

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

DRAFT Natural Heritage Records Review Report

North Burgess Solar Project

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Project Report

June 24, 2011

Northland Power Inc. North Burgess Solar Project

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1. Introduction

1.1 Project Description

Northland Power Inc. on behalf of Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project").

The Project area for the North Burgess Solar Project is located on Narrows Lock Road near the intersection with Scotch Line, within the Township of Tay Valley, within Lanark County (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.

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

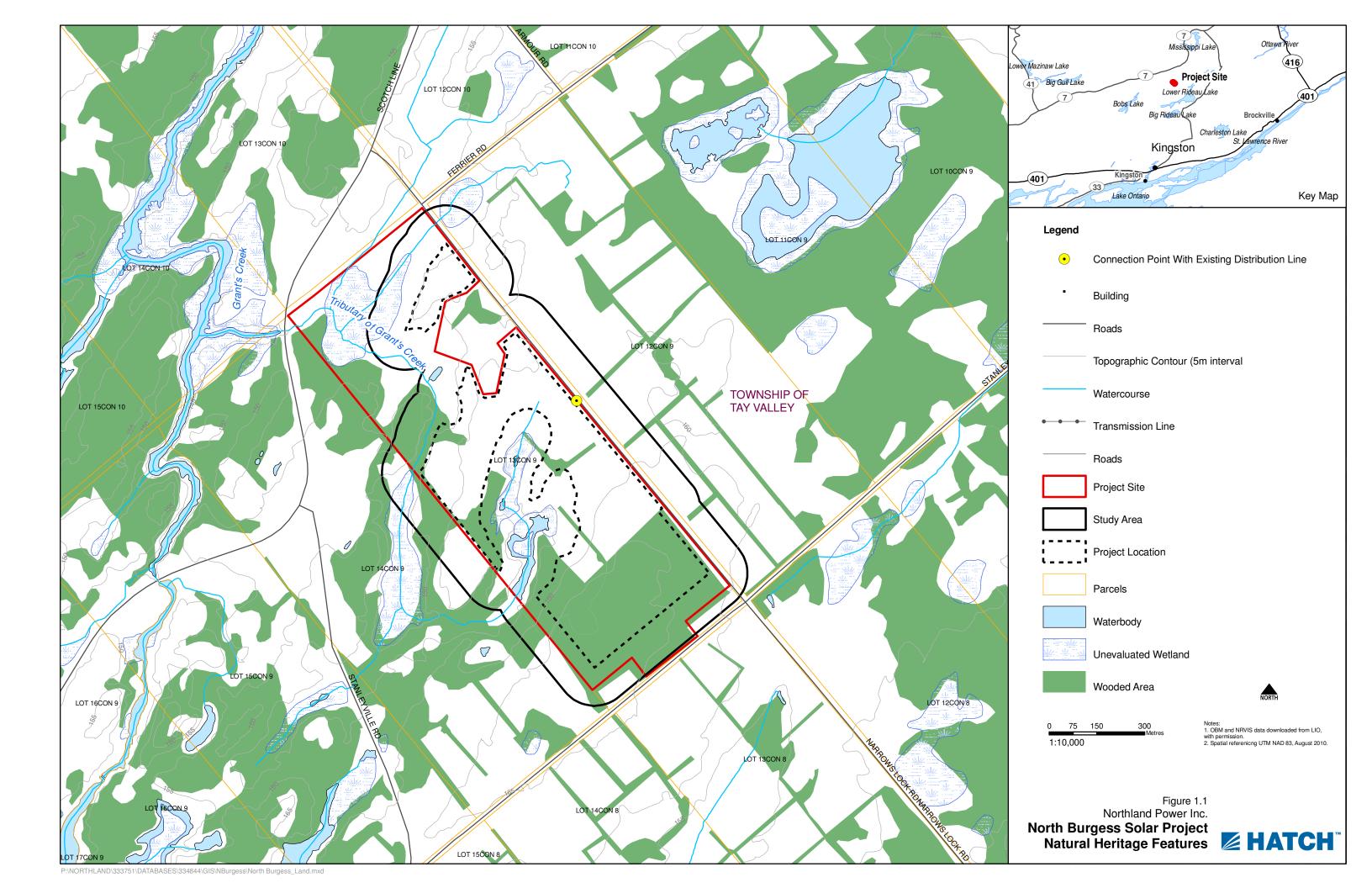
This Records Review Report is based on a review of published and non-published information on natural heritage features and species at risk identified on or in close proximity to the Project location. The background documents reviewed were obtained from various sources including provincial and federal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

Records covering areas within a minimum distance of 1 km from the Project location were searched. 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 with jurisdiction over 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.

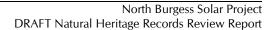






Back







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)
- Natural Heritage Information Centre (NHIC) on-line mapping (http://nhic.mnr.gov.on.ca/nhic .cfm)
- 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 June 2, 2010, did not indicate any crown land within 1km of the Project area. It showed the Project area as being privately owned land.

MNR LIO Mapping

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

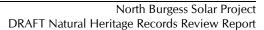
- Tributaries of Grants Creek are present within 120 m of the Project location.
- There are several woodlands located on and within 120 m of the Project location.
- There are four unevaluated wetlands located within 120 m of the Project location.
- There are no nesting sites identified on or within 1 km of the Project location.
- There are no wintering areas identified on or within 1 km of the Project location.
- There are no ANSIs on or within 1 km of the Project location.
- 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 June 2, 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 and plant communities, wildlife concentration areas, natural areas and invasive species occurrences.

The results of the queries determined that there are records of an uncommon species, Tricolored Bat (*Perimyotis subflavus*)] occurring within 1 km of the Project location. There were no records of rare







plant communities, wildlife concentration areas or natural areas occurring within 1 km of the Project location.

In addition to searching the NHIC database, a request for natural heritage information was made to the Kemptville District MNR office. Information was received from the Kemptville MNR District office on July 8, 2010. The information provided mentioned that several unevaluated wetlands are present on and within 120 m of the Project location.

Ontario Herpetofaunal Summary Atlas

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

- Milksnake
- Northern Map Turtle
- Western Chorus Frog
- Five-lined Skink
- Eastern Ribbonsnake.

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

	•	Cor	nservation R	ank ²	At Risk Status				
Common Name	oecies	Global GRANK	Canada NRANK ⁴	Ontario SRANK ³	COSEWIC	SARO	SARA		
	Scientific Name	UKANK	INKAINK	SKAINK					
Salamanders	N1	CF	l NI4	S4	NIAD	NAD			
Mudpuppy	Necturus maculosus	G5	N4	54	NAR	NAR	-		
Red-spotted Newt	Notophthalmus viridescens viridescens	G 5	N5	S 5	-	-	-		
Blue-spotted Salamander Complex	Ambystoma jeffersonianum- laterale "complex	-	-	-	-	-	-		
Yellow-spotted Salamander	Ambystoma maculatum	G5	N5	S4	-	-	-		
Northern Two- Lined Salamander	Eurycea bislineata	-	-	-	-	-	-		
Four-Toed Salamander	Hemidactylium scutatum	G5	N4	S4	-	-	-		
Eastern Red- backed Salamander	Plethodon cinereus	G 5	N5	S 5	-	-	-		
Eastern Newt	Notophthalmus viridescens	G5T5	N5	S 5	-	-	-		
Frogs and Toads				•		•			
American Toad	Bufo americanus	G5	N5	S5	-	-	-		
Spring Peeper	Pseudacris crucifer	G5	N5	S5	-	-	-		
Western Chorus Frog (Great Lakes /	Pseudacris triseriata	G5TNR	-	S 3	THR	NAR	THR (Schedule 1)		





		Co	nservation R	lank ²	At Risk Status				
Sp	oecies	Global	Canada	Ontario					
Common Name	Scientific Name	GRANK	NRANK ⁴	SRANK ³	COSEWIC	SARO	SARA		
St. Lawrence									
population)									
Gray Treefrog	Hyla versicolor	G5	N5	S5	-	-	-		
Wood Frog	Rana sylvatica	-	-	-	-	-	-		
American Bullfrog	Rana castebiana	G5	N5	S4	-	-	-		
Green Frog	Rana clamitans	G5	N5	S 5	-	-	-		
Pickerel Frog	Rana palustris	G5	N5	S4	NAR	NAR	-		
Mink Frog	Rana septentrionalis	G5	N5	S5	-	-	-		
Northern Leopard Frog	Rana pipiens	G5	N5	S5	NAR	NAR	-		
Wood Frog	Rana sylvatica	G5	N5	S5	_	-	-		
Turtles			, ,-			•	ı		
Snapping Turtle	Chelydra serpentina	G5	N5	S 3	SC	SC	-		
Midland Painted	Chrysemys picta		\ I=	6-					
Turtle	marginata	G5T5	N5	S 5	-	-	-		
Northern Map	Graptemys	C.F.		62	66	66	CC (C 1 1)		
Turtle	geographica	G5	-	S 3	SC	SC	SC (Schedule 1)		
Lizard		-							
Five-Lined Skink	Eumeces fasciatus	G 5	N4	\$3	SC	-	SC (Schedule 1, Great Lakes/ St. Lawrence Population		
Snakes							1		
Eastern Gartersnake	Thamnophis sirtalis sirtalis	G5T5	N5	S5	-	-	-		
Eastern Ribbonsnake	Thamnophis sauritus septentrionalis	G5	-	S3	SC	SC	SC (Schedule 1, Great Lakes Population)		
Northern Watersnake	Nerodia sipedon sipedon	G5T5	N5	S 5	NAR	NAR	-		
Red-bellied Snake	Storeria occipitomaculata	G5T5	N5	S 5	-	-	-		
Dekay's Brownsnake	Storeria dekayi	G5	N5	S 5	NAR	NAR	-		
Smooth Green Snake	Opheodrys vernalis	G5	N5	S4	-	-	-		
Northern Ringneck Snake	Diadophis punctatus edwardsi	G5 T5	T5	S4	-	-	-		
Milksnake	Lampropeltis triangulum	G5	N5	S 3	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 SRANK = Provincial Status (NHIC 2008b); 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



2.2 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); no additional records were found.

A review of the Canadian Wildlife Service and Environment Canada websites resulted in no further information about the area on or within 120 m of the Project location.

2.3 Conservation Authority Records

The Project location is under the jurisdiction of the Rideau Valley Conservation Authority (RVCA). A formal request for natural heritage information was sent to the RVCA by way of letter.

2.3.1 Results

In response to the information request, the RVCA provided a letter dated June 29, 2010, identifying natural heritage features that have been recorded within 1 km of the Project location (Appendix B). The information received from the RVCA identified three permanent wetlands on the Project location and three permanent wetlands within 120 m of the Project location.

2.4 Municipal Records - Township of Tay Valley

The Project location is located within the Township of Tay Valley, a lower-tiered municipality. A review of the official website (http://www.twprideaulakes.on.ca/) was conducted to find any further natural heritage information about the Project location. In addition, information was requested during a meeting with Noelle Reeve, a Planner with the Township, on May 15, 2010.

2.4.1 Results

Schedule A2 of the township's Official Plan displays the Project area. The map indicated that the southeast corner of the Project area is a mineral resource. Additionally, the hamlet of Stanleyville is located to the southwest of the Project location, within 1 km.

No additional information was provided during or subsequent to the meeting with Township staff.

2.5 Municipal Records - County of Lanark

The Project location is located within the County of Lanark. A review of the official website (http://www.county.lanark.on.ca/Page4.aspx) was undertaken to determine if there was any additional natural heritage information available on the Project location. In addition, information was requested during a meeting with Mary Kirkham, Planning Approvals Administrator with the County, on June 24, 2010.





2.5.1 **Results**

A review of the Official website for Lanark County indicated that there is no Official Plan for the County. There is a Community Forest Working Group for the County of Lanark but the Project location is not close to any of the forested areas managed by this group. No additional information regarding natural heritage features about the Project location were found.

No additional information was provided during or subsequent to the meeting with County staff.

The County of Lanark does have a tree-cutting by-law. An application for approval for tree-cutting will be obtained prior to construction.

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 (http://www.ibacanada.ca/mapviewer.jsp?lang = en)

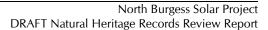
2.6.1 Results

2.6.1.1 Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas on-line database was accessed on June 2, 2010 to determine which breeding bird species have been recorded within the vicinity of the Project location. The database is organized by region and each region is divided into 100-km² blocks which are given a map square number. The Project location is located within map square 18UQ96. The square coverage summary sheet was downloaded and the results are provided in Appendix A. Of the species that were recorded, several species of conservation concern were identified with ranges that overlap the Project location. These species are as follows, and are discussed in Section 3:

- Olive-sided Flycatcher (Contopus cooperi)
- Canada Warbler (Wilsonia canadensis)
- Common Nighthawk (Chordeiles minor)
- Golden-winged Warbler (Vermivora chrysoptera)
- American Kestrel (Falco sparverius)
- Black-billed Cuckoo (Coccyzus erythropthalmus)
- Belted Kingfisher (Ceryle alcyon)
- Northern Flicker (Colaptes auratus)
- Eastern Wood-Pewee (Contopus virens)
- Eastern Kingbird (Tyrannus tyrannus)
- Brown Thrasher (Toxostoma rufum)







- Eastern Towhee (Pipilo erythrophthalmus)
- Field Sparrow (Spizella pusilla)
- Vesper Sparrow (Pooecetes gramineus)
- Savannah Sparrow (Passerculus sandwichensis)
- Grasshopper Sparrow (Ammodramus savannarum)
- Eastern Meadowlark (Sturnella magna)
- Baltimore Oriole (Icterus galbula).

Beyond species of conservation concern, several area-sensitive species that are not species of conservation concern were identified. Habitat for area-sensitive species is a type of candidate significant wildlife habitat. Area sensitive species are discussed further below:

- Common Merganser Clear, freshwater ponds, lakes and rivers with forested edges for nesting.
- American Bittern Associated with marshes, wet meadows, swamps, bogs, and marshy borders
 of waterbodies.
- Northern Harrier Commonly found in open country with herbaceous or low woody vegetation for nesting. Often found coursing low over agricultural fields and wetlands. Prefers areas > 30 ha for nesting.
- Sharp-shinned Hawk Associated with dense coniferous or mixed forests, usually near a lake or river, requiring minimum of 4 ha of dense canopy closure for nesting. Forests > 30 ha in size appear to be preferred.
- Cooper Hawk Associated with dense, extensive mixed or deciduous forest, usually near water.
 A minimum of 6 ha of closed canopy forest for nesting, prefers forests > 50 ha in size.
- Red-shouldered Hawk Found in moist mature hardwood forests with greater than 80% canopy closure. Requires a minimum of 10 ha of continuous forest for nesting in interior, preferring to nest in woodlands > 100 ha in size.
- Upland Sandpiper Found in open pastures, fields, forest clearings with little to no shrubs or trees. Requires tracts of grassland between 25 and 50 ha.
- Barred Owl Found in coniferous or mixed woodlands with little understory and relatively closed canopy, preferably near water. Requires mature trees, with cavities for nesting. Needs large 100 to 400 ha forests.
- Hairy Woodpecker Associated with mixed or deciduous forests and forest edges. Requires a number of tall trees and snags
- Pileated Woodpecker Associated with extensive tracts, commonly 40 to 250 ha, of mature deciduous or mixed forest with water and large cavity trees for nesting.
- Least Flycatcher Associated with open deciduous woodland or forest edges, open shrubland, clearings or overgrown pasture of > 100 ha.



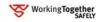


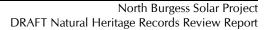
- Yellow-throated Vireo Open deciduous woods, requiring at least 30 ha of forest area.
- Red-breasted Nuthatch A cavity nester found in coniferous and mixedwood forests, being most abundant in mature woods. Nests in interior and requires at least 10 ha of forest.
- White-breasted Nuthatch Commonly found in mature deciduous woodlands. Needs at least 10 ha of continuous forest.
- Brown Creeper Associated with mature dense woodlands, particularly in wet areas with large dead trees. Generally requires a minimum of 30 ha of woodland.
- Veery Commonly associated with cool, moist mixed and deciduous young or disturbed forest with bushy undergrowth and ferns. Requires at least 10 ha of forest.
- Hermit Thrush Found in dry sandy coniferous or deciduous woods with dense young undergrowth, appears to need at least 100 ha of forest.
- Northern Parula Found in closed canopy coniferous or mixed wood forests near water; an
 interior forest species needing forests of at least 100 ha in size.
- Black-throated Green Warbler Prefers dense mixedwood forests, but will also be found in coniferous or more open woodlands. Requires about 30 ha.
- Pine Warbler Mature pine forests that are somewhat open. Area sensitive needing at least 15 to 30 ha.
- Black-and-white Warbler Breeds at edges of large continuous stands of mature or old second growth deciduous or mixed forest, cedar swamps or bogs, riparian habitat. Requires in excess of 100 ha of continuous forest.
- American Redstart Associated with deciduous or mixed woods with closed canopy of either tall shrubs or dense young trees or mature trees. Requires > 100 ha of forest habitat.
- Ovenbird Commonly found in undisturbed, open mature deciduous or mixed forest with closed canopy, little ground vegetation, and abundance of fallen leaves, logs or rocks. Requires at least 70 ha of continuous forest.
- Scarlet Tanager Associated with upland, undisturbed, mature deciduous or mixed forests, requiring at least 20 ha of forest.

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 include the Project location. A list of these species is provided in Table 2.2. Three of these species are considered to be species of conservation concern:

- Northern Long-eared Bat (Myotis septentrionalis)
- Eastern Small-footed Bat (Myotis leibii)
- Tricolored Bat (Perimyotis subflavus)







Beyond species of conservation concern, several area-sensitive species that are not species of conservation concern were identified. Habitat for area-sensitive species is a type of candidate significant wildlife habitat. Area sensitive species are discussed further below:

- Southern-Flying Squirrel Found in mature deciduous and mixed forest, requires cavity trees.
- Marten Requires continuous tracts of mature coniferous or conifer-dominated mixedwood frests, maternal dens in mature cavity trees
- Fisher Requires extensive forest cover of mixed or early-successional deciduous forests near water. Nests in hollow trees, logs or cavities among rocks
- Canada Lynx Associated with interiors of extensive unbroken forests, uses secluded den sites such as among rocks or under fallen trees.

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

		Co	nservation Ra	At Risk Status				
Spe Common Name	cies Scientific Name	Global GRANK	Canada NRANK ⁴	Ontario SRANK ³	COSEWIC	SARO	SARA	
Shrews and Moles	Scientific (vaine							
Common Shrew	Sorex cinereus	G5	N5	S5	_	_	_	
Smoky Shrew	Sorex fumeus	G5	N5	S5	_	_	_	
Northern Short-tailed Shrew	Blarina brevicauda	G5	N5	S5	-	-	-	
Star-nosed Mole	Condylura cristata	G 5	N5	S5	-	-	-	
Bats								
Eastern Small-footed Bat	Myotis leibii	G3	-	S2S3	-	-	-	
Northern Long-eared Bat	Myotis septentrionalis	G4	N4	S3?	-	-	ı	
Tricolored bat	Perimyotis subflavus	G5	N2N3	S3?	-	-	-	
Little Brown Bat	Myotis lucifuga	G 5	N5	S5	-	-	-	
Big Brown Bat	Epstesicus fuscus	G 5	N5	S5	-	-	-	
Eastern Red Bat	Lasiurus borealis	G 5	N4N5	S4	-	-	-	
Rabbits and Hares								
Eastern Cottontail	Sylvilagus floridanus	G5	N5	S5	-	-	-	
Snowshoe Hare	Lepus americanus	G 5		S5	-	-	-	
European Hare	Lepus europeanus	G 5	NE	SE	-	-	-	
Rodents								
Eastern Chipmunk	Tamias striatus	G 5	N5	S5	-	-	-	
Woodchuck	Marmota monax	G 5	N5	S5	-	-	-	
Gray Squirrel	Sciurus carolinensis	G5	N5	S5	-	-	-	
Red Squirrel	Tamiasciurus hudsonicus	G5	N5	S 5	-	-	-	
Northern Flying Squirrel	Glaucomys sabrinus	G5	-	S5	-	-	-	
Southern Flying Squirrel	Glaucomys volans	G5	N3	S4	-	_	-	
Beaver	Castor canadensis	G5	N5	S5	-	-	-	
White-footed Mouse	Peromyscus leucopus	G5	N5	S5	-	-	-	





		Co	nservation Ra	At Risk Status				
Spe Common Name	Scientific Name	Global GRANK	Canada NRANK ⁴	Ontario SRANK ³	COSEWIC	SARO	SARA	
Deer Mouse	Peromyscus maniculatus	G5	N5	S5	-	-	-	
Southern Red-backed Vole	Clethrionomys gapperi	G5	N5	S5	-	-	-	
Meadow Vole	Microtus pennsylvanicus	G5	N5	S5	-	-	-	
Muskrat	Ondatra zibethicus	G5	N5	S5	-	-	-	
Norway Rat	Rattus norvegicus	G5	NE	SE	-	-	-	
House Mouse	Mus musculus	G5	NE	SE	-	-	-	
Southern Bog Lemming	Synaptomys cooperi	G5	N5	S4	-	-	-	
Meadow Jumping Mouse	Zapus hudsonius	G5	N5	S5	-	-	-	
Woodland Jumping Mouse	Napaeozapus insignis	G5	N5	S5	-	-	-	
Porcupine	Erethizon dorsatum	G5	-	S5	-	-	-	
Carnivores								
Coyote	Canis latrans	G5	N5	S5	-	-	-	
Red Fox	Vulpes vulpes	G5	N5	S5	-	-	-	
Black Bear	Ursus americanus	G5	N5	S5	-	-	-	
Raccoon	Procyon lotor	G5	N5	S5	-	-	-	
Marten	Martes americana	G5	N5	S5	-	-	-	
Fisher	Martes pennanti	G5	N5	S5	-	-	-	
Ermine	Mustela erminea	G5	N5	S5	-	-	-	
Mink	Mustela vison	G5	N5	S4	-	-	-	
Long-tailed Weasel	Mustela frenata	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	-	-	-	

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

2.6.1.3 Important Bird Areas of Canada

A review of the Project area indicated that the Project location is not within an important bird areas of Canada.

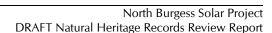


² Accessed from NHIC, 2008b.

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. Species of Conservation Concern

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

3.1.1 Birds

- Olive-sided Flycatcher Listed as being of special concern under the ESA and threatened under SARA. This species is found in natural or man-made open areas containing tall live trees or snags for perching (Government of Canada, 2010a). Habitat of this type is abundantly available within the local area, though no Olive-sided Flycatchers have been observed during OBBA surveys within the 10 by 10-km survey square that overlaps the property (Bird Studies Canada et al., 2006).
- Common Nighthawk Listed as being of special concern under ESA. 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 location, and they have been observed during OBBA surveys within the 10- by 10-km
 survey square that overlaps the Project location.
- Golden-winged Warbler Listed as Special Concern on the ESA. Associated with early successional habitat, such as shrubby, grassy abandoned fields with small deciduous trees boredered bylow woodland and wooded seamps. Requires > 10 ha of habitat.
- Canada Warbler Listed as Special Concern on the ESA. An interior forest species of dense
 mixedwood forests with closed canopy and shrubby undergrowth, often requiring at least 30 ha
 of woodland. Also associated with riparian habitats.
- American Kestrel Identified as a declining species (Ontario Partners in Flight, 2005). Open
 country or grasslands with scattered trees, needs low vegetation and elevated perches. Also
 associated with forest edges. Requires trees > 30 cm in diameter and large snags.
- Black-billed Cuckoo Described as being in decline in the province of Ontario (Ontario Partners
 in Flight, 2006). Black-billed cuckoo commonly occur within early successional habitats such as
 shrubby old fields, hedgerows, and woodland edges.
- Belted Kingfisher Identified as a declining species (Ontario Partners in Flight, 2005). Nests in sand, clay, gravelly banks within 1.6 km of water bodies with fish. Such features are often associated with eroded stream or river banks, lakeshore bluffs, gravel pits or road cuts.
- **Northern Flicker** Identified as a declining species (Ontario Partners in Flight, 2005). Open woodlands, forest edges, and wetlands. Uses dead or dying trees for nesting.
- Eastern Wood-Pewee Identified as a declining species (Ontario Partners in Flight, 2005).
 Open forest species, commonly those predominated by oak with little understory.



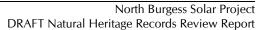


- **Eastern Kingbird** Identified as a declining species (Ontario Partners in Flight, 2005). Found in shrubby forest edges, along hedgerow or stream banks in or near open fields, or in open woodlands.
- **Brown Thrasher** Identified as a declining species (Ontario Partners in Flight, 2005). Open pastures, hedgerows or woodland edges with bushes, low trees or tangles of vines. Also associated with early successional habitat and marginal farmland.
- Eastern Towhee Identified as a declining species (Ontario Partners in Flight, 2005). Identified
 as a declining species (Ontario Partners in Flight, 2005). Associated with dense brushy cover
 with leaf litter, abandoned fields or pastures with developing young trees or shrubs, and
 woodland edges with dense undergrowth.
- Field Sparrow Identified as a declining species (Ontario Partners in Flight, 2005). Commonly
 found in open areas with low shrubs or trees, such as abandoned pastures, farm fields, thickets,
 and forest edges.
- Vesper Sparrow Described as being in decline in the province of Ontario (Ontario Partners in Flight, 2006). Vesper Sparrow preferentially breed within dry, short-grass areas with scattered shrubs and small trees.
- Savannah Sparrow Identified as a declining species (Ontario Partners in Flight, 2005). Found in hayfields, pastures, fields and meadows with dense ground vegetation of grasses. Requires tracts of grassland > 50 ha.
- Grasshopper Sparrow Identified as a declining species (Ontario Partners in Flight, 2005).
 Associated with well-drained grassland or prairie with low cover of grasses and taller weeds on sandy soil. Requires tracts of grassland > 10 ha.
- Eastern Meadowlark Identified as a declining species (Ontario Partners in Flight, 2005). Commonly found in open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches. Open grassy areas > 10 ha.
- **Baltimore Oriole** Identified as a declining species (Ontario Partners in Flight, 2005). Found in deciduous wooded areas with natural openings, hedgerows, orchards, woodland edges and along streams and lakes.

3.1.2 Reptiles and Amphibians

- Several species of turtle, including Northern Map and Snapping (listed as being of Special Concern under SARA and ESA), may potentially occur within the vicinity of the Project location.
 Waterbodies and wetlands on and near the Project location could provide habitat for these species.
- Western Chorus Frog Listed as threatened under SARA. The Western Chorus Frog frequents low-land areas such as marshes and wooded wetland areas. It requires seasonally dry temporary ponds for tadpoles growth and is rarely found in permanent ponds (Government of Canada, 2010d). This type of habitat may be present within the wetland areas of the Project location.







- Milksnake Listed as being of special concern under SARA and ESA (Government of Canada, 2009f). 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 location. Suitable habitat is found on the Project location.
- Eastern Ribbonsnake Listed as being of special concern under SARA and ESA. This species is semi-aquatic and is typically found along watercourses and ponds bordered by dense vegetation (Government of Canada, 2010g). Eastern Ribbonsnake may be present in the area surrounding the watercourses present on the Project location.
- **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 may be found on the Project location.

3.1.3 *Mammals*

- Northern Long-eared Bat Hibernates during winter in mines or caves. During summer, roosts/maternity colonies in houses, and in hollow trees or under loose bark.
- **Small-footed Bat** Hibernates in cold dry caves or mines, with roosts/maternity colonies occurring in caves, mine shafts, crevices or buildings that are in or near woodland.
- **Tricolored Bat** Roosts in trees, cliff crevices, buildings or vaces; hibernates in damp, warm caves, mines or rock crevices.

4. Summary of Results

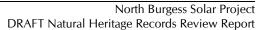
Table 4.1 summarizes the results of the records review according to the features identified in Section 1.3. A map depicting the identified natural features on and in proximity to the site is provided in Figure 1.1.

Table 4.1 Summary of Records Review Determinations

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		than 120 m away from the Project location.
reserve?		
Is the Project in a natural feature?	Yes	There are woodlands on the Project
		location.
Is the Project within 50 m of an ANSI	No	There is not an ANSI within 50 m of the
(earth science)?		Project area.
Is the Project within 120 m of a natural	Yes	There are wetlands and woodlands within
feature that is not an ANSI (earth		120 m of the Project location
science)?		

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.

5. References

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Appendix A Ontario Breeding Bird Atlas Results



Square Summary (18UQ96)

#spe	ecies (1st at	las)	#spe	cies (2nd a	tlas)	#hc	urs	#pc	done	
	prob											
29	40	25	94	13	49	35	97	136	68	12	0	

Region summary (#25: Perth)

	#squares	#sq w	ith data	#spe	ecies	#na dana	target #po		
		1st	2nd	1st	2nd	#pc done	target #pc		
	45	45	45	160	174	1070	281		

Target number of point counts in this square: 20 road side, 5 off road (1 in treed wetlands, 2 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.

ODEO150	Code	%	SPECIES		Code %		Š	SPECIES		Code		
SPECIES	1st 2nd	1st 2nd	SPECIES	1st	2nd	1st	2nd	SPECIES	1st	2nd	1st	2nd
Canada Goose	PFY	35 82	Red-should Hawk †		NY	71	84	Chimney Swift	S	Т	86	35
Wood Duck	P FY	95 95	Broad-winged Hawk			82	75	Ruby-thr Hummingbird	Р	Р	100	100
Gadwall ‡		2 0	Red-tailed Hawk	Р	Н	100	91	Belted Kingfisher	Н	Т	95	95
American Wigeon ‡		2 0	American Kestrel	S	CF	88	42	Red-headed Woodpecker †			17	4
American Black Duck	PP	75 60	Merlin			0	35	Yellow-bellied Sapsucker	Н	FY	100	100
Mallard	PP	100 100	<u>Virginia Rail</u>			62	68	Downy Woodpecker	S	FY	100	100
Blue-winged Teal	Р	80 35	Sora			24	28	Hairy Woodpecker	Α	S	100	100
Green-winged Teal		0 13	Common Moorhen			35	11	Three-toed Woodpecker ‡			2	0
Ring-necked Duck		13 40	Coot/Moorhen			0	0	Black-backed Woodpecker			13	11
Hooded Merganser		77 77	Killdeer	Р	Т	95	71	Northern Flicker	ΑE	Р	100	100
Common Merganser	Н	33 71	Rock Dove	CF	٧	75	68	Pileated Woodpecker	Н	Р	88	97
Ruddy Duck †		2 0	Spotted Sandpiper			88	64	Olive-sided Flycatcher			64	33
Ruffed Grouse	S FY	97 97	Upland Sandpiper	Р	Н	22	8	Eastern Wood-Pewee	Т	Т	100	100
Spruce Grouse ‡		2 2	Common Snipe	Α	Т	100	91	Yellow-bellied Flycatcher			8	11
Wild Turkey	P	0 64	American Woodcock	Н	D	66	71	Alder Flycatcher	CF	Т	55	93
Common Loon	SP	95 97	Ring-billed Gull §			0	17	Willow Flycatcher			11	22
Pied-billed Grebe		48 55	Herring Gull §			37	44	Least Flycatcher	Α	Т	100	97
Double-crest Cormorant §		0 6	Black Tern † §			17	13	Eastern Phoebe	NE	CF	100	97
American Bittern	HT	88 86	Mourning Dove	Р	AE	86	93	Gr Crested Flycatcher	D	Т	100	100
Least Bittern †		17 4	Yellow-billed Cuckoo			13	31	Eastern Kingbird	CF	CF	100	97
Great Blue Heron §	НН	100 84	Black/Yell-billed Cuckoo			0	44	Loggerhead Shrike †			13	0
Green Heron §	Н	60 46	Black-billed Cuckoo	S	Т	82	80	Yellow-throated Vireo		Т	71	60
Black-crown NHeron † §		4 0	Eastern Screech-Owl			26	8	Blue-headed Vireo			51	66
Turkey Vulture	P P	100 86	Great Horned Owl		Н	82	48	Warbling Vireo	Т	Α	100	95
Osprey	Р	86 86	Barred Owl		Р	77	84	Philadelphia Vireo	S	Т	24	20
Northern Harrier	ST	80 37	Long-eared Owl ‡			2	8	Red-eyed Vireo	Т	Α	100	100
Sharp-shinned Hawk	Н	60 40	North Saw-whet Owl		S	48	24	Gray Jay ‡			0	4
Cooper's Hawk	CF	62 26	Common Nighthawk		Н	86	35	Blue Jay	N	Т	100	100
Northern Goshawk		31 26	Whip-poor-will	S		91	64	American Crow	Р	Т	100	100

next page >>

Ontario Breeding Bird Atlas - Summary Sheet for Square 18UQ96 (page 2 of 2)

SPECIES	Code %	SPECIES	Code	%	SPECIES	Cod	Code		
SPECIES	1st 2nd 1st 2nd	SPECIES	1st 2nd	1st 2nd	SPECIES	1st	2nd	1st 2ı	nd
Common Raven	B 73 95	European Starling	CF FY	100 91	Field Sparrow	CF	Т	97	80
Horned Lark	S 17 2	Cedar Waxwing	V CF	100 100	Vesper Sparrow	Н		60	33
Purple Martin	CF CF 68 42	Golden-winged Warbler	ST	77 42	Savannah Sparrow	CF	FY	66	64
Tree Swallow	NY AE 100 100	Blue/Gold-wing Warbler		0 15	Grasshopper Sparrow ‡		Т	0	2
North Rgh-wing Swallow	55 55	Tennessee Warbler ‡		2 11	Song Sparrow	CF	CF	100 1	00
Bank Swallow §	57 42	Nashville Warbler	HT	95 95	Lincoln's Sparrow			24	15
Cliff Swallow §	H 80 37	Northern Parula	S	8 11	Swamp Sparrow	V	Α	95 1	00
Barn Swallow	FY FY 97 84	Yellow Warbler	T CF	100 100	White-throat Sparrow	Α	Т	100	97
Black-capped Chickadee	NY FY 100 100	Chestn-sided Warbler	TFY	97 97	White-crown Sparrow			0	0
Red-breast Nuthatch	T 88 97	Magnolia Warbler		55 88	Dark-eyed Junco			46	33
White-breast Nuthatch	H FY 100 97	Black-thr Blue Warbler		80 82	Northern Cardinal		S	22	42
Brown Creeper	H 88 75	Yellow-rumped Warbler	Р	86 97	Rose-breast Grosbeak	Р	Т	100	97
Carolina Wren ‡	2 0	Black-thr Green Warbler	T	88 97	Indigo Bunting	CF	S	100	97
House Wren	NY FY 84 80	Blackburnian Warbler		71 77	Bobolink	Α	FY	75	66
Winter Wren	71 91	Pine Warbler	S S	66 97	Red-wing Blackbird	Α	CF	100 1	00
Sedge Wren	T 6 20	Prairie Warbler †		20 11	Eastern Meadowlark	NE	FY	64	62
Marsh Wren	17 48	Bay-breasted Warbler		0 0	Common Grackle	CF	CF	100 1	00
Golden-crown Kinglet	35 35	Cerulean Warbler †		20 17	Brown-head Cowbird	Р	FY	100	86
Ruby-crown Kinglet	24 11	Black-white Warbler	T FY	100 100	Baltimore Oriole	Α	CF	100	91
Blue-gr Gnatcatcher	6 8	American Redstart	T	95 100	Purple Finch	S	S	97 1	00
Eastern Bluebird	NY FY 77 77	Ovenbird	TT	100 100	House Finch			0	26
Veery	D A 100 100	North Waterthrush	TT	97 100	Red Crossbill			15	8
Swainson's Thrush	22 33	Mourning Warbler		62 46	White-winged Crossbill			8	4
Hermit Thrush	H T 82 93	Common Yellowthroat	CF FY	100 100	Pine Siskin	Н		60	17
Wood Thrush	T T 91 84	Canada Warbler		71 44	American Goldfinch	CF	Т	100 1	00
American Robin	NY CF 100 100	Scarlet Tanager	T	95 97	Evening Grosbeak			44	66
Gray Catbird	NY CF 100 93	Eastern Towhee	VT	73 53	House Sparrow	V	ΑE	73	62
Northern Mockingbird ‡	4 13	Chipping Sparrow	CF FY	100 100					
Brown Thrasher	S A 91 88	Clay-colored Sparrow ‡	NE	4 4					

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #25 (Perth). 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 18UQ96 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 #25). Rare/Colonial Species Report Forms should be completed for species marked:

§ (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 29/07/2010. An up-to-date version of this sheet is available from http://www.birdsontario.org/atlas/summaryform.jsp?squareID=18UQ96

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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

Date: June 29, 2010 Our File: 10-TAY-GEN Reference: Miller

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 13, Concession 9, in the Township of North Burgess, Tay Valley Township, Narrows Lock 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.

Any watercourse on the site is subject to the Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation. The regulation requires that the owner obtain written approval from Conservation Authority prior to straightening, changing, diverting or interfering in any way with the channel of the watercourse (this includes watercourse crossings). Our mapping indicates there are watercourses on the property. 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. It would appear that 3 permanent wetlands occupy the property as well. They have not been designated as provincially significant but should a Planning Act be required the Conservation Authority will generally recommend a 30 metre setback from these types of features.

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) $692-3571 \times 1132$.

Yours truly,

Megan Watters Resource Specialist

