSWH Assessment for Seasonal Concentration Areas of Animals**

| cSWH Type for Seasonal Concentration Areas of Animals | Candidate Significant Wildlife Habitat (cSWH) Criteria  |  |  | Assessment of cSWH   |                           |                                       |                 | Carried Forward to EoS (Y/N) |
|---|---|--|--|--|---------------------------|---------------------------------------|-----------------|------------------------------|
|   | Indicator Species   | ELC Ecosite Codes  | Habitat Criteria   | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) | cSWH Feature ID |                              |
| Waterfowl Stopover and Staging Areas (Terrestrial)    | American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall   | G060-062<br>G093-095<br>G077-079<br>G109-111                               | <ul style="list-style-type: none"> <li>Fields with sheet water during Spring (mid-March to May).</li> <li>Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.</li> <li>Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.</li> </ul>  | No open areas suitable for waterfowl staging are present within 50 m of any project components. Any nearby agricultural areas are grassland, meaning they are unlikely to support any waste grain or spring sheet water.   | N                         | N                                     | N/A             | N                            |
| Waterfowl Stopover and Staging Areas (Aquatic)        | Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Common Merganser, Lesser Scaup, Greater Scaup, Long-tailed Duck, Surf Scoter, White-winged Scoter, Black Scoter, Ring-necked Duck, Common Goldeneye, Bufflehead, Redhead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback      | G142-G152  | <ul style="list-style-type: none"> <li>Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and stormwater ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify.</li> <li>These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).</li> </ul>  | No large water features suitable for stop-over are present within 50 m of project infrastructure. Small beaver dams that retain water have created stagnant ponds that cannot sustain an abundant food supply and have banks dominated by tall trees that would impede landing and take-off. | N                         | N                                     | N/A             | N                            |
| Shorebird Migratory Stopover Area                     | Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden-Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Purple Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy Turnstone, Sanderling, Dunlin | G005-G006<br>G170-G172<br>G186-G188<br>G160-G162<br>G176-G178<br>G204-G214 | <ul style="list-style-type: none"> <li>Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and unvegetated shoreline habitats.</li> <li>Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.</li> <li>Sewage treatment ponds and stormwater ponds do not qualify as a SWH.</li> </ul> | The nearest shoreline that could support shorebird migratory stopover is found along the Little White River, more than 50 m from any project infrastructure.   | N                         | N                                     | N/A             | N                            |

| cSWH Type for Seasonal Concentration Areas of Animals | Candidate Significant Wildlife Habitat (cSWH) Criteria   |   |  | Assessment of cSWH   |                           |                                       |                                | Carried Forward to EoS (Y/N) |
|---|--|---|--|--|---------------------------|---------------------------------------|--------------------------------|------------------------------|
|   | Indicator Species  | ELC Ecosite Codes   | Habitat Criteria   | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) | cSWH Feature ID                |                              |
| Raptor Wintering Area                                 | Rough-legged Hawk, Long-eared Owl, Boreal Owl, Northern Saw-whet Owl<br><br><u>Special Concern:</u><br>Short-eared Owl | Combination of meadow/field and forested ecosites. Need to have a forest ELC Ecosite:<br>G011-G019    G023-G028<br>G033-G043    G048-G059<br>G064-G076    G081-G092<br>G097- G108    G113-G125<br><br>or:<br><br>Central Ontario FEC Ecosites<br>ES11 – ES35<br>and a meadow/field ELC Ecosite:<br>G020-022    G029-032<br>G044-047    G060-063<br>G077-080    G093-096<br>G109-112 | <ul style="list-style-type: none"> <li>The habitat provides a combination of fields and treed areas that provide roosting, foraging and resting habitats for wintering raptors.</li> <li>Raptor wintering sites need to be &gt;20 ha with a combination of forest and upland.</li> <li>Least disturbed sites, idle/fallow or lightly grazed field/meadow (&gt;15 ha) with adjacent trees.</li> <li>Field area of the habitat is to be wind swept with limited snow depth or accumulation.</li> </ul> | While ecosites that fit the criteria of Raptor Wintering Habitat are found within the Project Location the combination of undisturbed fields and large undisturbed forests don't meet the criteria for cSWH components, none of the indicator species were observed using the area so it will not be carried forward in the EIS. | N                         | N                                     | Balsam Fir Coniferous (G026Tt) | N                            |
| Bat Hibernacula                                       | Big Brown Bat, Tri-coloured Bat  | Bat Hibernacula may be found in association with components of cliffs and rock talus in these ELC Ecosites:<br>G158-G159    G164<br>G180-G181<br><br>Calcareous bedrock is fairly rare in Ecoregion 5E. Or Central Ont.<br>FEC:<br>ES4            ES5<br><br>(Note: buildings are not considered to be SWH.)  | <ul style="list-style-type: none"> <li>Hibernacula may be found in abandoned caves, mine shafts, underground foundations and karsts.</li> <li>Active mine sites should not be considered as SWH.</li> <li>The locations of bat hibernacula are relatively poorly known.</li> <li>Buildings are not considered to be SWH.</li> </ul>  | Despite one Bluff being identified and thoroughly searched, no features that would permit bat overwintering were found within 50 m of any Project Location.  | N                         | N                                     | N/A                            | N                            |

| cSWH Type for Seasonal Concentration Areas of Animals | Candidate Significant Wildlife Habitat (cSWH) Criteria  |  |   | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N)  |                 |
|---|---|--|---|--|---------------------------|---------------------------------------|---|-----------------|
|   | Indicator Species   | ELC Ecosite Codes  | Habitat Criteria  | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |   | cSWH Feature ID |
| Bat Maternity Colonies                                | Big Brown Bat, Silver-haired Bat  | <p>Maternity colonies considered SWH are found in forested Ecosites. ELC Ecosites:</p> <p>G016-G019    G028<br/>G040-G043    G055-G059<br/>G070-G076    G088-G092<br/>G103- G108    G118-G125</p> <p>or: Central Ontario Forest Ecosites:</p> <p>ES14            ES17<br/>ES18            ES23<br/>ES24            ES25<br/>ES26            ES27<br/>ES28            ES29<br/>ES30</p> | <ul style="list-style-type: none"> <li>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</li> <li>Maternity roosts are not found in caves and mines in Ontario.</li> <li>Maternity colonies located in Mature (dominant trees &gt;80 yrs old) deciduous or mixed forest stands with &gt;10/ha large diameter (&gt;25 cm dbh) wildlife trees.</li> <li>Female Bats prefer wildlife trees (snags) in early stages of decay, Class 1 or 2 or Class 2 to 4, can be living or with bark mostly intact.</li> <li>Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.</li> </ul> | There are deciduous and mixed forests in and within 50 m of the Project Location. Presence of SAR and SoCC was determined through acoustic surveys. These treed habitats are assumed to contain some level of potential roosting habitat. As this habitat type is considered generalized, an EIS will be completed to provide general mitigation to protect the SWH. | Y                         | Y                                     | <p>Dry-Fresh Poplar Deciduous Forest Type (G040TI)</p> <p>Fresh-Moist White Pine – Sugar Maple Mixed Forest (G059Tt)</p> <p>Red Maple – Conifer Mineral Mixed-Swamp Type (G125TI)</p> | Y               |
| Turtle Wintering Areas                                | Midland Painted Turtle<br><br><u>Special Concern:</u><br>Northern Map Turtle<br>Snapping Turtle | <p>For Snapping and Midland Painted turtles; ELC Ecosites:<br/>G128-G135<br/>G140-G152</p> <p>For Northern Map Turtle - Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p>   | <ul style="list-style-type: none"> <li>For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates.</li> <li>Over-wintering sites are permanent waterbodies, large wetlands, and bogs or fens with adequate dissolved oxygen.</li> <li>Year-round persistence of standing or flowing water to depth, or presence of springs to prevent freezing is key.</li> <li>Man-made ponds such as sewage lagoons or stormwater ponds should not be considered SWH.</li> </ul>  | There are wetlands or wetland buffers that interact with the Project Location, none of which are suitable as overwintering habitat for turtles. The Little White River is the nearest features that are thought to have potential to support turtles. Both features are set back from the Project Location.  | N                         | N                                     | N/A   | N               |

| cSWH Type for Seasonal Concentration Areas of Animals | Candidate Significant Wildlife Habitat (cSWH) Criteria   |   |   | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N)         |                 |
|---|--|---|---|--|---------------------------|---------------------------------------|--------------------------------------|-----------------|
|   | Indicator Species  | ELC Ecosite Codes   | Habitat Criteria  | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                                      | cSWH Feature ID |
| Reptile Hibernaculum                                  | <p>Eastern Gartersnake, Smooth Green Snake, Northern Ringneck Snake, Northern Redbelly Snake, Northern Watersnake, Northern Brownsnake</p> <p><u>Special Concern:</u><br/>Milksnake, Eastern Ribbonsnake, Five-lined Skink</p> | <p>For all snakes, habitat may be found in any forested ecosite in northern Ontario. Talus, rock barren, crevice and caves may be directly related to these habitats.</p> <p>The existence of rock piles or slopes, stone fences, and crumbling foundations assist in identifying candidate SWH. For Five-lined Skink; Central Ontario Forest Ecosites: ES14.2<br/>ES17 – ES20<br/>ES23 – ES30</p> <p>or</p> <p>ELC Ecosites:<br/>G056-G059<br/>G070-G076<br/>G087-G092<br/>G103-G108<br/>G118-G125</p> | <ul style="list-style-type: none"> <li>For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations.</li> <li>The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.</li> <li>Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line.</li> <li>Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</li> <li>Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.</li> </ul> | No evidence of terrestrial hibernaculum was observed throughout Site Investigations.   | N                         | N                                     | N/A                                  | N               |
| Colonially – Nesting Bird Breeding Habitat (Cliff)    | Cliff Swallow, Northern Rough-winged swallow   | <p>Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns. Habitat found in the following ELC Ecosites:</p> <p>G001-G004<br/>G007-G008<br/>G029-G031<br/>G060-G062<br/>G093-G095<br/>G173-G175<br/>G210-G212</p> <p>G020-G021<br/>G044-G046<br/>G077-G079<br/>G109-G111<br/>G201-G203</p>   | <ul style="list-style-type: none"> <li>Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.</li> <li>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</li> <li>Does not include a licensed/permitted Mineral Aggregate Operation.</li> </ul>   | An exposed cliff was observed within 50 m of the Project Location that would provide suitable habitat for colonially nesting bird breeding habitat (cliff). Breeding Bird Surveys were completed and will be discussed further as a part of the EoS. | Y                         | Y                                     | Mixed Deciduous Treed Bluff (G004Tt) | Y               |

| cSWH Type for Seasonal Concentration Areas of Animals     | Candidate Significant Wildlife Habitat (cSWH) Criteria  |   |   | Assessment of cSWH  |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|---|---|---|---|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species   | ELC Ecosite Codes   | Habitat Criteria  | Assessment Details  | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Colonially – Nesting Bird Breeding Habitat (Trees/Shrubs) | Great Blue Heron, Black-crowned Night Heron   | <p>ELC Ecosites:<br/>G064-G076 G081-G092<br/>G097-G108 G113-G125 G128-G136</p> <p>Central Ontario Forest Ecosites:<br/>ES11.2 ES12.2<br/>ES13.2 ES14.2<br/>ES15.2 ES16.2<br/>ES17.2 ES18.2<br/>ES19.2 ES20.2<br/>ES21.2 ES23.2<br/>ES24.2 ES25.2<br/>ES26.2 ES27.2<br/>ES28.2 ES29.2<br/>ES30.2 ES31<br/>ES32 ES33<br/>ES34 ES35</p>  | <ul style="list-style-type: none"> <li>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</li> <li>Most nests in trees are 11 to 15 m from ground, near the top of the tree.</li> </ul>  | Though wetlands are present within the Project Location, no wetlands are of sufficient size to support colonial nesting birds. Therefore, this habitat type will not be carried forward in the EoS.   | N                         | N                                     | N/A                          | N               |
| Colonially – Nesting Bird Breeding Habitat (Ground)       | Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird | <p>Any rocky island or peninsula (natural or artificial) within a lake or large river. Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird).</p> <p>G001-G004 G007-G008<br/>G020-G021 G029-G031<br/>G044-G046 G060-G062<br/>G077-G079 G093-G095<br/>G109-G111 G142-G145</p> | <ul style="list-style-type: none"> <li>Nesting colonies of gulls and terns are on islands or peninsulas (natural or artificial) associated with open water or in marshy areas, lakes or large rivers.</li> <li>Brewer's Blackbird colonies are found loosely on the ground in or in low bushes near streams and irrigation ditches within farmlands.</li> </ul> | There is no habitat potential for gulls and terns. While the criteria suggest that potential habitat for Brewer's Blackbird may exist, no evidence of the species was found. As such, this habitat type will not be carried forward to the EoS. | N                         | N                                     |                              | N               |

| cSWH Type for Seasonal Concentration Areas of Animals | Candidate Significant Wildlife Habitat (cSWH) Criteria |  |   | Assessment of cSWH  |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|--|--|---|---|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species                                      | ELC Ecosite Codes  | Habitat Criteria  | Assessment Details  | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Deer Yarding Areas                                    | White-tailed Deer                                      | <p>May be found in all Tall Treed Forest and swamp ELC Ecosites:</p> <p>G012-G015    G023-G027<br/>G033-G038    G048-G054<br/>G064-G069    G081-G087<br/>G097-G103    G113-G118<br/>G128-G129</p> <p>Central Ontario Forest Ecosites:</p> <p>ES11            ES14<br/>ES16            ES18<br/>ES20            ES21<br/>ES22            ES27<br/>ES28            ES30-ES34</p> | <ul style="list-style-type: none"> <li>MNR determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual".</li> <li>Deer wintering areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response, and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer moves to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30-cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter.</li> <li>The Core of a deer yard (Stratum I) is located within Stratum II and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%.</li> <li>Woodlots with high densities of deer due to artificial feeding are not significant.</li> </ul> | <p>There are no forests within 50 m of the Project Location that meet the size or species criteria for this habitat type to be considered cSWH.</p> <p>Deer congregation areas are typically mapped by MNR and Deer Yarding Area (Stratum II) data was reviewed from the LIO datasets reviewed.</p> | N                         | N                                     |                              | N               |

**Table 3-11: cSWH Assessment for Rare Vegetation Communities**

| cSWH Type for Rare Vegetation Communities | Candidate Significant Wildlife Habitat (cSWH) Criteria   |  |  | Assessment of cSWH                        |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|--|--|--|---|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species  | ELC Ecosite Codes  | Habitat Criteria   | Assessment Details                        | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Beach/Beach Ridge/Bar/Sand Dunes          | Marram Grass ( <i>Ammophila breviligulata</i> ), Beach Pea ( <i>Lathyrus japonicus</i> )   | Central Ontario FEC:<br>ES1<br>ES2<br><br>ELC Ecosites:<br>G005-G006    G166-G168<br>G182-G184    G213-G214                                  | <ul style="list-style-type: none"> <li>Vegetation can vary from patchy and barren to tree cover but less than 60%.</li> <li>Characterized by unstable sand. Any identified beach, beach ridge, or sand dune.</li> </ul>  | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |
| Shallow Atlantic Coastal Marsh.           | Virginia Meadow-beauty ( <i>Rhexia virginica</i> )<br><br>Other Associated Spp:<br><i>Rhynchospora capitellata</i> , <i>Xyris difformis</i> , <i>Panicum spretum</i> , <i>Triadenum virginicum</i> , <i>Polygonum careyi</i> and <i>Juncus militaris</i>   | ELC Ecosites:<br>G143-G145<br>G148-G152  | <ul style="list-style-type: none"> <li>Shallow marsh occurs on shallow mineral (sand) or mineral organic (sandy peat) shoreline subject to low wave energy, on inland lakes and beaver ponds particularly those that experience fluctuating water levels from year to year.</li> </ul>                 | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |
| Cliffs and Talus Slopes                   | Lichen, such as Rock Tripe ( <i>Umbilicaria spp.</i> ), and Ferns ( <i>Polypodium virginianum</i> , <i>Cystopteris fragilis</i> and <i>Woodsia ilvensis</i> , <i>Cryptogramma stelleri</i> , <i>Woodsia alpina</i> , and <i>Saxifraga paniculata</i> )   | ELC Ecosites:<br>G158-G159    G166-G168<br>G173-G175    G182-G184<br>G201-G203<br><br>Central Ontario Forest Ecosites:<br>ES6            ES7 | <ul style="list-style-type: none"> <li>Vegetation can vary from patchy and barren to tree cover but less than 60%.</li> <li>Cliffs and talus slopes in 5E are primarily Precambrian rock and are typically sparsely vegetated.</li> <li>Any cliff or talus slope.</li> </ul>                           | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |
| Rock Barren (Precambrian Rock Barren)     | <i>Cladina spp.</i> and Mosses ( <i>Polytrichum spp.</i> ), Sparse Grasslands of <i>Danthonia spicata</i> and <i>Deschampsia flexuosa</i> , Low Shrubs ( <i>Juniperus communis</i> , <i>Vaccinium angustifolium</i> , <i>Comptonia peregrina</i> ), and stunted open grown trees ( <i>Quercus alba</i> , <i>Quercus rubra</i> and <i>Pinus strobus</i> ). Also, <i>Pteridium aquilinum</i> , <i>Aralia hispida</i> , <i>Spiranthes casei</i> , <i>Saxifraga virginensis</i> , <i>Gaylussacia baccata</i> , <i>Corydalis sempervirens</i> , <i>Prunus pennsylvanica</i> , and <i>Comandra umbellata</i> | ELC Ecosites:<br>G163-G165<br>G179-G181<br><br>Central Ontario Forest Ecosites: ES8  | <ul style="list-style-type: none"> <li>Any rock barren area greater than 1 ha in size.</li> <li>Vegetation can vary from patchy and barren to tree cover but less than 60%.</li> <li>Rock barrens are characterized by extensive areas of exposed granitic rock bedrock sparsely vegetated.</li> </ul> | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |

| cSWH Type for Rare Vegetation Communities | Candidate Significant Wildlife Habitat (cSWH) Criteria  |  |  | Assessment of cSWH                        |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|---|--|--|---|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species   | ELC Ecosite Codes  | Habitat Criteria   | Assessment Details                        | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Sand Barren                               | <i>Cladina spp.</i> , <i>Carex houghtoniana</i> , <i>Carex merritt-fernaldii</i> , <i>Comptonia peregrina</i> , <i>Rubus flagellaris</i> , <i>Selaginella rupestris</i> , and <i>Viola labradorica</i> , <i>Polygonella articulata</i> , and <i>Stipa spartea</i> | ELC Ecosites:<br>G007<br>G215<br><br>Central Ontario Forest Ecosite:<br>ES10   | <ul style="list-style-type: none"> <li>Any sand barren area, no minimum size.</li> <li>Sand barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface.</li> <li>Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.</li> </ul>  | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |
| Alvar                                     | <i>Penstemon hirsutus</i> , <i>panicum philadelphicum</i> , <i>Scutellaria parvula</i> , <i>Rhus aromatica</i> , <i>Monarda fistulosa</i> , <i>Senecio pauperculus</i>  | Southern Ontario ELC Ecosites:<br>ALO1 ALS1<br>ALT1 FOC1<br>FOC2 CUM2<br>CUS2 CUT2-1<br>CUW2<br><br>Central Ontario Forest Ecosites on very shallow soils: ES13.1<br>ES14.1 ES16.1<br>ES21.1 ES9 | <ul style="list-style-type: none"> <li>An Alvar site &gt;0.5 ha in size.</li> <li>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil.</li> <li>The hydrology of alvars may be complex, with alternating periods of inundation and drought.</li> <li>Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species.</li> <li>Vegetation cover varies from patchy to barren with a less than 60% tree cover.</li> </ul> | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |

| cSWH Type for Rare Vegetation Communities | Candidate Significant Wildlife Habitat (cSWH) Criteria   |  |   | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|--|--|---|--|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species  | ELC Ecosite Codes  | Habitat Criteria  | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Old Growth Forest                         | Long-lived forest spp.   | <p>Central Ontario Forest Ecosites:</p> <p>ES11 ES12<br/>ES14 ES20<br/>ES21 ES22<br/>ES23 ES24<br/>ES25 ES26<br/>ES27 ES28<br/>ES29 ES30</p> <p>or;</p> <p>ELC Ecosites:</p> <p>G011-G15 G017-G018<br/>G023 G027<br/>G033 G036<br/>G039-G042 G048<br/>G051 G054-G058<br/>G064 G066<br/>G069 G071-G075<br/>G081 G084<br/>G087 G089-G091<br/>G103 G105-G107<br/>G113 G115<br/>G118 G120-G124</p> | <ul style="list-style-type: none"> <li>Stands 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</li> <li>Old Growth forests are characterized by exhibiting the greatest number of old-growth characteristics, such as mature forest with large trees that have been undisturbed.</li> <li>Heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.</li> </ul> | Several ecosites typical of this habitat were found in the Project Location; however, in all cases, historic logging had taken place. Therefore, none of those communities are considered Old Growth Forest rare vegetation communities. | N                         | N                                     | N/A                          | N               |
| Bog                                       |  | <p>ELC Ecosites:</p> <p>G126<br/>G137-G138</p>   | <ul style="list-style-type: none"> <li>Any size bog.</li> <li>Bogs are nutrient poor, acid peatlands dominated by peat mosses (<i>Sphagnum</i> sp.), ericaceous shrubs and sedges (<i>Cyperaceae</i>).</li> <li>The water table is at or near the surface in spring and slightly lower the remainder of the year and is virtually isolated from mineral soil waters.</li> </ul>   | Not observed within the Project Location.  | N                         | N                                     | N/A                          | N               |
| Tallgrass Prairie                         | <p><u>Indicator Spp.:</u><br/><i>Andropogon gerardii</i> and <i>Spartina pectinata</i></p> <p><u>Characteristic Spp.:</u><br/><i>Bromus kalmii</i>, <i>Ceanothus herbaceus</i>, <i>Lechea intermedia</i>, <i>Monarda fistulosa</i>, <i>Penstemon hirsutus</i>, <i>Polygala polygama</i>, <i>Rudbeckia hirta</i>, <i>Sorghastrum nutans</i>, <i>Viola fimbriatula</i></p> | <p>Southern ELC Ecosites:</p> <p>TPO1<br/>TPO2</p> <p>Central Ontario Ecosite:</p> <p>ES10</p>   | <ul style="list-style-type: none"> <li>Tallgrass Prairie is an open vegetation with less than 25% tree cover, and dominated by prairie species, including grasses.</li> <li>No minimum size to site.</li> <li>Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</li> </ul>   | Not observed within the Project Location.  | N                         | N                                     | N/A                          | N               |

| cSWH Type for Rare Vegetation Communities | Candidate Significant Wildlife Habitat (cSWH) Criteria |   |  | Assessment of cSWH                        |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|--|---|--|---|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species                                      | ELC Ecosite Codes   | Habitat Criteria   | Assessment Details                        | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Savannah                                  |  | Southern ELC Ecosites:<br>TPS1      TPS2<br>TPW1      TPW2<br>CUS2  | <ul style="list-style-type: none"> <li>Savannah is related to tallgrass prairie, but includes trees, which vary from 25% to 60% canopy cover.</li> <li>The open areas between the trees are dominated by prairie species, while forest species are found beneath the tree canopy.</li> <li>Site must be restored or a natural site. No minimum size to site.</li> </ul>  | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |
| Red Spruce                                | Red Spruce   | ELC Ecosites:<br>G036      G051<br>G066      G084<br>G086      G100<br>G102      G116<br>G117<br><br>Central Ontario Forest Ecosites:<br>ES 30.1<br>ES 30.2 | <ul style="list-style-type: none"> <li>Red Spruce is a valued wildlife cover tree. Historically red spruce was much more abundant than it is now within the Ecoregion 5E forests. Red spruce is a shade tolerant conifer that evolved within tolerant hardwood forests.</li> <li>Red spruce grows best in a cool, moist climate. It will grow in shallow, till soils (average of 46 cm) and may grow on sites unfavorable for other species such as organic soils over rock, steeper slopes, and wet bottomlands, although poorly drained sites will inhibit growth.</li> <li>No minimum size to stand. Any forest stand with &gt;10% red spruce is to be considered significant.</li> </ul> | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |
| White Oak                                 | White Oak  | ELC Ecosites:<br>G017      G041<br>G057      G072<br>G090      G106<br>G121<br><br>Central Ont. FEC:<br>ES 14.1      ES14.2                                 | <ul style="list-style-type: none"> <li>No minimum size to stand.</li> <li>Any forest stand with &gt;10% white oak is to be considered significant. White oak is a valued wildlife mast producing tree. The mast produced by the white oak tree is often preferred over the more common red oak acorn. Forest stands containing white oak trees are uncommon in the Great Lakes St. Lawrence Forest.</li> </ul>   | Not observed within the Project Location. | N                         | N                                     | N/A                          | N               |

| cSWH Type for Rare Vegetation Communities | Candidate Significant Wildlife Habitat (cSWH) Criteria |   |   | Assessment of cSWH  |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|---|--|---|---|---|---------------------------|---------------------------------------|------------------------------|-----------------|
|   | Indicator Species                                      | ELC Ecosite Codes   | Habitat Criteria  | Assessment Details  | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Other Rare Vegetation Communities         | N/A  | <p><u>S1 – Extremely rare</u> – usually 5 or fewer occurrences in the province, or very few remaining hectares.</p> <p><u>S2 – Very rare</u> – usually between 5 and 20 occurrences in the province, or few remaining hectares.</p> <p><u>S3 – Rare to uncommon</u> – usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with some extensive examples remaining.</p> | <ul style="list-style-type: none"> <li>• ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Table 3-11.</li> <li>• The MNR/NHIC will have up-to-date listing for rare vegetation communities.</li> </ul> | All other vegetation communities on and within 50 m of the Project Location are common to the area. There are no other rare vegetation communities on or within 50 m of the Project Location. | N                         | N                                     | N/A                          | N               |

**Table 3-12: cSWH Assessment for Specialized Habitat for Wildlife**

| cSWH Type for Specialized Habitat for Wildlife | Candidate Significant Wildlife Habitat (cSWH) Criteria   |   |  | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|--|--|---|--|--|---------------------------|---------------------------------------|------------------------------|-----------------|
|  | Indicator Species  | ELC Ecosite Codes   | Habitat Criteria   | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Waterfowl Nesting Area                         | American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Common Merganser Red-breasted Merganser Mallard Canada Goose American Widgeon Bufflehead Common Goldeneye | All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH:<br>G129-G135 G142-G152<br><br><b>Note:</b> includes adjacency to Provincially Significant Wetlands. | <ul style="list-style-type: none"> <li>A waterfowl nesting area extends 120 m from a wetland (&gt; 0.5 ha) or a cluster of 3 or more small (&lt;0.2 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</li> <li>Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests.</li> <li>Wood Ducks, Bufflehead, Common Goldeneye, and Hooded Mergansers utilize large diameter trees (&gt;40 cm dbh) in treed habitats for cavity nest sites.</li> </ul>                   | There are no wetlands of sufficient size to provide waterfowl nesting area in or within 50 m of the Project Location. Therefore, this habitat type is considered not present. No waterfowl were observed in present wetlands during Site Investigation.  | N                         | N                                     | N/A                          | N               |
| Bald Eagle and Osprey Nesting                  | Osprey<br><br><u>Special Concern Species:</u><br>Bald Eagle  | Treed communities directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.  | <ul style="list-style-type: none"> <li>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</li> <li>Osprey nests are usually at the top of a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy.</li> <li>Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).</li> </ul>   | There are treed communities on and within 50 m of the Project Location, as well as a large riparian area bordering the project's edge. No nests pertaining to Bald Eagle or Osprey were identified during the Site Investigation; however, potential for this habitat type exists within the Project Location. | Y                         | Y                                     | N/A                          | Y               |
| Woodland Raptor Nesting Habitat                | Red-tailed Hawk Great Horned Owl, Broad-winged Hawk, Sharp-shinned Hawk Merlin Barred Owl Red-shouldered Hawk Coopers Hawk Northern Goshawk  | May be found in all forested ELC Ecosites in community class TR.<br><br>May also be found in the forested swamp ELC Ecosites:<br>G128-G133  | <ul style="list-style-type: none"> <li>All natural or conifer plantation or natural forest stands.</li> <li>Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Merlin or Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands.</li> <li>Includes nest sites within tree cavities for Barred Owl and sometime Great Horned Owls and Merlin.</li> <li>Nest sites may be used again, or a new nest may be in close proximity to an old nest.</li> </ul> | Broad-winged Hawk nest identified, active nests are considered confirmed SWH. The status of this nest will be confirmed in early spring 2026 as nest observation was made in fall 2025.  | Y                         | Y                                     | Broad-winged Hawk nest       | Y               |

| cSWH Type for Specialized Habitat for Wildlife | Candidate Significant Wildlife Habitat (cSWH) Criteria  |   |  | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|--|---|---|--|--|---------------------------|---------------------------------------|------------------------------|-----------------|
|  | Indicator Species   | ELC Ecosite Codes   | Habitat Criteria   | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Turtle and Lizard Nesting Areas                | Midland Painted Turtle<br><br><u>Special Concern Species:</u><br>Snapping Turtle<br>Northern Map Turtle<br>Five-lined Skink | Turtle Nesting areas may be adjacent to these ELC Ecosites:<br>G138<br>G140-149<br><br>For Five-lined Skink; Central Ontario Forest Ecosites:<br>ES14.2, ES17 – ES20, ES23 – ES30<br><br>Or; ELC Ecosites:<br>G056-G059    G070-G076<br>G087-G092    G103-G108<br>G118-G125 | <ul style="list-style-type: none"> <li>Best nesting habitat for turtles is close to water and away from roads and sites. less prone to loss of eggs by predation from skunks, raccoons or other animals.</li> <li>For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</li> <li>Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.</li> <li>Skinks will nest under logs, in stumps or under loose rock in partially wooded areas.</li> </ul> | Areas observed that may be suitable for turtle nesting are associated with Little White River Provincial Park. The Project will be set back and significantly 50 m from the Provincial Park boundary and located significantly upgrade.  | N                         | N                                     |                              | N               |
| Seeps and Springs                              | Wild Turkey Ruffed Grouse Spruce Grouse Moose White-tailed Deer Salamander spp.   | Seeps/Springs are areas where groundwater comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.  | <ul style="list-style-type: none"> <li>Any forested area (with &lt;25% meadow/field/pasture) within the headwaters of a stream or river system.</li> <li>Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.</li> </ul>  | There are no known seeps or springs on or within 50 m of the Project Location. No seeps or springs were documented during the Site Investigations. This habitat type is considered not present.  | N                         | N                                     | N/A                          | N               |
| Aquatic Feeding Habitat                        | Moose, White-tailed Deer  | Habitat may be found in all forested ecosites adjacent to water.  | <ul style="list-style-type: none"> <li>MNR maps these locations on Crown land and rates the site on a scale of 0 to 4, with 4 being the best. Feeding sites Classed 3 or 4 are potential/ candidate significant. Where MAFA habitat is in low supply, Class 2 MAFA habitat could also be considered potential/candidate significant.</li> <li>Wetlands and isolated embayment's in rivers or lakes which provide an abundance of submerged aquatic vegetation such as pondweeds, water milfoil and yellow water lily are preferred sites. Adjacent stands of lowland conifer or mixed woods will provide cover and shade.</li> </ul>   | Several forested ecosites were found adjacent to wetland ecosites; however, aquatic vegetation that would be used for feeding were not observed. This habitat type will therefore not be considered present within the Project Location. | N                         | N                                     | N/A                          | N               |

| cSWH Type for Specialized Habitat for Wildlife                | Candidate Significant Wildlife Habitat (cSWH) Criteria  |  |   | Assessment of cSWH  |                           |                                       | Carried Forward to EoS (Y/N) |                      |
|---|---|--|---|---|---------------------------|---------------------------------------|------------------------------|----------------------|
|   | Indicator Species   | ELC Ecosite Codes  | Habitat Criteria  | Assessment Details  | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID      |
| Mineral Licks   | Moose, White-tailed Deer  | Habitat may be found in all forested ecosites.   | <ul style="list-style-type: none"> <li>This habitat component is found in upwelling groundwater and the soil around these seepage areas. It typically occurs in areas of sedimentary and volcanic bedrock. In areas of granitic bedrock, the site is usually overlain with calcareous glacial till.</li> </ul>  | There are no known groundwater upwellings on or within 50 m of the Project Location. No upwellings were documented during the Site Investigations. This habitat type is considered not present.   | N                         | N                                     | N/A                          | N                    |
| Denning Sites for Mink, Otter, Marten Fisher and Eastern Wolf | Mink Otter Marten Fisher Grey Wolf<br><br><u>Special Concern:</u><br>Eastern Wolf   | Habitat may be found in all forested ecosites.   | <ul style="list-style-type: none"> <li>Mink prefer shorelines dominated by coniferous or mixed forests with dens usually underground. Mink will sometimes use old muskrat lodges.</li> <li>Otters prefer undisturbed shorelines along waterbodies that support productive fish populations with abundant shrubby vegetation and downed woody debris for denning. They often use old beaver lodges or log jams and crevices in rock piles.</li> <li>Marten and fisher share the same general habitat, requiring large tracts of coniferous or mixed forests of mature or older age classes. Denning sites are often in cavities in large trees or under large, downed woody debris.</li> </ul> | Several forested ecosites dominated by coniferous or mixed forests found both on and within 50 m of the Project Location. The only evidence of an indicator, a mink skull, was observed during site investigations. A search of the area for further sign of mink and/or potential dens was done with no success. As such, the habitat is considered absent from the project area and is more likely to occur adjacent to the Little White River. | N                         | N                                     | N                            | N                    |
| Amphibian Breeding Habitat (Woodland).                        | Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, Northern Two-lined Salamander, Spring Peeper, Wood Frog, American Toad | All forested, ELC Ecosites. The wetland breeding ponds (including vernal pools) may be permanent, seasonal, ephemeral, large or small in size and could be located within or adjacent to the woodland. | <ul style="list-style-type: none"> <li>Presence of a wetland, lake or pond (including vernal pools) &gt;500 m<sup>2</sup> (about 25 m diameter) within or adjacent (within 120 m) to a treed habitat (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.</li> <li>Treed habitats with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.</li> <li>Breeding pools within the treed habitat or the shortest distance from the forest habitat are more significant because of reduced risk to migrating amphibians and more likely to be used.</li> </ul>           | Wetlands were identified within Woodland features. These features were subject to targeted surveys and will be discussed further in the EoS.  | Y                         | Y                                     | Wetlands 1-6                 | Y (generalized cSWH) |

| cSWH Type for Specialized Habitat for Wildlife | Candidate Significant Wildlife Habitat (cSWH) Criteria  |  |  | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N)                |                 |
|--|---|--|--|--|---------------------------|---------------------------------------|---|-----------------|
|  | Indicator Species   | ELC Ecosite Codes  | Habitat Criteria   | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |   | cSWH Feature ID |
| Amphibian Breeding Habitat (Wetlands)          | Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, Northern Two-lined Salamander, Spring Peeper, Wood Frog, American Toad | <p>ELC Ecosites:<br/>G129-G135<br/>G142-G152</p> <p>Typically, these wetland ecosites will be isolated (&gt;120 m) from treed ecosites; however, larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to treed habitat.</p> | <ul style="list-style-type: none"> <li>Wetlands and pools (including vernal pools) &gt;500 m (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats.</li> <li>Wetlands and pools need to persist until mid-July.</li> <li>Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.</li> </ul>  | All wetlands observed were related to woodland features.   | N                         | N                                     | N/A   | N               |
| Mast Producing Areas                           | Black Bear, White-tailed deer, Wild Turkey, Ruffed Grouse   | <p>ELC Ecosites:<br/>G015      G017<br/>G019      G027-G028<br/>G041-G043      G057<br/>G059      G072<br/>G090      G106<br/>G108      G121</p> <p>Central Ontario Forest Ecosites:<br/>ES14      ES17.1<br/>ES23      ES24<br/>ES25      ES26</p>              | <ul style="list-style-type: none"> <li>Most important areas are mature forests &gt;0.5 ha containing numerous large beech and red oak trees that supply the energy-rich mast that wildlife prefer.</li> <li>Other significant species include hickory, basswood, black cherry, ironwood, mountain ash, pin cherry, and butternut. Significant shrub species include blueberries, wild black berry, serviceberry, raspberry, beaked hazel, choke cherry and hawthorn.</li> <li>Sites providing long-term, relatively stable food supplies, forest openings or barrens &gt;1 ha provide excellent sites for mast producing shrubs. Sites such as clear-cuts or burns are temporary source of food and are less significant.</li> </ul> | The Project Location lacks extensive beech or red oak trees that may be suitable for SWH. Extensive areas of shrub berry species were absent. Signs of indicator species were observed throughout the Project Location. General mitigation measures are expected to be able to prevent effects to the ongoing population of indicators species in this area. | N                         | N                                     | Dry to Fresh, Coarse: Oak Hardwood (G057Tt) | Y               |

**Table 3-13: cSWH Assessment for Habitat for Species of Conservation Concern**

| cSWH Type                                      | Candidate Significant Wildlife Habitat (cSWH) Criteria   |   |   | Assessment of cSWH   |                           |                                       |                 | Carried Forward to EoS (Y/N) |
|--|--|---|---|--|---------------------------|---------------------------------------|-----------------|------------------------------|
|  | Indicator Species  | ELC Ecosite Codes   | Habitat Criteria  | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) | cSWH Feature ID |                              |
| Marsh Breeding Bird Habitat                    | American Bittern, Sora, Red-necked Grebe, Pie-billed Grebe, Redhead, Ring-necked Duck, Lesser Scaup, Ruddy Duck<br><br>Common Moorhen, American Coot, Wilson's Phalarope, Common Loon, Sandhill Crane, Green Heron, Sedge Wren, Marsh Wren, Trumpeter Swan<br><br><u>Special Concern:</u><br>Black Tern, Yellow Rail | ELC Ecosites:<br>G138-G152<br><br>For Green Heron, the above Ecosites plus:<br>G129-G136.   | <ul style="list-style-type: none"> <li>Nesting occurs in wetlands.</li> <li>All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present.</li> <li>For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.</li> </ul>   | Extensive ponding has occurred due to beaver activity associated with Wetland 3. Vegetation present is typical of a swamp and therefore is not expected to support Marsh Breeding Bird Habitat.  | N                         | N                                     | N/A             | N                            |
| Open Country Bird Breeding Habitat             | Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow<br><br><u>Special Concern:</u><br>Short-eared Owl  | ELC Ecosites:<br>G008-G009    G020-G021<br>G029-G031    G044-G046<br>G060-G062    G077-G079<br>G093-G095    G109-G111   | <ul style="list-style-type: none"> <li>Large grassland areas (includes natural and cultural fields and meadows) &gt;30 ha.</li> <li>Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years).</li> <li>Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older.</li> <li>The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.</li> </ul> | Any meadow communities within 50 m of the Project Location are associated with fields where hay is actively harvested. The only indicator species that was noted in these grasslands are the savannah sparrow, meaning they do not meet the definition of confirmed SWH. | N                         | N                                     | N/A             | N                            |
| Shrub/Early Successional Bird Breeding Habitat | <u>Indicator Spp:</u><br>Willow Flycatcher, Brown Thrasher, Blue-winged, Warbler, Tennessee Warbler, Prairie Warbler, Eastern Towhee, Clay-colored Sparrow, Field Sparrow<br><br><u>Special Concern:</u><br>Golden-winged Warbler  | ELC Ecosites:<br>G009-G010    G021-G022<br>G031-G032    G046-G047<br>G062-G063    G079-G080<br>G095-G096    G111-G112<br>G134-G135<br><br>Patches of shrub ecosites can be complexed into a larger habitat for some bird species. | <ul style="list-style-type: none"> <li>Large field areas succeeding to shrub and thicket habitats &gt;30 ha in size.</li> <li>Shrub land or early successional fields, not Class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years).</li> <li>Shrub thicket habitats (&gt;30 ha) are most likely to support and sustain a diversity of these species.</li> <li>Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.</li> </ul>                                     | Few thicket communities were identified within 50 m of project infrastructure. These communities do not meet the size criteria for this habitat type. Therefore, this habitat type is considered not present.  | N                         | N                                     | N/A             | N                            |

| cSWH Type   | Candidate Significant Wildlife Habitat (cSWH) Criteria |  |  | Assessment of cSWH   |  |   |                 | Carried Forward to EoS (Y/N)                                 |
|---|--|--|--|--|--|---|-----------------|--|
|   | Indicator Species                                      | ELC Ecosite Codes  | Habitat Criteria   | Assessment Details   | In Project Location (Y/N)  | Within 50 m of Project Location (Y/N)   | cSWH Feature ID |  |
| <p>Special Concern and Rare Wildlife Species</p> <p>All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).</p> | Bobolink   | All plant and animal element occurrences (EO) within a 1 or 10 km grid.<br>Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy. | When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species, linking candidate habitat on the site needs to be completed to ELC Ecosites. | Species encountered and documented during Breeding Bird Surveys and on-site investigations. Thought to be utilizing the area for foraging and possible breeding. | Y<br>(possible)<br>(cSWH)<br>Treated as significant and a preconstruction survey commitment provided in the EIS. | Y<br>(possible)<br>(generalized cSWH)<br>Construction mitigation provided in the EIS. | SoCC-1          | Y<br>(cSWH)<br>Treated as Significant and (generalized cSWH) |
|   | Eastern Meadowlark                                     | All plant and animal element occurrences (EO) within a 1 or 10 km grid.<br>Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy. | When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species, linking candidate habitat on the site needs to be completed to ELC Ecosites. | Species encountered and documented during Breeding Bird Surveys and on-site investigations. Thought to be utilizing the area for foraging and possible breeding. | Y<br>(possible)<br>(cSWH)<br>Treated as significant and a preconstruction survey commitment provided in the EIS. | Y<br>(possible)<br>(generalized cSWH)<br>Construction mitigation provided in the EIS. | SoCC-2          | Y<br>(cSWH)<br>Treated as Significant and (generalized cSWH) |
|   | Canada Warbler   | All plant and animal element occurrences (EO) within a 1 or 10 km grid.<br>Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy. | When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species, linking candidate habitat on the site needs to be completed to ELC Ecosites. | Species encountered and documented during Breeding Bird Surveys and on-site investigations. Thought to be utilizing the area for foraging and possible breeding. | Y<br>(possible)<br>(cSWH)<br>Treated as significant and a preconstruction survey commitment provided in the EIS. | Y<br>(possible)<br>(generalized cSWH)<br>Construction mitigation provided in the EIS. | SoCC-3          | Y<br>(cSWH)<br>Treated as Significant and (generalized cSWH) |
|   | Wood Thrush  | All plant and animal element occurrences (EO) within a 1 or 10 km grid.<br>Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy. | When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species, linking candidate habitat on the site needs to be completed to ELC Ecosites. | Species encountered and documented during Breeding Bird Surveys and on-site investigations. Thought to be utilizing the area for foraging and possible breeding. | Y<br>(possible)<br>(cSWH)<br>Treated as significant and a preconstruction survey commitment provided in the EIS. | Y<br>(possible)<br>(generalized cSWH)<br>Construction mitigation provided in the EIS. | SoCC-4          | Y<br>(cSWH)<br>Treated as Significant and (generalized cSWH) |

**Table 3-14: cSWH Assessment for Animal Movement Corridors**

| cSWH Type                    | Candidate Significant Wildlife Habitat (cSWH) Criteria  |  |  | Assessment of cSWH   |                           |                                       | Carried Forward to EoS (Y/N) |                 |
|------------------------------|---|--|--|--|---------------------------|---------------------------------------|------------------------------|-----------------|
|                              | Indicator Species   | ELC Ecosite Codes  | Habitat Criteria   | Assessment Details   | In Project Location (Y/N) | Within 50 m of Project Location (Y/N) |                              | cSWH Feature ID |
| Amphibian Movement Corridors | Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bullfrog, American Toad | Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1 (MNR, 2015). | <p>Movement corridors between breeding habitat and summer habitat.</p> <ul style="list-style-type: none"> <li>• Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 of the Ecoregion 5E Schedule (MNR, 2015).</li> <li>• Corridors should have at least 15 m of vegetation on both sides of the waterway or be up to 200 m wide of treed habitat with gaps &lt;20 m.</li> <li>• Corridors should have several layers of vegetation and should be unbroken by roads, waterways or bodies and undeveloped areas are most significant.</li> </ul>  | Amphibian Breeding Habitat was not identified for wetlands further than 120 m from woodland features. All wetlands with confirmed breeding habitat are within Woodland Features.   | N                         | N                                     | N                            | N               |
| Cervid Movement Corridors    | Moose, White-tailed Deer  | Corridors may be found in all forested ecosites.   | <p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 and Moose Aquatic Feeding Area and Mineral Lick Habitat from Table 1.2.2 of the Ecoregion 5E Schedule (MNR, 2015).</p> <ul style="list-style-type: none"> <li>• A deer wintering habitat identified by the MNR as SWH in Table 1.1 of the Ecoregion 5E Schedule (MNR, 2015) will have corridors that the deer use during fall migration and spring dispersion.</li> <li>• Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).</li> <li>• Corridors will be multifunctional, i.e., these will function for any smaller mammal species as well.</li> </ul>   | No Deer Wintering Habitat, Moose Aquatic Feeding areas or Mineral Lick Habitat were identified within 50 m of project infrastructure during site investigations, so the site is not anticipated to have any corridors and will not be considered in the EIS. | N                         | N                                     | N/A                          | N               |
| Furbearer Movement Corridor  | Mink, Otter   | All Forested Ecosite Codes adjacent to or within shoreline habitats.   | <p>Mink and Otter den sites are typically found within a riparian area of a lake, river, stream or wetland. The den site will potentially have a movement corridor associated with it.</p> <p>All Mink or Otter den sites identified using Table 1.2.2 of the Ecoregion 5E Schedule (MNR, 2015) under the habitat of Denning Sites for Mink, Otter, Marten Fisher and Eastern Wolf are to be considered for an animal movement corridor.</p> <ul style="list-style-type: none"> <li>• Studies must be conducted at the time of year when mink or otter are using the denning sites.</li> <li>• Studies can be based on observation or from scat and track surveys.</li> <li>• SWHMiST cxlix Index #31 provides development effects and mitigation measures.</li> </ul> | No Mink or Otter dens were identified within 50 m of project infrastructure, so the site is not anticipated to have any corridors and will not be considered in the EIS.   | N                         | N                                     | N/A                          | N               |

## 3.4 Summary of Site Investigation

### 3.4.1 Confirmed and Candidate Significant Natural Features

The Site Investigation confirmed the presence of several wetlands, identified two additional wetlands over 2 ha in size and determined one wetland identified through the records review to be absent. Figure 3-2 outlines the presence and absence of the relevant wetlands.

Amphibian Breeding Habitat (woodlands) was identified as cSWH. These features were subject to species specific studies as described in Section 3.3 and will be evaluated as part of the EoS. Bat Maternity Roost Habitat as well as Bald Eagle and Osprey Nesting Habitat were identified as generalized cSWH and will be carried forward to the EoS and EIS. Several SoCC were identified throughout the site investigations. These features will be carried forward to the EoS/EIS as generalized cSWH. Table 3-15 outlines the potential cSWH within the Project Location. A raptor nest was identified during targeted surveys but has not yet been confirmed as active (occurred outside of breeding season).

**Table 3-15: Candidate Significant Natural Features Identified During the Site Investigation**

| Natural Feature                       | Figure 3-1 ID                          | Proximity to Project Location              | Assessment   | Next Steps  |
|---------------------------------------|--|--|--|---|
| <b>Generalized cSWH</b>               |  |  |  |   |
| Bald Eagle and Osprey Nesting Habitat | Bald Eagle/ Osprey Generalized Habitat | Within and Within 50 m of Project Location | Forested habitat surrounding Little White River holds some potential to serve as Bald Eagle or Osprey Nesting Habitat. No nests or individuals were noted during targeted surveys.   | Treated as significant and construction mitigation provided in the EIS. |
| Bat Maternity Colonies                | Bat Maternity                          | Within Project Location                    | Potential for this habitat type to occur in ELC Communities: Moist, Fine: Hemlock – Cedar Conifer (G115Tt), Very Shallow, Humid: Conifer (G026Tt), Dry to Fresh, Coarse Mixedwood (G059Tt), Dry to Fresh, Coarse: Oak Hardwood (B057Tt), Dry, Sandy: Red Pine – White Pine Conifer (G033Tt). | Treated as significant and construction mitigation provided in the EIS. |
| <b>CSWH</b>                           |  |  |  |   |
| Amphibian Breeding Habitat (Woodland) | Wetland 1-6                            | Within Project Location                    | Potential for this type of habitat exists in all wetland areas.  | Subject to targeted surveys (Section 3.2.3) and carried forward to EoS. |

| Natural Feature                 | Figure 3-1 ID | Proximity to Project Location | Assessment  | Next Steps  |
|---------------------------------|---------------|-------------------------------|---|---|
| Woodland Raptor Nesting Habitat | WRN-1         | Within Project Location       | Nest identified. Further assessments may be required to confirm if it remains active.   | Discussed further within EoS and EIS.                                   |
| <b>cSWH - Habitat of SoCC</b>   |               |                               |   |   |
| Bobolink                        | SoCC-1        | Within Project Location       | Grasslands – this species has potential to occur in graminoid meadows and was observed in ELC community Dry-Fresh Graminoid Meadow (MEGM) as seen in Figure 3-3.            | Treated as significant and construction mitigation provided in the EIS. |
| Eastern Meadowlark              | SoCC-2        | Within Project Location       | Grasslands – this species has potential to occur in graminoid meadows and was observed in ELC community Dry-Fresh Graminoid Meadow (MEGM) as seen in Figure 3-3.            |   |
| Canada Warbler                  | SoCC-3        | Within Project Location       | Deciduous Woodlands – this species has potential to occur in Mature Deciduous and Mixed Woodlands and was observed in Dry-Sandy Aspen Birch-Hardwood as seen in Figure 3-3. |   |
| Wood Thrush                     | SoCC-4        | Within Project Location       | Deciduous Woodlands – this species has potential to occur in Mature Deciduous and Mixed Woodlands and was observed in Very Shallow Humid Conifer as seen in Figure 3-3.     |   |
| Wetland 1-6                     | WL 1-6        | Within Project Location       | Confirmed present. Assumed significant.   | Treated as significant and construction mitigation provided in the EIS. |

### 3.5 Site Investigation Determinations and Corrections to the Records Review

The REA Regulation requires that the Site Investigation include a summary of any corrections to the Records Review and the determinations made as a result of conducting the Site Investigation. A summary of the results of the Site Investigation and any corrections required to the Records Review are provided in Table 3-16.

**Table 3-16: Summary of Corrections Required to the Records Review and Determinations Made as a Result of the Site Investigation**

| Natural Feature  | Records Review (Y/N) | Site Investigation (Y/N) | Determinations Made as a Result of Conducting the Site Investigation  | Correction Required (Y/N) | Carried Forward to the EoS (Y/N) |
|------------------|----------------------|--------------------------|---|---------------------------|----------------------------------|
| Wetland          | Y                    | Y                        | There are wetlands in and/or within 50 m of the Project Location. Two additional wetlands were identified during the Site Investigation. All wetlands over 2 ha have been assumed significant and will be carried forward to the EIS.   | Y                         | Y                                |
| Wildlife Habitat | Possible             | Y                        | There are cSWH and generalized cSWH identified in and/or within 50 m of the Project Location. These generalized cSWH are treated as significant and will be carried forward to the EIS. Targeted surveys took place to further evaluate these features as described in the EoS. | Y                         | Y                                |

## 4. Evaluation of Significance

### 4.1 REA Regulation – Regulatory Requirements

Part IV, Subsection 27 (3) of the REA Regulation requires proponents of Class 3 solar projects to prepare an Evaluation of Significance (EoS) report for Natural Features identified in the Records Review and Site Investigation, which sets out

- A determination of whether the natural feature is or is not provincially significant (i.e., wetlands and ANSIs) or significant (i.e., woodlands and wildlife habitat).
- A summary of the evaluation criteria or procedures used to make the determinations.
- The name and qualifications of any person who applied to evaluation criteria or procedures.
- The dates of the beginning and completion of the evaluation.

### 4.2 Evaluation of Significance Methodology

The Records Review and Site Investigation identified generalized candidate Significant Wildlife Habitat (SWH). These features have been further studied and as outlined in Section 3.3 and will be further assessed within this EoS in comparison to the defining criteria as outline in the Ecoregion 5E SWH Schedules (MNR, 2015).

#### 4.2.1 *Evaluation of Significance Details*

The REA Regulation requires that the EoS includes the name and qualifications of the evaluator and beginning and completion dates of the evaluation. These dates are associated with the surveys previously highlighted in Section 3.2.1.

The name and qualifications of the evaluator are provided in Appendix B. The methodologies utilized for habitat use studies to confirm the presence/absence of the cSWH types identified during the Site Investigation are present within Section 3.2.2.

### 4.3 Evaluation of Candidate Significant Natural Features

#### 4.3.1 *Amphibian Breeding Habitat (Woodland)*

Amphibian Breeding Habitat (woodland) is defined as features with permanently wet pools subsisting until at least mid-July that are greater within woodlands. The SWH Ecoregion 5E Criteria Schedule (MNR, 2015) outlines that significant Amphibian Breeding Habitats (woodlands) contain the presence of 1 or more of the listed newt or salamander species or 2 or more of the listed frog/toad species with call level codes of 3 (as defined by the Marsh Monitoring Program). As described in Sections 3.2 and 3.3, anuran call surveys were completed at all candidate wetlands. Stations 1, 2, 3 and 5 (Figure 3-1) associated with Wetlands 1, 2 and 3 meet the criteria of SWH as two or more of the listed species denoted in Ecoregion 5E Criteria Schedule (MNR, 2015) were recorded at calling levels of 3. One or less species were heard calling at calling Code 3 at the remaining wetlands.

Based on this assessment Wetlands 1, 2 and 3 are considered cSWH Amphibian Breeding Habitat and will be carried forward to the EIS.

#### **4.3.2 Raptor Nesting Habitat**

A Broad-Winged Hawk Nest (Figure 4-1) was identified in Dry, Sandy, White Pine – Red Pine Conifer based on nest structure by a Qualified Avian Biologist late in the season. This SWH feature is being carried over to the EIS and the nest will be protected with a 100 m buffer. However, if the nest is deemed inactive following appropriate site investigations in 2026, the feature will be discounted as a SWH feature and will no longer be incorporated into project design.

#### **4.3.3 Generalized Candidate Significant Wildlife Habitat**

Generalized cSWH treated as significant do not require habitat use studies. Although not required, cSWH types have been evaluated through species specific studies to assess existing conditions. An assessment of potential negative environmental effects of the Project on these habitats is required as part of the EIS. Generalized cSWH types are assessed as a group and not individually. Instead, the focus is on the development activity being proposed and potential effects in the generalized cSWH area. The following generalized cSWH types have been identified within 50 m of the Project Location and are shown in Figure 3-1.

##### **4.3.3.1 Bat Maternity Colonies**

Maternity colonies are found in deciduous woodlands or swamps where tree cavities or snags are found. Woodlands in and within 50 m of the Project Location have the potential to provide habitat for bat maternity colonies, specifically within the portions of the Project Location east of Highway 511.

##### **4.3.3.2 Bald Eagle and Osprey Nesting Habitat**

This habitat type is associated with woodlands adjacent open water features. Within the Project Location, they are primarily associated with woodlands adjacent to Little White River Provincial Park. These generalized areas will be carried forward to the EIS.

#### **4.3.4 Evaluation of Wetland Significance**

For the purposes of this NHA, all confirmed present wetlands as outlined in Figure 3-2, found to be larger than the minimum 2 ha based on the OWES Northern Manual will be treated as significant and carried forward to the EIS.

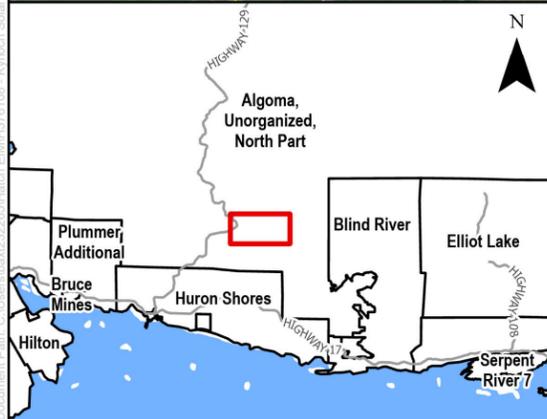
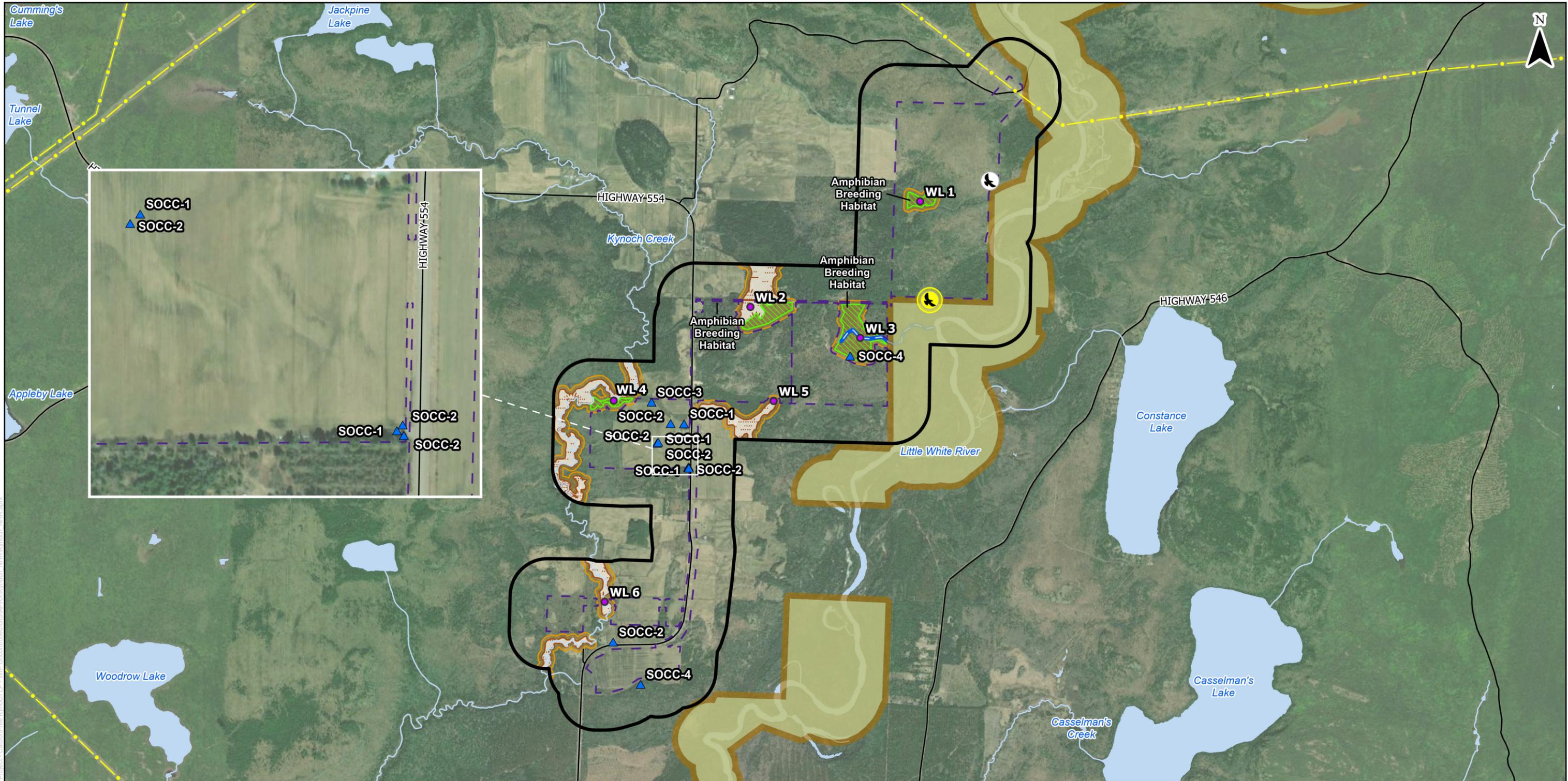
### **4.4 Summary of Evaluation of Significance**

The Site Investigation and EoS identified confirmed cSWH and generalized cSWH in and/or within 50 m of the Project Location. These natural features are treated as significant and carried forward to the EIS. The EIS will include mitigation measures to avoid and/or minimize potential effects associated with the Project. The EIS will also include commitments to conduct habitat use studies for the identified cSWH types and provide mitigation measures for scenarios where the cSWH type is determined to be either significant or not significant in accordance with the NHAG (MNR, 2012) requirements.

These features include

- Unevaluated Wetlands (Wetlands 1 through 6).
- Amphibian Breeding Habitat (Woodland).
- Broad-Winged Hawk Nesting Habitat.
- Bat Maternity Roost Habitat (generalized).
- SoCC Habitats (generalized).

Figure 4-1 outlines the locations of the above listed features that are treated as significant or confirmed significant. Potential locations of generalized Significant Wildlife Habitats have been identified in Figure 4-1 as well.



**LEGEND**

- Bald Eagle (General Habitat)
- Raptor Nesting Habitat
- Species of Conservation Concern
- Wetland
- Road
- Transmission Line
- Field Identified Watercourse
- Watercourse
- Revised Project Location
- Study Area (300m Buffer)
- Provincial Park (50m Buffer)
- Provincial Park
- Raptor Nesting Habitat (100m Buffer)
- Waterbody
- Additional Identified Wetland
- Unevaluated Wetland (MNR)
- Wetland (30m Buffer)

**NOTES:**  
 1. Produced by Hatch, contains information licensed under the Open Government License – Ontario  
 2. Spatial referencing: NAD 1983 UTM Zone 17N



**PROJECT:** CarbonFree Kynoch – Natural Heritage Assessment

**FIGURE TITLE:** Evaluation of Significance Results

**CLIENT:** CarbonFree Kynoch LTD

|                             |                           |                        |                      |  |
|-----------------------------|---------------------------|------------------------|----------------------|--|
| <b>DWG BY:</b><br>V. BAXTER | <b>CHK BY:</b><br>C. SEHL | <b>FIG NO.:</b><br>4-1 | <b>REV NO.:</b><br>1 |  |
| <b>DATE:</b><br>19/02/26    | <b>PAGE:</b><br>1         |                        |                      |  |

## **5. Environmental Impact Study**

### **5.1 REA Regulation – Environmental Impact Study**

Section 38(1) of the REA Regulation prohibits the construction, installation or expansion of any component of a solar project within the following locations:

- Within 50 m of a Provincially Significant Northern Wetland.
- In or within 50 m of a Provincially Significant ANSI (earth science or life science).
- In or within 50 m of a Significant Wildlife Habitat (SWH).
- Within 50 m of a Provincial Park or Conservation Reserve.

However, Section 38(2) allows proponents to construct within the locations noted above, subject to the completion of an EIS to assess negative effects and evaluate appropriate mitigation and monitoring measures. Section 38(2) of the REA Regulation indicates that the EIS report must

- Identify and assess any negative environmental effects of the projects on natural features, provincial parks or conservation reserves referred to in Section 38(1).
- Identify mitigation measures in respect of any negative environmental effects.
- Describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects.
- Describe how the Construction Plan Report addresses any negative environmental effects.

This EIS has been prepared to address these requirements for the construction of Project components in and within 50 m of significant natural features identified in the EoS. The EIS has also been prepared in accordance with the guidelines established in the NHAG (MNR, 2012).

### **5.2 Significant Natural Features**

The following Table 5-1 provides a summary of the Natural Features treated as significant and that require an EIS. An assessment of potential negative environmental effects and recommended mitigation measures to avoid and/or minimize potential effects will be provided. The significant natural features identified in Table 5-1 are shown in Figure 4-1.

**Table 5-1: Significant Natural Features Identified in the NHA to be Assessed in the EIS**

| Natural Feature  | Figure 4-1 ID      | Proximity to Project Location                    | Assessment   | Next Steps   |
|--|--------------------|--|--|--|
| <b>Generalized cSWH</b>                                      |                    |  |  |  |
| Bat Maternity Colonies                                       | Bat Maternity      | Within and within 50 m from Project Location     | This habitat type is likely to occur within woodlands east of Highway 511 within the Project Location.   | Treated as significant and construction mitigation provided in the EIS.  |
| Amphibian Breeding Habitat (Woodlands)                       | Wetland 1, 2 and 3 | Within and within 50 m from Project Location     | Amphibian Breeding Habitat confirmed in Wetlands 1, 2 and 3.   | Set back 30 m from Wetland 1. Construction mitigation provided for Wetlands 2 and 3 in EIS.  |
| Raptor Nesting Habitat                                       | WRN-1              | Within and within 50 m from Project Location     | A Broad Wing Hawk nest was identified late in the season during field investigations; however, it was not confirmed to be active.                                | Treated as significant and construction mitigation provided in the EIS. Reevaluate nest in Spring of 2026.   |
| Bald Eagle and Osprey Nesting, Foraging and Perching Habitat | Wetland 1          | Within and within 50 m from Project Location     | Potential exists for this habitat in woodland areas adjacent to Little White River Provincial Park. No nesting activity was observed during Site Investigations. | Treated as significant and construction mitigation provided in the EIS.  |
| Species of Conservation Concern                              | SoCC 1-4           | Within and within 50 m from Project Location     | Species observations occurred.   | Treated as significant and construction mitigation provided in the EIS.  |
| <b>Natural Features</b>                                      |                    |  |  |  |
| Unevaluated Wetlands   | Wetland 1-6        | Within 50 m of Project location (solar facility) | Confirmed to be present. Treated as Significant.   | Set back Project Location at least 30 m for Wetlands 1, 3, 4, 5 and 6. Treated as significant and construction mitigation provided in the EIS. Additional construction mitigation associated with access roads provided for Wetlands 2 and 3 in the EIS. |

### 5.3 Existing Environmental Conditions

#### 5.3.1 Wetland 1

Wetland 1 is a coniferous swamp immediately adjacent to the existing access trail located in the northeastern portion of the Project Location. The wetland is generally palustrine and is a low point and catchment within the otherwise upland forested area. During high flows, it is

expected to drain ephemerally east toward Little White River. The overall size of the wetland is relatively small, marginally exceeding 2 ha in size.

However, the wetland is considered Significant Amphibian Breeding Habitat for frog species per Ecoregion Schedule 5e (MNR, 2015). Specifically Spring Peeper, Gray Treefrog and Wood Frog were recorded calling during investigations.

### **5.3.2 Wetland 2**

Wetland 2 is a coniferous and mixed wood swamp immediately south of the existing access trail located east of Highway 554 within the Project Location. Access improvements or additional access roads may be required that may fall within the footprint of the wetland. The wetland is largely isolated and is a low point within the otherwise upland pine forest area. The surrounding area has signs of past logging with access throughout the area in continued regular use. The wetland serves as Significant Amphibian Breeding Habitat for frog species in comparison to Ecoregion Schedule 5e (MNR, 2015). Specifically Gray Treefrog, American Toad, Spring Peeper, Green Frog and Wood Frog were recorded calling during investigations.

### **5.3.3 Wetland 3**

Wetland 3 is a coniferous and mixed wood swamp immediately south of the existing access. Access improvements or additional access roads may be required that may fall within the footprint of the wetland. Portions of the wetland have been created by beaver activity associated with an unnamed tributary of Little White River. The wetland therefore is palustrine and riverine in nature. Vegetation within the wetland is indicative of relatively recent flooding (within the past 10 years). Vegetation is transitioning to wetland-tolerant species; however, dead standing trees and signs of inhibited tree growth were observed in the area. Water within the area is largely stagnant with little to no flow. Like Wetland 2, existing access from past forestry and recreational trail use exists in the area. The wetland serves as Significant Amphibian Breeding Habitat for frog species in comparison to Ecoregion Schedule 5e (MNR, 2015). Specifically, Spring Peeper, Wood Frog and Leopard Frog were recorded during investigations.

### **5.3.4 Wetland 4 and Wetland 6**

Wetland 4 and Wetland 6 are deciduous thicket swamps. The wetlands are riverine and associated with Kynoch Creek to the south. They largely are one contiguous feature; however, they interact with the Project Location in two distinct areas and therefore are labelled separately on all Figures. Existing agricultural activities extend to and within the wetland at various points within the Project Location. The wetlands generally have a catchment from the adjacent agricultural fields and drain southwest via Kynoch Creek.

### **5.3.5 Wetland 5**

Wetland 5 borders the Project location to the south, where a relatively sudden drop in terrain elevation has caused a small area of ponding. The area was only partially investigated due to restrictions of property access; however, it is largely a conifer swamp. Based on imagery, and

existing topographical information it has a catchment of the southern edge of the Project Location and existing agricultural fields east of Highway 554.

### **5.3.6 *Bat Maternity Roost Habitat***

Bat Maternity Roost habitat is generally considered as potentially present throughout deciduous woodlands. Based on the results of targeted surveys, maternity roost habitat is generally considered as moderate to good throughout the Project Location east of Highway 511. Acoustic studies indicate that Big Brown Bat was the most prevalent species in the area, which are more habitat generalists than other resident species in Ontario. Silver Haired Bat are also quite prominent. Both species tend to roost in large mature forests in trees in early stages of decay (MNR, 2015). Although the area has been subject to logging disturbances, the results of acoustic monitoring suggest maternity roosting activity is likely occurring to some extent within the Project Location.

### **5.3.7 *Raptor Nesting Habitat***

Raptor Nesting Habitat is generally considered in all woodland forest stands. One stick nest was observed in a White Pine conifer stand as shown in Figure 4-1. The nest is believed to be associated with a Broad Winged Hawk; however, it was not active at the time of observation. No hawk species were observed during breeding bird surveys.

### **5.3.8 *Bald Eagle and Osprey Nesting Habitat***

Few areas within project Location are likely suitable for Bald Eagle or Osprey Nesting and are limited to areas adjacent to the Little White River Provincial Park. No observations of Bald Eagle or Osprey Nests were identified within the Project Location incidentally or during the Site Investigation or any species-specific surveys. Generally, monitoring for stick nests will occur ahead of clearing activities. Additional mitigation measures may be required in the event an active nest is identified.

## **5.4 Project Components and Activities**

The following sections describe the construction, operation and decommissioning phases of the Project. The information is taken from the Project Description Report. More detailed information will be provided in the Project Description Report, Construction Plan Report, Design and Operations Report, and Decommissioning Plan Report once created.

### **5.4.1 *Construction***

Construction is anticipated to occur over an approximately 30-month period, likely commencing early 2027 with commissioning anticipated in or before Fall 2029. The activities associated with construction are summarized in Table 5-2.

**Table 5-2: General Description of Construction Activities**

| Activity   | Description  |
|--|--|
| Access Road Construction   | <p>Activities associated with construction of internal access roads will include</p> <ul style="list-style-type: none"> <li>• vegetation clearing as necessary</li> <li>• topsoil removal</li> <li>• placement of granular base (to at least 30 cm)</li> <li>• installation of ditches and culverts, as required</li> <li>• installation of erosion and sediment control features as necessary</li> <li>• removal of any access roads not required, replacement of topsoil, and seeding</li> <li>• existing Public access will be repositioned west of the Project to facilitate ongoing foot and small motor vehicle traffic throughout construction and operation.</li> </ul>  |
| Site Preparation   | <p>Activities associated with the site preparation will include</p> <ul style="list-style-type: none"> <li>• removal of trees and shrubs as required [to occur outside of breeding bird period (May through July)]. Meadow vegetation to be left in place to the extent possible.</li> <li>• installation of erosion and sediment control features as necessary</li> <li>• determination of locations of topsoil, timber, and vegetation stockpiles (not within 30 m of any identified waterbodies).</li> </ul>  |
| Installation of Support Structures, PV Modules, Trackers, and Mounting Racks | <p>Activities associated with the installation of support structures will include</p> <ul style="list-style-type: none"> <li>• construction of foundations and/or support structures beneath transformers, inverters and PV panels</li> <li>• installation of PV panels on racks mounted on tracking structures</li> <li>• installation of approximately 23,000 steel piles to be driven or screwed into the ground to support tracking structures and PV panels</li> <li>• inspection of foundation construction and support structures prior to installation of PV panels and wiring.</li> </ul>   |
| Electrical Cable Installation  | <p>Activities associated with underground cable installation will include</p> <ul style="list-style-type: none"> <li>• installation of underground DC cabling from the termination point of the PV array to the inverters and medium-voltage transformers</li> <li>• installation of overhead and underground cabling from the inverters as necessary, to connect the PV array to the proposed substation and Hydro One Networks Inc. (HONI) transmission system</li> <li>• utilization of a simple trenching device to install the cables; whereby a slot will be opened, the cable will be laid, and the soil replaced.</li> <li>• installation of a (approximately 500 m) overhead transmission line to enable connection to the existing HONI 230-kV transmission line. This is to be constructed between the substation yard and point of interconnection with the existing HONI transmission line. This will take place at the northeastern extent of the Project Location and will include an approximately 30 m right of way extending from the Project Location private lands through Crown land directly to the existing transmission corridor. The final position of the connecting transmission line and interconnection point will be determined in consultation with the MNR and HONI. Crown Land Permits will be discussed separately within the Project's Approvals and Permitting Requirements Document (APRD).</li> <li>• removal of vegetation to install new wooden poles associated with the overhead transmission line.</li> </ul> |

| Activity                | Description   |
|-------------------------|---|
| Substation Construction | Activities associated with the substation construction will include <ul style="list-style-type: none"> <li>excavation of topsoil, installation of ground grid, foundation construction, construction of secondary containment, covering of the area with crushed stone, and installation of the substation transformer and other electrical equipment.</li> </ul> |
| Site Security           | Activities associated with site security will include <ul style="list-style-type: none"> <li>installation of perimeter fencing consisting of a chain-link fenced topped with barbed wire and access gates to prevent unauthorized access.</li> </ul>  |

### 5.4.2 **Operation**

The Project will operate year-round and generate electricity during daylight hours. The amount of power generated will depend on daily weather conditions and sufficient solar irradiation. The Project will be operated remotely. The project will primarily be monitored remotely. A permanent workforce is not expected to be required on site with the exception of maintenance and inspection staff or security personnel (as needed). To ensure the safety and integrity of the Project, access will be limited to Project personnel and unauthorized public access will be prevented by fences, gates and security procedures. Operationally, there are no significant hazards involved in the operation of the Project, nor are hazardous materials stored on site or created by the Project during its operation. The Project will not generate significant quantities of waste from its operation.

Inspections of the solar PV modules, inverters, transformers, wiring, and other electrical equipment will typically occur monthly. Any damaged or malfunctioning modules, cabling, or components will be repaired or replaced by qualified maintenance personnel. Vegetation coverage, drainage systems, and fencing will also be monitored and maintained regularly, with vegetation management occurring several times throughout the growing season, including along the fenceline where required.

The Project has been designed to accommodate agricultural land use (agrivoltaics) throughout operations, such as low-intensity grazing or crop production beneath and between solar panels, subject to landowner agreements and contractor availability. These activities would not require additional vegetation clearing or ground disturbance beyond that assessed for the Project. In all cases, agrivoltaics activities would be limited to the fenced in areas of the Project Location.

The need for panel washing will depend on local precipitation patterns. Rain and snowfall are anticipated to be sufficient for the cleaning of the panels. Should extra water be required it will be brought on site from a licensed supplier/source. During the winter, access roads will be ploughed to maintain safe access to Project components, and snow accumulation on modules will generally melt due to module tilt and heat generation. Manual removal of snow from modules may occur as required. All debris as a result of maintenance or cleaning will be removed from the site immediately by the contracted party. The Project will also be inspected whenever the power output is lower than anticipated as this would be indicative of a

mechanical problem. The lifespan of the project is estimated to be 35 years; however, the life of the Project may be extended should additional contracts be offered.

#### **5.4.3 Decommissioning**

Decommissioning would occur once the project has reached the end of its operational lifespan, anticipated to be approximately 35 years, or when it is no longer economically feasible to continue operation or refurbish generating equipment. All decommissioning and site restoration activities would adhere to the requirements of appropriate regulatory authorities and would be conducted in accordance with all applicable federal, provincial and municipal permits and approvals. The decommissioning and restoration process would include the following activities:

- Removal of the fencing, scrap metal and cabling. Where possible, these materials will be recycled with non-recyclables taken to an approved disposal site.
- Removal of trackers, support structures, and foundations unless the landowner requests otherwise. These materials will be recycled where possible.
- Site cleanup and re-grading, as required, to restore the land to a stable and safe condition.

A Decommissioning Plan Report will be prepared and submitted as part of the REA application process. Once the Project and other materials are removed, the site will be returned to preconstruction conditions at the discretion of the landowner.

## **5.5 Environmental Effects Assessment**

Multiple generalized candidate SWH (cSWH) and wetlands assumed (as summarized in Section 5.2) have been identified in and within 50 m of the Project Location and are being treated as significant as part of the Environmental Effects Assessment. In accordance with the NHAG (MNR, 2012) an assessment of direct and indirect effects to significant natural features has been provided in the following sections.

### **5.5.1 Wetlands**

The Project Location has been set back 30 m from Wetlands 1, 4, 5 and 6 identified in proximity to the Project.

Due to limitations associated with the availability of land and the presence and location of existing infrastructure, it is not feasible to locate the Project's access road outside of Wetlands 2 or 3. Similarly, due to the width of the wetlands, it is not feasible for the access road to span the wetland. The existing trail in this area currently fragments the wetland features. Adjustments to the road alignment, access improvements or new access in this corridor are expected to marginally further impact these wetland features directly and indirectly. CarbonFree Kynoch Ltd. will continue to investigate alternative land access in an attempt to minimize the overlap of the access road with Wetlands 2 and 3. These alternatives will only be considered if they further minimize the Project's overlap with the features.

In order to minimize the footprint of the access road within the wetland, the Project will follow current trail alignment along Wetlands 2 and 3 as closely as possible while respecting property boundaries. This will keep further impacts to the wetlands as minimal as possible. Given impacts will be limited to the wetlands edge, fragmentation is not an expected cumulative impact alongside wetland loss.

Direct impacts associated with the Project Location overlapping Wetlands 2 and 3 cannot be avoided. Therefore, conservatively, 0.12 ha of wetland consisting primarily of treed coniferous wetland will be cleared to facilitate the construction of the access road. Impacts to the wetland within this area will be minimized to the extent possible by utilizing the existing trail outside of the wetland for laydown and machinery wherever possible. The overall footprint represents approximately 1.34% of Wetland 2 or 3's area. Therefore, it is not expected to have an impact on the overall function of the wetland or impact the wetland type. It is likely that following construction, the majority of the area will maintain regular wetland function. Maintenance activities will limit the growth of trees within the access roads right-of-way. The improvements to access will assist in limiting long-term potential for sediment runoff as seen with the current iteration of the sand trail, while simultaneously reducing the potential for the formation of amphibian ecological traps left by ruts and divots that are currently found throughout the existing trail network. Throughout construction, erosion and sediment control fencing will be utilized to prevent runoff into wetlands, with vegetation being allowed to establish and stabilize soils prior to removal of the fencing.

Generally, only indirect effects to the wetland are expected based on the 30 m setback implemented between the wetlands. Construction work adjacent wetlands can cause soil compaction and impact soil stability due to grading and vegetation removal. This can cause sediment and erosion events that can degrade adjacent features and impact drainage patterns. Utilization of machinery carries risk of spilling deleterious material that can also impact adjacent features when left unmitigated. Dust may be mobilized due to vehicular traffic and heavy machinery use, drilling (if necessary for solar panel installation) and soil moving activities (e.g., excavation, grading trenching).

Where the Project Location extends within 50 m of one of these features, sediment and erosion controls will be put in place to minimize impacts to the wetland.

Spill prevention and response measures will be put in place to reduce the likelihood of a spill occurring and impacting the feature. Visual monitoring of dust will occur throughout construction activities. The following mitigation measures may be implemented if dust levels are observed to be high:

- Use of dust suppression (i.e., water or non-chloride-based materials) on exposed areas including access roads, stockpiles and works/laydown areas as necessary.
- Adding coarse granular material, free of fine soil particles) on access roads or high traffic work areas.

- Phased construction where possible to minimize duration of soil exposure.
- Stockpiles and disturbed areas may be stabilized as necessary (i.e., tarped, mulched, graded, or vegetated) to reduce release of fugitive dust.

Through the implementation of these mitigation measures and abiding by the prescribed setbacks, negative effects to wetlands are expected to be negligible throughout all phases of the Project. The implementation of a 30 m setback may ultimately have a positive effect on the wetlands, reducing encroachments from adjacent land uses such as cattle grazing, vegetation clearing and land tilling associated with existing agriculture. Setbacks of 30 m are largely the provincial standard for mitigation effects to wetlands based on the Provincial Policy Statement (King's Printer for Ontario, 2024) and the *Conservation Authorities Act*.

The construction of the Project will include the creation of a stormwater management plan expected to maintain the existing drainage regime in the area. As such, no impacts to wetlands are expected throughout the operation of the facility.

Effects during decommissioning activities are expected to be similar to those described in relation to construction.

#### **5.5.2 Generalized Habitat for SoCC Grassland Birds**

Potential impacts of the Project on Bobolink and Eastern Meadowlark can largely be avoided through seasonal timing windows associated with clearing (April 15 to August 31) and tilling land. In total, up to 24.5 ha of grassland habitat is expected to be removed as part of the Project. The impact to regional level grassland bird habitat for SoCC species is marginal given the extent of high-quality grasslands in Kynoch, and the Projects focus on lower quality grasslands for nesting where wet moisture regimes and increased forb presence limit suitability for nesting.

#### **5.5.3 Generalized Habitat for SoCC Woodland Birds**

Potential impacts of the Project on Wood Thrush and Canada Warbler can largely be avoided through seasonal timing windows associated with clearing (April 15 to August 31) and earth works. The impact to regional level woodland bird habitat for SoCC species is marginal given the extent of woodlands in the area.

#### **5.5.4 Bald Eagle and Osprey Nesting Habitat**

Few areas within the Project Location are likely suitable for Bald Eagle or Osprey Nesting. In this area, limited open water features are available to support foraging typically associated with nests. No observations of Bald Eagle or Osprey Nests were identified within the Project Location incidentally or during the Site Investigation or any species-specific surveys. Generally, monitoring for stick nests will occur ahead of clearing activities. Additional mitigation measures may be required in the event an active nest is identified.

**5.5.5 Woodland Raptor Nesting Habitat**

As previously mentioned, a Broad-Winged Hawk nest that was identified during the REA site investigations (Raptor Nesting Habitat in Figure 4-1). If the raptor nest is confirmed as being active in April to June 2026, mitigation in the form of a 100 m buffer will be applied to the feature which will negate any impacts to the feature. Following site investigations to take part as a portion of the EIS, if the nest is determined to be inactive, it will no longer be considered cSWH and will not be incorporated into project design.

**5.5.6 Amphibian Breeding Habitat (Woodland)**

To protect features associated with Amphibian Breeding, the Project will accommodate a minimum buffer of 30 m for each wetland confirmed through site investigations with the exception of new access roads or access road improvements north adjacent to Wetlands 2 and 3. Where any access road extends within 50 m of one of these features, sediment and erosion controls will be put in place to minimize impacts to these features. Additionally, sediment and erosion controls will be implemented and monitored between the features and access upgrade work. In total, less than 0.12 ha of amphibian habitat are expected to be impacted by road access improvements. Proper grading and maintenance of these access roads are expected to minimize long-term sedimentation to the wetlands currently observed occurring in association with the existing access trail on site. Spill prevention and response measures will be put in place to reduce the likelihood of a spill occurring and impacting the feature. Improvements to access in this area may be phased beyond the breeding season (April 15 to June 30) of the recorded species to minimize impacts to Amphibian Breeding habitats.

**5.5.7 Bat Maternity Roost Colonies**

Potential impacts of the Project on bat maternity habitats can largely be avoided through seasonal timing windows associated with clearing (April 15 to August 31). Impacts to availability of Bat Maternity Roost habitat availability in the area are expected to be low given the predominance of large woodlands in the general vicinity of the Project and the Project's footprint overlapping areas that were subject to historical logging. Clearing outside of the bat maternity roosting period can largely avoid direct impacts on bat species.

**5.5.8 Potential Environmental Effects and Mitigation Measures**

An assessment of potential environmental effects recommended mitigation measures and residual effects during all Project phases is provided in Table 5-4. Characterization and assessment of residual effects following mitigation is also provided, with criteria outlined in Table 5-3.

**Table 5-3: Environmental Effects Analysis Criteria**

| Criteria                              | Description of Threshold Ratings   |
|---------------------------------------|--|
| Magnitude                             | <ul style="list-style-type: none"> <li>• <b>Negligible (0):</b> No detectable change from baseline conditions.</li> <li>• <b>Low (1):</b> Differs from the average value for baseline conditions but remains within the range of natural variation and below a guideline or threshold value.</li> <li>• <b>Medium (2):</b> Differs substantially from the average value for baseline conditions and approaches the limits of natural variation, but equal to or slightly above a guideline or threshold value.</li> <li>• <b>High (3):</b> Differs substantially from baseline conditions and is significantly beyond a guideline or threshold value, resulting in a detectable change beyond the range of natural variation.</li> </ul>   |
| Geographical Extent (Biophysical)     | <ul style="list-style-type: none"> <li>• <b>Project Location (1):</b> Impact is limited to the Project Location.</li> <li>• <b>Study Area (within 50 m of Project Location) (2):</b> Effect occurs throughout the Study Area.</li> <li>• <b>Beyond Study Area (3):</b> Effect extends beyond the Study Area.</li> </ul>  |
| Duration                              | <ul style="list-style-type: none"> <li>• <b>Short Term (1):</b> Impact lasts less than 2 years (e.g., during the Construction Phase of the Project).</li> <li>• <b>Medium Term (2):</b> Impact lasts from 2 to 50 years (i.e., encompassing construction and operation phases).</li> <li>• <b>Long Term (3):</b> Impact lasts from 50 to 53 years (i.e., impact lasts into the decommissioning and post-closure phase).</li> </ul>   |
| Frequency                             | <ul style="list-style-type: none"> <li>• <b>One Time (1):</b> Impact is confined to one discrete event.</li> <li>• <b>Sporadic (2):</b> Impact occurs rarely and at sporadic intervals.</li> <li>• <b>Regular (3):</b> Impact occurs on a regular basis.</li> <li>• <b>Continuous (4):</b> Impact occurs constantly.</li> </ul>  |
| Reversibility                         | <ul style="list-style-type: none"> <li>• <b>Reversible (1):</b> Impact can be reversed.</li> <li>• <b>Partially Reversible (2):</b> Impact can be partially reversed.</li> <li>• <b>Permanent (3):</b> Impact cannot be reversed, is of permanent duration.</li> </ul>   |
| Ecological and Socio-Economic Context | <ul style="list-style-type: none"> <li>• <b>High (1):</b> The receiving environment or population has a high natural resilience to imposed stresses, and can respond and adapt to the impact.</li> <li>• <b>Neutral (2):</b> The receiving environment or population has a neutral resilience to imposed stresses and may be able to respond and adapt to the impact.</li> <li>• <b>Low (3):</b> The receiving environment or population has a low resilience to imposed stresses, and will not easily adapt to the impact.</li> </ul>   |
| Certainty of Knowledge                | <ul style="list-style-type: none"> <li>• <b>High (1):</b> There is a good understanding of the cause-effect relationship and all necessary data are available for the Project. The effectiveness of the mitigation measures is well known. There is a low degree of uncertainty, and variation from the predicted effect is expected to be low.</li> <li>• <b>Moderate (2):</b> The cause-effect relationships are not fully understood, there are a number of unknown external variables, or data for the Project are incomplete. The effectiveness of mitigation measures is moderately well understood. There is a moderate degree of uncertainty; while results may vary, predictions are relatively confident.</li> <li>• <b>Low (3):</b> The cause-effect relationships are poorly understood, there are a number of unknown external variables, and data for the Project are incomplete. The effectiveness of the mitigation measures may not yet be proven. High degree of uncertainty and final results may vary considerably.</li> </ul> |

## 5.6 Environmental Effects Monitoring Plan

In accordance with the REA Regulation, the monitoring plan identifies

- Performance objectives in respect of the negative environmental effects to natural features.
- Mitigation measures to assist in achieving the performance objectives.
- A program for monitoring negative environmental effects for the Project duration, including a contingency plan, to be implemented if any mitigation measures fail.

A summary of potential environmental effects and mitigations is provided in Table 5-4. This outlines the significant natural features that show potential to be impact by construction, operational, and decommissioning activities as well as mitigation measures to be used to minimize impacts. A monitoring plan to verify that proposed mitigation measures are functioning as designed (to meet performance objectives) is provided in Table 5-5. If monitoring efforts indicate that performance objectives are not being met, contingency measures will be used to ensure that remedial action is implemented, as necessary.

**Table 5-4: Potential Environmental Effects and Mitigation**

| Natural Features - Significant or Treated as Significant | Construction Activity  | Potential Environmental Effects  | Mitigation and Contingency Measures  | Residual Environmental Effects Analysis |                   |          |           |               |                                       |                        |
|--|--|--|--|---|-------------------|----------|-----------|---------------|---------------------------------------|------------------------|
|  |  |  |  | Magnitude                               | Geographic Extent | Duration | Frequency | Reversibility | Ecological and Socio-Economic Context | Certainty of Knowledge |
| Wetlands 1, 4, 5 and 6                                   | <p><b>Construction Phase</b></p> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> <li>Access roads (water crossings).</li> <li>Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> <p><b>Operational Phase</b></p> <ul style="list-style-type: none"> <li>Right-of-Way maintenance (vegetation clearing).</li> </ul> <p><b>Decommissioning Phase</b></p> <ul style="list-style-type: none"> <li>Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> | <p>Alteration to drainage regime along the edge of the wetland (Construction and Decommissioning phases):</p> <ul style="list-style-type: none"> <li>Soil compaction.</li> <li>Changes in moisture regime.</li> <li>Fugitive dust.</li> <li>Spills (e.g., fuel).</li> <li>Sedimentation.</li> <li>Introduction of invasive species.</li> </ul>   | <ul style="list-style-type: none"> <li>Set back Project components and fencing 30 m from features.</li> <li>Flag buffer area to prevent unauthorized access during construction.</li> <li>Create and implement a sediment and erosion control plan to minimize sedimentation where Project activities are located within 50 m of a wetland or 120 m of a water body.</li> <li>Create and implement a spills management procedure including the requirement that refueling, and fuel storage occur more than 50 m away from the natural feature.</li> <li>Grading and civil design will consider existing drainage patterns to minimize impacts to wetland moisture regime.</li> </ul>  | 0                                       | 1                 | 1        | 1         | 2             | 1                                     | 1                      |
| Wetlands 2 and 3   | <p><b>Construction Phase</b></p> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> <li>Access roads (water crossings).</li> <li>Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> <p><b>Operational Phase</b></p> <ul style="list-style-type: none"> <li>Right-of-Way maintenance (vegetation clearing).</li> </ul> <p><b>Decommissioning Phase</b></p> <ul style="list-style-type: none"> <li>Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> | <p>Alteration to drainage regime along the edge of the wetland (Construction and Decommissioning phases):</p> <ul style="list-style-type: none"> <li>Soil compaction.</li> <li>Changes in moisture regime.</li> <li>Fugitive dust.</li> <li>Spills (e.g., fuel).</li> <li>Sedimentation.</li> <li>Introduction of invasive species.</li> <li>Removal of vegetation to facilitate road construction.</li> </ul> | <ul style="list-style-type: none"> <li>Flag buffer area to prevent unauthorized access during construction.</li> <li>Create and implement a sediment and erosion control plan to minimize sedimentation where Project activities are located within wetlands.</li> <li>Create and implement a spills management procedure including the requirement that refueling, and fuel storage occur more than 50 m away from the natural feature.</li> <li>Grading and civil design will consider existing drainage patterns to minimize impacts to wetland moisture regime.</li> <li>Utilize existing trail for laydown and equipment while undertaking construction of access road where possible.</li> <li>Phasing access construction or upgrades outside of known Amphibian Breeding Periods.</li> </ul> | 3                                       | 1                 | 3        | 1         | 0             | 1                                     | 3                      |

| Natural Features - Significant or Treated as Significant | Construction Activity  | Potential Environmental Effects   | Mitigation and Contingency Measures  | Residual Environmental Effects Analysis |                   |          |           |               |                                       |                        |
|--|--|---|--|---|-------------------|----------|-----------|---------------|---------------------------------------|------------------------|
|  |  |   |  | Magnitude                               | Geographic Extent | Duration | Frequency | Reversibility | Ecological and Socio-Economic Context | Certainty of Knowledge |
| Amphibian Breeding Habitat (Woodland)                    | <b>Construction Phase</b> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> <li>Access roads (water crossings).</li> <li>Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> <b>Decommissioning Phase</b> <ul style="list-style-type: none"> <li>Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> | Alteration to drainage regime along the edge of wetland (Construction and Decommissioning phases): <ul style="list-style-type: none"> <li>Soil compaction.</li> <li>Changes in moisture regime.</li> <li>Fugitive dust.</li> <li>Spills (e.g., fuel).</li> <li>Sedimentation.</li> <li>Introduction of invasive species.</li> <li>Loss of adjacent supporting habitat.</li> </ul> | <ul style="list-style-type: none"> <li>Set back Project components and fencing 30 m from features.</li> <li>Flag buffer area to prevent unauthorized access during construction.</li> <li>Create and implement a sediment and erosion control plan to minimize sedimentation.</li> <li>Create and implement a spills management procedure including the requirement that refueling, and fuel storage occur more than 50 m away from the natural feature.</li> <li>Grading and civil design will consider existing drainage patterns to minimize impacts to wetland moisture regime.</li> </ul> | 2                                       | 1                 | 1        | 1         | 2             | 2                                     | 2                      |
| Bat Maternity Roost Habitat                              | <b>Construction Phase</b> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> </ul>   | Loss of habitat function following construction of the Project is expected.<br>Incidental take of individuals is possible if clearing takes place within the bat maternity roost window.  | <ul style="list-style-type: none"> <li>Complete site clearing and grading outside of the active bat maternity period (April 1 to August 31).</li> <li>Flag project extents to prevent unauthorized access during construction to areas not required to be cleared for the Project.</li> </ul>  | 1                                       | 1                 | 2        | 1         | 3             | 1                                     | 2                      |
| SoCC Birds   | <b>Construction Phase</b> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> <li>Access roads (water crossings).</li> <li>Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul>   | Temporary loss of available foraging or nesting habitat.<br>Incidental take of individuals is possible if clearing takes place within the bird nesting window.  | <ul style="list-style-type: none"> <li>Complete site clearing and grading outside of the active grassland bird, breeding bird nesting period or bat maternity roosting period (April 15 to August 31).</li> <li>Flag project extents to prevent unauthorized access during construction to areas not required to be cleared for the Project.</li> </ul>  | 1                                       | 2                 | 2        | 1         | 3             | 2                                     | 2                      |
| Broad-Winged Hawk Nest - WRN - 1                         | <b>Construction Phase</b> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> </ul> <b>Decommissioning Phase</b> <ul style="list-style-type: none"> <li>Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul>   | Accidental take of an active nest.  | <ul style="list-style-type: none"> <li>Complete two investigations in 2026 to determine if the nest is being actively used.</li> <li>Establish a 100 m clearing and grading buffer around the nest to protect its integrity.</li> </ul>  | 1                                       | 1                 | 1        | 1         | 3             | 2                                     | 1                      |

| Natural Features - Significant or Treated as Significant | Construction Activity  | Potential Environmental Effects   | Mitigation and Contingency Measures  | Residual Environmental Effects Analysis |                   |          |           |               |                                       |                        |
|--|--|---|--|---|-------------------|----------|-----------|---------------|---------------------------------------|------------------------|
|  |  |   |  | Magnitude                               | Geographic Extent | Duration | Frequency | Reversibility | Ecological and Socio-Economic Context | Certainty of Knowledge |
| Bald Eagle/Osprey Nesting                                | <p><b>Construction Phase</b></p> <ul style="list-style-type: none"> <li>Site preparation (vegetation clearing, minor grading).</li> <li>Access roads (water crossings).</li> <li>Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> <p><b>Decommissioning Phase</b></p> <ul style="list-style-type: none"> <li>Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).</li> </ul> | <p>Temporary loss of available foraging or nesting habitat.</p> <p>Incidental take of individuals is possible if clearing takes place within the bird nesting window.</p> | <ul style="list-style-type: none"> <li>Complete site clearing and grading outside of the active nesting period (April 15 to August 31).</li> <li>Flag project extents to prevent unauthorized access during construction to areas not required to be cleared for the Project.</li> </ul> | 1                                       | 1                 | 1        | 1         | 2             | 1                                     | 2                      |

**Table 5-5: Environmental Effects Monitoring Plan**

| Negative Effect   | Mitigation Strategy  | Performance Objective   | Monitoring Plan   |   |   |   |   | Contingency Measures  |
|---|--|---|---|---|---|---|---|---|
|   |  |   | Methodology   | Monitoring Locations  | Frequency   | Rationale   | Reporting Requirements  |   |
| Erosion and sedimentation resulting in increased turbidity in site runoff.                  | A sediment and erosion control plan expected to include vegetation retention where possible. Vegetated setbacks of Project components to sensitive features. Sediment and erosion controls (e.g., silt fences, rock check dams, straw bales, erosion control blankets) will be installed and maintained between the Project Location and wetlands or watercourses where work is required within 50 m of wetlands or 120 m of water features. | No long-term erosion from site over and above existing conditions.                | Visual monitoring of vegetated areas and drainage features that convey runoff to identify areas of erosion (e.g., rills, gullies). Visual monitoring of ESC measures to ensure they remain effective throughout construction. | Throughout Project Location. Access along Wetlands 2 and 3. | During regular site inspection throughout construction and operation. | Visual monitoring of erosion would identify potential areas of concern.   | Maintenance and improvement requirements actioned as needed and reported internally throughout monthly construction monitoring reports. Ongoing status of permanent features reported internally within annual operations report.   | Erosion remediated as necessary to ensure no long-term erosion issues.  |
| Potential for adverse surface water, groundwater and soil quality due to accidental spills. | Standard mitigation to prevent spills and minimize magnitude of spills if they occur. For example, refueling at least 30 m from wetlands and water features.   | No long-term environmental effects due to spills.                                 | Visual monitoring at transformer locations and monitoring of spill prevention measures.   | Throughout Project Location.                                | During regular site inspections.                                      | Visual monitoring would identify potential areas of concern and ensure that spill prevention and control measures are functioning as designed and protocols are being implemented as specified in plans to meet performance objectives. | All spills and remediation efforts reported throughout monthly construction monitoring reports. Ongoing status reported internally within annual operations report. Reportable spills must be documented and reported to the Ontario Spills Action Centre.                                | Spill contingency measures implemented as necessary in the event of a spill. Following spill event, response will be reviewed to determine if additional or altered response protocols are necessary to meet performance objectives.  |
| Increases in surface water runoff/changes to local drainage and hydrological conditions.    | Stormwater management measures, which may include enhanced vegetated swales, ditch flow controls and filter strips.  | Minimal changes in drainage and conditions of receiving wetlands and waterbodies. | Visual assessment of structural stability of mitigation measures and identification of unintended impacts.  | Throughout Project Location.                                | During regular site inspections.                                      | Visual monitoring will confirm that stormwater management measures remain as designed and allow identification of deficiencies.   | Reported internally annual operations report.   | Stormwater management measures will be remediated as necessary to ensure that they are functioning as designed.   |
| Incidental take of wildlife.  | Speeds to be limited on Project roads and maintenance workforce to be made aware of potential for wildlife on the Project Location. Vegetation clearing will be conducted in fall/winter months outside of the nesting period for breeding birds and outside of the bat maternity roosting period (April 15 to August 31).   | Minimal occurrences of incidental take.   | Visual monitoring of access roads and other site areas will be conducted by maintenance personnel and occasions of incidental take reported as they are identified.   | Throughout Project Location.                                | Ongoing during maintenance activities.                                | Incidental take will be reported by maintenance staff to personnel responsible for environmental protection if incidents occur.   | Any incidental takes on wildlife will be documented internally and reported within monthly construction monitoring reports. No operational requirement. Any incidental takes of species of conservation concern in which case reporting will be immediate to the MECP/Environment Canada. | If incidental take of species of conservation concern is recorded, work will be ceased until a trained biologist can state that no other individuals of the species are present in the work area. Injured wildlife, specifically reptiles, will be taken to a wildlife rehabilitation center. |

| Negative Effect  | Mitigation Strategy   | Performance Objective                        | Monitoring Plan  |                      |  |   | Contingency Measures                                      |  |
|--|---|--|--|----------------------|--|---|---|--|
|  |   |  | Methodology  | Monitoring Locations | Frequency                                      | Rationale   |   | Reporting Requirements   |
| Loss of Species of Conservation Concern Grassland Bird Habitat | Phasing Project to prevent impacts to SoCC (i.e., clearing outside of the active nesting period). | Minimize impacts to grassland nesting birds. | Earthworks activities in grassland habitats to be phased prior to any nesting activity becoming established. This will be confirmed via biologist where necessary.<br>Vegetation on site may be maintained to a level to minimize grassland bird habitation. | Grassland habitats.  | Ahead of earthworks starting in new locations. | Only tall grass areas are likely to support any grassland bird species including all SoCC observed within the Project area. | Documented internally in Construction monitoring reports. | Nest sweep of areas immediately ahead of construction. Delaying construction to outside of nesting period. |

## 6. NHA Conclusions

The Project Location is primarily on disturbed pasture, agricultural lands, and forest habitats. The Project Location is generally characterized as having an abundance of forested habitat with additional grassland, meadow, and prairie habitat that are utilized as pasturelands for cattle, hay production, and annual row crops. The NHA identified wetlands and cSWH that have prescribed setbacks for protection. Furthermore, an EIS was prepared to address potential negative effects to these features as well as identify monitoring activities to confirm the effectiveness of the recommended mitigation measure. Mitigation measures have been identified to avoid and minimize potential effects. A monitoring plan has also been developed to ensure that performance objectives are met and implement contingency plans if mitigation measures fail. The mitigation measures identified in the Project Description Report and NHA EIS are intended to address potential environmental effects for both significant and non-significant natural features.

Overall, the Project has been sited to avoid sensitive natural features, where possible, particularly wetlands and watercourses, which exist on the edges of the Project boundaries. While there are potential negative environmental effects identified for this Project, most effects can be mitigated through construction phasing and standard Best Management Practices.

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# **Appendix A**

## **Species Identified in the Records Review**

| Common Name                    | Scientific Name                 | SARA Schedule 1 | SARO | COSEWIC | Source                      |
|--------------------------------|---------------------------------|-----------------|------|---------|-----------------------------|
| <b>Amphibians</b>              |                                 |                 |      |         |                             |
| American Toad                  | <i>Anaxyrus americanus</i>      | -               | -    | -       | Reptile and Amphibian Atlas |
| Gray Treefrog                  | <i>Hyla versicolor</i>          | -               | -    | -       | Reptile and Amphibian Atlas |
| Green Frog                     | <i>Lithobates clamitans</i>     | -               | -    | -       | Reptile and Amphibian Atlas |
| Spotted Salamander             | <i>Ambystoma maculatum</i>      | -               | -    | -       | Reptile and Amphibian Atlas |
| Spring Peeper                  | <i>Pseudacris crucifer</i>      | -               | -    | -       | iNaturalist                 |
| Wood Frog                      | <i>Lithobates sylvaticus</i>    | -               | -    | -       | Reptile and Amphibian Atlas |
| <b>Birds</b>                   |                                 |                 |      |         |                             |
| Alder Flycatcher               | <i>Empidonax alnorum</i>        | -               | -    | -       | OBBA                        |
| American Bittern               | <i>Botaurus lentiginosus</i>    | -               | -    | -       | OBBA                        |
| American Black Duck            | <i>Anas rubripes</i>            | -               | -    | -       | OBBA                        |
| American Coot                  | <i>Fulica americana</i>         | -               | -    | -       | OBBA                        |
| American Crow                  | <i>Corvus brachyrhynchos</i>    | -               | -    | -       | OBBA                        |
| American Goldfinch             | <i>Spinus tristis</i>           | -               | -    | -       | OBBA                        |
| American Goshawk               | <i>Astur atricapillus</i>       | -               | -    | -       | OBBA                        |
| American Herring Gull          | <i>Larus smithsonianus</i>      | -               | -    | -       | OBBA                        |
| American Kestrel               | <i>Falco sparverius</i>         | -               | -    | -       | OBBA                        |
| American Redstart              | <i>Setophaga ruticilla</i>      | -               | -    | -       | OBBA                        |
| American Robin                 | <i>Turdus migratorius</i>       | -               | -    | -       | OBBA                        |
| American Three-Toed Woodpecker | <i>Picoides dorsalis</i>        | -               | -    | -       | OBBA                        |
| American Tree Sparrow          | <i>Spizelloides arborea</i>     | -               | -    | -       | iNaturalist                 |
| American Wigeon                | <i>Mareca americana</i>         | -               | -    | -       | OBBA                        |
| American Woodcock              | <i>Scolopax minor</i>           | -               | -    | -       | OBBA                        |
| Bald Eagle                     | <i>Haliaeetus leucocephalus</i> | -               | -    | -       | OBBA                        |
| Baltimore Oriole               | <i>Icterus galbula</i>          | -               | -    | -       | OBBA                        |
| Bank Swallow                   | <i>Riparia riparia</i>          | THR             | THR  | THR     | OBBA                        |

|                              |                                     |     |     |    |      |
|------------------------------|-------------------------------------|-----|-----|----|------|
| Barn Swallow                 | <i>Hirundo rustica</i>              | THR | SC  | SC | OBBA |
| Barred Owl                   | <i>Strix varia</i>                  | -   | -   | -  | OBBA |
| Bay-Breasted Warbler         | <i>Setophaga castanea</i>           | -   | -   | -  | OBBA |
| Belted Kingfisher            | <i>Megaceryle alcyon</i>            | -   | -   | -  | OBBA |
| Black-And-White Warbler      | <i>Mniotilta varia</i>              | -   | -   | -  | OBBA |
| Black-Backed Woodpecker      | <i>Picoides arcticus</i>            | -   | -   | -  | OBBA |
| Black-Billed Cuckoo          | <i>Coccyzus erythrophthalmus</i>    | -   | -   | -  | OBBA |
| Black-Billed Magpie          | <i>Pica hudsonia</i>                | -   | -   | -  | OBBA |
| Blackburnian Warbler         | <i>Setophaga fusca</i>              | -   | -   | -  | OBBA |
| Black-Capped Chickadee       | <i>Poecile atricapillus</i>         | -   | -   | -  | OBBA |
| Black-Crowned Night Heron    | <i>Nycticorax nycticorax</i>        | -   | -   | -  | OBBA |
| Black-Throated Blue Warbler  | <i>Setophaga caerulescens</i>       | -   | -   | -  | OBBA |
| Black-Throated Green Warbler | <i>Setophaga virens</i>             | -   | -   | -  | OBBA |
| Blue Jay                     | <i>Cyanocitta cristata</i>          | -   | -   | -  | OBBA |
| Blue-Headed Vireo            | <i>Vireo solitarius</i>             | -   | -   | -  | OBBA |
| Blue-Winged Teal             | <i>Spatula discors</i>              | -   | -   | -  | OBBA |
| Bobolink                     | <i>Dolichonyx oryzivorus</i>        | THR | THR | SC | NHIC |
| Bonapartes Gull              | <i>Chroicocephalus philadelphia</i> | -   | -   | -  | OBBA |
| Boreal Chickadee             | <i>Poecile hudsonicus</i>           | -   | -   | -  | OBBA |
| Boreal Owl                   | <i>Aegolius funereus</i>            | -   | -   | -  | OBBA |
| Brewers Blackbird            | <i>Euphagus cyanocephalus</i>       | -   | -   | -  | OBBA |
| Broad-Winged Hawk            | <i>Buteo platypterus</i>            | -   | -   | -  | OBBA |
| Brown Creeper                | <i>Certhia americana</i>            | -   | -   | -  | OBBA |
| Brown Thrasher               | <i>Toxostoma rufum</i>              | -   | -   | -  | OBBA |
| Brown-Headed Cowbird         | <i>Molothrus ater</i>               | -   | -   | -  | OBBA |
| Bufflehead                   | <i>Bucephala albeola</i>            | -   | -   | -  | OBBA |
| Canada Goose                 | <i>Branta canadensis</i>            | -   | -   | -  | OBBA |
| Canada Jay                   | <i>Perisoreus canadensis</i>        | -   | -   | -  | OBBA |
| Canada Warbler               | <i>Cardellina canadensis</i>        | THR | SC  | SC | NHIC |
| Cape May Warbler             | <i>Setophaga tigrina</i>            | -   | -   | -  | OBBA |
| Caspian Tern                 | <i>Hydroprogne caspia</i>           | -   | -   | -  | OBBA |

|                          |                                 |     |     |     |      |
|--------------------------|---------------------------------|-----|-----|-----|------|
| Cedar Waxwing            | <i>Bombycilla cedrorum</i>      | -   | -   | -   | OBBA |
| Chestnut-Sided Warbler   | <i>Setophaga pensylvanica</i>   | -   | -   | -   | OBBA |
| Chimney Swift            | <i>Chaetura pelagica</i>        | THR | THR | THR | OBBA |
| Chipping Sparrow         | <i>Spizella passerina</i>       | -   | -   | -   | OBBA |
| Clay-Colored Sparrow     | <i>Spizella pallida</i>         | -   | -   | -   | OBBA |
| Cliff Swallow            | <i>Petrochelidon pyrrhonota</i> | -   | -   | -   | OBBA |
| Common Gallinule         | <i>Gallinula galeata</i>        | -   | -   | -   | OBBA |
| Common Goldeneye         | <i>Bucephala clangula</i>       | -   | -   | -   | OBBA |
| Common Grackle           | <i>Quiscalus quiscula</i>       | -   | -   | -   | OBBA |
| Common Loon              | <i>Gavia immer</i>              | -   | -   | -   | OBBA |
| Common Merganser         | <i>Mergus merganser</i>         | -   | -   | -   | OBBA |
| Common Nighthawk         | <i>Chordeiles minor</i>         | SC  | SC  | SC  | OBBA |
| Common Raven             | <i>Corvus corax</i>             | -   | -   | -   | OBBA |
| Common Tern              | <i>Sterna hirundo</i>           | -   | -   | -   | OBBA |
| Common Yellowthroat      | <i>Geothlypis trichas</i>       | -   | -   | -   | OBBA |
| Connecticut Warbler      | <i>Oporornis agilis</i>         | -   | -   | -   | OBBA |
| Coopers Hawk             | <i>Astur cooperii</i>           | -   | -   | -   | OBBA |
| Dark-Eyed Junco          | <i>Junco hyemalis</i>           | -   | -   | -   | OBBA |
| Double-Crested Cormorant | <i>Nannopterum auritum</i>      | -   | -   | -   | OBBA |
| Downy Woodpecker         | <i>Dryobates pubescens</i>      | -   | -   | -   | OBBA |
| Eastern Bluebird         | <i>Sialia sialis</i>            | -   | -   | -   | OBBA |
| Eastern Kingbird         | <i>Tyrannus tyrannus</i>        | -   | -   | -   | OBBA |
| Eastern Meadowlark       | <i>Sturnella magna</i>          | THR | THR | THR | OBBA |
| Eastern Phoebe           | <i>Sayornis phoebe</i>          | -   | -   | -   | OBBA |
| Eastern Screech-Owl      | <i>Megascops asio</i>           | -   | -   | -   | OBBA |
| Eastern Towhee           | <i>Pipilo erythrophthalmus</i>  | -   | -   | -   | OBBA |
| Eastern Warbling Vireo   | <i>Vireo gilvus</i>             | -   | -   | -   | OBBA |
| Eastern Whip-Poor-Will   | <i>Antrostomus vociferus</i>    | THR | THR | SC  | NHIC |
| Eastern Wood-Pewee       | <i>Contopus virens</i>          | SC  | SC  | SC  | NHIC |
| European Starling        | <i>Sturnus vulgaris</i>         | -   | -   | -   | OBBA |
| Evening Grosbeak         | <i>Hesperiphona vespertina</i>  | SC  | SC  | SC  | NHIC |
| Field Sparrow            | <i>Spizella pusilla</i>         | -   | -   | -   | OBBA |
| Gadwall                  | <i>Mareca strepera</i>          | -   | -   | -   | OBBA |

|                          |                                |     |     |     |      |
|--------------------------|--------------------------------|-----|-----|-----|------|
| Golden-Crowned Kinglet   | <i>Regulus satrapa</i>         | -   | -   | -   | OBBA |
| Golden-Winged Warbler    | <i>Vermivora chrysoptera</i>   | THR | SC  | THR | OBBA |
| Grasshopper Sparrow      | <i>Ammodramus savannarum</i>   | -   | SC  | SC  | OBBA |
| Gray Catbird             | <i>Dumetella carolinensis</i>  | -   | -   | -   | OBBA |
| Great Black-Backed Gull  | <i>Larus marinus</i>           | -   | -   | -   | OBBA |
| Great Blue Heron         | <i>Ardea herodias</i>          | -   | -   | -   | OBBA |
| Great Crested Flycatcher | <i>Myiarchus crinitus</i>      | -   | -   | -   | OBBA |
| Great Gray Owl           | <i>Strix nebulosa</i>          | -   | -   | -   | OBBA |
| Great Horned Owl         | <i>Bubo virginianus</i>        | -   | -   | -   | OBBA |
| Green Heron              | <i>Butorides virescens</i>     | -   | -   | -   | OBBA |
| Green-Winged Teal        | <i>Anas crecca</i>             | -   | -   | -   | OBBA |
| Hairy Woodpecker         | <i>Leuconotopicus villosus</i> | -   | -   | -   | OBBA |
| Hermit Thrush            | <i>Catharus guttatus</i>       | -   | -   | -   | OBBA |
| Hooded Merganser         | <i>Lophodytes cucullatus</i>   | -   | -   | -   | OBBA |
| Horned Lark              | <i>Eremophila alpestris</i>    | -   | -   | -   | OBBA |
| House Finch              | <i>Haemorhous mexicanus</i>    | -   | -   | -   | OBBA |
| House Sparrow            | <i>Passer domesticus</i>       | -   | -   | -   | OBBA |
| Indigo Bunting           | <i>Passerina cyanea</i>        | -   | -   | -   | OBBA |
| Killdeer                 | <i>Charadrius vociferus</i>    | -   | -   | -   | OBBA |
| Least Bittern            | <i>Botaurus exilis</i>         | THR | THR | SC  | OBBA |
| Least Flycatcher         | <i>Empidonax minimus</i>       | -   | -   | -   | OBBA |
| Leontes Sparrow          | <i>Ammospiza leconteii</i>     | -   | -   | -   | OBBA |
| Lesser Scaup             | <i>Aythya affinis</i>          | -   | -   | -   | OBBA |
| Lincolns Sparrow         | <i>Melospiza lincolnii</i>     | -   | -   | -   | OBBA |
| Long-Eared Owl           | <i>Asio otus</i>               | -   | -   | -   | OBBA |
| Magnolia Warbler         | <i>Setophaga magnolia</i>      | -   | -   | -   | OBBA |
| Mallard                  | <i>Anas platyrhynchos</i>      | -   | -   | -   | OBBA |
| Marsh Wren               | <i>Cistothorus palustris</i>   | -   | -   | -   | OBBA |
| Merlin                   | <i>Falco columbarius</i>       | -   | -   | -   | OBBA |
| Mourning Dove            | <i>Zenaida macroura</i>        | -   | -   | -   | OBBA |
| Mourning Warbler         | <i>Geothlypis philadelphia</i> | -   | -   | -   | OBBA |
| Mute Swan                | <i>Cygnus olor</i>             | -   | -   | -   | OBBA |
| Nashville Warbler        | <i>Leiothlypis ruficapilla</i> | -   | -   | -   | OBBA |
| Northern Cardinal        | <i>Cardinalis cardinalis</i>   | -   | -   | -   | OBBA |
| Northern Flicker         | <i>Colaptes auratus</i>        | -   | -   | -   | OBBA |
| Northern Harrier         | <i>Circus hudsonius</i>        | -   | -   | -   | OBBA |

|                               |                                   |     |    |     |             |
|-------------------------------|-----------------------------------|-----|----|-----|-------------|
| Northern Hawk Owl             | <i>Surnia ulula</i>               | -   | -  | -   | OBBA        |
| Northern House Wren           | <i>Troglodytes aedon</i>          | -   | -  | -   | OBBA        |
| Northern Mockingbird          | <i>Mimus polyglottos</i>          | -   | -  | -   | OBBA        |
| Northern Parula               | <i>Setophaga americana</i>        | -   | -  | -   | OBBA        |
| Northern Pintail              | <i>Anas acuta</i>                 | -   | -  | -   | OBBA        |
| Northern Rough-Winged Swallow | <i>Stelgidopteryx serripennis</i> | -   | -  | -   | OBBA        |
| Northern Saw-Whet Owl         | <i>Aegolius acadicus</i>          | -   | -  | -   | OBBA        |
| Northern Shoveler             | <i>Spatula clypeata</i>           | -   | -  | -   | OBBA        |
| Northern Shrike               | <i>Lanius borealis</i>            | -   | -  | -   | iNaturalist |
| Northern Waterthrush          | <i>Parkesia noveboracensis</i>    | -   | -  | -   | OBBA        |
| Northern Yellow Warbler       | <i>Setophaga aestiva</i>          | -   | -  | -   | OBBA        |
| Olive-Sided Flycatcher        | <i>Contopus cooperi</i>           | SC  | SC | SC  | OBBA        |
| Osprey                        | <i>Pandion haliaetus</i>          | -   | -  | -   | OBBA        |
| Ovenbird                      | <i>Seiurus aurocapilla</i>        | -   | -  | -   | OBBA        |
| Pacific winter Wren           |                                   | -   | -  | -   | OBBA        |
| Palm Warbler                  | <i>Setophaga palmarum</i>         | -   | -  | -   | OBBA        |
| Peregrine Falcon              | <i>Falco peregrinus</i>           | SC  | SC | NAR | OBBA        |
| Philadelphia Vireo            | <i>Vireo philadelphicus</i>       | -   | -  | -   | OBBA        |
| Pied-Billed Grebe             | <i>Podilymbus podiceps</i>        | -   | -  | -   | OBBA        |
| Pileated Woodpecker           | <i>Dryocopus pileatus</i>         | -   | -  | -   | OBBA        |
| Pine Grosbeak                 | <i>Pinicola enucleator</i>        | -   | -  | -   | OBBA        |
| Pine Siskin                   | <i>Spinus pinus</i>               | -   | -  | -   | OBBA        |
| Pine Warbler                  | <i>Setophaga pinus</i>            | -   | -  | -   | OBBA        |
| Purple Finch                  | <i>Haemorhous purpureus</i>       | -   | -  | -   | OBBA        |
| Purple Martin                 | <i>Progne subis</i>               | -   | -  | -   | OBBA        |
| Red Crossbill                 | <i>Loxia curvirostra</i>          | THR | -  | -   | OBBA        |
| Red-Bellied Woodpecker        | <i>Melanerpes carolinus</i>       | -   | -  | -   | OBBA        |
| Red-Breasted Merganser        | <i>Mergus serrator</i>            | -   | -  | -   | OBBA        |
| Red-Breasted Nuthatch         | <i>Sitta canadensis</i>           | -   | -  | -   | OBBA        |
| Red-Eyed Vireo                | <i>Vireo olivaceus</i>            | -   | -  | -   | OBBA        |
| Redhead                       | <i>Aythya americana</i>           | -   | -  | -   | OBBA        |

|                           |                                  |    |     |     |      |
|---------------------------|----------------------------------|----|-----|-----|------|
| Red-Shouldered Hawk       | <i>Buteo lineatus</i>            | -  | -   | -   | OBBA |
| Red-Tailed Hawk           | <i>Buteo jamaicensis</i>         | -  | -   | -   | OBBA |
| Red-Winged Blackbird      | <i>Agelaius phoeniceus</i>       | -  | -   | -   | OBBA |
| Ring-Billed Gull          | <i>Larus delawarensis</i>        | -  | -   | -   | OBBA |
| Ring-Necked Duck          | <i>Aythya collaris</i>           | -  | -   | -   | OBBA |
| Rock Pigeon Feral Pigeon  |                                  | -  | -   | -   | OBBA |
| Rose-Breasted Grosbeak    | <i>Pheucticus ludovicianus</i>   | -  | -   | -   | OBBA |
| Ruby-Crowned Kinglet      | <i>Corthylio calendula</i>       | -  | -   | -   | OBBA |
| Ruby-Throated Hummingbird | <i>Archilochus colubris</i>      | -  | -   | -   | OBBA |
| Ruddy Duck                | <i>Oxyura jamaicensis</i>        | -  | -   | -   | OBBA |
| Ruffed Grouse             | <i>Bonasa umbellus</i>           | -  | -   | -   | OBBA |
| Rusty Blackbird           | <i>Euphagus carolinus</i>        | SC | SC  | SC  | OBBA |
| Sandhill Crane            | <i>Antigone canadensis</i>       | -  | -   | -   | OBBA |
| Savannah Sparrow          | <i>Passerculus sandwichensis</i> | SC | -   | -   | OBBA |
| Scarlet Tanager           | <i>Piranga olivacea</i>          | -  | -   | -   | OBBA |
| Sedge Wren                | <i>Cistothorus stellaris</i>     | -  | -   | -   | OBBA |
| Sharp-Shinned Hawk        | <i>Accipiter striatus</i>        | -  | -   | -   | OBBA |
| Sharp-Tailed Grouse       | <i>Tympanuchus phasianellus</i>  | -  | -   | -   | OBBA |
| Short-Eared Owl           | <i>Asio flammeus</i>             | SC | THR | THR | OBBA |
| Solitary Sandpiper        | <i>Tringa solitaria</i>          | -  | -   | -   | OBBA |
| Song Sparrow              | <i>Melospiza melodia</i>         | -  | -   | -   | OBBA |
| Sora                      | <i>Porzana carolina</i>          | -  | -   | -   | OBBA |
| Spotted Sandpiper         | <i>Actitis macularius</i>        | -  | -   | -   | OBBA |
| Spruce Grouse             | <i>Canachites canadensis</i>     | -  | -   | -   | OBBA |
| Swainsons Thrush          | <i>Catharus ustulatus</i>        | -  | -   | -   | OBBA |
| Swamp Sparrow             | <i>Melospiza georgiana</i>       | -  | -   | -   | OBBA |
| Tennessee Warbler         | <i>Leiothlypis peregrina</i>     | -  | -   | -   | OBBA |
| Tree Swallow              | <i>Tachycineta bicolor</i>       | -  | -   | -   | OBBA |
| Trumpeter Swan            | <i>Cygnus buccinator</i>         | -  | -   | -   | OBBA |
| Turkey Vulture            | <i>Cathartes aura</i>            | -  | -   | -   | OBBA |
| Upland Sandpiper          | <i>Bartramia longicauda</i>      | -  | -   | -   | OBBA |
| Veery                     | <i>Catharus fuscescens</i>       | -  | -   | -   | OBBA |
| Vesper Sparrow            | <i>Poocetes gramineus</i>        | -  | -   | -   | OBBA |
| Virginia Rail             | <i>Rallus limicola</i>           | -  | -   | -   | OBBA |

|                           |                                   |     |    |     |                                  |
|---------------------------|-----------------------------------|-----|----|-----|----------------------------------|
| White-Breasted Nuthatch   | <i>Sitta carolinensis</i>         | -   | -  | -   | OBBA                             |
| White-Crowned Sparrow     | <i>Zonotrichia leucophrys</i>     | -   | -  | -   | eBird                            |
| White-Throated Sparrow    | <i>Zonotrichia albicollis</i>     | -   | -  | -   | OBBA                             |
| White-Winged Crossbill    | <i>Loxia leucoptera</i>           | -   | -  | -   | OBBA                             |
| Wild Turkey               | <i>Meleagris gallopavo</i>        | -   | -  | -   | OBBA                             |
| Willow Flycatcher         | <i>Empidonax traillii</i>         | -   | -  | -   | OBBA                             |
| Wilson's Snipe            | <i>Gallinago delicata</i>         | -   | -  | -   | OBBA                             |
| Wilson's Warbler          | <i>Cardellina pusilla</i>         | -   | -  | -   | OBBA                             |
| Winter Wren               | <i>Troglodytes hiemalis</i>       | -   | -  | -   | OBBA                             |
| Wood Duck                 | <i>Aix sponsa</i>                 | -   | -  | -   | OBBA                             |
| Wood Thrush               | <i>Hylocichla mustelina</i>       | THR | SC | THR | NHIC                             |
| Yellow Rail               | <i>Coturnicops noveboracensis</i> | SC  | SC | SC  | OBBA                             |
| Yellow-Bellied Flycatcher | <i>Empidonax flaviventris</i>     | -   | -  | -   | OBBA                             |
| Yellow-Bellied Sapsucker  | <i>Sphyrapicus varius</i>         | -   | -  | -   | OBBA                             |
| Yellow-Billed Cuckoo      | <i>Coccyzus americanus</i>        | -   | -  | -   | OBBA                             |
| Yellow-Rumped Warbler     | <i>Setophaga coronata</i>         | -   | -  | -   | OBBA                             |
| Yellow-Throated Vireo     | <i>Vireo flavifrons</i>           | -   | -  | -   | OBBA                             |
| <b>Fish and Mussels</b>   |                                   |     |    |     |                                  |
| Brook Trout               | <i>Salvelinus fontinalis</i>      | -   | -  | -   | Fish ONline                      |
| Burbot                    | <i>Lota lota</i>                  | -   | -  | -   | Fish ONline                      |
| Creek Heelsplitter        | <i>Lasmigona compressa</i>        | -   | -  | -   | Canadian Freshwater Mussel Guide |
| Creper                    | <i>Strophitus undulatus</i>       | -   | -  | -   | Canadian Freshwater Mussel Guide |
| Cylindrical Papershell    | <i>Andontoides ferussacianus</i>  | -   | -  | -   | Canadian Freshwater Mussel Guide |
| Eastern Elliptio          | <i>Elliptio complanata</i>        | -   | -  | -   | Canadian Freshwater Mussel Guide |
| Fatmucket                 | <i>Lampsilis siliquoidea</i>      | -   | -  | -   | Canadian Freshwater Mussel Guide |

|                          |                                    |     |     |     |                                  |
|--------------------------|------------------------------------|-----|-----|-----|----------------------------------|
| Giant Floater            | <i>Pyganodon grandis</i>           | -   | -   | -   | Canadian Freshwater Mussel Guide |
| Hickorynut               | <i>Obovaria olivaria</i>           | END | END | END | Canadian Freshwater Mussel Guide |
| Northern Pike            | <i>Esox lucius</i>                 | -   | -   | -   | Fish ONline                      |
| Plain Pocketbook         | <i>Lampsilis cardium</i>           | -   | -   | -   | Canadian Freshwater Mussel Guide |
| Rainbow Trout            | <i>Oncorhynchus mykiss</i>         | END | -   | -   | Fish ONline                      |
| Rock Bass                | <i>Ambloplites rupestris</i>       | -   | -   | -   | Fish ONline                      |
| Smallmouth Bass          | <i>Micropterus dolomieu</i>        | -   | -   | -   | Fish ONline                      |
| Walleye                  | <i>Sander vitreus</i>              | -   | -   | -   | Fish ONline                      |
| White Sucker             | <i>Catostomus commersonii</i>      | -   | -   | -   | Fish ONline                      |
| Fungi                    |                                    |     |     |     |                                  |
| Black Knot               | <i>Apiosporina morbosa</i>         | -   | -   | -   | iNaturalist                      |
| Chicken Lips             | <i>Leotia viscosa</i>              | -   | -   | -   | iNaturalist                      |
| Chicken Of The Woods     | <i>Laetiporus sulphureus</i>       | -   | -   | -   | iNaturalist                      |
| Insects                  |                                    |     |     |     |                                  |
| American Carrion Beetle  | <i>Necrophila americana</i>        | -   | -   | -   | iNaturalist                      |
| American Dog Tick        | <i>Dermacentor variabilis</i>      | -   | -   | -   | iNaturalist                      |
| American White Admiral   | <i>Limenitis arthemis arthemis</i> | -   | -   | -   | iNaturalist                      |
| Brown-Belted Bumble Bee  | <i>Bombus griseocollis</i>         | -   | -   | -   | iNaturalist                      |
| Camel Treehopper         | <i>Smilia camelus</i>              | -   | -   | -   | iNaturalist                      |
| Canadian Imperial Moth   | <i>Eacles pini</i>                 | -   | -   | -   | iNaturalist                      |
| Chalk-Fronted Corporal   | <i>Ladona julia</i>                | -   | -   | -   | iNaturalist                      |
| Coral Hairstreak         | <i>Satyrium titus</i>              | -   | -   | -   | iNaturalist                      |
| Early Tachinid Fly       | <i>Epalpus signifer</i>            | -   | -   | -   | iNaturalist                      |
| Eastern Pine Elfin       | <i>Callophrys niphon</i>           | -   | -   | -   | iNaturalist                      |
| Half-Black Bumble Bee    | <i>Bombus vagans</i>               | -   | -   | -   | iNaturalist                      |
| Monarch                  | <i>Danaus plexippus</i>            | END | SC  | END | iNaturalist                      |
| North American Luna Moth | <i>Actias luna</i>                 | -   | -   | -   | iNaturalist                      |

|                                  |                                   |    |    |    |             |
|----------------------------------|-----------------------------------|----|----|----|-------------|
| Northern Amber Bumble Bee        | <i>Bombus borealis</i>            | -  | -  | -  | iNaturalist |
| Northern Azure                   | <i>Celastrina lucia</i>           | -  | -  | -  | iNaturalist |
| Silvery Blue                     | <i>Glaucopsyche lygdamus</i>      | -  | -  | -  | iNaturalist |
| Spined Soldier Bug               | <i>Podisus maculiventris</i>      | -  | -  | -  | iNaturalist |
| Tricolored Bumble Bee            | <i>Bombus ternarius</i>           | -  | -  | -  | iNaturalist |
| Two-Spotted Bumble Bee           | <i>Bombus bimaculatus</i>         | -  | -  | -  | iNaturalist |
| Yellow Garden Spider             | <i>Argiope aurantia</i>           | -  | -  | -  | iNaturalist |
| Yellow-Banded Bumble Bee         | <i>Bombus terricola</i>           | SC | SC | SC | iNaturalist |
| Mammals                          |                                   |    |    |    |             |
| Elk                              | <i>Cervus canadensis</i>          | -  | -  | -  | iNaturalist |
| Moose                            | <i>Alces alces</i>                | -  | -  | -  | iNaturalist |
| Plants                           |                                   |    |    |    |             |
| Birds-Foot Trefoil               | <i>Lotus corniculatus</i>         | -  | -  | -  | iNaturalist |
| Broadleaf Arrowhead              | <i>Sagittaria latifolia</i>       | -  | -  | -  | iNaturalist |
| Bull Thistle                     | <i>Cirsium vulgare</i>            | -  | -  | -  | iNaturalist |
| Canada Mayflower                 | <i>Maianthemum canadense</i>      | -  | -  | -  | iNaturalist |
| Carolina Springbeauty            | <i>Claytonia caroliniana</i>      | -  | -  | -  | iNaturalist |
| Chokecherry                      | <i>Prunus virginiana</i>          | -  | -  | -  | iNaturalist |
| Cinquefoilsgenus                 | <i>Potentilla</i>                 | -  | -  | -  | iNaturalist |
| Clematis And Leatherflowersgenus | <i>Clematis</i>                   | -  | -  | -  | iNaturalist |
| Common Evening-Primrose          | <i>Oenothera biennis</i>          | -  | -  | -  | iNaturalist |
| Common Milkweed                  | <i>Asclepias syriaca</i>          | -  | -  | -  | iNaturalist |
| Common St Johns Wort             | <i>Hypericum perforatum</i>       | -  | -  | -  | iNaturalist |
| Downy Yellow Violet              | <i>Viola pubescens</i>            | -  | -  | -  | iNaturalist |
| Fire Cherry                      | <i>Prunus pensylvanica</i>        | -  | -  | -  | iNaturalist |
| Fireweed                         | <i>Chamaenerion angustifolium</i> | -  | -  | -  | iNaturalist |
| Flat-Top White Aster             | <i>Doellingeria umbellata</i>     | -  | -  | -  | iNaturalist |
| Giant Goldenrod                  | <i>Solidago gigantea</i>          | -  | -  | -  | iNaturalist |
| Great Mullein                    | <i>Verbascum thapsus</i>          | -  | -  | -  | iNaturalist |

|                            |                                     |    |    |    |                             |
|----------------------------|-------------------------------------|----|----|----|-----------------------------|
| Green Reindeer Lichen      | <i>Cladonia arbuscula</i>           | -  | -  | -  | iNaturalist                 |
| Grey Alder                 | <i>Alnus incana</i>                 | -  | -  | -  | iNaturalist                 |
| Hairy Solomons-Seal        | <i>Polygonatum pubescens</i>        | -  | -  | -  | iNaturalist                 |
| Indian Tobacco             | <i>Lobelia inflata</i>              | -  | -  | -  | iNaturalist                 |
| Lowbush Blueberry          | <i>Vaccinium angustifolium</i>      | -  | -  | -  | iNaturalist                 |
| Oxeye Daisy                | <i>Leucanthemum vulgare</i>         | -  | -  | -  | iNaturalist                 |
| Paper Birch                | <i>Betula papyrifera</i>            | -  | -  | -  | iNaturalist                 |
| Pink Ladys Slipper         | <i>Cypripedium acaule</i>           | -  | -  | -  | iNaturalist                 |
| Prickly Tree-Clubmoss      | <i>Dendrolycopodium dendroideum</i> | -  | -  | -  | iNaturalist                 |
| Quaking Aspen              | <i>Populus tremuloides</i>          | -  | -  | -  | iNaturalist                 |
| Spotted Joe-Pye Weed       | <i>Eutrochium maculatum</i>         | -  | -  | -  | iNaturalist                 |
| Spreading Dogbane          | <i>Apocynum androsaemifolium</i>    | -  | -  | -  | iNaturalist                 |
| Sugar Maple                | <i>Acer saccharum</i>               | -  | -  | -  | iNaturalist                 |
| Swamp Alder                | <i>Alnus incana rugosa</i>          | -  | -  | -  | iNaturalist                 |
| Tansy                      | <i>Tanacetum vulgare</i>            | -  | -  | -  | iNaturalist                 |
| Timothy Grass              | <i>Phleum pratense</i>              | -  | -  | -  | iNaturalist                 |
| Tufted Vetch               | <i>Vicia cracca</i>                 | -  | -  | -  | iNaturalist                 |
| Two-Leaved Toothwort       | <i>Cardamine diphylla</i>           | -  | -  | -  | iNaturalist                 |
| Violets genus              | <i>Viola</i>                        | -  | -  | -  | iNaturalist                 |
| Vipers-Bugloss             | <i>Echium vulgare</i>               | -  | -  | -  | iNaturalist                 |
| Reptile                    |                                     |    |    |    |                             |
| Eastern Gartersnake        | <i>Thamnophis sirtalis</i>          | -  | -  | -  | Reptile and Amphibian Atlas |
| Midland Painted Turtle     | <i>Chrysemys picta marginata</i>    | SC | -  | SC | NHIC                        |
| Northern Ring-Necked Snake | <i>Diadophis punctatus</i>          | -  | -  | -  | Reptile and Amphibian Atlas |
| Red-Bellied Snake          | <i>Storeria occipitomaculata</i>    | -  | -  | -  | Reptile and Amphibian Atlas |
| Smooth Greensnake          | <i>Opheodrys vernalis</i>           | -  | -  | -  | Reptile and Amphibian Atlas |
| Snapping Turtle            | <i>Chelydra serpentina</i>          | SC | SC | SC | iNaturalist                 |

# Appendix B

## Site Investigator Qualifications

## Appendix B – Site Investigator Qualifications

| Details and Qualifications                  |   |
|---|---|
| Name  | Chris Sehl  |
| Education and Professional Affiliations     | <ul style="list-style-type: none"> <li>B.Sc. (Environmental Science), University of Guelph (2015)</li> <li>Graduate Diploma (Environmental Management and Assessment), Niagara College (2017)</li> </ul>  |
| Years in Practice                           | Over 10 years   |
| Experience Summary                          | Chris has supported a wide range of energy, infrastructure, and resource projects across Ontario and eastern Canada. He has extensive experience completing and supporting environmental studies and field investigations for renewable energy, transmission, hydroelectric, transportation, mining, and marine projects. His experience includes terrestrial and aquatic assessments, species at risk surveys and monitoring, habitat evaluations, water and sediments sampling, and environmental compliance monitoring. Chris regularly supports environmental permitting and approvals processes and works closely with regulators, Indigenous communities, municipalities, and project teams to help navigate environmental requirements and support responsible project delivery. |
| Certifications and Professional Development | <p><u>Certificates:</u></p> <ul style="list-style-type: none"> <li>Standard First Aid Level C, Canadian Red Cross, 2022</li> <li>Class 2 Backpack Crew Leader Electrofishing Course, 2021</li> <li>Certification in Ichthyology for identification of Ontario fishes, Royal Ontario Museum - Department of Natural History, 2018</li> </ul> <p><u>Professional Development:</u></p> <ul style="list-style-type: none"> <li>Fisheries Specialist Training, Ontario Ministry of Transportation, 2018</li> </ul>   |

| Details and Qualifications                  |   |
|---|---|
| Name  | Michael Babin   |
| Education and Professional Affiliations     | <ul style="list-style-type: none"> <li>BASc (Ecology and Geography), University of Guelph (2019)</li> <li>Graduate Diploma (Ecosystem Restoration), Niagara College</li> <li>Candidate Member – Society for Ecological Restoration</li> </ul>   |
| Years in Practice                           | Over 5 years  |
| Experience Summary                          | Michael is a Biologist/Terrestrial Ecologist with extensive experience in Species at Risk studies, ecological restoration, and environmental consulting projects across southern Ontario. He has worked on a wide range of projects involving baseline environmental studies, environmental impact assessments, and restoration planning, with a particular focus on species at risk with the Carolinian region. Michael has led and supported field investigations, permitting activities, and monitoring programs, and brings hands-on experience with a variety of terrestrial and aquatic survey methods. His work demonstrates a strong understanding of best management practices, environmental legislation, and practical approaches to project delivery. |
| Certifications and Professional Development | <p><u>Certificates:</u></p> <ul style="list-style-type: none"> <li>OBBN</li> <li>Class 2 Backpack Crew Leader Electrofishing Course</li> <li>Pesticide Technician</li> </ul>  |

| Details and Qualifications                  |  |
|---|--|
| Name  | Taylor Simpanen  |
| Education and Professional Affiliations     | <ul style="list-style-type: none"> <li>• Dipl. Fish and Wildlife Technician (2018)</li> <li>• Dipl. Arboriculture and Urban Forestry (2019)</li> <li>• Ontario Breeding Bird Atlas</li> <li>• Bird Studies Canada</li> </ul>   |
| Years in Practice                           | Over 5 years   |
| Experience Summary                          | Taylor has worked on numerous renewable power projects including hydropower, pumped storage, solar, and wind facilities during his career. He has extensive knowledge and experience completing terrestrial and aquatic field investigations, including Species at Risk (SAR) surveys and monitoring, habitat assessments (including critical habitat), breeding birds, amphibian and reptile, mammals, fisheries, benthics, botanical identification and inventories, Ecological Land Classification (ELC) surveys, wetland delineations, tree health assessments, aquatic and significant wildlife habitat assessments, water quality monitoring, hydrological assessments, and soil sampling. |
| Certifications and Professional Development | <p><u>Certificates:</u></p> <ul style="list-style-type: none"> <li>• Maritimes Wetland Evaluation System Training (2024)</li> <li>• Ecological Land Classification (ELC) (2023);</li> <li>• Butternut Health Assessor (2022).</li> <li>• Class 2 Crew Lead Electrofisher (2017)</li> <li>• OBBN (2018)</li> </ul> <p><u>Professional Development:</u></p> <ul style="list-style-type: none"> <li>• NHIC Data Sensitivity Training Course (2025);</li> <li>• Wood Turtle Habitat Assessment Training (2023);</li> <li>• IBP Banding Certificate (2020);</li> <li>• Bird Studies Canada Migration Monitoring Training (2018)</li> </ul>  |

| Details and Qualifications                  |  |
|---|--|
| Name  | Alexander Hoffmann   |
| Education and Professional Affiliations     | <ul style="list-style-type: none"> <li>• B.Sc. in Biology with Environmental Science option, Wilfrid Laurier University (2021);</li> <li>• Graduate Certificate in Environmental Management and Assessment, Niagara College (2025)</li> <li>• Environmental Professional in Training (EPt)</li> </ul>  |
| Years in Practice                           | Over 1 year  |
| Experience Summary                          | Alex is an Environmental Scientist with experience supporting renewable energy, infrastructure, and natural resource projects across Ontario. His work focuses on natural heritage assessment, Species at Risk screening, field surveys, and regulatory support for environmental assessments and permitting processes. Alex has completed and supported a range of terrestrial field investigations, data analysis, and technical reporting, and regularly works with multidisciplinary teams to support project planning, impact assessment, and mitigation development in accordance with provincial and federal requirements |
| Certifications and Professional Development | <p><u>Certificates:</u></p> <ul style="list-style-type: none"> <li>• Fundamentals of GIS (University of California, Davis), 2023</li> </ul> <p><u>Professional Development:</u></p> <ul style="list-style-type: none"> <li>• NRTG Species at Risk Training, 2023</li> <li>• NRTG Wetland Assessment Training, 2023</li> </ul>  |