

Crosby Solar Project

Draft Natural Heritage Records Review Report December 22, 2010



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

DRAFT Natural Heritage Records Review Report

Crosby Solar Project

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Project Report

December 15, 2010

Northland Power Inc. Crosby Solar Project

DRAFT Natural Heritage Records Review Report

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1. Introduction

1.1 Project Description

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville (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

- 1. in a provincial park or conservation reserve 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 (earth science), or
- 4. 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.

In respect of woodlands and valleylands, Section 1 (1) of O. Reg. 359/09 requires that these features be located 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*. This figure shows that the proposed Project



site is located on the Canadian Shield, and therefore valleylands and woodlands as defined by O. Reg. 359/09 cannot be located on the Project site.

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.

1.3 MNR Approval and Permitting Requirements

Beyond the REA legislative requirements identified in Section 1.2, additional information on site conditions must be identified in order to determine if Ministry of Natural Resources (MNR) approvals and permits separate from the REA are required. Consideration of the following features is needed in order to make this determination:

- Presence of natural hazard lands Hazardous lands are defined in Section 28 (25) of the Conservation Authorities Act as "land that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock". If Project components are to be located in these areas, approval must be obtained from the local Conservation Authority/MNR.
- Presence of petroleum resource operations Approval is required if Project components are to be located within 75 m of a petroleum resource operation.
- Crown owned forest resources If Project components are located in an area of Crown owned forest resources, then authorization must be obtained from MNR prior to clearing of timber on that land.

2. Background Information Review and Results

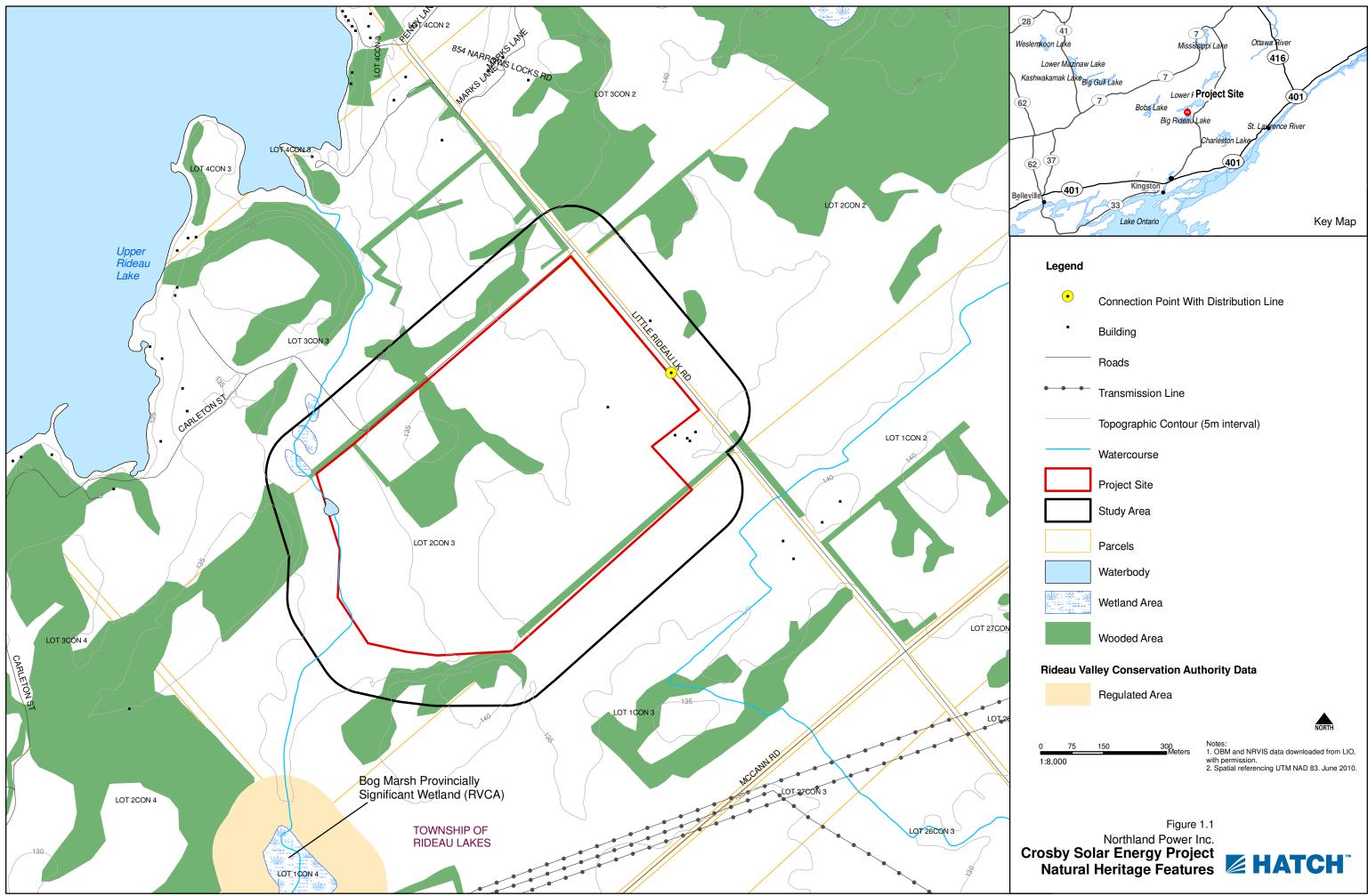
This Records Review Report is based on a review of published and non-published information on natural heritage features and species at risk identified on or in close proximity to the Project site. The background documents reviewed were obtained from the municipalities, local planning staff, local conservation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

Records were searched within a minimum distance of 1 km from the Project site. 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 site. Also, the Project site is not located within the Niagara Escarpment Commission Plan Area. Therefore, records review for these governing bodies was not conducted.





P:\NORTHLAND\333751\DATABASES\334844\GIS\Crosby\Crosby - water.mxd

•	Connection Point With Distribution Line
•	Building
	Roads
••-	Transmission Line
	Topographic Contour (5m interval)
	Watercourse
	Project Site
	Study Area
	Parcels
	Waterbody
	Wetland Area
	Wooded Area
Rideau Val	ley Conservation Authority Data
	Regulated Area



Back of figure





2.1 Ministry of Natural Resources Records

The following MNR on-line records were reviewed:

- Ontario Crown Land 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)
- 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 area.

MNR LIO Mapping

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

- there are watercourses located on and within 1 km of the Project site
- two wooded areas are present on the Project site
- six wooded areas are present within 120 m of the Project site
- there are three small unevaluated wetlands located within 120 m northwest of the Project site
- Upper Rideau Lake is located to the Northeast and Newboro Lake is located to the south of the Project site
- there are no nesting sites identified on or within 1 km of the Project site
- there are no wintering areas identified on or within 1 km of the Project site
- there are no ANSIs or valleylands were identified within the vicinity of the Project site.
- no provincial parks or conservation reserves were identified on or within 120 m of the Project location.

Natural Heritage Information Centre (NHIC) Database

The NHIC database was accessed on May 19, 2010 and a geographic search using the Biodiversity Explorer tool was completed for a 1km radius surrounding the Project site. The Biodiversity Explorer tool provides information on rare species and plant communities, wildlife concentration areas, natural areas and invasive species occurrences.



The results of the queries determined that have been occurrences of two uncommon species [Prairie Warbler (*Dendroica discolor*), Early Hairstreak (*Erora laeta*)] within 1 km of the Project site. There were no records of rare plant communities or wildlife concentration areas within 1 km of the Project site.

In addition to searching the NHIC database, information regarding natural heritage features and species at risk was requested from the Kemptville MNR District office on June 12, 2010. Information was received on July 12, 2010. MNR (2010) identified that the wooded areas on and within 120 m of the Project site may contain Butternut (*Juglans cinerea*), an endangered species at risk under both the provincial Endangered Species Act (ESA) and the federal Species at Risk Act (SARA). MNR also indicated that Butternut may occur on adjacent properties. MNR confirmed records for both Early Hairstreak and Prairie Warbler, both provincially tracked species, on and adjacent to the Project site.

Ontario Herpetofaunal Summary Atlas

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

- Blanding's Turtle (Emydoidea blandingi)
- Northern Map Turtle (Graptemys geographica)
- Common Musk Turtle (Sternotherus odoratus)
- Western Chorus Frog (Pseudacris triseriata)
- Five-lined Skink (Eumeces faciatus)
- Milksnake (Lampropeltis triangulum)
- Gray Ratsnake (Elaphe obsoleta)
- Eastern Ribbonsnake (Thamnophis sauritus septentrionalis).

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.

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). The maps also indicated that the ranges of the Spotted Turtle (*Clemmys guttata*) and Four-toed Salamander (*Hemidactylium scutatum*) also overlap the Project site.

No further information regarding the Project site was found on the Canadian Wildlife Service or Environment Canada websites.





Species Global (RANK) Canada (RANK) Ontario (SRANK) COSEWIC Name United SRANK SARA Sumanders Medpupy Nettruis maculosus G5 N4 S4 NAR NAR - Medpupy Nettruis maculosus G5 N4 S4 NAR NAR - Bue-sported Salumander Complex Notophhalmus reflersorinaum-laterale - <t< th=""><th>Snor</th><th></th><th>servation R</th><th></th><th colspan="4">At Risk Status</th></t<>	Snor		servation R		At Risk Status			
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Five-Lined SkinkEumeces fasciatusG5N4S3SC(Schedule 1, Great Lakes/ St. Lawrence PopulationSnakesEastern GartersnakeThamnophis sirtalis sirtalisG5T5N5S5Eastern RibbonsnakeThamnophis sauritus septentrionalisG5S3SCSC (Schedule 1, Great Lakes/ St. Lawrence PopulationNorthern WatersnakeNerodia sipedon sipedonG5T5N5S5NARNARRed-bellied SnakeStoreria occipitomaculataG5T5N5S5NARNARDekay's BrownsnakeStoreria dekayiG5N5S5NARNARNorthern Ringmeck SnakeDiadophis punctatusG5 T5T5S4	Lizard		1	-	1		r	66
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Eastern GartersnakesintalisG515N5S5Eastern RibbonsnakeThamnophis sauritus septentrionalisG5-S3SCSCSC (Schedule 1, Great Lakes Population)Northern WatersnakeNerodia sipedon sipedonG5T5N5S5NARNARRed-bellied SnakeStoreria occipitomaculataG5T5N5S5Dekay's BrownsnakeStoreria dekayiG5N5S5NARNAR-Northern Pingneck SnakeDiadophis punctatusG5 T5T5S4	Snakes	I	1	1		r	•	r
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Northern WatersnakesipedonG515N5S5NARNARRed-bellied SnakeStoreria occipitomaculataG5T5N5S5Dekay's BrownsnakeStoreria dekayiG5N5S5NARNAR-Smooth Green SnakeOpheodrys vernalisG5N5S4Northern Ringneck SnakeDiadophis punctatusG5 T5T5S4	Eastern Ribbonsnake	septentrionalis	G5	-	\$3	SC	SC	Great Lakes
Red-bellied Snake occipitomaculata G515 N5 S5 - - - Dekay's Brownsnake Storeria dekayi G5 N5 S5 NAR NAR - Smooth Green Snake Opheodrys vernalis G5 N5 S4 - - - Northern Ringneck Snake Diadophis punctatus G5 T5 T5 S4 - -	Northern Watersnake	sipedon	G5T5	N5	S5	NAR	NAR	
Smooth Green Snake Opheodrys vernalis G5 N5 S4 -	Red-bellied Snake		G5T5	N5	S5	-	-	-
Northern Ringneck Spake Diadophis punctatus C5 T5 T5 S4		Storeria dekayi				NAR	NAR	-
	Smooth Green Snake		G5	N5	S4	-	-	-
	Northern Ringneck Snake		G5 T5	Τ5	S4	-	-	-

Table 2.1Reptiles and Amphibians Potentially Occurring within the
Project Area and their Conservation Status1





Snor	Con	servation R	ank²	At Risk Status			
Spec	Global	Canada	Ontario	COSEWIC	SARO	SARA	
Common Name	Scientific Name	GRANK	NRANK ⁴	SRANK ³	COSEWIC	SARO	JAKA
Black Ratsnake	Elaphe obsoleta obsoleta	G5T5	N3	S3	-	-	-
Gray Ratsnake (Frontenac Population/Great Lakes/St. Lawrence Population)	Elaphe obsoleta	G5T3	-	\$3	THR	THR	THR (Schedule 1)
Eastern Milksnake	Lampropeltis triangulum	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, 2010

³ SRANK = Provincial Status (NHIC, 2010); S = Sub-national Rank (Ontario), 2 = Imperilled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, U = Unknown

⁴ 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

2.3 Conservation Authority Records

The Project site is located within the jurisdiction of the Rideau Valley Conservation Authority (RVCA). Information from the RVCA was received on June 29, 2010 identifying any natural heritage features and hazard lands that have been recorded within the vicinity of the Project site. This information can be found in Appendix B.

2.3.1 Results

The information received from the RVCA did not identify any specific natural features or hazard lands that would pose a constraint to development (RVCA, 2010). RVCA (2010) identified the presence of the Bog Marsh PSW and associated 120 m buffer zone within the Regulated Area, but this feature does not come within 120 m of the Project site.

2.4 Municipal Records - Township of Rideau Lakes

The Project site is located within the Township of Rideau Lake, a lower tier municipality. A review of the official Township website (<u>http://www.twprideaulakes.on.ca/</u>) was conducted to find any further natural heritage information about the Project site.

2.4.1 Results

The Official Plan of the Township of Rideau Lakes (TRL) does not identify any natural heritage feature, such as provincial significant wetlands or Areas of Natural and Scientific Interest on or within 120 m of the Project site.

2.5 Municipal Records - United Counties of Leeds and Grenville

The Project site is located within the upper tier municipality of the United Counties of Leeds and Grenville. A review of the official website (<u>http://www.uclg.ca/en/index.asp</u>) was undertaken to determine if there is any additional natural heritage information available on the Project site.





2.5.1 Results

A community map on the website indicated that the Project site was not near any Provincial Parks. No further information regarding any natural features was found on the website.

2.6 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 (<u>http://www.ibacanada.ca/mapviewer.jsp?lang = en</u>)
- Ontario Oil, Gas and Salt Resources Petroleum Well Mapping (http://maps.ogsrlibrary.com/).

2.6.1 Results

2.6.1.1 Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas on-line database was accessed on May 19, 2010 to determine which breeding bird species have been recorded within the vicinity of the Project site. The database is organized by Region and each Region is divided into 10-km² blocks which are given a map square number. The Project site is located within map square 18UQ94. The square coverage summary sheet was downloaded and the results are provided in Appendix A. Of the species that were recorded, 10 species at risk were identified whose ranges overlap that of the Project site. These species are as follows, and discussed in Section 3:

- Bald Eagle (*Haliaeetus leucocephalus*)
- Black Tern (Chlidonias niger)
- Bobolink (Dolichonyx oryzivorus)
- Canada Warbler (Wilsonia canadensis)
- Cerulean Warbler (Dendroica cerulean)
- Chimney Swift (*Chaetura pelagica*)
- Common Nighthawk (Chordeiles minor)
- Golden-winged Warbler (Vermivora chrysoptera)
- Least Bittern (Ixobrychus exilis)
- Loggerhead Shrike (Lanius ludovicianus migrans)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Whip-poor-will (Caprimulgus vociferus).

2.6.1.2 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 site. The list of these species is provided in Table 2.2. None of



these species are considered to be species at risk under the federal *Species At Risk Act (SARA)* or the Ontario *Endangered Species Act (ESA)*.

Scientific Name	Global GRANK	Canada	Ontario	COSTURE		
	UKAINK	NRANK ⁴	SRANK ³	COSEWIC	SARO	SARA
			JKAINK			
C	<u> </u>		Č.F.		I I	
Sorex cinereus	G5	N5	\$5	-	-	-
Sorex fumeus	G5	N5	S5	-	-	-
Blarina brevicauda	G5	N5	S 5	-	-	-
Condylura cristata	G5	N5	S5	-	-	-
	G3	-	S2S3	-	-	-
Myotis septentrionalis	G4	N4	\$3?	-	-	-
Myotis lucifuga	G5	N5	S5	-	-	-
Epstesicus fuscus	G5	N5	S5	-	-	-
Lasiurus borealis	G5	N4N5	S4	-	-	-
		•				
Sylvilagus floridanus	G5	N5	S5	-	-	-
	G5		S5	-	-	-
		NE		-	-	-
20pub curopeands	00	.,_	02		1	
Tamias striatus	G5	N5	\$5	_	_	-
					_	-
Sciurus	G5	N5	\$5	-	-	-
Tamiasciurus	G5	N5	S5	-	-	-
Glaucomys	G5	-	S5	-	-	_
	G5	N3	S4			
				-	-	-
Peromyscus	G5	N5	S5	-	-	-
Peromyscus	G5	N5	S5	-	-	-
Microtus	G5	N5	S5	-	-	-
	G5	N5	S5	-	-	-
				-	-	-
)				-	-	-
					-	-
Napaeozapus	G5	N5	S5	-	-	-
	C5	_	\$5			_
	U)	-	55	-	-	-
Canic latrans	C F	NE	SE			
						-
						-
						-
	Condylura cristata Myotis leibii Myotis septentrionalis Myotis lucifuga Epstesicus fuscus Lasiurus borealis Sylvilagus floridanus Lepus americanus Lepus americanus Lepus europeanus Tamias striatus Marmota monax Sciurus carolinensis Tamiasciurus hudsonicus Claucomys sabrinus Glaucomys volans Castor canadensis Peromyscus leucopus Peromyscus maniculatus Microtus pennsylvanicus Ondatra zibethicus Rattus norvegicus Mus musculus	Condylura cristataG5Myotis leibiiG3Myotis leibiiG3Myotis lucifugaG5Epstesicus fuscusG5Lasiurus borealisG5JoridanusG5Lepus americanusG5Lepus europeanusG5SciurusG5SciurusG5CarolinensisG5Castor canadensisG5Castor canadensisG5PeromyscusG5IeucopusG5PeromyscusG5PeromyscusG5PeromyscusG5MicrotusG5Matus norvegicusG5Rattus norvegicusG5Rattus norvegicusG5Rattus norvegicusG5Rattus norvegicusG5NapaeozapusG5NapaeozapusG5NapaeozapusG5Vulpes vulpesG5Vulpes vulpesG5Vulpes vulpesG5	Condylura cristataG5N5Myotis leibiiG3-Myotis lucifugaG5N5septentrionalisG4N4Myotis lucifugaG5N5Epstesicus fuscusG5N5Lasiurus borealisG5N5Lasiurus borealisG5N5Lepus americanusG5N5Lepus europeanusG5N5SciurusG5N5CarolinensisG5N5GlaucomysG5N5Glaucomys volansG5N5PeromyscusG5N5PeromyscusG5N5MicrotusG5N5MicrotusG5N5MicrotusG5N5Matus norvegicusG5N5PeromyscusG5N5PeromyscusG5N5Mus musculusG5N5NapaeozapusG5N5NapaeozapusG5N5Vulpes vulpesG5N5Vulpes vulpesG5<	Condylura cristataG5N5S5Myotis leibiiG3-\$253Myotis leibiiG4N4\$33SeptentrionalisG4N4\$33Myotis lucifugaG5N5\$5Epstesicus fuscusG5N5\$5Lasiurus borealisG5N4N5\$4Sylvilagus floridanusG5N5\$5Lepus americanusG5N5\$5Lepus europeanusG5N5\$5Marmota monaxG5N5\$5Calucomys sabrinusG5N5\$5Glaucomys volansG5N5\$5Glaucomys volansG5N5\$5Peromyscus pennyslvanicusG5N5\$5Peromyscus pennsylvanicusG5N5\$5Rattus norvegicusG5N5\$5Rattus norvegicusG5N5\$5Rattus norvegicusG5N5\$5Rattus norvegicusG5N5\$5Rattus norvegicusG5N5\$5Napaeozapus insignisG5N5\$5Napaeozapus insignisG5N5\$5Vulpes vulpesG5N5\$5Vulpes vulpesG5N5\$5Vulpes vulpesG5N5\$5Vulpes vulpesG5N5\$5Vulpes vulpesG5N5\$5Vulpes vulpesG5N5\$5Vulpes vulpesG5N5\$	Condylura cristataG5N5S5-MyotisG3-S2S3-MyotisG4N4S33-SeptentrionalisG4N4S33-Myotis lucifugaG5N5S5-Epstesicus fuscusG5N5S4-Lasiurus borealisG5N5S5-IdridanusG5N5S5-Lepus americanusG5N5S5-Icepus americanusG5N5S5-Tamias striatusG5N5S5-Marmota monaxG5N5S5-SciurusG5N5S5-Cator canadensisG5N5S5-Glaucomys volansG5N5S5-PeromyscusG5N5S5-PeromyscusG5N5S5-MicrotusG5N5S5-Ondatra zibethicusG5N5S5-Mus musculusG5N5S5-NapaeozapusG5N5S5-NapaeozapusG5N5S5-Canis latransG5N5S5-Vulpes vulpesG5N5S5-Ursus americanusG5N5S5-Castor canadensisG5N5S5-Castor canadensisG5N5S5-Drodytan zibethicus </td <td>Condylura cristataG5N5S5-Myotis leibliG3-S2S3Myotis lucilugaG5N5S5EpstentrionalisG4N4S3?Myotis lucilugaG5N5S5Epstesicus fuscusG5N5S5Lasiurus borealisG5N4N5S4SylvilagusG5N5S5IloridanusG5N5S5Lepus americanusG5N5S5Tamias striatusG5N5S5Marmota monaxG5N5S5SciurusG5N5S5CarolinensisG5N5S5ClaucomysG5N5S5Claucomys volansG5N5S5PeromyscusG5N5S5PeromyscusG5N5S5MicrotusG5N5S5Ondara zibethicusG5N5S5MasmusculusG5N5S5PatternG5N5S5PatternG5N5S5PatternG5N5S5ClaucomysG5N5</td>	Condylura cristataG5N5S5-Myotis leibliG3-S2S3Myotis lucilugaG5N5S5EpstentrionalisG4N4S3?Myotis lucilugaG5N5S5Epstesicus fuscusG5N5S5Lasiurus borealisG5N4N5S4SylvilagusG5N5S5IloridanusG5N5S5Lepus americanusG5N5S5Tamias striatusG5N5S5Marmota monaxG5N5S5SciurusG5N5S5CarolinensisG5N5S5ClaucomysG5N5S5Claucomys volansG5N5S5PeromyscusG5N5S5PeromyscusG5N5S5MicrotusG5N5S5Ondara zibethicusG5N5S5MasmusculusG5N5S5PatternG5N5S5PatternG5N5S5PatternG5N5S5ClaucomysG5N5

 Table 2.2
 Mammals Potentially Occurring within the Project Area and their Conservation Status¹





(mar	Cor	servation R	ank²	At Risk Status				
Spec	Global	Canada	Ontario	COSEWIC	SARO	CADA		
Common Name	Scientific Name	GRANK	NRANK ⁴	SRANK ³	COSEWIC	SAKU	SARA	
Marten	Martes Americana	G5	N5	S5	-	-	-	
Fisher	Martes pennanti	G5	N5	S5	-	-	-	
Ermine	Mustela erminea	G5	N5	S5	-	-	-	
Mink	Mustela vison	G5	N5	S4	-	-	-	
Striped Skunk	Mephitis mephitis	G5	N5	S5	-	-	-	
River Otter	Lontra canadensis	G5	N5	S5	-	-	-	
Canada Lynx	Lynx canadensis	G5	N5	S5	-	-	-	
Ungulates								
White-tailed Deer	Odocoileus virginianus	G5	N5	S5	-	-	-	

¹ As determined from range maps in Dobbyn (194)

² Accessed from NHIC (2010)

³ SRANK = Provincial Status (NHIC 2010); S = Sub-national Rank (Ontario), 2 = Imperilled, 3 = Vulnerable, 4 = Apparently Secure, 5 = Secure, E = Exotic, U = Unknown

⁴ 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

2.6.1.3 Important Bird Areas of Canada

A review of the Project area indicates that the Project site is not within any Important Bird Areas for Canada.

2.6.1.4 Ontario Oil, Gas and Salt Resources – Petroleum Well Mapping No references to the Project site were found in the Oil, Gas & Salt Resources Library.

3. Species at Risk

As identified above in Section 2, several species at risk may potentially occur on the Project site. These species and their likelihood of occurrence on the Project site are addressed below.

3.1.1 Birds

- Loggerhead Shrike Listed as endangered under SARA and ESA. This species can be found in open ranges with the occasional shrub or tree for nesting habitat. Loggerhead Shrike were observed in potential breeding habitat within the 10 x 10-km survey square which overlaps the Project site during the first OBBA (1981 to 1985), though none were observed in the second (2001 to 2005) (Bird Studies Canada et al., 2006). Suitable habitat may be found on the Project site.
- **Red-headed Woodpecker** Listed as threatened under SARA and special concern under ESA. This species can be found in field edges and farmyards with a few large trees (Government of Canada, 2009b). Habitat of this type is available on the Project site, and fledged young were observed within the 10 x 10-km survey square which overlaps the Project site during the first OBBA (1981 to 1985), though none were observed in the second (2001 to 2005) (Bird Studies Canada et al., 2006). It is possible that Red-headed Woodpeckers could occur in the woodlands on and within the vicinity of the Project site.



- Least Bittern Listed as threatened under SARA and ESA. This species can be found in freshwater marshes and swamps where there is a mix of dense emergent vegetation and open water (Government of Canada, 2009c). Suitable habitat is not found on the Project site.
- Forest breeding birds Several forest dwelling birds (Cerulean Warbler, listed as being of special concern under SARA and the ESA, Canada Warbler and Golden-winged Warbler, both listed as being of special concern under SARA and threatened under ESA) are known to occur in the 10 x 10-km Ontario Breeding Bird Atlas survey square which overlaps the Project site. These species may occur in the woodlot adjacent to the Project site.
- **Black Tern** Listed as Special Concern on ESA. Black Terns nest in colonies on shallow marshes. No nesting colonies are present within the vicinity of the Project site, and suitable habitat is not found on the Project site. Therefore, Black Tern are not expected to occur on the Project site.
- **Bald Eagle** Listed as Special Concern on ESA. Bald Eagles nest in tall mature trees, generally near waterbodies which provide suitable foraging habitat. Suitable habitat may be found on the Project site.
- Whip-poor-will Listed as Threatened under ESA and COSEWIC. Whip-poor-wills nest in a mix of open and forested areas. This type of habitat is not available within the vicinity of the Project site and therefore Whip-poor-will are not expected to occur.
- **Chimney Swift** Listed as Threatened under SARA and ESA. This species can be found in cave walls, hollow trees, and in man-made structures, such as chimneys. Suitable habitat is not found on the Project site and Chimney Swifts are not expected to occur.
- **Common Nighthawk** Listed as Special Concern under ESA and Threatened on SARA. 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 (Poulin et al, 1996). Suitable habitat for Common Nighthawk is found within the Project site, and they have been observed during OBBA surveys within the 10 x 10-km survey square that overlaps the Project site. Common Nighthawk are not expected to occur.
- **Bobolink** Listed as threatened under ESA. Bobolink are commonly observed on pasturelands and hayfields. Habitat of this type is available within the vicinity of the Project site, and therefore, Bobolink may occur.

3.1.2 Reptiles and Amphibians

- **Five-lined Skink** Listed as being of Special Concern under SARA and ESA. The habitat of the Five-lined Skink varies from region to region and includes rocky outcrops, dunes, fields, and deciduous forests. Since the Five-lined Skink is prone to dehydration, its habitat must include a permanent water body. Suitable habitat is not found on the Project site.
- **Milksnake** Listed as being of Special Concern under SARA and ESA. This species lives in open woodlands, fields and farm buildings (McKenney et al, 2007). Habitat of this type is available on and adjacent to the Project site.



- **Gray Ratsnake** Listed as threatened under SARA and ESA. The Gray Ratsnake favours open vegetative cover, such as open woods, and fields. Habitat of this type is available on the Project site and Ratsnake may occur on the Project site.
- **Eastern Ribbonsnake** Listed as being of Special Concern under SARA and ESA. The Eastern Ribbonsnake is commonly found in wet area, including weedy shorelines. Habitat of this type is available in the watercourses adjacent to the Project site.
- Several species of turtle, including **Northern Map** (listed as being of Special Concern under SARA and ESA), and **Blanding's** and **Common Musk** (listed as threatened under SARA and ESA), may potentially occur within the waterbodies adjacent to the Project site.
- Western Chorus Frog Listed as Threatened under SARA, the western chorus frog is commonly found in humid prairie, moist woods or meadows, with reproduction occurring in vernal pools within woodlands. Such habitat may be found on or adjacent to the Project location.

3.1.3 Vegetation

• **Butternut** – Listed as endangered under SARA and ESA. The Butternut is commonly observed on rich, moist, and well-drained soils, often along streams. It may also be found on well-drained gravel sites, especially those made up of limestone (Government of Canada 2009h). Butternuts may occur on the Project site.

4. Summary of Results

Table 4.1 summarizes the results of the records review according to the features identified in Section 1.2. A map depicting the identified natural features on and in proximity to the site is provided in Figure 1.1.

Determination to be Made	Yes/No	Description
Is the Project in or within 120 m of a	No	The nearest such features are located more
provincial park or conservation reserve?		than 120 m away from the Project location.
Is the Project in a natural feature?	No	There are no natural features identified that
		on the Project site
Is the Project within 50 m of an ANSI	No	The nearest earth science ANSI is located
(earth science)?		several kilometres from the Project site.
Is the Project within 120 m of a natural	Yes	There are unevaluated wetlands located
feature that is not an ANSI (earth		within 120 m of the Project site.
science)?		

Table 4.1 Summary of Records Review Determinations

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 site, 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.





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Appendix A Ontario Breeding Bird Data



	Sc	quar	e Su	mma	ary ((18U	Q9	4)		
#specie	s (1st a	tlas)	#spe	ecies (2nd a	tlas)	#ho	ours	#pc	done
poss pro	b conf	total	poss	prob	conf	total	1st	2nd	road	offrd
13 43	62	118	30	26	65	121	74	72	64	4

Region	summary	(#21:	Kingston)

#

laguaraa	#sq w	ith data	#spe	ecies	#no dono	torgot #po	
squares	1st	2nd	1st	2nd	#pc done	target #pc	
75	75					1875	

Target number of point counts in this square: 21 road side, 4 off road (1 in open wetlands, 1 in treed wetlands, 1 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 %			SPECIES		le	%	SPECIES		de	%	
SPECIES	1st	2nd	1st	2nd	SPECIES	1st	2nd	1st 2nd	SFECIES	1st	2nd	1st	2nd
Canada Goose		FY	52	97	Pied-billed Grebe		S	61 78	Spotted Sandpiper	Ρ	Н	90	78
Mute Swan ‡			0	8	Double-crest Cormorant §			14 21	Upland Sandpiper	Ρ		73	58
Trumpeter Swan †		FY	0	9	American Bittern	Т	Т	92 88	Common Snipe	NE	NE	98	98
Tundra Swan †			0	0	Least Bittern †		S	46 37	American Woodcock	D	Т	97	81
Wood Duck	FY	AE	92	94	Great Blue Heron §	Н	H	97 89	Wilson's Phalarope †			6	4
Gadwall			24	21	Green Heron §	Н	FY	97 86	Ring-billed Gull §			17	18
American Wigeon			16	14	Black-crown NHeron † §			13 4	Herring Gull §	Н	Н	26	32
American Black Duck	Ρ		81	29	Turkey Vulture	Ρ	Т	84 94	Great Black-backed Gull †			2	5
Mallard	FY	FY	100	98	Osprey	NY	NY	52 77	Caspian Tern †			10	5
Blue-winged Teal	Ρ	Р	98	66	Bald Eagle †		NY	5 12	Black Tern † §	Н		54	45
Northern Shoveler			18	16	Northern Harrier		Н	89 76	Common Tern §			18	17
Northern Pintail			24	17	Sharp-shinned Hawk	H		52 58	Forster's Tern † §			0	2
Green-winged Teal			0	37	Cooper's Hawk		Р	29 49	Mourning Dove	FY	FY	100	98
Canvasback †			0	0	Northern Goshawk			18 18	Budgerigar ‡			0	0
Redhead †			8	1	Red-should Hawk †	Т	NY	42 54	Yellow-billed Cuckoo		S	62	49
Ring-necked Duck			22	30	Broad-winged Hawk	Н	Р	50 49	Black/Yell-billed Cuckoo		S	0	41
Lesser Scaup ‡			2	1	Red-tailed Hawk	NY	AE	100 93	Black-billed Cuckoo	Т	Н	98	89
Common Goldeneye ‡			0	1	American Kestrel	AE	CF	98 84	Barn Owl †			1	0
Hooded Merganser		AE	40	62	Merlin	H		2 34	Eastern Screech-Owl	Т	S	74	76
Common Merganser	Н		18	33	Peregrine Falcon †			1 0	Great Horned Owl	Т	D	96	76
Red-breast Merganser			12	8	King Rail †			1 2	Barred Owl	Т	Т	40	65
Ruddy Duck †			1	5	Virginia Rail	Ρ	S	86 89	Long-eared Owl			41	16
Gray Partridge			20	1	Sora	Т	FY	81 76	Short-eared Owl †			22	8
Ring-necked Pheasant		FY	34	28	Common Moorhen	Т	S	80 56	North Saw-whet Owl			61	10
Ruffed Grouse	FY	FY	92	88	American Coot			26 12	Common Nighthawk	D	NE	86	54
Sharp-tailed Grouse †			0	1	Coot/Moorhen		S	0 8	Chuck-will's-widow †			1	0
Wild Turkey		FY	4	80	Sandhill Crane ‡			0 4	Whip-poor-will	NY	Т	89	69
Northern Bobwhite †			1	0	Killdeer	DD	FY	98 97	Chimney Swift	AE		76	50
Common Loon	FY	FY	84	85	Rock Dove	FY	Н	96 93	Ruby-thr Hummingbird	AE	Н	92	96

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SPECIES	Code %			SPECIES	Code %			SPECIES		Code		%		
	1st	2nd	1st	2nd	JFEUIEJ	1st	2nd	1st	2nd	JFEUED	1st	2nd	1st	2nd
Belted Kingfisher	Ρ	Р	97	97	Purple Martin	FY	NY	84	73	Cedar Waxwing	D	Н	98	98
Red-headed Woodpecker †			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	Т	Р	46	60
Yellow-bellied Sapsucker	AE	FY	68	72	Bank Swallow §	AE	AE	88	68	Blue/Gold-wing Warbler			0	29
Downy Woodpecker	FY	FY	96	98	Cliff Swallow §	AE		62	60	Lawrence's Warbler †			1	1
Hairy Woodpecker	FY	Р	97	98	Barn Swallow	FY	AE	100	98	Brewster's Warbler †			1	9
Three-toed Woodpecker ‡			1	0	Black-capped Chickadee	NY	AE	98	98	Tennessee Warbler			4	2
Black-backed Woodpecker ‡			1	0	Tufted Titmouse †			0	2	Nashville Warbler	NE		77	82
Northern Flicker	AE	AE	100	98	Red-breast Nuthatch	А	S	58	74	Northern Parula ‡			1	8
Pileated Woodpecker	CF	AE	86	93	White-breast Nuthatch	Т	CF	97	97	Yellow Warbler	NY	FY	100	98
Olive-sided Flycatcher ‡			2	4	Brown Creeper	Ρ		61	58	Chestn-sided Warbler	CF	Т	80	96
Eastern Wood-Pewee	FY	Т	98	98	Carolina Wren ‡			2	10	Magnolia Warbler	Т	S	24	60
Yellow-bellied Flycatcher			8	4	House Wren	AE	FY	98	97	Black-thr Blue Warbler			20	44
Alder Flycatcher	Т	S	74	88	Winter Wren			42	57	Yellow-rumped Warbler	S	S	53	85
Willow Flycatcher	Т	A	73	80	Sedge Wren			34	24	Black-thr Green Warbler		S	48	76
Least Flycatcher	Т	AE	97	97	Marsh Wren		NU	74	81	Blackburnian Warbler	Т		46	54
Eastern Phoebe	NE	AE	98	98	Golden-crown Kinglet			5	14	Pine Warbler	Т	NY	58	80
Gr Crested Flycatcher	AE	AE	98	98	Ruby-crown Kinglet ‡			1	0	Prairie Warbler †			12	10
Eastern Kingbird	NE	NE	100	98	Blue-gr Gnatcatcher			22	21	Cerulean Warbler †	Т	S	25	26
Loggerhead Shrike †	Н		34	18	Eastern Bluebird	FY	CF	62	85	Black-white Warbler	Т	S	86	89
Yellow-throated Vireo	FY	Т	64	61	Veery	Т	Т	93	94	American Redstart	NE	CF	96	98
Blue-headed Vireo		Н	5	28	Swainson's Thrush			5	4	Ovenbird	Т	CF	90	94
Warbling Vireo	NY	А	98	98	Hermit Thrush	Т	S	36	53	North Waterthrush	AE	Н	82	88
Philadelphia Vireo	Т		9	9	Wood Thrush	Т	Т	97	98	Louis Waterthrush †			6	6
Red-eyed Vireo	CF	CF	98	98	American Robin	NY	CF	100	98	Mourning Warbler		Н	25	25
Blue Jay	V	FY	97	98	Gray Catbird	CF	CF	98	98	Common Yellowthroat	NE	FY	98	98
American Crow	FY	FS	98	98	Northern Mockingbird			22	29	Hooded Warbler †			0	0
Common Raven		FY	22	77	Brown Thrasher	CF	Т	100	94	Wilson's Warbler ‡			1	0
Horned Lark	Р	Н	85	65	European Starling	FY	CF	100	98	Canada Warbler	S		36	21

Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ94 (page 2 of 3)

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SPECIES	Code %	SPECIES	Code	Code %			
SPECIES	1st 2nd 1st 2nd	SPECIES	1st 2nd	I 1st 2nd			
Yellow-breast Chat †	4 0	White-winged Crossbill		5 2			
Scarlet Tanager	CF T 90 92	Pine Siskin	P	54 14			
Eastern Towhee	AE FY 97 90	American Goldfinch	N NB	100 98			
Chipping Sparrow	FY FY 100 98	Evening Grosbeak		17 10			
Clay-colored Sparrow	S 9 33	House Sparrow	AE FS	98 92			
Field Sparrow	FY FY 96 94						
Vesper Sparrow	T P 93 74						
Savannah Sparrow	FY CF 98 97						
Grasshopper Sparrow	50 58						
Henslow's Sparrow †	17 1						
Song Sparrow	NY FY 100 98						
Lincoln's Sparrow	5 4						
Swamp Sparrow	AE FY 97 97						
White-throat Sparrow	T S 92 85						
Dark-eyed Junco	FY 12 16						
Northern Cardinal	S T 61 88						
Rose-breast Grosbeak	CF T 98 98						
Indigo Bunting	CF FY 97 94						
Bobolink	FY FY 98 96						
Red-wing Blackbird	NY AE 100 98						
Eastern Meadowlark	FY FY 97 94						
Common Grackle	CF FS 100 98						
Brown-head Cowbird	FY P 100 97						
Orchard Oriole ‡	1 12						
Baltimore Oriole	CF AE 100 98						
Pine Grosbeak ‡							
Purple Finch	P H 68 84						
House Finch	T 22 72						
Red Crossbill	P 18 4						

Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ94 (page 3 of 3)

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 18UQ94 during the 2nd at 1st atlas respectively. The % columns give the percentage of squares in that region where that species was reported during the 2nd at 1st atlas (1st 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 6/07/2010. An up-to-date version of this sheet is available from http://www.birdsontario.org/atlas/summaryform.jsp?squarelD=18UQ94

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Appendix **B**

Rideau Valley Conservation Authority Data





3889 Rideau Valley Drive, P.O. Box 599, Manotick, ON K4M 1A5 tel 613-692-3571 | 1-800-267-3504 | fax 613-692-0831 | www.rvca.ca

A member of Conservation

Date: June 29, 2010 Our File: 10-RLA-GEN Reference: Brus onta

Hatch Ltd. 500 - 4342 Queen St Niagara Falls, ON L2E 7J7 Attn: Caleb Coughlin

Subject: Property Inquiry for the renewable energy project located at Part of Lot 2, Concession 3, in the Township of North Crosby, Rideau Lakes Township, Little Rideau Lake Rd.

Dear Mr. Coughlin,

A search of our database indicates that there are currently no outstanding violations or orders on the property that we are aware of in so far as the Rideau Valley Conservation Authority's regulations are concerned. We are unaware of any directives, orders or breaches of regulations with respect to the current use of the property.

The Bog Marsh Provincially Significant Wetland (PSW), is located on the neighboring property to the south (please refer to attached map). A small portion of the 120 metre adjacent lands of the PSW are located on the property and are subject to Ontario Regulation 174/06 "Development, Interference with Wetlands, Alterations to Shorelines and Watercourses Regulation" made pursuant to the Conservation Authorities Act, 1990 as amended. Any development within the dotted line will require RVCA approval.

Please note that all watercourses traversing the site are subject to the Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation as well. The regulation requires that the owner obtain written approval from the Conservation Authority prior to straightening, changing, diverting or interfering in any way with the channel of the watercourse (this includes watercourse crossings). The Conservation Authority typically requires a 30 metre development setback from the normal highwater mark of any watercourse to protect water quality, prevent erosion, encourage nutrient uptake and to mitigate impacts on fish habitat.

There are no features such as an ANSI (Area of Natural and Scientific Interest) located on the property. Should a *Planning Act* application be submitted to the municipality respecting any future development proposals, the Conservation Authority would likely be circulated the proposal for comments relating to the control of flooding, pollution and erosion. You may wish to contact the Ministry of Natural Resources – Kemptville (613-258-8204) for additional information concerning significant woodlots, wildlife habitat, and endangered species as we currently do not have mapping identifying these features.

The foregoing information is given for your convenience only and relates to the current use of the land. Municipal land use requirements may vary. It should be clearly understood that you must satisfy yourself as to whether the premises and the existing or proposed use thereof is or would be in conformity with all applicable regulations of the appropriate Conservation Authority. Should you have any questions please contact me at (613) 692-3571 x 1132.

Yours truly,

Megan Watters Resource Specialist

