



**Breeding Bird and Wildlife Field  
Studies in Support of an  
Environmental Impact  
Assessment for the Crossing  
Project in Saint John, New  
Brunswick**

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**BREEDING BIRD AND WILDLIFE FIELD STUDIES IN SUPPORT OF AN ENVIRONMENTAL IMPACT ASSESSMENT  
FOR THE CROSSING PROJECT IN SAINT JOHN, NEW BRUNSWICK**

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# BREEDING BIRD AND WILDLIFE FIELD STUDIES IN SUPPORT OF AN ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CROSSING PROJECT IN SAINT JOHN, NEW BRUNSWICK

Introduction and Data Collection Methods

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## 1.0 INTRODUCTION AND DATA COLLECTION METHODS

This document, prepared by Stantec Consulting Ltd. (Stantec), outlines the findings of a breeding bird and wildlife survey performed within the boundaries of the properties (Appendix A) associated with the Environmental Impact Assessment (EIA) for the Crossing Project (the Project) located along Ashburn Road in Saint John, New Brunswick.

Stantec conducted field studies within the Project subject properties (Study Area: Appendix A) on July 2 and 3, 2019. These field studies involved characterizing the types of wildlife, predominantly birds, and their habitat that exist within the approximately 49 hectare Study Area and describing the features present which may provide habitat for native aquatic turtle species.

### 1.1.1 Breeding Birds

Surveys targeting forest breeding bird species were conducted by an experienced Stantec biologist who performed area searches throughout the Study Area recording each bird species encountered, along with breeding evidence, following methods in Stewart et al. 2015. A total of eight hours of effort was spent in the Study Area over two days. The area search method was selected over a point count for area method as an area search was expected more likely to detect bird species at risk (SAR) if present within the relatively small Study Area.

All surveys began at dawn and continued until approximately 10:00 AM. The experienced observer collected data on each bird species observed (including GPS location and breeding evidence), and information about environmental conditions at each survey location including wind conditions, cloud cover, temperature, and precipitation. Environmental conditions at the time of the surveys were considered suitable, with light winds and no precipitation.

### 1.1.2 Nightjars

Nightjar (i.e., common nighthawk (*Chordeiles minor*)) surveys were conducted at two locations within the Study Area. Survey methodology followed the draft Canadian Nightjar Survey Protocol - 2018 document (Knight 2018) and involved a 6-minute silent listening survey at each location.

### 1.1.3 Freshwater Turtle Habitat Assessment

Habitat features present within the Study Area which may provide suitable habitat for native aquatic turtle species were recorded. A brief description of freshwater turtle species endemic to New Brunswick, and their habitat preferences follows.

Three species of native aquatic turtles occur in New Brunswick, including wood turtle (*Glyptemys insculpta*), eastern painted turtle (*Chrysemys picta*), and common snapping turtle (*Chelydra serpentina*). Wood turtle and snapping turtle are listed under the federal *Species at Risk Act* (SARA) and provincial SARA, while eastern painted turtle was assessed by the Committee on the Status of Wildlife in Canada



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(COSEWIC; April 2018), but not yet listed under the federal or provincial SARA. Wood turtle is considered Threatened, while both eastern painted turtle and common snapping turtle are considered to be of Special Concern.

## Wood Turtle

The wood turtle is a medium-sized turtle, readily recognized by its distinctive orange to reddish colouring on the neck and front legs. This species is endemic to North America, and in Canada may be found in Nova Scotia, New Brunswick, southern Quebec, and Ontario.

Wood turtles are considered semi-aquatic and spend much of their time during the active season in the terrestrial environment, where they feed and nest. The freshwater environment is required for reproduction, hibernation, hydration, and thermoregulation, and wood turtles are seldom found more than 300 meters from water (COSEWIC 2007).

During their active season, wood turtles are generally associated with rivers and streams with sandy or gravelly substrate, with moderate current and frequent oxbows. Wood turtles select feeding habitat in the terrestrial environment, somewhat opportunistically, but are most often found in alder thickets and alder swales. Other habitats used less frequently include bogs, marshy pastures, oxbows, meadows, mixed and coniferous forests, and agricultural fields and pastures (COSEWIC 2007).

During the nesting period, wood turtles may be found in the terrestrial environment between late May and mid-June, searching for nest sites. Nest excavation often occurs on sandy or gravelly banks or beaches above the high-water mark. Banks with a south facing aspect and minimal vegetation cover are preferred as they offer a greater thermal benefit to the developing eggs.

This species hibernates throughout the colder months, typically emerging in late March to early April (COSEWIC 2007). Overwintering sites tend to consist of pools within freshwater streams which are of moderate depth, often with cover objects such as submerged logs, and a softer substrate into which the turtle may bury itself.

## Eastern Painted Turtle

The eastern painted turtle is a small to medium-sized freshwater aquatic species which has a smooth carapace and distinctive brilliant yellow striping on the head and neck which transitions to red on the neck and forelimbs. Painted turtles have one of the largest and most northerly geographic ranges of all freshwater turtles in North America, with the species being found in a non-continuous distribution across Canada from British Columbia to Nova Scotia. In New Brunswick, the population center for eastern painted turtle is reputed to be the Grand Lake region, with smaller subpopulations in other areas, including Rockwood Park (Browne and Sullivan 2015). The Rockwood Park subpopulation may represent an isolated relict subpopulation or a site of (re)introduction (COSEWIC 2018).

During the active season, eastern painted turtles are generally associated with slow moving, relatively shallow and well-vegetated freshwater environments which contain organic substrates and abundant secure basking locations (COSEWIC 2018). The primary habitat types used by this species include





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swamps, marshes, ponds, fens, and bogs. Additionally, lakes, rivers, oxbows, and creeks are utilized (COSEWIC 2018).

During the nesting period, eastern painted turtles may be found in the terrestrial environment. Nesting sites are selected in areas with an open canopy, often with a southern exposure. Open shorelines of lakes and wetlands, beaver dams, and sand dunes may be used, and the preferred substrate varies from sand, loam, clay and/or gravel (COSEWIC 2018).

This species hibernates throughout the colder months, typically in wetlands and shallow bays of lakes. Although little research is available on the physical microhabitat characteristics of overwintering sites in Canada, painted turtles appear to prefer shallow water, and will nest on or just below the substrate.

## Common Snapping Turtle

Common snapping turtle is the largest freshwater turtle endemic to Canada. This species is large and distinctive, with a keeled brown to black carapace and large head with a hooked upper jaw. This species has the greatest latitudinal distribution of any turtle in North America, and in Canada is present from Nova Scotia through Saskatchewan (COSEWIC 2008).

During the active season, the preferred habitat for snapping turtle consists of slow-moving aquatic environments with soft mud or organic bottoms and dense aquatic vegetation. Habitats typically include ponds, sloughs, shallow bays or river edges, and shallow streams (COSEWIC 2008). Snapping turtles have been known to tolerate developed or polluted aquatic environments, however environmental contamination is known to limit reproductive success.

This species nests from late May through June, with preferred locations including sand and gravel banks along waterways, including railway embankments and other artificial slopes (COSEWIC 2008). Muskrat houses, beaver lodges, road shoulders, forest clearings, and other anthropogenic locations have also been documented.

This species hibernates throughout the colder months, typically buried beneath available cover objects within their habitat which may include logs, overhanging banks, mats of vegetation or within muddy substrate.

Snapping turtles have been recorded in nearby Rockwood Park (Browne 2016).

### 1.1.4 Other Wildlife

Incidental observations of other wildlife were recorded during the survey period.



Results

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## **2.0 RESULTS**

### **2.1 BREEDING BIRDS**

Breeding bird surveys, including incidental observations and area searches, detected the presence of a total of 45 species within the Study Area (Appendix B). None of the species observed are considered SAR under federal or provincial Species at Risk Acts. Nine species were confirmed to be breeding within the Study Area: alder flycatcher (*Empidonax alnorum*), American robin (*Turdus migratorius*), American redstart (*Setophaga ruticilla*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), white-throated sparrow (*Zonotrichia albicollis*), dark-eyed junco (*Junco hyemalis*), northern cardinal (*Cardinalis cardinalis*), and common grackle (*Quiscalus quiscula*).

### **2.2 NIGHTJARS**

No nightjars were observed or heard in or near the Study Area during this field study.

### **2.3 FRESHWATER TURTLES**

Freshwater habitats within the Study Area were surveyed on July 2 and 3, 2019, for features which could provide habitat for freshwater turtles including basking areas, substrate, and potentially suitable nesting areas. During these surveys, no freshwater turtles (or evidence thereof) were observed within the Study Area, nor were any observed during bird surveys conducted on the same days.

Habitat features were identified within the Study Area that may be suitable habitat for some periods of freshwater turtle life stages (Table 2.1). Overall the site has the potential to provide some feeding and overwintering habitat for eastern painted turtles and common snapping turtles, and possibly some feeding habitat for wood turtles. Notably missing from the habitat features within the Study Area was an abundance of prominent basking areas, and extensive thick aquatic vegetation. The lack of these two features may make the habitat within the Study Areas less than ideal for eastern painted turtle and common snapping turtle. Overall the aquatic habitat would be considered relatively unsuitable for wood turtle, with slow-moving water and a lack of sandy/gravelly substrate.



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**Table 2.1 Freshwater Turtle Habitat Features Present in the Study Area**

Habitat Feature	Period	Species Suitability
Deep organic substrate, with some cover objects	Overwintering	Eastern painted turtle Common snapping turtle
Patches of submergent vegetation	Active (feeding)	Common snapping turtle
Slow-moving, clear, relatively shallow water, organic substrate	Active	Eastern painted turtle Common snapping turtle
Riparian alder swale/thicket	Active (feeding)	Wood turtle
Sloped banks with some sparsely vegetated areas, some south-facing aspect.	Nesting	Eastern painted turtle Common snapping turtle

## 2.4 OTHER WILDLIFE

Ten non-avian wildlife species were observed or otherwise detected through sign within the Study Area during the field surveys (Table 2.2). These included seven mammals and three herptiles, all of which are ranked S5 (i.e., secure) in New Brunswick by the Atlantic Canada Conservation Data Centre (AC CDC).

**Table 2.2 Non-Avian Wildlife Species Observed in the PDA and LAA**

Common Name	Scientific Name	S rank <sup>1</sup>
red squirrel	<i>Tamiasciurus hudsonicus</i>	S5
Muskrat	<i>Ondatra zibethicus</i>	S5
American beaver	<i>Castor canadensis</i>	S5
North American porcupine	<i>Erethizon dorsatum</i>	S5
eastern coyote	<i>Canis latrans</i>	S5
northern raccoon	<i>Procyon lotor</i>	S5
white-tailed deer	<i>Odocoileus virginianus</i>	S5
spring peeper	<i>Pseudacris crucifer</i>	S5
green frog	<i>Lithobates clamitans</i>	S5
common garter snake	<i>Thamnophis sirtalis</i>	S5

<sup>1</sup> The AC CDC rank of S5 indicates the species is secure: common, widespread, and abundant in the province of New Brunswick.



# BREEDING BIRD AND WILDLIFE FIELD STUDIES IN SUPPORT OF AN ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CROSSING PROJECT IN SAINT JOHN, NEW BRUNSWICK

Summary

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## 3.0 SUMMARY

On July 2 and 3, 2019, Stantec conducted field studies for birds, other wildlife, and aquatic turtle habitat within an approximately 49 hectare Study Area of properties associated with the EIA for the Crossing Project located along Ashburn Road in Saint John, New Brunswick.

The study found evidence of breeding birds and wildlife; however, there was no evidence of any SAR or of native aquatic turtle species within the Study Area. Habitat for native aquatic turtle species was considered relatively unsuitable.

## 4.0 REFERENCES

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- Browne, C.L. 2016. Turtle Research in New Brunswick. Available online at: <https://cbrowne0.wixsite.com/cbrowne/turtle-project>. Last accessed: August 2, 2019.
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**BREEDING BIRD AND WILDLIFE FIELD STUDIES IN SUPPORT OF AN ENVIRONMENTAL IMPACT  
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Appendix A Study Area of the Crossing Project  
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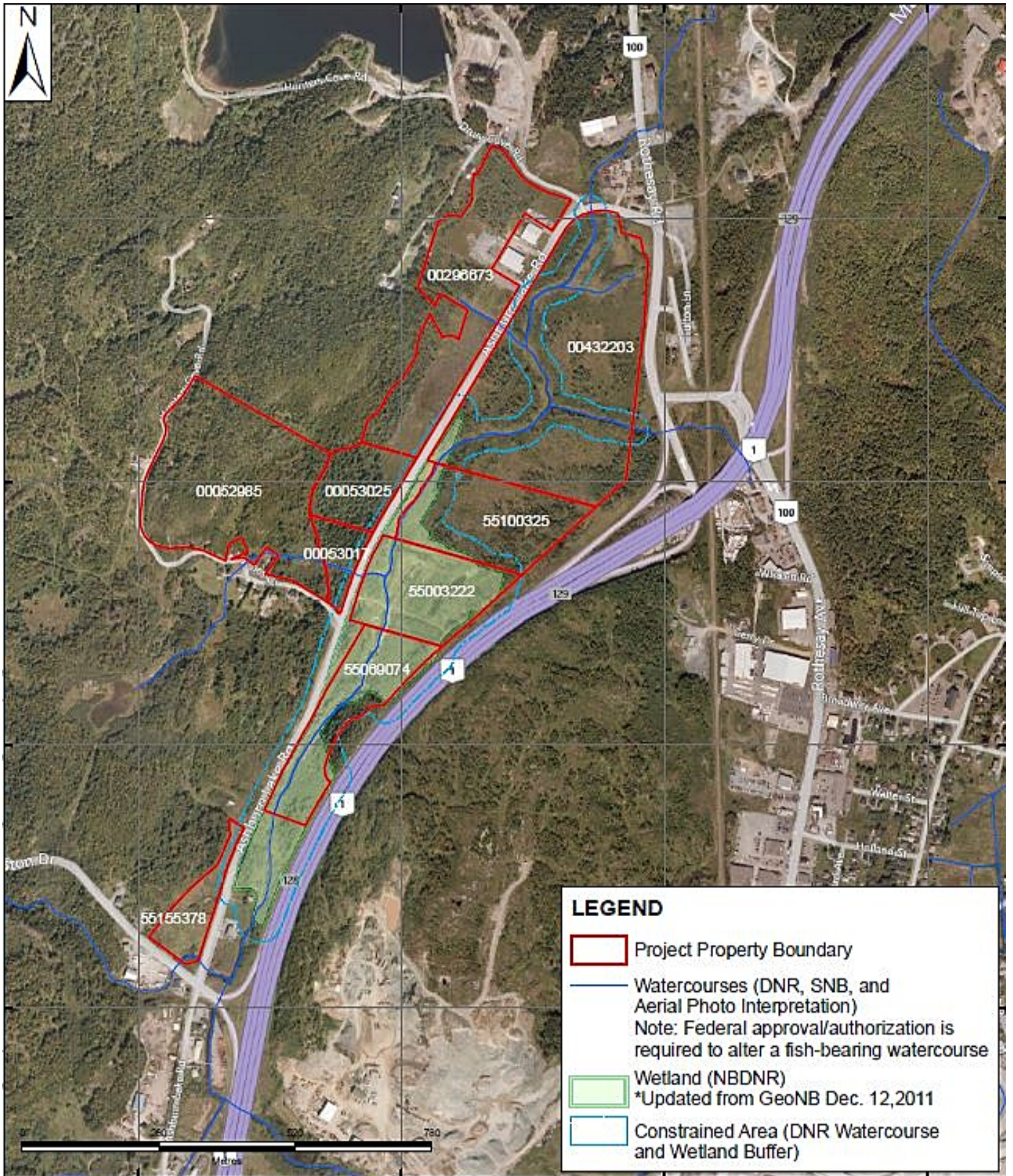
**Appendix A      STUDY AREA OF THE CROSSING PROJECT**







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Appendix A Study Area of the Crossing Project  
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**LEGEND**

-  Project Property Boundary
-  Watercourses (DNR, SNB, and Aerial Photo Interpretation)  
Note: Federal approval/authorization is required to alter a fish-bearing watercourse
-  Wetland (NBDNR)  
\*Updated from GeoNB Dec. 12, 2011
-  Constrained Area (DNR Watercourse and Wetland Buffer)





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Appendix B Bird species observed within the Study Area of the Crossing Project: July 2-3, 2019.  
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**Appendix B BIRD SPECIES OBSERVED WITHIN THE STUDY  
AREA OF THE CROSSING PROJECT: JULY 2-3, 2019.**



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Appendix B Bird species observed within the Study Area of the Crossing Project: July 2-3, 2019.  
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Appendix B Bird species observed within the Study Area of the Crossing Project: July 2-3, 2019.  
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Common Name	Scientific Name	AC CDC <sup>1</sup> General Status (S) Rank	Highest Breeding Status
American black duck	<i>Anas rubripes</i>	S5B,S4N,S5M	Possible
mallard	<i>Anas platyrhynchos</i>	S5B,S4N,S5M	Possible
common loon	<i>Gavia immer</i>	S4B,S4M,S4N	Observed
double-crested cormorant	<i>Phalacrocorax auritus</i>	S5B,S5M	Observed
ring-billed gull	<i>Larus delawarensis</i>	S3S4B,S5M	Observed
herring gull	<i>Larus argentatus</i>	S5	Observed
rock pigeon	<i>Columba livia</i>	SNA	Observed
mourning dove	<i>Zenaida macroura</i>	S5B,S5M,S4N	Probable
downy woodpecker	<i>Dryobates pubescens</i>	S5	Possible
hairy woodpecker	<i>Dryobates villosus</i>	S5	Probable
northern flicker	<i>Colaptes auratus</i>	S5B,S5M	Possible
pileated woodpecker	<i>Dryocopus pileatus</i>	S5	Possible
alder flycatcher	<i>Empidonax alnorum</i>	S5B,S5M	Confirmed
eastern phoebe	<i>Sayornis phoebe</i>	S5B,S5M	Possible
blue-headed vireo	<i>Vireo solitarius</i>	S5B,S5M	Possible
blue jay	<i>Cyanocitta cristata</i>	S5	Possible
American crow	<i>Corvus brachyrhynchos</i>	S5	Possible
black-capped chickadee	<i>Poecile atricapillus</i>	S5	Possible
golden-crowned kinglet	<i>Regulus satrapa</i>	S5	Possible
veery	<i>Catharus fuscescens</i>	S4B,S4M	Possible
swain son's thrush	<i>Catharus ustulatus</i>	S5B,S5M	Possible
American robin	<i>Turdus migratorius</i>	S5B,S5M	Confirmed
gray catbird	<i>Dumetella carolinensis</i>	S4B,S4M	Possible
cedar waxwing	<i>Bombycilla cedrorum</i>	S5B,S5M	Possible
Nashville warbler	<i>Oreothlypis ruficapilla</i>	S5B,S5M	Possible
northern parula	<i>Setophaga americana</i>	S5B,S5M	Possible
yellow warbler	<i>Setophaga petechia</i>	S5B,S5M	Possible
chestnut-sided warbler	<i>Setophaga pensylvanica</i>	S5B,S5M	Possible
magnolia warbler	<i>Setophaga magnolia</i>	S5B,S5M	Possible
black-throated green warbler	<i>Setophaga virens</i>	S5B,S5M	Possible
palm warbler	<i>Setophaga palmarum</i>	S5B,S5M	Possible
black-and-white warbler	<i>Mniotilta varia</i>	S5B,S5M	Possible
American redstart	<i>Setophaga ruticilla</i>	S5B,S5M	Confirmed



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Appendix B Bird species observed within the Study Area of the Crossing Project: July 2-3, 2019.  
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Common Name	Scientific Name	AC CDC <sup>1</sup> General Status (S) Rank	Highest Breeding Status
northern waterthrush	<i>Parkesia noveboracensis</i>	S4B,S5M	Possible
common yellowthroat	<i>Geothlypis trichas</i>	S5B,S5M	Confirmed
song sparrow	<i>Melospiza melodia</i>	S5B,S5M	Confirmed
swamp sparrow	<i>Melospiza georgiana</i>	S5B,S5M	Possible
white-throated sparrow	<i>Zonotrichia albicollis</i>	S5B,S5M	Confirmed
dark-eyed junco	<i>Junco hyemalis</i>	S5	Confirmed
northern cardinal	<i>Cardinalis cardinalis</i>	S4	Confirmed
common grackle	<i>Quiscalus quiscula</i>	S5B,S5M	Confirmed
white-winged crossbill	<i>Loxia leucoptera</i>	S5	Observed
American goldfinch	<i>Spinus tristis</i>	S5	Possible
winter wren	<i>Troglodytes hiemalis</i>	S5B,S5M	Possible
purple finch	<i>Haemorhous purpureus</i>	S4S5B,SUN,S5M	Possible

<sup>1</sup> AC CDC Atlantic Canada Conservation Data Centre

AC CDC Status Categories: S1-Critically Imperiled: S2-Imperiled: S3-Vulnerable: S4-Apparently Secure: S5-Secure: SU-Unrankable: B-Breeding: N-Nonbreeding: M-Migrant

