

CHALEUR VENTUS WIND ENERGY
PROJECT
APPENDIX J - WILDLIFE SURVEY REPORT
CHALEUR VENTUS LIMITED PARTNERSHIP

September 2019





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DRAFT

WSP PROJECT NO.: 181-07802

DATE: SEPTEMBER 25, 2019

WSP

1 SPECTACLE LAKE DRIVE

DARTMOUTH, NS, CANADA B3B 1X7

T +1 902-935-9955

F +1 902-835-1645

WSP.COM

SIGNATURES

PREPARED BY



Brady Leights
Technician - Environment

REVIEWED BY



Jennifer Fernet, M.Sc., P.Ag. (SK)
Environmental Scientist

REVIEWED BY



Andrew Roberts, M.A.Sc.
Team Leader – Approvals and Permitting,
Environment (ON)

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1 INTRODUCTION

This report provides a summary of the Wildlife Studies (not including birds and bats) completed in support of the Chaleur Ventus Wind Energy Project (Project) Registration Document that was submitted to the Sustainable Development, Planning and Impact Evaluation Branch, Department of Environment and Local Government in September of 2019.

The purpose of this report is to present the methods and results of the wildlife surveys completed in support of this Project. Note that avian and bat species are not included in this report. The Avian Survey Report and Bat Survey Report will be submitted under separate covers.

1.1 PROJECT OVERVIEW

Chaleur Ventus Limited Partnership (CVLP) is proposing the development of the Project. The Project is located on privately owned land south of route 303 in Gloucester County, New Brunswick, and will have an aggregate electrical capacity of 20 megawatts (MW). The Project will consist of five wind energy converters (WECs), access roads, collection system, substation, and associated temporary laydown areas required for construction. An approximate 9 kilometre (km) transmission line is proposed that runs south and southwest from the Project area to a proposed substation that will be located on Crown land approximately 2.8 km southeast of Saint-Leolin.

The Project is expected to consist of Enercon E-126 WECs with a nominal power of 4 MW. Each assembly will consist of the tower, hub, nacelle, rotor blades, and controller, with a total height of 179.5 to 194.5 metres (m) and is dependant on WEC availability from Enercon. The total WEC rotor diameter will be 127 m. It is anticipated that each WEC will be erected on a concrete foundation. The dimensions, depth, and type of foundation will depend on an evaluation of the local soil, surficial geology characteristics, wind forces at the location, and site-specific details of each location.

1.2 REGIONAL WILDLIFE

The province of New Brunswick is home to 57 native species of mammals, over 350 resident and migratory bird species, and approximately 25 species of reptiles and amphibians (Gorham, 1970; Squires, 1976; Dilworth, 1984). A variety of these species can be found in the Shediac Bay watershed, including several species of mammals, birds, reptiles, amphibians and invertebrates (Leblanc, 2009). The forests of New Brunswick provide habitat for many species, including eastern moose (*Alces alces americana*), American black bear (*Ursus americanus*), red fox (*Vulpes vulpes*), North American porcupine (*Erthizon dorsatum*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and North American beaver (*Castor canadensis*) (Leblanc, 2007). Several common reptiles and amphibians such as the maritime garter snake (*Thamnophis sirtalis pallidulus*), wood frog (*Lithobates sylvaticus*), and American toad (*Anaxyrus americanus*) may frequent the area. Salamanders could also be present in wetter areas, such as wetlands and other low-lying areas.

2 METHODS

2.1 BASELINE SURVEYS

Focused wildlife surveys were completed at the Project area on August 20 to 22, 2018. Surveys were completed to determine the presence and distribution of wildlife species within the Project area. Common habitat types surveyed in the Project area included mixed-wood upland forest, cedar-dominant forested swamps, thinned areas with

hardwood regeneration, upland softwood forest, clear-cut areas, and anthropogenic areas dominated by bare sand and soil.

Incidental observations of wildlife were also collected during all other surveys completed in the Project area over several months in the winter, spring, and summer of 2018 to 2019. Data collected included sighting of an individual, positive identification of animal tracks, scat, fur, and dens or structures.

2.2 WILDLIFE SPECIES OF CONSERATION CONCERN

Prior to field work, a comprehensive review of background data for the Project area was completed, including a report from the Atlantic Canada Conservation Data Centre (ACDC). Upon review of available information, a data gap regarding the use of the Project area by wildlife was identified. The goal of the desktop review was to identify wildlife species and potential wildlife habitat inside the Project area. A review of the New Brunswick Department of Environment and Local Government’s significant habitat database and reports from the ACCDC (ACCDC, 2018) were cross-referenced with the Project area to determine the potential for presence of various species of wildlife.

For the purposes of this report, species of conservation concern (SOCC) are identified as floral or faunal species that are ranked by the ACCDC, protected by the New Brunswick *Species at Risk Act (NB SARA)*, designated by Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as threatened, endangered, or special concern or protected by the federal *Species at Risk Act (SARA)*. Although many SOCC ranked by the ACCDC are considered rare in New Brunswick, those protected or listed by federal and provincial legislation are of particular concern.

3 RESULTS

3.1 BASELINE SURVEYS

Fifteen wildlife species were identified during field surveys and include eight species of terrestrial mammal, five species of amphibian, one species of reptile, and one species of insect (Table 2). Of these species, Canada lynx, (*Lynx canadensis*) is protected under the *NB SARA* (see Section 3.2).

Table 1 Wildlife Species Observed within the Project Area

COMMON NAME	SCIENTIFIC NAME	PROVINCIAL RARITY RANK ^(a)	SARA/COSEWIC	NB SARA	OBSERVATION TYPE
Mammals					
American Black Bear	<i>Ursus americanus</i>	S5	Not At Risk	N/A	Scat
Canada Lynx	<i>Lynx canadensis</i>	S3	Not At Risk	Endangered	Tracks
Eastern Coyote	<i>Canis latrans</i>	S5	-	-	Scat
Eastern Moose	<i>Alces alces americanus</i>	S5	-	-	Visual identification, scat and tracks
Fisher	<i>Pekania pennanti</i>	S5	-	-	Visual identification and tracks
Red Fox	<i>Vulpes vulpes</i>	S5	-	-	Visual identification

COMMON NAME	SCIENTIFIC NAME	PROVINCIAL RARITY RANK ^(a)	SARA/COSEWIC	NB SARA	OBSERVATION TYPE
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	S5	-	-	Visual and auditory identification
Snowshoe Hare	<i>Lepus americanus</i>	S5	-	-	Visual identification, scat and tracks.
Amphibians					
American Toad	<i>Anaxyrus americanus</i>	S5	-	-	Visual and auditory identification
Green Frog	<i>Lithobates clamitans</i>	S5	-	-	Visual and auditory identification
Northern Leopard Frog (eastern population)	<i>Lithobates pipiens</i>	S5	Not At Risk	-	Auditory identification
Spring Peeper	<i>Pseudacris crucifer</i>	S5	-	-	Auditory identification
Wood Frog	<i>Lithobates sylvaticus</i>	S5	-	-	Visual and auditory identification
Reptiles					
Garter Snake	<i>Thamnophis sirtalis</i>	S5	-	-	Visual identification
Insects					
Baltimore Checkerspot	<i>Euphydryas phaeton</i>	S4	-	-	Visual identification

a) Provincial Rarity Rank, where:

S3 – Uncommon in province

S4 – Widespread, common and apparently secure in province

S5 – Widespread, abundant and demonstrably secure in province

The most common wildlife observation in the Project area was eastern moose, with several identified visually, along with tracks, scat, and several instances were noted where moose could be heard trotting away, breaking branches and twigs. Red squirrels were also commonly seen and heard throughout all areas of the Project area. Snowshoe hare was the third-most encountered wildlife species, as they were commonly found foraging along the edges of access roads in the Project area. Fisher tracks were noted in some forested areas and was positively identified through a visual observation in July 2019. A red fox was identified while conducting a watch count survey for avian species in June 2019. Red fox tracks and scat were also observed elsewhere on site. American black bear scat was observed at multiple locations in the Project area. Amphibian species including spring peeper (*Pseudacris crucifer*), wood frog, American toad, and green frog (*Lithobates clamitans*) calls were heard while completing avian surveys. A Baltimore checkerspot (*Euphydryas phaeton*) butterfly was identified in July 2019.

Species that were not encountered on the site, but have high potential to be present due to habitats in the Project area, physical location, and information for the surrounding area include the following:

- striped skunk
- North American Porcupine
- bobcat (*Lynx rufus*)
- northern flying squirrel (*Glaucomys sabrinus*)
- short tailed weasel (*Mustela erminea*)
- eastern red-backed salamander (*Plethodon cinereus*)
- American bullfrog (*Lithobates catesbeianus*)
- pickerel frog (*Lithobates palustris*)

3.2 WILDLIFE SPECIES OF CONSERVATION CONCERN

Three insect SOCC identified by the ACCDC as being observed within 5 km of the Project area are presented in Table 2. No other wildlife SOCC (excluding birds and bats) were identified.

Table 2 Wildlife Species of Conservation Concern (Excluding Birds and Bats) Identified within 5 km of the Project

COMMON NAME	SCIENTIFIC NAME	PROVINCIAL RARITY RANK ^(a)	SARA/COSEWIC	PROVINCIAL GENERAL STATUS RANK	NUMBER OF RECORDS	LOCATION SIGHTING
Aphrodite Fritillary	<i>Speyeria aphrodite</i>	S3	N/A	Secure	1	4.7 km
Northern Blue	<i>Plebejus idas</i>	S3	N/A	Secure	4	4.4 km
Salt Marsh Copper	<i>Lycaena dospassosi</i>	S3	N/A	Secure	3	3.0 km

a) Provincial Rarity Rank, where:
S3 – Uncommon in province

3.2.1 CANADA LYNX

The Canada lynx is listed as “Endangered” under the *NB SARA*, and ranked as provincially “Uncommon” (S3) by ACCDC. The Canada lynx is a medium-sized cat with grey-brown fur, long black legs, long pointed tufts on its ears, and a dark-tipped tail. Its large paws allow it to move easily on top of deep snow to hunt its primary prey, the snowshoe hare (*Lepus americanus*). Numerous studies have linked Canada lynx populations to snowshoe hare populations, showing that a decline in snowshoe hare will lead to a decline in Canada lynx.

In Canada, lynx breed from mid-March to the beginning of April and have a gestation period of nine weeks. Litter sizes are usually two or three kittens, but litters up to five kittens have been observed. Populations range as far south as the northern United States, including parts of the Rocky Mountains, the Midwest and New England. New Brunswick is near the western limit of its distribution in North America and may occur throughout the entire province but it is more common in northern New Brunswick (NBDERD, 2018). The populations in New Brunswick have been declining.

HABITAT

Canada lynx can be found in most forested areas in northern Canada from Newfoundland to British Columbia, including the western part of the Northwest Territories, Yukon and Alaska (Government of Canada, 2011). Preferred habitat for this species includes multi-layered forest stands and younger regenerating stands, often in areas with dense vegetation and shrubbery (NBDERD, 2018). These habitat types are also preferred by snowshoe hare. The Project area consists of several habitats including mixed-wood upland forest, cedar-dominant forested swamps, thinned areas with hardwood regeneration, upland softwood forest, clear-cut areas, and anthropogenic areas dominated by bare sand and soil. This mix of habitats also provides habitat for other prey species of the Canada lynx, including rodents such as mice, squirrels, weasels, voles, North American porcupine, and avian species such as Ring-necked Pheasant (*Phasianus colchicus*). The considerable amount of snow found in the area during winter months may be favorable for this species.

ON-SITE OCCURRENCES

Tracks for the Canada lynx were observed along avian migratory Transect 2 (UTM Coordinates 342921 E, 5297905 N, Zone 20T) on March 18, 2019 in a recently cleared area that contained regenerating hardwood species and roughly 1 m of snow covering the ground. Tracks were found throughout this area in a non-linear pattern, possibly because the individual was hunting for prey found below the surface of the snow.

4 ADDITIONAL RECOMMENDED MITIGATIONS

As outlined in the Registration Document, the project will be sited on existing roads and disturbed areas as much as possible and will be revegetated as soon as practical following construction. This will reduce effects to Canada lynx habitat present in the Project area.

Therefore, no additional mitigations have been identified for the Project.

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