



Axio Power Canada Inc./  
SunEdison Canada

Draft Natural Heritage Assessment  
Records Review Report

For

Napanee TS Taylor Kidd  
Solar Energy Project

H335467  
Rev. G  
July 19, 2011

## Report Disclaimer

This report has been prepared by Hatch Ltd. for the sole and exclusive use of Axio Power Canada Inc./SunEdison Canada (the "Client") for the purpose of assisting the Client in making decisions with respect to the development of a proposed solar photovoltaic project and shall not be (a) used for any other purpose, or (b) provided to, relied upon or used by any third party.

This report contains opinions, conclusions and recommendations made by Hatch Ltd. (Hatch), using its professional judgment and reasonable care. Any use of or reliance upon this report by the Client is subject to the following conditions:

- the report being read in the context of and subject to the terms of the agreement between Hatch and the Client, including any methodologies, procedures, techniques, assumptions and other relevant terms or conditions that were specified or agreed therein;
- the report being read as a whole, with sections or parts hereof read or relied upon in context;
- the conditions of the site may change over time (or may have already changed) due to natural forces or human intervention, and Hatch takes no responsibility for the impact that such changes may have on the accuracy or validity of the observations, conclusions and recommendations set out in this report; and
- the report is based on information made available to Hatch by the Client and/or by certain third parties; and unless stated otherwise in the Agreement, Hatch has not verified the accuracy, completeness or validity of such information, makes no representation regarding its accuracy and hereby disclaims any liability in connection therewith.

Project Report

July 19, 2011

**Axio Power Canada Inc./SunEdison Canada  
Napanee TS Taylor Kidd - Solar Energy Project**

**Draft Natural Heritage Assessment Records Review Report**

**Table of Contents**

**Report Disclaimer**

<b>1. Introduction .....</b>	<b>1</b>
1.1 Project Description .....	1
1.2 Renewable Energy Approval Legislative Requirements .....	1
<b>2. Methodology and Results .....</b>	<b>4</b>
2.1 Ministry of Natural Resources Records .....	4
2.1.1 Methodology .....	4
2.1.2 Results .....	4
2.2 Federal Government Records .....	8
2.2.1 Methodology .....	8
2.2.2 Results .....	8
2.3 Conservation Authority Records .....	8
2.3.1 Methodology .....	8
2.3.2 Results .....	8
2.4 Municipal Records .....	9
2.4.1 Methodology .....	9
2.4.2 Results .....	9
2.5 Other Records .....	10
2.5.1 Methodology .....	10
2.5.2 Results .....	10
<b>3. Species of Conservation Concern .....</b>	<b>12</b>
<b>4. Summary of Results .....</b>	<b>14</b>
4.1 Summary of Results .....	14
4.2 Next Steps .....	14
<b>5. References .....</b>	<b>15</b>
<b>Appendix A Ontario Breeding Bird Atlas Data</b>	
<b>Appendix B Cataraqui Region Conservation Authority Information</b>	

## List of Tables

<b>Number</b>	<b>Title</b>
Table 2.1	Amphibians and reptiles potentially occurring within the project area and their conservation status <sup>1</sup>
Table 2.2	Mammal species potentially occurring in the project area
Table 4.1	Summary of records review determinations

## 1. Introduction

### 1.1 Project Description

Axio Power Canada Inc. (“Axio”) in partnership with Canadian Solar Solutions Inc. (“Canadian Solar”) is proposing to develop a 10 megawatt (MW) solar photovoltaic project titled Napanee TS Taylor Kidd Solar Energy Project (hereinafter referred to as the “Project”). The Project Location<sup>1</sup> is situated on an approximately 34 hectare (ha) parcel of land on Part of Lots 27 and 28, Concession 1, Township of Loyalist (lower tier municipality), County of Lennox and Addington (upper tier municipality) and within Picton Ecodistrict 6E-15 (Figure 1.1).

### 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), came into force on September 24, 2009 and identifies the Renewable Energy Approval (REA) requirements for renewable energy generation facilities in Ontario. The REA Regulation has since been amended by O. Reg. 521/10, which came in effect as of January 1, 2011.

As per the REA Regulation (Part II, Section 4), ground mounted solar facilities with a name plate capacity greater than (>) 12 kilowatts (kW) are classified as Class 3 solar facilities and require an REA.

Subsection 25 (1) of the REA Regulation requires proponents of Class 3 solar facilities to conduct a records review to determine whether the Project Location is:

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

Natural features are defined in Part I, subsection 1 (1) of the REA Regulation to be all or part of the following:

- a) **Area of natural and scientific interest (ANSI) (earth science)** – An area that has earth science values related to protection, scientific study or education.
- b) **ANSI (life science)** – An area that has life science values related to protection, scientific study or education.
- c) **Coastal wetland** – A wetland that is located on Lake Ontario, Lake Erie, Lake Huron, Lake Superior, Lake St. Clair, St. Mary’s River, St. Clair River, Detroit River, Niagara River or St. Lawrence River; or on a tributary to any of these waterbodies and, wither in whole or in part,

---

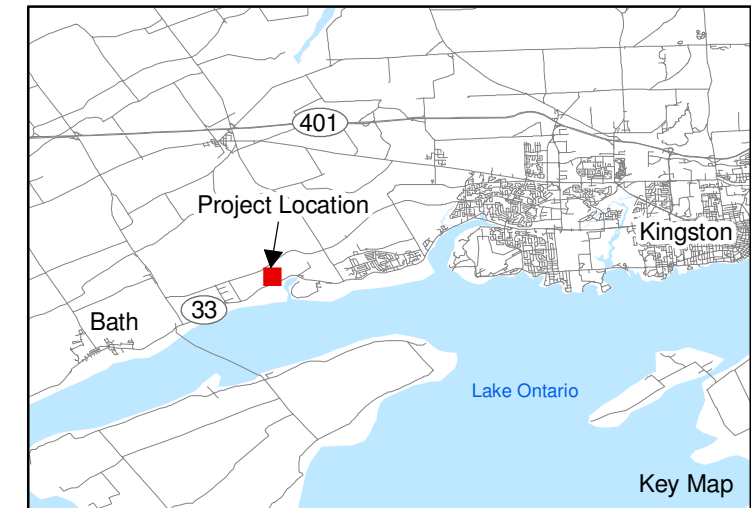
<sup>1</sup> “Project Location means, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposed to engage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

- downstream of a line located two km upstream of the 1:100 year floodline (includes wave run-up) of the water body.
- d) **Northern wetland** – A wetland located north of the northern limit of Ecoregions 5E, 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under section 3 of the *Planning Act* and approved by the Lieutenant Governor in Council by Order in Council No. 140/2005.
  - e) **Southern wetland** – A wetland located south of the northern limit of Ecoregions 5E, 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under section 3 of the *Planning Act* and approved by the Lieutenant Governor in Council by Order in Council No. 140/2005.
  - f) **Valleyland** – A natural area that is south and east of the Canadian Shield as shown in Figure 1 in the Provincial Policy Statement issued under section 3 of the *Planning Act* and approved by the Lieutenant Governor in Council by Order in Council No. 140/2005; and that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year.
  - g) **Wildlife habitat** – An area where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, water, shelter and space to sustain their population, including an area where a species concentrates at a vulnerable point in its annual or life cycle and an area that is important to a migratory or non-migratory species.
  - h) **Woodland** – A treed area, woodlot or forested area, other than a cultivated fruit or nut orchard or a plantation established for the purpose of producing Christmas trees, that is located south and east of the Canadian Shield as shown on Figure 1 in the Provincial Policy Statement issued under section 3 of the *Planning Act* and approved by the Lieutenant Governor in Council by Order in Council No. 140/2005.

The Project Location is within Picton Ecodistrict 6E-15 (Henson and Brodribb, 2005). Therefore, wetlands found within this Ecodistrict may be classified as a “coastal wetland” or “southern wetland.” The definition for “northern wetland” does not apply to the Project.

Subsection 25 (2) of the REA Regulation identify sand barrens, savannahs, tallgrass prairies and alvars as natural features for Projects located within the Protected Countryside; and sand barrens, savannahs, and tallgrass prairies for Projects located within and subject to the Oak Ridges Moraine Conservation Plan. The Project Location is not within the Protected Countryside or Oak Ridges Moraine Conservation Plan area and therefore the natural features identified in subsection 25 (2) do not apply to this Project.

Subsection 25 (3) 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.



**LEGEND**

- Building
- 100 Year Floodplain
- +— Railway
- Road
- Topographic Contour (5 m interval)
- Transmission Line
- Watercourse
- Authorized Aggregate Site
- Parcel
- Parrott's Bay Conservation Area
- Project Location
- 120 m from Project Location
- Project Site
- ▨ Provincially Significant Wetland
- ▨ Unevaluated Wetland (OBM Mapping)
- Water Body
- Woodland



Notes:  
 1. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.  
 2. Spatial referencing UTM NAD 83.  
 3. Cataraqui Region Conservation authority data provided by CRCA, Sept. 7, 2010

Figure 1.1  
 Axio Power Canada Inc.  
**Napanee TS Taylor Kidd**  
**Natural Heritage Features**

## 2. Methodology and Results

The following sections document the publicly available records used to determine whether the Project Location is in or within 120 m of a natural feature as identified by the REA Regulation and to identify species of conservation concern (e.g. nationally and provincially significant species) that may occur within the vicinity of the Project Location. Species designated as Threatened or Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Special Concern on the Species at Risk in Ontario (SARO) List and / or assigned an S-rank (provincial rank assigned by the MNR) of S1 to S3 are considered species of conservation concern. The presence / absence of the species of conservation concern identified from the information sources reviewed in this report will be confirmed during the site investigation, including a determination on whether candidate significant habitat occurs on and within 120 m of the Project Location

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 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 Location. Also, the Project Location 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

#### 2.1.1 Methodology

The following publicly available records of the Ministry of Natural Resources (MNR) were reviewed:

- Ontario Base Maps and natural feature layers from Land Information Ontario (LIO)  
(<http://www.geographynetwork.ca/website/obm/viewer.htm>)
- Natural Heritage Information Center (NHIC) Database - Biodiversity Explorer  
(<http://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/main.jsp>)
- Ontario Crown Lands Use Mapping  
(<http://crownlanduseatlas.mnr.gov.on.ca/clupa.html>)
- NHIC Ontario Herpetofaunal Summary Atlas  
(<http://nhic.mnr.gov.on.ca/MNR/nhic/herps/ohs.html>).

#### 2.1.2 Results

##### **MNR LIO Mapping**

MNR LIO mapping data provided information relating to natural heritage features (Figure 1.1). The data indicates that:

- Woodlands are found on and within 120 m of the Project Location
- Parrott's Bay Conservation area is located within 300 m of the Project Location
- Parrott's Bay Marsh is located within 300 m of the Project Location



- No wetlands or wildlife habitat types were identified on or within 120 m of the Project Location.

#### ***MNR NHIC Database***

The NHIC database (NHIC, 2010) was accessed September 1, 2010 and a geographic search using the Biodiversity Explorer tool was completed for a 1 km radius surrounding the Project Location. The Biodiversity Explorer tool provides information on rare/uncommon species and plant communities, wildlife concentration areas, natural areas and invasive species occurrences.

The NHIC database did not identify any ANSIs, wetlands, valleylands or woodlands or specific wildlife habitat types (e.g. rare vegetation communities or wildlife concentration areas) on or within 1 km of the Project Location. However, the NHIC database did provide one record of a species of conservation concern within 1 km of the Project Location; Yellow-breasted Chat (*Icteria virens*) which is designated as Special Concern both provincially (i.e. on the SARO List and nationally (COSEWIC). Species of conservation concern are discussed further in Section 3 and will be considered with respect to candidate significant wildlife habitat.

#### ***Ontario Crown Land Use Atlas Mapping***

A review of the *Crown Land Use Policy Atlas* interactive map, accessed September 2, 2010 did not indicate any Crown land within 1 km of the Project Location. As there is no Crown land in this area, detailed information relating to natural heritage features is not available and no new information was obtained.

#### ***NHIC Ontario Herpetofaunal Summary Atlas***

The *Ontario Herpetofaunal Summary Atlas* identifies several species of amphibians and reptiles with ranges that overlap the Project Location (Table 2.1). Records reviewed from NHIC identified the following species of conservation concern. These species will be discussed further in Section 3:

##### Frogs

- Western chorus frog (*Pseudacris triseriata*) – Great Lakes / St. Lawrence Canadian Shield population – Designated as Threatened by COSEWIC and provincially rare by COSSARO with an S-rank of S3.

##### Lizards

- Five-lined skink (*Plestiodon fasciatus*) – Southern Shield population – Designated as Special Concern by COSEWIC and on the SARO List.

##### Salamanders

- Jefferson x blue-spotted salamander (*Ambystoma jeffersonianum x laterale* "complex") (Jefferson dominated genome) – Provincially rare based on an S-rank of S2

##### Snakes

- Milksnake (*Lampropeltis triangulum*) – Designated as Special Concern by COSEWIC and on the SARO List.
- Eastern ribbonsnake (*Thamnophis sauritus*) – Designated as Special Concern by COSEWIC and on the SARO List.

##### Turtles

- Northern map turtle (*Graptemys geographica*) – Designated as Special Concern by COSEWIC and on the SARO List

- Snapping turtle (*Chelydra serpentina*) – Designated as Special Concern by COSEWIC and on the SARO List.

The following table provides a list of species with distribution ranges that overlap the Project. The species of conservation concern are highlighted with gray shading.

**Table 2.1 Amphibians and reptiles potentially occurring within the project area and their conservation status<sup>1</sup>**

Species		Conservation Rank <sup>2</sup>		At Risk Status	
Common Name	Scientific Name	Global GRANK	Ontario SRANK <sup>3</sup>	COSEWIC	SARO/ESA
<b>Frogs</b>					
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	-	-
Mink frog	<i>Rana septentrionalis</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 (Great Lakes / St. Lawrence – Canadian Shield population)	<i>Pseudacris triseriata</i>	G5TNR	S3	THR	NAR
Wood frog	<i>Rana sylvatica</i>	G5	S5	-	-
<b>Lizards</b>					
Five-lined skink (Southern Shield population)	<i>Plestiodon fasciatus</i>	G5T4	S3	SC	SC
<b>Salamanders</b>					
Common mudpuppy	<i>Necturus maculosus</i>	G5	S4	NAR	NAR
Eastern red-backed salamander	<i>Plethodon cinereus</i>	G5	S5	-	-
Jefferson x blue- spotted salamander (Jefferson dominated genome)	<i>Ambystoma jeffersonianum x laterale "complex"</i>	G4	S2	-	-
Red-spotted newt	<i>Notophthalmus viridescens viridescens</i>	G5	S5	-	-
Spotted salamander	<i>Ambystoma maculatum</i>	G5	S4	-	-

Species		Conservation Rank <sup>2</sup>		At Risk Status	
Common Name	Scientific Name	Global GRANK	Ontario SRANK <sup>3</sup>	COSEWIC	SARO/ESA
<b>Snakes</b>					
Dekay's brownsnake	<i>Storeria dekari</i>	G5	S5	NAR	NAR
Eastern garter snake	<i>Thamnophis sirtalis sirtalis</i>	G5T5	S5	-	-
Milksnake	<i>Lampropeltis triangulum</i>	G55	S3	SC	SC
Eastern ribbonsnake	<i>Thamnophis sauritus</i>	G5	S3	SC	SC
Northern redbelly snake	<i>Storeria occipitomaculata occipitomaculata</i>	G5T5	S5	-	-
Northern water snake	<i>Nerodia sipedon sipedon</i>	G5T5	S5	NAR	NAR
Smooth green snake	<i>Liochlorophis vernalis</i>	G5	S4	-	-
<b>Turtles</b>					
Northern Map turtle	<i>Graptemys geographica</i>	G5	S3	SC	SC
Midland painted turtle	<i>Chrysemys picta marginata</i>	G5T5	S5	-	-
Snapping turtle	<i>Chelydra serpentina</i>	G5	S3	SC	SC

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

<sup>2</sup> Accessed from NHIC, 2010.

<sup>3</sup> Nature Conservancy Ranking (NHIC, 2010); 1 = Critically Imperiled, 2 = Imperiled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, G = Global Level, H = Historical Occurrence, N = National Level, NAR = Not At Risk, R = Local Status not available, 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), U = Unknown, X = Extinct, ? = Rank Uncertain.

## 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](http://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*. None of the following species are considered a species of conservation concern.

#### Salamanders

- Blue spotted salamander (*Ambystoma laterale*) – Not at risk
- Four-toed salamander (*Hemidactylium scutatum*) – Not at risk

#### Snakes

- Ring-necked snake (*Diadophis punctatus edwardi*) – Not at risk

#### **Environment Canada and Canadian Wildlife Service**

The Canadian Wildlife Service and Environment Canada websites were also reviewed. Environment Canada identifies Parrott's Bay Wetland as a secure wetland through landowner partnerships (Environment Canada, 2005). Additionally, a Canadian Wildlife Service report, "The Marsh Monitoring Program Annual Report, 1995-2007" ranks the avian indices of biological integrity for wetland as being 53.73, or low, indicating poor avian biological integrity (Canadian Wildlife Service, 2009). These sources did not provide any information on natural features on or within 120 m of the Project Location.

## 2.3 Conservation Authority Records

### 2.3.1 Methodology

The proposed Project is situated within the jurisdiction of the Cataraqui Region Conservation Authority (CRCA). Records were requested from the CRCA in regards to potential natural features on or within 120 m of the Project Location.

### 2.3.2 Results

Information provided by the CRCA to Hatch August 23, 2010 (Appendix B), states the following natural features can be found within a 1 km radius of the Project Location:

- Cooke's Creek is located approximately 120 m north of the Project Location and drains southeast into Parrott's Bay.

- The Central Cataraqui Region Natural Heritage Study (CCRNHS, 2006) was completed by the CRCA in cooperation with the City of Kingston and Loyalist Township for the purpose of identifying natural features and areas to be incorporated into the Official Plans for each municipality. A review of Figure 4a: Significant Woodlands Loyalist Township, identified significant woodlands on and within 120 m of the Project Location. However, Schedule C1 of the Loyalist Township Official Plan (2010) (discussed in Section 2.4) did not incorporate all of the recommendations provided in the CCRNHS (2006) with respect to significant woodlands. The only woodlands identified as significant are surrounding Cooke's Creek, which is not on or within 120 m of the Project Location. Further discussions with the CRCA determined that the areas identified as significant woodlands on and within 120 m of the Project Location in the Central Cataraqui Region Natural Heritage Study (CCRNHS, 2006) are no longer accurate as the municipality re-zoned the area to Industrial. The CRCA advised that the Loyalist Township Official Plan Schedules be consulted to determine the presence / absence of significant woodlands on and within 120 m of the Project Location (pers. comm. Tom Beaubiah, CRCA Biologist).
- Endangered or Threatened species may be located to the east of the Project Location.
- Parrott's Bay Provincially Significant Wetland is located beyond 120 m of the Project Location.

## 2.4 Municipal Records

### 2.4.1 Methodology

The Project Location is located within the Township of Loyalist (lower tier municipality) in the County of Lennox and Addington (upper tier municipality).

The websites of Loyalist Township (<http://www.loyalisticity.ca/>) and the County of Lennox and Addington (<http://www.lennox-addington.on.ca/>) were reviewed for any information relating to natural heritage features. The zoning by-laws of the Township of Loyalist were also searched for records of natural features.

### 2.4.2 Results

#### ***Township of Loyalist***

The Loyalist Township Official Plan (2010), Schedule C (Land Use Plan: Amherstview – Parrott's Bay), indicates that the lands on and within 120 m of the Project Location are designated as Industrial. Schedule C1 (Land Use Plan: Amherstview – Parrott's Bay) shows a portion of land along Cooke's Creek within the Environmentally Sensitive designation. The Project Location and 120 m setback is not within the area designated as Environmentally Sensitive. A mapping section of the website has a variety of maps, but no further information regarding the Project Location was obtained. The zoning by-law review did not provide any more information on natural features that could be present on the Project Location.

#### ***County of Lennox and Addington***

The County of Lennox and Addington website discusses County Trails, one of which, Odessa trail can be found along Taylor Kidd Blvd. Otherwise no further information was found.

## 2.5 Other Records

### 2.5.1 Methodology

In addition to the sources identified above, 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 18UP69 in the *Ontario Breeding Bird Atlas* overlaps the Project Location. The Project Location is not centrally located within that map square and the following OBBA map squares were also checked; 18UP59, 18UQ60 and 18UQ50. Results from surveys within these squares 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, seven are species of conservation concern and will be discussed further in Section 3:

- Black Tern (*Chlidonias niger*) – Designated as Special Concern on the SARO List
- Canada Warbler (*Wilsonia Canadensis*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List
- Common Nighthawk (*Chordeiles minor*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List
- Golden-winged Warbler (*Vermivora chrysoptera*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List
- Red-headed Woodpecker (*Melanerpes erythrocephalus*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List
- Short-eared Owl (*Asio flammeus*) - Designated as Special Concern by COSEWIC and on the SARO List.

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

Important Bird Areas (IBAs) 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 of the IBAs of Canada, the Project Location is within the Napanee Limestone Plain and 4 km north of the Amherst Island IBA.

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

The *Atlas of the Mammals of Ontario* (Dobbyn, 1994) identifies several species of mammals with ranges that overlap the Project Location (Table 2.2). None are species at risk under the federal *Species At Risk Act (SARA)* or the Ontario *Endangered Species Act (ESA)*. However, the northern long-eared bat is a species of conservation concern that has records on the Project Location and is discussed further in Section 3.

**Table 2.2 Mammal species potentially occurring in the project area**

Species		Conservation Rank		At Risk Status	
Common Name	Scientific Name	Global GRANK	Ontario SRANK	COSEWIC	SARO/ESA
<b>Bats</b>					
Big brown bat	<i>Epstesicus fuscus</i>	G5	S5	-	-
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	-	-
<b>Carnivores</b>					
Coyote	<i>Canis latrans</i>	G5	S5	-	-
Ermine	<i>Mustela erminea</i>	G5	S5	-	-
Fisher	<i>Martes pennanti</i>	G5	S5	-	-
Mink	<i>Mustela vison</i>	G5	S4	-	-
Raccoon	<i>Procyon lotor</i>	G5	S5	-	-
Red fox	<i>Canis latrans</i>	G5	S5	-	-
River otter	<i>Lontra canadensis</i>	G5	S5	-	-
Striped skunk	<i>Mephitis mephitis</i>	G5	S5	-	-
<b>Rabbits and Hares</b>					
Eastern cottontail	<i>Sylvilagus floridanus</i>	G5	S5	-	-
European hare	<i>Lepus europaeus</i>	G5	SNA	-	-
Snowshoe hare	<i>Lepus americanus</i>	G5	S5	-	-
<b>Rodents</b>					
Beaver	<i>Castor canadensis</i>	G5	S5	-	-
Deer mouse	<i>Peromyscus maniculatus</i>	G5	S5	-	-
Eastern chipmunk	<i>Tamias striatus</i>	G5	S5	-	-
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	-	-
Porcupine	<i>Erethizon dorsatum</i>	G5	S5	-	-
Red squirrel	<i>Tamiasciurus hudsonicus</i>	G5	S5	-	-
White-footed mouse	<i>Peromyscus leucopus</i>	G5	S5	-	-
Woodchuck	<i>Marmota monax</i>	G5	S5	-	-
<b>Shrews and Moles</b>					
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	-	-
<b>Ungulates</b>					
White-tailed deer	<i>Odocoileus virginianus</i>	G5	S5	-	-

### 3. Species of Conservation Concern

The following species of conservation concern have been identified from the information sources reviewed in this report as having the potential to occur on or in the vicinity of the Project Location. The presence / absence of these species will be assessed during the site investigation, including a determination on whether candidate significant wildlife habitat exists on and within 120 m of the Project Location.

#### Amphibians

- **Western chorus frog** (*Pseudocharis triseriata*) Great Lakes / St. Lawrence - Canadian Shield Population – Designated as Threatened by COSEWIC and provincially rare by COSSARO with an S-rank of S3. This species of tree frog lives in a variety of different habitats but usually remains close to permanent aquatic habitats like marshes and river swamps. They are less commonly found in fallow agricultural fields, damp woodlands, roadside ditches and wooded swamps (Government of Canada, 2010a).

#### Lizards

- **Five-lined skink** (*Plestiodon fasciatus*) Southern Shield population – Designated as Special Concern by COSEWIC and on the SARO List. The five-lined skink inhabits open deciduous forest or field habitats where sufficient debris is available for cover and some source of open water is nearby (Government of Canada, 2010h).

#### Salamanders

- **Jefferson x blue-spotted salamander** (*Ambystoma jeffersonianum x laterale* "complex") (Jefferson dominated genome) – Provincially rare based on an S-rank of S2. Habitat for this species includes deciduous and mixed woodlands with vernal pools for breeding.

#### Snakes

- **Milksnake** (*Lampropeltis triangulum*) – Designated as Special Concern by COSEWIC and on the SARO List. This species lives in open woodlands, fields and farm buildings (McKenny et al., 2007).
- **Eastern ribbonsnake** (*Thamnophis sauritus*) – Designated as Special Concern by COSEWIC and on the SARO List. The eastern ribbonsnake is commonly found in wet areas, including weedy shorelines.

#### Turtles

- **Northern Map turtle** (*Graptemys geographica*) – Designated as Special Concern by COSEWIC and on the SARO List. Habitat for this species includes ponds, sloughs, shallow bays or river edges and slow streams and wetlands.
- **Snapping turtle** (*Chelydra serpentina*) – Designated as Special Concern by COSEWIC and on the SARO List. Habitat for this species includes ponds, sloughs, shallow bays or river edges and slow streams and wetlands.

#### Mammals

- **Northern long-eared bat** (*Myotis septentrionalis*) – S-rank as S3?. Habitat for this species includes woodlands.



### Birds

- **Black Tern** (*Chlidonias niger*) – Designated as Special Concern on the SARO List. Black Tern breed in freshwater marshes.
- **Canada Warbler** (*Wilsonia Canadensis*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List. Canada Warbler is found in a variety of forest types are most abundant in wet, mixed deciduous-coniferous forest with a well-developed shrub layer (Government of Canada, 2010b). Canada Warbler were observed during the first period (1981 to 1985) within the 10 x 10 km OBBA survey square 18UP60 and the birds were also heard making territorial calls, indicating that the area is within a permanent territory within the 10 x 10 km OBBA survey square 18UP69 during the second survey period (2001 to 2005) (Bird Studies Canada *et al.*, 2006).
- **Common Nighthawk** (*Chordeiles minor*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List. Common Nighthawk are 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 2010c; Poulin *et al.*, 1996). Adults and young were observed within the OBBA survey squares (18UQ50, 18UQ59, 18UQ60, 18UQ69) during both survey periods (1981 to 1985 and 2001 to 2005) (Bird Studies Canada *et al.*, 2006).
- **Golden-winged Warbler** (*Vermivora chrysoptera*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List. Adult birds were heard or seen within the OBBA survey square 18UQ69 during the second survey periods (2001 to 2005) (Bird Studies Canada *et al.*, 2006). In their breeding areas, Golden-winged Warblers prefer early successional forest (10-30 years) adjacent to mature forest (Government of Canada, 2010d).
- **Red-headed Woodpecker** (*Melanerpes erythrocephalus*) – Designated as Threatened by COSEWIC and Special Concern on the SARO List. Red-headed Woodpecker has been observed within the OBBA survey squares (18UQ50, 18UQ59, 18UQ60, 18UQ69) (Bird Studies Canada *et al.*, 2006). This species can be found in field edges and farmyards with a few large trees (Government of Canada, 2010e).
- **Short-eared Owl** (*Asio flammeus*) - Designated as Special Concern by COSEWIC and on the SARO List. This species prefers a wide variety of habitat but favours dense grasslands for breeding purposes (Government of Canada, 2010f). Recently fledged young were observed on the 10 x 10 km OBBA survey square 18UP69 during both survey periods (1981 to 1985 and 2001 to 2005) (Bird Studies Canada *et al.*, 2006).
- **Yellow-breasted Chat** (*Icteria virens*) – Listed as Special Concern under SARA and ESA. The species was observed in its breeding season in suitable habitat within the 10 x 10 km OBBA survey square 18UP59 during the first survey period (1981 to 1985) The Yellow-breasted Chat depends on successional habitat of thick shrub species. This type of habitat is created by damage from storms, fires or abandoned fields (Government of Canada, 2010g). Habitat of this type could potentially be found on or in the vicinity of the Project Location.

## 4. Summary of Results

### 4.1 Summary of Results

In accordance with subsection 25 (3) of the REA Regulation, the following table (Table 4.1) provides a summary of determinations made with respect to the presence / absence of a provincial park, conservation reserve and/or natural feature on and within 120 m of the Project Location. A map depicting the identified natural features on and in proximity to the Project Location is provided in Figure 1.1.

**Table 4.1 Summary of records review determinations**

Determination to be Made	Yes/No	Description
Is the Project Location in or within 120 m of a provincial park or conservation reserve?	No	The Project Location is not in or within 120 m of a provincial park or conservation reserve.
Is the Project Location in a natural feature?	Yes	<ul style="list-style-type: none"> <li>• There are candidate significant woodlands on the Project Location.</li> <li>• There is potential candidate significant wildlife habitat on the Project Location.</li> </ul>
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.
Is the Project Location within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	<ul style="list-style-type: none"> <li>• There are candidate significant woodlands within 120 m of the Project Location.</li> <li>• There is potential candidate significant wildlife habitat within 120 m of the Project Location.</li> </ul>

### 4.2 Next Steps

A 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
- iii. determine whether any additional natural features exist on or adjacent to the Project Location
- iv. confirm the boundaries of the natural features within 120 m of the Project Location,
- v. determine the distance from the Project to the natural feature boundary, and
- vi. verify the potential presence of the species of conservation concern mentioned in Section 3.

## 5. References

- Bird Studies Canada, Ontario Field Ornithologists, Environment Canada, Ontario Nature, and Ontario Ministry of Natural Resources. 2006. Ontario Breeding Bird Atlas Internet Site. Available on-line at [www.birdsontario.org/atlas/atlasmain.html](http://www.birdsontario.org/atlas/atlasmain.html). Accessed September 1, 2010; Last Updated September 16, 2009.
- Cataraqui Region Conservation Authority (CRCA). 2010. Correspondence between Mr. Paul D. Holmes of Hatch. RE: Property Inquiry (Proposed Solar Power Project) - Lot 27 and 28, Concession 1, Loyalist Township. Dated August 23, 2010.
- Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists. 122 pp.
- Government of Canada. 2010a. Species Profile – Western Chorus Frog. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=1019](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=1019). Accessed September 1, 2010; Last Updated January 11, 2010.
- Government of Canada. 2010b. Species Profile – Canada Warbler. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=1008](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=1008). Accessed September 1, 2010; Last Updated January 11, 2010.
- Government of Canada. 2010c. Species Profile – Common Nighthawk. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=986](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=986). Accessed September 1, 2010; Last Updated January 11, 2010.
- Government of Canada. 2010d. Species Profile – Golden-winged Warbler. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=942](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=942). Accessed September 1, 2010; Last Updated January 11, 2010.
- Government of Canada. 2010e. Species Profile – Red-headed Woodpecker. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=57](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=57). Accessed September 1, 2010; Last Updated January 11, 2010.
- Government of Canada. 2010f. Species Profile – Short-eared Owl. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=60](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=60). Accessed September 1, 2010; Last Updated January 11, 2010.
- Government of Canada. 2010g. Species Profile – Yellow-breasted Chat. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=61](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=61). Accessed September 1, 2010; Last Updated January 11, 2010.

Government of Canada. 2010h. Species Profile – Five-lined Skink. Government of Canada, Species at Risk Public Registry. Available on-line at [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=538](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=538). Accessed September 1, 2010; Last Updated January 11, 2010.

Government of Ontario. 2009. Ontario Regulation 359/09 made under the Environmental Protection Act 2007, Renewable Energy Approvals under Part V.0.1. of the Act. September 8, 2009 version. Printed in the Ontario Gazette: October 10, 2009. Available on-line at: [http://www.e-laws.gov.on.ca/html/source/regs/english/2009/elaws\\_src\\_regs\\_r09359e.htm](http://www.e-laws.gov.on.ca/html/source/regs/english/2009/elaws_src_regs_r09359e.htm).

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/glf-amphibians>. Accessed September 1, 2010; Last Updated November 30, 2007.

Natural Heritage Information Centre (NHIC). 2010. Geographic Query. Ontario Ministry of Natural Resources, Queen's Printer for Ontario. Available on-line at <http://nhic.mnr.gov.on.ca/MNR/nhic/nhic.cfm>. Accessed September 1, 2010, Last Updated, 2010.

Oldham, M.J. and W.F. Weller. 2000. Ontario Herpetofaunal Atlas. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Available on-line at <http://nhic.mnr.gov.on.ca/MNR/nhic/herps/ohs.html>. Accessed September 1, 2010, Last Updated January 15, 2010.

Poulin, R. G., S. D. Grindal, and R. M. Brigham. 1996. Common Nighthawk (*Chordeiles minor*), The Birds of North America On-line (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America On-line: <http://bna.birds.cornell.edu/bna/species/213>. Accessed February 17, 2010.

Environment Canada. 2005. Great Lakes Wetland Conservation Action Plan. Available on line at <http://www.on.ec.gc.ca/wildlife/docs/pdf/glwcap-03-05-e.pdf> (Accessed September 2, 2010)

Ryan W. Archer and Kathy E. Jones - Produced for Environment Canada – Canadian Wildlife Services. 2009. The Marsh Monitoring Program Annual Report, 1995-2007. Accessed on line at <http://www.bsc-eoc.org/download/mmpannualreport.pdf>. Accessed September 2, 2010.

Loyalist Township. 2010. Official Plan. Available on line at <http://www.loyalistship.ca/business-pdplan>. Accessed September 2, 2010.

Loyalist Township. 2008. Official Plan Comprehensive Review. Available on line at <http://www.loyalistship.ca/op-review>. Accessed September 2, 2010.

# Appendix A

## Ontario Breeding Bird Atlas Data



**Square Summary (18UQ50)**

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
24	35	49	108	20	34	48	102	79	40	35	5

**Region summary (#21: Kingston)**

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
75	75	75	194	193	2753	1875

Target number of point counts in this square: 20 road side, 5 off road (3 in deciduous forest, 2 in mixed forest). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose		FY	52	97
Mute Swan ‡			0	8
Trumpeter Swan †			0	9
Tundra Swan †			0	0
Wood Duck	FY		92	94
Gadwall	P		24	21
American Wigeon			16	14
American Black Duck	P		81	29
Mallard	NE	P	100	98
Blue-winged Teal	P		98	66
Northern Shoveler			18	16
Northern Pintail			24	17
Green-winged Teal			0	37
Canvasback †			0	0
Redhead †			8	1
Ring-necked Duck			22	30
Lesser Scaup ‡			2	1
Common Goldeneye ‡			0	1
Hooded Merganser			40	62
Common Merganser			18	33
Red-breast Merganser			12	8
Ruddy Duck †			1	5
Gray Partridge			20	1
Ring-necked Pheasant	H	P	34	28
Ruffed Grouse	FY	FY	92	88
Sharp-tailed Grouse †			0	1
Wild Turkey		FY	4	80
Northern Bobwhite †			1	0
Common Loon	H		84	85

SPECIES	Code		%	
	1st	2nd	1st	2nd
Pied-billed Grebe	S		61	78
Double-crest Cormorant §			14	21
American Bittern	P	P	92	88
Least Bittern †			46	37
Great Blue Heron §	H		97	89
Green Heron §	H	P	97	86
Black-crown N.-Heron † §			13	4
Turkey Vulture	H	P	84	94
Osprey			52	77
Bald Eagle †			5	12
Northern Harrier	CF	H	89	76
Sharp-shinned Hawk	H		52	58
Cooper's Hawk	H		29	49
Northern Goshawk		H	18	18
Red-should Hawk †			42	54
Broad-winged Hawk	H		50	49
Red-tailed Hawk	T	NY	100	93
American Kestrel	FY	H	98	84
Merlin			2	34
Peregrine Falcon †			1	0
King Rail †			1	2
Virginia Rail	S		86	89
Sora	S		81	76
Common Moorhen	P		80	56
American Coot			26	12
Coot/Moorhen			0	8
Sandhill Crane ‡			0	4
Killdeer	FY	A	98	97
Rock Dove	FY	FY	96	93

SPECIES	Code		%	
	1st	2nd	1st	2nd
Spotted Sandpiper	P	H	90	78
Upland Sandpiper	NY	P	73	58
Common Snipe	D	H	98	98
American Woodcock	D	H	97	81
Wilson's Phalarope †			6	4
Ring-billed Gull §			17	18
Herring Gull §			26	32
Great Black-backed Gull †			2	5
Caspian Tern †			10	5
Black Tern † §		P	54	45
Common Tern §			18	17
Forster's Tern † §			0	2
Mourning Dove	FY	S	100	98
Budgerigar ‡			0	0
Yellow-billed Cuckoo	S	P	62	49
Black/Yell-billed Cuckoo		S	0	41
Black-billed Cuckoo	P	P	98	89
Barn Owl †			1	0
Eastern Screech-Owl	T	T	74	76
Great Horned Owl	T	FY	96	76
Barred Owl	H		40	65
Long-eared Owl	H		41	16
Short-eared Owl †			22	8
North Saw-whet Owl	H		61	10
Common Nighthawk	P	P	86	54
Chuck-will's-widow †			1	0
Whip-poor-will	D	T	89	69
Chimney Swift	P	P	76	50
Ruby-thr Hummingbird	D	P	92	96

[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ50 (page 2 of 3)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Belted Kingfisher	AE	CF	97	97	Purple Martin	FY		84	73	Cedar Waxwing	P	NE	98	98
Red-headed Woodpecker †	P		54	8	Tree Swallow	FY	AE	100	98	Blue-winged Warbler			9	18
Red-bell Woodpecker ‡			0	20	North Rgh-wing Swallow	AE	FY	92	78	Golden-winged Warbler			46	60
Yellow-bellied Sapsucker			68	72	Bank Swallow §	AE	AE	88	68	Blue/Gold-wing Warbler			0	29
Downy Woodpecker	P	H	96	98	Cliff Swallow §	CF	AE	62	60	Lawrence's Warbler †			1	1
Hairy Woodpecker	CF	H	97	98	Barn Swallow	FY	AE	100	98	Brewster's Warbler †			1	9
Three-toed Woodpecker ‡			1	0	Black-capped Chickadee	CF	FY	98	98	Tennessee Warbler			4	2
Black-backed Woodpecker ‡			1	0	Tufted Titmouse †			0	2	Nashville Warbler	S	A	77	82
Northern Flicker	AE	P	100	98	Red-breast Nuthatch		S	58	74	Northern Parula ‡			1	8
Pileated Woodpecker	H	H	86	93	White-breast Nuthatch	FY	CF	97	97	Yellow Warbler	FY	CF	100	98
Olive-sided Flycatcher ‡			2	4	Brown Creeper	H		61	58	Chestn-sided Warbler	S	FY	80	96
Eastern Wood-Pewee	T	S	98	98	Carolina Wren ‡			2	10	Magnolia Warbler		S	24	60
Yellow-bellied Flycatcher			8	4	House Wren	V	T	98	97	Black-thr Blue Warbler			20	44
Alder Flycatcher		T	74	88	Winter Wren			42	57	Yellow-rumped Warbler		T	53	85
Willow Flycatcher	S	T	73	80	Sedge Wren			34	24	Black-thr Green Warbler			48	76
Least Flycatcher	T	CF	97	97	Marsh Wren		S	74	81	Blackburnian Warbler			46	54
Eastern Phoebe	NU	NU	98	98	Golden-crown Kinglet			5	14	Pine Warbler		T	58	80
Gr Crested Flycatcher	AE	P	98	98	Ruby-crown Kinglet ‡			1	0	Prairie Warbler †			12	10
Eastern Kingbird	FY	A	100	98	Blue-gr Gnatcatcher			22	21	Cerulean Warbler †			25	26
Loggerhead Shrike †	FY	FY	34	18	Eastern Bluebird	P	AE	62	85	Black-white Warbler		CF	86	89
Yellow-throated Vireo			64	61	Veery	S	S	93	94	American Redstart	S	P	96	98
Blue-headed Vireo			5	28	Swainson's Thrush			5	4	Ovenbird	DD	FY	90	94
Warbling Vireo	A	CF	98	98	Hermit Thrush			36	53	North Waterthrush		T	82	88
Philadelphia Vireo			9	9	Wood Thrush	FY	CF	97	98	Louis Waterthrush †			6	6
Red-eyed Vireo	P	A	98	98	American Robin	FY	FY	100	98	Mourning Warbler			25	25
Blue Jay	FY	FY	97	98	Gray Catbird	CF	T	98	98	Common Yellowthroat	CF	A	98	98
American Crow	CF	H	98	98	Northern Mockingbird	H	FY	22	29	Hooded Warbler †			0	0
Common Raven			22	77	Brown Thrasher	FY	FY	100	94	Wilson's Warbler ‡			1	0
Horned Lark	FY	NY	85	65	European Starling	FY	AE	100	98	Canada Warbler			36	21

[<< previous page](#)[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ50 (page 3 of 3)

SPECIES	Code		%	
	1st	2nd	1st	2nd
Yellow-breast Chat †			4	0
Eastern Towhee	P	FY	97	90
Chipping Sparrow	NE	CF	100	98
Clay-colored Sparrow		NE	9	33
Field Sparrow	FY	CF	96	94
Vesper Sparrow	FY	CF	93	74
Savannah Sparrow	CF	CF	98	97
Grasshopper Sparrow	P	NE	50	58
<u>Henslow's Sparrow</u> †	P		17	1
Song Sparrow	CF	CF	100	98
<u>Lincoln's Sparrow</u>	CF		5	4
Swamp Sparrow	P	A	97	97
White-throat Sparrow	P	FY	92	85
Dark-eyed Junco			12	16
Scarlet Tanager	S	S	90	92
Northern Cardinal	P	FY	61	88
Rose-breast Grosbeak	P	P	98	98
Indigo Bunting	P	CF	97	94
Bobolink	CF	CF	98	96
Red-wing Blackbird	CF	CF	100	98
Eastern Meadowlark	CF	NE	97	94
Common Grackle	NU	CF	100	98
Brown-head Cowbird	NE	H	100	97
Orchard Oriole ‡			1	12
Baltimore Oriole	CF	P	100	98
Pine Grosbeak ‡			0	0
Purple Finch		NE	68	84
House Finch		T	22	72
Red Crossbill			18	4

SPECIES	Code		%	
	1st	2nd	1st	2nd
White-winged Crossbill			5	2
Pine Siskin	P		54	14
American Goldfinch	FY	P	100	98
Evening Grosbeak		H	17	10
House Sparrow	CF	AE	98	92

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #21 (Kingston). 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 18UQ50 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 #21). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 2/09/2010. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=18UQ50>

[<< previous page](#)





**Square Summary (18UP59)**

#species (1st atlas)				#species (2nd atlas)			#hours		#pc done		
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
12	27	70	109	15	27	86	128	91	138	0	40

**Region summary (#21: Kingston)**

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
75	75	75	194	193	2753	1875

Target number of point counts in this square: 22 road side, 3 off road (2 in deciduous forest, 1 in mixed forest). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose	H	FY	52	97
Mute Swan ‡		H	0	8
Trumpeter Swan †			0	9
Tundra Swan †			0	0
Wood Duck	P	FY	92	94
Gadwall	FY	FY	24	21
American Wigeon	H	FY	16	14
American Black Duck	FY	P	81	29
Mallard	FY	NE	100	98
Blue-winged Teal	NE	FY	98	66
Northern Shoveler		H	18	16
Northern Pintail	P	FY	24	17
Green-winged Teal		FY	0	37
Canvasback †			0	0
Redhead †			8	1
Ring-necked Duck		P	22	30
Lesser Scaup ‡		X	2	1
Common Goldeneye ‡			0	1
Hooded Merganser		P	40	62
Common Merganser			18	33
Red-breast Merganser			12	8
Ruddy Duck †		P	1	5
Gray Partridge	FY		20	1
Ring-necked Pheasant			34	28
Ruffed Grouse	FY	NU	92	88
Sharp-tailed Grouse †			0	1
Wild Turkey			4	80
Northern Bobwhite †			1	0
Common Loon	FY	P	84	85

SPECIES	Code		%	
	1st	2nd	1st	2nd
Pied-billed Grebe	P	T	61	78
Double-crest Cormorant §			14	21
American Bittern	FY	T	92	88
Least Bittern †		H	46	37
Great Blue Heron §	FY	NY	97	89
Green Heron §	FY	FY	97	86
Black-crown N.-Heron † §		X	13	4
Turkey Vulture		T	84	94
Osprey		NY	52	77
Bald Eagle †			5	12
Northern Harrier	P	T	89	76
Sharp-shinned Hawk	H	T	52	58
Cooper's Hawk		T	29	49
Northern Goshawk		CF	18	18
Red-should Hawk †			42	54
Broad-winged Hawk			50	49
Red-tailed Hawk	NY	FY	100	93
American Kestrel	AE	FY	98	84
Merlin			2	34
Peregrine Falcon †	H		1	0
King Rail †			1	2
Virginia Rail	H	FY	86	89
Sora		FY	81	76
Common Moorhen	FY	FY	80	56
American Coot			26	12
Coot/Moorhen			0	8
Sandhill Crane ‡			0	4
Killdeer	FY	NE	98	97
Rock Dove	FY	FY	96	93

SPECIES	Code		%	
	1st	2nd	1st	2nd
Spotted Sandpiper	FY	FY	90	78
Upland Sandpiper	FY	FY	73	58
Common Snipe	FY	FY	98	98
American Woodcock	FY	FY	97	81
Wilson's Phalarope †			6	4
Ring-billed Gull §		H	17	18
Herring Gull §		H	26	32
Great Black-backed Gull †			2	5
Caspian Tern †			10	5
Black Tern † §	FY	NE	54	45
Common Tern §			18	17
Forster's Tern † §			0	2
Mourning Dove	FY	FY	100	98
Budgerigar ‡			0	0
Yellow-billed Cuckoo	S	H	62	49
Black/Yell-billed Cuckoo			0	41
Black-billed Cuckoo	P	T	98	89
Barn Owl †			1	0
Eastern Screech-Owl	T	T	74	76
Great Horned Owl	FY	NY	96	76
Barred Owl			40	65
Long-eared Owl	T		41	16
Short-eared Owl †	T		22	8
North Saw-whet Owl			61	10
Common Nighthawk	P	H	86	54
Chuck-will's-widow †			1	0
Whip-poor-will	T	S	89	69
Chimney Swift	T	AE	76	50
Ruby-thr Hummingbird	P	FY	92	96

[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UP59 (page 2 of 3)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Belted Kingfisher	CF	FY	97	97	Purple Martin	AE	AE	84	73	Cedar Waxwing	FY	FY	98	98
Red-headed Woodpecker †	AE		54	8	Tree Swallow	NE	NE	100	98	Blue-winged Warbler			9	18
Red-bell Woodpecker ‡			0	20	North Rgh-wing Swallow	FY	FY	92	78	Golden-winged Warbler			46	60
Yellow-bellied Sapsucker	P		68	72	Bank Swallow §	H	H	88	68	Blue/Gold-wing Warbler			0	29
Downy Woodpecker	CF	NY	96	98	Cliff Swallow §	AE	NY	62	60	Lawrence's Warbler †			1	1
Hairy Woodpecker	CF	AE	97	98	Barn Swallow	AE	NY	100	98	Brewster's Warbler †			1	9
Three-toed Woodpecker ‡			1	0	Black-capped Chickadee	CF	NE	98	98	Tennessee Warbler			4	2
Black-backed Woodpecker ‡			1	0	Tufted Titmouse †			0	2	Nashville Warbler	H	T	77	82
Northern Flicker	FY	FY	100	98	Red-breast Nuthatch	P	V	58	74	Northern Parula ‡			1	8
Pileated Woodpecker	AE	FY	86	93	White-breast Nuthatch	AE	CF	97	97	Yellow Warbler	CF	CF	100	98
Olive-sided Flycatcher ‡			2	4	Brown Creeper			61	58	Chestn-sided Warbler	H	T	80	96
Eastern Wood-Pewee	FY	FY	98	98	Carolina Wren ‡			2	10	Magnolia Warbler			24	60
Yellow-bellied Flycatcher			8	4	House Wren	FY	FY	98	97	Black-thr Blue Warbler			20	44
Alder Flycatcher		T	74	88	Winter Wren		S	42	57	Yellow-rumped Warbler		T	53	85
Willow Flycatcher	P	T	73	80	Sedge Wren		H	34	24	Black-thr Green Warbler		T	48	76
Least Flycatcher	FY	T	97	97	Marsh Wren	T	AE	74	81	Blackburnian Warbler		S	46	54
Eastern Phoebe	NE	FY	98	98	Golden-crown Kinglet			5	14	Pine Warbler		CF	58	80
Gr Crested Flycatcher	CF	FY	98	98	Ruby-crown Kinglet ‡			1	0	Prairie Warbler †			12	10
Eastern Kingbird	NE	FY	100	98	Blue-gr Gnatcatcher		S	22	21	Cerulean Warbler †			25	26
Loggerhead Shrike †	H		34	18	Eastern Bluebird		P	62	85	Black-white Warbler		CF	86	89
Yellow-throated Vireo			64	61	Veery	A	T	93	94	American Redstart	P	T	96	98
Blue-headed Vireo			5	28	Swainson's Thrush			5	4	Ovenbird	A	FY	90	94
Warbling Vireo	FY	FY	98	98	Hermit Thrush			36	53	North Waterthrush		S	82	88
Philadelphia Vireo			9	9	Wood Thrush	FY	FY	97	98	Louis Waterthrush †			6	6
Red-eyed Vireo	CF	FY	98	98	American Robin	FY	NY	100	98	Mourning Warbler			25	25
Blue Jay	FY	FY	97	98	Gray Catbird	CF	CF	98	98	Common Yellowthroat	CF	FY	98	98
American Crow	FY	CF	98	98	Northern Mockingbird		P	22	29	Hooded Warbler †			0	0
Common Raven			22	77	Brown Thrasher	FY	FY	100	94	Wilson's Warbler ‡			1	0
Horned Lark	FY	FY	85	65	European Starling	AE	NY	100	98	Canada Warbler			36	21

[<< previous page](#)[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UP59 (page 3 of 3)

SPECIES	Code		%	
	1st	2nd	1st	2nd
<u>Yellow-breast Chat</u> †	H		4	0
Eastern Towhee	P	NE	97	90
Chipping Sparrow	CF	CF	100	98
Clay-colored Sparrow	S	S	9	33
Field Sparrow	P	CF	96	94
Vesper Sparrow	CF	CF	93	74
Savannah Sparrow	FY	FY	98	97
Grasshopper Sparrow	T	FY	50	58
Henslow's Sparrow †			17	1
Song Sparrow	CF	CF	100	98
<u>Lincoln's Sparrow</u>	CF		5	4
Swamp Sparrow	FY	FY	97	97
White-throat Sparrow	T	FY	92	85
Dark-eyed Junco			12	16
Scarlet Tanager		CF	90	92
Northern Cardinal	CF	FY	61	88
Rose-breast Grosbeak	CF	FY	98	98
Indigo Bunting	T	CF	97	94
Bobolink	CF	FY	98	96
Red-wing Blackbird	NE	NY	100	98
Eastern Meadowlark	FY	FY	97	94
Common Grackle	NY	NY	100	98
Brown-head Cowbird	FY	FY	100	97
Orchard Oriole ‡		NY	1	12
Baltimore Oriole	NY	CF	100	98
Pine Grosbeak ‡			0	0
Purple Finch		P	68	84
House Finch	P	CF	22	72
Red Crossbill			18	4

SPECIES	Code		%	
	1st	2nd	1st	2nd
White-winged Crossbill		T	5	2
Pine Siskin	P		54	14
American Goldfinch	FY	FY	100	98
Evening Grosbeak			17	10
House Sparrow	AE	CF	98	92

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #21 (Kingston). 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 18UP59 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 #21). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 2/09/2010. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=18UP59>

[<< previous page](#)



**Square Summary (18UQ60)**

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
5	40	67	112	38	32	49	119	37	63	32	7

**Region summary (#21: Kingston)**

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
75	75	75	194	193	2753	1875

Target number of point counts in this square: 20 road side, 5 off road (3 in deciduous forest, 2 in mixed forest). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Canada Goose	FY	FY	52	97	Pied-billed Grebe	T	S	61	78	Spotted Sandpiper	DD	P	90	78
Mute Swan ‡			0	8	Double-crest Cormorant §			14	21	Upland Sandpiper	FY	T	73	58
Trumpeter Swan †			0	9	American Bittern	T	P	92	88	Common Snipe	DD	A	98	98
Tundra Swan †			0	0	Least Bittern †	T	S	46	37	American Woodcock	DD	FY	97	81
Wood Duck	P	P	92	94	Great Blue Heron §	NE	H	97	89	Wilson's Phalarope †			6	4
Gadwall		P	24	21	Green Heron §	FY	P	97	86	Ring-billed Gull §			17	18
American Wigeon			16	14	Black-crown N.-Heron † §		X	13	4	Herring Gull §			26	32
American Black Duck	P	H	81	29	Turkey Vulture	H	H	84	94	Great Black-backed Gull †			2	5
Mallard	FY	FY	100	98	Osprey		H	52	77	Caspian Tern †			10	5
Blue-winged Teal	FY	H	98	66	Bald Eagle †			5	12	Black Tern † §	NE	P	54	45
Northern Shoveler	P		18	16	Northern Harrier	P	P	89	76	Common Tern §			18	17
Northern Pintail	P	H	24	17	Sharp-shinned Hawk		H	52	58	Forster's Tern † §			0	2
Green-winged Teal		P	0	37	Cooper's Hawk	H	H	29	49	Mourning Dove	NE	P	100	98
Canvasback †			0	0	Northern Goshawk			18	18	Budgerigar ‡			0	0
Redhead †			8	1	Red-should Hawk †			42	54	Yellow-billed Cuckoo	P	D	62	49
Ring-necked Duck	P	H	22	30	Broad-winged Hawk			50	49	Black/Yell-billed Cuckoo			0	41
Lesser Scaup ‡			2	1	Red-tailed Hawk	NE	H	100	93	Black-billed Cuckoo	CF	T	98	89
Common Goldeneye ‡			0	1	American Kestrel	CF	AE	98	84	Barn Owl †			1	0
Hooded Merganser			40	62	Merlin			2	34	Eastern Screech-Owl	T	P	74	76
Common Merganser			18	33	Peregrine Falcon †			1	0	Great Horned Owl	T	FY	96	76
Red-breast Merganser			12	8	King Rail †			1	2	Barred Owl	H		40	65
Ruddy Duck †			1	5	Virginia Rail	DD	P	86	89	Long-eared Owl	T		41	16
Gray Partridge			20	1	Sora	DD	P	81	76	Short-eared Owl †			22	8
Ring-necked Pheasant		H	34	28	Common Moorhen	FY	P	80	56	North Saw-whet Owl	T		61	10
Ruffed Grouse	DD	FY	92	88	American Coot	P		26	12	Common Nighthawk	P	NY	86	54
Sharp-tailed Grouse †			0	1	Coot/Moorhen			0	8	Chuck-will's-widow †			1	0
Wild Turkey		FY	4	80	Sandhill Crane ‡		P	0	4	Whip-poor-will	T	T	89	69
Northern Bobwhite †			1	0	Killdeer	FY	H	98	97	Chimney Swift	P	S	76	50
Common Loon	P	D	84	85	Rock Dove	FY	V	96	93	Ruby-thr Hummingbird	P	P	92	96

[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ60 (page 2 of 3)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Belted Kingfisher	FY	NU	97	97	Purple Martin	NE	H	84	73	Cedar Waxwing	P	NY	98	98
Red-headed Woodpecker †	FY		54	8	Tree Swallow	AE	AE	100	98	Blue-winged Warbler			9	18
Red-bell Woodpecker ‡			0	20	North Rgh-wing Swallow	P		92	78	Golden-winged Warbler			46	60
Yellow-bellied Sapsucker			68	72	Bank Swallow §	NE	AE	88	68	Blue/Gold-wing Warbler			0	29
Downy Woodpecker	FY	P	96	98	Cliff Swallow §	NE	H	62	60	Lawrence's Warbler †			1	1
Hairy Woodpecker	CF	FY	97	98	Barn Swallow	AE	AE	100	98	Brewster's Warbler †			1	9
Three-toed Woodpecker ‡			1	0	Black-capped Chickadee	FY	P	98	98	Tennessee Warbler			4	2
Black-backed Woodpecker ‡			1	0	Tufted Titmouse †			0	2	Nashville Warbler	T	CF	77	82
Northern Flicker	AE	S	100	98	Red-breast Nuthatch	P	S	58	74	Northern Parula ‡			1	8
Pileated Woodpecker		H	86	93	White-breast Nuthatch	FY		97	97	Yellow Warbler	FY	P	100	98
Olive-sided Flycatcher ‡			2	4	Brown Creeper			61	58	Chestn-sided Warbler		S	80	96
Eastern Wood-Pewee	FY	CF	98	98	Carolina Wren ‡			2	10	Magnolia Warbler			24	60
Yellow-bellied Flycatcher			8	4	House Wren	FY	AE	98	97	Black-thr Blue Warbler			20	44
Alder Flycatcher	P	P	74	88	Winter Wren			42	57	Yellow-rumped Warbler		S	53	85
Willow Flycatcher	T	CF	73	80	Sedge Wren			34	24	Black-thr Green Warbler		H	48	76
Least Flycatcher	P	CF	97	97	Marsh Wren	P	NU	74	81	Blackburnian Warbler		S	46	54
Eastern Phoebe	NE	FY	98	98	Golden-crown Kinglet			5	14	Pine Warbler			58	80
Gr Crested Flycatcher	P	S	98	98	Ruby-crown Kinglet ‡			1	0	Prairie Warbler †			12	10
Eastern Kingbird	FY	P	100	98	Blue-gr Gnatcatcher			22	21	Cerulean Warbler †			25	26
Loggerhead Shrike †	NE	NY	34	18	Eastern Bluebird	FY	FY	62	85	Black-white Warbler	CF	CF	86	89
Yellow-throated Vireo			64	61	Veery		FY	93	94	American Redstart	P	CF	96	98
Blue-headed Vireo			5	28	Swainson's Thrush			5	4	Ovenbird	T	CF	90	94
Warbling Vireo	FY	CF	98	98	Hermit Thrush			36	53	North Waterthrush	P	FY	82	88
Philadelphia Vireo			9	9	Wood Thrush	T	FY	97	98	Louis Waterthrush †			6	6
Red-eyed Vireo	FY	FY	98	98	American Robin	NE	NE	100	98	Mourning Warbler		S	25	25
Blue Jay	CF	CF	97	98	Gray Catbird	CF	S	98	98	Common Yellowthroat	DD	A	98	98
American Crow	FY	H	98	98	Northern Mockingbird		H	22	29	Hooded Warbler †			0	0
Common Raven		AE	22	77	Brown Thrasher	CF	P	100	94	Wilson's Warbler ‡			1	0
Horned Lark	FY	H	85	65	European Starling	AE	CF	100	98	Canada Warbler	H		36	21

[<< previous page](#)[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ60 (page 3 of 3)

SPECIES	Code		%	
	1st	2nd	1st	2nd
Yellow-breast Chat †			4	0
Eastern Towhee	FY	FY	97	90
Chipping Sparrow	FY	CF	100	98
Clay-colored Sparrow	T	NE	9	33
Field Sparrow	FY	CF	96	94
Vesper Sparrow	FY	S	93	74
Savannah Sparrow	FY	S	98	97
Grasshopper Sparrow	S	FY	50	58
Henslow's Sparrow †			17	1
Song Sparrow	DD	AE	100	98
Lincoln's Sparrow			5	4
Swamp Sparrow	CF	A	97	97
White-throat Sparrow	DD	S	92	85
Dark-eyed Junco			12	16
Scarlet Tanager	P	S	90	92
Northern Cardinal	T	FY	61	88
Rose-breast Grosbeak	P	S	98	98
Indigo Bunting	DD	S	97	94
Bobolink	FY	S	98	96
Red-wing Blackbird	FY	NE	100	98
Eastern Meadowlark	CF	FY	97	94
Common Grackle	FY	CF	100	98
Brown-head Cowbird	FY	P	100	97
Orchard Oriole ‡		NY	1	12
Baltimore Oriole	FY	NU	100	98
Pine Grosbeak ‡			0	0
Purple Finch	P	NY	68	84
House Finch		S	22	72
Red Crossbill			18	4

SPECIES	Code		%	
	1st	2nd	1st	2nd
White-winged Crossbill			5	2
Pine Siskin	A		54	14
American Goldfinch	FY	P	100	98
Evening Grosbeak			17	10
House Sparrow	CF	AE	98	92

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #21 (Kingston). 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 18UQ60 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 #21). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 2/09/2010. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=18UQ60>

[<< previous page](#)



**Square Summary (18UP69)**

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
14	26	89	129	8	44	98	150	51	304	35	6

**Region summary (#21: Kingston)**

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
75	75	75	194	193	2753	1875

Target number of point counts in this square: 22 road side, 3 off road (3 in deciduous forest). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose	NE	NE	52	97
Mute Swan ‡		H	0	8
Trumpeter Swan †			0	9
Tundra Swan †			0	0
Wood Duck	NE	FY	92	94
Gadwall	FY	FY	24	21
American Wigeon	DD	FY	16	14
American Black Duck	FY	FY	81	29
Mallard	FY	FY	100	98
Blue-winged Teal	FY	FY	98	66
Northern Shoveler	DD	FY	18	16
Northern Pintail	DD	FY	24	17
Green-winged Teal		FY	0	37
Canvasback †			0	0
Redhead †	P	P	8	1
Ring-necked Duck	H	P	22	30
Lesser Scaup ‡	P	P	2	1
Common Goldeneye ‡		X	0	1
<u>Hooded Merganser</u>			40	62
Common Merganser	P	P	18	33
Red-breast Merganser	P	H	12	8
Ruddy Duck †		P	1	5
Gray Partridge			20	1
Ring-necked Pheasant	FY	FY	34	28
Ruffed Grouse	P	FY	92	88
Sharp-tailed Grouse †			0	1
Wild Turkey		FY	4	80
Northern Bobwhite †			1	0
Common Loon	FY	FY	84	85

SPECIES	Code		%	
	1st	2nd	1st	2nd
Pied-billed Grebe	P	P	61	78
Double-crest Cormorant §	H	NY	14	21
American Bittern	DD	NE	92	88
Least Bittern †	H	T	46	37
Great Blue Heron §	AE	H	97	89
Green Heron §	FY	T	97	86
Black-crown N.-Heron † §	FY	NE	13	4
Turkey Vulture		P	84	94
Osprey	H	AE	52	77
Bald Eagle †			5	12
Northern Harrier	FY	FY	89	76
Sharp-shinned Hawk		H	52	58
Cooper's Hawk		NY	29	49
Northern Goshawk			18	18
<u>Red-should Hawk †</u>			42	54
Broad-winged Hawk			50	49
Red-tailed Hawk	FY	AE	100	93
American Kestrel	FY	NE	98	84
Merlin		H	2	34
Peregrine Falcon †			1	0
King Rail †			1	2
Virginia Rail	T	FY	86	89
Sora	P	T	81	76
Common Moorhen	FY	T	80	56
<u>American Coot</u>	H		26	12
Coot/Moorhen			0	8
Sandhill Crane ‡			0	4
Killdeer	FY	FY	98	97
Rock Dove	NE	NE	96	93

SPECIES	Code		%	
	1st	2nd	1st	2nd
Spotted Sandpiper	FY	FY	90	78
Upland Sandpiper	FY	FY	73	58
Common Snipe	FY	FY	98	98
American Woodcock	FY	NE	97	81
Wilson's Phalarope †	NE	FY	6	4
Ring-billed Gull §	NE	NY	17	18
Herring Gull §	NE	NY	26	32
Great Black-backed Gull †		FY	2	5
Caspian Tern †	H	FY	10	5
Black Tern † §	FY	NY	54	45
Common Tern §	NE	P	18	17
Forster's Tern † §			0	2
Mourning Dove	NE	NE	100	98
Budgerigar ‡			0	0
Yellow-billed Cuckoo		T	62	49
Black/Yell-billed Cuckoo			0	41
Black-billed Cuckoo	FY	T	98	89
Barn Owl †			1	0
Eastern Screech-Owl	T	T	74	76
Great Horned Owl	FY	FY	96	76
<u>Barred Owl</u>			40	65
Long-eared Owl	P	T	41	16
Short-eared Owl †	FY	FY	22	8
<u>North Saw-whet Owl</u>	T		61	10
Common Nighthawk	P	T	86	54
Chuck-will's-widow †			1	0
Whip-poor-will	T	T	89	69
Chimney Swift	AE	P	76	50
Ruby-thr Hummingbird	FY	NE	92	96

[next page >>](#)

## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UP69 (page 2 of 3)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Belted Kingfisher	CF	FY	97	97	Purple Martin	NE	NY	84	73	Cedar Waxwing	FY	NE	98	98
Red-headed Woodpecker †	NE		54	8	Tree Swallow	NE	NY	100	98	Blue-winged Warbler		H	9	18
Red-bell Woodpecker ‡			0	20	North Rgh-wing Swallow	NE	AE	92	78	Golden-winged Warbler		T	46	60
Yellow-bellied Sapsucker			68	72	Bank Swallow §	H	AE	88	68	Blue/Gold-wing Warbler			0	29
Downy Woodpecker	AE	FY	96	98	Cliff Swallow §	NE	NY	62	60	Lawrence's Warbler †			1	1
Hairy Woodpecker	AE	AE	97	98	Barn Swallow	NE	NE	100	98	Brewster's Warbler †			1	9
Three-toed Woodpecker ‡			1	0	Black-capped Chickadee	FY	FY	98	98	Tennessee Warbler			4	2
Black-backed Woodpecker ‡			1	0	Tufted Titmouse †			0	2	Nashville Warbler	S	T	77	82
Northern Flicker	FY	FY	100	98	Red-breast Nuthatch		FY	58	74	Northern Parula ‡			1	8
Pileated Woodpecker	H	FY	86	93	White-breast Nuthatch	AE	AE	97	97	Yellow Warbler	FY	CF	100	98
Olive-sided Flycatcher ‡			2	4	Brown Creeper	H	S	61	58	Chestn-sided Warbler	S	T	80	96
Eastern Wood-Pewee	CF	FY	98	98	Carolina Wren ‡		T	2	10	Magnolia Warbler			24	60
Yellow-bellied Flycatcher			8	4	House Wren	NE	AE	98	97	Black-thr Blue Warbler		T	20	44
Alder Flycatcher	T	T	74	88	Winter Wren		NE	42	57	Yellow-rumped Warbler		T	53	85
Willow Flycatcher	CF	CF	73	80	Sedge Wren	S	T	34	24	Black-thr Green Warbler		T	48	76
Least Flycatcher	T	T	97	97	Marsh Wren	NE	A	74	81	Blackburnian Warbler			46	54
Eastern Phoebe	CF	AE	98	98	Golden-crown Kinglet		NB	5	14	Pine Warbler		CF	58	80
Gr Crested Flycatcher	CF	NE	98	98	Ruby-crown Kinglet ‡			1	0	Prairie Warbler †			12	10
Eastern Kingbird	NE	AE	100	98	Blue-gr Gnatcatcher		P	22	21	Cerulean Warbler †			25	26
Loggerhead Shrike †	H		34	18	Eastern Bluebird	NE	CF	62	85	Black-white Warbler	S	T	86	89
Yellow-throated Vireo			64	61	Veery	D	T	93	94	American Redstart	P	FY	96	98
Blue-headed Vireo			5	28	Swainson's Thrush			5	4	Ovenbird		FY	90	94
Warbling Vireo	CF	FY	98	98	Hermit Thrush		T	36	53	North Waterthrush	P	T	82	88
Philadelphia Vireo			9	9	Wood Thrush	T	FY	97	98	Louis Waterthrush †		T	6	6
Red-eyed Vireo	CF	FY	98	98	American Robin	FY	NE	100	98	Mourning Warbler		T	25	25
Blue Jay	FY	FY	97	98	Gray Catbird	FY	CF	98	98	Common Yellowthroat	FY	FY	98	98
American Crow	FY	NY	98	98	Northern Mockingbird	P	H	22	29	Hooded Warbler †			0	0
Common Raven		P	22	77	Brown Thrasher	FY	FY	100	94	Wilson's Warbler ‡			1	0
Horned Lark	FY	FY	85	65	European Starling	AE	NY	100	98	Canada Warbler		T	36	21

[<< previous page](#)[next page >>](#)



## Ontario Breeding Bird Atlas - Summary Sheet for Square 18UP69 (page 3 of 3)

SPECIES	Code		%	
	1st	2nd	1st	2nd
Yellow-breast Chat †			4	0
Eastern Towhee	FY	FY	97	90
Chipping Sparrow	NE	CF	100	98
Clay-colored Sparrow	T	FY	9	33
Field Sparrow	FY	CF	96	94
Vesper Sparrow	FY	T	93	74
Savannah Sparrow	FY	CF	98	97
Grasshopper Sparrow	CF	T	50	58
<u>Henslow's Sparrow</u> †	P		17	1
Song Sparrow	FY	CF	100	98
Lincoln's Sparrow			5	4
Swamp Sparrow	FY	FY	97	97
White-throat Sparrow	P	T	92	85
Dark-eyed Junco			12	16
Scarlet Tanager	T	T	90	92
Northern Cardinal	FY	NE	61	88
Rose-breast Grosbeak	CF	CF	98	98
Indigo Bunting	FY	CF	97	94
Bobolink	FY	NY	98	96
Red-wing Blackbird	AE	FY	100	98
Eastern Meadowlark	FY	AE	97	94
Common Grackle	FY	CF	100	98
Brown-head Cowbird	FY	FY	100	97
Orchard Oriole ‡		NY	1	12
Baltimore Oriole	NE	CF	100	98
Pine Grosbeak ‡			0	0
Purple Finch	P	A	68	84
House Finch	FY	CF	22	72
Red Crossbill			18	4

SPECIES	Code		%	
	1st	2nd	1st	2nd
White-winged Crossbill			5	2
Pine Siskin	P		54	14
American Goldfinch	FY	FY	100	98
Evening Grosbeak			17	10
House Sparrow	FY	AE	98	92

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #21 (Kingston). 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 18UP69 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 #21). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 2/09/2010. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=18UP69>

[<< previous page](#)

# Appendix B

## Cataraqui Region Conservation Authority Information



## CATARAQUI REGION CONSERVATION AUTHORITY

1641 Perth Road, P.O. Box 160 Glenburnie, Ontario K0H 1S0

Phone: (613) 546-4228 Fax: (613) 547-6474

E-mail: [crca@cataraquiregion.on.ca](mailto:crca@cataraquiregion.on.ca) Website: [www.cataraquiregion.on.ca](http://www.cataraquiregion.on.ca)

August 23, 2010

Files: GC-LOY  
OPS 3-7-3-19

**Sent by Mail and Email (PHolmes@hatch.ca)**

Paul D. Holmes, P. Eng.  
Environmental Coordinator  
Hatch Ltd.  
1235 North Service Road West  
Oakville, Ontario, L6M 2W2

Dear Mr. Holmes:

**Re: Property Inquiry (Proposed Solar Power Project)  
Napanee TS Taylor Kidd  
Part of Lots 27 and 28, Concession 1  
Loyalist Township**

Cataraqui Region Conservation Authority (CRCA) staff are writing regarding your request for information for the above-noted site located north of Taylor-Kidd Boulevard Road in Loyalist Township and for the area within 1 km of the site. The site was not visited.

The subject site bound by Taylor-Kidd Boulevard to the south and a railroad right-of-way to the north. Aerial photography of the area indicates the site is undeveloped. Cooke's Creek crosses the site in a northwest-southeast direction. The creek flows to the southeast and eventually drains into Parrott's Bay. Significant woodlands identified in the Central Cataraqui Region Natural Heritage Study (CCRNHS) (CRCA, 2006) cover a large portion of the property adjacent to the creek.

The subject lands are currently designated 'Industrial' in the Loyalist Township Official Plan and are zoned 'General Industrial Zone' with a Holding Symbol (M3-H) in the Zoning By-law. The land adjacent to the creek is zoned 'Environmental Protection.' The significant woodlands adjacent to the creek have an 'Environmentally Sensitive' overlay in the Official Plan.

### **Discussion**

A portion of these lands are subject to Ontario Regulation 148/06: *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses*, which is implemented by the CRCA. The purpose of Ontario Regulation 148/06 is to ensure that proposed changes (e.g. development and site alteration) to a property are not affected by natural hazards, such as flooding and erosion, and that the changes do not put other properties at greater risk from these hazards. By virtue of this regulation, the CRCA regulates all development and site alteration

Member of



activities (including filling) within 15 metres of a flood plain or erosion hazard, within 120 metres of Provincially Significant Wetland (PSW) boundaries and 30 metres of all other wetlands. Within a regulated area, written permission must be obtained from the CRCA prior to development taking place.

### **Cooke's Creek**

The CRCA does not have engineered 1:100 year floodplain mapping for the creek or its tributaries. The CRCA, in accordance with Section 2.2 of the Provincial Policy Statement and under Ontario Regulation 148/06: *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses*, restricts alteration to and development near or across a watercourse. The CRCA requires that future development be located a minimum distance of 30 m from the average high water mark or top of bank of a waterbody when the elevation of the regulatory floodplain is unknown. Similarly, Section 5.4.6 (d) of the Loyalist Township Official Plan and Section 4.11 (c) of the Zoning By-law require new buildings or structures to be set back 30 m from the high water mark where a floodplain has not been defined. In addition, Section 4.11 (b) of the Zoning By-law requires a 15 m setback from lands zoned Environmental Protection.

Based on aerial photography, the creek appears to be a meandering watercourse. 'Meandering' often occurs under conditions such as heavy or rapid runoff or spring snow melt, and results in changes to flooding and erosion patterns. The erosion hazard limit or meander belt allowance is defined as the maximum extent to which a water channel migrates over time. The Natural Hazard Training Manual (Ministry of Natural Resources, 1997) defines the meander belt allowance as 20 times the bankfull channel width for a particular section of a creek. Ontario Regulation 148/06 applies to lands within the meander belt allowance and 15 m beyond the meander belt on either side. The extent of the regulated area will be determined at the time of a site inspection when a formal application is made.

### Water Quality

Section 5.4.6 (g) of the Official Plan of Loyalist Township indicates that a natural vegetative buffer strip of 15 m should be maintained adjacent to the edge of a watercourse to filter pollutants. The Official Plan does not permit clear cutting of trees within this buffer area. The CRCA Planning Policy also requires a minimum 30 m setback from the annual high water line of a waterbody for development adjacent to all waterbodies in order to preserve their hydrological and biological functions.

### **Significant Woodlands**

The Central Cataraqui Region Natural Heritage Study (CCRNHS) (CRCA, 2006) identifies areas of 'Significant Woodlands' present on the subject property. The wooded area was identified as significant based on its area and connectivity to other significant features.

Policy 2.1.4 of the Provincial Policy Statement (2005) does not permit development and site alteration in significant woodlands unless negative impacts can be mitigated. Policy 5.4.7.1 (f) of the Official Plan for Loyalist Township requires that "development be carried out in a manner

that encourages the protection and management of woodlands,” and that development applications affecting significant woodlands be “accompanied by a strategy maximizing the woodland areas to be protected.” The CRCA requests that every effort be taken to protect the Significant. The CRCA recommends that an environmental impact assessment and a tree preservation plan be prepared should development be proposed in Significant Woodlands.

### **Endangered and Threatened Species**

Mapping provided to the CRCA by the Ministry of Natural Resources (MNR) suggests that the area just east of the subject property is likely to support one or more species listed on the MNR’s Species at Risk in Ontario (SARO) List. These species are protected under Ontario Regulation 242-08 made pursuant to the Endangered Species Act (2007). Staff recommend that the applicant contact the Ministry of Natural Resources to determine the need for a permit and for more information about species protection and recovery. A preliminary ecological site assessment may be required. Please contact the Species at Risk Biologist at (613) 258-8204 at MNR’s Kemptville district office.

### **Area within 1 km of the Site**

The attached map shows the regulated areas within 1 km of the subject site. This includes the areas within 30 m of the tributaries that merge into Cooke’s Creek that flows through the site, and also within 30 m of another watercourse located southwest of the site near Jim Snow Drive.

A portion of the Parrott Bay Provincially Significant Wetland (PSW) is located within 1 km of the subject site. The CRCA regulates the area within 120 m of a PSW and requires that new development and site alteration be set back 120 m from the boundary of a PSW.

### **Summary**

The property is subject to Ontario Regulation 148/06: *Development, Interference with Wetlands, and Alterations to Shoreline and Watercourses*. Permits will be required for any proposed development and site alterations within 30 m of the average high water mark or top of bank of the creek on the subject property and for any in-water works. CRCA staff will review the application in light of Ontario Regulation 148/06 and CRCA policies before deciding to issue or refuse the permit. It is recommended that CRCA staff review any development or site alteration planned within 50 metres on either side of an identified watercourse. Permits will also be required for any proposed development and site alteration adjacent to any unmapped waterbodies/wetlands found at the time of a site inspection when a formal application is made.

We trust that the above has addressed your inquiry. Please note that these comments reflect our understanding, at the time of writing, of the best available data, applicable policies and regulations. Changes in one or more of these factors may influence our comments. You are therefore encouraged to contact the CRCA prior to making a formal application, particularly if more than twelve months have passed since the date of this correspondence. As noted previously, the site was not visited.

Mr. Holmes (Napanee TS Taylor Kidd)  
August 23, 2010

If you have any questions please contact the undersigned at (613) 546-4228 extension 258 or by e-mail at [sagarwal@cataraquiregion.on.ca](mailto:sagarwal@cataraquiregion.on.ca).

Yours truly,



Sukriti Agarwal, AICP  
Environmental Planner

cc: Murray Beckel, Director of Planning and Development Services, Loyalist Township, via email

Attachment (s): Map showing regulated areas on the subject site and within 1 km of the site



CATARAQUI REGION  
CONSERVATION AUTHORITY

# Property Inquiry Axio Power - Napanee TS Taylor Kidd Loyalist Township



**Legend**

- Area of Interest
- Buffer Zone (1km)
- Regulated Area
- Watercourse
- Wetland
- Provincially Significant Wetland
- Wooded Area

Scale 1: 20,000

170 85 0 170 340 510

Metres

UTM Projection NAD 83

Produced by the Cataraqui Region Conservation Authority under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2010.

Aerial Photography © Groupe Alta, 2010

While the CRCA makes every effort to insure that the information presented is accurate for the intended uses of this map, there is an inherent error in all mapping products, and accuracy of the mapping cannot be guaranteed for all possible uses. All end-users must therefore determine for themselves if the information is suitable for their purposes.



Suite 500, 4342 Queen Street  
Niagara Falls, Ontario, Canada L2E 7J7  
Tel 905 374 5200 ♦ Fax 905 374 1157