



Axio Power Canada Inc./
SunEdison Canada

Natural Heritage Assessment
Records Review Report

For

Norfolk Bloomsburg TS
Solar Energy Project

H335467

Rev. 0

November 25, 2011

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Project Report

November 25, 2011

**Axio Power Canada Inc./SunEdison Canada
Norfolk Bloomsburg TS - Solar Energy Project**

Natural Heritage Assessment Records Review Report

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1. Introduction

1.1 Project Description

As part of Ontario's Green Energy Plan, Axio Power Canada Inc./SunEdison Canada ("Axio/SunEdison") is proposing to develop a 10 megawatt (MW) solar photovoltaic project within the single tier municipality of Norfolk County, Ontario. The proposed Project Location¹ will be situated on 29 hectares of land located approximately 4 km northwest of Simcoe on Part of Lots 3 and 4, Concession 12 (Figure 1.1), and within the St. Thomas Ecodistrict 7E-2.

1.2 Renewable Energy Approval 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. As per Section 4 of the REA Regulation, ground mounted solar facilities with a name plate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and require an REA.

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to undertake a natural heritage assessment records review to identify whether the Project Location is:

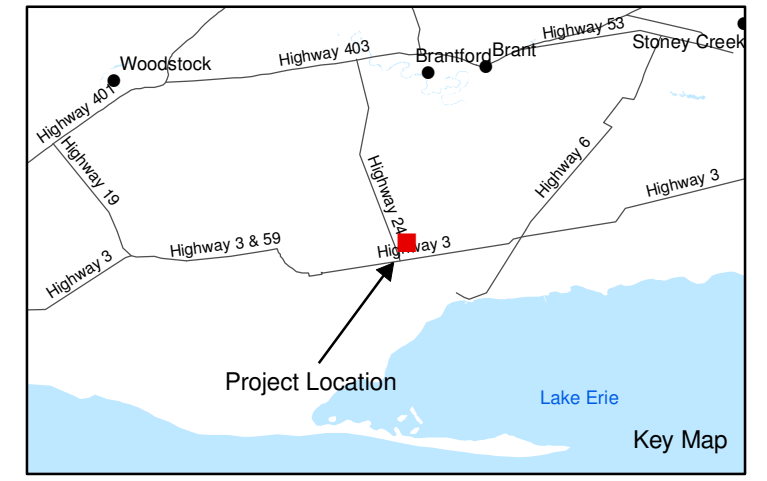
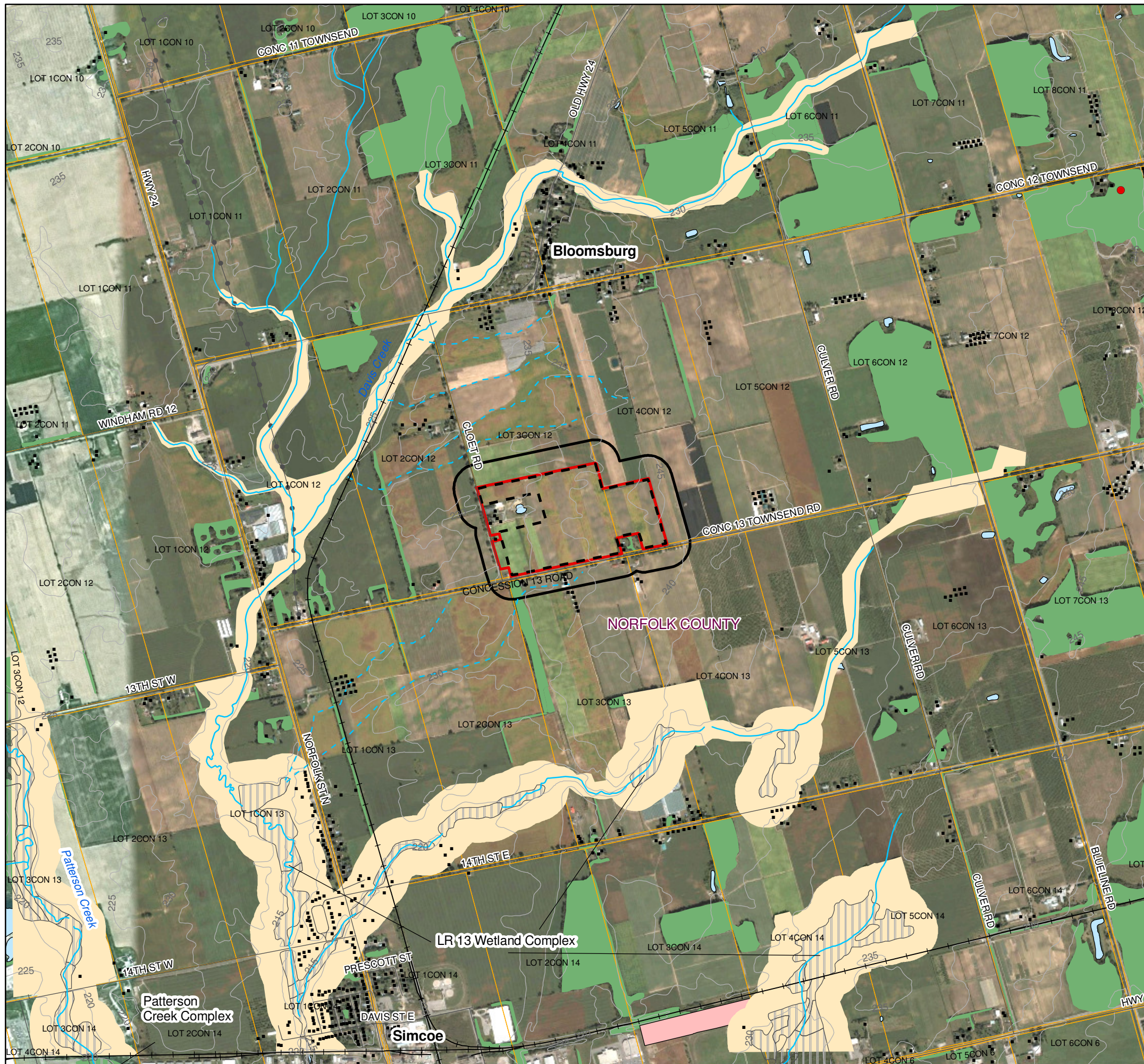
1. in a natural feature
2. within 50 m of an area of natural and scientific interest (ANSI) (earth science) or
3. within 120 m of a natural feature that is not an ANSI (earth science).

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

- a) an 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
- h) a woodland.

Subsection 3 of Section 25 of the REA Regulation requires the proponent to prepare a report "setting out a summary of the records searched and the results of the analysis" (O. Reg. 359/09). This *Natural Heritage Assessment Records Review Report* has been prepared to meet these requirements.

¹"Project Location means, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposed to engage in the project" (O. Reg. 359/09, s. 1 (1)).



LEGEND

- Building
- Communication Tower
- - - Drainage Feature (From NRCAN NTS Mapping)
- +— Railway
- Road
- Topographic Contour (5 m interval)
- Transmission Line
- Watercourse
- Airport
- LPRCA Regulated Area
- Parcel
- Project Location
- 120 m from Project Location
- Project Site
- Provincially Significant Wetland (PSW)
- Water Body (OBM Mapping)
- Woodland

Notes:
 1. OBM and NRVIS data downloaded from LIO, with permission.
 2. Spatial Referencing UTM NAD 83, August 2010
 3. Long Point Region Conservation Authority data provided by LPRCA, August 17, 2010.



Figure 1.1
 Axiom Power Canada Inc./SunEdison Canada
 Norfolk Bloomsburg TS
 Natural Heritage Features **HATCH™**

2. Methodology and Results

The following sections document the publicly available records used to determine whether the Project is located on or within 120 m of a natural feature as identified by the REA and to identify species of conservation concern (e.g. globally, nationally, provincially, regionally and locally significant species) that may occur within the vicinity of the Project Location. Species designated as Endangered or Threatened under the ESA on the SARO list will be discussed in further detail in the *Approval and Permitting Requirements Document for Renewable Energy Projects*.

Records occurring within a minimum distance of 1 km from the Project Location were reviewed and the results are discussed in relation to the distances specified between the Project Location and natural features as defined in Section 25 of the REA Regulation (Section 1.2).

There are no planning boards, municipal planning authorities, local roads boards or local services boards within the jurisdiction of the Project. Also, the Project is not located within the Niagara Escarpment Commission Plan Area. Therefore, a records review for these governing bodies was not conducted.

2.1 Ministry of Natural Resources Records

The following information sources from the Ontario Ministry of Natural Resources (MNR) were reviewed for records related to natural features within 1 km² of the Project Location:

- **Land Information Ontario Mapping** – *Land Information Ontario* (LIO) data is maintained by the MNR and provides key provincial geospatial data about Ontario to subscribers. The shapefiles obtained from the LIO datasets were used to prepare a map showing the natural features on and within 120 m of the Project Location (MNR, 2010a).
- **MNR Aylmer District** – Information on natural features on and within 120 m of the Project Location was provided by way of e-mail by the MNR Aylmer District after a first review of the *Natural Heritage Assessment Record Review Report* dated January 24, 2011.
- **Natural Heritage Information Center Biodiversity Explorer** – The *Natural Heritage Information Center* (NHIC) collects and maintains data on known records of species, vegetation communities, and other natural features within the province. This information is available through the *Element Occurrence and Natural Areas* database which can be accessed using the web-based NHIC Biodiversity Explorer Tool (NHIC, 2010). A search of the *Element Occurrence and Natural Areas* database was completed for a 1 km² radius surrounding the Project Location.
- **Ontario Crown Land Use Policy Atlas** – The *Ontario Crown Land Use Policy Atlas* is an interactive web browser that shows the boundaries of crown land use areas and associated land use policies. This interactive map was used to determine the presence of crown land within 1 km² of the Project Location (MNR, 2010b).
- **Ontario Herpetofaunal Summary Atlas** – The *Ontario Herpetofaunal Summary Atlas* (Oldham and Weller, 2000) is a database that provides information on the distribution of amphibians and reptiles in Ontario. This database is maintained by the NHIC and includes a compilation of current and historic records gathered from museum and university collections in Ontario and

published and non-published literature. The distribution maps of amphibians and reptiles found in Ontario were reviewed to determine those species with ranges that overlap with the Project Location.

- **Renewable Energy Atlas** – The *Renewable Energy Atlas* is an interactive web tool that provides information related to wind and water renewable energy resources in the province. This map was accessed for specific information on natural features that are provided in the land use, base data and wildlife layers (MNR, 2010c). These layers are based on LIO geospatial datasets. The land use layer provides the following information: provincial and national parks, conservation reserves, ANSI's, natural heritage values areas, enhancement management areas, wilderness areas and crown game reserves. The base data provides information on coastal wetlands and the wildlife layer provides information on known bat hibernacula within a 10 km grid.

2.1.1 **MNR LIO Mapping**

The following information related to natural features was obtained from the MNR LIO data layers (MNR, 2010a). A map showing the natural features within a broad area surrounding the Project Location is provided (Figure 1.1).

ANSI – The LIO mapping did not identify any earth science or life science ANSI's on or within 120 m of the Project Location. The nearest earth science ANSI are the Walsh Dunes located approximately 11 km southwest of the Project Location. The nearest life science ANSI is Spooky Hollow located 15 km southwest of the Project Location.

Wetlands – The LIO mapping did not identify any wetland on or within the 120 m of the Project Location. The closest wetland is the wetland complex LR-13 located 7.5 km south of the Project Location.

Valleylands – The LIO mapping did not identify any valleylands on or within 120 m of the Project Location.

Wildlife Habitat – The LIO mapping did not identify any wildlife habitat on or within 120 m of the Project Location.

Woodlands – The LIO wooded area data layer identified a woodland within the 120 m south-west setback of the Project Location. The presence of this woodland will be confirmed during the site investigation.

Provincial Parks and Conservation Reserves – The LIO provincial park regulated data layer and conservation reserve regulated data layer did not identify any provincial parks or conservation reserves on or within 120 m of the Project Location.

Other – The LIO mapping identified several buildings on and within 120 m of the Project Location. The site investigation will determine if these building are used and if they are residences.

2.1.2 **MNR Aylmer District Records**

Information regarding natural features and species of conservation concern within the vicinity of the Project Location was provided by the MNR Aylmer District in an e-mail dated January 24, 2010. The

information and comments provided by the MNR are summarized below with respect to the natural features identified in subsection 1 (1) of the REA Regulation.

ANSI – The MNR Aylmer District did not comment on the presence or absence of any earth science or life science ANSI's on or within 120 m of the Project Location.

Wetlands – The MNR Aylmer District currently has no evaluated wetlands on or within 120 m of the Project Location.

Valleylands – The MNR Aylmer District does not possess significant valleyland mapping.

Wildlife Habitat – The MNR Aylmer District mentioned potential milksnake habitat on and within 120 m of the Project Location and pointed out that the hedgerows within 120 m of the Project Location may be used as animal movement corridors. The presence of this wildlife habitat will be confirmed during the site investigation.

Species of Conservation Concern – The MNR identified the following species of conservation concern that have the potential to occur within the vicinity of the Project Location. These species will be considered during the site investigation. The following species of conservation concern will be considered during the site investigations.

- **Endangered and Threatened Species on the SARO list** – Species that are designated as Endangered or Threatened on the SARO list are protected under the provisions of the ESA and will be discussed in further detail in the *Approval and Permitting Requirements Document for Renewable Energy Projects*.
- **National and Provincial Species at Risk** – This includes species that are designated as Endangered or Threatened by COSEWIC (nationally) and species designated as Special Concern on the SARO List. The MNR identified the milksnake (*Lampropeltis triangulum*) designated as Special Concern by COSEWIC and on the SARO list, as having the potential to occur on and within 120 m of the Project Location. A search for this and other species of conservation concern will be completed during the site investigation.

Woodlands – The MNR identified woodlands within 120 m of the Project Location. The presence of these woodlands will be confirmed during the site investigation.

Provincial Parks and Conservation Reserves – The MNR did not comment on the presence or absence of provincial parks or conservation reserves within the vicinity of the Project Location.

Other – The MNR commented on the potential presence of wells that may exist for which no records are held by the Petroleum Resources Centre or for which the information may be historically, inaccurate or incomplete.

2.1.3 **Natural Heritage Information Center Biodiversity Explorer**

The NHIC database (NHIC, 2010) Biodiversity Explorer tool was accessed on July 26, 2010 and a geographic search of the Element Occurrence and Natural Areas database was completed for each 1 km² block (based on the Universal Transverse Mercator (UTM) grid) within 120 m of the Project Location. The spatial boundary layer was used to search the 1 km map squares that overlap the Project. The query included the following map squares: 17NH54_66, 17NH54_67, 17NH54_68,

17NH54_76, 17NH54_77, 17NH54_78, 17NH54_86, 17NH54_87, 17NH54_88, 17NH54_96, 17NH54_97 and 17NH54_98. The Biodiversity Explorer tool provides information on the following natural features: ANSI, wetlands, wildlife habitat and species of conservation concern. The results of the geographic query are discussed for each of the following natural features:

ANSI – The results of the query did not identify any earth science or life science ANSI's on or within 1 km² of the Project Location.

Wetlands – The results of the query did not identify any wetlands on or within 1 km² of the Project Location.

Valleylands – The NHIC database does not provide information on valleylands.

Wildlife Habitat – The *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005* (MNR, 2010d) identifies four main types of significant wildlife habitat: habitats of seasonal concentrations of animals, rare vegetation communities or specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors. The NHIC database provides the following information on wildlife habitat:

- **Wildlife Concentration Areas** – The NHIC database provides information on the following types of wildlife concentration areas:
 - ♦ **Colonial Waterbird Nesting Area** – The results of the query did not identify any colonial waterbird nesting areas on or within 1 km² from the Project Location.
 - ♦ **Freshwater Mussel Concentration Area** – The results of the query did not identify any freshwater mussel concentration areas on or within 1 km² from the Project Location.
 - ♦ **Mixed Wader Nesting Colony** – The results of the query did not identify any mixed wader nesting colonies on or within 1 km² from the Project Location.
 - ♦ **Raptor Winter Concentration Area** – The results of the query did not identify any raptor winter concentration areas on or within 1 km² from the Project Location.
 - ♦ **Shorebird Migratory Concentration Area** – The results of the query did not identify any shorebird migratory concentration areas on or within 1 km² from the Project Location.
 - ♦ **Waterfowl Concentration Area** – The results of the query did not identify any waterfowl concentration areas on or within 1 km² from the Project Location.
- **Rare Vegetation Communities** – The NHIC database provides information on globally (G-rank: G1 to G3) and provincially rare (S-rank: S1 to S3) plant communities. The results of the query did not identify any rare plant communities on or within 1 km² of the Project Location.

Species of Conservation Concern – The NHIC Element Occurrence database found nineteen records of species of conservation concern, including restricted species, within the 1 km² blocks that overlap the Project Location. A search of these species, including potential habitat, will be conducted during the site investigation.

- **Endangered and Threatened Species on the SARO list** – Species that are designated as Endangered or Threatened on the SARO list are protected under the provisions of the ESA and will be discussed in further detail in the *Approval and Permitting Requirements Document for Renewable Energy Projects*.
- **National and Provincial Species at Risk** – The NHIC Element Occurrence database found records of the broad beech fern (*Phegopteris hexagonoptera*), a species designated as Special Concern by COSEWIC and on the SARO list. The species has been seen in 1985.
- **Global, Provincial and Regionally Rare Species** – The NHIC Element Occurrence database found records of the following species:

Insects

- ♦ Clamp-tipped emerald – Dragonfly (*Somatochlora tenebrosa*) – S-rank: S2S3 – Seen in 1939
- ♦ Cyrano damer – Dragonfly (*Nasiaeschna pentacantha*) – S-rank: S3 – No date
- ♦ Painted skimmer – Dragonfly (*Libellula semifasciata*) – S-rank: S2 – Seen in 1939

Mammals

- ♦ Eastern pipistrelle (*Pipistrellus subflavus*) – S-rank: S3? – Seen in 1977

Plants

- ♦ Autumn coral-root (*Corallorhiza odontorhiza*) – S-rank: S2 – Seen in 1937
- ♦ Dwarf chinquapin oak (*Quercus prinoides*) – S-rank: S2 – Seen in 1949
- ♦ Harlberd-leaved tearhurr (*Persicaria arifolia*) – S-rank: S3 – Seen in 1985
- ♦ Moss phlox (*Phlox subulata*) – S-rank: S1? – Seen in 1936
- ♦ Pignut hickory (*Carya glabra*) – S-rank: S3 – Seen in 1961
- ♦ Puttyroot (*Aplectrum hyemale*) – S-rank: S2 – Seen in 1971
- ♦ Sundial lupine (*Lupinus perennis*) – S-rank: S3 – Seen in 1936 and 1953
- ♦ Yellow corydalis (*Corydalis flavula*) – S-rank: S2 – Seen in 1951
- ♦ Yellow ladies'-tresses (*Spiranthes ochroleuca*) – S-rank: S2 – Seen in 1950

Woodlands – The results of the query did not provide records of any woodland on or within 1 km² of the Project Location.

Provincial Parks and Conservation Reserves – According to the NHIC Biodiversity Explorer Tool, the natural areas database provides information on provincial parks and conservation reserves. A geographic query of the natural areas was completed and there were no provincial parks or conservation reserves identified within 1 km² from the Project Location.

Other Natural Areas – The natural areas database also provides information on crown game preserves, first nation reserves, forest reserves, migratory bird sanctuaries, national wildlife areas, non-government conservation easements, natural heritage properties, nature reserves and trust lands, provincial wildlife areas, Ramsar sites², resource management areas, wilderness areas and important bird areas. The results of the query did not identify any records of these natural areas on or within 1 km² from the Project Location.

2.1.4 **Ontario Crown Land Use Atlas Mapping**

The *Crown Land Use Policy Atlas* interactive map (MNR, 2010b), was accessed on August 6, 2010 and reviewed to determine if there is crown land on and within 120 m of the Project Location. This review did not identify any crown land within 1 km of the Project Location.

2.1.5 **NHIC Ontario Herpetofaunal Summary Atlas**

A review of the *Ontario Herpetofaunal Summary Atlas* (Oldham and Weller, 2000) was completed to determine if there are species of conservation concern that have the potential to occur on and within 120 m of the Project Location. The *Ontario Herpetofaunal Summary Atlas* (Oldham and Weller, 2000) identified 26 reptile and amphibian species, including species of conservation concern whose ranges overlap with the Project Location (Table 2.1).

Species of Conservation Concern – Five species of conservation concern have ranges that overlap with the Project Location and are discussed further in Section 3. These species will be considered during the site investigation.

- **Endangered and Threatened Species on the SARO list** – Species that are designated as Endangered or Threatened on the SARO list are protected under the provisions of the ESA and will be discussed in further detail in the *Approval and Permitting Requirements Document for Renewable Energy Projects*.
- **National and Provincial Species at Risk**
 - ◆ Eastern ribbonsnake (*Thamnophis sauritus*)– Listed as Special Concern by COSEWIC and on the SARO list
 - ◆ Milksnake (*Lampropeltis triangulum*) – Listed as Special Concern by COSEWIC and on the SARO list
 - ◆ Map turtle (*Graptemys geographica*) – Listed as Special Concern by COSEWIC and on the SARO list
 - ◆ Snapping turtle (*Clemmys guttata*) – Listed as Special Concern by COSEWIC and on the SARO list
- **Global, Provincial and Regionally Rare Species**
 - ◆ Jefferson x blue-spotted salamander (*Ambystoma jeffersonianum x laterale* "complex") (Jefferson dominated genome) – Provincially rare based on a conservation rank of S2;

² A Ramsar site is a wetland of international importance as defined by the Ramsar Convention for the conservation and sustainable utilization of wetlands, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

Table 2.1 Amphibians and Reptiles Potentially Occurring on or within 120 m of the Norfolk Bloomsburg TS Solar Energy Project and Their Conservation Status¹.

Species		Conservation Rank ²		At Risk Status		
Common Name	Scientific Name	Global GRANK	Ontario SRANK ³	COSEWIC	SARA	SARO/ESA
Frogs and Toads						
American bullfrog	<i>Rana castebiana</i>	G5	S4	-	-	-
American toad	<i>Bufo americanus</i>	G5	S5	-	-	-
Gray treefrog	<i>Hyla versicolor</i>	G5	S5	-	-	-
Green frog	<i>Rana clamitans</i>	G5	S5	-	-	-
Northern leopard frog	<i>Rana pipiens</i>	G5	S5	NAR	-	NAR
Pickerel frog	<i>Rana palustris</i>	G5	S4	NAR	-	NAR
Spring peeper	<i>Pseudacris crucifer</i>	G5	S5	-	-	-
Western chorus frog – Carolinian Population	<i>Pseudacris triseriata</i>	G5TRN	S4	NAR	-	NAR
Wood Frog	<i>Rana sylvatica</i>	G5	S5	-	-	-
Salamanders						
Blue-spotted salamander	<i>Ambystoma laterale</i>	G5	S4	-	-	-
Eastern red-backed salamander	<i>Plethodon cinereus</i>	G5	S5	-	-	-
Four-toed salamander	<i>Hemidactylium scutatum</i>	G5	S4	-	-	-
Jefferson x blue spotted salamander (Jefferson dominated genome)	<i>Ambystoma jeffersonianum x laterale "complex"</i>	G4	S2	-	-	-
Mudpuppy	<i>Necturus maculosus</i>	G5	S4	NAR	-	NAR
Red-spotted newt	<i>Notophthalmus viridescens viridescens</i>	G5	S5	-	-	-
Yellow-spotted salamander	<i>Ambystoma maculatum</i>	G5	S4	-	-	-
Snakes						
Dekay's brownsnake	<i>Storeria dekayi</i>	G5	S5	NAR	-	NAR
Eastern gartersnake	<i>Thamnophis sirtalis sirtalis</i>	G5T5	S5	-	-	-

Species		Conservation Rank ²		At Risk Status		
Common Name	Scientific Name	Global GRANK	Ontario SRANK ³	COSEWIC	SARA	SARO/ESA
Milksnake	<i>Lampropeltis triangulum</i>	G5	S3	SC	SC (Schedule 1)	SC
Eastern ribbonsnake	<i>Thamnophis sauritus</i>	G5	S3	SC	SC (Schedule 1, Great Lakes Population)	SC
Northern redbelly snake	<i>Storeria occipitomaculata occipitomaculata</i>	G5T5	S5	-	-	-
Northern watersnake	<i>Nerodia sipedon sipedon</i>	G5T5	S5	NAR	-	NAR
Smooth green snake	<i>Liochlorophis vernalis</i>	G5	S4	-	-	-
Turtles						
Map turtle	<i>Graptemys geographica</i>	G5	S3	SC	SC (Schedule 1)	SC
Midland painted turtle	<i>Chrysemys picta marginata</i>	G5T5	S5	-	-	-
Snapping turtle	<i>Chelydra serpentina</i>	G5	S3	SC	-	SC

¹ As determined from potential climatic domain maps in McKenney *et al.* (2007) and range maps provided in Oldham and Weller (2000).

² Accessed from NHIC, 2010.

³ Nature Conservancy Ranking (NHIC, 2010); 1 = Critically Imperilled, 2 = Imperilled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, G = Global Level, H = Historical Occurrence, N = National Level, NAR = Not At Risk, S = Sub-national Rank (Ontario), SNA = Species Not Applicable (A conservation status rank is not applicable because the species is not a suitable target for conservation activities), R = Local Status not available, U = Unknown, X = Extinct, ? = Rank Uncertain.

2.1.6 **Renewable Energy Atlas**

The *Renewable Energy Atlas* was reviewed for information related to natural features, provincial parks, conservation reserves and other land use information within 120 m of the Project Location (MNR, 2010d). The following information was provided:

ANSI – The land use layer provides information on ANSI's. This layer did not identify any earth science or life science ANSI's on or within 120 m of the Project Location.

Wetlands – The base data layer provides information on coastal wetlands only. This layer did not identify this feature on or within 120 m of the Project Location.

Valleylands – Information on valleylands is not included in the layers provided in the *Renewable Energy Atlas* (MNR, 2010d).

Wildlife Habitat – The wildlife layer provides information on known bat hibernacula within a 10 km grid. This feature was not identified within the 10 km grid that overlaps the Project Location.

Woodlands – Information on woodlands is not included in the layers provided in the *Renewable Energy Atlas* (MNR, 2010d).

Provincial Parks and Conservation Reserves – The land use layer provides information on provincial parks and conservation reserves. This layer did not identify these features on or within 120 m of the Project Location.

2.2 **Federal Government Records**

2.2.1 **Methodology**

The following Federal on-line records were reviewed:

- Natural Resources Canada's Amphibians and Reptiles of Ontario Climate Domain Maps (<http://cfs.nrcan.gc.ca/subsite/glfc-amphibians/quicklinks>).
- Environment Canada (www.ec.gc.ca).
- Canadian Wildlife Service (<http://www.on.ec.gc.ca/wildlife/programs-e.html#sar>).

2.2.2 **Results**

Natural Resources Canada's Amphibians and Reptiles of Ontario Climate Domain Maps

Natural Resources Canada's *Amphibians and Reptiles of Ontario Climate Domain Maps* were reviewed and compared with data from the *Ontario Herpetofaunal Summary Atlas*. Ranges of the following species fall within the Project Location according to the *Ontario Climate Domain Maps*, but their presence at the Project Location has not been recorded.

Snakes

- Northern ringneck snake (*Diadophis punctatus edwardsi*) – Not at risk

Turtles

- Stinkpot turtle (*Sternotherus odoratus*) – Not at risk

Since there are no records of these species from the vicinity of the Project Location these species are presumed to be not present and are not considered further.

Environment Canada and Canadian Wildlife Service

The Canadian Wildlife Service and Environment Canada websites were also reviewed. No information relevant to the Project Location was available from these sources.

2.3 Conservation Authority Records**2.3.1 Methodology**

The proposed Project is situated within the jurisdiction of the Long Point Region Conservation Authority (LPRCA). Information provided on the LPRCA web site (<http://www.lprca.on.ca/planning/viewer/>), was reviewed for any records regarding natural heritage features on or adjacent to the Project Location.

Records were requested from the LPRCA on August 10, 2010 in regards to their regulation limits and any potential natural features on or adjacent to the property (LPRCA, 2010).

2.3.2 Results

According to the LPRCA web site map (the Project Location is not in the LPRCA regulation limit (O. Reg. 178/06; Long Point Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses). GIS data of the LPRCA's Regulation Areas were obtained from LPRCA and are depicted on Figure 1.1. Based on review of this data, there are no identified Regulation Areas within 120 m of the Project Location.

No new natural heritage feature data were provided by the LPRCA to Hatch Ltd. on a communication received August 10, 2010 (LPRCA, 2010).

2.4 Municipal Records**2.4.1 Methodology**

The Project Location is located within the Regional County of Norfolk (single tier municipality).

The website of the County of Norfolk (<http://www.norfolkcounty.ca>) was reviewed for any information relating to natural heritage features.

The zoning by-laws of the Norfolk County were also searched to find any records of natural features.

2.4.2 Results

A search in Schedule A-1 of the Norfolk County Official Plan (Norfolk County, 2006) revealed that the Project Location is planned on an Agricultural Area. Schedule B-6 (Norfolk County, 2006) showed that there are no hazard lands, provincially significant wetlands or special policy areas on or within 120 m of the Project Location. Schedule C-4 and C-5 (Norfolk County, 2006) illustrated that there are no significant woodlands, natural areas, ANSIs or significant wetlands on or within 120 m of the Project Location.

The County maintains an on-line map book (Norfolk County, 2010) showing the general environmental and infrastructure features of the area. This information was reviewed, but did not provide any more information than the Norfolk County Official Plan.

The zoning by-law review did not provide any more information on natural features that could be present at the Project Location.

2.5 Non-Government Records

2.5.1 Methodology

In addition to the sources identified previously, the following records were also reviewed:

- Ontario Breeding Bird Atlas data (Bird Studies Canada *et al.*, 2006)
- Important Bird Areas of Canada website (<http://www.ibacanada.ca/mapviewer.jsp?lang=en>)
- Atlas of the Mammals of Ontario (Dobbyn, 1994).

2.5.2 Results

Ontario Breeding Bird Atlas

Map square 17NH54 in the *Ontario Breeding Bird Atlas* overlaps the Project Location. Results from surveys within this square were reviewed to determine the species of birds that could or may occur on the Project Location (results of the surveys within this square are provided in Appendix A). Of the species that were recorded, nine species are species of conservation concern. These species are as follows, and discussed in Section 3:

- **Endangered and Threatened Species on the SARO list** – Species that are designated as Endangered or Threatened on the SARO list are protected under the provisions of the ESA and will be discussed in further detail in the *Approval and Permitting Requirements Document for Renewable Energy Projects*.
- **National and Provincial Species at Risk**
 - ◆ Canada Warbler (*Wilsonia canadensis*) – Listed as Threatened by COSEWIC and Special Concern on the SARO list
 - ◆ Cerulean Warbler (*Dendroica cerulea*) – Listed as Special Concern by COSEWIC and on the SARO list
 - ◆ Common Nighthawk (*Chordeiles minor*) – Listed as Threatened by COSEWIC and as Special Concern on the SARO list
 - ◆ Golden-winged Warbler (*Vermivora chrysoptera*) – Listed as Threatened by COSEWIC and as Special Concern on the SARO list
 - ◆ Hooded Warbler (*Wilsonia citrina*) – Listed as Threatened by COSEWIC and Special Concern on the SARO list
 - ◆ Red-headed Woodpecker (*Melanerpes erythrocephalus*) – Listed as Threatened by COSEWIC and as Special Concern on the SARO list.

Important Bird Areas of Canada

Important Bird Areas are discrete sites that support specific groups of birds; threatened birds, large groups of birds, and birds restricted by range or by habitat. According to the website review, there are no Important Bird Areas identified in the vicinity of the Project Location.

Atlas of the Mammals of Ontario

The *Atlas of the Mammals of Ontario* (Dobbyn, 1994) identifies several species that could occur at the Project Location (Table 2.2). The following species of conservation concern have records on the Project Location and are discussed further in Section 3:

- Eastern pipistrelle (*Pipistrellus subflavus*) – S-ranked as S3?
- Northern long-eared bat (*Myotis septentrionalis*) – S-ranked as S3?
- Woodland vole (*Pitymys pinetorum*) – Listed as Special Concern by COSEWIC and on the SARO list.

Table 2.2 Mammal Species Potentially Occurring at the Norfolk Bloomsburg TS Solar Energy Project Location¹.

Species		Conservation Rank ²		At Risk Status		
Common Name	Scientific Name	Global GRANK	Ontario SRANK ³	COSEWIC	SARA	SARO/ESA
Bats						
Big brown bat	<i>Epstesicus fuscus</i>	G5	S5	-	-	-
Eastern pipistrelle	<i>Pipistrellus subflavus</i>	G5	S3?	-	-	-
Eastern red bat	<i>Lasiurus borealis</i>	G5	S4	-	-	-
Hoary bat	<i>Lasiurus cinereus</i>	G5	S4	-	-	-
Little brown bat	<i>Myotis lucifuga</i>	G5	S5	-	-	-
Northern long-eared bat	<i>Myotis septentrionalis</i>	G4	S3?	-	-	-
Silver-haired bat	<i>Lasionycteris noctivagans</i>	G5	S4	-	-	-
Carnivores						
Coyote	<i>Canis latrans</i>	G5	S5	-	-	-
Ermine	<i>Mustela erminea</i>	G5	S5	-	-	-
Long-tailed Weasel	<i>Mustela frenata</i>	G5	S4	-	-	-
Mink	<i>Mustela vison</i>	G5	S4	-	-	-
Raccoon	<i>Procyon lotor</i>	G5	S5	-	-	-
Red fox	<i>Canis latrans</i>	G5	S5	-	-	-
Striped skunk	<i>Mephitis mephitis</i>	G5	S5	-	-	-
Opossums						
Virginia opossum	<i>Didelphis virginiana</i>	G5	S4	-	-	-
Rabbits and Hares						
Eastern cottontail	<i>Sylvilagus floridanus</i>	G5	S5	-	-	-
European hare	<i>Lepus europeanus</i>	G5	SE/SNA	-	-	-
Rodents						
Beaver	<i>Castor canadensis</i>	G5	S5	-	-	-
Deer mouse	<i>Peromyscus maniculatus</i>	G5	S5	-	-	-
Eastern chipmunk	<i>Tamias striatus</i>	G5	S5	-	-	-

Species		Conservation Rank ²		At Risk Status		
Common Name	Scientific Name	Global GRANK	Ontario SRANK ³	COSEWIC	SARA	SARO/ESA
Eastern gray squirrel	<i>Sciurus carolinensis</i>	G5	S5	-	-	-
House mouse	<i>Mus musculus</i>	G5	SNA	-	-	-
Meadow jumping mouse	<i>Zapus hudsonius</i>	G5	S5	-	-	-
Meadow vole	<i>Microtus pennsylvanicus</i>	G5	S5	-	-	-
Muskrat	<i>Ondatra zibethicus</i>	G5	S5	-	-	-
Norway rat	<i>Rattus norvegicus</i>	G5	SNA	-	-	-
Red squirrel	<i>Tamiasciurus hudsonicus</i>	G5	S5	-	-	-
Southern flying Squirrel	<i>Glaucomys volans</i>	G5	S4	-	-	-
Woodchuck	<i>Marmota monax</i>	G5	S5	-	-	-
White-footed mouse	<i>Peromyscus leucopus</i>	G5	S5	-	-	-
Woodland jumping mouse	<i>Napaeozapus insignis</i>	G5	S5	-	-	-
Woodland vole	<i>Pitymys pinetorum</i>	G5	S3	SC	SC (Schedule 1)	SC
Shrews and Moles						
Common shrew	<i>Sorex cinereus</i>	G5	S5	-	-	-
Hairy-tailed mole	<i>Parascalops breweri</i>	G5	S4	-	-	-
Northern short-tailed shrew	<i>Blarina brevicauda</i>	G5	S5	-	-	-
Star-nosed mole	<i>Condylura cristata</i>	G5	S5	-	-	-
Ungulates						
White-tailed deer	<i>Odocoileus virginianus</i>	G5	S5	-	-	-

¹ Based on Range Maps provided in Dobbyn, 1994.

² Accessed from NHIC, 2010

³ Nature Conservancy Ranking (NHIC, 2010); 1 = Critically Imperilled, 2 = Imperilled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, G = Global Level, H = Historical Occurrence, N = National Level, NAR = Not At Risk, S = Sub-national Rank (Ontario), SNA = Species Not Applicable (A conservation status rank is not applicable because the species is not a suitable target for conservation activities), R = Local Status not available, U = Unknown, X = Extinct, ? = Rank Uncertain.

3. Summary of Results and Next Steps

3.1 Natural Features

The presence and / or absence of natural features on and within 120 m of the Project location are summarized below and have been determined based on records obtained from the information sources identified in this report.

- **Provincial Parks and Conservation Reserves** – There are no provincial parks or conservation reserves on or within 120 m of the Project location.
- **ANSI** – There are no earth science or life science ANSI's on or within 120 m of the Project location.
- **Wetlands** – There are no wetlands identified on or within 120 m of the Project Location.
- **Valleylands** – There are no valleylands identified on or within 120 m of the Project location.
- **Woodlands** – There is a woodland identified within the 120 m setback, southwest of the Project Location.
- **Wildlife Habitat**
 - ◆ **Habitat of Species of Conservation Concern** - As identified in Section 2, several species of conservation concern may occur within the vicinity of the Project Location. A summary of species of conservation concern that will be assessed as candidate significant wildlife is provided below. Species that are on the SARO list as Threatened or Endangered are not addressed in this report and will be discussed under separate cover in the Approval and Permitting Requirements Document for Renewable Energy Projects as per the requirements of the ESA.

Birds

- ◆ **American Kestrel (*Falco sparverius*)** – Identified as a Priority Species (Breeding) in BCR 13 that is of regional concern and has been assigned a conservation objective of Halt Decline (has declined but is still at an acceptable level) (Ontario Partners in Flight, 2008).
- ◆ **Canada Warbler (*Wilsonia canadensis*)** – Listed as Threatened by COSEWIC and Special Concern on the SARO list. This species is also identified as a Priority Species in BCR 13 that is of continental and regional concern and has been assigned a conservation objective of Reverse Decline (has declined to a less desirable level) (Ontario Partners in Flight, 2008).
- ◆ **Cerulean Warbler (*Dendroica cerulea*)** – Listed as Special Concern by COSEWIC and on the SARO list.
- ◆ **Common Nighthawk (*Chordeiles minor*)** – Listed as Threatened under SARA and as Special Concern under ESA. Common Nighthawk is commonly observed foraging on the wing for insects over clearings, fields, ponds, and other open areas. Preferred nesting sites are bare ground in open areas or gravel rooftops in urban environments

(Government of Canada, 2010a; Poulin *et al.*, 1996). Suitable habitat may be found at the Project Location and the Common Nighthawk were observed in its breeding season in suitable nesting habitat in the 10 x 10 km OBBA survey square during both survey periods (1981 to 1985 and 2001 to 2005) (Bird Studies Canada *et al.*, 2006). As a result, this species may occur on the Project Location.

- ◆ **Eastern Kingbird** (*Tyrannus tyrannus*) – Identified as a Priority Species (Breeding) in BCR 13 that is of regional concern and has been assigned a conservation objective of Halt Decline (has declined but is still at an acceptable level) (Ontario Partners in Flight, 2008).
- ◆ **Eastern Meadowlark** (*Sturnella magna*) – Identified as a Priority Species (Breeding) in BCR 13 that is of regional concern and has been assigned a conservation objective of Halt Decline (has declined but is still at an acceptable level) (Ontario Partners in Flight, 2008).
- ◆ **Golden-winged Warbler** (*Vermivora chrysoptera*) – Listed as Threatened by COSEWIC and Special Concern on the SARO list.
- ◆ **Grasshopper Sparrow** (*Ammodramus savannarum*) – Identified as a Priority Species (Breeding) in BCR 13 that is of regional management interest (evidence of substantial local declines in abundance or distribution, combined with elevated threats to future conditions) and has been assigned a conservation objective of Halt Decline (has declined but is still at an acceptable level) (Ontario Partners in Flight, 2008).
- ◆ **Hooded Warbler** (*Wilsonia citrina*) – Listed as Threatened under SARA and Special Concern under ESA. During the second survey period (2001 to 2005), nest building were observed in the 10 x 10 km OBBA survey square during the second survey period (2001 to 2005) (Bird Studies Canada *et al.*, 2006). Hooded Warblers nest in large area of mature hardwood forests with tall trees and a well-closed canopy (Government of Canada, 2010b). Habitat of this type is not available in the vicinity of the Project Location and the Hooded Warbler is not expected to occur.
- ◆ **Northern Harrier** (*Circus cyaneus*) – Identified as a Priority Species (Breeding) in BCR 13 that is of regional concern and has been assigned a conservation objective of Maintain Current (species appears to be stable or increasing) (Ontario Partners in Flight, 2008).
- ◆ **Red-headed Woodpecker** (*Melanerpes erythrocephalus*) – Listed as Threatened under SARA and as Special Concern under ESA. This species can be found in field edges and farmyards with a few large trees (Government of Canada, 2010c). Habitat of this type is available in the vicinity of the Project Location. This species is known to occur in the 10 x 10 km OBBA survey square during the first survey period (1981 to 1985) (Bird Studies Canada *et al.*, 2006). Therefore, Red-headed Woodpecker may occur in the vicinity of the Project Location.

- ♦ **Savannah Sparrow** (*Passerculus sandwichensis*) – Identified as a Priority Species (Breeding) in BCR 13 that is of regional concern and has been assigned a conservation objective of Halt Decline (has declined but is still at an acceptable level) (Ontario Partners in Flight, 2008).
- ♦ **Short-eared Owl** (*Asio flammeus*) – Listed as Special Concern by COSEWIC and on the SARO list. This species is also identified as a Priority Species in BCR 13 that is of continental and regional concern and has been assigned a conservation objective of Assess Status (poorly monitored) (Ontario Partners in Flight, 2008).
- ♦ **Upland Sandpiper** (*Bartramia longicauda*) – Identified as a species of conservation concern and assigned a Medium Priority rating in southern Ontario and High Priority rating for BCR 13 (Ross *et al.*, 2003).

Mammals

- ♦ **Woodland vole** (*Pitymys pinetorum*) – Listed as Special Concern by COSEWIC and on the SARO list. Woodland vole appears to be closely related to mature deciduous forests (Government of Canada, 2010d). Since this habitat type is absent from the area, the woodland vole is not expected to occur in the vicinity of the Project Location.

Plants

- ♦ **Broad beech fern** (*Phegopteris hexagonoptera*) – Listed as Special Concern by COSEWIC and on the SARO list. Broad beech fern was seen in 1985 within a 1 km radius surrounding the Project Location. Broad beech fern inhabits shady areas of beech and maple forests where the soil is moist or wet (Government of Canada, 2010d). Habitat of this type is not available in the vicinity of the Project Location and the Broad beech fern is not expected to occur.

Reptiles

- ♦ **Milksnake** (*Lampropeltis triangulum*) – Listed as Special Concern by COSEWIC and on the SARO list. This species lives in open woodlands, fields and farm buildings (McKenney *et al.*, 2007). Habitat of this type is available at the Project Location and milksnake could occur at the Project Location.
- ♦ **Eastern ribbonsnake** (*Thamnophis sauritus*) Great Lakes Population – Listed as Special Concern by COSEWIC and on the SARO list. The eastern ribbonsnake is commonly found in wet areas, including weedy shorelines. Habitat of this type is not available in the adjacent area to the Project Location. The eastern ribbonsnake is not expected to occur at the Project Location.

Amphibians

- ♦ **Jefferson x blue-spotted salamander** (*Ambystoma jeffersonianum x laterale* "complex") (Jefferson dominated genome) – S-rank: S2

Insects

- ♦ **Cyrano darner** – Dragonfly (*Nasiaeschna pentacantha*) – S-ranked as S3 – No date

Mammals

- ◆ **Eastern pipistrelle** (*Pipistrellus subflavus*) – S-ranked as S3? – No date
- ◆ **Northern long-eared bat** (*Myotis septentrionalis*) – S-ranked as S3? – Seen in 1977

Plants

- ◆ **Harlberd-leaved tearhurr** (*Persicaria arifolia*) – S-ranked as S3 – Seen in 1985
- ◆ **Pignut hickory** (*Carya glabra*) – S-ranked as S3 – Seen in 1940 and 1961
- ◆ **Puttyroot** (*Aplectrum hyemale*) – S-ranked as S2 – Seen in 1971
- ◆ **Habitats of Seasonal Concentrations of Animals** – No specific habitats of seasonal concentrations of animals were identified.
- ◆ **Rare Vegetation Communities or Specialized Habitats for Wildlife** – No rare vegetation communities or specialized habitats for wildlife were identified.
- ◆ **Animal Movement Corridors** - The MNR Aylmer District indicated that the hedgerows within 120 m of the Project Location may be used as animal movement corridors.

3.2 Records Review Determinations

Table 3.1 summarizes the results of the natural heritage assessment records review according to the features identified in Section 1.3. A map depicting the identified natural features on and in proximity to the location is provided in Figure 1.1.

Table 3.1 Summary of Natural Heritage Assessment Records Review Determinations for the Norfolk Bloomsburg TS Solar Energy Project.

Determination to be Made	Yes/No	Description
Is the Project Location in or within 120 m of a provincial park or conservation reserve?	No	There are no provincial parks or conservation reserves within 120 m of the Project Location
Is the Project Location in a natural feature?	Yes	The information sources reviewed in this report identified the following potential wildlife habitat types on the Project Location based on the species with ranges that overlap the Project: habitats of seasonal concentrations of animals, specialized habitats for wildlife, habitat for species of conservation concern and animal movement corridors. The information sources reviewed in this report did not identify potential rare vegetation communities on the Project Location.
Is the Project Location within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project Location.

Determination to be Made	Yes/No	Description
Is the Project Location within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	The following potential wildlife habitat types may occur within 120 m of the Project Location: habitats of seasonal concentrations of animals, specialized habitats for wildlife, habitat for species of conservation concern and animal movement corridors. The information sources reviewed in this report did not identify potential rare vegetation communities within 120 m of the Project Location. There is also a woodland within 120 m of the Project Location, along the southwest boundary.

3.3 Next Steps

A natural heritage assessment site investigation, as required in Section 26 of the REA Regulation will be completed to:

- i. confirm the features identified during this records review
- ii. identify if any corrections to the information presented herein are required
- ii. determine whether any additional natural features exist on or adjacent to the Project Location
- iii. confirm the boundaries of the natural features within 120 m of the Project Location
- iv. determine the distance from the Project to the natural feature boundary, and
- v. verify the potential presence of the species of conservation concern mentioned in Section 3.

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Appendix A

Ontario Breeding Bird Atlas Data



Square Summary (17NH54)

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
14	21	57	92	13	28	56	97	159	154	29	1

Region summary (#5: Long Point)

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
37	37	35	176	176	1604	925

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

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose	AE	FY	94	97
Mute Swan			8	25
Wood Duck	FY	FY	89	97
Gadwall ‡			16	8
American Wigeon ‡			8	5
American Black Duck			35	28
Mallard	AE	FY	97	97
Blue-winged Teal	P		78	34
Cinnamon Teal †			2	0
Northern Shoveler ‡			5	2
Northern Pintail ‡			8	11
Green-winged Teal ‡			0	8
Redhead †			10	0
Lesser Scaup ‡			2	0
Hooded Merganser			21	34
Red-breast Merganser ‡			2	2
Ruddy Duck †			2	2
Gray Partridge			48	20
Ring-necked Pheasant		H	54	45
Ruffed Grouse	FY	FY	86	68
Wild Turkey		NE	13	85
Northern Bobwhite †		H	2	8
Pied-billed Grebe			16	31
American Bittern			24	25
Least Bittern †			24	17
Great Blue Heron §	H		86	88
Green Heron §	FY	T	94	91
Black-crown N.-Heron † §			10	0
Turkey Vulture	P	H	91	91

SPECIES	Code		%	
	1st	2nd	1st	2nd
Bald Eagle †			2	22
Northern Harrier		H	40	60
Sharp-shinned Hawk			29	60
Cooper's Hawk		A	8	65
Northern Goshawk ‡			2	11
Red-should Hawk †			16	11
Broad-winged Hawk	S	T	43	48
Red-tailed Hawk	FY	P	94	97
American Kestrel	D	H	97	85
Merlin ‡		T	0	2
King Rail †			5	5
Virginia Rail			37	45
Sora	T		29	37
Common Moorhen			21	14
American Coot			16	8
Coot/Moorhen			0	0
Sandhill Crane ‡			0	14
Killdeer	NE	FY	100	100
Rock Dove	AE	AE	91	91
Spotted Sandpiper	A	DD	100	74
Upland Sandpiper			24	8
Common Snipe			51	22
American Woodcock	FY	T	89	88
Wilson's Phalarope †			2	2
Little Gull †			2	0
Ring-billed Gull §			10	2
Herring Gull ‡§			8	0
Black Tern † §			13	11
Common Tern ‡§			10	0

SPECIES	Code		%	
	1st	2nd	1st	2nd
Forster's Tern † §			8	5
Mourning Dove	NE	NY	97	100
Yellow-billed Cuckoo			48	68
Black/Yell-billed Cuckoo		T	0	45
Black-billed Cuckoo		CF	72	91
Eastern Screech-Owl	T	FY	83	91
Great Horned Owl	S	T	89	77
Barred Owl ‡			8	5
Long-eared Owl ‡			10	2
North Saw-whet Owl ‡			8	2
Common Nighthawk	H	H	35	22
Chuck-will's-widow †			2	0
Whip-poor-will		T	37	28
Chimney Swift	N	V	81	80
Ruby-thr Hummingbird	P	NE	89	100
Belted Kingfisher	FY	AE	97	94
Red-headed Woodpecker †	NU		81	45
Red-bell Woodpecker		NY	8	97
Yellow-bellied Sapsucker	P	T	37	62
Downy Woodpecker	CF	AE	97	100
Hairy Woodpecker	CF	NY	94	94
Northern Flicker	FY	AE	100	100
Pileated Woodpecker	S	NY	64	68
Eastern Wood-Pewee	AE	T	97	100
Acadian Flycatcher †			8	37
Alder Flycatcher			59	65
Willow Flycatcher	NY	T	89	97
Least Flycatcher	T	H	81	85
Eastern Phoebe	NU	NE	81	97

[next page >>](#)

Ontario Breeding Bird Atlas - Summary Sheet for Square 17NH54 (page 2 of 3)

SPECIES	Code		%	
	1st	2nd	1st	2nd
Gr Crested Flycatcher	AE	A	94	100
Eastern Kingbird	CF	CF	97	100
Loggerhead Shrike †			2	0
White-eyed Vireo †			5	5
Yellow-throated Vireo	S		70	62
Blue-headed Vireo			16	17
Warbling Vireo	S	T	91	100
Red-eyed Vireo	T	NY	94	100
Blue Jay	NY	NY	97	100
American Crow	NY	NY	97	100
Horned Lark	FY	S	89	91
Purple Martin	NY	H	83	54
Tree Swallow	AE	AE	97	100
North Rgh-wing Swallow	AE	FY	91	94
Bank Swallow §	AE	AE	91	85
Cliff Swallow §			54	57
Barn Swallow	NY	NE	94	100
Black-capped Chickadee	AE	NY	97	100
Tufted Titmouse †			0	17
Red-breast Nuthatch	FY	T	54	62
White-breast Nuthatch	AE	NY	91	97
Brown Creeper			48	57
Carolina Wren		AE	2	62
House Wren	AE	NY	100	100
Winter Wren			29	37
Sedge Wren ‡			5	5
Marsh Wren			32	22
Golden-crown Kinglet	A		21	17
Blue-gr Gnatcatcher	T		75	80

SPECIES	Code		%	
	1st	2nd	1st	2nd
Eastern Bluebird	FY	NE	51	88
Veery	A	A	83	88
Hermit Thrush			16	22
Wood Thrush	FY	NY	86	97
American Robin	NY	NY	94	100
Gray Catbird	NE	FY	94	100
Northern Mockingbird		AE	8	37
Brown Thrasher	CF	CF	97	94
European Starling	NY	FY	97	100
Cedar Waxwing	AE	FY	97	97
Blue-winged Warbler	S	T	59	65
Golden-winged Warbler			51	17
Blue/Gold-wing Warbler			0	25
Lawrence's Warbler †			0	0
Brewster's Warbler †			21	8
Nashville Warbler			18	14
Northern Parula ‡			2	0
Yellow Warbler	NE	A	94	100
Chestn-sided Warbler	CF	T	70	80
Magnolia Warbler			8	42
Black-thr Blue Warbler			0	28
Yellow-rumped Warbler ‡			10	17
Black-thr Green Warbler			24	51
Blackburnian Warbler			27	31
Pine Warbler	CF	T	54	82
Prairie Warbler †			5	5
Cerulean Warbler †			40	31
Black-white Warbler	H		40	60
American Redstart		H	86	91

SPECIES	Code		%	
	1st	2nd	1st	2nd
Prothonotary Warbler †			13	8
Ovenbird	CF	NY	89	94
North Waterthrush		H	56	71
Louis Waterthrush †			37	22
Kentucky Warbler †	H		8	2
Mourning Warbler	A		64	71
Common Yellowthroat	T	T	97	100
Hooded Warbler †		NY	18	37
Canada Warbler			48	40
Yellow-breast Chat †	S		10	2
Eastern Towhee	S	FY	97	97
Chipping Sparrow	NY	NY	100	100
Clay-colored Sparrow ‡			5	20
Field Sparrow	T	T	100	94
Vesper Sparrow	S	T	86	91
Savannah Sparrow	P	CF	89	94
Grasshopper Sparrow		CF	10	31
Song Sparrow	AE	CF	97	100
Swamp Sparrow	T	T	89	91
White-throat Sparrow			16	25
Dark-eyed Junco			10	8
Summer Tanager ‡			0	5
Scarlet Tanager	FY	T	89	97
Northern Cardinal	CF	FY	94	100
Rose-breast Grosbeak	T	NY	86	100
Indigo Bunting	CF	FY	94	100
Bobolink	AE	T	91	94
Red-wing Blackbird	NY	FY	97	100
Eastern Meadowlark	AE	T	97	88

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SPECIES	Code		%	
	1st	2nd	1st	2nd
Western Meadowlark ‡			2	0
Common Grackle	AE	NY	100	100
Brown-head Cowbird	NE	FY	97	100
Orchard Oriole ‡	NY	S	45	65
Baltimore Oriole	CF	FY	97	100
Purple Finch ‡	S	H	18	31
House Finch	AE	NY	40	97
Red Crossbill ‡			10	0
Pine Siskin ‡			2	11
American Goldfinch	T	FY	94	100
House Sparrow	NY	AE	89	100

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #5 (Long Point). Underlined species are those that you should try to add to this square. They have not yet been reported during the 2nd atlas, but were found during the 1st atlas in this square or have been reported in more than 50% of the squares in this region during the 2nd atlas so far. In the species table, "BE 2nd" and "BE 1st" are the codes for the highest breeding evidence for that species in square 17NH54 during the 2nd and 1st atlas respectively. The % columns give the percentage of squares in that region where that species was reported during the 2nd and 1st atlas (this gives an idea of the expected chance of finding that species in region #5). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 18/08/2010. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=17NH54>

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