

Appendix E4

Breeding Bird Report, 2011

BREEDING BIRD SURVEY

**SOUTH CANOE WIND POWER PROJECT
MINAS BASIN PULP AND POWER CO. LTD.**

NEW RUSSELL
NOVA SCOTIA

Submitted To:

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Site Description

This breeding bird survey has been completed as part of the environmental assessment requirements for a proposed 100 MW wind power project ('Project') located near South Canoe Lake, approximately 4 km south of New Russell in Lunenburg County, Nova Scotia.

The Project lands are intensively involved in forestry production. As such, the landscape contains a mosaic of forest cover types and age classes, ranging from recent cut-blocks to plantations, and mature mixed forest. South Canoe Lake, portions of Card Lake and several small lakes exist within the Project area (Mud Lake, Little Otter Lake, and Big Otter Lake). North Canoe Lake is located just north of the Project area.

Figure 1 (Appendix A) attached to this report identifies the location of the Project area.

Previous Assessments

Baseline breeding bird, a winter survey, and Spring and Fall migratory bird surveys were completed in 2007 on a portion of the Project area (M.K. Ince, 2007). Additional lands were added (western side) to the Project area in 2008. Due to the inclusion of additional Project lands, supplemental area searches were completed in 2008 to further assess bird habitat across the additional lands (Stevens, 2008).

The baseline assessment (2007 and 2008) included the completion of spring migration surveys (passage migration counts and stop over counts), breeding bird surveys (point counts and area searches), fall migration surveys (passage migration counts), and a winter bird survey (area searches). This baseline assessment was completed in consultation with Canadian Wildlife Service (CWS). Compilation and detailed interpretation of this data has not yet been completed but will be completed as part of on-going environmental assessment activities and reporting. The 2008 assessment on the western additional lands identified two COSEWIC and SARA listed species: Olive-sided Flycatcher and Canada Warbler. Both of these species were also identified during field surveys in 2007.

Site Sensitivity and Level of Concern

Based on the requirements outlined in *Wind Turbine and Birds: A Guidance Document for Environmental Assessment (April 2007)* (CWS, 2007-b), facility size and site sensitivity combine to determine the Level of Concern for the Project.

The South Canoe Wind Power Project area is located approximately 15 km inland of the nearest Important Bird Area, and does not include any landforms that are likely to concentrate bird activity. Based on the Maritime Breeding Bird Atlas (MBBA) and Christmas Bird Count (CBC) data, the site is not believed to be regionally or locally important to birds. Based on site surveys in 2007, 2008 and 2011, a minimum of two SARA listed species (Olive-sided Flycatcher and Canada Warbler) were identified inside the Project area. Additional species may have been present during 2007 surveys (data not yet interpreted). Both of these identified species are quite



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well adapted to open, scrubby forest and their habitats are unlikely to be negatively affected by the construction of the wind power Project.

Therefore, the site sensitivity for the South Canoe Wind Power Project is designated as “Low”. The facility size is large (41 to 100 turbines), thus the Level of Concern is Category 2. Category 2 projects require one year of basic baseline surveys to identify and assess bird habitat, breeding activity and migratory patterns. This breeding bird survey forms a portion of this baseline assessment, supplementing surveys completed in 2007/2008.

Breeding Bird Survey Methodology

The 2011 breeding bird survey was completed to complement information collected during breeding surveys completed in 2007/2008. Together, information collected over this period exceeds the recommended requirements as outlined for a Category 2 project by the CWS. Since the western lands that were added to the Project area in 2008 were not included in the original breeding bird point count surveys completed in 2007, the point count locations for the 2011 survey have been moved to ensure representative coverage across both the original lands and the additional western lands.

At the time that this 2011 assessment was completed, no specific turbine layout, access road layout, or substation location for the Wind Power Project had been determined.

The 2011 breeding bird survey consisted of twenty (20) point count assessments, three (3) area searches, and assessment across the Project area for Priority Species.

Point Counts

The CWS protocol for assessing the impact of wind turbines on birds was used to complete all point counts (CWS, 2007-a). According to this protocol, large wind power projects (those containing between 41-100 turbines) require the establishment of 20 point count locations. Therefore, twenty locations were chosen to best cover the habitat diversity within the Project area (Figure 2). As mentioned, some of the individual point count locations were changed from the previous study completed in 2007 in order to encompass additional lands to the west of the original Project area, which were not previously assessed using the point count methods.

Point counts were completed at the peak of breeding season, when weather conditions were favourable. All twenty point count locations were surveyed from June 20-22, 2011, and re-visited from July 4-6, 2011. In accordance with the CWS protocol for assessing the impact of wind turbines on birds, each point count was surveyed for a total of ten minutes (CWS, 2007-a). Birds were identified by both sight and call, and any evidence of breeding, as described by the Maritime Breeding Bird Atlas (Maritime Breeding Bird Atlas, 2011), was noted. The number of individual species and distance to the bird was noted, along with the habitat type and weather conditions at the location and time of assessment respectively.



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Figure 2. Point Count (PC) Survey Locations, and Project Area Boundaries



Area Searches

To complement point counts and to be consistent with the methodologies used in 2007, area searches were also completed. The methodology outlined in the CWS protocol (CWS, 2007-a) was followed for all area searches. Three locations were chosen based on previously completed area searches (M.K. Ince, 2007): Card Lake; North Canoe Lake; and South Canoe Lake. Each of these sites was searched from June 20-22, and re-visited from July 4-6. The level of effort was recorded, and a detailed survey of the various habitat types within the area was completed.



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Priority Species Assessment

The methodology used for the identification of rare birds was conducted as per the requirements outlined in the Nova Scotia Environment (NSE) *Guide to Addressing Wildlife Species and Habitat in an EA Registration Document* (NSE, 2008).

A priority list of species was developed through a compilation of listed species provided from the following information sources:

1. Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Federal Species-at Risk Act (SARA 2003). All species listed as Endangered, Threatened, or of Special Concern;
2. Nova Scotia Endangered Species Act (NSES 1999). All species listed as Endangered, Threatened, or Vulnerable;
3. Nova Scotia General Status of Wild Species. All species designated as Species of Conservation Concern (Red or Yellow); and,
4. A list of all rare species records found within 100 km of the Project area was assembled from the Atlantic Canada Conservation Data Centre (ACCDC) data results prior to the survey being undertaken.

Species were first narrowed by geographic area to determine which species within the aforementioned databases may be expected in the Project area. The priority list of species was then further narrowed by identifying specific habitat requirements for each species on the lists. These habitat requirements were then compared against known habitat present within the Project area. For example, if a listed NSES species (endangered) required open pasture habitat, and no open pasture habitat was present inside the Project footprint, this species would not be carried forward to the final list of priority species for field assessments.

Field surveys were completed during the peak breeding season of 2011, to assess for the presence or absence of priority species, and breeding species in general, throughout the Project area. The final priority list of species used as a basis for field assessments is attached in Appendix B.

Results & Discussion

Results from the breeding bird survey include details of point count surveys, area searches and field identification of priority species. A summary of cumulative point count results is presented in Table 1. The data includes numbers of species observed over forty point counts, as each of the twenty point count locations was sampled twice. Results from individual point count locations, including data pertaining to weather conditions during point count searches, are attached in Appendix C. The detailed results of each area search are also included in Appendix C.



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Point Counts

During the two sets of point count searches, a total of fifty-seven species were identified. In 2007, fifty-six species were identified during point counts. The recorded abundance was significantly greater in 2011, with 1312 individuals identified, as compared to 419 individuals identified in 2007. The two most commonly observed species across the Project lands are the Hermit Thrush (151 individuals) and the Common Yellow-throat (121 individuals). A total of 6 species of confirmed breeders were observed across the Project area, with the White-throated Sparrow, Magnolia Warbler and Dark-eyed Junco being the most abundant (with 104, 83 and 78 individuals, respectively). A total of 7 species of probable breeders were observed, with the Red-eyed Vireo and the Common Loon being the most observed (with 41 and 10 individuals, respectively).



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Table 1. Cumulative Results of Forty Point Counts completed at South Canoe

Common Name	Species Name	Total # of individuals	# of point counts observed	Breeding Status	Conservation Status
Olive-sided Flycatcher	<i>Contopus cooperi</i>	9	6	Possible	COSEWIC Threatened, SARA Threatened, DNR Red
Common Loon	<i>Gavia immer</i>	10	7	Probable	DNR Red
Pine Grosbeak	<i>Pinicola enucleator</i>	1	1	Possible	DNR Red
Black-backed Woodpecker	<i>Picoides arcticus</i>	1	1	Probable	DNR Yellow
Boreal Chickadee	<i>Poecile hudsonicus</i>	6	2	Possible	DNR Yellow
Eastern Kingbird	<i>Tyrannus tyrannus</i>	2	1	Probable	DNR Yellow
Eastern Wood Pewee	<i>Contopus virens</i>	2	2	Possible	DNR Yellow
Golden-crowned Kinglet	<i>Regulus satrapa</i>	32	9	Possible	DNR Yellow
Gray Jay	<i>Perisoreus canadensis</i>	4	2	Possible	DNR Yellow
Ruby-crowned Kinglet	<i>Regulus calendula</i>	18	10	Possible	DNR Yellow
Tree swallow	<i>Tachycineta bicolor</i>	16	4	Possible	DNR Yellow
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	12	8	Possible	DNR Yellow
Alder Flycatcher	<i>Empidonax alhorum</i>	24	7	Possible	
American Crow	<i>Corvus brachyrhynchos</i>	9	7	Possible	
American Goldfinch	<i>Spinus tristis</i>	24	7	Possible	
American Redstart	<i>Setophaga ruticilla</i>	21	12	Possible	
American Robin	<i>Turdus migratorius</i>	41	21	Possible	
Black-and-white Warbler	<i>Mniotilta varia</i>	26	16	Possible	
Blackburnian Warbler	<i>Dendroica fusca</i>	8	4	Possible	
Black-capped Chickadee	<i>Poecile atricapillus</i>	73	20	Possible	
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	5	4	Possible	
Black-throated Green Warbler	<i>Dendroica virens</i>	73	16	Possible	
Blue Jay	<i>Cyanocitta cristata</i>	10	8	Possible	
Blue-headed Vireo	<i>Vireo solitarius</i>	9	6	Possible	
Broad-winged Hawk	<i>Buteo platypterus</i>	1	1	Possible	
Cedar Waxwing	<i>Bombusilla dendrorum</i>	30	5	Confirmed	
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	2	2	Possible	
Common Grackle	<i>Quiscalus quiscula</i>	2	2	Possible	
Common Merganser	<i>Mergus merganser</i>	1	1	Possible	
Common Raven	<i>Corvus corax</i>	6	3	Possible	
Common Yellowthroat	<i>Geothlypis trichas</i>	121	29	Possible	
Dark-eyed Junco	<i>Junco hyemalis</i>	78	28	Confirmed	
Downy Woodpecker	<i>Picoides pubescens</i>	2	2	Possible	
Hairy Woodpecker	<i>Picoides villosus</i>	8	7	Probable	
Hermit Thrush	<i>Catharus guttatus</i>	151	31	Possible	
Magnolia Warbler	<i>Dendroica magnolia</i>	83	24	Confirmed	
Merlin	<i>Falco columbarius</i>	1	1	Possible	
Mourning Dove	<i>Zenaidura macroura</i>	6	4	Possible	
Nashville Warbler	<i>Vermivora ruficapilla</i>	1	1	Possible	
Northern Flicker	<i>Colaptes auratus</i>	4	4	Possible	
Northern Parula	<i>Parula americana</i>	18	10	Confirmed	
Ovenbird	<i>Seiurus aurocapillus</i>	49	21	Possible	
Palm Warbler	<i>Dendroica palmora</i>	19	8	Possible	
Pileated Woodpecker	<i>Dryocopus pileatus</i>	4	2	Probable	
Purple Finch	<i>Carpodacus purpureus</i>	2	2	Possible	
Red-breasted Nuthatch	<i>Sitta canadensis</i>	18	9	Possible	
Red-eyed Vireo	<i>Vireo olivaceus</i>	41	20	Probable	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	2	2	Possible	
Ruffed Grouse	<i>Bonasa umbellus</i>	2	2	Probable	
Song Sparrow	<i>Melospiza melodia</i>	4	3	Possible	
Spruce Grouse	<i>Falcipennis canadensis</i>	1	1	Possible	
Swainson's Thrush	<i>Catharus ustulatus</i>	32	23	Possible	
Swamp Sparrow	<i>Melospiza georgiana</i>	2	2	Possible	
White-throated Sparrow	<i>Zonotrichia albicollis</i>	104	31	Confirmed	
Winter Wren	<i>Troglodytes troglodytes</i>	23	13	Possible	
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	1	1	Possible	
Yellow-rumped Warbler	<i>Dendroica coronata</i>	57	21	Confirmed	
Totals	57	1312			



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Area Searches

Area searches were completed at each of three lakes, in order to supplement the results of the previous area searches completed in 2007 and 2008. While area searches are recognized as a less standardized methodology, they provide the flexibility to explore habitat types in greater detail than the point count methodology. Twelve hours of area search survey effort across the Project area resulted in the identification of fifty one (51) species, and 1043 individual birds.



Table 2. Cumulative Results of Area Searches conducted at North Canoe Lake, Card Lake, and South Canoe Lake.

Common Name	Latin Name	North Canoe Lake		Card Lake		South Canoe Lake		Highest breeding evidence	Conservation Status
		20. Jun. 2011	6. Jul. 2011	21. Jun. 2011	5. Jul. 2011	22. Jun. 2011	6. Jul. 2011		
Olive-sided Flycatcher	<i>Contopus cooperi</i>	0	1	0	0	0	0	Possible	COSEWIC Threatened; SARA Threatened, DNR Red
Common Loon	<i>Gavia immer</i>	1	0	1	2	4	4	Probable	
Bay-breasted Warbler	<i>Dendroica castanea</i>	1	4	1	0	1	6	Possible	DNR Yellow
Golden-crowned Kinglet	<i>Regulus satrapa</i>	8	8	12	12	18	22	Possible	DNR Yellow
Wilson's Warbler	<i>Wilsonia pusilla</i>	1	0	0	0	0	0	Possible	DNR Yellow
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	1	5	0	0	2	0	Possible	DNR Yellow
Alder Flycatcher	<i>Empidonax alnorum</i>	1	1	0	0	0	0	Possible	
American Crow	<i>Corvus brachyrhynchos</i>	0	2	4	12	1	13	Confirmed	
American Goldfinch	<i>Spinus tristis</i>	0	14	0	9	0	14	Possible	
American Redstart	<i>Setophaga ruticilla</i>	2	10	4	6	0	6	Possible	
American Robin	<i>Turdus migratorius</i>	2	8	0	22	1	18	Possible	
Bald Eagle	<i>Haliaeetus leucocephalus</i>	1	0	0	0	0	0	Possible	
Black-and-white Warbler	<i>Mniotilta varia</i>	0	6	3	2	0	7	Probable	
Black-capped Chickadee	<i>Poecile atricapillus</i>	4	16	2	4	8	30	Confirmed	
Black-throated Green Warbler	<i>Dendroica virens</i>	12	14	10	8	1	0	Possible	
Blackburnian Warbler	<i>Dendroica fusca</i>	0	18	0	6	0	14	Possible	
Blue Jay	<i>Cyanocitta cristata</i>	1	0	0	0	0	2	Possible	
Blue-headed Vireo	<i>Vireo solitarius</i>	0	6	0	6	2	6	Possible	
Boreal Chickadee	<i>Poecile hudsonicus</i>	0	0	0	2	0	8	Possible	
Cedar Waxwing	<i>Bombycilla dendrorum</i>	0	4	6	0	0	6	Possible	
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	0	5	2	2	2	0	Possible	
Common Grackle	<i>Quiscalus quiscula</i>	0	0	0	0	0	1	Possible	
Common Merganser	<i>Mergus merganser</i>	16	0	0	0	0	0	Confirmed	
Common Raven	<i>Corvus corax</i>	0	2	2	6	0	2	Possible	
Common Yellowthroat	<i>Geothlypis trichas</i>	0	14	6	23	9	22	Possible	
Dark-eyed Junco	<i>Junco hyemalis</i>	2	0	2	6	8	6	Probable	
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	0	0	0	2	0	0	Probable	
Hairy Woodpecker	<i>Picoides villosus</i>	0	4	0	3	1	3	Probable	
Hermit Thrush	<i>Catharus guttatus</i>	2	14	0	14	1	12	Possible	
Herring Gull	<i>Larus argentatus</i>	0	0	0	2	0	2	Possible	
Magnolia Warbler	<i>Dendroica magnolia</i>	4	8	4	6	8	0	Possible	
Mourning Dove	<i>Zenaidura macroura</i>	0	0	0	0	2	0	Possible	
Northern Flicker	<i>Colaptes auratus</i>	3	4	1	3	2	4	Possible	
Northern Parula	<i>Parula americana</i>	0	8	5	9	3	2	Confirmed	
Ovenbird	<i>Seiurus aurocapillus</i>	0	7	4	0	0	10	Possible	
Palm Warbler	<i>Dendroica palmora</i>	2	6	0	0	0	8	Possible	
Pileated Woodpecker	<i>Dryocopus pileatus</i>	0	0	0	0	0	1	Probable	
Purple Finch	<i>Carpodacus purpureus</i>	1	0	1	0	1	0	Possible	
Red-breasted Nuthatch	<i>Sitta canadensis</i>	0	0	0	6	0	0	Possible	
Red-eyed Vireo	<i>Vireo olivaceus</i>	3	10	6	8	1	12	Possible	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	1	0	0	0	1	0	Possible	
Ruby-crowned Kinglet	<i>Regulus calendula</i>	0	0	2	0	0	0	Possible	
Song Sparrow	<i>Melospiza melodia</i>	0	0	2	16	0	17	Confirmed	
Spotted Sandpiper	<i>Actitis macularia</i>	0	0	2	6	6	8	Possible	
Swainson's Thrush	<i>Catharus ustulatus</i>	0	3	0	3	0	7	Possible	
Swamp Sparrow	<i>Melospiza georgiana</i>	0	0	2	4	0	4	Possible	
Tree Swallow	<i>Tachycineta bicolor</i>	0	0	0	12	0	16	Possible	
White-throated Sparrow	<i>Zonotrichia albicollis</i>	0	8	4	12	5	22	Possible	
Winter wren	<i>Troglodytes troglodytes</i>	0	0	0	1	3	0	Possible	
Yellow Warbler	<i>Dendroica petechia</i>	0	2	0	4	0	2	Possible	
Yellow-rumped Warbler	<i>Dendroica coronata</i>	0	0	8	0	8	11	Possible	
Totals:	51	57	194	82	225	74	296		

Priority Species

Eleven species were identified during the breeding bird survey (point counts and area searches) that are classified as 'Yellow' (sensitive to human activities) by the NS Department of Natural



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Resources (NSDNR) General Status Ranks of Wild Species (Province of Nova Scotia, 2011). These include:

- Eastern Kingbird;
- Eastern Wood Pewee;
- Black-backed Woodpecker;
- Boreal Chickadee;
- Bay-breasted Warbler;
- Golden-crowned Kinglet;
- Ruby-crowned Kinglet;
- Wilson's Warbler;
- Tree Swallow;
- Spotted Sandpiper; and
- Yellow-bellied Flycatcher.

These species have been flagged as 'early watch' species by the Province, but they are not currently protected by the NSESA. As some of these species are potentially in decline, they will remain priority species for all future monitoring within the Project lands.

Two identified species are classified as 'Red' (at-risk) by NS DNR: the Pine Grosbeak; and the Common Loon. These species are not currently protected under the NS ESA, SARA, or listed by COSEWIC.

Pine Grosbeaks prefer open coniferous forests. Depending on food availability, they can be found in a broad range of habitats types (Cornell Lab of Ornithology, 2011-a). The Project lands are intensively managed for forestry, with a mosaic of different age classes of planted conifers. Suitable habitat for Pine Grosbeaks exists within the Project lands, but it is not clear whether a resident population of Pine Grosbeak exist. No Pine Grosbeaks were observed during point count sampling in 2007. One pair of Pine Grosbeak was observed during the area search of Long Bay (Card Lake) on 3 June 2007, and another on 13 June 2007. Two pairs were observed on 13 June 2007 during the South Canoe Lake area search (M.K. Ince, 2007). During the 2011 season, only one Pine Grosbeak was observed at one point count. None were observed during area searches. As such, there is insufficient evidence to conclude that a viable breeding population exists within the Project area. The Pine Grosbeak should remain a priority species for future monitoring.

The Common Loon was observed at each lake during area searches in 2011. The Common Loon was observed at five point count locations between 20-22 June 2011, and at 2 point count locations between 4-6 July 2011. This is a notable increase in observations from previous assessments. Common Loons were not observed during any point count surveys in 2007, or area searches in 2008 (M.K. Ince, 2007; Stevens, 2008). One pair of Common Loons was observed during an area search of Card Lake on 3 June 2007, and again on 13 June 2007 (M.K. Ince, 2007).



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Common Loons appear to be widespread across the Project area, but most common around the lakes where they breed. They are most susceptible to activity in and around lakes (for example, boating and shoreline development), so construction of turbines is not likely to directly impact their breeding habitat as turbines will be typically setback from waterbodies by at least 100 metres. Common Loons require a considerable amount of space to take-off from water bodies (Cornell Lab of Ornithology, 2011-b). This must be considered in the development of a turbine layout. The establishment of set-back distances from lakes would help reduce potential collision risk towards Loons.

One species, the Olive-sided Flycatcher, was identified during this breeding bird survey and is listed by COSEWIC and SARA as 'Threatened'. Provincially, it is identified as red (at risk) by DNR, but it is not protected under the NSESA.

In 2007, Olive-sided Flycatchers were observed at 5 point counts, and all area searches (M.K. Ince, 2007), including area searches conducted in 2008 in the additional lands (Stevens, 2008). Olive-sided flycatchers were observed during 2 point counts from 20-22 June 2011, and 4 point counts from 4-6 July 2011. One Olive-sided Flycatcher was also heard during an area search of North Canoe Lake on 6 July 2011.

Olive-sided Flycatchers are listed as threatened in SARA and COSEWIC as a result of continuous and considerable declines in the population. Not much is known about the cause of this decline; however the decline is generally attributed to large scale changes in North American breeding habitat, as well as loss of habitat in their wintering grounds of Panama, Venezuela and Bolivia (Government of Canada, 2011). In the North American breeding grounds, Olive-sided Flycatchers are most often associated with openings or edges in coniferous forests, especially those with tall trees or snags for perching. Bog margins, river valleys and slow-moving streams are all frequently used feeding habitats (Government of Canada, 2011). Olive-sided Flycatchers are commonly found in commercially harvested forests. Suitable habitat exists throughout the Project lands, as they are well adapted to open, scrubby forests.

During the previous breeding bird surveys completed by M.K. Ince in 2007 and C. Stevens in 2008, the Canada Warbler was also identified on site, which is listed by COWESIC and SARA as 'Threatened'. Not much is known about the cause of their decline, but like many imperilled species, widespread habitat loss and fragmentation is thought to be a major factor and evidence from breeding bird surveys across their range suggests that the Canada Warbler experienced a decline of 43% from 1997 to 2007 (Government of Canada, 2011-b). The Canada Warbler is well adapted to wet, mixed forests, with abundant shrub cover, as well as anthropogenic disturbances such as timber harvest operations (Government of Canada 2011-b). In 2007, two Canada Warblers were observed during point count searches, and twenty-one (21) individuals were observed during eighteen hours of area searches (M.K. Ince, 2007). During area searches of the additional lands in 2008 (22 hours of area search effort), four Canada Warblers were observed (Stevens, 2008). Canada Warblers were not observed during point counts or area searches in 2011.



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Conclusions

Breeding birds found in the Project area are consistent with expectations. Consideration of breeding bird populations when developing a turbine layout will help reduce the risk to birds, particularly those with aerial courtship displays, and those requiring considerable space to take flight from lake shores. Pre-construction nest searches, as required by the Migratory Birds Convention Act, will be imperative to prevent impact on all breeding birds, particularly sensitive ones such as the Olive-sided Flycatcher and Canada Warbler.

Closure

This report has been completed for the sole benefit of Minas Pulp and Power Co. Ltd. Any other person or entity may not rely on this report without the express written consent of McCallum Environmental Ltd. and Minas Pulp and Power Co. Ltd.

The conclusions presented in this report represent the best judgement of the assessor based on the current environmental conditions. The assessor is unable to certify against undiscovered environmental liabilities due to the nature of the investigation and the limited data available.

This report was prepared from information collected during site visits undertaken in June and July 2011. The results in this report rely only on the conditions identified at that time.

This report was prepared by Meghan Milloy, BSc. (Biol), Project Manager.

Meghan Milloy, BSc. (Biol), MES
Project Manager
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The undersigned has reviewed the methodologies, results, and conclusions and considered relevant factors and influences pertinent within the scope of this assessment.

The undersigned has no past, present, or contemplated interest in the assessed property.

I have reviewed the information as submitted and completed this report in conformity with the Code of Ethics and the Duties of Professional Biologists.

Respectfully submitted,

Robert McCallum, P.Biol

Disclaimer

The data and information contained in this report, including without limitation the results of the sampling and analysis conducted by McCallum Environmental Ltd., pursuant to its **Agreement** with (the "Client") have been set forth to the best of McCallum Environmental Ltd.'s knowledge, information, and belief. Although every effort has been made to confirm that all such data and information are factual, complete and accurate, McCallum Environmental Ltd. makes no guarantees nor warranties whatsoever, whether expressed or implied, with respect to such data or information and accepts no responsibility for any loss or damage arising therefrom or related thereto.

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Limitations

- There are a potentially infinite number of methods in which human activity can influence wildlife behaviours and populations and merely demonstrating that one factor is not operative does not negate the influence of the remainder of possible factors. Therefore, the only way in which population responses may be shown to be influenced by disturbance is to study population dynamics.
- The environmental assessment provides an inventory at only one point in time. A single assessment may not define the absolute status of site conditions;
- Effects of impacts separated in time and space that may affect the areas in question have not been estimated.
- Classification and identification of have been based upon commonly accepted practices in environmental consulting. Classification and identification of these factors are judgmental and even comprehensive sampling and testing programs, implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions.
- All reasonable programs will involve an inherent risk that some conditions will not be detected and all reports summarizing such investigations will be based on assumptions of what characteristics may exist between the sample points. Actual conditions may vary significantly between sample locations and all persons making use of the report should be aware of this possibility.

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APPENDIX A: FIGURES



FIGURE 1.
SOUTH CANOE
WIND POWER
PROJECT AREA
LOCATION.

PROJECT LANDS

July 25, 2011



Image © 2011 DigitalGlobe
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APPENDIX B: PRIORITY LIST OF SPECIES

Appendix B: Priority Species List (Birds)

GNOME	Common Name	COSEWIC Federal	NSESA Provincial	DNR General Ranking	Habitat Requirements	Habitat Present in Project Area	Noted in ACCDC	Carried forward to Field Assessment
<i>Bucephala islandica</i>	Barrow's Goldeneye (Eastern pop.)	SC		YELLOW	Eastern population breeds in north-central quebec and labrador and winters along the atlantic coast. Wintering concentrations are often found in areas where currents maintain ice free patches around estuary outlets, especially along the gulf of st lawrence. Group size along the Bay of Fundy and Atlantic Coast generally smaller. Late Oct and early April	no	no	no
<i>Calidris canutus rufa</i>	Red Knot rufa ssp	E	Endangered	YELLOW	they occur in migration in the maritimes in mid-may to early june and between late july and early october- usually associated with other flocks of sandpipes on inter-tidal mudflats. Peak detectability between 2 hrs before high tide to high tide	no	no	no
<i>Caprimulgus vociferus</i>	Whip-Poor-Will	T		1 At Risk	Arrives in the Maritimes in May and leaves for its wintering grounds in August-September. Breed in fairly open or patchy forests, often in relatively dry sites associated with sand plains or rock outcrops and having substantial cover of white and red pine and red oak and sometimes in sites that area regenerating following major disturbances. In the Maritimes, most records are from central and western NB. Other areas may support the occasional territorial bird	yes	yes	Whip-Poor-Will
<i>Catharus bicknelli</i>	Bicknell's Thrush	T	Vulnerable	YELLOW	known to breed in quebec, NB, NS and northeastern US. In the Maritimes, it has been recorded primarily at higher elevations (300m+) in northwestern and northcentral NB and Cape Breton. Highly exposed coastal habitats at lower elevations may also be used. Breeds in dense and stunted fir/spruce forests (including conifer plantations) with wet, cool micro-climates. Nesting starts in Early June and complete by late July	yes	no	Bicknell's Thrush

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<i>Chaetura pelagica</i>	Chimney Swift	T	Endangered	YELLOW	this species was restricted to nesting in hollow trees and caves but now nests in chimneys and other human structures as well. All across Maritimes were appropriate nesting sites exist. Colonies in forested areas tend to be smaller and much harder to detect, but more mature forests tend to have larger and more abundant hollow trees and tend to support more birds.	yes	no	Chimney Swift
<i>Charadrius melodus</i>	Piping Plover	E	Endangered	RED	breed along the atlantic coast from NFLD to south carolina and winter along the coast of SC, FLA and the caribbean. Plovers nest above the normal high water mark on exposed sandy or gravelly beaches. Nests are often associated with small cobbles and other small beach debris.	no	no	no
					nest throughout maritimes with the exception of PEI. Nest on the ground in a variety of habitats having little or no tree cover and a limited cover of taller shrubs and herbs, and then can also nest on flat gravel roofs in urban settings. Forest clearings created by forestry or fire are probably the most widely used habitats in the region, but sand dunes, river bars, open forests, commercial blueberry fields, mining and aggregate excavation sites, rocky outcrops and drier peatlands are all potential nesting habitats. Easily observable at dusk or dawn- as they forage in the air for insects.	yes	no	Common Nighthawk
<i>Chordeiles minor</i>	Common Nighthawk	T	Threatened	YELLOW	breeds throughout the maritime provinces. Is most associated with openings or edges in coniferous forest containing tall trees or snags for perching. Bog margins, river valleys, beaver ponds and meadows, slow moving streams awith broad floodplains and cut over areas with some standing trees are frequently used habitats.	yes	no	Olive-Sided Flycatcher
<i>Contopus cooperi</i>	Olive-sided Flycatcher	T		YELLOW	Breed around the Bay of Fundy shore, both in NB and NS on cliff ledges at sites where there is a steady supply of mid-sized birds such as small ducks or shorebirds. Ledges on tall buildings and bridges can also serve as suitable nest sites in urban areas.	no	yes	no
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	SC	Vulnerable	RED		no	yes	no

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Histrionicus histrionicus pop. Eastern pop.	Harlequin Duck - Eastern pop.	SC	Endangered	YELLOW	breed in northern quebec and labrador but few breed in turbulent rivers along the northern shores of Gulf of St. Lawrence, and northeast NB. Winter on sea coasts in the Maritimes	no	yes	no
Sterna dougallii	Roseate Tern	E	Endangered	RED	islands along the atlantic coast in NS from Yarmouth to Guysborough counties. Small colonies in Bay of Fundy and Gulf of St. Lawrence so any coastal tern colonies should be evaluated. Potential shoreline/island habitats should be searched during the breeding season.	no	yes	no
Wilsonia canadensis	Canada Warbler	T		YELLOW	found throughout the maritimes- breeds in a variety of forest types- always in areas with a well developed shrub layer and frequently in moist to wet sites. Forested swamps with some combination of white cedar, black spruce, red maple, and tamarack and dense mixed forests on steep river valley slopes are favoured habitat.	yes	no	Canada Warbler
Anas acuta	Northern Pintail			RED	Lakes, rivers, marshes and ponds in grasslands, barrens, dry tundra, open boreal forest or cultivated fields. Most breeding associated with seasonal and semipermanent wetlands (Suchy and Anderson 1987). Often nests near freshwater lakes and ponds, but may nest some distance from water. Readily uses stock-watering ponds in North Dakota (Suchy and Anderson 1987); uses all sorts of man-made ponds in Quebec (Belanger and Couture 1989). May nest under cover of low vegetation or in open. Broods use emergent vegetation for escape cover. Nest is a depression lined with plant material and down	yes	yes	Northern Pintail
Anas clypeata	Northern Shoveler			RED	NON-BREEDING: In migration and winter in both freshwater and brackish habitats, and in cultivated fields (not typical) Occasionally seen in NS for breeding.	yes	yes	Northern Shoveler
Anas discors	Blue-winged Teal			RED	Marshes, ponds, sloughs, lakes, and sluggish streams	yes	no	blue-winged teal

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Anas strepera	Gadwall					Lakes, ponds, rivers, marshes. Prefers freshwater but may be found on any open water during migration and winter. Moderate- to large-sized wetland of a permanent or semipermanent nature, expanses of open water with submersed vegetation, and open undisturbed shorelines are important molting habitats (Ringelman 1990). Nests in thick vegetation near freshwater lakes, ponds, or streams, including open brackish or alkaline waters. Nests usually in dry upland site under clump of shrubs or in herbaceous vegetation, average of 300 m from water	yes	yes	Gadwall
Asio flammeus	Short-eared Owl	SC			RED	open grassy habitats including open peatlands, coastal and inland marshes, dykeland, dunes, pastures hayfields, grain stubble, airports and young conifer plantations. Mainly in coastal maritime regions especially Upper Bay of Fundy dykelands, acadian peninsula (NB) coastal bogs and saltmarshes and northern PEI dunes and saltmarshes.	Yes	yes	Short-Eared Owl
Asio otus	Long-eared Owl				RED	Deciduous and evergreen forests, orchards, wooded parks, farm woodlots, river woods, desert oases. Wooded areas with dense vegetation needed for roosting and nesting, open areas for hunting. Often associated with conifers in eastern North America, also with deciduous woods near water in West. Nests in tree usually in old nest of crow, squirrel, hawk, magpie, or heron; sometimes in tree cavity; rarely on ground	Yes	yes	Long-Eared Owl
Chlidonias niger	Black Tern				RED	BREEDING: marshes, along sloughs, rivers, lakeshores, and impoundments, or in wet meadows, typically in sites with mixture of emergent vegetation and open water. Cattails, bulrushes, burreed, and/or phragmites commonly are present in nesting areas	Yes	no	Black Tern

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Coccyzus erythrophthalmus	Black-billed Cuckoo			RED				yes	yes	Black-Billed Cuckoo
Euphagus carolinus	Rusty Blackbird	SC		RED				yes	yes	Rusty Blackbird
Gavia immer	Common Loon	NAR		RED				yes	no	Common Loon
Icterus galbula	Baltimore Oriole			RED				yes	yes	Baltimore Oriole

BREEDING: Assigned to "eastern forest" biogeographical classification by Pyle et al. (1994). Forest edge and open woodland, both deciduous and coniferous, with dense deciduous thickets (AOU 1998). Found in extensive tracts of dry upland woods where it uses the midstory canopy and the overstory canopy for most activities (Legrand and Hamel 1980). High-ground forest, open woodland, thickets, willow (SALIX spp.), alder (ALNUS spp.), aspen (POPULUS spp.), vines

breed in wet forest and thicket habitats, generally in conifer dominated landscapes. Lake and river shore swamps, streamside thickets beaver ponds, peatlands, and shrubby or forested margins of sedge meadows and marshes are typical habitats. Most likely to be found in the more boreal habitats at higher elevations or coast influenced areas

Breeding habitat includes usually clear lakes (McIntyre 1988) containing both shallow and deep water areas (McIntyre 1975, 1988; Strong 1985). In studies comparing lakes with and without loons, higher turbidity was suggested as a factor influencing lack of occupancy

arrive in the northern states and Canada in April-May; males precede females by a few days. Southward migration begins in late July or early August

Habitat includes open woodland, deciduous forest edge, riparian woodland, partly open situations with scattered trees, orchards, and groves of shade trees. In migration and winter this oriole also occurs in humid forest edge, second growth, and scrub; treetop level in coffee and cacao plantations, and savanna groves. Nests are placed in trees, an average of around 25-30 feet (8-9 meters) above ground, usually at the end of a drooping branch.

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<p>Molothrus ater</p>	<p>Brown-headed Cowbird</p>			<p>Yellow</p>	<p>Northern breeding populations are long-distance migrants. Most migrant cowbirds arrive in northern breeding areas in late March-April. Adult males and females arrive first, followed two weeks later by yearling males, who are followed one week later by yearling females (Darley 1982). Southward migration begins in August, peaks in September, and extends into October. Specific timing varies with latitude. Habitat Comments: Breeding habitat includes woodland, forest (primarily deciduous), forest edge, city parks, suburban gardens, farms, and ranches. Cowbirds often are associated with forest-field edge habitat and clearings in forests. Feedlots, pastures, and fields with livestock also attract cowbirds, especially in predominately forested areas. Permanent resident in NS</p>	<p>Yes</p>	<p>no</p>	<p>Brown-Headed Cowbird</p>
<p>Myiarchus crinitus</p>	<p>Great Crested Flycatcher</p>			<p>RED</p>	<p>NOVA SCOTIA: Uncommon with few confirmed breeding records broadly scattered over central and southern Nova Scotia (Erskine 1992). BREEDING: deciduous (mainly), mixed, or pine woodland or somewhat open forest (Hamel et al. 1982, Hamel 1992), parks, orchards, wooded residential areas, areas of scattered trees in cultivated regions, clearings and edges of wooded areas, and swamps. Frequents upper levels of trees. Research on canopy selection and flight length indicates a preference for open canopies where unhampered foraging flights can occur (Via 1979). Preferred perches are tall trees, but may also be found on utility lines and short shrub-like growth in recent clearcuts (Via 1979). Nests in natural cavity or old woodpecker hole in live or dead tree, average of 3-6 m above ground; also in bird box, pipe or similar cavity</p>	<p>yes</p>	<p>yes</p>	<p>Great Crested Flycatcher</p>

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Nycticorax nycticorax	Black-crowned Night-heron	RED	Arrives in northern breeding areas March-May, departs by September-November. Extensive postbreeding dispersal to areas outside breeding range (Palmer 1962). Habitat Comments: Marshes, swamps, wooded streams, mangroves, shores of lakes, ponds, lagoons; salt water, brackish, and freshwater situations. Roosts by day in mangroves or swampy woodland. Eggs are laid in a platform nest in groves of trees near coastal marshes or on marine islands, swamps, marsh vegetation, clumps of grass on dry ground, orchards, and in many other situations. Nests usually with other heron species.	Yes	no	Black-crowned Night-Heron
Petrochelidon pyrrhonota	Cliff Swallow	RED	Cliff swallows inhabit open to semiwooded habitat, cliffs, canyons, and farm country, generally near meadows, marshes, and water. They build bottle-shaped mud nest in colonies on cliffs, under eaves of buildings, under bridges, and similar sites sheltered by an overhang. Many return to same nesting area in successive years, but colonies tend to switch nesting sites between seasons, evidently due to a buildup of insect parasites in the nests. Cliff swallow commonly repair and use old nests. Breeding bird in NS	Yes	no	Cliff Swallow
Pinicola enucleator	Pine Grosbeak	RED	Open coniferous (less commonly mixed coniferous-deciduous) forest and forest edge; in migration and winter also in deciduous forest, woodland, second growth and shrubbery. Nests in trees or shrubs in open coniferous woods, 2-9 m above ground Non breeding resident in NS	Yes	no	Pine Grosbeak
Poocetes gramineus	Vesper Sparrow	RED	Habitats include plains, prairies, dry shrublands, savannas, weedy pastures, fields, sagebrush, arid scrub, and woodland clearings. Breeding bird in northern NS	yes	yes	Vesper Sparrow
Progne subis	Purple Martin	RED	A wide variety of open and partly open situations, frequently near water or around towns Not likely in NS-breeding bird	yes	no	Purple Martin

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Riparia riparia	Bank Swallow			RED	Habitat includes open and partly open situations, frequently near flowing water (AOU 1983). Nests are in steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water, or along the coast, or in gravel pits, road embankments, etc. Both sexes construct the nest burrow. Pairs usually dig a new burrow each year, but sometimes they use old bank swallow burrows or abandoned cavities of the belted kingfisher. Individuals tends to return to same nesting area in successive years, though they may move several kilometers away, especially if nesting was unsuccessful the previous year; yearlings often return to the natal area or nearby Breeding Bird NS	Yes	no	Bank Swallow
Sterna paradisaea	Arctic Tern			RED	Nests on ground on rocky, sandy, gravelly, or grass-covered coasts and islands, in far north on islands in lakes and ponds and in marshes and on riverine gravel bars, sometimes on open tundra Breeding Bird NS	Yes	yes	Arctic Tern
Tringa semipalmata	Willet			RED	Marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores, and, less frequently, open grassland (AOU 1983, Stiles and Skutch 1989). Nests along marshy lake margins in western North America, salt marshes in eastern North America. Nests on the ground in open places, coastal marshes, beaches, or islands; and inland in wet grassland by lakes, or short grass or bare ground by water. Breeding Bird in NS	No	no	No
Alca torda	Razorbill			YELLOW	WINTERS: mostly offshore in northern boreal waters south to Long Island (New York), Azores, western Mediterranean Sea coasts and open sea. Nests on coastal cliffs and on rocky shores and islands, usually in crevice or niche or in holes between and under boulders	no	yes	no
Branta bernicla	Brant			YELLOW	In winter, this species occurs primarily in marine situations that are marshy, along lagoons and estuaries, and on shallow bays (AOU 1998), often in areas with eelgrass Winter migration species	no	no	no

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<i>Calidris maritima</i>	Purple Sandpiper			YELLOW	rocky seacoasts and jetties, rarely along shores of large inland bodies of water, usually in rocky areas . Non breeding resident	no	yes	no
<i>Calidris pusilla</i>	Semipalmated Sandpiper			YELLOW	stop and feed at estuaries in Canadian maritime provinces and northeastern U.S. before flying nonstop to wintering areas in South America. The Bay of Fundy is a very important migration stop (may be used by 1-2 million birds in fall; MIGRANT ONLY)	No	no	No
<i>Dolichonyx oryzivorus</i>	Bobolink	T		YELLOW	In the past it was found in summer largely about the meadowlands of Annapolis, Kings, Hants, Cumberland and Colchester counties but in recent years has been seen increasingly in coastal meadowlands and on Cape Breton Island. Breeding bird in NS	yes	yes	Bobolink
<i>Fratercula arctica</i>	Atlantic Puffin			YELLOW	Nonbreeding: primarily pelagic (AOU 1983). Most breeding colonies are on earthy islands where nests are in burrows (dug by puffin, rabbit, or other sea bird); in northern and central range large colonies occur among boulders; small populations may nest on cliff sites; usually uses nest site used in previous year. Tends to avoid areas used by great black-backed gull (preys on chicks and adults).	no	yes	no
<i>Hirundo rustica</i>	Barn Swallow			YELLOW	Open situations, less frequently in partly open habitats, frequently near water (AOU 1983). Wintering concentrations often associated with sugar cane fields (Hilty and Brown 1986, Ridgely and Tudor 1989). Nests in barns or other buildings, under bridges, in caves or cliff crevices, usually on vertical surface close to ceiling. Commonly reuses old nests. Usually returns to same nesting area in successive years; yearlings often return to within 30 km or closer to natal site Breeding Bird NS	yes	no	Barn Swallow
<i>Passerculus sandwichensis</i>	Ipswich Sparrow	SC		YELLOW	Ipswich is considered a subspecies of the Savannah Sparrow. Breeding is known from the dune grasslands of sable island and occasionally the coastal dunes in eastern and southern NS as well. Migrants use coastal habitats in eastern and southern NS as they move.	no	no	no

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<i>Perisoreus canadensis</i>	Gray Jay				YELLOW	Coniferous and mixed coniferous-deciduous forest (primarily spruce), including open and partly open woodland and around bogs (AOU 1983). Often around campgrounds. BREEDING: Usually nests in a conifer, 1-9 m (usually 2-3 m) above ground. All year round permanent resident	Yes	no	Gray Jay
<i>Poecile hudsonica</i>	Boreal Chickadee				YELLOW	Boreal coniferous and mixed forests, muskeg bogs, vicinity of white cedar and hemlock swamps, birches and streamside willows. Nests in natural cavities or abandoned woodpecker holes, or in cavity dug by pair in rotten tree stub, usually within 1 m of ground. Permanent resident	Yes	no	Boreal Chickadee
<i>Sialia sialis</i>	Eastern Bluebird	NAR			YELLOW	Habitat includes forest edge, open woodland, and partly open situations with scattered trees, from coniferous or deciduous forest to riparian woodland, also pine woodland or savanna in the tropics. Nests are in natural cavities, old woodpecker holes, bird boxes, or similar sites, mostly 3-20 feet (1-6 meters) above ground. BREEDING: Bird- NS- northern portions only - towards amherst and pictou. antigonish counties	yes	no	Eastern Bluebird
<i>Sterna hirundo</i>	Common Tern	NAR			YELLOW	Seacoasts, estuaries, bays, lakes, rivers, and marshes. Nests on sandy, pebbly, or stony beaches, matted vegetation, marsh islands, and grassy areas; typically on isolated, sparsely vegetated islands in large lakes or along coast, also in rivers. Breeds successfully on human-made islands, including navigational aids or cribs. Passage migrate and possible breeding in NS	Yes	yes	Common Tern
<i>Coturnicops noveboracensis</i>	Yellow Rail	SC			5 Undetermined	in NB on grand lake meadows and the NB/NS border - extensive marshy sedge meadows. Any large, sedge or grass dominated open wetland with shallow water. Also other areas include damp fields, meadows, herbaceous vegetation in bogs and at the drier margins or estuarine and salt marshes.	yes	no	Yellow Rail

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<i>Ixobrychus exilis</i>	Least Bittern	T		5 Undetermined	impoundment marshes (southern NB mostly). Might be present in natural marshes with the right mix of open water, cattails and some woody vegetation- and bigger than 5 ha.	yes	no	Least Bittern
<i>Numenius borealis</i>	Eskimo Curlew	E		5 Undetermined	During fall migration, the birds used a variety of coastal and terrestrial habitats. They fed in areas of crowberry, salt marsh, meadows, pastures, old fields, intertidal flats and sand dunes. Migration through NS did happen. This species has not been documented for over a century	no	yes	
<i>accipiter gentilis</i>	Northern Goshawk			YELLOW	BREEDING: Nests in a wide variety of forest types including deciduous, coniferous, and mixed forests. Has a complexity of habitat needs in the breeding season, which vary among forest types and region (Johnsgard 1990). Typically nests in mature or old-growth forests (Hayward and Escano 1989, Reynolds et al. 1982, Speiser and Bosakowski 1987, Squires and Ruggiero 1996, Squires and Reynolds 1997, McClaren 1998, Daw and Stefano 2001), and generally selects larger tracts of forest over smaller tracts (Bosakowski and Speiser 1994, Woodbridge and Detrich 1994).	Yes	no	Norther Goshawk
<i>Dumetella carolinensis</i>	Gray Catbird			RED	Thickets, dense brushy and shrubby areas, undergrowth of forest edge, hedgerows, and gardens (AOU 1983), dense second growth. Nests in dense thickets, briars, vine tangles, shrubs, low trees, typically 1-3 m above ground BREEDING BIRD IN NS	YES	No	Gray Catbird
<i>Charadrius vociferus</i>	Killdeer			YELLOW	Habitat includes various open areas such as fields, meadows, lawns, pastures, mudflats, and shores of lakes, ponds, rivers, and seacoasts (AOU 1983). Nests are on the ground in open dry or gravelly situations, sometimes in similar situations on roofs, driveways, etc. BREEDING BIRD IN NS	YES	No	Killdeer

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<i>Pluvialis dominica</i>	American Golden-Plover				Arrives in U.S. March-April, in northern breeding areas late May-early June. Rare fall migrant in Puerto Rico and the Virgin Islands August-December (Raffaele 1983). Southward migration occurs mostly over oceans; northward migration through Middle America and from the Rockies to the Mississippi Valley. Young remain on tundra until around mid-August, at which time they form flocks and begin to migrate. In fall, Nova Scotia is a staging area for many that migrate to South America (but some may pass over Maritime provinces and fly nonstop from to South America). MIGRATE IN NS Nonbreeding: short grasslands, pastures, golf courses, mudflats, sandy beaches, and flooded fields	YES	yes	American Golden-Plover
<i>Rissa tridactyla</i>	Black-legged Kittiwake			YELLOW	NON-BREEDING: primarily pelagic, sometimes along seacoasts, bays and estuaries, casually on large inland bodies of water (AOU 1983). BREEDING: Nests on ledges of steep cliffs along coasts or on islands, often in association with other seabirds; sometimes on ledges of buildings. Nest is a cup-like structure of seaweeds, mosses, grasses, and mud	NO	Yes	NO
<i>Actitis macularius</i>	Spotted Sandpiper			YELLOW	Seacoasts and shores of lakes, ponds, and streams, sometimes in marshes; prefers shores with rocks, wood, or debris; also mangrove edges in Caribbean. Nests near freshwater in both open and wooded areas, less frequently in open grassy areas away from water; on ground in growing herbage or low shrubby growth, or against log or plant tuft	YES	No	Spotted Sandpiper
<i>Gallinago delicata</i>	Wilson's Snipe			YELLOW	ALL SEASONS: Wet grassy or marshy areas from tundra to temperate lowlands and hilly regions. NON-BREEDING: wet meadows, flooded fields, bogs, swamps, moorlands, and marshy banks of rivers and lakes. BREEDING: Nests in tussock of vegetation in or at edge of marsh, wet meadow, or bog. BREEDING BIRD IN NS	YES	No	Wilson's Snipe