

APPENDIX

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AVIAN SURVEY
REPORT

NOVA SCOTIA DEPARTMENT OF PUBLIC WORKS

HIGHWAY 101 CAMBRIDGE INTERCHANGE AND CONNECTOR ROADS EA AVIAN SURVEY REPORT

November 08, 2021

FINAL





HIGHWAY 101 CAMBRIDGE INTERCHANGE AND CONNECTOR ROADS EA

AVIAN SURVEY REPORT

NOVA SCOTIA DEPARTMENT OF PUBLIC
WORKS

FINAL

PROJECT NO.: 211-04152-00

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WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NS
CANADA B3B 1X7

T: +1 902-835-9955

F: +1 902-835-1645

WSP.COM

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CONTRIBUTORS

WSP

Senior Scientist – Reporting, Review	Jay Walmsley, Ph.D
Ecologist – Reporting	Cody Pytlak, B.A.
Ecologist – Field Surveys	Tiffany Macaulay, M.Sc.
Technician – Field Surveys	Brady Leights, B.Et, Dip.R.M

SUBCONSULTANTS

Ecologist – Field Surveys	Chris Pepper
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TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	BACKGROUND REVIEW	1
2.1	Atlantic Canada Conservation Data Centre.....	1
2.2	Maritimes Breeding Bird atlas.....	3
2.3	Important Bird Areas.....	3
3	METHODOLOGY	4
3.1	Breeding Bird Surveys.....	4
3.2	Common Nighthawk Survey.....	4
3.3	Nocturnal Owl Surveys	6
4	RESULTS.....	6
4.1	Breeding Bird Survey.....	9
4.2	Common Nighthawk Survey.....	9
4.3	Nocturnal Owl Surveys	9
5	PRIORITY SPECIES.....	9
5.1	Species at Risk	9
5.2	Non-SAR Priority Species	10
6	SUMMARY	10
7	REFERENCES.....	11

TABLES

TABLE 1: ACCDC S-RANK DEFINITIONS.....	1
TABLE 2: PRIORITY BIRD SPECIES WITH OCCURRENCE RECORDS WITHIN 5 KM OF PROJECT AREA (ACCDC REPORT 6923).....	2
TABLE 3: MARITIMES BREEDING BIRD ATLAS SPECIES SUMMARY AND SURVEY EFFORT.....	3
TABLE 4: SUMMARY OF AVIAN SURVEYS FOR HIGHWAY 101 CAMBRIDGE INTERCHANGE EA.....	6
TABLE 5: SUMMARY OF AVIAN SURVEY LOCATIONS FOR HIGHWAY 101 CAMBRIDGE INTERCHANGE EA.....	7

FIGURES

FIGURE 1: AVIAN SURVEY STATIONS.....	5
FIGURE 2: AVIAN SPECIES AT RISK OBSERVATIONS	8

ANNEXES

A	MARITIMES BREEDING BIRD ATLAS SPECIES SUMMARY
B	HIGHWAY 101 AVIAN SPECIES LIST
C	HIGHWAY 101 PHOTOGRAPHIC LOG

1 INTRODUCTION

WSP was retained by Nova Scotia Department of Public Works (NSDPW) to undertake and complete an environmental assessment registration, under the Nova Scotia *Environment Act*, for a proposed interchange and connector roads from Highway 101 to Trunk 1 and Brooklyn Street in Cambridge, Nova Scotia (the Project). The proposed interchange is located between Coldbrook and Berwick (Exits 14 and 15 respectively) in Cambridge, Nova Scotia, just west of the Annapolis Valley First Nation. It will feature a 2 kilometre (km) connector road southerly to Trunk 1, and a 1.6 km northerly connection to Brooklyn Street. The connector road to Trunk 1 will be a controlled access minor arterial roadway owned by NSDPW with a limited number of access points to adjacent lands. At Trunk 1 the new intersection will be constructed as a roundabout just east of County Home Road, with a new 600 m southerly connection to Waterville Mountain Road.

As a component to the environmental assessment, WSP completed avian surveys within the Project study area to identify and assess bird habitat, including the presence of species at risk (SAR) and SAR habitat. This report summarizes the background review of avian species records, survey methods, and results.

2 BACKGROUND REVIEW

A background review of available biodiversity and avian resources was completed prior to field surveys. The background review is intended to provide context on anticipated priority species and identify any confirmed significant or protected habitat features for avifauna. The results of the background review is detailed in the following subsections.

2.1 ATLANTIC CANADA CONSERVATION DATA CENTRE

WSP requested a data report from the Atlantic Canada Conservation Data Centre (ACCDC) in advance of the field surveys. The report lists occurrence records within 5 km of the Project site for the priority species, which are defined as follows:

- **Species at Risk (SAR).** A SAR is any species which is listed (on Schedule 1) as Endangered, Threatened or of Special Concern under the federal *Species At Risk Act (SARA)* (Government of Canada, 2002) and any species listed as Endangered, Threatened or Vulnerable under the provincial *Nova Endangered Species Act (NS ESA)* (*Endangered Species Act S.N.S. 1998, c. 11*); and
- **Species of Conservation Concern (SOCC):** SOCC are species listed as S1-S3S4 (provincial rarity rankings) by AC CDC (**Table 1**).

Table 1: ACCDC S-Rank definitions

S-RANK	DEFINITION
SX	Presumed Extirpated - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
S1	Critically Imperiled - Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
S2	Imperiled - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S-RANK	DEFINITION
S3	Vulnerable - Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4	Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5	Secure - Common, widespread, and abundant in the province.
SNR	Unranked - Nation or state/province conservation status not yet assessed.
SU	Unrankable - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA	Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S#	Range Rank - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
SH	Possibly Extirpated (Historical) - Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
Not Provided	Species is not known to occur in the province.

Table 2 lists priority bird species that have occurrence records within 5 km of the Project site. Thirteen priority species with occurrence records were identified in the ACCDC report.

Table 2: Priority bird species with occurrence records within 5 km of Project area (ACCDC Report 6923)

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC ¹	SARA	NS ESA	S-RANK (AC CDC) ²
Bank Swallow	<i>Riparia riparia</i>	THR	THR	END	S2B
Barn Swallow	<i>Hirundo rustica</i>	SC	THR	END	S3B
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	VUL	S3B
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	---	---	---	S2S3B
Eastern Kingbird	<i>Tyrannus tyrannus</i>	---	---	---	S3B
Eastern Wood-pewee	<i>Contopus virens</i>	SC	SC	VUL	S3S4B
Northern Mockingbird	<i>Mimus polyglottos</i>	---	---	---	S1B
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC	THR	THR	S3B
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	---	---	---	S3B

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS			
		COSEWIC ¹	SARA	NS ESA	S-RANK (AC CDC) ²
Vesper Sparrow	<i>Poocetes gramineus</i>	---	---	---	S1S2B, SUM
Willow Flycatcher	<i>Empidonax traillii</i>	---	---	---	S2B
Wilson's Snipe	<i>Gallinago delicata</i>	---	---	---	S3B, S5M
Wilson's Warbler	<i>Cardellina pusilla</i>	---	---	---	S3B, S5M

1: END: Endangered, THR: Threatened, SC: Special Concern, VUL: Vulnerable; 2: S-Rank is an indicator of commonness in Nova Scotia, on a scale between 1 and 5, with 5 being very common and 1 being least common.; --- denotes no status or available information

2.2 MARITIMES BREEDING BIRD ATLAS

The study area is located primarily within one Maritimes Breeding Bird Atlas (MBBA) square, 20LQ79, with minor portions of the study area also located in squares 20LQ69 and 20LQ68. All squares are located within the Annapolis Valley – Digby Neck atlas region (Bird Studies Canada 2015). Table 4 lists the summary of species observed and survey effort for each MBBA square. Additionally, MBBA survey data from the first and second atlases indicate observations of 40 priority species, including the following SAR: Bank Swallow, Barn Swallow, Bobolink, Canada Warbler (*Cardellina canadensis*), Chimney Swift (*Chaetura pelagica*), Eastern Wood-pewee, Evening Grosbeak (*Coccothraustes vespertinus*), and Olive-sided Flycatcher. The complete list of species observed during the MBBA surveys is available in **Annex A – Maritimes Breeding Bird Atlas Species Summary**.

Table 3: Maritimes Breeding Bird Atlas species summary and survey effort

SQUARE NO.	ATLAS EDITION	NO. POSSIBLE BREEDER	NO. PROBABLE BREEDERS	NO. CONFIRMED BREEDERS	TOTAL NO. OF SPECIES	NO. HOURS SURVEYED
20LQ79	1 st Atlas	24	22	48	94	157
	2 nd Atlas	23	29	45	97	51.8
20LQ69	1 st Atlas	6	0	1	7	2
	2 nd Atlas	23	22	51	96	22.5
20LQ68	1 st Atlas	11	2	5	18	12
	2 nd Atlas	41	26	26	93	11.6

2.3 IMPORTANT BIRD AREAS

The nearest Important Bird Area (IBA) is the Southern Bight, Minas Basin IBA, located approximately 18 km east of the study area. The Southern Bight is described as a large tidal embayment in the Minas Basin of the Bay of Fundy, comprised mainly of intertidal mudflats that are divided into five sections by river channels (IBA Canada).

The mudflats at the head of the Bay of Fundy are important staging grounds for 1 to 2 million shorebirds between late July and early August. Specifically, the mudflats are home to millions of Fundy mud shrimp, which are vital for Semipalmated Sandpiper (*Calidris pusilla*). The availability of food sources attracts 50% to 95% of the global Semipalmated Sandpiper population, as well as many other shorebird species, to the Bay of Fundy. Other species found within the Southern Bight, Minas Basin IBA include Red Knot (*Calidris canutus*), Sanderling (*Calidris alba*), Least Sandpiper (*Calidris minutilla*), Short-billed Dowitcher (*Limnodromus griseus*), and Semipalmated Plover (*Charadrius semipalmatus*) (IBA Canada).

3 METHODOLOGY

WSP conducted breeding bird surveys and targeted surveys for Common Nighthawk (*Chordeiles minor*) and owls during the 2021 field season. The methodology for each survey is described in the following subsections. **Figure 1** illustrates the location of avian survey stations.

3.1 BREEDING BIRD SURVEYS

The breeding bird survey implemented a 10-minute point count survey at 26 pre-determined locations throughout the Project area. The locations were selected based on proximity to suitable bird habitat. The breeding bird surveys were completed in the dawn hours, beginning no earlier than 30 minutes prior to sunrise and finishing four and a half hours after sunrise or by 10h00 (whichever came first). Due to the size of the Project area, surveys were completed over two mornings. Two rounds of surveys were completed, equalling four survey days.

During each point count survey, the ecologist recorded all birds detected audibly and/or visually. Survey effort was primarily concentrated within a 100 m radius of the point count station; birds detected beyond 100 m were recorded if they could be identified and considered to be incidental observations. For individuals, pairs, or groups of birds observed, the following information was collected:

- Species;
- Number observed;
- Age and sex;
- Type of detection (audible/visual);
- Distance and direction from survey station (priority species only);
- Whether the bird was in transit (i.e., fly-by), and
- Relevant behaviours and observations (i.e., singing males, copulation display, adults carrying food).

Furthermore, the ecologist recorded basic data for each survey station such as date and time, UTM coordinates, weather conditions, and took photographs as a record of habitat characteristics.

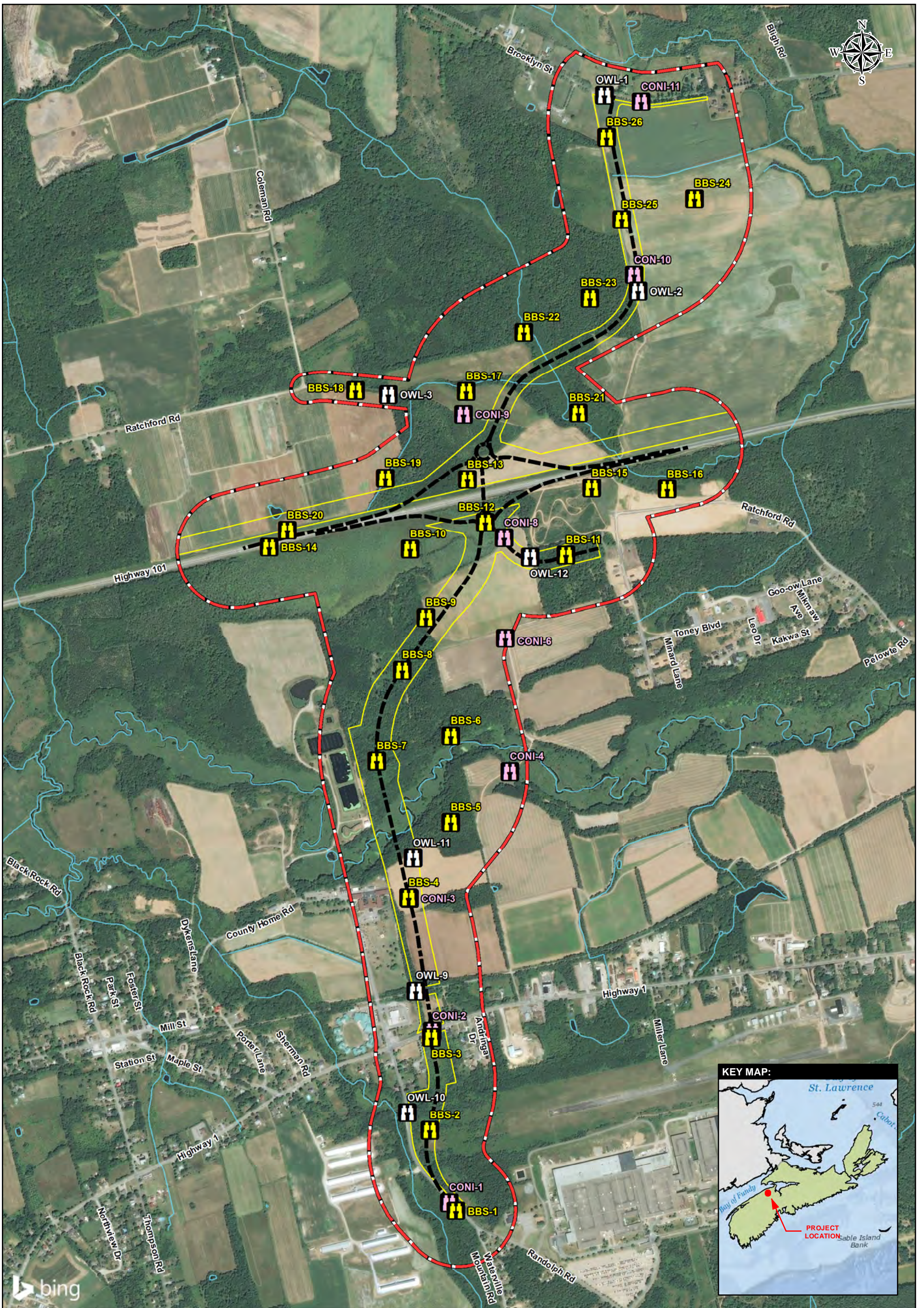
3.2 COMMON NIGHTHAWK SURVEY

A single targeted survey for evaluating the presence of Common Nighthawk was completed on July 12, 2021. This species is listed as ‘Threatened’ under the federal *SARA* and provincial *NS ESA*. Ten survey stations were placed within or near to suitable habitat for Common Nighthawk. Common Nighthawk are typically found in transitional habitats near forest edges, adjacent to open areas for foraging (i.e., agricultural fields). Common Nighthawk are most active at dawn and dusk, and therefore the surveys were conducted in the evening hours, beginning 30 minutes before sunset and finishing one hour after sunset.

The Common Nighthawk survey generally followed the methods described in the *Canadian Nightjar Survey Protocol 2019* (WildResearch 2019). Survey stations were placed at least 500 m apart and selected based on proximity to suitable habitat. The biologist completed a six-minute passive point count at each survey station.

Any Common Nighthawks detected within 400 m were recorded. Any Common Nighthawks detected beyond 400 m were recorded as incidental observations. Any additional species were recorded as incidental observations to supplement the breeding bird survey results.

In addition to bird observations, the ecologist also documented the survey start and end times, temperature and general weather conditions, and distance and direction of any Common Nighthawk observations.



PROJECT: NOVA SCOTIA - HIGHWAY 101 CAMBRIDGE INTERCHANGE AND CONNECTOR ROADS EA KINGS COUNTY, NS		FIGURE: TITLE: AVIAN SURVEY STATIONS		DATUM: NAD 83 CSRS		LEGEND: STUDY BOUNDARY PROJECT DEVELOPMENT AREA PROPOSED ALIGNMENT WATERCOURSE BREEDING BIRD SURVEY STATION NOCTURNAL OWL SURVEY STATION COMMON NIGHTHAWK SURVEY STATION	
PROJECT NO.: 211-04152		FIGURE NO.: 1		REVISION NO.: 0		DRAWN BY: C. PYTLAK	
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						SCALE: 1:12,500 0 200 400 800 Meters	

3.3 NOCTURNAL OWL SURVEYS

Call playback survey methodology was used at seven pre-determined stations to listen for nocturnal owls on April 15, 2021 and May 4, 2021. The *Guidelines for Nocturnal Owl Monitoring in North America* (Takats, et al. 2001) were used as a guide for developing the survey methodology. Broadcasting stations were placed approximately 1 km apart in order to reduce the chances of detecting the same owl at multiple stations. The call playback survey consisted of silent listening periods followed by owl calls that lasted approximately two to three minutes; specifically: Northern Saw-whet Owl (*Aegolius acadicus*) at five-minutes, Barred Owl (*Strix varia*) at 10-minutes and Great Horned Owl (*Bubo virginianus*) at 12-minutes for a total survey time of approximately 15 to 18-minutes per station. Biologists made a conscious effort to access these broadcast stations as quietly as possible, as well as to keep quiet at each station to minimize the possibility of disturbing avian species present in the area. Owls were recorded at the estimated actual distance and bearing (in degrees) from the broadcast station to where they were first heard calling.

4 RESULTS

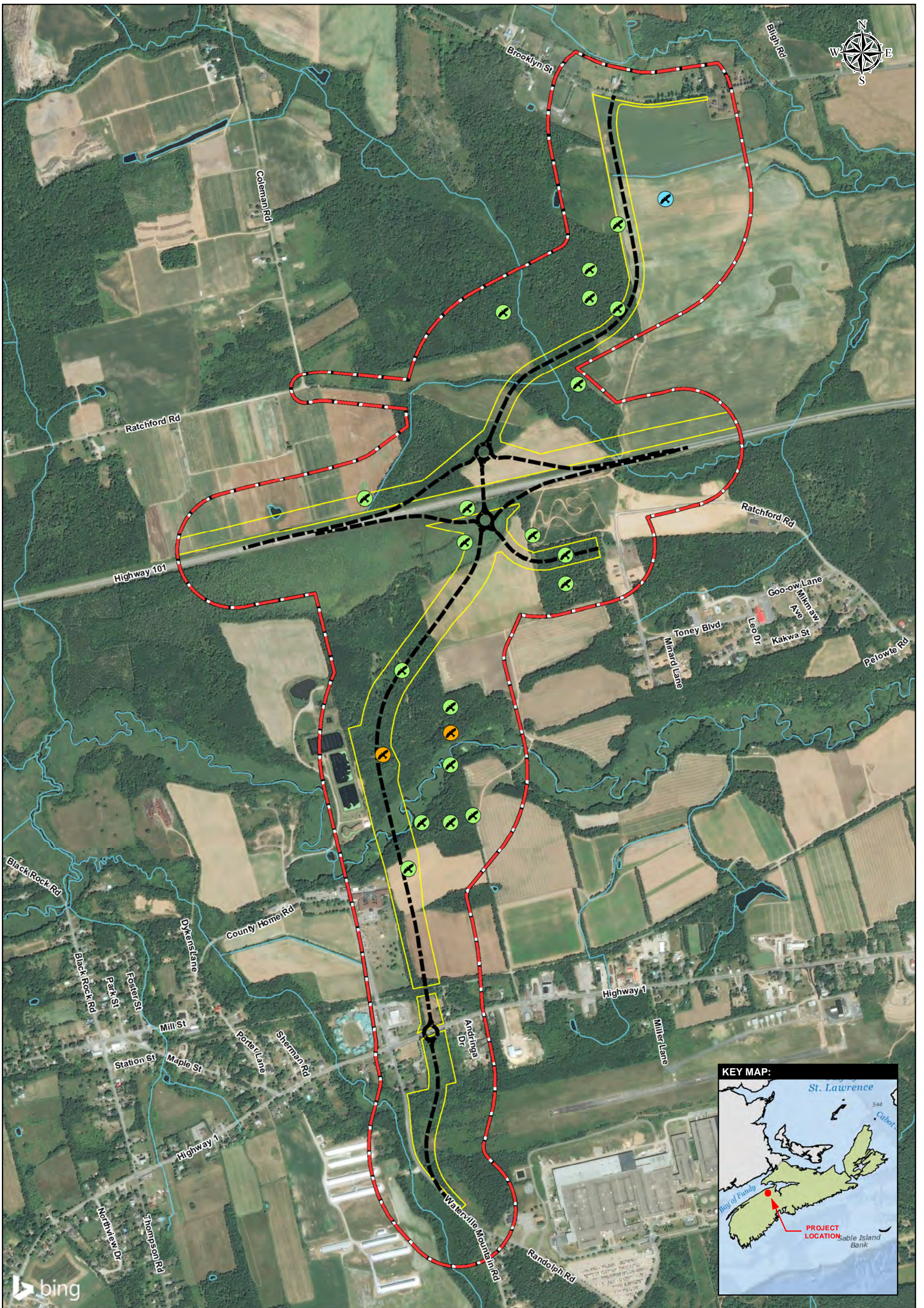
Avian surveys for breeding birds, nocturnal owls, and Common Nighthawk were completed between April 15th, 2021 and July 12, 2021. **Table 4** lists the dates, effort and any SAR observations for each survey, with survey stations indicated on **Figure 1**. A list of all avian species detected during surveys is attached in **Annex B – Highway 101 Avian Species List**. Photographs from field surveys are attached in **Annex C – Highway 101 Photographic Log**. The locations of SAR observations are illustrated in **Figure 2**.

Table 4: Summary of avian surveys for Highway 101 Cambridge Interchange EA

DATE	SURVEY TYPE	SURVEYOR	SURVEY EFFORT	SAR OBSERVED
April 15, 2021	Nocturnal Owl (Round 1)	T. Macaulay (WSP) B. Leights (WSP)	60 minutes (four point count stations)	None
May 4, 2021	Nocturnal Owl (Round 2)	T. Macaulay (WSP) B. Leights (WSP)	90 minutes (six point count stations)	None
June 10 & 12, 2021	Breeding Bird Survey (Round 1)	C. Pepper	260 minutes (two mornings; 26 point count stations)	Barn Swallow Eastern Wood-pewee Wood Thrush
June 29 – 30, 2021	Breeding Bird Survey (Round 2)	T. Macaulay (WSP) B. Leights (WSP)	260 minutes (two mornings; 26 point count stations)	Eastern Wood-pewee
July 12, 2021	Common Nighthawk	T. Macaulay (WSP) B. Leights (WSP)	42 minutes (nine point count stations)	Eastern Wood-pewee

Table 5: Summary of avian survey locations for Highway 101 Cambridge Interchange EA

SURVEY	STATION ID	NORTHING	EASTING	STATION ID	NORTHING	EASTING
Breeding Bird	BBS-1	369092	4989589	BBS-14	368454	4991804
	BBS-2	369001	4989869	BBS-15	369566	4992111
	BBS-3	369006	4990194	BBS-16	369815	4992142
	BBS-4	368927	4990681	BBS-17	369128	4992448
	BBS-5	369074	4990943	BBS-18	368742	4992451
	BBS-6	369132	4991191	BBS-19	368920	4992138
	BBS-7	368816	4991158	BBS-20	368494	4992035
	BBS-8	368905	4991475	BBS-21	369520	4992373
	BBS-9	369088	4991694	BBS-22	369329	4992654
	BBS-10	368932	4991898	BBS-23	369560	4992773
	BBS-11	369476	4991877	BBS-24	369925	4993121
	BBS-12	369195	4991991	BBS-25	369671	4993048
	BBS-13	369157	4992206	BBS-26	369618	4993334
Nocturnal Owl	OWL-1	369611	4993483	OWL-10	368923	4989931
	OWL-2	369728	4992800	OWL-11	368943	4990819
	OWL-3	368856	4992437	OWL-12	369351	4991869
	OWL-9	368952	4990355			
Common Nighthawk	CONI-1	369069	4989617	CONI-8	369260	4991936
	CONI-2	369009	4990214	CONI-9	369118	4992368
	CONI-3	368929	4990678	CONI-10	369714	4992854
	CONI-4	369280	4991120	CONI-11	369738	4993459
	CONI-6	369264	4991587			



PROJECT: NOVA SCOTIA - HIGHWAY 101 CAMBRIDGE INTERCHANGE AND CONNECTOR ROADS EA KINGS COUNTY, NS		FIGURE: TITLE: AVIAN SPECIES AT RISK OBSERVATIONS		DATUM: NAD 83 CSRS		STUDY BOUNDARY	
PROJECT NO.: 211-04152		FIGURE NO.: 2		REVISION NO.: 0		PROJECT DEVELOPMENT AREA	
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Document Path: F:\WSP\211-04152-00 - Highway 101 EA\8_MXD\2_Avian Survey Report\2022\11\22_211_04152_FIG02_AvianSAR.mxd		REVISION DATE: (YYYY-MM-DD) 2022/11/22		SCALE: 1:12,500		EASTERN WOOD-PEWEE	
				WOOD THRUSH			

4.1 BREEDING BIRD SURVEY

A total of 689 individual birds, comprised of 62 species, were detected during the breeding bird surveys. In total, 11 priority species during the breeding bird surveys. Of the priority species, two are provincially listed SAR: Barn Swallow (*Endangered*) and Eastern Wood-pewee (*Vulnerable*). A third SAR, Wood Thrush (*Hylocichla mustelina*), is listed under *SARA* as *Threatened* in *SARA* Schedule 1, but is not listed under provincial legislation. Priority species and SAR observations are discussed in **Section 5**.

Song Sparrow (*Melodia melospiza*) (n=47), Ovenbird (*Seiurus aurocapilla*) (n=40), Red-eyed Vireo (*Vireo olivaceus*) (n=38), and Common Yellowthroat (*Geothlypis trichas*) (n=35) were the most abundant species recorded during the breeding bird surveys. Most species observed within during the breeding bird surveys are common throughout Nova Scotia and Atlantic Canada and breed within deciduous and mixed-wood forests and wetland meadows.

4.2 COMMON NIGHTHAWK SURVEY

No Common Nighthawks were detected during the targeted survey on July 12, 2021. One SAR, Eastern Wood-pewee, was detected incidentally at two survey stations (CONI-4 & CONI-8) during the survey.

4.3 NOCTURNAL OWL SURVEYS

Two Barred Owls were detected during the second survey on May 4, 2021. The owls were detected at two stations (OWL-2 & OWL-11). These stations are located on the edge of mature deciduous forests and agricultural fields.

5 PRIORITY SPECIES

A total of 69 individual birds representing six priority species were observed during the 2021 avian field surveys. Of these, three were SAR and the remainder were SOCC,

5.1 SPECIES AT RISK

Avian SAR observed in the Project study area are described below, with their locations indicated on Figure 1.

BARN SWALLOW

Barn Swallow is designated as *Threatened* under Schedule 1 of *SARA* and *Endangered* under *NS ESA*. This species was recently re-designated to *Special Concern* under COSEWIC. ACCDC ranks Barn Swallow as S2S3B, which is *Imperiled* and *Vulnerable*. Barn Swallow are adapted to anthropogenic habitats and will nest on ledges on barns, bridges, culverts, and other manmade structures. Barn Swallow forage for insects over meadows, streams, and wetlands. Threats to Barn Swallow include declining insect populations, increase of severe temperature during spring migration and breeding season, and loss of suitable habitat in some regions (Government of Canada 2021).

Only one Barn Swallow was recorded during the breeding bird survey. An adult was observed approximately 100 m west of Station BBS-24 in an area of agricultural row crops. The observation was less than 500 m from potential nesting habitat structures (residential homes and outbuildings).

EASTERN WOOD-PEWEE

The Eastern Wood-pewee is designated as *Special Concern* under Schedule 1 of *SARA* and as *Vulnerable* under *NS ESA*. AC CDC ranks the Eastern Wood-pewee as a SOCC, specifically the breeding (S3S4B) population within the province, which is ranked as *Vulnerable to Apparently Secure*. Eastern Wood-Pewee habitat is generally mixed wood or deciduous forests with a moderately dense sub-canopy with relatively open shrub layer/understorey vegetation. Causes for the population decline of this species might be linked to habitat loss or degradation on its wintering grounds or changes in availability of insect prey (COSEWIC 2012).

Twenty-one individual Eastern Wood-pewee were observed during the avian surveys; 19 during the breeding bird surveys and two incidental observations during the Common Nighthawk surveys. The majority of observations were

located near or within mid-aged to mature forests and woodlots dominated by deciduous trees. Based on the number of observations, available habitat, and behaviours observed, it is likely that Eastern Wood-pewee is breeding in various locations throughout the study area.

WOOD THRUSH

Wood Thrush is designated as *Threatened* under Schedule 1 of SARA, but is not listed as a SAR under the provincial NS ESA. ACCDC ranks Wood Thrush as *SUB*, which indicates the status of the breeding population is currently unrankable due to conflicting or insufficient data and population trends. Wood Thrush typically nests in second-growth and mature deciduous and mixed-wood forests with established understorey and ground vegetation layers. Wood Thrush prefers large tracts of undisturbed forests but can occasionally be found in smaller fragmented forests (Government of Canada 2011). The threats to Wood Thrush and its habitat includes habitat degradation and fragmentation due to anthropogenic development and over-browsing by White-tailed Deer populations. Wood Thrush is also susceptible to high rates of nest predation and parasitism (Government of Canada 2011).

Three Wood Thrush observations were recorded during the breeding bird survey. Faint calls were heard near stations BBS-6 and BBS-7. These observations were within a large (>20 ha) mature deciduous forest.

5.2 NON-SAR PRIORITY SPECIES

The following non-SAR priority species were observed during the breeding bird surveys:

- Rose-breasted Grosbeak (*Pheucticus ludovicianus*)
- Tennessee Warbler (*Oreothlypis peregrina*)
- Vesper Sparrow (*Poocetes gramineus*)

Observations of non-SAR priority species was relatively limited to few individual observations (<4) for each species listed above.

Generally, the priority species recorded during the surveys prefer deciduous or mixed-wood forests, or deciduous shrublands. However, Vesper Sparrow was observed only at point count stations near agricultural fields and meadows.

6 SUMMARY

WSP completed two rounds of breeding bird and nocturnal owl surveys, and one round of Common Nighthawk surveys, within the proposed Highway 101 Cambridge Interchange and Connector Roads EA project area. The surveys were intended to document general bird habitat usage within the Project area, as well as evaluate the potential presence of SAR and SOCC.

The breeding bird surveys indicates that the study area has active bird populations, with 689 individual birds, comprised of 62 species recorded during the survey. Species observed most frequently include Song Sparrow, Ovenbird, Red-eyed Vireo, and Common Yellowthroat, all of which are commonly found in forested or shrub meadow habitats. No Common Nighthawks were observed during the targeted surveys. Two Barred Owls were detected during the second round of Nocturnal Owl surveys in areas with mature deciduous forests adjacent to agricultural fields. A list of all species observed during the 2021 avian surveys is found in **Annex B – Highway 101 Avian Species List**.

Three SAR were observed during the surveys: Barn Swallow, Eastern Wood-pewee, and Wood Thrush. Only a single Barn Swallow was observed around an agricultural field. Twenty-one individual Eastern Wood-pewee were detected during the breeding bird and Common Nighthawk surveys. It is likely that Eastern Wood-pewee is breeding within the study area as there were numerous singing males observed within suitable deciduous and mixed-wood forest habitats. Three Wood Thrush were faintly heard during the breeding bird surveys. The birds were heard within a large tract of mature deciduous forest and therefore it is possible Wood Thrush is breeding within the study area.

Three non-SAR priority species were detected during breeding bird surveys: Rose-breasted Grosbeak, Tennessee Warbler, and Vesper Sparrow.

7 REFERENCES

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ANNEX

A

**MARITIMES
BREEDING BIRD
ATLAS SPECIES
SUMMARY**



Square Summary (20LQ79)

#species (1st atlas)		#species (2nd atlas)		#hours	#pc done						
poss	prob	conf	total	1st	2nd	road	offrd				
24	22	48	94	23	29	45	97	157	51.8	15	1

Region summary (#16: Annapolis Valley - Digby Neck)

#squares	#sq with data		#species		#pc done	target	#pc
	1st	2nd	1st	2nd			
78	69	75	154	175	888	292	

Target number of point counts in this square: 13 road side, 2 off road (1 in Mature coniferous, 1 in Mature deciduous). 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	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Canada Goose		FY	2	46	Northern Harrier	FL	D	49	44	Short-eared Owl †			2	0
Wood Duck	P	FY	18	34	Sharp-shinned Hawk	H	H	31	25	North Saw-whet Owl			7	26
American Wigeon			5	9	Northern Goshawk	NY	AE	23	24	Common Nighthawk †	T	T	43	42
American Black Duck	FL	FY	59	72	Red-should Hawk †			0	0	Whip-poor-will ‡			1	1
Mallard		FY	18	50	Broad-winged Hawk			27	33	Chimney Swift †			39	32
Blue-winged Teal			14	13	Red-tailed Hawk	H	FY	57	64	Ruby-thr Hummingbird	ON	FY	62	89
Northern Shoveler ‡			1	2	Virginia Rail †			7	6	Belted Kingfisher	H	D	55	60
Northern Pintail			4	2	Sora			17	25	Yellow-bellied Sapsucker	H	H	37	37
Green-winged Teal	H	D	21	20	Common Gallinule †			1	2	Downy Woodpecker	AY	FY	65	85
Ring-necked Duck	FL	P	24	30	American Coot †			1	1	Hairy Woodpecker	P	T	63	78
Common Eider §			4	9	Killdeer	NE	D	68	45	Black-back Woodpecker			4	12
Hooded Merganser			7	25	Spotted Sandpiper	FL	DD	57	45	Northern Flicker	FL	FY	78	94
Common Merganser			21	20	Willet			17	16	Pileated Woodpecker	ON	FY	44	73
Red-breast Merganser		H	2	6	Upland Sandpiper †			1	0	American Kestrel	T	V	49	37
Gray Partridge			14	0	Wilson's Snipe	T	T	49	45	<u>Merlin</u>	H		14	46
Ring-necked Pheasant	FL	FY	59	70	<u>American Woodcock</u>	T		49	49	Olive-sided Flycatcher †		S	37	41
Ruffed Grouse	FL	D	62	76	Herring Gull §			14	28	Eastern Wood-Pewee	T	T	62	68
<u>Spruce Grouse</u>	H		26	13	Great Black-backed Gull §			23	32	Yellow-bellied Flycatcher		S	24	44
Wild Turkey †			0	1	Roseate Tern ‡§			1	0	Alder Flycatcher	A	T	57	94
<u>Common Loon</u>			33	53	Common Tern ‡§			1	1	Least Flycatcher	NE	T	57	84
Pied-billed Grebe ‡			2	10	Arctic Tern ‡§			1	1	Eastern Phoebe	NY	FY	17	45
Double-crest Cormorant §			11	24	Black Guillemot ‡§			5	10	<u>Gr Crested Flycatcher</u>	H		10	9
Great Cormorant ‡§			1	1	Rock Pigeon	V	H	46	58	Eastern Kingbird	NE	FY	52	41
<u>American Bittern</u>	V		24	17	Mourning Dove	T	D	55	94	Blue-headed Vireo	H	T	56	90
<u>Great Blue Heron §</u>	H		26	26	Black-billed Cuckoo			5	16	Warbling Vireo †			1	6
Cattle Egret ‡			0	0	Eastern Screech-Owl ‡			0	1	Red-eyed Vireo	FL	FY	71	92
Turkey Vulture ‡¶			1	16	<u>Great Horned Owl</u>	P		40	32	Gray Jay			42	34
Osprey			24	32	Barred Owl	NY	T	40	64	Blue Jay	ON	FY	75	96
<u>Bald Eagle</u> ¶			21	50	Long-eared Owl †			1	1	American Crow	FL	NE	81	96

Maritimes Breeding Bird Atlas - Summary Sheet for Square 20LQ79 (page 2 of 2)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%		
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd	
Common Raven	FL	H	73	93	North Waterthrush	H	S	34	40	Swamp Sparrow		H	43	70	
<u>Horned Lark</u> †		H		2	2	Black-white Warbler	H	T	75	92	White-throat Sparrow	A	T	75	98
Tree Swallow	NY	NE	82	84	Tennessee Warbler		H	49	12	White-crown Sparrow ‡				0	1
Bank Swallow §	AY	AE	65	29	Nashville Warbler		S	31	52	Dark-eyed Junco	ON	NE	78	94	
Cliff Swallow §	H	AE	36	28	Mourning Warbler			17	9	Scarlet Tanager †	NY	S	15	10	
Barn Swallow	FL	FY	81	77	Common Yellowthroat	AY	FY	78	97	Northern Cardinal		P	8	33	
Black-capp Chickadee	AY	FY	75	98	American Redstart	NY	D	84	96	Rose-breast Grosbeak	NB	NE	56	54	
Boreal Chickadee			43	46	Cape May Warbler			14	1	Indigo Bunting			7	4	
Red-breast Nuthatch	H	S	66	84	Northern Parula		T	66	98	Bobolink	FL	CF	63	52	
White-breast Nuthatch	FL	AE	34	54	Magnolia Warbler		H	66	89	Red-wing Blackbird	AY	DD	68	80	
Brown Creeper	NE	FY	30	36	Bay-breasted Warbler	H	S	23	25	Eastern Meadowlark †			5	0	
House Wren †			1	1	Blackburnian Warbler	H	S	49	61	Rusty Blackbird †			33	16	
<u>Winter Wren</u>	H		40	61	Yellow Warbler	FL	FY	76	94	Common Grackle	AY	FY	76	90	
Golden-crown Kinglet	T	T	62	74	Chestn-sided Warbler		CF	66	94	Brown-head Cowbird	FL	P	60	22	
Ruby-crown Kinglet		H	66	48	Blackpoll Warbler			2	9	<u>Baltimore Oriole</u>	NY		31	22	
Eastern Bluebird †	FL	AE	10	14	<u>Black-thr Blue Warbler</u>	H		33	48	Pine Grosbeak			15	6	
Veery	T	T	68	77	Palm Warbler		T	30	56	Purple Finch	A	FY	72	90	
Bicknell's Thrush †			0	0	Pine Warbler †		S	0	1	House Finch †		FY	14	5	
<u>Swainson's Thrush</u>	AY		49	80	Yellow-rumped Warbler	V	T	78	93	Red Crossbill †			20	17	
Hermit Thrush	T	T	65	92	Black-thr Green Warbler	FL	NE	71	94	<u>White-winged Crossbill</u>	T		34	29	
Wood Thrush †			13	1	Canada Warbler †	A	S	44	37	Pine Siskin	H	H	55	36	
American Robin	NY	NB	91	98	<u>Wilson's Warbler</u>	H		10	8	American Goldfinch	V	FY	76	93	
Gray Catbird	AY	S	60	68	Chipping Sparrow	FL	FY	60	62	Evening Grosbeak	H	P	53	45	
<u>Northern Mockingbird</u> †	H		17	10	Vesper Sparrow †		S	5	6	House Sparrow	ON	T	73	32	
Brown Thrasher †		FY	1	6	Savannah Sparrow	FL	FY	53	70						
European Starling	AY	NE	81	86	<u>Nelson's Sh.-tail Sparrow</u>	H		14	18						
Bohemian Waxwing ‡			1	0	Fox Sparrow			0	1						
Cedar Waxwing	C	FY	69	92	Song Sparrow	AY	FY	85	98						
Ovenbird	FL	FY	71	96	Lincoln's Sparrow		S	7	20						

This list includes all species found during the Maritimes Breeding Bird Atlas (1st atlas: 1986-1990, 2nd atlas: 2006-2010) in the region #16 (Annapolis Valley - Digby Neck). Underlined species are those that you should try to add to this square (20LQ79). 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. "Code" is the code for the highest breeding evidence for that species in square 20LQ79 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 #16). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), † (rare in the Maritimes) or † (rare in the Maritimes, documentation only required for confirmed records). Current as of 16/11/2021. An up-to-date version of this sheet is available from <http://www.mba-aom.ca/jsp/summaryform.jsp?squareID=20LQ79?lang=en>

[<< previous page](#)



Square Summary (20LQ69)

#species (1st atlas)				#species (2nd atlas)				#hours	#pc done		
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
6	0	1	7	23	22	51	96	2	22.5	15	0

Region summary (#16: Annapolis Valley - Digby Neck)

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
78	69	75	154	175	888	292

Target number of point counts in this square: 12 road side, 3 off road (1 in Mature coniferous, 1 in Mature deciduous, 1 in Young 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	Code		%		SPECIES	Code		%		
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd	
Canada Goose			2	46	Northern Harrier			49	44	Short-eared Owl †			2	0	
Wood Duck			18	34	Sharp-shinned Hawk			31	25	North Saw-whet Owl			7	26	
American Wigeon			5	9	Northern Goshawk			23	24	Common Nighthawk †			43	42	
American Black Duck	FY		59	72	Red-should Hawk †			0	0	Whip-poor-will ‡			1	1	
Mallard	FY		18	50	Broad-winged Hawk			27	33	Chimney Swift †	H		39	32	
Blue-winged Teal			14	13	Red-tailed Hawk	FY		57	64	Ruby-thr Hummingbird	A		62	89	
Northern Shoveler ‡			1	2	Virginia Rail †			7	6	Belted Kingfisher	NY		55	60	
Northern Pintail			4	2	Sora			17	25	Red-bell Woodpecker †	H		0	1	
Green-winged Teal			21	20	Common Gallinule †			1	2	Yellow-bellied Sapsucker	NY		37	37	
Ring-necked Duck			24	30	American Coot †			1	1	Downy Woodpecker	NY		65	85	
Common Eider §			4	9	Killdeer	H	NE	68	45	Hairy Woodpecker	A		63	78	
Hooded Merganser			7	25	Spotted Sandpiper	FY		57	45	Black-back Woodpecker			4	12	
Common Merganser			21	20	Willet			17	16	Northern Flicker	H	NY	78	94	
Red-breast Merganser			2	6	Upland Sandpiper †			1	0	Pileated Woodpecker	A		44	73	
Gray Partridge			14	0	Wilson's Snipe	H		49	45	American Kestrel	T		49	37	
Ring-necked Pheasant	FY		59	70	American Woodcock	S		49	49	Merlin	H		14	46	
Ruffed Grouse	FY		62	76	Herring Gull §			14	28	Olive-sided Flycatcher †			37	41	
Spruce Grouse			26	13	Great Black-backed Gull §			23	32	Eastern Wood-Pewee	FY		62	68	
Wild Turkey †			0	1	Roseate Tern ‡§			1	0	Yellow-bellied Flycatcher			24	44	
<u>Common Loon</u>			33	53	Common Tern ‡§			1	1	Alder Flycatcher	CF		57	94	
Pied-billed Grebe ‡			2	10	Arctic Tern ‡§			1	1	Willow Flycatcher †	T		0	1	
Double-crest Cormorant §			11	24	Black Guillemot ‡§			5	10	Least Flycatcher	T		57	84	
Great Cormorant ‡§			1	1	Rock Pigeon	NB	NY	46	58	Eastern Phoebe	CF		17	45	
American Bittern			24	17	Mourning Dove			AE	55	Gr Crested Flycatcher			10	9	
Great Blue Heron §			26	26	Black-billed Cuckoo			T	5	16	Eastern Kingbird	NE		52	41
Cattle Egret ‡			0	0	Eastern Screech-Owl ‡				0	1	Blue-headed Vireo	FY		56	90
Turkey Vulture ‡¶	H		1	16	Great Horned Owl	H		40	32	Warbling Vireo †	S		1	6	
Osprey	H		24	32	Barred Owl	S		40	64	Red-eyed Vireo	CF		71	92	
Bald Eagle ¶	FY		21	50	Long-eared Owl †			1	1	Gray Jay			42	34	

[next page >>](#)

Maritimes Breeding Bird Atlas - Summary Sheet for Square 20LQ69 (page 2 of 2)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%		
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd	
Blue Jay		T	75	96	Cedar Waxwing		NE	69	92	Lincoln's Sparrow			7	20	
American Crow		T	81	96	Ovenbird		CF	71	96	Swamp Sparrow		H	43	70	
Common Raven		FY	73	93	North Waterthrush		T	34	40	White-throat Sparrow		A	75	98	
Horned Lark †			2	2	Black-white Warbler		CF	75	92	White-crown Sparrow ‡			0	1	
Tree Swallow		H	82	84	Tennessee Warbler			49	12	Dark-eyed Junco		FY	78	94	
Bank Swallow §			65	29	Nashville Warbler		T	31	52	Scarlet Tanager †		S	15	10	
Cliff Swallow §		H	36	28	Mourning Warbler			17	9	Northern Cardinal		S	8	33	
Barn Swallow		NY	81	77	Common Yellowthroat		CF	78	97	Rose-breast Grosbeak		A	56	54	
Black-capp Chickadee		CF	75	98	American Redstart		CF	84	96	Indigo Bunting			7	4	
Boreal Chickadee		H	43	46	Cape May Warbler			14	1	Bobolink		AE	63	52	
Red-breast Nuthatch		T	66	84	Northern Parula		CF	66	98	Red-wing Blackbird		H	CF	68	80
White-breast Nuthatch		S	34	54	Magnolia Warbler		CF	66	89	Eastern Meadowlark †			5	0	
Brown Creeper		S	30	36	Bay-breasted Warbler			23	25	Rusty Blackbird †			33	16	
House Wren †			1	1	Blackburnian Warbler		S	49	61	Common Grackle		FY	76	90	
Winter Wren		T	40	61	Yellow Warbler		NE	76	94	Brown-head Cowbird		P	60	22	
Golden-crown Kinglet		T	62	74	Chestn-sided Warbler		FY	66	94	Baltimore Oriole		P	31	22	
Ruby-crown Kinglet			66	48	Blackpoll Warbler			2	9	Pine Grosbeak			15	6	
Eastern Bluebird †		AE	10	14	Black-thr Blue Warbler		T	33	48	Purple Finch		FY	72	90	
Veery		CF	68	77	Palm Warbler		DD	30	56	House Finch †			14	5	
Bicknell's Thrush †			0	0	Yellow-rumped Warbler		T	78	93	Red Crossbill †		H	20	17	
Swainson's Thrush		T	49	80	Black-thr Green Warbler		FY	71	94	White-winged Crossbill			34	29	
Hermit Thrush		CF	65	92	Canada Warbler †		T	44	37	Pine Siskin			55	36	
Wood Thrush †			13	1	Wilson's Warbler			10	8	American Goldfinch		NY	76	93	
American Robin		H	CF	91	98	Chipping Sparrow		CF	60	62	Evening Grosbeak		H	53	45
Gray Catbird		CF	60	68	Vesper Sparrow †		CF	5	6	House Sparrow		H	AE	73	32
Northern Mockingbird †		H	17	10	Savannah Sparrow		CF	53	70						
Brown Thrasher †		H	1	6	Nelson's Sh.-tail Sparrow			14	18						
European Starling		CF	81	86	Fox Sparrow			0	1						
Bohemian Waxwing ‡			1	0	Song Sparrow		H	CF	85	98					

This list includes all species found during the Maritimes Breeding Bird Atlas (1st atlas: 1986-1990, 2nd atlas: 2006-2010) in the region #16 (Annapolis Valley - Digby Neck). Underlined species are those that you should try to add to this square (20LQ69). 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. "Code" is the code for the highest breeding evidence for that species in square 20LQ69 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 #16). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), † (rare in the Maritimes) or ‡ (rare in the Maritimes, documentation only required for confirmed records). Current as of 16/11/2021. An up-to-date version of this sheet is available from <http://www.mba-aom.ca/jsp/summaryform.jsp?squareID=20LQ69?lang=en>



Square Summary (20LQ68)

#species (1st atlas)				#species (2nd atlas)				#hours	#pc done			
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd	
11	2	5	18	41	26	26	93	12	11.6	15	0	

Region summary (#16: Annapolis Valley - Digby Neck)

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
78	69	75	154	175	888	292

Target number of point counts in this square: 11 road side, 4 off road (2 in Mature coniferous, 1 in Mature deciduous, 1 in Young 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	Code		%		SPECIES	Code		%		
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd	
Canada Goose		FY	2	46	Northern Harrier			49	44	Short-eared Owl †			2	0	
Wood Duck			18	34	Sharp-shinned Hawk			31	25	North Saw-whet Owl		H	7	26	
American Wigeon			5	9	Northern Goshawk		S	23	24	<u>Common Nighthawk</u> †		H	43	42	
American Black Duck		FY	59	72	Red-should Hawk †			0	0	Whip-poor-will ‡			1	1	
Mallard		P	18	50	Broad-winged Hawk			27	33	Chimney Swift †		H	39	32	
Blue-winged Teal			14	13	Red-tailed Hawk		H	57	64	Ruby-thr Hummingbird		P	62	89	
Northern Shoveler ‡			1	2	Virginia Rail †			7	6	<u>Belted Kingfisher</u>			55	60	
Northern Pintail			4	2	Sora			17	25	Yellow-bellied Sapsucker			37	37	
Green-winged Teal			21	20	Common Gallinule †			1	2	Downy Woodpecker		H	P	65	85
Ring-necked Duck			24	30	American Coot †			1	1	Hairy Woodpecker		P	63	78	
Common Eider §			4	9	Killdeer		S	68	45	Black-back Woodpecker			4	12	
Hooded Merganser		FY	7	25	Spotted Sandpiper			57	45	Northern Flicker		H	AE	78	94
Common Merganser			21	20	Willet			17	16	Pileated Woodpecker			T	44	73
Red-breast Merganser			2	6	Upland Sandpiper †			1	0	American Kestrel			49	37	
Gray Partridge			14	0	Wilson's Snipe			49	45	Merlin		T	14	46	
Ring-necked Pheasant		P	FY	59	70	American Woodcock		FY	49	49	Olive-sided Flycatcher †		NE	37	41
Ruffed Grouse		H	H	62	76	Herring Gull §		H	14	28	Eastern Wood-Pewee		T	62	68
Spruce Grouse			26	13	Great Black-backed Gull §			23	32	Yellow-bellied Flycatcher		T	24	44	
Wild Turkey †			0	1	Roseate Tern ‡§			1	0	Alder Flycatcher		T	57	94	
Common Loon		S	33	53	Common Tern ‡§			1	1	Least Flycatcher		S	57	84	
Pied-billed Grebe ‡			2	10	Arctic Tern ‡§			1	1	Eastern Phoebe		S	17	45	
Double-crest Cormorant §			11	24	Black Guillemot ‡§			5	10	Gr Crested Flycatcher			10	9	
Great Cormorant ‡§			1	1	Rock Pigeon		P	46	58	Eastern Kingbird		S	52	41	
American Bittern			24	17	Mourning Dove		NB	55	94	Blue-headed Vireo		S	56	90	
Great Blue Heron §			26	26	Black-billed Cuckoo			5	16	Warbling Vireo †			1	6	
Cattle Egret ‡			0	0	Eastern Screech-Owl ‡			0	1	Red-eyed Vireo		D	71	92	
Turkey Vulture ‡¶			1	16	Great Horned Owl		S	40	32	Gray Jay		FY	42	34	
Osprey			24	32	Barred Owl		FY	40	64	Blue Jay		P	75	96	
<u>Bald Eagle</u> ¶			21	50	Long-eared Owl †			1	1	American Crow		ON	FY	81	96

Maritimes Breeding Bird Atlas - Summary Sheet for Square 20LQ68 (page 2 of 2)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Common Raven		FY	73	93	North Waterthrush		S	34	40	White-throat Sparrow		A	75	98
Horned Lark †			2	2	Black-white Warbler	H	NB	75	92	White-crown Sparrow ‡			0	1
Tree Swallow		P	82	84	Tennessee Warbler			49	12	Dark-eyed Junco		T	78	94
Bank Swallow §			65	29	Nashville Warbler		S	31	52	Scarlet Tanager †		T	15	10
Cliff Swallow §			36	28	Mourning Warbler		S	17	9	Northern Cardinal		FY	8	33
Barn Swallow		H	81	77	Common Yellowthroat		T	78	97	Rose-breast Grosbeak		S	56	54
Black-capp Chickadee	H	FY	75	98	American Redstart	H	FY	84	96	Indigo Bunting			7	4
Boreal Chickadee		S	43	46	Cape May Warbler			14	1	Bobolink		S	63	52
Red-breast Nuthatch		S	66	84	Northern Parula		S	66	98	Red-wing Blackbird		CF	68	80
White-breast Nuthatch		P	34	54	Magnolia Warbler		S	66	89	Eastern Meadowlark †			5	0
Brown Creeper	H	S	30	36	Bay-breasted Warbler			23	25	Rusty Blackbird †			33	16
House Wren †			1	1	Blackburnian Warbler		S	49	61	Common Grackle		NY	76	90
Winter Wren		S	40	61	Yellow Warbler		CF	76	94	Brown-head Cowbird			60	22
Golden-crown Kinglet		S	62	74	Chestn-sided Warbler		S	66	94	Baltimore Oriole	UN	S	31	22
Ruby-crown Kinglet		S	66	48	Blackpoll Warbler			2	9	Pine Grosbeak			15	6
Eastern Bluebird †			10	14	Black-thr Blue Warbler		S	33	48	Purple Finch		S	72	90
Veery	H	P	68	77	Palm Warbler		S	30	56	House Finch †			14	5
Bicknell's Thrush †			0	0	Yellow-rumped Warbler		T	78	93	Red Crossbill †		FY	20	17
Swainson's Thrush		S	49	80	Black-thr Green Warbler		S	71	94	White-winged Crossbill		FY	34	29
Hermit Thrush		T	65	92	Canada Warbler †		S	44	37	Pine Siskin		S	55	36
Wood Thrush †			13	1	Wilson's Warbler			10	8	American Goldfinch	P	T	76	93
American Robin	NE	CF	91	98	Chipping Sparrow		D	60	62	Evening Grosbeak			53	45
Gray Catbird		FY	60	68	Vesper Sparrow †		S	5	6	House Sparrow	ON	AE	73	32
Northern Mockingbird †			17	10	Savannah Sparrow		S	53	70					
Brown Thrasher †			1	6	Nelson's Sh.-tail Sparrow			14	18					
European Starling	NY	NY	81	86	Fox Sparrow		S	0	1					
Bohemian Waxwing ‡			1	0	Song Sparrow	H	FY	85	98					
Cedar Waxwing		A	69	92	Lincoln's Sparrow		S	7	20					
Ovenbird	H	A	71	96	Swamp Sparrow		P	43	70					

This list includes all species found during the Maritimes Breeding Bird Atlas (1st atlas: 1986-1990, 2nd atlas: 2006-2010) in the region #16 (Annapolis Valley - Digby Neck). Underlined species are those that you should try to add to this square (20LQ68). 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. "Code" is the code for the highest breeding evidence for that species in square 20LQ68 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 #16). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), † (rare in the Maritimes) or ‡ (rare in the Maritimes, documentation only required for confirmed records). Current as of 16/11/2021. An up-to-date version of this sheet is available from <http://www.mba-aom.ca/jsp/summaryform.jsp?squareID=20LQ68?lang=en>

ANNEX

B

HIGHWAY 101 AVIAN SPECIES LIST

COMMON NAME	SCIENTIFIC NAME	#	CONSERVATION STATUS			
			COSEWIC ¹	SARA	NS ESA	S-RANK (ACCDC) ²
Alder Flycatcher	<i>Setophaga ruticilla</i>	16	---	---	---	S5B
American Crow	<i>Corvus brachyrhynchos</i>	29	---	---	---	S5
American Goldfinch	<i>Spinus tristis</i>	43	---	---	---	S5
American Redstart	<i>Setophaga ruticilla</i>	22	---	---	---	S5B
American Robin	<i>Turdus migratorius</i>	29	---	---	---	S5B, S3N
American Woodcock	<i>Scolopax minor</i>	3	---	---	---	S5B
Barn Swallow	<i>Hirundo rustica</i>	1	SC	THR	END	S3B
Barred Owl	<i>Strix varia</i>	2	---	---	---	S5
Black-and-white Warbler	<i>Mniotilta varia</i>	15	---	---	---	S5B
Blackburnian Warbler	<i>Setophaga fusca</i>	2	---	---	---	S4B, S5M
Black-capped Chickadee	<i>Poecile atricapillus</i>	26	---	---	---	S5
Black-throated Green Warbler	<i>Setophaga virens</i>	5	---	---	---	S5B
Blue Jay	<i>Cyanocitta cristata</i>	14	---	---	---	S5
Blue-headed Vireo	<i>Vireo solitarius</i>	4	---	---	---	S5B
Brown Creeper	<i>Certhia americana</i>	3	---	---	---	S5B
Cedar Waxwing	<i>Bombycilla cedrorum</i>	13	---	---	---	S5
Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>	26	---	---	---	S5B
Chipping Sparrow	<i>Spizella passerina</i>	2	---	---	---	S4B, S5M
Common Grackle	<i>Quiscalus quiscula</i>	12	---	---	---	S5B
Common Raven	<i>Corvus corax</i>	9	---	---	---	S5
Common Yellowthroat	<i>Geothlypis trichas</i>	35	---	---	---	S5B
Dark-eyed Junco	<i>Junco hyemalis</i>	2	---	---	---	S4S5
Downy Woodpecker	<i>Dryobates pubescens</i>	3	---	---	---	S5
Eastern Wood-Pewee	<i>Contopus virens</i>	21	SC	SC	VUL	S3S4B
European Starling	<i>Sturnus vulgaris</i>	4	---	---	---	SNA
Golden-crowned Kinglet	<i>Regulus satrapa</i>	1	---	---	---	S5
Gray Catbird	<i>Dumetella carolinensis</i>	1	---	---	---	S4B
Great Black-backed Gull	<i>Larus marinus</i>	2	---	---	---	S4S5
Hairy Woodpecker	<i>Dryobates villosus</i>	4	---	---	---	S5
Hermit Thrush	<i>Catharus guttatus</i>	6	---	---	---	S5B
Herring Gull	<i>Larus argentatus</i>	1	---	---	---	S5
Least Flycatcher	<i>Empidonax minimus</i>	14	---	---	---	S4S5B, S5M
Magnolia Warbler	<i>Setophaga magnolia</i>	2	---	---	---	S5B
Mallard	<i>Anas platyrhynchos</i>	4	---	---	---	S5B, S5N
Mourning Dove	<i>Zenaida macroura</i>	23	---	---	---	S5

COMMON NAME	SCIENTIFIC NAME	#	CONSERVATION STATUS			
			COSEWIC ¹	SARA	NS ESA	S-RANK (ACCDC) ²
Nashville Warbler	<i>Oreothlypis ruficapilla</i>	1	---	---	---	S4B, S5M
Northern Cardinal	<i>Cardinalis cardinalis</i>	13	---	---	---	S4
Northern Flicker	<i>Colaptes auratus</i>	12	---	---	---	S5B
Northern Parula	<i>Setophaga americana</i>	13	---	---	---	S5B
Northern Waterthrush	<i>Parkesia noveboracensis</i>	1	---	---	---	S4B, S5M
Ovenbird	<i>Seiurus aurocapilla</i>	40	---	---	---	S5B
Palm Warbler	<i>Setophaga palmarum</i>	7	---	---	---	S5B
Purple Finch	<i>Haemorhous purpureus</i>	3	---	---	---	S4S5B, S3S4N, S5M
Red-breasted Nuthatch	<i>Sitta canadensis</i>	3	---	---	---	S4S5
Red-eyed Vireo	<i>Vireo olivaceus</i>	38	---	---	---	S5B
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	18	---	---	---	S4B
Ring-necked Pheasant	<i>Phasianus colchicus</i>	16	---	---	---	SNA
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	3	---	---	---	S3B
Ruby-crowned Kinglet	<i>Regulus calendula</i>	1	---	---	---	S4B, S5M
Savannah Sparrow	<i>Passerculus sandwichensis</i>	11	---	---	---	S4S5B, S5M
Song Sparrow	<i>Melospiza melodia</i>	47	---	---	---	S5B
Swamp Sparrow	<i>Melospiza georgiana</i>	4	---	---	---	S5B
Tennessee Warbler	<i>Oreothlypis peregrina</i>	1	---	---	---	S3S4B, S5M
Unidentified Bird	<i>Aves (gen, sp)</i>	2	---	---	---	---
Veery	<i>Catharus fuscescens</i>	19	---	---	---	S4B
Vesper Sparrow	<i>Pooecetes gramineus</i>	3	---	---	---	S1S2B, SUM
White-breasted Nuthatch	<i>Sitta carolinensis</i>	3	---	---	---	S4
White-throated Sparrow	<i>Zonotrichia albicollis</i>	1	---	---	---	S4S5B, S5M
Winter Wren	<i>Troglodytes hiemalis</i>	1	---	---	---	S5B
Wood Thrush	<i>Hylocichla mustelina</i>	3	THR	THR	---	SUB
Yellow Warbler	<i>Setophaga petechia</i>	31	---	---	---	S5B
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	2	---	---	---	S4B, S5M
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	1	---	---	---	S5B
Yellow-rumped Warbler	<i>Setophaga coronata</i>	5	---	---	---	S5B

1: END: Endangered, THR: Threatened, SC: Special Concern, VUL: Vulnerable; 2: S-Rank is an indicator of commonness in the Province of Nova Scotia. A scale between 1 and 5, with 5 being very common and 1 being least common.; --- denotes no status or available information; red shaded cells are priority species

ANNEX

C

HIGHWAY 101

PHOTOGRAPHIC LOG



Photo 1: BBS point count station #1, facing east; June 29 2021



Photo 2: BBS point count station #2, facing east; June 29, 2021



Photo 3: BBS point count station #3, facing north; June 29, 2021



Photo 4: BBS point count station #4, facing east; June 29, 2021



Photo 5: BBS point count station #5, facing west; June 30, 2021



Photo 6: BBS point count station #6, facing east; June 30, 2021



Photo 7: BBS point count station #7, facing east; June 30, 2021



Photo 8: BBS point count station #8, facing east; June 30, 2021



Photo 9: BBS point count station #9, facing north; June 30, 2021



Photo 10: BBS point count station #10, facing west; June 30, 2021



Photo 11: BBS point count station #11, facing north; June 30, 2021



Photo 12: BBS point count station #12, facing south; June 30, 2021



Photo 13: BBS point count station #13, facing east; June 30, 2021



Photo 14: BBS point count station #14, facing west; June 30, 2021



Photo 15: BBS point count station #15, facing east; June 30, 2021



Photo 16: BBS point count station #16, facing south; June 30, 2021



Photo 17: BBS point count station #17, facing east; June 29, 2021



Photo 18: BBS point count station #18, facing west; June 29, 2021



Photo 19: BBS point count station #19, facing north; June 29, 2021



Photo 20: BBS point count station #20, facing east; June 30, 2021



Photo 21: BBS point count station #21, facing south; June 29, 2021



Photo 22: BBS point count station #22, facing south; June 29, 2021



Photo 23: BBS point count station #23, facing south; June 29, 2021



Photo 24: BBS point count station #24, facing east; June 29, 2021