



**NORTHLAND
POWER**

Rideau Lakes Solar Project

Draft Natural Heritage Site Investigation Report

December 22, 2010



Northland Power Inc.
on behalf of
Northland Power Solar
Rideau Lakes L.P.
Toronto, Ontario

DRAFT Natural Heritage
Site Investigation Report

Rideau Lakes Solar Project

H334844-0000-07-124-0085
Rev. D
December 22, 2010

Disclaimer

This report has been prepared solely for the use of Northland Power Inc., who is submitting this document to the Ministry of the Environment as part of the Renewable Energy Approval process. This document is in DRAFT form and subject to further revision. The content of this document is not intended for the use of, nor is it intended to be relied upon by any person, firm or corporation.

Project Report

December 22, 2010

**Northland Power Inc.
Rideau Lakes Solar Project**

DRAFT Natural Heritage Site Investigation Report

Table of Contents

1. Introduction	3
1.1 Project Description	3
1.2 Legislative Requirements.....	3
2. Summary of Results of Records Review.....	4
3. Site Investigation Methodology	7
3.1 Date, Time, and Duration of Site Investigation	7
3.2 Weather Conditions During Site Investigation	7
3.3 Name and Qualifications of Person Conducting Site Investigation.....	7
3.4 Survey Methods	8
4. Results of Site Investigation.....	8
4.1 Vegetation Observations	8
4.2 Wildlife Observations	9
4.2.1 Wildlife Habitat.....	10
4.2.1.1 Habitats of Seasonal Concentrations of Animals	11
4.2.1.2 Rare Vegetation Communities or Specialized Habitat for Wildlife.....	12
4.2.1.3 Habitat of Species of Conservation Concern	14
4.2.1.4 Animal Movement Corridors	15
4.3 Species at Risk	15
5. Conclusions.....	16
6. References.....	16
Appendix A Site Investigation Field Notes	

List of Tables

Table 2.1	Summary of Records Review Determinations	4
Table 4.1	Wildlife Species Observed on the Rideau Lakes Property	9

List of Figures

Figure 1.1	Project Location and Natural Heritage Features	5
Figure 4.1	View of the Recently Ploughed Hayfield of the Study Area.....	8
Figure 4.2	View of the Woodland along the Southern Boundary of the Project Location, with Hayfields/Sheep Pasture in Front of the Woodland	9

1. Introduction

1.1 Project Description

Northland Power Solar Rideau Lakes L.P. (hereinafter referred to as “Northland”) is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Rideau Lakes Solar Project (hereinafter referred to as the “Project”). The Project will be located on approximately 50 hectares (ha) of land, located northeast of the Town of Newboro in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville (Figure 1.1).

1.2 Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for renewable energy projects in Ontario. Per Section 4 of the REA Regulation, ground-mounted solar facilities with a nameplate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and require a REA.

Section 26 of the REA Regulation requires proponents of Class 3 solar projects to undertake a natural heritage site investigation for the purpose of determining

- whether the results of the analysis summarized in the [natural heritage records review] report prepared under Subsection 25 (3) are correct or require correction, and identifying any required corrections
- whether any additional natural features exist, other than those that were identified in the [natural heritage records review] report prepared under Subsection 25 (3)
- the boundaries, located within 120 m of the Project location, of any natural feature that was identified in the records review or the site investigation
- the distance from the Project location to the boundaries determined under clause (c).

Natural features are defined in Section 1.1 of the REA Regulation to be all or part of

- a) an area of natural and scientific interest (ANSI) (earth science)
- b) an ANSI (life science)
- c) a coastal wetland
- d) a northern wetland
- e) a southern wetland
- f) a valleyland
- g) a wildlife habitat, or
- h) a woodland.

Subsection 3 of Section 26 of the REA Regulation requires the proponent to prepare a report setting out the following:

1. A summary of any corrections to the report prepared under Subsection 25 (3) and the determinations made as a result of conducting the site investigations under Subsection 1.2.
2. Information relating to each natural feature identified in the records review and in the site investigations, including the type, attributes, composition and function of the feature.
3. A map showing
 - i. the boundaries mentioned in clause 1.2 (c)
 - ii. the location and type of each natural feature identified in relation to the Project location
 - iii. the distance mentioned in clause 1.2 (d).
4. The dates and times of the beginning and completion of the site investigation.
5. The duration of the site investigation.
6. The weather conditions during the site investigation.
7. A summary of methods used to make observations for the purposes of the site investigation.
8. The name and qualifications of any person conducting the site investigation.
9. Field notes kept by the person conducting the site investigation.

This Natural Heritage Site Investigation Report has been prepared to meet these requirements.

2. Summary of Results of Records Review

Table 2.1 summarizes the results of the records review (Hatch, 2010).

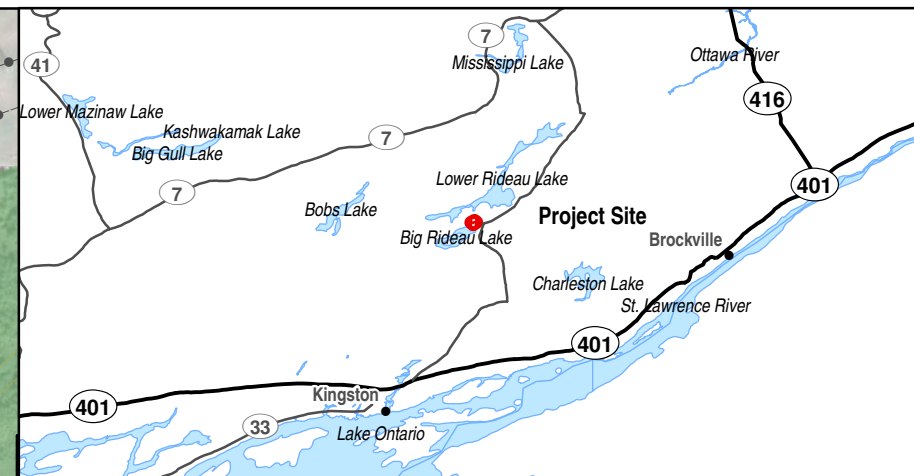
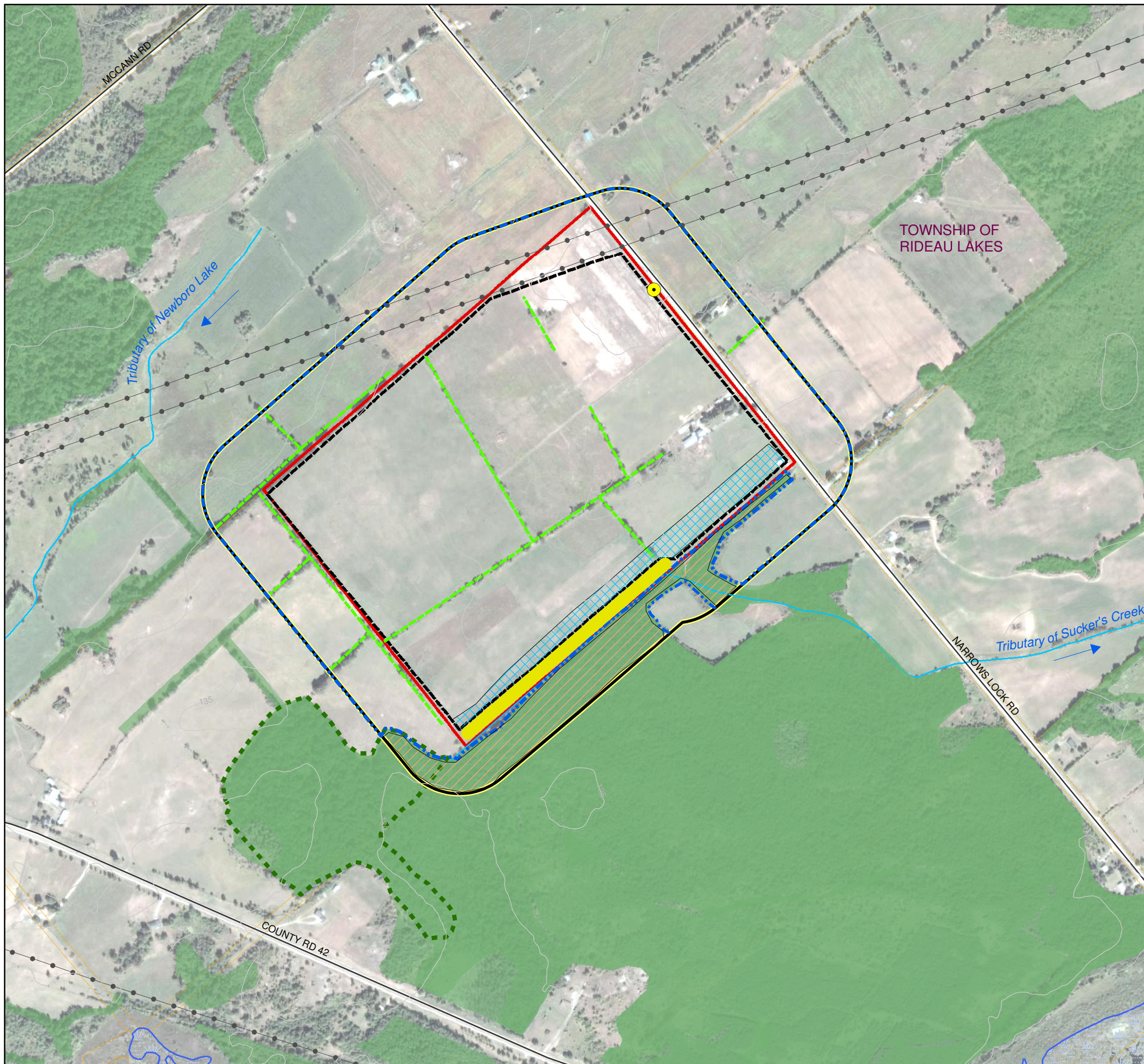
Table 2.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a natural feature?	No	The Project location is not located in a natural feature.
Is the Project within 50 m of an ANSI (earth science)?	No	There are no ANSI located within 50 m of the Project location.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There is a woodland identified within 120 m of the Project location.

Therefore, there were no records of natural features identified on the Project location, and record of a woodland within 120 m of the Project location.

In addition, the potential occurrence of several species of conservation/species at risk were noted; these include

- Loggerhead Shrike (*Lanius ludovicianus*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Bobolink (*Dolichonyx oryzivorus*)



Key Map

Legend

- Roads
- Transmission Line
- Topographic Contour (5m interval)
- Watercourse
- ▭ Available Lands
- ▭ 120m from Project Location
- ▭ Parcels

Candidate Significant Natural Heritage Features

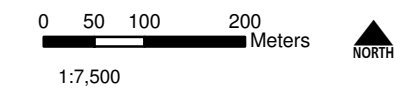
- ▭ Woodland

Candidate Significant Wildlife Habitat

- ▭ Hedgerow - Baltimore Oriole/Eastern Kingbird Habitat/ Animal Movement Corridor
- ▭ Old Growth Forest
- ▭ Savannah Sparrow Habitat
- ▭ Milksnake Habitat
- ▭ Ovenbird Habitat / Highly Diverse Areas / Animal Movement Corridor

Project Components

- Connection Point with Distribution Line
- ▭ Project Location
- ▭ 60 m Buffer from Woodland (Construction)
- ▭ Annual Vegetation Management Zone (Operations)



Notes:
 1. OBM and NRVIS data downloaded from LIO, with permission.
 2. Spatial referencing UTM NAD 83.
 3. Satellite imagery from Google Earth Pro.

Figure 1.1
 Northland Power Inc.
Rideau Lakes Solar Energy Project
Project Location and
Natural Heritage Features

Back of figure

- Forest-breeding birds – Cerulean Warbler (*Dendroica cerulea*), Golden-winged Warbler (*Vermivora chrysoptera*), Canada Warbler (*Wilsonia canadensis*), Whip-poor-will (*Caprimulgus vociferus*)
- Milksnake (*Lampropeltris triangulum*)
- Gray Ratsnake (*Elaphe obsoleta*)
- Butternut (*Juglans cinerea*).

3. Site Investigation Methodology

3.1 Date, Time, and Duration of Site Investigation

- Date: May 17, 2010
- Start Time: 13:15 hours
- Duration: approximately 1.5 hours

3.2 Weather Conditions During Site Investigation

- Temperature: 19°C
- Beaufort Wind: 1
- Cloud Cover: 0%

3.3 Name and Qualifications of Person Conducting Site Investigation

The site investigation was completed by Sean K. Male.

Sean K. Male, M.Sc. is a Terrestrial Ecologist specializing in assessments of terrestrial habitat, flora and fauna. Sean received his Bachelors of Science (Honours) in Biology from Queen's University, where he completed his Honour's thesis under Dr. Raleigh J. Robertson, studying the impacts of nestbox density in Tree Swallows (*Tachycineta bicolor*) on nest-building behaviour. He then completed a Master's of Science degree in the Watershed Ecosystem Graduate Program at Trent University under Dr. Erica Nol. Sean's thesis focussed on examining the impacts of a Canadian diamond mine on a population of breeding passerines. For his thesis, Sean spent two summers in the Canadian arctic studying populations of Lapland Longspurs (*Calcarius lapponicus*) around the Ekati Diamond Mine, located 300 km northeast of Yellowknife. While at Trent, Sean participated in the Northern Saw-whet Owl (*Aegolius acadicus*) Migration Banding Project at the Oliver Centre. Following his time at Trent, Sean participated in the Landscape Monitoring Program and was involved in a study of the impacts of woodlot size on breeding birds.

Sean joined Hatch as a Terrestrial Ecologist in 2006. Since joining Hatch, Sean has participated in several environmental assessments for hydro and wind power developments. He has developed and implemented baseline monitoring and impact assessment programs for both terrestrial wildlife and plant communities, including detailed bird and bat studies for several wind power developments, including the proposed 100-MW Coldwell Wind Power Development near Marathon, Ontario, a proposed 20-MW facility near Port Dover, Ontario, and a proposed 110-MW wind facility in

southwestern Ontario. Sean has also conducted terrestrial and wetland vegetation surveys for several proposed hydropower projects totalling over 40 MW in southern and northern Ontario and has participated in fisheries surveys for several of these projects.

3.4 Survey Methods

The entire site was searched by the observer on foot in order to document natural features. Photographs of the site were taken. Any observations of wildlife, vegetation, or natural features were noted.

A copy of the field notes kept by the observers is provided in Appendix A.

4. Results of Site Investigation

4.1 Vegetation Observations

The Project location is composed primarily of sheep pasture lands and hay fields (see Figures 4.1 and 4.2), some of which appeared to have been ploughed at the end of last season. Deep furrows remained present within the ploughed fields, with bare soil on the tops of the furrows, however grasses had started to become re-established (see Figure 4.1). Since the time of the site investigation, all fields have been ploughed and currently exist as exposed soils with limited vegetation growth. Several of the fields are separated by hedgerows, consisting of Black Cherry (*Prunus serotina*), Trembling Aspen (*Populus tremuloides*) and American Basswood (*Tilia americana*). Ironwood (*Ostrya virginiana*), maples (*Acer* sp.), and Sweet Crab Apple (*Malus coronaria*) were also commonly recorded.



Figure 4.1 View of the Recently Ploughed Hayfield of the Study Area

No woodlands, wetlands or valleylands were identified on the Project location itself. A large woodland, characterized as a deciduous woodland consistent with the region, is located along the southern boundary of the Project location. The woodland was observed to be dominated by American Basswood, maples, and Trembling Aspen. A view of the woodland is shown in Figure 4.2.



Figure 4.2 View of the Woodland along the Southern Boundary of the Project Location, with Hayfields/Sheep Pasture in Front of the Woodland

4.2 Wildlife Observations

Several species of wildlife were noted during the site visit. These species are documented in Table 4.1.

Table 4.1 Wildlife Species Observed on the Rideau Lakes Property

Common Name	Scientific Name	Conservation Status ¹		Declining Species ²
		Global (GRank)	Provincial (SRank)	
Mammals				
Eastern Chipmunk	<i>Tamias striatus</i>	G5	S5	No
Birds				
Bobolink	<i>Dolichonyx oryzivorus</i>	G5	S4B	Yes
Red-tailed Hawk	<i>Buteo jamaicensis</i>	G5	S5	No
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4	No

Common Name	Scientific Name	Conservation Status ¹		Declining Species ²
		Global (GRank)	Provincial (SRank)	
European Starling	<i>Sturnus vulgaris</i>	G5	SNA	No
Savannah Sparrow	<i>Passerculus sandwichensis</i>	G5	S4B	Yes
Osprey	<i>Pandion haliaetus</i>	G5	S5B	No
Yellow Warbler	<i>Dendroica petechia</i>	G5	S5B	No
Baltimore Oriole	<i>Icterus galbula</i>	G5	S4B	Yes
Warbling Vireo	<i>Vireo gilvus</i>	G5	S5B	No
Ovenbird	<i>Seiurus aurocapilla</i>	G5	S4B	No
Turkey Vulture	<i>Cathartes aura</i>	G5	S5B	No
Eastern Kingbird	<i>Tyrannus tyrannus</i>	G5	S4B	Yes

¹**MNR, 2010**
Global
G5 – **Very common** (demonstrably secure under present conditions)
T – Denotes that the rank applies to a subspecies or variety.
Provincial
S5 – Secure (Common, widespread, and abundant in the nation or state/province)
S4 – **Apparently Secure** (Uncommon but not rare; some cause for long-term concern due to declines or other factors)
SNA –**Not Applicable** (A conservation status rank is not applicable because the species is not a suitable target for conservation activities).

²Mammals (MNR, 2010), Birds (Ontario Partners In Flight, 2005), Amphibians (McKenney et al., 2007)

Of these species, Bobolink is the only Species at Risk detected during the site investigation, listed as Threatened on the *Endangered Species Act* (ESA). Bobolink males were observed singing within suitable breeding habitat. Bobolink, being listed on the ESA, are addressed separately of the Natural Heritage requirements of the REA, and therefore discussions are ongoing with the Ministry of Natural Resources in order to identify whether a permit under the ESA will be required for construction or operations of the Project.

4.2.1 **Wildlife Habitat**

The Project location and the surrounding areas would be classified as wildlife habitat, which is defined as places “where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations.”

Wildlife habitat in the area consists of agricultural fields, and the woodland adjacent to the Project location.

The Significant Wildlife Habitat Technical Guide (SWHTG) [Ministry of Natural Resources (MNR), 2000] identifies four main types of wildlife habitat that can be classified as significant:

- habitat for seasonal concentrations of animals
- rare or specialized habitats for wildlife

- habitat for species of conservation concern
- wildlife movement corridors.

Each of these types of wildlife habitat is considered further below and how they were considered during the site investigation.

4.2.1.1 *Habitats of Seasonal Concentrations of Animals*

There are many different kinds of seasonal concentration areas, with the likelihood of occurrence of one of these areas depending on the characteristics of the study location. Those that were considered during the site investigations, and the discussion of their potential occurrence on the Project location, are discussed below:

- Winter deer yards/Moose late winter habitat – Winter deer yards/moose late winter habitat are sheltered areas where these species congregate during the winter months. As these species are not adept at moving through deep snow, a key component of these habitats is a core area predominantly composed of coniferous trees with a 60% canopy cover. Habitat of this type was considered during the site investigation in relation to the wooded area located north and west of the Project location along Otter Creek. A core coniferous area was not identified within this woodland, and as a result, is not considered to meet the definitions of a winter deer yard or moose late winter habitat.
- Colonial bird nesting sites – Colonial bird nesting sites are locations where colonial species, such as herons, gulls, terns, and swallows traditionally nest in colonies of varying size. No colonial birds were observed during the site investigation, and further no heronries, marshlands or rocky areas suitable of supporting tern or gull populations, or potential swallow colonial breeding locations were identified.
- Waterfowl stopover and staging areas – Waterfowl traditionally congregate in larger wetlands and relatively undisturbed shorelines with vegetation during spring and fall migration. Further, during the fall migration, waterfowl may commonly congregate in feeding or roosting ponds. Such habitats are not found on or within 120 m of the Project location.
- Waterfowl nesting – Waterfowl nesting sites can consist of relatively large, undisturbed upland areas with abundant ponds and wetlands, while other species nest within tree cavities in swamps or on the shorelines of waterbodies. No waterfowl nests or evidence of waterfowl nesting was recorded during the site investigation. Further, given the absence of waterbodies capable of supporting waterfowl populations from within the vicinity of the Project location, the area does not represent waterfowl nesting habitat.
- Shorebird/Landbird migratory stopover areas – Shorebird migratory stopover areas are found along the shorelines of the Great Lakes and James Bay, while landbird stopover areas are found along the shorelines of the Great Lakes and contain a variety of habitat types from open fields to large woodlands. As the Project location is located more than 120 m away from these areas, this habitat type cannot occur on the Project location.
- Raptor winter feeding and roosting areas – This combined habitat type features suitable raptor roosting sites in proximity to winter feeding areas. For most raptor species, roosting sites are

traditionally mature mixed or coniferous woodlands; mature forest communities within 120 m of the Project location were identified as a deciduous woodland; therefore this is absent from the woodlands within 120 m of the Project location. Some species roost within grassy fields; however, the harvest of hay from the Project location and lands within 120 m in the fall and subsequent small growth of grasses in this area, along with sheep grazing on the Project location, indicates the Project location would not provide suitable roosting habitat for these species. Further, since the time of the site investigation, the Project location has since been ploughed, removing potential raptor winter feeding areas. It is expected that raptor winter feeding would occur across the Project location, consistent with that which would occur along other fields in the area; however, the absence of suitable roosting habitats in close proximity determines that this is an area that does not meet the requirements for further evaluation of significance.

- Wild turkey winter range – Similar to winter deer yards, wild turkey rely on coniferous forest stands for winter protection. As was previously discussed, such habitat was not identified during the site investigation within 120 m of the Project location and, therefore, wild turkey winter range is not found.
- Turkey vulture summer roosting areas – Turkey vulture summer roosting areas traditionally consist of cliff ledges and large snags. No cliff ledges were noted during the site investigation; however, large dead or partially dead trees are present within 120 m of the Project location and turkey vultures were recorded during the site investigation. However, no roosting activity was noted, and turkey vulture activity was restricted to observations of birds flying overhead consistent with foraging activities as would be expected across the region. As a result, turkey vulture summer roosting areas are not identified.
- Reptile hibernacula – Reptile hibernacula are commonly found in animal burrows and rock crevices. Through thorough site investigation of the lands on and within 120 m of the site investigation, neither animal burrows, nor rock crevices, were noted. Therefore, suitable candidate reptile hibernacula features are not found on or within 120 m of the Project location.
- Bat hibernacula – Bat hibernacula are found in caves or abandoned mines. These features were not identified during the site investigation.
- Bullfrog concentration areas – Bullfrog concentration areas are predominantly found in areas of marsh habitat. No marsh habitat was identified on or within 120 m of the Project location, and no bullfrogs were identified during the site investigation. Therefore, these features are not found on or within 120 m of the Project location.
- Migratory butterfly stopover areas – These habitats are found within 5 km of the Great Lakes; as the Project area is located outside of this zone, such habitat features are not found.

Therefore, there are no candidate significant seasonal concentration areas identified on or within 120 m of the Project location.

4.2.1.2 *Rare Vegetation Communities or Specialized Habitat for Wildlife*

Rare vegetation communities include alvars, tall-grass prairies, savannahs, rare forest types, talus slopes, rock barrens, sand barrens and Great Lakes dunes. None of these vegetation communities were identified during the site investigation. Vegetation communities that were observed during the

site investigation have been previously described in Section 4.1; none of these communities are considered to be rare or uncommon within the local or provincial area.

Specialized wildlife habitats include

- areas that support species that have highly specific habitat requirements
- areas with high species and community diversity
- areas that provide habitat that greatly enhances species' survival.

There are many habitat types that may meet these definitions; those that were considered during the site investigations as they had the potential to be present in the area, and the discussion of their potential occurrence on the Project location, are addressed below:

- Habitat for area-sensitive species – Appendix C of the SWHTG lists area-sensitive species. Savannah Sparrow (*Passerculus sandwichensis*) and Ovenbird (*Seiurus aurocapillus*) were recorded during the site investigation. Ovenbird are a woodland breeding species, and as such the woodland south of the Project location is treated as a candidate significant wildlife habitat for Ovenbird. The agricultural fields of and within 120 m of the Project location represent suitable breeding and foraging habitat for Savannah Sparrow, and are treated as candidate significant wildlife habitat. However, the recent ploughing activity on the Project location has removed suitable breeding habitat for Savannah Sparrow from the Project location itself.
- Forests providing a high diversity of habitats – Forest communities south of the Project location were not found to contain a variety of dominant tree cover or vegetation communities. Forest communities were generally described as mature, and age classes were consistent throughout the community, with the exception of the areas of old-growth forest southwest of the Project location. Species composition within the woodland was consistent with the exception of the conifer plantation communities in the southern extent of the woodland more than 120 m from the Project location. Presence of leaf litter was found to be consistent with what would be expected within any deciduous forest community in the region. No supercanopy trees were observed. Cavity support trees were not commonly recorded within the woodland community outside of the portion of old growth forest southwest of the Project location, primarily as a result of the age class of the trees. As discussed below, large dead snags providing cavity support were documented as occasional within the old growth forest stand. Therefore this potential habitat is not found on or within 120 m of the Project location.
- Old-growth or mature forest stands – A small portion of the woodland within 120 m southwest of the Project location has been identified as an old-growth forest stand by the MNR. Occasional large dead snags and canopy gaps corresponding to fallen trees are present within the woodland. Woodland composition within the old-growth forest portion was consistent with that recorded in the less mature parts of the forest, dominated by maple. As a result, the woodland is treated as a candidate specialized wildlife habitat.
- Foraging areas with abundant mast – This habitat type is found within EcoRegion 6E only in relation to foraging areas with abundant mast present on the Bruce Peninsula (EcoDistrict 6E-14). As the Project location is more than 120 m from this area, within EcoDistrict 6E-11 (MNR, 2009). As a result, this habitat type is not found on the Project location.

- Woodlands supporting amphibian breeding ponds – Amphibian breeding ponds were not found within the portion of the woodland located within 120 m of the Project location during the site investigation. In addition, no suitable pond habitats are noted within aerial photography of the remaining extent of the woodland community. As a result, woodlands supporting amphibian breeding ponds are not located on or within 120 m of the Project location.
- Turtle nesting habitat – Turtle nesting sites are areas where soft substrates, such as sand or fine gravel, are found that permit turtles to excavate their nests, and are located in open, sunny areas. Such substrate was not recorded on or within 120 m of the Project location during the site investigation.
- Specialized raptor nesting habitat – Though both Red-tailed Hawk and Osprey were recorded during the site investigation, no evidence of raptor nesting was noted. Activity noted from both of these species was consistent with foraging or transit flights across the Project location. No evidence of alarm as a result of presence in proximity to a nest site was noted. As a result, this habitat is not found on the Project location.
- Mink, otter, marten, and fisher denning sites – Denning sites for these members of the weasel family were not recorded on or within 120 m of the Project location during the site investigation.
- Highly diverse areas – The habitats present on and within 120 m of the Project location were considered in respect of diversity. The Project location is situated on the edge of the Frontenac axis, an area that is identified as having high diversity. The vast majority of habitats present on and within 120 m of the Project location consist entirely of agricultural lands. Given the abundance of these communities within the region, these habitats do not meet the requirements of highly diverse areas. The woodland south of the Project location is the only other habitat type present within 120 m of the Project location. As a result, the woodland south of the Project location will be considered a candidate significant highly diverse area.
- Cliffs and caves – These features were not identified on or within 120 m of the Project location during the site investigation.
- Seeps and springs – Neither seeps nor springs were identified on or within 120 m of the Project location during the site investigation.

As a result, candidate specialized habitats for area sensitive species (Savannah Sparrow, Ovenbird), old-growth forest, and highly diverse areas associated with the woodland, were identified on or within 120 m of the Project location.

4.2.1.3 *Habitat of Species of Conservation Concern*

Species of conservation concern that were considered during the site investigation include the following:

- Savannah Sparrow – Previously discussed within Section 4.2.1.2 in relation to area-sensitive species
- Hedgerow/woodland edge species (Eastern Kingbird, Baltimore Oriole) were recorded during the site investigations and are likely breeding within the hedgerows on or within 120 m of the

project location. As a result, suitable candidate significant wildlife habitat is found on or within 120 m of the Project location

- Canada Warbler – Suitable habitat (wet, mixedwood forest with a well-developed shrub layer, predominantly occurring on the Canadian Shield in eastern Ontario) were not identified on or within 120 m of the Project location; therefore they are not expected to occur.
- Golden-winged Warbler – Suitable habitat (early successional landscapes) were not identified on or within 120 m of the Project location; therefore they are not expected to occur.
- Common Nighthawk — There is very little bare ground present on and within 120 m of the Project location that would serve as suitable breeding habitat for Common Nighthawk. Areas of suitable habitat, such as the roadways on the Project location, were walked during the time period suitable for Common Nighthawk nesting and no nighthawks were observed. As a result, it is determined that Common Nighthawk do not breed on or within 120 m of the Project location.
- Milksnake – As Milksnake are habitat generalists, suitable habitat is present on and within 120 m of the Project location. It is assumed that they are present.

Based on the results of the site investigation, potential habitat for Milksnake will be considered during the evaluation of significance.

4.2.1.4 *Animal Movement Corridors*

The SWHTG (MNR, 2000) defines animal movement corridors as “elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another”. Animal movement corridors were considered during the site investigation. Such features were found to be present within the hedgerows and woodland on and within 120 m of the Project location.

Hedgerow features may provide suitable movement corridors for various terrestrial reptile (such as Gartersnake), mammal (such as raccoons and skunks), and bird (such as Blue Jays, Song Sparrows, and other passerines) species.

Woodlands may provide suitable movement corridors for those species previously identified in relation to hedgerows, as well as larger terrestrial species of mammals, such as deer and coyotes.

These features will be further assessed in the evaluation of significance report.

4.3 **Species at Risk**

Bobolink were observed and recorded on the Project location during the site investigation within suitable breeding habitat. However, since the time of the survey, the fields have been ploughed and Bobolink habitat no longer exists on the Project location. Suitable Bobolink habitat is found on the hayfields that surround the Project location to the west and north.

Those species that were identified as having potential for occurrence on the Project location area discussed further below:

- Loggerhead Shrike – Loggerhead Shrike were not recorded during the site investigation. As surveys were conducted during the breeding bird period, if Loggerhead Shrike were present on

site it is expected that they would have been detected. Therefore, they are not expected on the Project location.

- Whip-poor-will – Suitable habitat was not detected during the site investigation and, therefore, they are not expected to occur.
- Gray Ratsnake – Though general use habitat is found on the Project location, suitable retreat, shedding, or hibernacula habitat for ratsnake was not recorded on the Project location, though some features may be present associated with the farm buildings east of the Project location. These buildings will not be impacted by the Project and are expected to remain present throughout the life of the Project. Any use of the Project location is expected to be occasional.
- Butternut – No butternut were recorded on the Project location during site investigations; therefore, they are not expected to be found.

5. Conclusions

Based on the results of the site investigation identified above, no corrections to the Records Review are required.

Evaluations of significance are required for the following features:

- the woodland located south of the Project location (including significant wildlife habitat features for Ovenbird, old-growth forest, and highly diverse areas)
- all lands on and within 120 m of the Project location for Milksnake
- agricultural grasslands on and within 120 m of the Project location for Savannah Sparrow
- hedgerows and woodlands as animal movement corridors.

6. References

Hatch Ltd. 2010. Rideau Lakes Solar Project – Natural Heritage Records Review Report. Prepared by Hatch for Northland Power Solar Rideau Lakes L.P.

McKenney, D., M. Oldham, J. Bogart, and B. Mackey. 2007. Amphibians and Reptiles of Ontario. Natural Resources Canada. Available on-line at <http://cfs.nrcan.gc.ca/subsite/glfc-amphibians>. Accessed February 17, 2010; Last Updated November 30, 2007.

Ministry of Natural Resources (MNR). 2010. Ontario Biodiversity Explorer. Available on-line at <https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do>.

MNR. 2009. Significant Wildlife Habitat Ecoregion Criteria Schedules – Addendum to Significant Wildlife Habitat Technical Guide – Working Draft, January 2009.

Ontario Partners in Flight. 2005. Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain (North American Bird Conservation Region 13), *Priorities, Objectives and Recommended Actions*. Environment Canada/Ministry of Natural Resources.

Appendix A
Site Investigation
Field Notes

No Northland - Rideau Lakes
Date July 17, 10 Page ①

No
Date Page ②

C.C. 0

B 1

Temp ~19°C

Start 13:15 - 14:45

ROBO RTHA

RIM YAVA

ENST DMR

SVSP WMA - singing

SOSP GACH

OSPR TUVU

→ fields are mostly (grass/decid.)

Hedgehog
Black Cherry (dec.)
Basswood (dec.)
Maple - common
Cedar Apple

GACH

Wooded - 15 Deciduous

Open

Apple Maple Juniper

Willow along road

→ some Mobile Oak Honey Bee
beehive

