Henvey Inlet Wind LP

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Henvey Inlet Wind Energy Centre

Natural Heritage Assessment: Records Review Report

Final

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Henvey Inlet Wind Energy Centre – Natural Heritage Assessment: Records Review Report – Final

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AECOM: 2012-01-06

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List of Acronyms and Glossary

ANSI	Area of Natural and Scientific Interest
Candidate Important Wildlife Habitat	Potential area of wildlife habitat that may be considered important using procedures established or accepted by the Ministry of Natural Resources and Forestry.
Confirmed Important Wildlife Habitat	Area of important wildlife habitat verified using procedures established or accepted by the Ministry of Natural Resources and Forestry.
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CLI	Canada Land Inventory
DFO	Fisheries and Oceans Canada
Dripline	The area defined by the outermost circumference of a tree canopy.
EC-CWS	Environment Canada – Canadian Wildlife Service
EIS	Environmental Impact Study
ELC	Ecological Land Classification; refers to ecological units defined on the basis of bedrock, climate (temperature, precipitation), physiography (soils, slope, aspect) and corresponding vegetation.
ESA	Environmental Sensitive Area
Feathering of blades	Pitching of turbine blades out of the wind so the turbine does not capture the wind and will not produce power.
Federal SAR	Species listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002*.
Frac-out	Escape of drilling mud into the environment as a result of a spill, tunnel collapse or the rupture of mud to the surface.
Generalized Candidate Important Wildlife Habitat	Potential wildlife habitats listed in Appendix D of the *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNRF, 2012a), which are not required to be identified for a particular HIWEC component, but may exist within 120 m of that component and are assumed to exist.
GIS	Geographic Information System
HIWEC	Henvey Inlet Wind Energy Centre
HIWEC Location	The area encompassing all construction activities and HIWEC components.
Important	Natural feature that (1) the Ministry of Natural Resources and Forestry has identified as important, or (2) has been determined to be important using applicable evaluation criteria or procedures established or accepted by the Ministry of Natural Resources and Forestry.
IWH	Important Wildlife Habitats

LIO	Land Information Ontario
MNRF	Ontario Ministry of Natural Resources and Forestry
MOECC	Ontario Ministry of Environment and Climate Change
Natural Feature	One of the following: (1) an Area of Natural and Scientific Interest (earth science or life science), (2) a wetland, (3) a wildlife habitat, (4) a woodland, (5) a provincial park, or (6) a conservation reserve.
NHIC	Natural Heritage Information Centre
NRVIS	Natural Resource Value and Information System
NTS	National Topographic System
OGS	Ontario Geological Survey
OGSR	Oil, Gas and Salt Resources
OPA	Ontario Power Authority
OWES	Ontario Wetland Evaluation System
PIW	Provincially Important Wetland
Provincial SAR	Species listed as Endangered or Threatened under the provincial *Endangered Species Act, 2007* but not listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002*.
REA	Renewable Energy Approval
SAR	Species at Risk, including both Federal SAR (species listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002*) and Provincial SAR (species listed as Endangered or Threatened under the provincial *Endangered Species Act, 2007* but not listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002*).
SARA	Federal *Species at Risk Act, 2002*
SARO	Species at Risk In Ontario
SOCC	Species of Conservation Concern, including (a) provincially rare species ranked by the Natural Heritage Information Centre (NHIC) as S1 (critically imperiled), S2 (imperiled) or S3 (vulnerable) in the province of Ontario but not listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002* (*SARA*) or the provincial *Endangered Species Act, 2007* (*ESA*); (b) species listed as Special Concern under Schedule 1 of *SARA*; (c) species evaluated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Special Concern, Threatened or Endangered but not listed as Endangered or Threatened under Schedule 1 of *SARA* or the *ESA*; and (d) species listed as Special Concern under the *ESA*.
SWHTG	Significant Wildlife Habitat Technical Guide
UTM	Universal Transverse Mercator

Wetland	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 (a) is seasonally or permanently covered by shallow water or has the water table close to or at the surface, and (b) has hydric soils and vegetation dominated by hydrophytic or water-tolerant plants.
Wildlife Habitat	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.
Woodland	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 south and east of the Canadian Shield.

1. Introduction

1.1 Project Overview

Nigig Power Corporation (Nigig) received a Feed-in-Tariff (FIT) Contract from the Ontario Power Authority (OPA) in 2011 for a 300 megawatt (MW) wind energy generation centre. Henvey Inlet Wind LP (HIW), a limited partnership between Pattern Renewable Holdings Canada ULC and Nigig Power Corporation, is proposing to develop the Henvey Inlet Wind Energy Centre (HIWEC), a 300 MW facility on Henvey Inlet First Nation Reserve No. 2 (HIFN I.R. #2). AECOM Canada Ltd. (AECOM) was retained by HIW to prepare an Environmental Assessment (EA) for the proposed HIWEC. The EA was conducted in accordance with the Henvey Inlet First Nation Environmental Assessment Guidance Instrument (HIFN EA Guidance) requirements.

The HIFN EA Guidance document includes a requirement to complete a Natural Heritage Assessment (NHA) having regard to the provincial process. Under the provincial process, a proponent who proposes to engage in a renewable energy project is required to conduct a NHA, consisting of the following:

- A Records Review;
- A Site Investigation; and
- An Evaluation of Importance (EOI).

Through this process, proponents identify natural features near the proposed HIWEC location and determine if prohibitions and setbacks apply. In instances where the HIWEC location is proposed within such a setback, the proponent must prepare an Environmental Impact Study (EIS) Report to identify and assess the potential negative environmental effects that may result from the proposed HIWEC, identify appropriate mitigation measures and describe how the potential effects will be addressed through the Environmental Effects Monitoring Plan (EEMP) and Construction Plan Report.

This document is intended to address the Records Review requirements of the NHA for the HIWEC.

Throughout this NHA, the term “significant” or “significance” as per provincial requirements has been changed to “important” or “importance” as the term ”significance” has specific meaning in the federal EA process which is different from the meaning in the provincial process. Therefore, the term in the provincial process has been changed to avoid confusion. The meaning of “significance” in the provincial process is carried over to the term “importance” for the purpose of the NHA. The term “significance” is not changed if it is in the title of a reference document.

1.2 Location and Study Area

The HIWEC study area includes the entirety of HIFN I.R. #2 plus a 550 m buffer extending beyond the HIFN I.R. #2 boundary. HIFN I.R. #2 is bounded on the north by the Key River, Georgian Bay to the west, Highway 69 to the east with some HIFN I.R. #2 property located on the east side of Highway 69. The southern boundary runs from Sandy Bay on the southwest corner in a northeasterly direction to Highway 69 south of Bekanon Road. The geographic location is along the eastern shore of Georgian Bay, south of French River Provincial Park and directly north of North Georgian Bay Shoreline and Islands Conservation Reserve (**Figure 1-1**). HIFN I.R. #2 is part of the Georgian Bay Biosphere Reserve which encompasses 347,000 ha of land stretching 300 km from Port Severn to the French River and is designated as a United Nations Educational, Scientific, and Cultural Organization (UNESCO) Biosphere Reserve (Georgian Bay Biosphere, 2015). Highway 69 is a major north-south highway connecting Highway 400 north of Parry Sound with the City of Greater Sudbury at Highway 17.

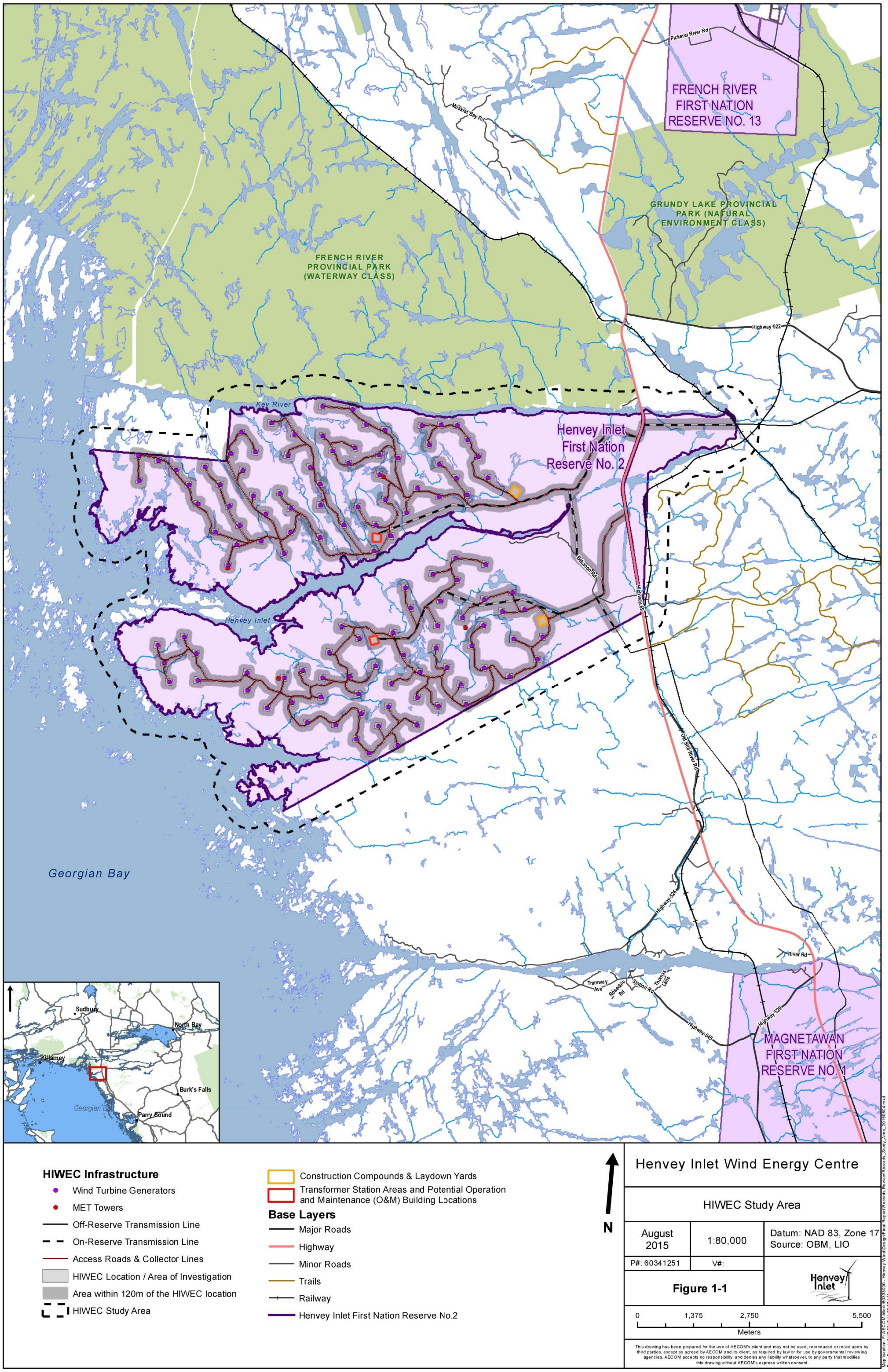
Generally, the HIWEC study area has shallow soils, with many rocky outcrops forming longitudinal ridges running on a northwest to southeast axis, and is divided roughly in half by the Henvey Inlet waterbody. Numerous wetland pockets are located between the ridges and across the study area, with upland regions supporting forested areas of poplar and jack pine. Section 4 of the Final Draft EA Report provides a more detailed description of the existing environmental conditions within the study area. The study area for the HIWEC also includes lands off-Reserve that are within the area that may experience increased noise levels from the HIWEC. All HIWEC components will be located within the HIWEC study area as shown in the site plan provided as **Figure 1-1**.

1.2.1 Henvey Inlet Wind Energy Centre Location

The HIWEC location was identified within the HIWEC study area. The HIWEC location boundary is the outer limit of where site preparation and construction activities will occur and where permanent infrastructure will be located, including the air space occupied by Wind Turbine Generator (WTG) blades. The HIWEC location is shown on **Figure 1-1**.

As per HIFN EA Guidance requirements, features located within 120 m of the HIWEC location must be investigated and evaluated to determine whether they are important or provincially important, in order to ascertain whether development prohibitions apply. The area within 120 m of the HIWEC location is shown on **Figure 1-1**. However, the Records Review was conducted for the entire HIWEC study area in order to accommodate potential changes to the proposed HIWEC location that may occur later in the planning stages.

Figure 1-1: HIWEC Study Area



2. Methods

2.1 Natural Features

HIFN EA Guidance requires a Records Review be conducted to identify natural features associated with a renewable energy project. **Table 2-1** below outlines the records to be searched for and analyzed with respect to the HIWEC location, as set out in the HIFN EA Guidance requirements for the Records Review. The results of this search and analysis, and the determinations set out in the table below, are described in **Section 3** of this report.

Table 2-1: Natural Heritage Records to be Reviewed

Item	Records to be Searched and Analyzed	Determination to be Made
1.	Records that relate to federal or provincial parks and conservation reserves and that are maintained by Parks Canada or the Ontario Ministry of Natural Resources.	Whether the HIWEC location is within 120 m of a federal or provincial park or conservation reserve.
2.	Records that relate to natural features within 120 m of the HIWEC location that are maintained by, i. HIFN; ii. the Crown in right of Canada; and iii. any other public body or agency the proponent considers likely to have relevant records.	Whether the HIWEC location is: a) in a natural feature; or b) within 120 m of a natural feature.

The Records Review was conducted for the entire HIWEC study area in order to accommodate potential changes to the proposed HIWEC location that may occur later in the planning stages. Available secondary source information and information provided by applicable agencies were used to determine the presence of natural features in the HIWEC study area.

The following types of natural features were reviewed and analyzed in the Records Review process:

- Federal or Provincial Parks;
- Conservation Reserves;
- Wetlands;
- Woodlands;
- Important Wildlife Habitats (IWH), including habitats of Species of Conservation Concern; and
- Areas of Natural and Scientific Interest (ANSIs).

Natural features were identified as requiring further consideration during the Site Investigation based on their potential to overlap or occur within 120 m of the proposed HIWEC location.

2.1.1 Species of Conservation Concern (SOCC)

Habitat for Species of Conservation Concern (SOCC) is a type of IWH requiring consideration as part of an NHA. For the purpose of this NHA, SOCC were defined as follows:

- Provincially rare species ranked by the Natural Heritage Information Centre (NHIC) as S1 (critically imperiled), S2 (imperiled) or S3 (vulnerable) in the province of Ontario but not listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002* (*SARA*) or the provincial *Endangered Species Act, 2007 (ESA)*;

- Species listed as Special Concern under Schedule 1 of *SARA*;
- Species evaluated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Special Concern, Threatened or Endangered but not listed as Endangered or Threatened under Schedule 1 of *SARA*; and
- Species listed as Special Concern under the *ESA*.

Potential effects of the HIWEC on SOCC are addressed within this NHA.

2.2 Species at Risk (SAR)

Under the provincial NHA process, an assessment of Endangered and Threatened species (Species at Risk) and their habitats protected under the *Endangered Species Act, 2007 (ESA)* is undertaken separately from the NHA and addressed through a separate consultation and permitting process, if required, with the Ministry of Natural Resources and Forestry (MNRF). As such, these species are not typically addressed in a Records Review report. However, given that the HIWEC study area is located on a First Nation Reserve and on federal Crown land, this separation of, and requirement for, provincial permitting processes does not apply. However, these provincial Species at Risk are addressed in this NHA report.

For the purpose of this Records Review, an assessment of the following categories of Species at Risk (SAR) potentially occurring within the HIWEC study area was conducted using available information:

1. **Federal Species at Risk**
   - Species listed as Endangered or Threatened under Schedule 1 of the federal *Species at Risk Act, 2002* (*SARA*).
2. **Provincial Species at Risk**
   - Species listed as Endangered or Threatened under the provincial *ESA* but not listed as Endangered or Threatened under Schedule 1 of *SARA*.

Potential effects of the HIWEC on Federal Species at Risk and Provincial Species at Risk are addressed within this NHA. Federal Species at Risk will also be addressed through a separate consultation and permitting process with Environment Canada – Canadian Wildlife Service (EC-CWS).

2.3 Background Information Sources

A Records Review was completed to identify the presence of natural features, Federal Species at Risk and Provincial Species at Risk, located within or in the immediate vicinity of the HIWEC study area using the following available secondary resources:

- **Guidance Documents:**
  - *Significant Wildlife Habitat Technical Guide* (MNRF, 2000);
  - *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNRF, 2012a); and
  - *Draft Significant Wildlife Habitat Ecoregion 5E Criterion Schedule* (MNRF, 2012b).
- **Interactive Mapping Sites:**
  - MNRF Make-A-Map: Natural Heritage Areas (MNRF, 2014a);
  - MNRF NHIC Rare Species Records (MNRF, 2014b);
  - MNRF Species at Risk by Area (Parry Sound) Online Search Tool (MNRF, 2014c);

- Important Bird Areas (IBA Canada, 2013);
- Network of Protected Areas website (EC, 2014a);
- Western Hemisphere Shorebird Reserve Network website (WHSRN, 2012); and
- Ontario Provincial Parks website (Ontario Parks, 2013).

- **Wildlife Atlases:**
  - Ontario Breeding Bird Atlas (OBBA) website (BSC *et al*., 2006);
  - Ontario Reptile and Amphibian Atlas (Ontario Nature, 2014); and
  - Atlas of the Mammals of Ontario (Dobbyn, 1994).
- **MNRF's mapping from Land Information Ontario** (LIO; MNRF, 2014d) for:
  - Provincial Parks;
  - Conservation Reserves;
  - Provincially Important Wetlands (PIWs);
  - Areas of Natural and Scientific Interest (ANSIs);
  - Unevaluated Wetlands;
  - Wooded Areas;
  - Confirmed Important Wildlife Habitat including:
    - Bat Hibernacula;
    - Raptor Nesting Sites;
    - Moose Aquatic Feeding Areas; and
    - Deer Yard or Wintering Areas.
- **Other Sources**:
  - National Parks List (Parks Canada, 2014)

2.3.1 Previous Field Studies

Field studies were conducted within the HIWEC study area by LGL Limited (LGL) in 2011 and 2012, and by Stantec Consulting Ltd. (Stantec) in 2013. Available information regarding these field studies is summarized below.

The *Nigig Power Corp / Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis* (Neegan Burnside Ltd., 2011) provides a preliminary analysis of the environmental and regulatory constraints for the HIWEC study area and two former alternative transmission lines, and summarizes the findings of ecological studies completed by LGL in 2011; however, the location of records of certain species is not always specified (i.e., whether the record came from the HIWEC study area or the two former alternative transmission lines). Given that these records are from the same geographic area as the current HIWEC study area, all species observed by LGL in 2011 as reported in the *Nigig Power Corp / Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis* (Neegan Burnside Ltd., 2011) were considered for the purpose of this Records Review.

LGL conducted the following field studies in 2011 and 2012 for the HIWEC study area, as per their *Work plan for the Nigig Power Wind Farm Project Background Ecological Studies* (LGL Limited, 2011) to determine baseline conditions:

- Raptor Migration;
- Passerine Migration;
- Breeding Birds;
- Herpetological Surveys; and
- Bat Acoustic Monitoring.

In addition, Stantec conducted the following field studies in 2013 for the HIWEC study area as per their *2013 Terrestrial Survey Work Program* (Stantec Consulting Ltd., 2013) to determine baseline conditions:

- Raptor Migration;
- Passerine Migration;
- Waterfowl Migration;
- Breeding Birds;
- Herpetological Surveys;
- Bat Acoustic Monitoring;
- Ecosite Classification and Rare Flora; and
- Incidental Wildlife Observations.

Stantec provided raw field and GIS data collected during the 2013 field season to AECOM in October 2014. WSP provided field data summaries and GIS data collected by LGL during the 2011 and 2012 field season to AECOM in May 2015. The following technical reports (hereafter collectively referred to as the "Technical Reports") were prepared by AECOM, which summarize the data provided by Stantec and LGL:

- *Summary of 2011, 2012 and 2013 Raptor Migration Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015a);
- *Summary of 2011, 2012 and 2013 Passerine Migration Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015b);
- *Summary of 2013 Waterfowl Migration Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015c);
- *Summary of 2011, 2012 and 2013 Breeding Bird Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015d);
- *Summary of 2011, 2012 and 2013 Herpetological Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015e);
- *Summary of 2011, 2012 and 2013 Bat Acoustic Monitoring Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015f);
- *Summary of 2013 Ecosite Classification and Rare Flora Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015g); and
- *Summary of 2011, 2012 and 2013 Incidental Wildlife Observations – Henvey Inlet Wind Energy Centre and Route B Transmission Line Study Areas* (AECOM, 2015h).

The Technical Reports were reviewed to further supplement the Records Review. These Technical Reports are provided in **Appendix A**.

2.3.2 Agency Correspondence

Consultation with the EC-CWS has been initiated regarding the presence of IWH, Species at Risk and other relevant natural heritage information within the HWIEC study area, as well as permitting requirements under *SARA*. Where HIWEC activities are likely to contravene the general or critical habitat prohibition provisions under *SARA*, a permit under ss. 73(1) of the *Act* may be required to undertake the work.

Consultation with the MNRF Parry Sound District was also initiated regarding the presence of IWH, Species at Risk and other relevant natural heritage information within the HWIEC study area.

Table 2-2 provides a summary of the agency consultation undertaken during the Records Review, including a description of the data and information that was requested and received. The HIWEC study area does not fall within the jurisdiction of a conservation authority or upper or lower tier municipality; therefore, records were not requested from these agencies. Aboriginal consultation with HIFN was undertaken for the HIWEC through the EA process and is documented in the Consultation Report (AECOM, 2015i).

Table 2-2: Summary of Agency Correspondence

Agency	Information Source / Method of Consultation	Data or Information Obtained
Environment Canada - Canadian Wildlife Service (EC-CWS)[1]	• May 5, 2015: AECOM requested natural heritage information relevant to the HIWEC study area, including Areas of Natural and Scientific Interest (ANSI), evaluated wetlands, woodland information, wildlife records and presence of IWH.	• May 7, 2015: EC-CWS indicated that all publically available recovery strategies for (Federal) Species at Risk are posted on the SARA registry website and that MNRF should be contacted for the remainder of the information requested. • August 4, 2015: EC-CWS provided a list of Federal Species at Risk and Species of Conservation Concern that have the potential to occur in the HIWEC study area.
Ministry of Natural Resources and Forestry (MNRF) – Parry Sound District	• May 5, 2015: AECOM requested natural heritage information relevant to the HIWEC study area, including records of Species at Risk and their habitats, Areas of Natural and Scientific Interest (ANSIs), evaluated wetlands, woodland information, wildlife records and presence of IWH. • July 7, 2015: AECOM requested known heronry locations in the vicinity of the HIWEC study area from MNRF Parry Sound District office's Natural Heritage Information account.	• June 9, 2015: MNRF indicated that MNRF data for the HIWEC study area is sparse given that it is under Federal jurisdiction. • June 29, 2015: MNRF provided a list of Species at Risk and Species of Conservation Concern that may occur in the HIWEC study area as well as some IWH types. • July 7, 2015: MNRF indicated that a request for known heronry locations in the vicinity of the HIWEC study area should be sent to their office's Natural Heritage Information account. • July 14, 2015: The MNRF Parry Sound District office's Natural Heritage Information account provided a map of heronries and Osprey nest in the vicinity of the HIWEC study area.

Note: 1. Please refer to the Consultation Report (AECOM, 2015i) for a complete record of correspondence with EC-CWS regarding Federal Species at Risk. As this is not a Records Review requirement, a summary of this correspondence is not repeated here.

3. Results of the Records Review

Available secondary sources were reviewed to determine whether natural features that require consideration in the Site Investigation phase of the NHA are located within the HIWEC study area. The results of the Records Review are described in **Table 3-1** and are mapped on **Figure 3-1**. Each natural feature type in the table below is also related to its associated Valued Ecosystem Component (VEC) as identified in the HIFN EA Guidance document.

IWH is grouped into categories as per the *Significant Wildlife Habitat Technical Guide* (MNRF, 2000) and the *Draft Significant Wildlife Habitat Ecoregion 5E Criterion Schedule* (MNRF, 2012b) as follows:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities;
- Specialized Habitats for Wildlife;
- Habitat for Species of Conservation Concern (not including Endangered or Threatened species); and
- Animal Movement Corridors.

Table 3-1 describes the Records Review results related to Important Wildlife Habitat types within these categories. The MNRF habitat criteria and target species for each Important Wildlife Habitat type closely follow the *Draft Significant Wildlife Habitat Ecoregion 5E Criterion Schedule* (MNRF, 2012b) and are included in the table below.

For those IWH for which suitable habitat may be present within the HIWEC study area, background information sources were reviewed to determine whether the target species, as identified by MNRF (2012b), have been recorded in the vicinity of the HIWEC study area. Target species recorded in the vicinity of the HIWEC study area by various wildlife atlases and previous field studies are bolded in the “Characteristics of Feature” column of **Table 3-1** with source referencing identified by footnotes at the bottom of the table.

Natural features either confirmed or with potential to be located within 120 m of the HIWEC location were carried forward to the Site Investigation phase of this NHA, as described in **Table 3-1** below.

Figure 3-1: Records Review Results

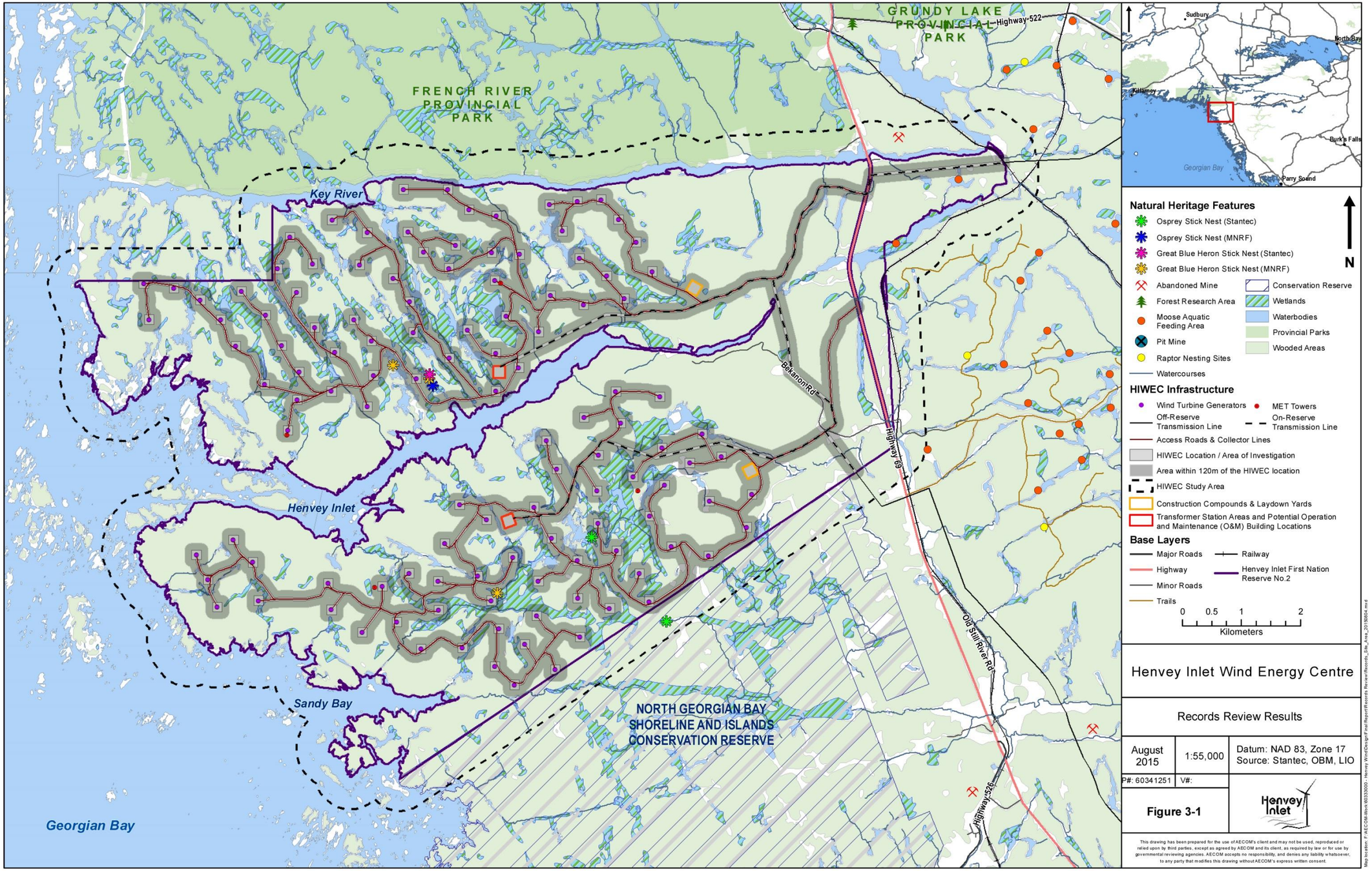


Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Federal and Provincial Parks, Conservation Reserves and Protected Areas:						
National Parks	Vegetation and Ecological Communities	• National parks are established to protect Canada's natural landscapes and are protected under the National Parks System Plan (Parks Canada, 2014).	**No**	**No**	• There are no National Parks located in or in the vicinity of the HIWEC study area (Parks Canada, 2014).	**No**
Provincial Parks		• Provincial parks and conservation reserves protect important natural and cultural features in the province and are important for outdoor education, scientific research and environmental monitoring (MNRF, 2014e). These features are regulated under the *Provincial Parks and Conservation Reserves Act, 2006.* Under Section 16 of this *Act*, generation of electricity (including renewable energy projects) is prohibited in provincial parks and conservation reserves.	**Yes**	**No**	• The French River Provincial Park (Waterway Class) is located within the HIWEC study area, but > 120 m from the HIWEC location, along the north side of the Key River (MNRF, 2014a; refer to **Figure 3-1**). This park is located on the Canadian Shield and supports more than 450 plants, including rare plant species. The wetlands located at the French River's mouth on Georgian Bay contain the largest community of Virginia Chain Fern (*Woodwardia virginica*) in Ontario. The Massassauga Rattlesnake (*Sistrurus catenatus*), a Federal Species at Risk, also occurs in this area (MNRF, 2006a).	**No**
Conservation Reserves			**Yes**	**Yes**	• The North Georgian Bay Shoreline and Islands Conservation Reserve is located within the HIWEC study area, and within 19 m of a proposed WTG, along the south side of the HIFN I.R. #2 lands (MNRF, 2014a; refer to **Figure 3-1**). This conservation reserve stretches along the coastline and inland environments that support numerous wetlands and wildlife habitat, including habitats for the Massassauga Rattlesnake and Caspian Tern (*Hydroprogne caspia*) (MNRF, 2006b).	**Yes**
Important Bird Areas (IBA)		• An Important Bird and Area (IBA) is an area recognized as being globally important habitat for Canada's bird populations (IBA Canada, 2013).	**No**	**No**	• There are no IBAs located in or in the vicinity of the HIWEC study area (IBA Canada, 2013).	**No**
Migratory Bird Sanctuaries (MBS)		• Migratory Bird Sanctuaries (MBS) provide habitat and safe refuge for migratory birds in terrestrial and marine environments (Parks Canada, 2015b). These are identified and protected under the *Migratory Birds Convention Act, 1994* (BMCA).	**No**	**No**	• There are no BMSs located in or in the vicinity of the HIWEC study area (EC, 2014a).	**No**
National Wildlife Areas (NWA)		• National Wildlife Area (NWA) are created and managed through an ecosystem approach for the purposes of wildlife conservation, research and interpretation (Parks Canada, 2015a). These are identified and protected under the *Canada Wildlife Act, 1985* (CWA).	**No**	**No**	• There are no NWAs located in or in the vicinity of the HIWEC study area (EC, 2014a).	**No**
Western Hemisphere Shorebird Reserve Network (WHSRN)		• The Western Hemisphere Shorebird Reserve Network (WHSRN) is an international shorebird conservation strategy that identifies sites that are either of hemispheric importance, international importance or regional importance for migrating shorebirds (WHSRN, 2015).	**No**	**No**	• There are no sites in the WHSRN located in or in the vicinity of the HIWEC study area (WHSRN, 2012).	**No**
Important or Provincially Important Nature Features:						
Provincially Important Northern Wetlands (PIWs)	Vegetation and Ecological Communities	• As described in the Ontario Wetland Evaluation System (OWES) northern manual (MNRF, 2014f), wetlands are lands that are seasonally or permanently flooded by shallow water as well as lands where the water table is close to the surface, where the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. Evaluation and identification of wetlands as Provincially Important is determined through the MNRF's OWES standardized assessment process.	**No**	**No**	**Provincially Important Wetlands (PIWs):** • There are no PIWs located within the HIWEC study area (MNRF, 2014a).	**No**
		• MNRF's NRVIS mapping tool was used to identify potential unevaluated wetlands. The presence or absence of unevaluated wetland features will be determined as part of the Site Investigation of this NHA. Unevaluated wetlands may contain IWH that will require further consideration as part of the NHA and an EIS may be required. If HIWEC infrastructure is proposed within an unevaluated wetland, an OWES evaluation of the wetland to determine its importance would be required as part of the NHA.	**Yes**	**Yes**	**Unevaluated Wetlands:** • There are numerous unevaluated wetlands located within the HIWEC study area (MNRF, 2014a; refer to **Figure 3-1**). These include swamps, fens, bogs and marshes (AECOM, 2015g).	**Yes**
Important Woodlands	Vegetation and Ecological Communities	• Woodlands are treed areas that provide environmental and economic benefits such as erosion prevention, water retention, provision of habitat for plants and wildlife, recreation and sustainable harvest of woodland products. To be important, woodlands must meet minimum standards for tree cover and other characteristics as described in the *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNRF, 2012a).	**Yes**	**Yes**	• The HIWEC study area is predominately covered in wooded areas (AECOM, 2015g; MNRF, 2014a; refer to **Figure 3-1**).	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Provincially Important Areas of Natural and Scientific Interest (ANSIs) – Life Science	Vegetation and Ecological Communities	• Areas of Natural and Scientific Interest (ANSIs) are areas of land and water containing unique landscapes or features. The MNRF evaluates ANSIs to determine whether they are Provincially or Regionally (Locally) Important. ANSIs are designated as Earth Science or Life Science depending on whether they contain important geological features (e.g., rock, fossil and landform features) or biological features (e.g., natural landscapes, ecological communities, plant and animal species), respectively.	**No**	**No**	• There are no Provincially Important Life Science ANSIs located within the HIWEC study area (MNRF, 2014a).	**No**
Provincially Important Areas of Natural and Scientific Interest (ANSIs) – Earth Science			**No**	**No**	• There are no Provincially Important Earth Science ANSIs located within the HIWEC study area (MNRF, 2014a).	**No**
Important Wildlife Habitats (IWH)						
Seasonal Concentration Areas of Animals						
Waterfowl Stopover and Staging Areas (Terrestrial)	Wildlife and Wildlife Habitat	• Evidence of annual spring flooding from melt water or runoff in fields. • Target species[1]: American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon and Gadwall.	**No**	**No**	• The majority of the HIWEC study area is dominated by rock barrens (AECOM, 2015g). There is one small cultural meadow (CUM) that is intersected by Bekanon Road and there are no thickets (CUT). The cultural meadow is unlikely to support this kind of IWH given its small size and proximity to the road.	**No**
Waterfowl Stopover and Staging Areas (Aquatic)	Wildlife and Wildlife Habitat	• Where at least 5 ha of standing water is present including ponds, marshes, lakes, bays, coastal inlets and watercourses during migration; • Sewage treatment ponds and stormwater ponds do not qualify as IWH; • Important sites generally have better habitat quality (e.g., optimal vegetation composition, ratio of open water to emergent vegetation, extensive shoreline, abundant food, and nocturnal roosting cover); and • Larger wetlands are more important (size). • Target species[1]: **Canada Goose**[2,3], Cackling Goose, **Snow Goose**[3], **American Black Duck**[2,3], Northern Pintail, Northern Shoveler, **American Wigeon**[3], Gadwall, **Green-winged Teal**[3], **Blue-winged Teal**[3], **Hooded Merganser**[2,3], **Common Merganser**[2,3], **Lesser Scaup**[3], Greater Scaup, **Long-tailed Duck**[3], **Surf Scoter**[3], **White-winged Scoter**[3], **Black Scoter**[3], **Ring-necked Duck**[3], **Common Goldeneye**[3], **Bufflehead**[3], **Redhead**[3], Ruddy Duck, **Red-breasted Merganser**[3], Brant and Canvasback.	**Possibly**	**Possibly**	• The HIWEC study area is bounded by the Key River to the north, Georgian Bay to the west, Sandy Bay in the southwest and Henvey Inlet that runs through the middle of the HIWEC study area. There are many small lakes, beaver ponds and unevaluated wetlands located within the HIWEC study area. All of these areas including the shoreline of Georgian Bay, Key River and Henvey Inlet have potential to support aquatic waterfowl stopover and staging areas. • According to the OBBA (BSC, *et al.* 2006), there are breeding records for six (6) waterfowl species in the vicinity of the HIWEC study area, of which four (4) are target species for this IWH type. • A total of 22 waterfowl species were recorded within the HIWEC study area in 2011, 2012 and 2013, of which 18 are target species for this IWH type (AECOM, 2015b, 2015c, 2015d and 2015h). • The MNRF has documented waterfowl stop-over areas, travel routes and nesting areas along Henvey Inlet (Neegan Burnside Ltd., 2011). These are considered to be historical records. • Collectively, 18 target species for this IWH type have been recorded within the HIWEC study area.	**Yes**
Shorebird Migratory Stopover Area	Wildlife and Wildlife Habitat	• Shorelines of lakes, rivers and wetlands, including beach areas, bars, seasonally flooded shoreline, mudflats, rock groynes, and other forms of armour rock lakeshore. • Target species[1]: **Greater Yellowlegs**[3], **Lesser Yellowlegs**[3], Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden-Plover, Semipalmated Plover, Solitary Sandpiper, **Spotted Sandpiper**[2,3], Semipalmated Sandpiper, **Pectoral Sandpiper**[3], White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Purple Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy Turnstone, Sanderling and Dunlin.	**Possibly**	**Possibly**	• The HIWEC study area is dominated by rock barrens and forested communities and bounded by shorelines of Georgian Bay, Sandy Bay, Key River and Henvey Inlet. Additionally, there are numerous unevaluated wetlands present. • According to the OBBA (BSC *et al.*, 2006), there are breeding records for two (2) shorebird species in the vicinity of the HIWEC study area, of which one (1) is a target species for this IWH type. • A total of nine (9) shorebird species were recorded within the HIWEC study area in 2011, 2012 and 2013, of which four (4) are target species for this IWH type (AECOM, 2015b, 2015d and 2015h). • In total, four (4) target species for this IWH type have been recorded within the HIWEC study area.	**Yes**
Raptor Wintering Area	Wildlife and Wildlife Habitat	• Combination of forest and upland communities must be >20 ha in size; • Sites that are less disturbed by agricultural activities are more important; and • Sites with better habitat quality (e.g., abundant prey and perches; a tendency toward less snow accumulation due to exposure to strong prevailing winds) are probably more important. • Target species[1]: Rough-legged Hawk, Long-eared Owl, Boreal Owl, Northern Saw-whet Owl and Short-eared Owl.	**No**	**No**	• The HIWEC study area is dominated by rock barrens and forested communities. There are no upland cultural communities that meet the size criterion for this type of IWH (AECOM, 2015g).	**No**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Bat Hibernacula	Wildlife and Wildlife Habitat	• All caves, abandoned mine shafts, underground foundations and / or karst (buildings are not to be considered IWH). • Target species[1]: **Big Brown Bat**[3,4], **Little Brown Bat**[3,4], **Tri-colored Bat**[3,4], **Northern Myotis**[3,4] and **Eastern Small-footed Myotis**[3].	**Possibly**	**Possibly**	• There is an abandoned mine located within the HIWEC study area (**Figure 3-1**). Additionally, caves may occur within the HIWEC study area. • According to the *Atlas of the Mammals of Ontario* (Dobbyn, 1994), there are five (5) bat species recorded in the vicinity of the HIWEC study area, of which four (4) are identified as target species for this IWH type. • Acoustic monitoring was conducted by LGL and Stantec in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015f). Based on AECOM's analysis of the 2011 and 2012 bat acoustic monitoring data provided by LGL, a total of eight (8) bat species, of which five (5) are identified as target species for this IWH, were recorded in the HIWEC study area. NRSI analyzed Stantec's 2013 bat acoustic monitoring data that was collected using the zero cross method, which makes identification to the species level not always possible. However, the recorded data includes evidence that all eight (8) of the species identified in 2011 and 2012 were potentially present in 2013 as well. • Collectively, all five (5) target species for this IWH type have been recorded within the HIWEC study area.	**Yes**
Bat Maternity Colonies	Wildlife and Wildlife Habitat	• Found in tree cavities and vegetation; • Mature deciduous or mixed forest stands with ≥10 large cavity trees (with at least 25 cm in diameter at breast height) per hectare; and • Maternity roosts are not found in caves and mines in Ontario. • Target species[1]: **Big Brown Bat**[3,4], **Little Brown Bat**[3,4], **Silver-haired Bat**[3] and **Northern Myotis**[3,4].	**Possibly**	**Possibly**	• There are mixed and coniferous forest stands located in the HIWEC study area (AECOM, 2015g), which may contain suitable bat cavity trees. • According to the *Atlas of the Mammals of Ontario* (Dobbyn, 1994), there are five (5) bat species recorded in the vicinity of the HIWEC study area, of which three (3) are identified as target species for this IWH type. • Acoustic monitoring was conducted by LGL and Stantec in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015f). Based on AECOM's analysis of the 2011 and 2012 bat acoustic monitoring data provided by LGL, a total of eight (8) bat species, of which four (4) are identified as target species for this IWH, were recorded in the HIWEC study area. NRSI analyzed Stantec's 2013 bat acoustic monitoring data that was collected using the zero cross method, which makes identification to the species level not always possible. However, the recorded data includes evidence that all eight (8) of the species identified in 2011 and 2012 were potentially present in 2013 as well. • Collectively, all four (4) target species for this IWH type have been recorded within the HIWEC study area.	**Yes**
Bat Migratory Stopover Area	Wildlife and Wildlife Habitat	• Location and characteristics of stopover habitats are generally unknown.	**No**	**No**	• Criteria and habitat areas for this type of IWH are still being determined by the MNRF and are not currently defined in the *Significant Wildlife Habitat Technical Guide* (MNRF, 2000). In the absence of MNRF criteria for identifying bat migratory stopover areas, these features do not require further consideration as part of the NHA.	**No**
Turtle Wintering Areas	Wildlife and Wildlife Habitat	• Open water areas such as deeper rivers or streams and lakes with current can be used as over-wintering habitat (Northern Map Turtle); • Overwintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen; and • Water has to be deep enough not to freeze to the bottom and have soft mud substrates. • Target species[1]: **Midland Painted Turtle**[3,5,6], **Northern Map Turtle**[3,5,7] and **Snapping Turtle**[3,5,6,7].	**Possibly**	**Possibly**	• There are many fens, bogs, marshes, small lakes and beaver ponds located in the HIWEC study area that may provide suitable turtle wintering habitats (AECOM, 2015g). • According to the *Ontario Reptile and Amphibian Atlas* (Ontario Nature, 2014), there are five (5) turtle species recorded in the vicinity of the HIWEC study area, of which three (3) are identified as target species for this IWH type. • Four (4) turtle species were observed in the HIWEC study area in 2011, 2012 and 2013, of which two (2) are identified as target species for this IWH type (AECOM, 2015e; Neegan Burnside Ltd., 2011). In addition, predated eggs of Northern Map Turtle, also a target species for this IWH type, may have been observed in 2011 or 2012 but were not confirmed (AECOM, 2015e). • Two (2) of the target species for this IWH type were identified as potentially occurring within the HIWEC study area by MNRF Parry Sound District (MNRF, personal communication, June 29, 2015). • Collectively, all three (3) of the targeted species for this IWH type have been recorded within the HIWEC study area.	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Reptile Hibernacula	Wildlife and Wildlife Habitat	• Areas of broken and fissured rock, rock piles or slopes, stone fences, crumbling foundations, and old wells that extend below the frost line are Candidate IWH; and • Wetlands can also be important over-wintering habitat in conifer or shrub swamps with sphagnum moss or sedge hummock ground cover. • Target species[1]: **Eastern Gartersnake[3,5,6]**, **Northern Watersnake[3,5,6]**, **Red-bellied Snake[3,5,6]**, **Dekay's Brownsnake[3,5]**, **Smooth Greensnake[3,5,6]**, **Ring-necked Snake[3,5,6]**, **Milksnake[3,5,7]**, **Eastern Ribbonsnake[5,6] and Five-lined Skink[3,5,6,7]**.	**Possibly**	**Possibly**	• There are numerous unevaluated wetlands in the HIWEC study area, including conifer and shrub swamps which can provide overwintering habitat for reptile species. Additionally, the HIWEC study area is covered by rock barrens (AECOM, 2015g). • According to the *Ontario Reptile and Amphibian Atlas* (Ontario Nature, 2014), there are 11 snake species and one (1) lizard species recorded in the vicinity of the HIWEC study area, of which nine (9) are identified as target species for this IWH type. • A total of nine (9) snake species, of which seven (7) are target species, and the one (1) lizard target species were recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015e; Neegan Burnside Ltd., 2011). • Two (2) of the target species for this IWH type were identified as potentially occurring within the HIWEC study area by MNRF Parry Sound District (MNRF, personal communication, June 29, 2015). • All nine (9) of the target species for this IWH type have been observed within the HIWEC study.	**Yes**
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	Wildlife and Wildlife Habitat	• Eroding banks, sandy hills, borrow pits, steep slopes, sand piles and rock faces that are undisturbed or naturally eroding; and • Important habitats are not located in licensed aggregate pits, man-made structures (bridges or buildings), or recently (within 2 years) disturbed soils areas. • Target species[1]: **BankSwallow[7]**, **Cliff Swallow[2]** and **Northern Rough-winged Swallow[2]**.	**Possibly**	**Possibly**	• There are probably no sand banks large enough to support a nesting swallow colony in the HIWEC study area. There is potential for a few rock cliffs to occur in the HIWEC study area. Some of these may possibly provide suitable habitat for Cliff Swallows (*Petrochelidon pyrrhonota*). • According to the OBBA (BSC *et al.,* 2006), there are records of breeding Cliff Swallows and Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) in the vicinity of the HIWEC study area; both are identified as target species for this IWH type. • No bank or cliff colonially-nesting bird species were recorded in the HIWEC study area in 2011, 2012 or 2013 (AECOM, 2015a, 2015b, 2015c, 2015d and 2015h). • One (1) of the target species for this IWH type, Bank Swallow (*Riparia riparia*), was identified as potentially occurring within the HIWEC study area by MNRF Parry Sound District (MNRF, personal communication, June 29, 2015). • Collectively, all three (3) target species for this IWH type have been recorded within the vicinity of the HIWEC study area.	**Yes**
Colonially-Nesting Bird Breeding Habitat (Trees / Shrubs)	Wildlife and Wildlife Habitat	• Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and occasionally emergent vegetation may also be used; • Important sites generally have better habitat quality (e.g., optimal vegetation structure, abundant food); and • Size of habitat and level of disturbance are also important. • Target species[1]: **Great Blue Heron[2,3]** and Black-crowned Night Heron.	**Yes**	**Possibly**	• There are numerous unevaluated wetlands located within the HIWEC study area, which may provide habitat for colonially tree nesting bird species (AECOM, 2015g). • According to the OBBA (BSC *et al.*, 2006), there is a confirmed record for Great Blue Heron (*Ardea herodias*) in the vicinity of the HIWEC study area. • One (1) Great Blue Heron Heronry was recorded in the HIWEC study area in 2013 by Stantec (AECOM, 2015h; refer to **Figure 3-1**). • A total of 12 potential or active Great Blue Heron nests were identified in the HIWEC study area in 2011, of which two (2) nests were confirmed to be occupied by Great Blue Herons in 2011 (Neegan Burnside Ltd., 2011; AECOM, 2015d). • MNRF has records of three (3) Great Blue Heronries in the HIWEC study area (MNRF, personal communication, July 14, 2015; refer to **Figure 3-1**). • One (1) of the target species for this IWH type has been observed within the HWIEC study area.	**Yes**
Colonially-Nesting Bird Breeding Habitat (Ground)	Wildlife and Wildlife Habitat	• Any (rocky) island or peninsula (natural or artificial) within open water, marshy areas, lake or large river (two-lined on a 1:50,000 National Topographic System (NTS) map); • Brewer's Blackbird colonies are found in open fields or pastures with scattered trees or shrubs, loosely on the ground or in low bushes in close proximity to streams and irrigation ditches within farmlands; • Important sites generally have better habitat quality (e.g., optimal vegetation composition, abundant food); and • Size of habitat and level of disturbance are also important. • Target species[1]: **Herring Gull[2,3]**, **Great Black-backed Gull[3],** Little Gull, **Ring-billedGull[3]**, **Common Tern[2,3]**, **Caspian Tern[3]** and Brewer's Blackbird.	**Possibly**	**Possibly**	• Suitable habitats may occur on the shorelines of Georgian Bay, Key River, Henvey Inlet and Sandy Bay within the HIWEC study area (AECOM, 2015g). • According to the OBBA (BSC *et al.*, 2006), there are records for two (2) colonially ground-nesting bird species in the vicinity of the HIWEC study area, both of which are identified as target species for this IWH type. • Five (5) colonially ground-nesting bird species, all of which are target species for this IWH type, were recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015a, 2015b, 2015d and 2015h). • The Northern Georgian Bay Shoreline and Islands Conservation Reserve provides habitat for Caspian Terns (*Hydroprogne caspia*) (Neegan Burnside Ltd., 2011). • Collectively, five (5) of the target species for this IWH type have been observed within the HIWEC study area.	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Deer Yarding Areas	Wildlife and Wildlife Habitat	• Forests and swamps at least 100 ha in size; • Deer yards provide cover for deer on the onset of winter snow and cold. Deer move to deer yards as a behavioural response in early winter and generally when snow depths reach 20 cm; and • Deer yards are composed of two (2) areas referred to Stratum I, which is the core of the deer yard, and Stratum II, which covers the entire deer yard areas.	**Possibly**	**Possibly**	• Deer yards are determined and mapped by the MNRF. There are no deer yarding areas as identified by the MNRF within or in close proximity to the HIWEC study area. However, because the MNRF does not have jurisdiction over the HIFN I.R. #2, the presence of deer yards cannot be ruled out. The presence of this IWH type will be investigated during the Site Investigation.	**Yes**
Rare Vegetation Communities						
Beach / Beach Ridge / Bar / Sand Dunes	Vegetation and Ecological Communities	• Any identified beach, beach ridge, or sand dune; • Vegetation can be patchy and barren to tree cover < 60%; • Presence of unstable sand; and • Presence of the following indicator species: Marram Grass *(Ammophila breviligulata*) and Beach Pea (*Lathyrus japonicas*).	**Yes**	**No**	• Open Beach / Bar communities were identified by Stantec in 2013 within the HIWEC study area but these are located more than 120m from the HIWEC location (AECOM, 2015g). No plant species characteristic to this IWH were recorded in the HIWEC study area in 2013 (AECOM, 2015g).	**No**
Shallow Atlantic Coastal Marsh	Vegetation and Ecological Communities	• Shallow marsh on shallow mineral (sand) or mineral organic (sandy peat) shoreline, inland lakes and beaver ponds; and • Presence of Virginia Meadow-beauty (*Rhexia virgininica*) and other associated species: ▪ **Brownish beaksedge (*Rhynchospora capitellata*)[3];** ▪ **Bog Yellow-eyed Grass (*Xyris difformis*)[3];** ▪ Eaton's rosette grass (*Panicum spretum*); ▪ Virginia Marsh-St. John's Wort (*Triadenum virginicum*); ▪ Carey's Smartweed (*Polygonum careyi*); and ▪ Bayonet Rush (*Juncus militaris*).	**Yes**	**Possibly**	• Shallow Atlantic coastal marshes may occur within the HIWEC study area. Two (2) plant species characteristic to this IWH type were recorded in the HIWEC study area in 2013 (AECOM, 2015g).	**Yes**
Cliffs and Talus Slopes	Vegetation and Ecological Communities	• Any cliff or talus slope; and • A talus slope is rock rubble at the base of a cliff made up of coarse rocky debris. • Characteristic flora for cliffs and talus slopes include: ▪ Lichen, such as Rock Tripe (*Umbilicaria* spp.); ▪ Rock Polyploidy (*Polypodium virginianum*); ▪ Brittle Bladder-fern (*Cystopteris fragilis*); ▪ **Oblong Woodsia (*Woodsia ilvensis*)[3];** ▪ Fragile rockbrake (*Cryptogramma stelleri*); ▪ Alpine Woodsia (*Woodsia alpina*); ▪ White Mountain Saxifrage (*Saxifraga paniculata*); ▪ Fragrant Cliff Fern (*Dryopteris fragrans*); and ▪ Laurent's Cliff Fern (*Woodsia scopulina ssp. laurentiana*).	**Possibly**	**Possibly**	• The HIWEC study area is dominated by rock barrens (AECOM, 2015g). Cliffs may also occur within the HIWEC study area. • One (1) plant species characteristic to this IWH type was recorded in the HIWEC study area in 2013 (AECOM, 2015g).	**Yes**
Precambrian Rock Barren	Vegetation and Ecological Communities	• Any rock barren area > 1 ha; and • Extensive areas of exposed granitic bedrock that are sparsely vegetated (i.e., tree cover < 60%); • Characteristic flora for rock barrens include: ▪ Lichens and mosses (*Polytrichum* spp.); ▪ Sparse grasslands of **Poverty Grass (*Danthonia spicata*)[3]** or Wavy-hair Grass (*Deschampsia flexuosa*); ▪ Low shrubs of **Common Juniper (*Juniperus communis*)[3]**, **Lowbush Blueberry (*Vaccinium angustifolium*)[3]** or **Sweet Fern (*Comptonia peregrina*)[3]**; ▪ Stunted open grown trees of White Oak (*Quercus alba*), **Red Oak (*Quercus rubra*)[3]** or **White Pine (*Pinus strobus*)[3]**; and • Also characterized by **Bristly Sarsaparilla (*Aralia hispida*)[3]**, Case's Ladies'-tresses (*Spiranthes casei*), **Early Saxifrage (*Saxifraga virginiensis*)[3]**, **Black Huckleberry (*Gaylussacia baccata*)[3]**, **Pink Corydalis (*Corydalis sempervirens*)[3]**, or **Bastard Toadflax (*Comandra umbellate*)[3]**.	**Yes**	**Yes**	• The HIWEC study area is located on the Canadian Shield and the landscape is dominated by Precambrian rock barrens (AECOM, 2015g). • A total of 11 plant species characteristic to this IWH type were recorded in the HIWEC study area in 2013 (AECOM, 2015g).	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Sand Barren	Vegetation and Ecological Communities	• Typically exposed sand habitats, generally sparsely vegetated and caused by lack of moisture, periodic fires, and erosion. Sand barrens have little or no soil, and the underlying rock protrudes through the surface. Usually located within other types of natural habitat, such as forest or savannah; • Sites must not be dominated by non-indigenous species; • Vegetation cover varies from patchy and barren to continuous meadow, thicket-like, or more closed and treed. Tree cover always < 60%; and • Characteristic flora for sand barrens include: ▪ Reindeer Lichens (*Cladina spp.*); ▪ **Houghton's Sedge (*Carex houghtoniana*)**[3]; ▪ Fernald's Sedge (*Carex merritt-fernaldii*); ▪ **Sweetfern (*Comptonia peregrina*)**[3]**;** ▪ **Northern Dewberry (*Rubus flagellaris*)**[3]; ▪ Rock spike-moss (*Selaginella rupestris*); ▪ **Alpine Dog Violet (*Viola labradorica*)**[3]; ▪ Coastal Jointweed (*Polygonella articulata*); and ▪ Procupine Grass (*Stipa spartea*).	**Yes**	**Possibly**	• Shrub sand barrens were identified by Stantec in 2013 within the HIWEC study area (AECOM, 2015g). • A total of four (4) plant species characteristic to this IWH type were recorded in the HIWEC study area in 2013 (AECOM, 2015g).	**Yes**
Alvar	Vegetation and Ecological Communities	• Typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil; • Sites must be at least 0.5 ha in size; and • Sites must not be dominated by non-indigenous species.	**No**	**No**	• This rare vegetation community is unlikely to occur within the HIWEC study area, which is located on the Canadian Shield. A few isolated alvar patches are found in Southern Ontario, south of the Canadian Shield (NCC, date unknown).	**No**
Old-growth Forest	Vegetation and Ecological Communities	• Typically relatively undisturbed, structurally complex and contain a wide variety of trees and shrubs in various age classes; • Most important sites will contain numerous trees which are at least 140 years old. Stands containing younger trees (e.g., 100 years or older) are important where older trees no longer exist; • Stands containing predominantly long-lived species are probably more important than stands consisting primarily of short-lived species (e.g., Trembling Aspen, Birch); and • Stands > 30 ha in size or with at least 10 ha of interior forest habitat (>100 m from forest edge) are considered IWH.	**Possibly**	**Possibly**	• The HIWEC study area contains relatively large tracks of undisturbed wooded areas, wherein old growth or mature forests may occur (AECOM, 2015g).	**Yes**
Bog	Vegetation and Ecological Communities	• Any size bog; • Nutrient poor, acid peatlands dominated by peat mosses (*Sphagnum* sp.), ericaceous shrubs and sedges; and • Water table is at or near the surface in spring and lower remainder of the year.	**Yes**	**Possibly**	• There are several unevaluated wetlands, including bogs, located within the HIWEC study area (AECOM, 2015g).	**Yes**
Savannah	Vegetation and Ecological Communities	• Tallgrass prairie habitat with tree cover between 25% and 60%. Site conditions must be restored or natural (e.g., not railway right-of-ways); and • Sites must not be dominated by non-indigenous species.	**No**	**No**	• This rare vegetation community is unlikely to occur within the HIWEC study area.	**No**
Tall-grass Prairie	Vegetation and Ecological Communities	• Sites with ground cover dominated by prairie grasses and < 25% tree cover; • Site conditions must be restored or natural (e.g., not railway right-of-ways); and • Sites must not be dominated by non-indigenous species.	**No**	**No**	• This rare vegetation community is unlikely to occur within the HIWEC study area. Tall-grass prairies are generally located south of Georgian Bay (Rodger, 1998).	**No**
Rare Forests (Red Spruce and White Oak)	Vegetation and Ecological Communities	• Any forest stand with composition ≥ 10% of Red Spruce or White Oak regardless of stand size.	**Possibly**	**Possibly**	• The HIWEC study area includes undisturbed wooded areas, wherein rare forests may occur (AECOM, 2015g).	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Specialized Habitats for Wildlife						
Waterfowl Nesting Area	Wildlife and Wildlife Habitat	• All upland habitats located adjacent to (within 120 m of) individual wetlands or a complex of smaller wetlands that are at least 2 ha in size; • Upland areas should be at least 120 m wide so that predators have difficulty finding nests; • Larger sites of suitable habitat are more important; • Important sites generally have better habitat quality (e.g., optimal vegetation structure, stable water levels, abundant cover); and • Sites with little disturbance (e.g., from agricultural activities such as hay cultivation or cattle grazing) are more important. • Target species[1]: **American Black Duck**[2,3], Northern Pintail, Northern Shoveler, Gadwall, **Blue-winged Teal**[3], **Green-winged Teal**[3], **Wood Duck**[2,3], **Hooded Merganser**[2,3], **Common Merganser**[2,3], **Red-breasted Merganser**[3], **Mallard**[2,3], **Canada Goose**[2,3], **American Widgeon**[3], **Bufflehead**[3] and **Common Goldeneye**[3].	**Possibly**	**Possibly**	• There are several unevaluated wetlands located within the HIWEC study area which may provide habitat for waterfowl nesting (AECOM, 2015g). • According to the OBBA (BSC, *et al*. 2006), there are records for six (6) of the target waterfowl species for this IWH type breeding in the vicinity of the HIWEC study area. • A total of 22 waterfowl species were recorded in the HIWEC study area 2011, 2012 and 2013, of which 12 are target species for this IWH type (AECOM, 2015b, 2015c, 2015d and 2015h). • Collectively, 12 target species for this IWH type have been observed within the HIWEC study area.	**Yes**
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Wildlife and Wildlife Habitat	• Nests associated with riparian areas of rivers, lakes, ponds, wetlands, forested shorelines and islands; and • Nests located on man-made objects are not IWH. • Target species[1]: **Osprey**[2,3] and **Bald Eagle**[2,3,7].	**Yes**	**Possibly**	• The HIWEC study area includes wooded areas and is bordered by the Key River, Georgian Bay, Henvey Inlet and Sandy Bay (MNRF, 2014a). • According to the OBBA (BSC, *et al*. 2006), there are records of confirmed breeding for both Osprey (*Pandion haliaetus*) and Bald Eagle (*Haliaeetus leucocephalus*) in the vicinity of the HIWEC study area. • Both species were also recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015a, 2015b, 2015d and 2015h). Two (2) stick nests, likely that of Ospreys, were also recorded in the HIWEC study area 2013 (AECOM, 2015h; refer to **Figure 3-1**). • MNRF has a record of one (1) Osprey nest in the HIWEC study area and no records of Bald Eagle nests (MNRF, personal communication, July 14, 2015; refer to **Figure 3-1**). However, MNRF identified Bald Eagle as potentially occurring in the HIWEC study area (MNRF, personal communication, June 29, 2015). • Both of the target species of this IWH type have been recorded within the HIWEC study area.	**Yes**
Woodland Raptor Nesting Habitat	Wildlife and Wildlife Habitat	• All natural or conifer plantation woodland / forest stands; • Stick nests can be found in a variety of intermediate-aged to mature coniferous, deciduous or mixed forests within tops or crotches of trees; and • Merlin (*Falco columbarius*) or Cooper's Hawks (*Accipiter cooperii*) nest along forest edges, sometimes on peninsulas or small off-shore islands. • Barred Owls and sometimes Great Horned Owls and Merlin can nest in tree cavities. • Target species[1]: **Red-tailed Hawk**[2,3], Great Horned Owl, **Broad-winged Hawk**[2,3], **Sharp-shinned Hawk**[2,3], **Merlin**[2,3], **Barred Owl**[3], **Red-shouldered Hawk**[3], **Cooper's Hawk**[3] and **Northern Goshhawk**[2,3].	**Possibly**	**Possibly**	• The HIWEC study area includes wooded areas MNRF, 2014a), which may support woodland raptor nesting habitat. • According to the OBBA (BSC, *et al*. 2006), there are records for 11 raptor species in the vicinity of the HIWEC study area, of which five (5) are identified as target species for this IWH type. • A total of 14 raptor species, including eight (8) of the target species for this IWH type, were recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015a; AECOM, 2015h). • There are several raptor nesting sites mapped by the MNRF located in the vicinity but outside of the HIWEC study area (refer to **Figure 3-1**). • Collectively, eight (8) of the target species for this IWH type have been recorded within the HIWEC study area.	**Yes**
Turtle and Lizard Nesting Areas	Wildlife and Wildlife Habitat	• For turtles, exposed mineral soil (sand or gravel) areas adjacent (< 100 m from) or marshes, bogs, fens or cultural meadow; • Areas of sand and / or gravel that turtles are able to dig in that are located in open, sunny areas, including sand and gravel beaches adjacent to marshes, lakes, and rivers; • Nesting areas on the sides of road embankments, railway embankments and active aggregate operations are not IWH; and • For lizards, all rock barren was considered suitable nesting habitat. • Target species[1]: **Midland Painted Turtle**[3,5,6], **Northern MapTurtle**[3,5,7], **Snapping Turtle**[3,5,6,7] and **Common Five-lined Skink**[3,5,6,7].	**Possibly**	**Possibly**	• There are numerous fens, bogs and marshes located in the HIWEC study area that may provide suitable turtle nesting habitats, as well as rock barrens for lizard nesting areas (AECOM, 2015g). • According to the *Ontario Reptile and Amphibian Atlas* (Ontario Nature, 2014), three (3) of the target turtle species for this IWH and one (1) lizard species have been recorded in the vicinity of the HIWEC study area. • Four (4) turtle species, of which two (2) are identified as target species for this IWH type, and one (1) lizard species were observed in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015e; Neegan Burnside Ltd., 2011). In addition, predated eggs of Northern Map Turtle, also a target species for this IWH type, may have been potentially observed in 2011 or 2012 but the species was not confirmed (AECOM, 2015e). • Three (3) of the target species for this IWH type were identified as potentially occurring within the HIWEC study area by MNRF Parry Sound District (MNRF, personal communication, June 29, 2015). • All four (4) of the target species for this IWH type have been recorded in the HIWEC study area.	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Seeps and Springs	Wildlife and Wildlife Habitat	• Seeps and springs are areas where groundwater comes to the surface. Often they are found within headwater areas within forested habitats; and • Any forested Ecosite (with < 25% meadow / field / pasture) within the headwater areas of a stream could have seeps or springs.	**Possibly**	**Possibly**	• Seeps and springs may occur in association with unevaluated wetlands or watercourses within the HIWEC study area.	**Yes**
Aquatic Feeding Habitat	Wildlife and Wildlife Habitat	• Habitat may be found in all mixed or conifer forests adjacent to water (within 120 m). • Wetlands and isolated embayments in rivers or lakes with an abundance of submerged aquatic vegetation such as pond weeds, water milfoil and yellow water lily. • Target species[1]: **Moose**[3,4] and **White-tailed Deer**[3,4].	**Yes**	**Possibly**	• Aquatic feeding habitats may occur in association with unevaluated wetlands, rivers, lakes and beaver ponds in the HIWEC study area. • According to the *Atlas of the Mammals of Ontario* (Dobbyn, 1994),there are Moose (*Alces alces*) and White-tailed Deer (*Odocoileus virginianus*) recorded in the vicinity of the HIWEC study area. • Evidence of Moose and White-tailed Deer was recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015h). • There are several Aquatic Feeding Areas mapped by MNRF located in the vicinity and two (2) are located within the HIWEC study area (refer to **Figure 3-1**). • Both of the target species for this IWH type have been recorded in the HIWEC study area.	**Yes**
Mineral Licks	Wildlife and Wildlife Habitat	• Habitat may be found in all forested areas in upwelling groundwater and the soil around these seepage areas. • Target species[1]: **Moose**[3,4] and **White-tailedDeer**[3,4].	**Possibly**	**Possibly**	• Mineral licks may occur in association with seeps and springs located in wooded areas in the HIWEC study area. • There is evidence of Moose and White-tailed Deer in the HIWEC study area (AECOM, 2015h, Dobbyn, 1994). • Evidence of Moose and White-tailed Deer was recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015h). • Both of the target species for this IWH type have been recorded in the HIWEC study area.	**Yes**
Denning Sites for Mink, Otter, Marten, Fisher and Eastern Wolf	Wildlife and Wildlife Habitat	• Dens may be found in all forested areas; • Denning sites are often in cavities in large trees or under large downed woody debris for Martens (*Martes americana*) and Fishers (*Martes pennanti*); • Denning sites for Mink (*Neovison vison*) includes old muskrat lodges; • Denning sites for Eastern Wolf (*Canis lycaon*) are excavated in the ground; and • Denning sites for River Otter (*Lontra canadensis*) include downed woody debris, old beaver lodges, log jams and crevices in rock piles. • Target species[1]: **Mink**[4,6], **River Otter**[3,4,6], **Marten**[4], **Fisher**[4], **Grey Wolf**[4] and **Eastern Wolf**[3].	**Possibly**	**Possibly**	• Denning sites may occur within wooded areas in the HIWEC study area. • According to the *Atlas of the Mammals of Ontario* (Dobbyn, 1994), five (5) of the target species for this IWH type have been recorded in the vicinity of the HIWEC study area. • Two (2) of the target species for this IWH type, River Otter and possibly Eastern Wolf, were recorded in the HIWEC study area in 2013 (AECOM, 2015h). Despite records of tracks and howling of Eastern Wolf made in 2013 field notes as provided to AECOM from Stantec, the presence of Eastern Wolf is considered to be unconfirmed within the HIWEC study area given that genetic sampling is required to confidently identify this species and differentiate from known hybrids with Grey Wolf (*Canis lupus*) and Coyote (*Canis latrans*). There are also two (2) records of weasels that could not be identified to the species level in 2013 (AECOM, 2015h). • Mink and Otter are known to occupy beaver ponds and use abandoned lodges and bank dens in the HIWEC study area (Neegan Burnside Ltd., 2011). • All six (6) of the target species for this IWH type have been recorded in the vicinity of the HIWEC study area.	**Yes**
Amphibian Breeding Habitat (Woodland and Wetland)	Wildlife and Wildlife Habitat	• Woodland (no minimum size) with a wetland, lake or pond, including breeding pools that may be permanent, seasonal or ephemeral; • Wetlands and vernal pools > 500 m^2 (about 25 m diameter), supporting high species diversity and larger sites of suitable habitat are important; • Some smaller wetlands or vernal pools may also be important breeding pools for amphibians; • Vernal pools or ponds that contain water until mid-July in most years are more likely to be important; • Vernal pools or ponds with presence of shrubs and logs around the edges are more important because of increased structure for calling, foraging, escape and concealment from predators; and • Bullfrogs require permanent water bodies with abundant emergent vegetation. • Target species[1]: **Eastern Newt**[3,5,6], **Blue-spotted Salamander**[3,6], **Spotted Salamader**[3,5], **Four-toed Salamader**[5], Northern Two-lined Salamander, **Spring Peeper**[3,5,6], **Wood Frog**[3,5,6], **American Toad**[3,5,6], **Gray Treefrog**[3,5,6], **Western Chorus Frog**[3,6], **Northern Leopard Frog**[3,5,6], **Pickerel Frog**[6], **Green Frog**[3,5,6], **Mink Frog**[3,5,6] and **Bullfrog**[3,5,6].	**Possibly**	**Possibly**	• Amphibian breeding habitats (woodland and wetland) may occur in association with unevaluated wetlands, vernal pools, lakes or ponds within wooded areas in the HIWEC study area. • According to the *Ontario Reptile and Amphibian Atlas* (Ontario Nature, 2014), there are 13 amphibian species recorded in the vicinity of the HIWEC study area, of which 11 are identified as target species for this IWH type. • A total of five (5) amphibian species were recorded in the HIWEC study area in 2013, all of which are identified as target species for this IWH type (AECOM, 2015e). In addition, Western Chorus Frog was possibly heard calling but was not confirmed (AECOM, 2015e). • A total of 13 amphibian species were recorded in the HIWEC study area in 2011 and 2012 (AECOM 2015e; Neegan Burnside Ltd., 2011), of which 11 are identified as target species for this IWH type. In addition, Western Chorus Frog was possibly recorded as incidental wildlife but not confirmed by LGL (AECOM, 2015h). • Collectively, 14 of the target species for this IWH type have been observed in the HIWEC study area.	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Mast Producing Areas	Wildlife and Wildlife Habitat	• Mature forests ≥0.5 ha in size and containing numerous large Beech and / or Red Oak trees. • Targeted species[1]: **Black Bear**[3,4], **White-tailed Deer**[3,4], **Wild Turkey**[2] and **Ruffed Grouse**[2,3].	**Possibly**	**Possibly**	• Mature forests may occur within the wooded areas in the HIWEC study area (AECOM, 2015g). • According to the OBBA (BSC *et al.,* 2006), and *Atlas of the Mammals of Ontario* (Dobbyn, 1994), all four (4) of the target species for this IWH type have been recorded in the vicinity of the HIWEC study area. • Black Bear, White-tailed Deer and Ruffed Grouse (*Bonasa umbellus*) were recorded with the HIWEC study area in 2013 (AECOM, 2015h). • All four (4) of the target species for this IWH type have been recorded in the vicinity of the HIWEC study area.	**Yes**
Habitat for Species of Conservation Concern (SOCC)						
Marsh Bird Breeding Habitat	Wildlife and Wildlife Habitat	• Wetland habitats (meadow marshes, shallow marshes and shallow aquatic communities), including individual wetlands or complexes of smaller wetlands that are at ≥2 ha in size; • Wetland habitats containing shallow water and emergent aquatic vegetation; • For Green Heron, habitat consists of deciduous or mixed swamps that are ≥ 0.5 ha in size and located adjacent to wetland habitat identified in the point above; and • For Green Heron, habitat is usually at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. • Target species[1]: **American Bittern**[2,3], Sora, **Red-necked Grebe**[3], **Pied-billed Grebe**[2], **Redhead**[3], **Ring-necked Duck**[3], **Lesser Scaup**[3], Ruddy Duck, Common Moorhen, **American Coot**[3], Wilson's Phalarope**, Common Loon**[2,3], **Sandhill Crane**[2,3], **Green Heron**[3], Sedge Wren, **Marsh Wren**[2], **Trumpeter Swan**[3], **Yellow Rail**[2,3] and **Black Tern**[3].	**Possibly**	**Possibly**	• Unevaluated wetlands within the HIWEC study area may provide suitable marsh bird breeding habitat (AECOM, 2015g). • According to the OBBA (BSC *et al.,* 2006), there are records for six (6) marsh breeding bird species in the vicinity of the HIWEC study area, all of which are identified as target species for this IWH type. • A total of 12 marsh breeding bird species, all of which are identified as target species for this IWH type, were recorded in the HIWEC study area in 2011, 2012 and 2013 (AECOM, 2015b, 2015c, 2015d and 2015h). • Collectively, 14 of the target species for this IWH type have been recorded in the vicinity of the HIWEC study area.	**Yes**
Open Country Bird Breeding Habitat	Wildlife and Wildlife Habitat	• Grassland areas (includes natural and cultural fields and meadows) >30 ha in size, excluding Class 1 and 2 agricultural lands and lands actively used for farming (i.e., no row-cropping, intensive hay or livestock pasturing in the last 5 years). • Target species[1]: Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow and Short-eared Owl.	**No**	**No**	• There are no cultural meadows or grassland areas in the HIWEC study area that meet the size criterion to support this type of IWH (AECOM, 2015g).	**No**
Shrub / Early Successional Bird Breeding Habitat	Wildlife and Wildlife Habitat	• Shrublands or successional fields >10 ha in size, excluding Class 1 or 2 agricultural lands and lands actively used for farming (i.e., no row-cropping, intensive hay or livestock pasturing in the last 5 years). • Target species[1]: Willow Flycatcher, Brown Thrasher, Blue-winged Warbler, Tennessee Warbler, Prairie Warbler, Eastern Towhee, Clay-colored Sparrow, Field Sparrow and Golden-winged Warber.	**No**	**No**	• There are no cultural meadows, grassland areas or agricultural fields in the HIWEC study area large enough to support this type of IWH (AECOM, 2015g).	**No**
Habitat for Species of Conservation Concern (SOCC)						
Refer to **Table 3-2** in **Section 3.1** for a detailed list of the SOCC identified through the Records Review.						
Animal Movement Corridors						
Amphibian Corridors	Wildlife and Wildlife Habitat	• Corridors will be determined based on identifying Important Amphibian Breeding Habitat (Woodland and Wetland); • Corridors should consist of native vegetation with no gaps such as roads, fields, waterways or waterbodies; and • Corridors should be at least 200 m wide with gaps < 20 m and, if following riparian area, with at least 15 m of vegetation on both sides of the waterway.	**Possibly**	**Possibly**	• Amphibian corridors may occur in association with riparian or naturally vegetated areas in the HIWEC study area. • Refer to Amphibian Breeding Habitats (Woodland and Wetland) in this table for the amphibian species recorded in the HIWEC study area.	**Yes**
Cervid Movement Corridors	Wildlife and Wildlife Habitat	• Corridors will be determined based on identifying Important Deer Yarding Areas, Aquatic Feeding Habitats and / or Mineral Licks; • Corridors should consist of native vegetation and should be unbroken by roads and residential areas; • Corridors should be at least 200 m wide with gaps < 20 m and, if following riparian area, with at least 15 m of vegetation on both sides of the waterway; and • Shorter corridors are more important than longer corridors.	**Possibly**	**Possibly**	• Cervid movement corridors may occur in association with Deer Yarding Areas, Aquatic Feeding Habitats or Mineral Licks in the HIWEC study area.	**Yes**

Table 3-1: Results of Records Review

Type of Feature	Valued Ecosystem Component	Characteristics of Feature	Located within HIWEC Study Area (Yes / No)	Located in or within 120 m of HIWEC Location (Yes / No)	Details	Carried Forward to the Site Investigation (Yes / No)
Furbearer Movement Corridors	Wildlife and Wildlife Habitat	• All forested Ecosites adjacent to or within shoreline habitats; and • Only denning sites for Mink and Otter are to be considered for an animal movement corridor.	**Possibly**	**Possibly**	• Furbearer movement corridors may occur in association with shoreline habitats along lakes, ponds and watercourses in the HIWEC study area. • Refer to the Denning Sites for Mink, Otter, Marten, Fisher and Eastern Wolf in this table for the mammal species recorded in the HIWEC study area.	**Yes**

Notes:

1. *Target species are included for each IWH as presented in the Draft Significant Wildlife Habitat Ecoregion 5E Criterion Schedule (MNRF, 2012b). Bolded species names represent species for which there are records in the vicinity of the HIWEC study area based on various secondary sources.*
2. *Species was recorded in the Ontario Breeding Bird Atlas (BSC et al., 2006) in the vicinity of the HIWEC study area.*
3. *Species were recorded by LGL or Stantec in the HIWEC study area during 2011, 2012 or 2013 field studies as summarized in the Technical Reports prepared by AECOM (refer to **Appendix A**).*
4. *Species was recorded in the Atlas of the Mammals of Ontario (Dobbyn, 1994) in the vicinity of the HIWEC study area.*
5. *Species was recorded was recorded in the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2014) in the vicinity of the HIWEC study area.*
6. *Species was recorded by LGL in 2011 as reported in the Nigig Power Corp / Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis (Neegan Burnside Ltd., 2011) in the HIWEC study area.*
7. *Species was identified by MNRF Parry Sound District as potentially occurring in the vicinity of the HIWEC study area (personal communication, June 29, 2015).*
8. *Species was identified by EC-CWS as potentially occurring in the vicinity of the HIWEC study area (personal communication, August 4, 2015).*

3.1 Species of Conservation Concern (SOCC)

For the purpose of this Records Review, SOCC include the following:

- Provincially rare species ranked by the Natural Heritage Information Centre (NHIC) as S1 (critically imperiled), S2 (imperiled) or S3 (vulnerable) in the province of Ontario but not listed as Endangered or Threatened under Schedule 1 of *SARA* or the *ESA*;
- Species listed as Special Concern under Schedule 1 of *SARA*;
- Species evaluated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Special Concern, Threatened or Endangered but not listed as Endangered or Threatened under Schedule 1 of *SARA* or the *ESA*; and
- Species listed as Special Concern under the *ESA*.

Table 3-2 lists the SOCC that were identified through the Records Review as occurring or having the potential to occur within the HIWEC study area. This table was compiled using results from searches of the NHIC database (MNRF, 2014b), various wildlife atlases, and observation records from LGL and Stantec during the 2011, 2012 and 2013 field seasons within the HIWEC study area, as well as agency correspondence.

In total, 23 SOCC have been recorded within the HIWEC study area and / or surrounding area. Long-tailed Duck (*Clangula hyemalis*), Lapland Longspur (*Calcarius lapponicus*), Great Black-backed Gull (*Larus marinus*), Rusty Blackbird (*Euphagus carolinus*) and Red-necked Grebe (*Podiceps grisegena*) are considered to be migrant species as their breeding ranges are not located in the vicinity of the HIWEC study area (Cadman *et al*., 2007). With the exception of these five (5) species, all of the remaining species have the potential of occurring in the HIWEC study area and were carried forward to the Site Investigation.

Table 3-2: Species of Conservation Concern (SOCC)

Common Name	Scientific Name	S-rank[1]	ESA Status[2]	COSEWIC Status[3]	SARA Status[4]	Preferred Habitat[5]	Source[6]	Observed in 2013[7] (Yes / No)	Observed in 2011 and / or 2012[8] (Yes / No)	Carried Forward to Site Investigation (Yes / No)
Bird Species (13)										
Bald Eagle	*Haliaeetus leucocephalus*	S2	SC	NAR	NAR	Species nests in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. They usually nest in large trees such as pine and poplar.	OBBA, MNRF (Parry Sound)	Yes	Yes	Yes
Black Tern	*Chlidonias niger*	S3	SC	NAR	NAR	Found in wetlands, coastal or inland marshes; large cattail marshes, marshy edges of rivers, lakes or ponds, wet open fens, wet meadows; returns to same area to nest each year in loose colonies; must have shallow (0.5 to 1 m deep) water and areas of open water near nests; requires marshes > 20 ha in size; feeds over adjacent grasslands for insects; also feeds on fish, crayfish and frogs.	N / A	Yes	No	Yes
Caspian Tern	*Sterna caspia*	S3	NAR	NAR	NAR	Prefers open habitat near large lakes or rivers, beaches, shorelines, rocky or sandy beaches, offshore islands; negatively affected by elevated water levels during nesting season; feeds on fish; often found in association with Ring-billed Gulls (*Larus delawarensis*).	N / A	Yes	Yes	Yes
Eastern Wood-pewee	*Contopus virens*	S4	SC	SC	No Status (No Schedule)	Prefers open, deciduous or mixed forest ≥3 ha in size; with little understorey; forest clearings, edges; farm woodlots, parks.	OBBA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes
Great Black-backed Gull	*Larus marinus*	S2	-	-	-	Nests on flat rocky coastal islands, moorlands, rocky beaches, cliffs; nest is solitary or in small (rarely large) colonies.	N / A	No	Yes	No
Lapland Longspur	*Calcarius lapponicus*	S3	-	-	-	Breeds in arctic tundra in meadows, grassy tussocks, and scrubland (Hussell and Montgomerie, 2002).	N / A	No	Yes	No
Long-tailed Duck	*Clangula hyemalis*	S3	-	-	-	Breeds in ponds, streams and arctic wetlands (Robertson and Savard, 2002).	N / A	Yes	Yes	No
Peregrine Falcon	*Falco peregrinus*	S3	SC	SC	SC (Schedule 1)	Prefers rock cliffs, crags, especially situated near water; tall buildings in urban centres and cliffs ranging from 50 to 200 m in height (COSEWIC, 2007a).	MNRF (Parry Sound)	No	Yes	Yes
Prairie Warbler	*Setophaga discolor*	S3	NAR	NAR	NAR	Inhabits Precambrian rock barrens with scrubby Common Juniper, White Pine and Oak.	OBBA	Yes	No	Yes
Red-necked Grebe	*Podiceps grisegena*	S3	-	-	-	Prefers permanent freshwater lakes with a fringe of aquatic emergent vegetation; marshes, impoundments or sewage lagoons with > 4 ha of open water; protected marshy areas or bays in larger lakes; nest greatly affected by wave action of boats and other human disturbances.	N / A	Yes	No	No
Rusty Blackbird	*Euphagus carolinus*	S4	NAR	SC	SC (Schedule 1)	Prefers openings in coniferous woodlands bordering bodies of water; tree-bordered marshes, beaver ponds, muskegs, bogs, fens or wooded swamps; stream borders with alder, willow; wooded islands on lakes.	OBBA, EC-CWS	Yes	No	No
Wood Thrush	*Hylocichla mustelina*	S4	SC	THR	No Status (No Schedule)	Found in Carolinian and Great Lakes – St. Lawrence forest zones; prefers undisturbed moist mature deciduous or mixed forest >3 ha in size with deciduous sapling growth; hardwood forest edges; must have some trees higher than 12 m.	OBBA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes
Yellow Rail	*Coturnicops noveboracensis*	S4	SC	SC	SC (Schedule 1)	Prefers large, freshwater or brackish grass and sedge marshes with dense vegetation including bulrushes, horsetails and grasses.	OBBA, EC-CWS	Yes	No	Yes
Insect Species (4)										
Horned Clubtail	*Arigomphus cornutus*	S3	-	-	-	Found in permanent slow streams, rivers, lakes and ponds with vegetated edges. Also uses open meadows and woodlands as foraging and roosting habitat (Montana Natural Heritage Program, Date Unknown).	N / A	Yes	No	Yes
Monarch	*Danaus plexippus*	S2	SC	SC	SC (Schedule 1)	Found in meadows and open areas that contain an abundance of Common Milkweed (*Asclepias syriaca*), it's host food plant.	EC-CWS	Yes	No	Yes
Mottled Darner	*Aeshna clepsydra*	S3	-	-	-	Found in marshes, bogs, ponds, lakes and bays. Prefers wetlands with water lilies and clear water. Foraging habitat includes open woodlands and clearings (Pennsylvania Natural Heritage Program, Date Unknown).	N / A	Yes	No	Yes
Pine Imperial Moth	*Eacles imperialis pini*	S3?	-	-	-	Found in coniferous or mixed forests dominated by Red Pine (*Pinus resinosa*) or White Pine (NatureServe, 2015).	N / A	Yes	No	Yes
Mammal Species (1)										
Eastern Wolf	*Canis lupus lycaon*	S4	SC	THR	SC (Schedule 1)	Prefers deciduous and mixed forests in its southern range, and mixed and coniferous forests further north. Wolf packs require a home range of approximately 500 km^2.	EC-CWS	Not confirmed	No	Yes
Reptile Species (5)										
Common Five-lined Skink (Southern Shield population)	*Plestiodon fasciatus pop. 2*	S3	SC	SC	SC (Schedule 1)	Found primarily in rock barrens in this area but also in moderately dense or open deciduous or mixed woodlands with logs and slash piles; damp spots under logs, leaf litter, or sawdust; open talus slopes; lays and protects eggs under rocks, logs; forages in open woodlands, in sandy areas, along shores of lakes and islands; hibernates under rock piles, in rock crevices, under logs and in stumps.	ORAA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes

Table 3-2: Species of Conservation Concern (SOCC)

Common Name	Scientific Name	S-rank[1]	ESA Status[2]	COSEWIC Status[3]	SARA Status[4]	Preferred Habitat[5]	Source[6]	Observed in 2013[7] (Yes / No)	Observed in 2011 and / or 2012[8] (Yes / No)	Carried Forward to Site Investigation (Yes / No)
Eastern Ribbonsnake	*Thamnophis sauritus*	S3	SC	SC	SC (Schedule 1)	Found in sunny grassy areas with low dense vegetation near bodies of shallow permanent quiet water; wet meadows, grassy marshes or sphagnum bogs; borders of ponds, lakes or streams.	ORAA, MNRF (Parry Sound)	No	No	Yes
Milksnake	*Lampropeltis triangulum*	S3	SC	SC	SC (Schedule 1)	Found in farmlands, meadows, hardwood or aspen stands; pine forest with brushy or woody cover; hides under logs, stones, or boards or in outbuildings; often uses communal nest sites.	ORAA, MNRF (Parry Sound), EC-CWS	Yes	No	Yes
Northern Map Turtle	*Graptemys geographica*	S3	SC	SC	SC (Schedule 1)	Prefers large bodies of water with soft bottoms, and aquatic vegetation; basks on logs or rocks or on beaches and grassy edges, will bask in groups; uses soft soil or clean dry sand for nest sites; may nest at some distance from water; home range size is larger for females (about 70 ha) than males (about 30 ha) and includes hibernation, basking, nesting and feeding areas; aquatic corridors (e.g., stream) are required for movement.	ORAA, MNRF (Parry Sound)	No	Not confirmed	Yes
Snapping Turtle	*Chelydra serpentina*	S3	SC	SC	SC (Schedule 1)	Prefers permanent, semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water; home range size of approximately 28 ha.	ORAA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes

[1] ***S-rank:*** *The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. Definitions are as follows:*
S1 Extremely rare in Ontario; usually five (5) or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.
S2 Very rare in Ontario; usually between five (5) and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.
S3 Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.
S4 Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.
S5 Very common and demonstrably secure in Ontario.
SH Possibly Extirpated (Historical). Species or community occurred historically in the nation or province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years.
S#S# A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.
S#? Rank uncertain.

[2] ***ESA Status:*** *The Endangered Species Act 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:*
END *(Endangered) – A species facing imminent extinction or extirpation in Ontario.*
THR *(Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.*
SC *(Special Concern) – A species that may become threatened or endangered due to a combination of biological characteristics and identified threats.*
NAR *(Not at Risk) – A species that has been evaluated and found to be not at risk.*

[3] ***COSEWIC Status:*** *The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) evaluates a federal status ranking for all species that it assesses. Rankings include the following:*
END *(Endangered) – A species facing imminent extirpation or extinction throughout its range.*
THR *(Threatened) – A species likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.*
SC *(Special Concern) – A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events, but does not include an extirpated, endangered or threatened species.*
NAR *(Not at Risk) – A species that has been evaluated and found to be not at risk.*

[4] ***SARA Status****: The Species at Risk Act (SARA) protects Species at Risk designated as Endangered, Threatened and Extirpated listed under Schedule 1, including their habitats on federal land. Schedule 1 of SARA is the official list of wildlife species at risk in Canada and includes species listed as Extirpated, Endangered, Threatened and of Special Concern. Once a species is listed on Schedule 1, they receive protection and recovery measures that are required to be developed and implemented under SARA. Species that were designated at risk by COSEWIC before SARA need to be reassessed based on the new criteria of the Act before they can be listed under Schedule 1. These species that are waiting to be listed under Schedule 1 do not receive official protection under SARA. Once the species on other schedules (2 and 3) have been reassessed, the other schedules are eliminated and the species is either listed under Schedule 1 or is not listed under the Act.*
The following are definitions of the SARA status rankings assigned to each species in the table above:
END (Schedule 1) *– These species are listed as Endangered under Schedule 1 of SARA and receive species and habitat protection under SARA, as well as recovery strategies and action plans.*
THR (Schedule 1) *– These species are listed as Threatened under Schedule 1 of SARA and receive species and habitat protection under SARA, as well as recovery strategies and action plans.*
SC (Schedule 1) *– These species are listed as Special Concern under Schedule 1 of SARA and receive management initiatives under SARA to prevent them from becoming endangered and threatened.*
No Status (No Schedule) *– These species are evaluated and designated by COSEWIC but are not listed under Schedule 1 and therefore do not receive protection under SARA.*
NAR (Not at Risk) *– These species have either been assessed by COSEWIC as Not at Risk or there is not enough data to assess the status ranking of the species and therefore these are not listed on Schedule 1 nor do they receive protection under SARA.*
Not Applicable (N / A) *– These species have either been assessed by COSEWIC as Not at Risk or there is not enough data to assess the status ranking of the species and therefore these are not listed on Schedule 1 nor do they receive protection under SARA.*
Source: Government of Canada, 2009: Frequently Asked Questions: What are the SARA schedules? Accessed on February 2015. Available: http://www.dfo-mpo.gc.ca/species-especes/faq/faq-eng.htm

[5] ***Prefered Habitat:*** *Habitat descriptions for species were taken from Appendix G of the Significant Wildlife Habitat Technical Guide (MNRF, 2000), unless indicated otherwise.*

[6] ***Source:*** ***Environment Canada – Canadian Wildlife Service (EC-CWS)****, personal communication, August 4, 2015.*
Natural Heritage Information Centre (NHIC) – *Ontario Ministry of Natural Resources and Forestry (MNRF), 2014b: Natural Heritage Information Centre (NHIC). Accessed January 2015. Available: http://nhic.mnr.gov.on.ca/nhic_.cfm*
Ontario Breeding Bird Atlas (OBBA) – *Bird Studies Canada (BSC), Environment Canada's Canadian Wildlife Service (EC-CWS), Ontario Nature, Ontario Field Ornithologists (OFO) and Ontario Ministry of Natural Resources and Forestry (MNFR). 2006: Ontario Breeding Bird Atlas Website. Accessed January 2015. Available: http://www.birdsontario.org/atlas/index.jsp*
Ontario Reptile and Amphibian Atlas (ORAA) – *Ontario Nature, 2014: Ontario Reptiles and Amphibian Atlas. Last Modified on March 2014. Accessed February 2015. Available at: http://www.ontarionature.org/protect/species/reptiles_and_amphibians/*
Atlas of the Mammals of Ontario (OMA) – *Dobbyn, J.S., 1994: Atlas of the Mammals of Ontario. Ontario: Federation of Ontario Naturalists.*
MNRF (Parry Sound) – *Ontario Ministry of Natural Resources and Forestry (MNRF), 2014c: Species at Risk by Area (Parry Sound) Online Search Tool. Accessed February 2015. Available: https://www.ontario.ca/environment-and-energy/species-risk-area; MNRF Parry Sound District (personal communication, June 29, 2015).*
N/A – *Not applicable.*

[7] *Species was recorded by Stantec in the HIWEC study area during the 2013 field season as summarized in the Technical Reports prepared by AECOM (refer to* ***Appendix A****).*

[8] *Species was recorded by LGL within or in the vicinity of the HIWEC study area in 2011 or 2012, as reported in the Nigig Power Corp / Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis (Neegan Burnside Ltd., 2011) or the Technical Reports prepared by AECOM (refer to* ***Appendix A****).*

3.2 Species at Risk

3.2.1 Federal Species at Risk

Species listed as Endangered and Threatened under Schedule 1 of *SARA* are protected and may require permits and / or authorization administered by EC-CWS if the proposed HIWEC negatively affects the species or its habitat. Permit requirements, if any, will be determined in consultation with EC-CWS. There is no provincial requirement or guidance for completing an NHA on Federal Species at Risk, however these species are included in the NHA to ensure that potential effects of the HIWEC and mitigation measures, if required, are appropriately addressed through the HIWEC EA.

Table 3-3 lists the Federal Species at Risk that were identified through the Records Review as occurring or having the potential to occur within the HIWEC study area. This table was compiled using results from searches of the NHIC database (MNRF, 2014b), various wildlife atlases, and observation records from LGL and Stantec during the 2011, 2012 and 2013 field seasons within the HIWEC study area, as well as agency correspondence.

In total, 17 Federal Species at Risk, including four (4) Endangered species, 12 Threatened species, and one (1) restricted species[1], have been recorded in the HIWEC study area or its vicinity. Of these, 15 species were recorded either by LGL or Stantec, in 2011, 2012 or 2013. In addition, although no records of Least Bittern (*Ixobrychus exilis*; listed under Schedule 1 of *SARA* as Threatened) were identified within the HIWEC study area through the Records Review, given its geographic range it is possible that this species and its habitat could be present within the HIWEC study area. Therefore, Least Bittern was included in **Table 3-3** and has been considered for further assessment during the Site Investigation.

Although Branched Bartonia is only known from ten (10) sites in Ontario within the Muskoka and Parry Sound Districts, which are located more than 50 km away from the HIWEC study area, MNRF Parry Sound District (personal communication, August 4, 2015) and EC-CWS (personal communication, June 29, 2015) indicated that there is potential for this species to occur within the HIWEC study area.

All of 18 of these Federal Species at Risk were carried forward to the Site Investigation, during which the presence of these species and their habitats within 120 m of the proposed HIWEC location will be investigated.

1. *Records of Species At Risk considered to be restricted are not being made public due to the threat of poaching experienced by these species. These records will be provided under a separate cover to the Ministry of Natural Resources and Forestry (MNRF) and / or Environment Canada – Canadian Wildlife Service (EC-CWS) for permitting purposes.*

Table 3-3: Federal Species at Risk

Common Name	Scientific Name	S-rank[1]	ESA Status[2]	COSEWIC Status[3]	SARA Status[4]	Preferred Habitat[5]	Source[6]	Observed in 2013[7] (Yes/No)	Observed in 2011 and / or 2012[8] (Yes/No)	Carried Forward to Site Investigation (Yes/No)
Amphibian Species (1)										
Western Chorus Frog (Great Lakes / St. Lawrence – Canadian Shield Population)	*Pseudacris triseriata pop. 1*	S3	NAR	THR	THR (Schedule 1)	Found in roadside ditches or temporary ponds in fields; swamps or wet meadows; woodland or open country with cover and moisture; small ponds and temporary pools.	ORAA, EC-CWS	Possibly but not confirmed	Possibly but not confirmed	Yes
Bird Species (7)										
Canada Warbler	*Cardellina canadensis*	S4	SC	THR	THR (Schedule 1)	This species breeds in moist mixed woods or deciduous forests with a dense, complex understorey (shrubs, downed trees, hummocks or ferns) near staring water or streams (EC, 2015a). Canada Warbler is an interior forest species that requires at least 30 ha of habitat which includes forested swamps, shrub thicket swamps, riparian woodland and moist forests.	OBBA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes
Chimney Swift	*Chaetura pelagica*	S4	THR	THR	THR (Schedule 1)	This species is commonly found in urban areas near buildings; nests in hollow trees, crevices of rock cliffs, and chimneys. This species feeds over open water. Large hollow trees (>60 cm DBH) such as White Pine, and Yellow Birch are used as nesting / roosting trees by the species (MNRF, 2013; COSEWIC, 2007b).	EC-CWS	No	Yes	Yes
Common Nighthawk	*Chordeiles minor*	S4	SC	THR	THR (Schedule 1)	This species breeds and forages in a wide range of habitats, including sandy areas (e.g., dunes and beaches), open forests (e.g., burns and clearcuts in mixed wood and coniferous stands), grasslands, wetlands (e.g., marshes, lakeshores and riverbanks), rock barrens and cultivated / landscaped areas (EC, 2015b).	OBBA, EC-CWS	Yes	Yes	Yes
Eastern Whip-poor-will	*Antrostomus vociferus*	S4	THR	THR	THR (Schedule 1)	The preferred habitats for this species are summarized below as described in the *Recovery Strategy for the Eastern Whip-poor-will (Antrostomus vociferus) in Canada* (EC, 2015c): • *Nesting habitat* ▪ Well-drained soils (sand or sandy-loam), sparse to dense tree cover, and sparse to moderate shrub and herbaceous cover; ▪ Include most types of forest (deciduous, mixed, or coniferous), forests at early successional stages, forest edges, rock or sand barrens with scattered trees, savannahs, old burns; ▪ Prefers open forest to closed canopy; and ▪ Adjacent to open habitats required for foraging. • *Foraging habitat* ▪ Include areas of low tree cover and an availability of foraging perches (e.g., sparse forests, prairies, shrubby wetlands, regenerating clearcuts, rock and sand outcrops, agricultural fields); and ▪ Foraging usually takes place within 500 m of nest.	OBBA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes
Golden-winged Warbler	*Vermivora chrysoptera*	S4	SC	THR	THR (Schedule 1)	Prefers a mosaic of mature and disturbed habitat in close proximity to each other. The Golden-winged Warbler typically nests and forages within early successional habitats created by natural disturbance and those that contain herbaceous elements (e.g., grasses and forbs) woody shrubs / saplings, and scattered canopy trees (EC, 2014b). It requires nesting and foraging habitat patches within a primarily deciduous or mixed forested landscape (must be a shared edge between forests and open / shrub habitat). It nests in loose colonies that can contain up to ten (10) pairs of breeding birds. Nesting habitat for this species tends to be associated with open or disturbed habitat (10 to 30 years into succession) such as hydro / utility right-of-ways, field edges, recently logged areas and beaver marshes with patches of herbs and low shrubs for nesting located adjacent to forested edges that are used for perching and foraging. This species also uses habitats that exhibit characteristics of early succession, e.g., alder (*Alnus* spp.) swamps, Tamarack (*Larix laricina*) bogs, open Jack Pine (*Pinus banksiana*), beaver meadows and shrubby stream borders (EC, 2014).	OBBA, MNRF (Parry Sound), EC-CWS	No	No	Yes
Least Bittern	*Ixobrychus exilis*	S4	THR	THR	THR (Schedule 1)	Found in deep marshes, thicket swamps, bogs; marshy borders of lakes, ponds, streams, ditches; dense emergent vegetation of cattail, bulrush, sedge; nests in cattails; prefers large wetland with good interspersion of emergent marsh and open water (COSEWIC, 2009).	N / A	No	No	Yes
Olive-sided Flycatcher	*Contopus cooperi*	S4	SC	THR	THR (Schedule 1)	Prefers natural forest edges and openings. This species will use forests that have been logged or burned, if there are ample tall snags and trees to use for foraging perches. This species breeds and forages in open coniferous or mixed-coniferous forests often near water or wetlands with the presence of tall snags from which the species relies for prey; prefer mature conifer stands in a mosaic of wet areas and clearings created by natural disturbance (e.g., recent burns) (EC, 2015d). In Ontario, Olive-sided Flycatchers commonly nest in conifers such as White and Black Spruce, Jack Pine and Balsam Fir.	OBBA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes

Table 3-3: Federal Species at Risk

Common Name	Scientific Name	S-rank[1]	ESA Status[2]	COSEWIC Status[3]	SARA Status[4]	Preferred Habitat[5]	Source[6]	Observed in 2013[7] (Yes/No)	Observed in 2011 and / or 2012[8] (Yes/No)	Carried Forward to Site Investigation (Yes/No)
Mammal Species (3)										
Little Brown Bat	*Myotis lucifugus*	S4	END	END	END (Schedule 1)	Uses caves, quarries, tunnels, hollow trees or buildings for roosting; winters in humid caves; maternity sites can be found in dark warm areas such as attics and barns, as well as cavity trees; feeds primarily over wetlands, forests and forest edges (COSEWIC, 2013).	OMA, MNRF (Parry Sound), EC-CWS	Possibly but not confirmed	Yes	Yes
Northern Myotis	*Myotis septentrionalis*	S4	END	END	END (Schedule 1)	Typically overwinters in mines or caves; in the spring, females leave winter hibernacula to give birth and raise pups in maternity colonies which may contain hundreds of females; maternity sites of this species are rarely found in houses or other manmade structures, as the species prefers to roost in large cavity trees, typically ranging from 25 to 44 cm diameter-at-breast-height (COSEWIC, 2013).	OMA, MNRF (Parry Sound), EC-CWS	Possibly but not confirmed	Yes	Yes
Tri-coloured Bat	*Perimyotis subflavus*	S3?	END	END	END (Schedule 1)	Typically overwinters in the deepest part of caves where temperature and humidity levels are the most stable; maternity sites are typically found in cavity trees, and females may return to the same area and use the same few trees per year (COSEWIC, 2013).	EC-CWS	Possibly but not confirmed	Yes	Yes
Plant Species (1)										
Branched Bartonia	*Bartonia paniculata ssp. paniculata*	S1	THR	THR	THR (Schedule 1)	Grows in sphagnum bogs (COSEWIC, 2003).	MNRF (Parry Sound), EC-CWS	No	No	Yes
Reptile Species (5)										
Blanding's Turtle	*Emydoidea blandingii*	S3	THR	THR (Schedule 1)	THR (Schedule 1)	The preferred habitats for this species are summarized below as described in the *Recovery Strategy for the Blanding's Turtle (Emydoidea blandingii), Nova Scotia Population, in Canada* (Parks Canada, 2012): • *Overwintering habitat (September / October to March / April)* ▪ Dense aggregations of individuals may occur; ▪ Mating activity occurs at sites in the fall and basking activity occurs in nearby areas in the spring; and ▪ Includes wooded pools or channels, specific sections of streams or wetlands, sites with deep organic sediment or undercut banks. • *Summer habitat (April to late September)* ▪ Areas with shallow (<2 m deep) water (e.g., fens, bogs, vernal pools, slow flowing streams), abundant aquatic vegetation, and deep organic substrate (few rocks). • *Nesting habitat (evenings in June to early July)* ▪ Females may spend several days at or near the site prior to nesting; ▪ Include a variety of habitats that are a variable distance from water; ▪ Sites often southwest facing (require adequate exposure to sunlight); ▪ Also require exposed substrate (gravel, soil or sand) in which the turtle can dig a nest; ▪ Includes lakeshores, beaches, woodland outcrops, gravel pits, roadsides; and ▪ Hatchlings emerge from late August to mid-October and may remain in the vicinity of the nest for several days before dispersing. • *Travel routes* ▪ Blanding's turtles can move considerable distance among seasonal habitats; and ▪ Variety of terrestrial and aquatic habitats (e.g., woodlands, meadows, along water body boundaries, through wetlands and vernal pools).	ORRA, MNRF (Parry Sound), NHIC, EC-CWS	Yes	Yes	Yes
Eastern Foxsnake (Georgian Bay population)	*Pantherophis gloydi pop. 1*	S3	THR	END	END (Schedule 1)	Found in shrub swamps and marshes; deciduous forest containing openings with shrubs and saplings; prefer woodland-marsh edges for hunting and breeding. The Georgian Bay population only occurs within 1 km of Georgian Bay (including inlets) and will move through any habitats near this shoreline (COSEWIC, 2008).	ORAA, MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes
Eastern Hog-nosed Snake	*Heterodon platirhinos*	S3	THR	THR	THR (Schedule 1)	Found in sandy upland fields, pastures, savannahs, sandy beaches; dry open oak-pine-maple forest with sandy soils; prefer forest areas > 5 ha in size (MNRF, 2000). This species prefers forested areas and wetlands and is more likely found in areas with a diverse habitat mosaic (Seburn, 2008). Physical characteristics of preferred habitat include well-drained soil, a loose or sandy soil, open vegetation cover, proximity to water and climatic conditions of the eastern deciduous forest (Seburn, 2008 and COSEWIC, 2007c).	ORAA, MNRF (Parry Sound), EC-CWS	No	No	Yes

Table 3-3: Federal Species at Risk

Common Name	Scientific Name	S-rank[1]	ESA Status[2]	COSEWIC Status[3]	SARA Status[4]	Preferred Habitat[5]	Source[6]	Observed in 2013[7] (Yes/No)	Observed in 2011 and / or 2012[8] (Yes/No)	Carried Forward to Site Investigation (Yes/No)
Eastern Musk Turtle	*Sternotherus odouratus*	S3	SC	SC[9]	THR (Schedule 1)	Prefers shallow slow moving water of lakes, streams, marshes and ponds; hibernate in underwater mud, in banks or in muskrat lodges; eggs are laid in debris or under stumps or fallen logs at water's edge; often share nest sites; sometimes congregate at hibernation sites (MNRF, 2000). This species prefers shallow water with depths <2 m with abundant floating and submerged vegetation. Nest sites are located 3 to 11 m from the shoreline and are laid in shallow excavations in sand, base of dune grasses, decaying vegetation matter, and sometimes in the walls of Muskrat or Beaver lodges (COSEWIC, 2012).	ORAA, MNRF (Parry Sound), NHIC, EC-CWS	No	Yes	Yes
Massasauga Rattlesnake (Great Lakes / St. Lawrence population)	*Sistrurus catenatus pop. 1*	S3	THR	Non-Active	THR (Schedule 1)	The preferred habitats for this species are summarized below as described in the *Recovery Strategy for the Massasauga (Sistrurus catenatus) in Canada* (Parks Canada Agency, 2013): • *Hibernation sites* ▪ Hibernation may occur in small groups; ▪ Habitat includes conifer or shrub swamps and swales, poor fens, or water saturated soils formed in rock barren depressions characterized by sparse tree cover or shrubs with sphagnum moss or sedge hummocks; and ▪ Site needs to provide insulated and moist subterranean spaces below the frost line (e.g., burrows created by other animals, rock crevices, root systems, and sphagnum hummocks). • *Foraging and mating sites (May to October)* ▪ Prefer areas with low canopy cover (e.g., forest openings, old burn areas, rock barrens, marshes, fens and swamps, fields and grasslands) with surrounding vegetative cover (low lying shrubs, grass); and ▪ Avoids dense forests, open water, and areas lacking ground cover. • *Gestation and basking sites* ▪ The species gives birth to live young and gestation period is 3 months; ▪ Some sites may be used by multiple females; ▪ Similar to foraging and mating sites, gestation and basking sites are found in areas of low canopy cover (e.g., forest openings, bedrock outcrops, shorelines of water bodies, alvars) and high vegetative cover (e.g., low lying shrubs, grass); and ▪ Includes a feature that provides relatively warm refuge during cool weather (e.g., large flat and thin rock with crevices, rock piles, old tree stump, earth mounds, brush or debris pile).	ORAA, ORRA, MNRF (Parry Sound), NHIC, EC-CWS	Yes	Yes	Yes
Restricted Species (1)										
One (1) species	-	-	-	-	-	-	MNRF (Parry Sound), EC-CWS	Yes	Yes	Yes

[1] ***S-rank:*** *The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. Definitions are as follows:*
S1 Extremely rare in Ontario; usually five (5) or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.
S2 Very rare in Ontario; usually between five (5) and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.
S3 Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.
S4 Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.
S5 Very common and demonstrably secure in Ontario.
SH Possibly Extirpated (Historical). Species or community occurred historically in the nation or province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years.
S#S# A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.
S#? Rank uncertain.

[2] ***ESA Status:*** *The Endangered Species Act 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:*
END *(Endangered) – A species facing imminent extinction or extirpation in Ontario.*
THR *(Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.*
SC *(Special Concern) – A species that may become threatened or endangered due to a combination of biological characteristics and identified threats.*
NAR *(Not at Risk) – A species that has been evaluated and found to be not at risk.*

[3] ***COSEWIC Status:*** *The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) evaluates a federal status ranking for all species that it assesses. Rankings include the following:*
END *(Endangered) – A species facing imminent extirpation or extinction throughout its range.*
THR *(Threatened) – A species likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction*
SC *(Special Concern) – A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events, but does not include an extirpated, endangered or threatened species.*
NAR *(Not at Risk) – A species that has been evaluated and found to be not at risk.*

[4]***SARA Status***: *The Species at Risk Act (SARA) protects Species at Risk designated as Endangered, Threatened and Extirpated listed under Schedule 1, including their habitats on federal land. Schedule 1 of SARA is the official list of wildlife species at risk in Canada and includes species listed as Extirpated, Endangered, Threatened and of Special Concern. Once a species is listed on Schedule 1, they receive protection and recovery measures that are required to be developed and implemented under SARA. Species that were designated at risk by COSEWIC before SARA need to be reassessed based on the new criteria of the Act before they can be listed under Schedule 1. These species that are waiting to be listed under Schedule 1 do not receive official protection under SARA. Once the species on other schedules (2 and 3) have been reassessed, the other schedules are eliminated and the species is either listed under Schedule 1 or is not listed under the Act.*
The following are definitions of the SARA status rankings assigned to each species in the table above:
END (Schedule 1) *– These species are listed as Endangered under Schedule 1 of SARA and receive species and habitat protection under SARA, as well as recovery strategies and action plans.*
THR (Schedule 1) *– These species are listed as Threatened under Schedule 1 of SARA and receive species and habitat protection under SARA, as well as recovery strategies and action plans.*
SC (Schedule 1) *– These species are listed as Special Concern under Schedule 1 of SARA and receive management initiatives under SARA to prevent them from becoming endangered and threatened.*
No Status (No Schedule) *– These species are evaluated and designated by COSEWIC but are not listed under Schedule 1 and therefore do not receive protection under SARA.*
NAR (Not at Risk)– *These species have either been assessed by COSEWIC as Not at Risk or there is not enough data to assess the status ranking of the species and therefore these are not listed on Schedule 1 nor do they receive protection under SARA.*
Not Applicable (N / A) *– These species have either been assessed by COSEWIC as Not at Risk or there is not enough data to assess the status ranking of the species and therefore these are not listed on Schedule 1 nor do they receive protection under SARA.*
Source: Government of Canada, 2009: Frequently Asked Questions: What are the SARA schedules? Accessed on February 2015. Available: http://www.dfo-mpo.gc.ca/species-especes/faq/faq-eng.htm

[5]***Prefered Habitat:*** *Habitat descriptions for species were taken from Appendix G of the Significant Wildlife Habitat Technical Guide (MNRF, 2000), unless indicated otherwise.*

[6]***Source:*** ***Environment Canada – Canadian Wildlife Service (EC-CWS)****, personal communication, August 4, 2015*
Natural Heritage Information Centre (NHIC) – *Ontario Ministry of Natural Resources and Forestry (MNRF), 2014b: Natural Heritage Information Centre (NHIC). Accessed January 2015. Available: http://nhic.mnr.gov.on.ca/nhic_.cfm*
Ontario Breeding Bird Atlas (OBBA) – *Bird Studies Canada (BSC), Environment Canada's Canadian Wildlife Service (EC-CWS), Ontario Nature, Ontario Field Ornithologists (OFO) and Ontario Ministry of Natural Resources and Forestry (MNFR). 2006: Ontario Breeding Bird Atlas Website. Accessed January 2015. Available: http://www.birdsontario.org/atlas/index.jsp*
Ontario Reptile and Amphibian Atlas (ORAA) – *Ontario Nature, 2014: Ontario Reptiles and Amphibian Atlas. Last Modified on March 2014. Accessed February 2015. Available at: http://www.ontarionature.org/protect/species/reptiles_and_amphibians/*
Atlas of the Mammals of Ontario (OMA) – *Dobbyn, J.S., 1994: Atlas of the Mammals of Ontario. Ontario: Federation of Ontario Naturalists.*
MNRF (Parry Sound) – *Ontario Ministry of Natural Resources and Forestry (MNRF), 2014c: Species at Risk by Area (Parry Sound) Online Search Tool. Accessed February 2015. Available: https://www.ontario.ca/environment-and-energy/species-risk-area; MNRF Parry Sound District (personal communication, June 29, 2015).*
N/A – *Not applicable.*

[7] *Species was recorded by Stantec in the HIWEC study area during the 2013 field season as summarized in the Technical Reports prepared by AECOM (refer to* ***Appendix A****).*

[8] *Species was recorded by LGL within or in the vicinity of the HIWEC study area in 2011 or 2012 as reported in the Nigig Power Corp / Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis (Neegan Burnside Ltd., 2011) or the Technical Reports prepared by AECOM (refer to* ***Appendix A****).*

[9] *Eastern Musk Turtle has been recently down listed from Threatened to Special Concern by COSEWIC but this change has not yet been updated under Schedule 1 of SARA. Therefore this species designation as Threatened under Schedule 1 of SARA may change in the future.*

3.2.2 Provincial Species at Risk

Species listed as Endangered or Threatened under the *ESA* but not listed under Schedule 1 of *SARA* are treated as Provincial Species at Risk for the purpose of this Records Review. There is no provincial requirement or guidance for completing an NHA on Provincial Species at Risk, however these species are included in the NHA to ensure that potential effects of the HIWEC and mitigation measures, if required, are appropriately addressed through the HIWEC EA.

Table 3-4 lists the Provincial Species at Risk that were identified as occurring or having the potential to occur within the HIWEC study area. This table was compiled using results from searches of the NHIC database (MNRF, 2014b), various wildlife atlases, and observation records from LGL and Stantec during the 2011 and 2013 field seasons within the HIWEC study area, as well as agency correspondence.

In total, five (5) Provincial Species at Risk, including four (4) Threatened species and one (1) Endangered species, have been recorded in the HIWEC study area and within its vicinity. Habitat descriptions for these species as described in Appendix G of the *Significant Wildlife Habitat Technical Guide* (MNRF, 2000) are provided in **Table 3-4**.

Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*), both designated as Threatened under the *ESA*, are considered unlikely to occur in the HIWEC study area, which does not contain any large open grassy fields, meadows or agricultural lands that could support suitable breeding habitat for these species (AECOM, 2015g; MNRF, 2014c). Barn Swallow (*Hirundo rustica*) was observed by LGL in 2011 in the vicinity of the HIWEC study area. This species nests in man-made structures such as barns, other buildings, houses, bridges and road culverts (COSEWIC, 2011). With the exception of a small residential section located immediately west of Highway 69 on Bekanon Road, a few private cottages located on the north side of Henvey Inlet and a few cabins, the majority of the HIWEC study area is undeveloped. However, this species can also nest on cliffs which may be present within the HIWEC study area. Bank Swallow (*Riparia riparia*) was indicated by the MNRF Parry Sound District to potentially occur in the HIWEC study area. This species prefers to nest in steep river banks composed of sand, clay or gravel, cliffs and also gravel pits (MNRF, 2000). Since this species can also nest on cliffs, Bank Swallow may be present within the HWIEC study area. Golden Eagle (*Aquila chrysaetos*) was observed by Stantec in 2013 in the HIWEC study area (AECOM, 2015a). However, the species was likely just flying over, which does not indicate evidence of breeding in the area. Furthermore, the HIWEC study area is located outside of the breeding range for this species (Cadman, *et al.* 2007) and therefore the individual that was observed was likely a non-breeding migrant. For these reasons, only Barn Swallow and Bank Swallow were carried forward to the Site Investigation. The remaining three (3) species are unlikely to occur in the HIWEC study area and were not carried forward to the Site Investigation.

Table 3-4: Provincial Species at Risk

Common Name	Scientific Name	S-rank[1]	ESA Status[2]	COSEWIC Status[3]	SARA Status[4]	Preferred Habitat[5]	Source[6]	Observed in 2013[7] (Yes/No)	Observed in 2011 and / or 2012[8] (Yes/No)	Carried Forward to Site Investigation (Yes/No)
Bird Species (5)										
Bank Swallow	*Riparia riparia*	S4	THR	THR	No Status (No Schedule)	Prefers sand, clay or gravel river banks or steep riverbank cliffs; lakeshore bluffs of easily crumbled sand or gravel; gravel pits, road-cuts, grassland or cultivated fields that are close to water.	MNRF (Parry Sound)	No	No	Yes
Barn Swallow	*Hirundo rustica*	S4	THR	THR	No Status (No Schedule)	Prefers farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures for nesting; forages widely over open country near bodies of water.	OBBA, MNRF (Parry Sound)	No	No	Yes
Bobolink	*Dolichonyx oryzivorus*	S4	THR	THR	No Status (No Schedule)	Prefers large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland > 50 ha in size.	OBBA, MNRF (Parry Sound)	No	Yes	No
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	No Status (No Schedule)	Prefers open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees; old orchards with adjacent, open grassy areas > 10 ha in size.	OBBA, MNRF (Parry Sound)	No	No	No
Golden Eagle	*Aquila chrysaetos*	S2	END	NAR	NAR	Prefers wild, arid plateaus, deeply cut by streams and canyons or sparsely treed slopes and rock crags.	N / A	Yes	No	No

[1] ***S-rank:*** *The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. Definitions are as follows:*
- *S1 Extremely rare in Ontario; usually five (5) or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.*
- *S2 Very rare in Ontario; usually between five (5) and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.*
- *S3 Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.*
- *S4 Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.*
- *S5 Very common and demonstrably secure in Ontario.*
- *SH Possibly Extirpated (Historical). Species or community occurred historically in the nation or province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years.*
- *S#S# A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.*
- *S#? Rank uncertain.*

[2] ***ESA Status:*** *The Endangered Species Act 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:*
END *(Endangered) – A species facing imminent extinction or extirpation in Ontario.*
THR *(Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.*
SC *(Special Concern) – A species that may become threatened or endangered due to a combination of biological characteristics and identified threats.*
NAR *(Not at Risk) – A species that has been evaluated and found to be not at risk.*

[3] ***COSEWIC Status:*** *The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) evaluates a federal status ranking for all species that it assesses. Rankings include the following:*
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[4] ***SARA Status****:* *The Species at Risk Act (SARA) protects Species at Risk designated as Endangered, Threatened and Extirpated listed under Schedule 1, including their habitats on federal land. Schedule 1 of SARA is the official list of wildlife species at risk in Canada and includes species listed as Extirpated, Endangered, Threatened and of Special Concern. Once a species is listed on Schedule 1, they receive protection and recovery measures that are required to be developed and implemented under SARA. Species that were designated at risk by COSEWIC before SARA need to be reassessed based on the new criteria of the Act before they can be listed under Schedule 1. These species that are waiting to be listed under Schedule 1 do not receive official protection under SARA. Once the species on other schedules (2 and 3) have been reassessed, the other schedules are eliminated and the species is either listed under Schedule 1 or is not listed under the Act.*
The following are definitions of the SARA status rankings assigned to each species in the table above:
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Not Applicable (N / A) *– These species have either been assessed by COSEWIC as Not at Risk or there is not enough data to assess the status ranking of the species and therefore these are not listed on Schedule 1 nor do they receive protection under SARA.*
Source: Government of Canada, 2009: Frequently Asked Questions: What are the SARA schedules? Accessed on February 2015. Available: http://www.dfo-mpo.gc.ca/species-especes/faq/faq-eng.htm

[5] ***Prefered Habitat:*** *Habitat descriptions for species were taken from Appendix G of the Significant Wildlife Habitat Technical Guide (MNRF, 2000), unless indicated otherwise.*

[6] ***Source:*** ***Environment Canada – Canadian Wildlife Service (EC-CWS)****, personal communication, August 4, 2015*
Natural Heritage Information Centre (NHIC) – *Ontario Ministry of Natural Resources and Forestry (MNRF), 2014b: Natural Heritage Information Centre (NHIC). Accessed January 2015. Available: http://nhic.mnr.gov.on.ca/nhic_.cfm*
Ontario Breeding Bird Atlas (OBBA) – *Bird Studies Canada (BSC), Environment Canada's Canadian Wildlife Service (EC-CWS), Ontario Nature, Ontario Field Ornithologists (OFO) and Ontario Ministry of Natural Resources and Forestry (MNFR). 2006: Ontario Breeding Bird Atlas Website. Accessed January 2015. Available: http://www.birdsontario.org/atlas/index.jsp*
Ontario Reptile and Amphibian Atlas (ORAA) – *Ontario Nature, 2014: Ontario Reptiles and Amphibian Atlas. Last Modified on March 2014. Accessed February 2015. Available at: http://www.ontarionature.org/protect/species/reptiles_and_amphibians/*
Atlas of the Mammals of Ontario (OMA) – *Dobbyn, J.S., 1994: Atlas of the Mammals of Ontario. Ontario: Federation of Ontario Naturalists.*
MNRF (Parry Sound) – *Ontario Ministry of Natural Resources and Forestry (MNRF), 2014c: Species at Risk by Area (Parry Sound) Online Search Tool. Accessed February 2015. Available: https://www.ontario.ca/environment-and-energy/species-risk-area; MNRF Parry Sound District (personal communication, June 29, 2015).*
N/A – *Not applicable.*

[7] *Species was recorded by Stantec in the HIWEC study area during the 2013 field season as summarized in the Technical Reports prepared by AECOM (refer to* ***Appendix A****).*

[8] *Species was recorded by LGL within or in the vicinity of the HIWEC study area in 2011 or 2012 as reported in the Nigig Power Corp / Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis (Neegan Burnside Ltd., 2011) or the Technical Reports prepared by AECOM (refer to* ***Appendix A****).*

3.3 Summary of Key Findings of the Records Review

Table 3-5 summarizes the natural features identified through the Records Review as occurring or potentially occurring within 120 m of the HIWEC location; these are the features that were carried forward to the Site Investigation. Site investigations will be conducted to confirm the presence, boundaries and characteristics of these features, as well as to determine whether any additional natural features are present within 120 m of the HIWEC location.

Table 3-5: Summary of Natural Features within the HIWEC Study Area Identified Through the Records Review

Feature	Results of Records Review
Provincial and Federal Parks	• There are no Federal or Provincial Parks located within 120 m of the HIWEC location.
Conservation Reserves	• The North Georgian Bay Shoreline and Islands Conservation Reserve is located within the HIWEC study area and within 120 m of the HIWEC location.
Provincially Important Wetlands	Provincially Important Wetlands (PIW): • No PIWs are located within the HIWEC study area or within 120 m of the HIWEC location. Unevaluated Wetlands: • Unevaluated wetlands are present within the HIWEC study area and may be present within 120 m of the HIWEC location. • The presence, boundaries and characteristics of these features will be determined during the Site Investigation.
Important Woodlands	• Wooded areas are present throughout the HIWEC study area.
Important ANSIs (Life and Earth Science)	• No Life Science or Earth Science ANSIs are present within the HIWEC study area or within 120 m of the HIWEC location.
Important Wildlife Habitat	• Several types of IWH have been identified as potentially occurring within the HIWEC study area and may occur within 120 m of the HIWEC location. • The presence, boundaries and characteristics of these features will be confirmed during the Site Investigation.
Federal Species at Risk	• In total, 18 Federal Species at Risk, including a restricted species, have the potential to occur within 120 m of the HIWEC location. • Permits and / or authorizations from EC-CWS may be required if the HIWEC location is proposed within the habitat of an identified Federal Species at Risk. • The presence of these 19 species and their habitats will be investigated during the Site Investigation.
Provincial Species at Risk	• In total, two (2) Provincial Species at Risk have the potential to occur within 120 m of the HIWEC location. • The presence of these two (2) species and their habitats will be investigated during the Site Investigation.

4. References

AECOM, 2015a:
Summary of 2011, 2012 and 2013 Raptor Migration Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015b:
Summary of 2011, 2012 and 2013 Passerine Migration Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015c:
Summary of 2013 Waterfowl Migration Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015d:
Summary of 2011, 2012 and 2013 Breeding Bird Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015e:
Summary of 2011, 2012 and 2013 Herpetological Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015f:
Summary of 2011, 2012 and 2013 Bat Acoustic Monitoring Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015g:
Summary of 2013 Ecosite Classification and Rare Flora Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015h:
Summary of 2011, 2012 and 2013 Incidental Wildlife Observations – Henvey Inlet Wind Energy Centre and Route B Transmission Line Study Areas. Prepared for Henvey Inlet Wind LP. September 2015.

AECOM, 2015i:
Consultation Report. Prepared for Henvey Inlet Wind LP. September 2015.

Bird Studies Canada (BSC), Environment Canada - Canadian Wildlife Service (EC-CWS), Ontario Nature, Ontario Field Ornithologists (OFO) and Ontario Ministry of Natural Resources and Forestry (MNFR). 2006:
Ontario Breeding Bird Atlas (OBBA) website. Accessed January 2015. Available: http://www.birdsontario.org/atlas/index.jsp

Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage and A.R. Couturier, (eds.), 2007:
Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 p.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2003:
COSEWIC assessment and update status report on the branched bartonia *Bartonia paniculata ssp. paniculata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2007a:
COSEWIC assessment and update status report on the Peregrine Falcon *Falco peregrinus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vii + 45 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2007b:
COSEWIC Assessment and Update Status Report on the Chimney Swift *Chaetura pelagica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa: vii + 49 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2007c:
COSEWIC assessment and update status report on the Eastern Hog-nosed Snake *Heterodon platirhinos* in Canada. Committee on the Status of Endangered Wildlife in Canada Ottawa. viii + 36 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2008:
COSEWIC Assessment and Update Status Report on the Eastern Foxsnake *Elaphe gloydi,* Carolinian Population and Great Lakes / St. Lawrence Population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 p.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2009:
COSEWIC assessment and update status report on the Least Bittern *Ixobrychus exilis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2011:
COSEWIC assessment and status report on the Barn Swallow *Hirundo rustica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Ix + 37 p.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2012:
COSEWIC assessment and status report on the Eastern Musk Turtle *Sternotherus odouratus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 68 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2013:
COSEWIC Assessment and Status Report on the Little Brown Myotis *Myotis lucifugus* Northern Myotis *Myotis septentrionalis* Tri-colored Bat *Perimyotis subflavus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.

Dobbyn, J.S., 1994:
Atlas of the Mammals of Ontario. Ontario: Federation of Ontario Naturalists.

Environment Canada (EC), 2014a:
Network of Protected Areas Ontario. Accessed August 2015. Available: https://ec.gc.ca/ap-pa/default.asp?lang=En&n=989C474A-1

Environment Canada (EC), 2014b:
Recovery Strategy for the Golden-winged Warbler (*Vermivora chrysoptera*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 57 pp.

Environment Canada (EC), 2015a:
Recovery Strategy for Canada Warbler (*Cardellina canadensis*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 55 pp.

Environment Canada (EC), 2015b:
Recovery Strategy for the Common Nighthawk (*Chordeiles minor*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 48 pp.

Environment Canada (EC), 2015c:
Recovery Strategy for the Eastern Whip-poor-will (*Antrostomus vociferus*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. v + 59 pp.

Environment Canada (EC), 2015d:
Recovery Strategy for Olive-sided Flycatcher (*Contopus cooperi*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 51 pp.

Government of Canada, 2009:
Frequently Asked Questions: What are the SARA schedules? Accessed on February 2015. Available: http://www.dfo-mpo.gc.ca/species-especes/faq/faq-eng.htm

Hussel, D.J.T. and R. Montgomerie, 2002:
Lapland Longspur (*Calcarius lapponicus*). *In* The birds of North America, No. 656 (A. Poole and F. Gill, Eds.). The Birds of North America, Inc., Philadelphia, PA.

Important Bird Areas (IBA) Canada, 2013:
IBA Canada website. Accessed February 2015. Available: http://www.ibacanada.ca/index.jsp?lang=en

LGL Limited, 2011:
Work plan for the Nigig Power Wind Farm Project Background Ecological Studies. Prepared for Genivar on behalf of Nigig Power Corporation, 17 p.

Montana Natural Heritage Program, Date Unknown:
Horned Clubtail — *Arigomphus cornutus*. Montana Field Guide. Accessed February 2015. Available: http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=IIODO81040

Nature Conservancy Canada (NCC), Date Unknown:
Conservation 101: Alvars Fact Sheet. Accessed February 2015. Available: http://www.natureconservancy.ca/assets/documents/on/Factsheet_OntarioAlvars101.pdf

NatureServe, 2015:
Eacles imperialis pini – Michener, 1950. Accessed August 2015. Available: http://explorer.natureserve.org/servlet/NatureServe?searchName=Eacles+imperialis+pini

Neegan Burnside Ltd., 2011:
Nigig Power Corp/Henvey Inlet Wind Project Preliminary Environmental Constraints Analysis. Prepared for the IPR-GDF SUEZ NA. September 2011. 89 p.

Ontario Ministry of Natural Resources (MNRF), 2014f:
Ontario Wetland Evaluation System: Northern Manual (1st Ed., Ver. 1.3). Ontario: Queen's Printer.

Ontario Ministry of Natural Resources and Forestry (MNRF), 2000:
Significant Wildlife Habitat Technical Guide. Ontario: Queen's Printer.

Ontario Ministry of Natural Resources and Forestry (MNRF), 2006a:
Crown Land Use Policy Atlas Policy Report (P110e): French River Provincial Park (Waterway Class). Assessed March 2015. Available: http://crownland useatlas.mnr.gov.on.ca

Ontario Ministry of Natural Resources and Forestry (MNRF), 2006b:
Crown Land Use Policy Atlas Policy Report (C117): North Georgian Bay Shoreline and Islands Conservation Reserve. Assessed March 2015. Available: http://crownland useatlas.mnr.gov.on.ca

Ontario Ministry of Natural Resources and Forestry (MNRF), 2012a:
Natural Heritage Assessment Guide for Renewable Energy Projects. Ontario: Queen's Printer.

Ontario Ministry of Natural Resources and Forestry (MNRF), 2012b:
Draft Significant Wildlife Habitat Ecoregion 5E Criterion Schedule. February 2012. 46 p.

Ontario Ministry of Natural Resources and Forestry (MNRF), 2013:
General Habitat Description for the Chimney Swift (*Chaetura pelagica*). Accessed June 2015. Available: http://www.ontario.ca/environment-and-energy/chimney-swift

Ontario Ministry of Natural Resources and Forestry (MNRF), 2014a:
Make-a-Map: Natural Heritage Areas. Accessed February 2015. Available: http://www.giscoeapp.lrc.gov.on.ca/web/MNR/NHLUPS/NaturalHeritage/Viewer/Viewer.html

Ontario Ministry of Natural Resources and Forestry (MNRF), 2014b:
Natural Heritage Information Centre (NHIC) Rare Species Records. Accessed January 2015. Available: http://nhic.mnr.gov.on.ca/nhic_.cfm

Ontario Ministry of Natural Resources and Forestry (MNRF), 2014c:
Species at Risk by Area (Parry Sound) Online Search Tool. Accessed February 2015. Available: https://www.ontario.ca/environment-and-energy/species-risk-area

Ontario Ministry of Natural Resources and Forestry (MNRF), 2014d:
Land Information Ontario Warehouse. Accessed February 2015 Available: https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home

Ontario Ministry of Natural Resources and Forestry (MNRF), 2014e:
Ontario's parks and protected areas. Accessed January 2015. Available: https://www.ontario.ca/environment-and-energy/ontarios-parks-and-protected-areas

Ontario Nature, 2014:
Ontario Reptile and Amphibian Atlas. Last Modified on March 2014. Accessed February 2015. Available: http://www.ontarionature.org/protect/species/reptiles_and_amphibians/

Ontario Parks, 2013:
Ontario Provincial Parks website. Accessed February 2015. Available: http://www.ontarioparks.com/english/index.html

Parks Canada Agency, 2013:
Recovery Strategy for the Massasauga (*Sistrurus catenatus*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Ottawa: Parks Canada. vii + 35 p.

Parks Canada, 2012:
Recovery Strategy for the Blanding's Turtle (*Emydoidea blandingii*), Nova Scotia population, in Canada [Draft]. Species at Risk Act Recovery Strategy Series. Ottawa: Parks Canada. xx + 34 p.

Parks Canada, 2014:
National Parks List Ontario. Accessed August 2015. Available: http://www.pc.gc.ca/listing/np-pn/recherche-search_e.asp?search=&p=1&province=ON&sort=

Parks Canada, 2015a:
National Wildlife Areas. Accessed August 2015. Available: https://ec.gc.ca/ap-pa/default.asp?lang=En&n=2BD71B33-1

Parks Canada, 2015b:
Migratory Bird Sanctuaries. Accessed August 2015. Available: https://ec.gc.ca/ap-pa/default.asp?lang=En&n=EB3D54D1-1

Pennsylvania Natural Heritage Program, Date Unknown:
Mottled Darner – *Aeshna Clepsydra*. Accessed February 2015. Available: http://www.naturalheritage.state.pa.us/factsheets/12021.pdf

Robertson, G. J. and J-P. L. Savard, 2002:
Long-tailed Duck (*Clangula hyemalis*). *In* The Birds of North America, No. 651 (A. Poole and F. Gill, eds.). Philadelphia: The Birds of North America, Inc.

Rodger, L., 1998:
Tallgrass Communities of Southern Ontario A Recovery Plan. Accessed February 2015. Available: http://tallgrassontario.org/Publications/TallgrassRecoveryPlan.pdf 66 p

Seburn, D., 2008:
Recovery Strategy for the Eastern Hog-nosed Snake (Heterodon platirhinos) in Canada. Species at Risk Act Recovery Strategy Series. Parks Canada Agency, Ottawa. vi + 24pp.

Stantec Consulting Ltd., 2013:
2013 Terrestrial Survey Work Program. Prepared for Nigig Power Corp., 25 p.

Western Hemisphere Shorebird Reserve Network (WHSRN), 2012:
Interactive Map. Accessed August 2015. Available: http://www.whsrn.org/sites/map-sites/sites-western-hemisphere-shorebird-reserve-network

Western Hemisphere Shorebird Reserve Network (WHSRN), 2015:
WHSRN: An International Strategy for Saving Shorebirds and their Habitats. Accessed August 2015. Available: http://www.whsrn.org/sites/default/files/file/whsrn_general_fact_sheet_15_01-01.pdf.