



**NORTHLAND
POWER**

Belleville South Solar Project Draft Natural Heritage Records Review

March 18, 2011



Northland Power Inc.
on behalf of
Northland Power Solar
Belleville South L.P.
Toronto, Ontario

DRAFT Natural Heritage
Records Review Report

Belleville South Solar Project

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Project Report

March 18, 2011

**Northland Power Inc.
Belleville South Solar Project**

DRAFT Natural Heritage Records Review Report

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1. Introduction

1.1 Project Description

Northland Power Solar Belleville South L.P. (hereinafter referred to as “Northland”) is proposing to develop a 10-megawatt (MW) ground mounted solar photovoltaic (Solar PV) facility in the City of Prince Edward County. This Project, known as the Belleville South Solar Project, is hereafter referred to as the “Project.”

The Project location is approximately 39 hectares (ha) in size. The project location is situated west of the Town of Crofton, and is south of Burr Road and west of Highway 62 (shown in Figure 1.1).

1.2 REA Legislative Requirements

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

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

- i. in a provincial park or conservation reserve or within 120 m of a provincial park or conservation reserve
- ii. in a natural feature
- iii. within 50 m of an area of natural and scientific interest (earth science), or
- iv. within 120 m of a natural feature that is not an area of natural and scientific interest (earth science).

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

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

Subsection 3 of Section 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 Records Review Report has been prepared to meet these requirements.

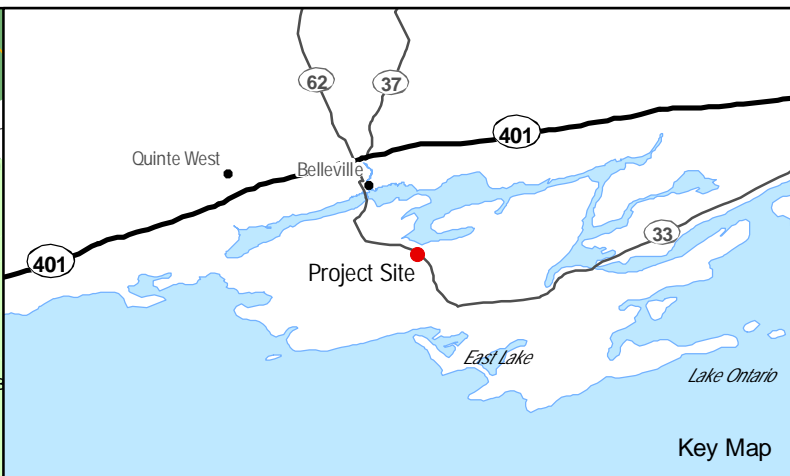
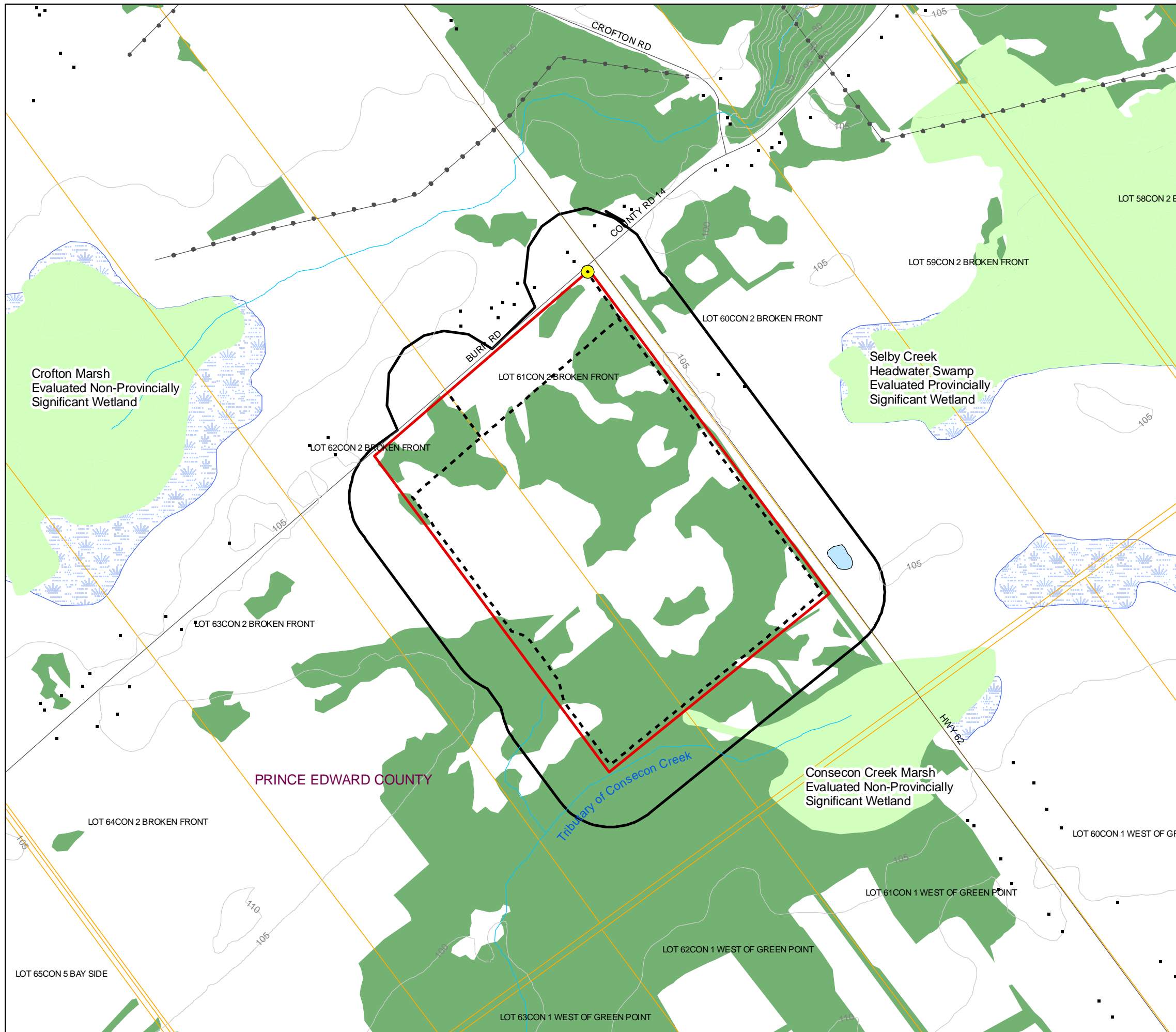
2. Background Information Review and Results

This Records Review Report is based on a review of published and non-published information on natural heritage features and species at risk identified on or in close proximity to the Project location. The background documents reviewed were obtained from the municipality, local planning staff, local conservation authority, and provincial and federal government agencies.

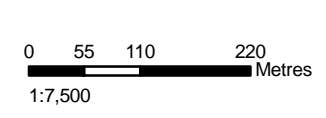
Records were searched within a minimum distance of 1 km from the Project location. Results are discussed below in relation to the distances specified between the Project and natural features as defined in Section 25 of the REA Regulation (see Section 1.2).

The following sections document the records that were searched and analyzed and the results of the analysis, with the focus on identifying whether or not the Project was located within or adjacent to any of the natural features listed in Section 1.2. The sections are organized as identified in Column 1 of the table in Section 25 of the REA Regulation.

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, records review for these governing bodies was not conducted.



- Legend**
- Connection Point With Existing Distribution Line
 - Building
 - Roads
 - Transmission Line
 - Topographic Contour (5m interval)
 - Watercourse
 - Available Lands
 - Project Location
 - 120m from Project Location
 - Parcels
 - Waterbody
 - Unevaluated Wetland
 - Evaluated Wetland
 - Woodland



NORTH
 Notes: OBM and NRVIS data downloaded from LIO, with permission. UTM NAD 83, June 2010.

Figure 1.1
 Northland Power Inc.
 Belleville South Solar Project
 Natural Heritage Features

Back of figure

2.1 Ministry of Natural Resources Records

The following Ministry of Natural Resources (MNR) on-line records were reviewed:

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

2.1.1 Results

Ontario Crown Land Use Atlas Mapping

A review of the Crown Land Use Policy Atlas interactive map, accessed on May 14, 2010, did not indicate any Crown land within 1 km of the Project location.

MNR LIO Mapping

Mapping data provided by LIO identified the following natural features within 1 km of the Project location:

- There are no wetland communities identified on the Project location, though Consecon Creek Marsh Locally Significant Wetland (LSW) is located within 120 m southeast of the Project location.
- There are six woodlands present on, and two present within 120 m of the Project location.
- No raptor nesting sites, deer wintering areas, or other specific wildlife habitat features were identified on or within 120 m of the Project location, though such features may be found present within the woodlands and wetlands present on and within 120 m of the Project location.
- No ANSIs or valleylands were identified on or within 120 m of the Project location.
- No provincial parks or conservation reserves are identified on or within 120 m of the Project location.

Ontario Wind Resource Atlas

The Ontario Wind Resource Atlas identified the Project as being within the Napanee Limestone Plain Important Bird Area, which is discussed in greater detail in Section 2.5.

Natural Heritage Information Centre (NHIC) Database

The NHIC database was accessed on May 17, 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 species, plant communities, wildlife concentration areas, natural areas and invasive species occurrences.

The results of the queries determined that there is one species of conservation concern (Climbing Prairie Rose (*Rosa setigera*)) and one natural area (Crofton Marsh LSW) within 1 km of the Project location. There were no records of plant communities, wildlife concentration areas or invasive species occurrences within 1 km of the Project location.

As a species of conservation concern, habitat for Climbing Prairie Rose, if present on or within 120 m of the Project location, would be considered wildlife habitat.

Ontario Herpetofaunal Summary Atlas

The Ontario Herpetofaunal Summary Atlas identified several species of reptiles and amphibians whose ranges may overlap with the Project location (Table 2.1). Of these species, several species at risk/species of conservation concern were identified whose ranges potentially overlapped with the Project location. These species are as follows, and discussed further in Section 3:

- Milksnake (*Lampropeltis triangulum*)
- Western Chorus Frog (*Pseudacris triseriata*)
- Northern Ribbonsnake (*Thamnophis sauritus*)
- Northern Map Turtle (*Graptemys geographica*)
- Snapping Turtle (*Chelydra serpentina*).

As species of conservation concern, potential habitat for Milksnake, Northern Ribbonsnake, Western Chorus Frog, Northern Map Turtle and Snapping Turtle, if present on or within 120 m of the Project location, would be considered wildlife habitat.

Table 2.1 Reptiles and Amphibians Potentially Occurring on or within 120 m of the Project Location and their Conservation Status¹

Species		Conservation Rank ²			At Risk Status		
		Global GRANK	Canada NRANK ³	Ontario SRANK ⁴	COSEWIC	SARO/ESA	SARA
Common Name	Scientific Name						
Salamanders							
Mudpuppy	<i>Necturus maculosus</i>	G5	N4	S4	NAR	NAR	-
Red-spotted Newt	<i>Notophthalmus viridescens viridescens</i>	G5	N5	S5			
Blue-spotted Salamander Complex	<i>Ambystoma jeffersonianum-laterale "complex"</i>						
Yellow-spotted Salamander	<i>Ambystoma maculatum</i>	G5	N5	S4	-	-	-
Eastern Red-backed Salamander	<i>Plethodon cinereus</i>	G5	N5	S5	-	-	-
Frogs and Toads							
American Toad	<i>Bufo americanus</i>	G5	N5	S5	-	-	-
Spring Peeper	<i>Pseudacris crucifer</i>	G5	N5	S5	-	-	-
Western Chorus Frog (Great Lakes/	<i>Pseudacris triseriata</i>	G5TNR		S3	THR	NAR	THR (Schedule 1)

Species		Conservation Rank ²			At Risk Status		
		Global GRANK	Canada NRANK ³	Ontario SRANK ⁴	COSEWIC	SARO/ESA	SARA
Common Name	Scientific Name						
St. Lawrence population)							
Gray Treefrog	<i>Hyla versicolor</i>	G5	N5	S5	-	-	-
Wood Frog	<i>Rana sylvatica</i>	G5	N5	S5	-	-	-
American Bullfrog	<i>Rana castebiana</i>	G5	N5	S4	-	-	-
Green Frog	<i>Rana clamitans</i>	G5	N5	S5	-	-	-
Pickerel Frog	<i>Rana palustris</i>	G5	N5	S4	NAR	NAR	-
Northern Leopard Frog	<i>Rana pipiens</i>	G5	N5	S5	NAR	NAR	-
Wood Frog	<i>Rana sylvatica</i>	G5	N5	S5	-	-	-
Turtles							
Snapping Turtle	<i>Chelydra serpentina</i>	G5	N5	S3	SC	SC	-
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	G5T5	N5	S5	-	-	-
Northern Map Turtle	<i>Graptemys geographica</i>	G5		S3	SC	SC	SC (Schedule 1)
Snakes							
Eastern Gartersnake	<i>Thamnophis sirtalis sirtalis</i>	G5T5	N5	S5	-	-	-
Northern Ribbonsnake	<i>Thamnophis sauritus septentrionalis</i>	G5		S3	SC	SC	SC (Schedule 1, Great Lakes Population)
Northern Watersnake	<i>Nerodia sipedon sipedon</i>	G5T5	N5	S5	NAR	NAR	
Red-bellied Snake	<i>Storeria occipitomaculata</i>	G5T5	N5	S5	-	-	-
Dekay's Brownsnake	<i>Storeria dekayi</i>	G5	N5	S5	NAR	NAR	-
Smooth Green Snake	<i>Opheodrys vernalis</i>	G5	N5	S4	-	-	-
Northern Ring-necked Snake	<i>Diadophis punctatus edwardsii</i>	G5	N5	S4	-	-	-
Eastern Milksnake	<i>Lampropeltis triangulum</i>	G5	N5	S3	SC	SC	SC (Schedule 1)

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, 2008b.

³ NRANK = National Status (NatureServe (www.natureserve.org), in conjunction with Conservation Data Centres, such as NHIC); N = National Rank (Canada), 2 = Imperiled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic.

⁴ SRANK = Provincial Status (NHIC 2008b); S = Sub-national Rank (Ontario), 2 = Imperiled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, U = Unknown.

2.2 Federal Government Records

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

The websites of the Canadian Wildlife Service (www.cws-scf.ec.gc.ca) and Environment Canada (www.ec.gc.ca) were also reviewed. No information relevant to the Project location was available.

J. Bosna, Public Inquiries Coordinator of Environment Canada's Ontario Region was contacted on November 4, 2010 to request information relating to natural features. At J. Bosna's request, an electronic information request was sent to the Environment Canada's Ontario Region inquiry centre (EnvirolInfo.Ontario@ec.gc.ca). Information relating to all natural features was requested, however specific reference was made to the Napanee Limestone Plain Important Bird Area.

A follow-up e-mail was sent on December 15, 2010, to reiterate the request for information.

2.2.1 Results

The Natural Resources Canada's Amphibians and Reptiles of Ontario Climate Domain Maps was reviewed and compared with the results of the Ontario Herpetofaunal Summary Atlas (discussed in Section 2.1); no additional information was discovered in the federal records.

No specific records have been received to date from Environment Canada, however this section will be updated in a revised version of this report should information become available.

2.3 Quinte Conservation Authority Records

The Project location is located within the jurisdiction of the Quinte Conservation Authority (QCA). A formal request for natural heritage and species at risk information was sent to the QCA on June 8, 2010. Follow-up calls were made in November 2010.

2.3.1 Results

Follow-up from Tim Trustham, Ecologist/Planner with the Quinte Conservation Authority in November 2010 indicated that the Conservation Authority has no records relating to natural heritage features on or within 120 m of the Project location.

2.4 County of Prince Edward

The Project location is located within the County of Prince Edward, a single-tiered municipality. The County of Prince Edward Official Plan identifies natural heritage features within the municipality on Schedules A, Environmentally Sensitive Areas and B, Environmental Constraints. These schedules were reviewed and the results are discussed below.

2.4.1 Results

Information relating to natural heritage features was also requested during a meeting with representatives from several departments, including planning, of the County of Prince Edward on June 16, 2010. No specific information was provided, however it was recommended that the Official Plan be reviewed and the Quinte Conservation Authority be contacted (see Section 2.3).

Schedule A, Environmentally Sensitive Areas, of the Official Plan was accessed on May 14, 2010. Schedule A revealed a "sensitive site or area" to the east of the Project location. However, this feature is located greater than 120 m from the Project location.

Schedule B, Environmental Constraints of the Official Plan was accessed on May 14, 2010 identified that the Project location is located primarily within the Consecun Lake watershed.

2.5 Other Records

In addition to the information sources previously discussed, the following documents were reviewed:

- Ontario Breeding Bird Atlas (Bird Studies Canada et al., 2006).
- Atlas of the Mammals of Ontario (Dobbyn, 1994).
- Important Bird Areas of Canada website (<http://www.ibacanada.ca/mapviewer.jsp?lang=en>).
- Ontario Oil, Gas and Salt Resources – Petroleum Well Mapping (<http://maps.ogsrlibrary.com/>).

2.5.1 Results

2.5.1.1 Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas on-line database was accessed on May 4, 2010 to determine which breeding bird species have been recorded within map square 18UP18, which overlaps the Project location. The square coverage summary sheet was downloaded and the results are provided in Appendix A. Of the species that were recorded, three species of conservation concern were identified whose ranges overlap that of the Project location. These species are as follows, and discussed in Section 3:

- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Common Nighthawk (*Chordeiles minor*)
- Cerulean Warbler (*Dendroica cerulea*)

As species of conservation concern, potential habitat for Red-headed Woodpecker, Common Nighthawk and Cerulean Warbler, if present on or within 120 m of the Project location, would be considered wildlife habitat.

2.5.1.2 Atlas of the Mammals of Ontario

The Atlas of the Mammals of Ontario (Dobbyn, 1994) identified several species of mammals whose ranges may overlap with the Project location. The list of these species is provided in Table 2.2. None of these species are considered to be species of conservation concern.

2.5.1.3 Important Bird Areas of Canada

The Project area was determined to be within the Napanee Limestone Plain Important Bird Area (IBA). The Napanee Limestone Plain IBA is considered important for its grassland and alvar bird populations, with a known concentration of approximately 20% of the estimated Canadian population of Loggerhead Shrike (Bird Studies Canada, 2010). Features of the Napanee Limestone Plain IBA may provide wildlife habitats.

2.5.1.4 Ontario Oil, Gas and Salt Resources – Petroleum Well Mapping

There are no petroleum resources identified on or within 120 m of the Project location.

Table 2.2 Mammals Potentially Occurring on or within 120 m the Project Location and their Conservation Status¹

Species		Conservation Rank ²			At Risk Status		
		Global GRANK	Canada NRANK ³	Ontario SRANK ⁴	COSEWIC	SARO	SARA
Common Name	Scientific Name						
Opossums							
Virginia Opossum	<i>Didelphis virginiana</i>	G5	N4	S4	-	-	-
Shrews and Moles							
Common Shrew	<i>Sorex cinereus</i>	G5	N5	S5	-	-	-
Northern Short-tailed Shrew	<i>Blarina brevicauda</i>	G5	N5	S5	-	-	-
Star-nosed Mole	<i>Condylura cristata</i>	G5	N5	S5	-	-	-
Bats							
Eastern Small-footed Bat	<i>Myotis leibii</i>						
Little Brown Bat	<i>Myotis lucifuga</i>	G5	N5	S5	-	-	-
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	G5	N5	S4	-	-	-
Big Brown Bat	<i>Epstesicus fuscus</i>	G5	N5	S5	-	-	-
Eastern Red Bat	<i>Lasiurus borealis</i>	G5	N4N5	S4	-	-	-
Rabbits and Hares							
Eastern Cottontail	<i>Sylvilagus floridanus</i>	G5	N5	S5	-	-	-
Snowshoe Hare	<i>Lepus americanus</i>	G5		S5	-	-	-
European Hare	<i>Lepus europeanus</i>	G5	NE	SE	-	-	-
Rodents							
Eastern Chipmunk	<i>Tamias striatus</i>	G5	N5	S5	-	-	-
Woodchuck	<i>Marmota monax</i>	G5	N5	S5	-	-	-
Gray Squirrel	<i>Sciurus carolinensis</i>	G5	N5	S5	-	-	-
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	G5	N5	S5	-	-	-
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	G5		S5	-	-	-
Beaver	<i>Castor canadensis</i>	G5	N5	S5	-	-	-
White-footed Mouse	<i>Peromyscus leucopus</i>	G5	N5	S5	-	-	-
Deer Mouse	<i>Peromyscus maniculatus</i>	G5	N5	S5	-	-	-
Meadow Vole	<i>Microtus pennsylvanicus</i>	G5	N5	S5	-	-	-
Muskrat	<i>Ondatra zibethicus</i>	G5	N5	S5	-	-	-
Norway Rat	<i>Rattus norvegicus</i>	G5	NE	SE	-	-	-
House Mouse	<i>Mus musculus</i>	G5	NE	SE	-	-	-
Meadow Jumping Mouse	<i>Zapus hudsonius</i>	G5	N5	S5	-	-	-

Species		Conservation Rank ²			At Risk Status		
		Global GRANK	Canada NRANK ³	Ontario SRANK ⁴	COSEWIC	SARO	SARA
Common Name	Scientific Name						
Porcupine	<i>Erethizon dorsatum</i>	G5		S5	-	-	-
Carnivores							
Coyote	<i>Canis latrans</i>	G5	N5	S5	-	-	-
Red Fox	<i>Vulpes vulpes</i>	G5	N5	S5	-	-	-
Raccoon	<i>Procyon lotor</i>	G5	N5	S5	-	-	-
Ermine	<i>Mustela erminea</i>	G5	N5	S5	-	-	-
Long-tailed Weasel	<i>Mustela frenata</i>	G5	N5	S4	-	-	-
Mink	<i>Mustela vison</i>	G5	N5	S4	-	-	-
Striped Skunk	<i>Mephitis mephitis</i>	G5	N5	S5	-	-	-
Ungulates							
White-tailed Deer	<i>Odocoileus virginianus</i>	G5	N5	S5	-	-	-

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, 2008b.

³ NRANK = National Status (NatureServe (www.natureserve.org), in conjunction with Conservation Data Centres, such as NHIC); N = National Rank (Canada), 2 = Imperilled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic.

⁴ SRANK = Provincial Status (NHIC 2008b); S = Sub-national Rank (Ontario), 2 = Imperilled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, U = Unknown.

3. Summary of Results

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

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in or within 120 m of a provincial park or conservation reserve?	No	The nearest such features are located more than 120 m away from the Project location.
Is the Project in a natural feature?	Yes	There are woodlands identified on the Project location
Is the Project 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 within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There are woodlands and a wetland within 120 m of the Project location.

As per Section 26 of the REA Regulation, a site investigation will be required to confirm the features identified during this records review. The site investigation will i) 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, and iv) determine the distance from the Project to the natural feature boundary. In addition, the potential for species at risk identified in Section 3 will be considered during the site investigation.

4. References

- Bird Studies Canada. 2010. IBA Site Summary – Napanee Limestone Plain, Napanee, ON. Available on-line at <http://www.bsc-eoc.org/iba/site.jsp?siteID=ON152>. Accessed May 21, 2010.
- 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. Accessed February 16, 2010.
- County of Prince Edward. 2008. Official Plan. Accessed May 14, 2010. Available on-line at http://www.pecounty.on.ca/government/planning_services/planning.php.
- Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists. 122 pp
- Government of Canada. 2009a. Species Profile – Northern Bobwhite. Government of Canada, Species at Risk Public Registry, Available on-line at http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=28. Accessed May 21, 2010.
- Government of Canada. 2009b. 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. Accessed May 21, 2010; Last Updated January 11, 2010.
- Government of Ontario. 2005. Provincial Policy Statement. Available on-line at <http://www.mah.gov.on.ca/Asset1421.aspx>.
- McKenney, D., M. Oldham, J. Bogart, and B. Mackey. 2007. Amphibians and Reptiles of Ontario. Natural Resources Canada. Available on-line at <http://cfs.nrcan.gc.ca/subsite/glfc-amphibians>. Accessed May 21, 2010; Last Updated November 30, 2007.
- Risley, C. 2007. Northern Bobwhite, pp. 134-135. in Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 pp.

Appendix A

Ontario Breeding Bird Atlas Results



Square Summary (18UP18)

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
30	20	38	88	15	23	72	110	16	90	35	54

Region summary (#20: Prince Edward)

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
26	26	26	156	163	954	650

Target number of point counts in this square: 18 road side, 7 off road (3 in open wetlands, 1 in treed wetlands, 1 in coniferous forest, 1 in mixed forest, 1 in alvar). 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	30	96
Mute Swan		NY	0	53
Wood Duck		AE	80	92
Gadwall			26	26
American Wigeon		H	11	7
American Black Duck	P		69	80
Mallard	FY	FY	96	96
Blue-winged Teal	P	FY	96	73
Northern Shoveler			11	7
Northern Pintail			38	7
Green-winged Teal			0	42
Redhead †			3	0
Ring-necked Duck ‡			3	3
Hooded Merganser		P	26	65
Common Merganser			7	19
Red-breast Merganser			11	46
Gray Partridge ‡			7	0
Ring-necked Pheasant		T	26	38
Ruffed Grouse	NE	FY	80	88
Sharp-tailed Grouse †			3	0
Wild Turkey		FY	0	80
Common Loon	H	FY	73	73
Pied-billed Grebe	H	S	34	61
Double-crest Cormorant §		NE	15	19
American Bittern	H	T	96	92
Least Bittern †	H	P	42	61
Great Blue Heron §	NY	H	73	88
Green Heron §	H	H	88	88

SPECIES	Code		%	
	1st	2nd	1st	2nd
Turkey Vulture		P	34	88
Osprey		NY	0	76
Northern Harrier	CF	FY	92	96
Sharp-shinned Hawk	S	FY	19	88
Cooper's Hawk			15	80
Northern Goshawk			11	0
Red-should Hawk †			11	0
Broad-winged Hawk ‡			7	0
Red-tailed Hawk	FY	FY	92	92
American Kestrel	NY	NY	92	88
Peregrine Falcon †			3	3
King Rail †			0	19
Virginia Rail	S	FY	65	84
Sora	S	S	69	69
Common Moorhen	H	P	84	73
American Coot	H	H	26	34
Coot/Moorhen			0	3
Killdeer	NE	NE	100	100
Rock Dove	NE	FY	84	84
Spotted Sandpiper	P	FY	96	100
Upland Sandpiper	S	FY	73	76
Common Snipe	S	D	92	92
American Woodcock	D	FY	80	88
Wilson's Phalarope †			7	0
Ring-billed Gull §			30	19
Herring Gull §			15	11
Great Black-backed Gull †			11	3
Caspian Tern †		X	11	3

SPECIES	Code		%	
	1st	2nd	1st	2nd
Common Tern §		H	15	11
Mourning Dove	NE	NY	100	96
Yellow-billed Cuckoo			26	26
Black/Yell-billed Cuckoo			0	30
Black-billed Cuckoo		S	61	96
Eastern Screech-Owl		T	50	80
Great Horned Owl		NY	80	88
Long-eared Owl ‡			15	3
Short-eared Owl †			11	7
North Saw-whet Owl			23	15
Common Nighthawk	S		61	15
Whip-poor-will	S		50	15
Chimney Swift	H	H	76	34
Ruby-thr Hummingbird	H	T	92	96
Belted Kingfisher	P	FY	84	96
Red-headed Woodpecker †	P		80	34
Red-bell Woodpecker		T	15	69
Yellow-bellied Sapsucker			19	34
Downy Woodpecker	P	FY	96	96
Hairy Woodpecker	P	FY	92	92
Northern Flicker	D	NY	100	96
Pileated Woodpecker		NY	53	88
Eastern Wood-Pewee	FY	T	88	96
Alder Flycatcher			23	57
Willow Flycatcher	P	T	80	100
Least Flycatcher		FY	84	100
Eastern Phoebe	NY	NY	80	92
Gr Crested Flycatcher	CF	CF	96	96

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SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Loggerhead Shrike †	NE		11	11	Brown Thrasher	S	FY	92	92	Vesper Sparrow	NE	FY	92	92
Yellow-throated Vireo ‡			7	0	European Starling	NY	NY	100	100	Savannah Sparrow	FY	CF	100	96
Warbling Vireo	S	CF	96	96	Cedar Waxwing	NU	FY	84	100	Grasshopper Sparrow	T	T	92	88
Red-eyed Vireo	S	FY	92	96	Blue-winged Warbler ‡			3	0	Henslow's Sparrow †			19	0
Blue Jay	FY	CF	100	100	Golden-winged Warbler ‡			7	0	Song Sparrow	FY	NY	100	100
American Crow	NY	FY	100	100	Blue/Gold-wing Warbler			0	0	Swamp Sparrow	S	CF	92	96
Horned Lark	P	FY	92	84	<u>Nashville Warbler</u>			30	50	White-throat Sparrow		S	73	76
Purple Martin	NE	NY	80	88	Yellow Warbler	P	NE	96	100	Dark-eyed Junco ‡			7	7
Tree Swallow	NY	NY	100	100	Chestn-sided Warbler		T	19	92	Northern Cardinal	FY	FY	88	88
North Rgh-wing Swallow	FY	FY	76	92	Magnolia Warbler ‡			0	11	Rose-breast Grosbeak	CF	NY	92	96
Bank Swallow §	H	FY	57	65	Black-thr Blue Warbler ‡			0	7	Indigo Bunting	S	T	84	88
<u>Cliff Swallow §</u>			69	73	Yellow-rumped Warbler			19	34	Bobolink	NE	FY	100	96
Barn Swallow	NY	NY	96	100	Black-thr Green Warbler		T	11	61	Red-wing Blackbird	CF	CF	100	100
Black-capped Chickadee	FY	CF	96	96	Blackburnian Warbler ‡			0	0	Eastern Meadowlark	CF	NE	100	96
Red-breast Nuthatch			19	38	Pine Warbler			0	26	Common Grackle	CF	FY	100	100
White-breast Nuthatch	P	FY	92	92	Cerulean Warbler †		H	0	3	Brown-head Cowbird	P	FY	100	92
<u>Brown Creeper</u>			38	73	Black-white Warbler	S	S	50	76	Orchard Oriole		S	15	53
House Wren	A	AE	96	96	American Redstart	S	T	53	100	Baltimore Oriole	FY	NY	100	96
Winter Wren			23	26	Ovenbird	S	T	73	84	Purple Finch			11	26
Sedge Wren			19	11	North Waterthrush	S	S	46	53	House Finch		NE	11	84
Marsh Wren	CF	NY	76	80	Mourning Warbler			7	15	Pine Siskin ‡		X	7	11
Golden-crown Kinglet ‡			7	7	Common Yellowthroat	A	NE	96	100	American Goldfinch	P	NE	96	100
Blue-gr Gnatcatcher		P	15	65	Canada Warbler ‡			7	11	House Sparrow	NY	FY	96	84
Eastern Bluebird		FY	11	84	Yellow-breast Chat †			3	0					
Veery	S	T	65	88	Scarlet Tanager	P	P	61	92					
Wood Thrush	S	T	80	84	Eastern Towhee	S	FY	80	92					
American Robin	NY	NY	100	100	Chipping Sparrow	NE	NE	96	100					
Gray Catbird	A	CF	96	96	Clay-colored Sparrow		CF	23	69					

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #20 (Prince Edward). 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 18UP18 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 #20). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 5/05/2010. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=18UP18>