

Appendix E: Avian Survey Reports

Appendix E1

Spring Data, 2007

South Canoe Lake Spring Data - Avian Passage Count & Stop Over Count Observations

Site 1 = Clear Cut along Highway 14 near Card Lake

Avian Passage Count & Stop Over Count Observations			
Station # : 1			
Station Location Description:	Clear Cut along Highway 14 near Card Lake		
Start Time:	5:42 AM	Temperature Range:	5 Degrees Celsius
Date:	April 28, 2007	Wind Speed & Direction :	NE 10 km
Habitat Type:	Regenerating Clear Cut	Visibility:	100 %
Precipitation:	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
Northern Flicker	7	S	-
White-throated Sparrow	45	S	-
Song Sparrow	10	S	-
Yellow-rumped Warbler	9	S	-
Hermit Thrush	7	S	-
Black-capped Chickadee	4	S	-
Palm Warbler	12	S	-
Mourning Dove	1	S	-
American Robin	4	S	-
Winter Wren	3	S	-
Purple Finch	2	S	-
American Goldfinch	2	S	-
American Black Duck	4	>140	NE

Site 4 = Wide Section of the Avon River along Highway 14

Avian Passage Count & Stop Over Count Observations			
Station # : 2			
Station Location Description:	Wide Section of the Avon River along Highway 14		
Start Time:	6:57 AM	Temperature Range:	6 Degrees Celsius
Date:	April 28, 2007	Wind Speed & Direction :	NE 10 km
Habitat Type:	River & Riparian	Visibility:	100 %
Precipitation	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
Yellow-rumped Warbler	72	S	-
Palm Warbler	17	S	-
Common Grackle	10	S	-
Ring-necked Duck	2	S	-
Wood Duck	1	S	-
American Black Duck	2	S	-
Tree Swallow	57	60-140	N
Barn Swallow	5	60-140	N
Cliff Swallow	2	60-140	N
Hooded Merganser	2	S	-

Site 3 = South Canoe Lake

Avian Passage Count & Stop Over Count Observations			
Station # : 3			
Station Location Description:	South Canoe Lake		
Start Time:	8:29 AM	Temperature Range:	6-7 Degrees Celsius
Date:	April 28, 2007	Wind Speed & Direction :	NE 10 km
Habitat Type:	Lake, shrub & Mixed Woodland	Visibility:	100 %
Precipitation	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
Yellow-rumped Warbler	14	S	-
Hairy Woodpecker	1	S	-
Hermit Thrush	4	S	-
Herring Gull	1	60-140	NW
Blue Jay	1	S	-
Common Grackle	17	S	-
Common Merganser	1	>140	N
American Robin	1	S	-
Northern Flicker	2	S	-
White-throated Sparrow	1	S	-

Site 2 = Meteorological Tower

Avian Passage Count & Stop Over Count Observations			
Station # : 4			
Station Location Description:	Meteorological Tower		
Start Time:	10:03 AM	Temperature Range:	8-9 Degrees Celsius
Date:	April 28, 2007	Wind Speed & Direction :	NE 20 km
Habitat Type:	Regenerating Clear Cut & Mixed Woodland	Visibility:	100 %
Precipitation	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
Blue Jay	2	S	-
American Robin	6	S	-
Hairy Woodpecker	1	S	-
Yellow-rumped Warbler	9	S	-
Hermit Thrush	1	S	-
Black-capped Chickadee	2	S	-
Common Loon	1	>140	N

Site 1 = Clear Cut along Highway 14 near Card Lake

Avian Passage Count & Stop Over Count Observations			
Station # : 1			
Station Location Description:	Clear Cut along Highway 14 near Card Lake		
Start Time:	5:21 AM	Temperature Range:	6 Degrees Celsius
Date:	May 11, 2007	Wind Speed & Direction :	SE 10 km
Habitat Type:	Regenerating Clear Cut	Visibility:	100 %
Precipitation:	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
American Robin	6	S	-
American Goldfinch	6	S	-
Black-and-white Warbler	5	S	-
Black-capped Chickadee	4	S	-
Common Yellowthroat	17	S	-
Eastern Wood Pewee	2	S	-
Hermit Thrush	11	S	-
Nashville Warbler	14	S	-
Northern Flicker	6	S	-
Palm Warbler	8	S	-
Purple Finch	8	S	-
Song Sparrow	15	S	-
Swainson's Thrush	4	S	-
White-throated Sparrow	40	S	-
Winter Wren	1	S	-
Yellow Warbler	12	S	-
Yellow-rumped Warbler	18	S	-

Site 4 = Wide Section of the Avon River along Highway 14

Avian Passage Count & Stop Over Count Observations			
Station # : 2			
Station Location Description:	Wide Section of the Avon River along Highway 14		
Start Time:	6:36 AM	Temperature Range:	6 Degrees Celsius
Date:	May 11, 2007	Wind Speed & Direction :	SE 10 km
Habitat Type:	River & Riparian	Visibility:	100 %
Precipitation	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
American Black Duck	4	S	-
Barn Swallow	6	S	-
Black-throated Green Warbler	6	S	-
Chimney Swift	18	>140	W
Common Yellowthroat	7	S	-
Common Grackle	8	S	-
Eastern Wood Pewee	4	S	-
Eastern Kingbird	8	S	-
Northern Waterthrush	1	S	-
Palm Warbler	2	S	-
Ring-necked Duck	4	S	-
Rose-breasted Grosbeak	2	S	-
Tree Swallow	20	S	-
Wood Duck	2	S	-
Yellow Warbler	24	S	-
Yellow-rumped Warbler	21	S	-

Site 3 = South Canoe Lake

Avian Passage Count & Stop Over Count Observations			
Station # : 3			
Station Location Description:	South Canoe Lake		
Start Time:	8:07 AM	Temperature Range:	7-8 Degrees Celsius
Date:	May 11, 2007	Wind Speed & Direction :	SE 10 km
Habitat Type:	Lake, shrub & Mixed Woodland	Visibility:	100 %
Precipitation	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
American Robin	7	S	-
Black-and-white Warbler	9	S	-
Black-throated Green Warbler	14	S	-
Blue Jay	2	S	-
Chipping Sparrow	11	S	-
Common Merganser	2	S	-
Common Yellowthroat	8	S	-
Common Loon	1	S	-
Common Grackle	4	S	-
Eastern Wood Pewee	2	S	-
Hairy Woodpecker	2	S	-
Hermit Thrush	6	S	-
Northern Flicker	1	<60	SW
Northern Parula	7	S	-
Northern Waterthrush	3	S	-
White-throated Sparrow	4	S	-
Yellow Warbler	38	S	-
Yellow-rumped Warbler	7	S	-

Site 2 = Meteorological Tower

Avian Passage Count & Stop Over Count Observations			
Station # : 4			
Station Location Description:	Meteorological Tower		
Start Time:	9:41 AM	Temperature Range:	10-13 Degrees Celsius
Date:	May 11, 2007	Wind Speed & Direction :	S 20 km
Habitat Type:	Regenerating Clear Cut & Mixed Woodland	Visibility:	100 %
Precipitation	None	Cloud Cover:	100 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
American Robin	7	S	-
Black-and-white Warbler	7	S	-
Black-capped Chickadee	2	S	-
Black-throated Green Warbler	6	S	-
Blue Jay	2	S	-
Common Yellowthroat	21	S	-
Eastern Wood Pewee	1	60-140	NE
Hairy Woodpecker	2	S	-
Hermit Thrush	7	S	-
Northern Waterthrush	1	S	-
Northern Parula	13	S	-
Ovenbird	1	<60	N
Yellow Warbler	17	S	-
Yellow-rumped Warbler	11	S	-

Site 1 = Clear Cut along Highway 14 near Card Lake

Avian Passage Count & Stop Over Count Observations			
Station # : 1			
Station Location Description:	Clear Cut along Highway 14 near Card Lake		
Start Time:	5:09 AM	Temperature Range:	3 Degrees Celsius
Date:	May 22, 2007	Wind Speed & Direction :	NW 20 km
Habitat Type:	Regenerating Clear Cut	Visibility:	100 %
Precipitation:	None	Cloud Cover:	90 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
American Goldfinch	2	60-140	NE
American Redstart	27	S	-
American Robin	4	S	-
Black-and-white Warbler	6	S	-
Black-capped Chickadee	2	S	-
Chestnut-sided Warbler	9	S	-
Common Yellowthroat	14	S	-
Eastern Wood Pewee	1	S	-
Hermit Thrush	6	S	-
Magnolia Warbler	11	S	-
Nashville Warbler	16	S	-
Northern Flicker	4	S	-
Palm Warbler	6	S	-
Purple Finch	4	S	-
Song Sparrow	16	S	-
Swainson's Thrush	4	S	-
White-throated Sparrow	42	S	-
Wilson's Warbler	2	S	-
Winter Wren	1	S	-
Yellow Warbler	25	S	-
Yellow-rumped Warbler	12	S	-

Site 4 = Wide Section of the Avon River along Highway 14

Avian Passage Count & Stop Over Count Observations			
Station # : 2			
Station Location Description:	Wide Section of the Avon River along Highway 14		
Start Time:	6:25 AM	Temperature Range:	3 Degrees Celsius
Date:	May 22, 2007	Wind Speed & Direction :	NW 20 km
Habitat Type:	River & Riparian	Visibility:	100 %
Precipitation	None	Cloud Cover:	90 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
American Black Duck	1	S	-
Barn Swallow	2	S	-
Black-throated Green Warbler	2	S	-
Blue-headed Vireo	18	S	-
Chimney Swift	2	>140	S
Common Grackle	8	S	-
Common Yellowthroat	1	S	-
Eastern Kingbird	1	60-140	NW
Eastern Wood Pewee	1	S	-
Northern Waterthrush	1	S	-
Ovenbird	1	S	-
Palm Warbler	1	60-140	N
Red-eyed Vireo	10	S	-
Ring-necked Duck	6	S	-
Rose-breasted Grosbeak	1	S	-
Spotted Sandpiper	1	S	-
Tree Swallow	10	S	-
Wilson's Warbler	1	S	-
Wood Duck	2	60-140	NW
Yellow Warbler	20	S	-
Yellow-rumped Warbler	8	S	-

Site 3 = South Canoe Lake

Avian Passage Count & Stop Over Count Observations			
Station # : 3			
Station Location Description:	South Canoe Lake		
Start Time:	7:58 AM	Temperature Range:	4 Degrees Celsius
Date:	May 22, 2007	Wind Speed & Direction :	NW 30 km
Habitat Type:	Lake, shrub & Mixed Woodland	Visibility:	100 %
Precipitation	None	Cloud Cover:	75 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
Alder Flycatcher	3	S	-
American Robin	6	S	-
Black-and-white Warbler	4	S	-
Black-throated Green Warbler	5	S	-
Blue Jay	1	60-140	E
Blue-headed Vireo	6	S	-
Canada Warbler	4	S	-
Chipping Sparrow	1	S	-
Common Grackle	2	S	-
Common Merganser	1	>140	W
Common Yellowthroat	10	S	-
Common Loon	1	S	-
Eastern Wood Pewee	1	S	-
Hairy Woodpecker	2	S	-
Hermit Thrush	4	S	-
Northern Waterthrush	1	S	-
Northern Flicker	3	S	-
Northern Parula	3	S	-
Red-eyed Vireo	11	S	-
Spotted Sandpiper	1	S	-
White-throated Sparrow	4	S	-
Wilson's Warbler	2	S	-
Yellow Warbler	14	S	-
Yellow-rumped Warbler	5	S	-

Site 2 = Meteorological Tower

Avian Passage Count & Stop Over Count Observations			
Station # : 4			
Station Location Description:	Meteorological Tower		
Start Time:	9:04 AM	Temperature Range:	5-6 Degrees Celsius
Date:	May 22, 2007	Wind Speed & Direction :	NW 30 km
Habitat Type:	Regenerating Clear Cut & Mixed Woodland	Visibility:	100 %
Precipitation	None	Cloud Cover:	70 %
Species	Total	Altitude	Flight
	(#)	(<60; 60-140; >140)	Direction
Alder Flycatcher	4	S	-
American Robin	5	S	-
American Redstart	9	S	-
Black-and-white Warbler	3	S	-
Black-capped Chickadee	1	S	-
Black-throated Green Warbler	2	S	-
Blackburnian Warbler	2	S	-
Blue Jay	2	S	-
Blue-headed Vireo	2	S	-
Common Yellowthroat	12	S	-
Downy Woodpecker	1	S	-
Eastern Wood Pewee	1	S	-
Hermit Thrush	5	S	-
Least Flycatcher	1	S	-
Northern Waterthrush	1	S	-
Northern Parula	4	S	-
Ovenbird	1	S	-
Red-eyed Vireo	4	S	-
Yellow Warbler	14	S	-
Yellow-rumped Warbler	5	S	-

Appendix E2

Nocturnal Migrant Acoustic Monitoring Report

Nocturnal Migrant Acoustic Monitoring – South Canoe Lake, NS

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7 February 2011

Introduction

Acoustic data were collected by Strum Environmental as part of an Environmental Assessment for a proposed wind farm in central Nova Scotia. Our lab was asked to extract information on the frequency of detection of night-flight calls of migrating passerines from within these data.

The data provide a summary of temporal changes in the pattern of activity of migration at this site between 29 September and 15 November, as well as within-night patterns of activity at the site. These activity patterns provide some indication of whether the site is used by migrating birds for both passage (flying over) and stopover.

Methods

The data were collected using a Wildlife Acoustics “SongMeter” and night-flight call microphone (John Kearney, pers. comm.). We were provided with recorded data (on SD memory cards) that were collected between 30 September and 15 November. The devices were programmed to turn on at the end of civil twilight, and turn off at the beginning of civil dawn (John Kearney, pers. comm.).

All sound files were initially evaluated to assess the overall sound quality. Using Cornell’s interactive sound analysis software; Raven, each file was played to get an understanding of the clarity of the sound file and how much noise (i.e. traffic or weather) was present.

The analysis proceeded in two phases. In the first phase, we extracted 15 minute clips from each of five times, from each night of the recording. Clips were extracted at 1 h and 3 h after civil twilight, at mid-point between the end of civil twilight and the beginning of civil dawn, and at 2.25 h and 1.25 h before civil dawn.

We first visually and aurally assessed each 15 minute clip, and scored the amount of noise from wind, rain, insects and traffic. A subjective score for the entire clip was assigned to each variable, from a scale from zero (no noise) to three (lots of noise throughout the clip). These provided some indication of the overall quality of the data across all of the nights.

We then visually and aurally assessed each clip for the presence of flight calls. We did this by examining the spectrogram for short (10 s) time intervals across each clip (the ‘page sound’ feature in the Raven software). For optimal viewing of the flight calls within the spectrogram, a ‘cool’ colour scheme was chosen which showed good contrast between the background of the spectrogram (which became a dark blue) and the colour of the calls (a bright green). Depending on the quality of the sound clip we varied brightness and contrast levels between 60 and 80.

We searched for short periods of intense energy in the appropriate frequency ranges (~3-4 kHz for Thrushes; ~6-8 kHz for Warblers and Sparrows; Figures 1 and 2). When a possible flight call was observed the ‘Zoom Window’ option was used, which automatically zoomed in on the selected call and opened an audio player. Each call was listened to using Sennheiser earphones and its identity

as a night-flight call was confirmed. A confirmed night-flight call was saved in a selection table where the following variables were displayed: Begin Time, End Time, Low Frequency, High Frequency, Average Power, Delta Time, Max Frequency and Detector Type.

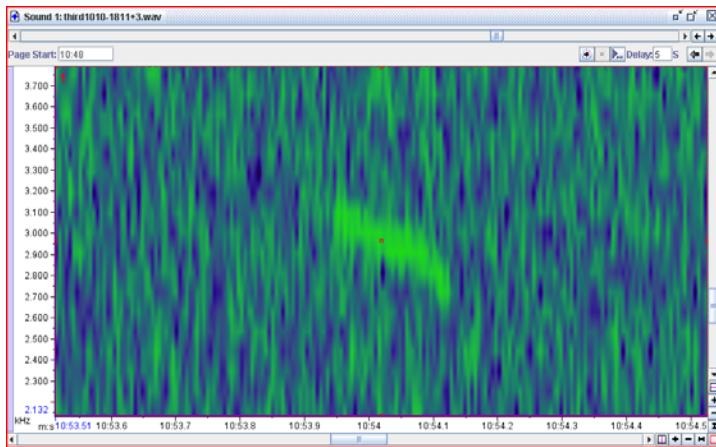


Figure 1. Example of Thrush-type call.

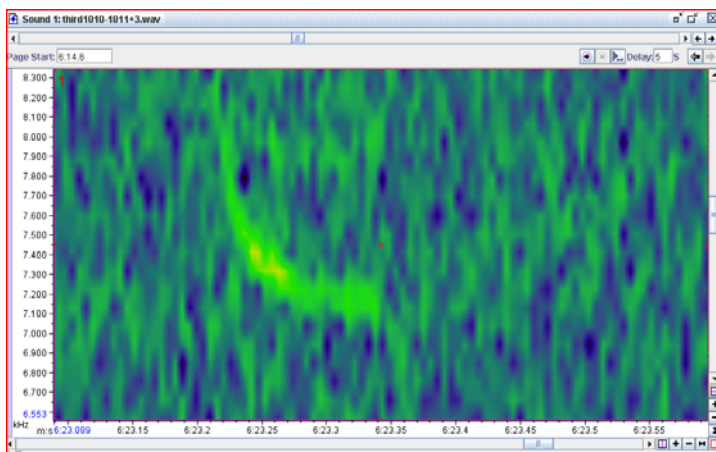


Figure 2. Example of Warbler/Sparrow type call.

Two types of calls that were not night-flight calls were initially included in these assessments. One was a high-pitched descending sound that is likely an Orthopteran of some type, the other was that of the spring peeper (which often call in the fall, as late as mid-November). Peepers were later identified as such within the selection table; the Orthopterans were removed from further analysis by retaining only those non-peeper calls with a maximum frequency of less than 10 kHz.

We then attempted to modify an existing energy detector to extract calls from the remainder of the data. Unfortunately, partly because of consistent noise across many nights, we were not able to alter the parameters of the detector to consistently detect the known calls (from the samples above) while simultaneously not detecting various types of extraneous noise. In other words, the files were too noisy to effectively use the relatively primitive automated detector available in Raven. We do not report further on these trials here.

All analysis and data manipulation was done using program R (www.r-project.org; V 2.14; R Development Core Team, 2011). Clips were extracted from sound files using package ‘tuneR’. Times of civil twilight and civil dawn (defined as sun position at 6° below the horizon) were calculated using function ‘crepuscule’ in package ‘maptools’ for the location 44.74° N, 64.26° W (obtained from Google Earth using UTM co-ordinates provided by John Kearney).

Results

Data set

Data were available for all nights between 30 September and 15 November except for the nights of 15-17 October. On nights after 23 October, the SongMeter split data into two files but the times for extracting clips were selected so that clips were only extracted from the first of these two files (this is the reason for the somewhat odd choice of 1.25 h before the beginning of civil dawn for the latest period in the night; choosing that time meant that all 15 minute subsets could be extracted completely from single files).

Noise

Noise from insects, traffic, rain, and wind was present in at least one 15 minute clip on all nights. Noise from traffic and wind were most ubiquitous, but some nights had considerable insect noise. A summary of the noise categorization is presented in Table 1.

Table 1. The number of 15 minute periods across all nights coded at each noise level for each category

Category	Noise Level			
	0	1	2	3
Insect	179	5	9	21
Rain	171	18	8	17
Wind	128	44	27	15
Traffic	93	104	17	0

Night flight calls.

Thrush calls were detected on 11 nights; warbler/sparrow calls were detected on 14 nights. The distribution of detections across nights and within each night is shown for each of thrushes (Table 2) and sparrows/warblers (Table 3). A complete summary of the results of the acoustic analysis is provided in the attached Appendix. No attempt was made to further identify calls to species or species groups.

Table 2. Counts of the numbers of thrush-type call detections during each of five, 15 minute periods on each night for which Songmeter data were available. Only nights where at least one call was detected are shown.

Date	Hours after civil twilight		Mid-point	Hours before civil dawn		Total
	1 h	3 h		2.25 h	1.25 h	
2011-09-30	0	0	0	1	0	1
2011-10-01	1	0	0	0	1	2
2011-10-02	0	0	1	0	0	1
2011-10-03	0	6	1	1	1	9
2011-10-08	0	0	0	0	2	2
2011-10-09	0	0	1	0	0	1
2011-10-10	0	11	3	0	0	14
2011-10-11	0	6	2	0	0	8
2011-11-06	0	3	0	0	0	3
2011-11-10	1	2	0	0	0	3
2011-11-14	0	1	0	0	0	1

Table 3. Counts of the numbers of warbler/sparrow-type call detections during each of five, 15 minute periods on each night for which Songmeter data were available. Only nights where at least one call was detected are shown.

Date	Hours after civil twilight		Mid-point	Hours before civil dawn		Total
	1 h	3 h		2.25 h	1.25 h	
2011-09-30	4	2	2	4	6	18
2011-10-03	4	11	2	5	0	22
2011-10-06	2	1	0	1	0	4
2011-10-07	2	2	0	0	0	4
2011-10-08	2	8	0	2	0	12
2011-10-09	1	1	1	0	0	3
2011-10-10	9	7	9	0	2	27
2011-10-11	0	1	0	0	0	1
2011-10-18	0	2	0	0	0	2
2011-10-21	0	0	2	0	0	2
2011-10-23	0	0	0	0	1	1
2011-10-31	0	0	0	0	14	14
2011-11-10	1	0	2	0	0	3
2011-11-15	0	0	2	0	0	2

Summary

We do not attempt to interpret the data within this report. We believe that the sample above likely adequately samples the detections obtained within the full files, although such an assessment was not done. It is important to note that there is still considerable uncertainty regarding how such data should be interpreted. For example, many species do not appear to call during migration, and some individuals will call frequently (and so may be recorded multiple times as they fly over). Furthermore, certain weather conditions and times of night may be more conducive to calling, making direct interpretation of calling rates as an index of total activity difficult.

Table 1: Nocturnal Migrant Acoustic Monitoring Results - South Canoe Lake

Project # 11-4314

Date	Call Frequency (Hz)	Call Type	Time of Civil Twilight	Time Since Civil Twilight (hrs)	Categorized Time of Night
September 30/2011	8802.9	warbler/sparrow	6:29 PM	1.14	+1 h
September 30/2011	7975.6	warbler/sparrow	6:29 PM	1.15	+1 h
September 30/2011	10243.9	warbler/sparrow	6:29 PM	1.15	+1 h
September 30/2011	11341.5	warbler/sparrow	6:29 PM	1.17	+1 h
September 30/2011	8755.1	warbler/sparrow	6:29 PM	3.14	+3 h
September 30/2011	8387.8	warbler/sparrow	6:29 PM	3.19	+3 h
September 30/2011	8244.9	warbler/sparrow	6:29 PM	5.83	middle
September 30/2011	7836.7	warbler/sparrow	6:29 PM	5.83	middle
September 30/2011	8622.8	warbler/sparrow	6:29 PM	8.77	-2.25 h
September 30/2011	3880.2	thrush	6:29 PM	8.91	-2.25 h
September 30/2011	6826.3	warbler/sparrow	6:29 PM	8.96	-2.25 h
September 30/2011	6682.6	warbler/sparrow	6:29 PM	8.96	-2.25 h
September 30/2011	7257.5	warbler/sparrow	6:29 PM	8.97	-2.25 h
September 30/2011	6629.8	warbler/sparrow	6:29 PM	9.83	-1.25 h
September 30/2011	8154.7	warbler/sparrow	6:29 PM	9.84	-1.25 h
September 30/2011	6696.1	warbler/sparrow	6:29 PM	9.84	-1.25 h
September 30/2011	6430.9	warbler/sparrow	6:29 PM	9.84	-1.25 h
September 30/2011	7160.2	warbler/sparrow	6:29 PM	9.85	-1.25 h
September 30/2011	7558	warbler/sparrow	6:29 PM	10.00	-1.25 h
October 1/2011	2606.1	thrush	6:28 PM	1.22	+1 h
October 1/2011	4093	thrush	6:28 PM	9.82	-1.25 h
October 2/2011	3082	thrush	6:26 PM	5.77	middle
October 3/2011	8530.1	warbler/sparrow	6:24 PM	1.10	+1 h
October 3/2011	8891.6	warbler/sparrow	6:24 PM	1.13	+1 h
October 3/2011	9108.4	warbler/sparrow	6:24 PM	1.19	+1 h
October 3/2011	8385.5	warbler/sparrow	6:24 PM	1.23	+1 h
October 3/2011	7555.6	warbler/sparrow	6:24 PM	3.01	+3 h
October 3/2011	3365.1	thrush	6:24 PM	3.02	+3 h
October 3/2011	7111.1	warbler/sparrow	6:24 PM	3.02	+3 h
October 3/2011	3301.6	thrush	6:24 PM	3.02	+3 h
October 3/2011	7428.6	warbler/sparrow	6:24 PM	3.02	+3 h
October 3/2011	3238.1	thrush	6:24 PM	3.03	+3 h
October 3/2011	3174.6	thrush	6:24 PM	3.04	+3 h
October 3/2011	6412.7	warbler/sparrow	6:24 PM	3.04	+3 h
October 3/2011	3492.1	thrush	6:24 PM	3.04	+3 h
October 3/2011	6412.7	warbler/sparrow	6:24 PM	3.04	+3 h
October 3/2011	8507.9	warbler/sparrow	6:24 PM	3.05	+3 h
October 3/2011	3301.6	thrush	6:24 PM	3.05	+3 h
October 3/2011	7047.6	warbler/sparrow	6:24 PM	3.07	+3 h
October 3/2011	8254	warbler/sparrow	6:24 PM	3.09	+3 h
October 3/2011	7619	warbler/sparrow	6:24 PM	3.12	+3 h
October 3/2011	7619	warbler/sparrow	6:24 PM	3.12	+3 h
October 3/2011	8000	warbler/sparrow	6:24 PM	3.16	+3 h
October 3/2011	3697.7	thrush	6:24 PM	5.72	middle
October 3/2011	7814	warbler/sparrow	6:24 PM	5.77	middle
October 3/2011	7604.7	warbler/sparrow	6:24 PM	5.83	middle
October 3/2011	3180.7	thrush	6:24 PM	8.96	-2.25 h
October 3/2011	7807.2	warbler/sparrow	6:24 PM	8.96	-2.25 h
October 3/2011	9325.3	warbler/sparrow	6:24 PM	9.00	-2.25 h
October 3/2011	9108.4	warbler/sparrow	6:24 PM	9.11	-2.25 h
October 3/2011	7012	warbler/sparrow	6:24 PM	9.11	-2.25 h
October 3/2011	6939.8	warbler/sparrow	6:24 PM	9.11	-2.25 h
October 3/2011	5543.5	thrush	6:24 PM	10.11	-1.25 h
October 6/2011	7455.6	warbler/sparrow	6:18 PM	1.06	+1 h
October 6/2011	8449.7	warbler/sparrow	6:18 PM	1.08	+1 h
October 6/2011	8785.7	warbler/sparrow	6:18 PM	3.25	+3 h
October 6/2011	8181.8	warbler/sparrow	6:18 PM	9.22	-2.25 h
October 7/2011	9018.2	warbler/sparrow	6:17 PM	1.16	+1 h
October 7/2011	10909.1	warbler/sparrow	6:17 PM	1.22	+1 h
October 7/2011	7294.1	warbler/sparrow	6:17 PM	3.01	+3 h
October 7/2011	7470.6	warbler/sparrow	6:17 PM	3.12	+3 h
October 8/2011	8838.3	warbler/sparrow	6:15 PM	1.11	+1 h
October 8/2011	9197.6	warbler/sparrow	6:15 PM	1.13	+1 h
October 8/2011	8774.2	warbler/sparrow	6:15 PM	3.03	+3 h
October 8/2011	9612.9	warbler/sparrow	6:15 PM	3.04	+3 h
October 8/2011	7032.3	warbler/sparrow	6:15 PM	3.13	+3 h
October 8/2011	8193.5	warbler/sparrow	6:15 PM	3.20	+3 h
October 8/2011	8129	warbler/sparrow	6:15 PM	3.20	+3 h
October 8/2011	7806.5	warbler/sparrow	6:15 PM	3.20	+3 h
October 8/2011	7871	warbler/sparrow	6:15 PM	3.20	+3 h
October 8/2011	8322.6	warbler/sparrow	6:15 PM	3.20	+3 h
October 8/2011	8543.5	warbler/sparrow	6:15 PM	9.41	-2.25 h
October 8/2011	8217.4	warbler/sparrow	6:15 PM	9.41	-2.25 h
October 8/2011	4549.5	thrush	6:15 PM	10.24	-1.25 h
October 8/2011	4945.1	thrush	6:15 PM	10.35	-1.25 h
October 9/2011	9493.7	warbler/sparrow	6:13 PM	1.18	+1 h
October 9/2011	9552.2	warbler/sparrow	6:13 PM	3.02	+3 h
October 9/2011	5481.9	thrush	6:13 PM	5.90	middle
October 9/2011	7371.4	warbler/sparrow	6:13 PM	6.02	middle

Table 1: Nocturnal Migrant Acoustic Monitoring Results - South Canoe Lake

Project # 11-4314

Date	Call Frequency (Hz)	Call Type	Time of Civil Twilight	Time Since Civil Twilight (hrs)	Categorized Time of Night
October 10/2011	7955.8	warbler/sparrow	6:11 PM	1.08	+1 h
October 10/2011	8950.3	warbler/sparrow	6:11 PM	1.08	+1 h
October 10/2011	8221	warbler/sparrow	6:11 PM	1.08	+1 h
October 10/2011	8751.4	warbler/sparrow	6:11 PM	1.16	+1 h
October 10/2011	9745.9	warbler/sparrow	6:11 PM	1.17	+1 h
October 10/2011	6762.4	warbler/sparrow	6:11 PM	1.24	+1 h
October 10/2011	7955.8	warbler/sparrow	6:11 PM	1.24	+1 h
October 10/2011	9082.9	warbler/sparrow	6:11 PM	1.24	+1 h
October 10/2011	8618.8	warbler/sparrow	6:11 PM	1.24	+1 h
October 10/2011	6478.9	warbler/sparrow	6:11 PM	3.00	+3 h
October 10/2011	3436.6	thrush	6:11 PM	3.09	+3 h
October 10/2011	3718.3	thrush	6:11 PM	3.09	+3 h
October 10/2011	3380.3	thrush	6:11 PM	3.09	+3 h
October 10/2011	3662	thrush	6:11 PM	3.09	+3 h
October 10/2011	3323.9	thrush	6:11 PM	3.09	+3 h
October 10/2011	3380.3	thrush	6:11 PM	3.09	+3 h
October 10/2011	3436.6	thrush	6:11 PM	3.09	+3 h
October 10/2011	3436.6	thrush	6:11 PM	3.10	+3 h
October 10/2011	3662	thrush	6:11 PM	3.10	+3 h
October 10/2011	3267.6	thrush	6:11 PM	3.10	+3 h
October 10/2011	8000	warbler/sparrow	6:11 PM	3.11	+3 h
October 10/2011	7718.3	warbler/sparrow	6:11 PM	3.11	+3 h
October 10/2011	8225.4	warbler/sparrow	6:11 PM	3.17	+3 h
October 10/2011	3605.6	thrush	6:11 PM	3.18	+3 h
October 10/2011	7943.7	warbler/sparrow	6:11 PM	3.19	+3 h
October 10/2011	8450.7	warbler/sparrow	6:11 PM	3.21	+3 h
October 10/2011	8169	warbler/sparrow	6:11 PM	3.21	+3 h
October 10/2011	8288.7	warbler/sparrow	6:11 PM	5.93	middle
October 10/2011	8659.8	warbler/sparrow	6:11 PM	5.93	middle
October 10/2011	9030.9	warbler/sparrow	6:11 PM	5.97	middle
October 10/2011	9216.5	warbler/sparrow	6:11 PM	5.97	middle
October 10/2011	8041.2	warbler/sparrow	6:11 PM	5.97	middle
October 10/2011	3711.3	thrush	6:11 PM	5.98	middle
October 10/2011	3711.3	thrush	6:11 PM	5.98	middle
October 10/2011	3463.9	thrush	6:11 PM	5.99	middle
October 10/2011	8845.4	warbler/sparrow	6:11 PM	6.01	middle
October 10/2011	7917.5	warbler/sparrow	6:11 PM	6.03	middle
October 10/2011	7670.1	warbler/sparrow	6:11 PM	6.10	middle
October 10/2011	9340.2	warbler/sparrow	6:11 PM	6.12	middle
October 10/2011	9156.1	warbler/sparrow	6:11 PM	10.29	-1.25 h
October 10/2011	7907.5	warbler/sparrow	6:11 PM	10.42	-1.25 h
October 11/2011	3658.5	thrush	6:10 PM	3.00	+3 h
October 11/2011	4024.4	thrush	6:10 PM	3.00	+3 h
October 11/2011	9512.2	warbler/sparrow	6:10 PM	3.01	+3 h
October 11/2011	3512.2	thrush	6:10 PM	3.17	+3 h
October 11/2011	3512.2	thrush	6:10 PM	3.18	+3 h
October 11/2011	3951.2	thrush	6:10 PM	3.18	+3 h
October 11/2011	3878	thrush	6:10 PM	3.19	+3 h
October 11/2011	3400	thrush	6:10 PM	6.05	middle
October 11/2011	4066.7	thrush	6:10 PM	6.15	middle
October 18/2011	10136.6	warbler/sparrow	5:58 PM	3.03	+3 h
October 18/2011	7975.2	warbler/sparrow	5:58 PM	3.04	+3 h
October 21/2011	8378.7	warbler/sparrow	5:53 PM	6.23	middle
October 21/2011	8378.7	warbler/sparrow	5:53 PM	6.24	middle
October 23/2011	10412.7	warbler/sparrow	5:50 PM	10.92	-1.25 h
October 31/2011	10066.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9600	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9866.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	10133.3	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	10466.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	10200	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	10066.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9800	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9866.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	10000	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9800	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	10066.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9866.7	warbler/sparrow	5:38 PM	10.38	-1.25 h
October 31/2011	9800	warbler/sparrow	5:38 PM	10.38	-1.25 h
November 6/2011	3164.8	thrush	5:30 PM	3.00	+3 h
November 6/2011	2901.1	thrush	5:30 PM	3.00	+3 h
November 6/2011	3230.8	thrush	5:30 PM	3.05	+3 h
November 10/2011	5326.5	thrush	5:26 PM	1.16	+1 h
November 10/2011	9183.7	warbler/sparrow	5:26 PM	1.20	+1 h
November 10/2011	4941.2	thrush	5:26 PM	3.17	+3 h
November 10/2011	3670.6	thrush	5:26 PM	3.25	+3 h
November 10/2011	6623	warbler/sparrow	5:26 PM	6.70	middle
November 10/2011	6426.2	warbler/sparrow	5:26 PM	6.70	middle
November 14/2011	5435.3	thrush	5:22 PM	3.07	+3 h
November 15/2011	8756.8	warbler/sparrow	5:21 PM	6.90	middle
November 15/2011	8497.3	warbler/sparrow	5:21 PM	6.90	middle

Appendix E3

Avian Survey Report, 2012

AVIAN SURVEYS

COMPLETED BY CLARENCE STEVENS

FEBRUARY 2012

Introduction

This report documents the Avian Surveys conducted for the proposed South Canoe Wind Project. These surveys include Fall Migration Surveys carried out in the Fall of 2011 from September 7 to November 10 and Winter Bird Surveys that took place from December 9, 2011 to January 22, 2012.

This report is a 'Full Disclosure' document that shares all of the data gathered and all methodologies employed during the course of the surveys.

All of the data gathered in the field is contained in this report in the attached spreadsheets. This document also contains an explanation of the methodologies employed, data interpretation, conclusions, and recommendations for future follow up.

As the field surveys were initiated prior to finalizing a Project layout, the Property Boundaries were used to provide a broad geographic "on-site" area for the surveys. In addition to bird surveys being carried out "on-site", reference sites of similar habitat were established outside of the Property Boundaries to characterize this bird community and provide additional baseline data for post-construction surveys. The sections that follow present the on-site (i.e. within the Property Boundary) and reference site (i.e. outside the Property Boundary) results of seasonal bird surveys.

Methodologies Employed

All surveys were carried out using standardized Field Protocols and conducted in accordance with Canadian Wildlife Service (CWS) and Environment Canada (EC) Guidelines for Wind Turbine Projects. During the fall surveys emphasis was placed on using methodologies to maximize the detection of migratory bird species, but all other species of birds encountered during the surveys were also recorded. The methodology for the Winter Surveys reverted to the recommended Standard Area Search protocols, used to maximize site coverage.

Timing of Surveys

Fall Surveys were carried out on a weekly basis during the months of September and October with two late fall surveys in November. Four Winter Bird Surveys, two each in December of 2011 and January of 2012 were also conducted. Weather patterns were monitored daily in order to conduct surveys on dates that were most likely to produce the greatest number of species. Days without forecasted precipitation and winds no greater than 20 km an hour were targeted, as were days following nights of clear skies when the greatest number of migrants would be on the move.

Division of Field Time

Each survey day consisted of roughly ten hours and was divided up into three survey types:

Survey Type # 1: Focused on finding migrating passerines using Standardized Area Searches and Stopover Count methodologies. These surveys started at first light and continued until about 4 hours after sunrise.

Survey Type # 2: Passage Migration Counts – These counts focused on birds flying through or over the area. They were conducted for a three hour period in the middle of the day from high vantage points that provided a commanding view of the surrounding area. The goal was to detect birds of prey, waterfowl, and any other diurnal migrants.

Survey Type # 3: Waterfowl Stopover Counts – Desktop reviews of the area revealed a number of water bodies, mostly in the form of lakes, both within and near the Property Boundary. Due to the location of these water bodies within the Property Boundary it was necessary to spend about three

hours per survey to reach and carry out a ten minute survey of each. Very early on in the Project before automated nighttime acoustic monitoring equipment was deployed we carried out four Nighttime Monitoring Surveys which were conducted two hours before first light.

BACI Status

These surveys were set up in a manner that would contribute to the possibility of a Before-After-Reference-Impact study.

In addition to bird surveys being carried out within the Property Boundary, reference sites were established near the Property Boundary that consisted of similar habitats. On the reference sites every effort was made to survey habitats that were as similar as possible to those within the Property Boundary in order to aid in the assessment of habitat alteration and human perturbation related to the proposed project as well as evaluate any possible mitigation work.

Care was also taken to include a number of reference sites that are currently being influenced by similar human activities as those found within the Property Boundary such as extensive current or recent logging. While these reference sites are not physically connected to each other, they are in close proximity to the Property Boundary and in many cases are immediately adjacent to it.

For the purpose of this report all of the reference sites are referred to as “the” reference site. It should be noted however that in addition to all the bird data for the reference site being tabulated together, information for each of the reference sites can be accessed by referring to the field data listed by individual waypoints for the respective survey types.

To further enhance the comparisons between information gathered within the Property Boundary and the reference site, additional efforts such as surveying an equal number of wetlands for each were employed. Throughout the survey period, reference and Property Boundary surveys were conducted within the same week, often only a day or two apart from each other, with emphasis being placed on favourable migration conditions for both sites. Finally, the same survey protocols were employed and an equal amount of time was dedicated to each.

Qualifications of Bird Surveyors

All surveys were led by Clarence Stevens, an experienced birder with extensive knowledge on the identification and behaviour of North American species and with more than 25 years of training and experience in the manner of scientific data collection and environmental surveys. In addition, Mr. Stevens has intimate knowledge of the Property Boundary and surrounding areas.

Mr. Stevens also has field experience employing survey methodologies and specialized techniques to gather field data in a way that minimizes disturbance to sensitive species and species of concern. He has extensive experience with provincial, national, and international species of concern and their habitats including those species found on the ACCDC, CDC, COSEWIC, CWS, NSDNR, NSESA, FWS, IUCN, NOAA, and SARA listings. He has worked on numerous projects involving species of concern for a variety of conservation organizations including the Canadian Wildlife Service, National Research Council, Bedford Institute of Oceanography, Canadian Nature Federation, Nova Scotia Nature Trust, Bird Studies Canada, Nature Conservancy of Canada, US Fish and Wildlife Service, and Royal Society for the Protection of Birds. He has also conducted numerous training workshops and public education sessions to help others deal with species of concern. His volunteer efforts have also led to his participation in a wide variety of conservation projects.

Mr. Stevens was accompanied by Garry Gregory on the majority of the bird surveys. Mr. Gregory is a biologist and intermediate birder with knowledge of the flora, fauna, and habitats of Atlantic Canada who has conducted wildlife surveys in support of private sector development and academic research.

Avian Surveys

Avian Surveys employed for the South Canoe Wind Project included the following types of surveys designed to target the widest variety of birds.

1. Nighttime Monitoring to detect nighttime migrants that were passing overhead.
2. Standardized Area Searches and Passerine Stopover Counts to record land night migrants actively moving through or foraging during the day.
3. Passage Migration Counts to capture movements of birds of prey, waterfowl, and small to large diurnal migrants.
4. A survey of all open water to view waterfowl and other water-related migrants.
5. Winter Surveys to determine the importance of the area to wintering bird populations as a source of food and cover.

Nighttime Monitoring

Some of the most interesting and rewarding surveys we completed in relation to this Project were the Nocturnal Bird Surveys. Very early on in the Project before automated nighttime acoustic monitoring equipment was deployed four Nighttime Monitoring Surveys were completed.

Nighttime Monitoring was completed in the two hours just before dawn. This provided a huge advantage as many of the species heard at the time were close to reaching the end of their travels for the night. Once daylight came, there was a high degree of correlation between the species heard at night and the most commonly encountered species during the morning hours. Many unknown sounds heard during the night surveys were confirmed during the day for those species that have similar daytime flight notes as used at night. Flight sound databases were used to identify the remaining unknown sounds.

Data collected during the Nocturnal Surveys are presented in Tables 1 and 2 in Appendix A (for the Property Boundary and reference site, respectively). It should be noted that unless otherwise stated each entry represents one individual.

Standardized Area Searches and Passerine Stopover Counts

Area Searches were made along all access routes leading into the Property Boundaries. Each route was identified and when the access route lacked a name, one was assigned for the purpose of this Project. These routes have been identified on the digital mapping with the following labels: Dam Bay Road, SCPM2 Road, Wile Settlement Road, South Canoe Dam Road, and South Canoe Road.

After the main access routes were surveyed, if survey time was still available and few birds were observed on the main routes, additional routes were surveyed. These additional routes included no longer drivable roads such as Otter Lakes Road, Long Bay Road, and the still drivable Lewis Lake Road.

Passerine Stopover Counts were focused along low traffic roadways as nocturnal fall migrants frequently feed and travel along such routes during the daylight hours.

The survey technique involved driving very slowly along these roads with the vehicle windows down, watching and listening for migratory flocks of birds. At locations where birds were encountered, a waypoint was set and line transect methodology was used to identify all birds along a 300 m walked track. Data was then further standardized by sampling a fixed 300 m track from the origin of the migration flock. This methodology allowed surveyors to detect less vocal flocks of birds along the

roadways as well as non-flocking migratory species. The distance of birds from the center of each track was recorded as either 0-50 m, 50-100 m, or over 100 m. The same roads were covered in the same manner for each survey.

Most reference site Area Searches were conducted on side roads extending from Highway 14 and the New Ross Road. Most of these roads were unmarked, unnamed, and inactive logging roads that are best identified by referring to the digital mapping. Public roads without heavy traffic close to the Property Boundary were also used; these mainly included the paved portions of the Wile Settlement Road, Conrad Road, and the Wilfred Hebb Road.

Habitat Analysis – Information on the habitat or habitats that were surveyed are provided for each waypoint set which consists of two waypoints located at either end of the 300 m track.

The Passerines Stopover Counts were the largest and most intensive of the fall surveys that were undertaken, and successfully targeted the vastest group of migrants that pass through that particular part of the province.

Within the Property Boundary, 66 species of birds were observed, and 78 species were tallied from the reference site. Fifty-one species of birds were found both within the Property Boundary and at the reference site. However, both the Property Boundary and reference sites contributed species not found on the other. At the reference site, an additional 21 species were recorded, and the Property Boundary produced 15 species not observed on the reference site. In total, 92 species of birds were detected during the Fall Passerines Stopover Counts. Complete data from the Passerine Stopover Counts is given in Tables 3 and 4 in Appendix A (for the Property Boundary and reference site, respectively).

Below is a species by species comparison of the data collected.

Passerines Stopover Counts-Species Comparisons

Alder Flycatcher – Only one Alder Flycatcher was recorded within the Property Boundary and no individuals on the reference site. This is not surprising, however, as in the inland portion of Hants & Lunenburg Counties, Alder Flycatchers can be notoriously difficult to find and identify after the breeding season. In addition, sightings of fall birds often consist of single individuals travelling alone or loosely associated with flocks of migrating warblers. Furthermore, the most common technique for identification, their call note, is often not given in September. However, this particular individual was quite cooperative and gave the distinctive note of the Alder Flycatcher.

American Crow – American Crows were quite common at both the reference site and within the Property Boundary, with perhaps higher than normal numbers on the reference site due to the proximity of the Kaizer Meadow Landfill.

American Goldfinch – The American Goldfinch is a species commonly found in both counties straddled by the Property Boundary and thus they were common on both the reference site and within the Property Boundary.

American Redstart – Numbers were lower than expected for both the reference site and within the Property Boundary, but because this is a common fall migrant in Hants and Lunenburg Counties, it is likely the timing of the Passerine Stopover Count surveys did not coincide with days of heavier movements for this species.

American Robin – The American Robin is a common species in the area which was observed in slightly elevated numbers due to a good berry crop of Showy and American Mountain Ashes in the local area.

American Woodcock – That only one sighting was made of the American Woodcock on the reference site is certainly not representative of the actual number of migrants that were likely present. However, migrating woodcocks are more easily detected in the pre-dawn and post-dusk hours and bird surveys were limited to the daylight hours.

Baltimore Oriole – Only one Baltimore Oriole was observed and that was on the reference site. Thousands of Baltimore Orioles pour through Nova Scotia in September and October but most are sighted along coastal areas during that time, so it is not too surprising that little of that migration was reflected at these inland Sites.

Bay-breasted Warbler – Two individuals were observed during the fall migration surveys, lower than one might expect at these locations.

Bicknell's Thrush – A migrating Bicknell's Thrush was noted. For many birders this can be a tricky species to separate from the very similar Gray-cheeked Thrush during the fall migration, so for this reason some of the field experience of the bird expert for this Project is included below.

It should be noted that the chief bird surveyor in this Project, C. Stevens, has had extensive experience with identifying and separating Bicknell's and Gray-cheeked Thrushes. This includes thirty-three years of accumulated experiences with migrants of both species in NS.

Although officially the Bicknell's Thrush was not recognized as a full species until 1995, C. Stevens and other birders in Nova Scotia were already recognizing up to three sub-species Gray-cheeked Thrushes as occurring in the province well before that time.

At that time, local breeders were referred to as *Catharus minimus bicknelli*, a precursor to the Bicknell's scientific name of *Catharus bicknelli*. The other two races were *Catharus minimus minimus* that bred in Newfoundland but migrated through Nova Scotia and *Catharus minimus aliciae* that likewise visited Nova Scotia on its way to and from its breeding grounds in northern Canada.

In addition to experience with both species as migrants, C. Stevens has found and studied breeding pairs of Bicknell's in northern Cape Breton and northern New Brunswick. He has also conducted environmental surveys on the breeding grounds of the Gray-cheeked Thrush in Nunavut and northern Ontario. He has spent a portion of 11 breeding seasons from the late 1980's to the late 1990's visiting breeding sites of *Catharus minimus minimus* on the West Coast of Newfoundland.

Black-and-White Warbler – The Black-and-White Warbler is a common fall migrant in the area and was well represented at both the reference site and within the Property Boundary.

Black-backed Woodpecker – Five sightings, consisting of six Black-backed Woodpeckers, all within the Property Boundary, was a nice surprise and good indication of the attractiveness of the Property Boundary for this species.

Blackburnian Warbler – The small numbers of Blackburnian Warblers observed during the fall surveys at both the reference site and within the Property Boundary are representative of past observations for the immediate area.

Black-capped Chickadee – Excellent numbers of Black-capped Chickadees were recorded at both Sites. Although a common species for the province, its rambunctious nature and readiness to form mixed flocks with other species greatly aided the surveyors in the detection of those species.

Blackpoll Warbler – The Blackpoll Warbler was detected at both the reference site and within the

Property Boundary in numbers that reflect past findings for the area.

Black-throated Green Warbler – The Black-throated Green Warbler appeared in good numbers at both the reference site and within the Property Boundary.

Blue Jay – Although not a migrant species, during the migration surveys all species observed are recorded as they help to reflect the health of the local environment and are representative of the conditions migrants may encounter. Healthy numbers of Blue Jays were observed at both the reference site and within the Property Boundary in almost equal proportions.

Blue-headed Vireo – Migrating Blue-headed Vireos were present on good numbers at both the reference site and the Property Boundary.

Bobolink – A flock of nine Bobolinks was observed within the Property Boundary. Since there is no preferred habitat within the Property Boundary to draw them there, we concluded that it was just a chance encounter of a migrating flock that was passing through the area on its way southward, perhaps from the extensive farmlands found to the north of the area in and around Windsor.

Boreal Chickadee – Boreal Chickadees were more easily detected within the Property Boundary due to the greater presence of coniferous trees and Boreal Bogs.

Broad-winged Hawk – While the Property Boundary had none and the reference site netted only one of these hawks, they were very common during the Passage Migration Counts on the reference Site, a survey type that is much better suited to detecting this species.

Brown Creeper – Higher than normal numbers of Brown Creepers were observed all over the province this fall so it comes as no surprise that they were found at both the reference site and within the Property Boundary.

Canada Warbler – The observance of only one migrating Canada Warbler may not be representative as this species demonstrates an uncanny ability to hide during fall migrations.

Cape May Warbler – A single Cape May Warbler found within the Property Boundary was a begging Cape May Warbler observed on September 7. While it was late in the season and no parents were present the insistent begging of this young individual seemed to indicate that it nested nearby. Past surveys of this area show Cape May Warblers nesting in small numbers (i.e. one pair).

Cedar Waxwing – Cedar Waxwings are common, widespread species in Nova Scotia so it was a bit disappointing they were not detected in higher numbers during the fall surveys. However, this finding is in accordance with the general pattern of decreased fall 2011 reports of waxwings over much of the province.

Chestnut-sided Warbler – The numbers of Chestnut-sided Warblers observed during the fall surveys at both the reference site and within the Property Boundary are representative of past observations for the immediate area.

Chipping Sparrow – None were found within the Property Boundary, they were observed at three locations at the reference site. This is due to the presence of Commercial Christmas Tree Farms on parts of the reference site, a habitat type in Lunenburg County that this species is often drawn to during fall migration.

Common Nighthawk – Since most Common Nighthawks migrate in August it was fortunate that one was observed at the reference site. Most likely, this was a late bird from further north or an individual

blown off course.

Common Raven – Common Ravens were very commonly heard throughout the Property Boundary and were twice as numerous at the reference site, with the local population being buoyed by the Kaizer Meadow Landfill.

Common Yellowthroat – This common species of warbler was well represented at both the reference site and within the Property Boundary.

Dark-eyed Junco – This member of the sparrow family was quite at home in the mixed and coniferous woodlands both on and off the site, with almost 300 birds being detected in the forests within the Property Boundary and nearly 400 at the reference site.

Downy Woodpecker - Normally the most common woodpecker in many areas, but both within the Property Boundary and the reference site Downy Woodpecker abundances were second to the Hairy Woodpecker.

Eastern Bluebird – On October 23, 2011, a lone Eastern Bluebird was observed feeding at the edge of mixed woodland near a regenerating clear cut at the reference site. The bird responded to calls from the surveyor then quickly flew on, moving in a southwesterly direction.

European Starling – This species was not observed within the Property Boundary due to the mostly forested nature and the presence of homes and small farms on the nearby reference site which is much better suited to its needs.

Evening Grosbeak – This species was not observed within the Property Boundary and was scarce at the reference site. This is consistent with low Evening Grosbeak numbers reported throughout much of the province in the fall of 2011.

Forster's Tern – On October 23, 2011 a single Forster's Tern was observed flying over a forested area within the Property Boundary and was recorded as a flyover. Forster's Terns breed in the Great Lakes Region and in the Western Prairie Provinces and, unlike other members of the tern family that stick to coastal areas when migrating, this species often takes advantage of freshwater lakes when travelling south. The many lakes in the area likely influenced its migration path and its presence shows the area's ability to attract long-distance diurnal migrants.

Fox Sparrow – The survey data clearly shows Fox Sparrows migrating through the reference site and the Property Boundary. However, Fox Sparrows were observed in increased numbers in many parts of the province this fall, including locals where they are not regular visitors. Determining whether or not their presence here reflects the norm will require future observations.

Golden-crowned Kinglet – Golden-crowned Kinglets were frequently encountered both at the reference site and within the Property Boundary. They were recorded at a total of 68 locations but it seemed if the surveyor paused long enough anywhere in the local area, sooner or later Golden-crowned Kinglets could be heard twittering in the tree tops.

Gray Catbird - Gray Catbirds were present in greater than normal numbers during the fall migration of 2011, so it was not surprising that two were encountered at the reference site in less than ideal habitat. Perhaps the even more heavily forested area within the Property Boundary was largely passed over by this species in favour of slightly better habitat at the reference site.

Gray Jay – It was nice to observe so many Gray Jays at both the reference site and within the Property Boundary, no doubt owing to the boreal nature of these areas. It was also noted, however, that so

many pairs lacked young birds which normally stay with the parents until the beginning of the next breeding season. Since Gray Jays start breeding very early in the year, this would seem to indicate that breeding conditions in the early spring/ late winter of 2011 were difficult for this area.

Gray-cheeked Thrush – Gray-cheeked Thrushes were observed in three locations during the fall migration: one at the reference site; and two within the Property Boundary. One observation consisted of eight birds. There were likely many more of these birds present as these thrushes are extremely skilled at hiding during the daylight hours. While a total of ten birds may not sound like a lot, the observation of both Bicknell's and Gray-cheeked Thrushes within the Property Boundary can be placed in perspective by keeping in mind that in Nova Scotia during the fall migration the species is not a common sight. This is due in part to their highly secretive nature. Occasionally, for reasons unknown, a flock of Gray-cheeked Thrushes is sighted, generally on one of the near-shore islands known for attracting big numbers of fall migrants.

It is also worth noting that these survey results fit into the wider picture of changing migration patterns in Gray-cheeked Thrushes that birders in Nova Scotia have been observing in the last few years. Suddenly, for no apparent reason, Gray-cheeked Thrushes have become easier to find during both the spring and fall migrations.

Hairy Woodpecker - It must have been a good 2011 breeding season for Hairy Woodpeckers as they are up in numbers, over much of the province, a fact that was reflected at both the reference site and within the Property Boundary.

Hermit Thrush – Slightly low but respectable numbers of Hermit Thrushes were recorded in the wet woodlands at both the reference site and within the Property Boundary during the 2011 Fall Migration Surveys.

Indigo Bunting – One individual was observed within the Property Boundary not far from human habitation. Indigo Buntings are uncommon but regular fall migrants in Nova Scotia that thrill backyard birders when they show up at their feeders. At more coastal locales in the province they can be found in small flocks but at inland areas, such as the reference site and within the Property Boundary, one sees mostly individual birds.

Lark Sparrow – Lark Sparrows are rare but regular fall transients that due to their flashy nature, distinct plumage patterns and friendly actions are more easily detected than some of their plainer but more common cousins. An experienced birder in Nova Scotia expects to see at least a couple of these sparrows each fall. The only downside to finding these sparrows is their hermit like travel arrangements when passing through Nova Scotia. When found, they are often near homes or roadsides making the reference site a better locale to see one than within the Property Boundary. Since Lark Sparrows in Canada breed in the Prairie Provinces, the presence of a Lark Sparrow on September 13 is another indicator that the general area around the Property Boundary can attract not only local migrants but long distance ones too.

Least Flycatcher – Although considered to be a late occurrence, this species was noted at the reference site on September 9. The one Least Flycatcher found during the fall surveys does not accurately represent the number of these birds that likely pass through the area but due to their early migration few of these flycatchers are seen after the first few days of September. Fewer still are identified, because of the difficulty of separating members of the *Empidonax* in the fall. In truth, even the experts cannot identify all the fall *Empidonax* flycatchers but a few individuals such as this one show enough markings to separate it from others in its genus with a certain degree of accuracy.

Lincoln's Sparrow – Lincoln's Sparrows are often difficult to detect during the fall migration so the two individuals within the Property Boundary and the four at the reference site are not bad results.

Magnolia Warbler – Excellent numbers of Magnolia Warblers were recorded at the reference site which almost tripled the number of Maggies found within the Property Boundary. Still, a respectable 34 individuals were observed within the Property Boundary.

Merlin – During the fall migration in Nova Scotia, Merlins are most easily detected in coastal areas as they hunt southward bound flocks of shorebirds. The observation of two of these hawks within the Property Boundary therefore either represented good luck or birds that bred in the vicinity.

Mourning Dove – While Mourning Doves can survive in almost any Nova Scotian habitat they are most at home near humans, so finding this bird at the reference site was to be expected.

Nashville Warbler – The reference site produced good numbers of Nashville Warblers but lower than expected numbers were found within the Property Boundary, perhaps due to the greater amount of forest cover.

Northern Flicker – The Northern Flicker was well represented at both the reference site and within the Property Boundary.

Northern Goshawk – The discovery of three Northern Goshawks during the Fall Migration survey is higher than normal for a typical fall woodland survey, but Card Lake Park, which is part of the reference site, has long been known as a place to go to view this largest of the woodland hawks. In addition, good numbers of Ruffed and Spruce Grouse in the area this fall is providing a rich food supply for this species.

Northern Mockingbird – Normally a Northern Mockingbird at this locale would be considered a bonus bird but given that the fall of 2011 has been one of the best falls in several years for finding these birds, the sighting of one at the reference site is more likely a reflection of that avian event than the site's natural attraction for this species.

Northern Parula – Better than average numbers of Northern Parulas were noted within the Property Boundary, which may have been drawn to the site in part by its abundance of tree lichens.

Northern Waterthrush – The two Northern Waterthrushes observed within the Property Boundary were likely drawn there by the plentiful wet woodlands.

Orange-crowned Warbler – The sighting of an Orange-crowned Warbler on October 23 is consistent with the normal time that these migrants begin to show up in Nova Scotia each fall in small numbers, often to spend the winter.

Osprey – The one Osprey observed during these surveys is not representative of actual numbers in the area, but since Osprey begin their fall migration in mid-August it is likely that the surveys, which were timed to target the peak portion of the fall migration for most species, simply missed the main Osprey migration.

Ovenbird – Only one Ovenbird sighting is very poor results for the reference site and for within the Property Boundary.

Palm Warbler – The excellent numbers of Palm Warblers found at the reference site was most likely due to survey days coinciding with days of heavier movements for this species.

Philadelphia Vireo – The discovery of a Philadelphia Vireo on September 20, a rare but regular fall migrant, at the reference site is a nice find. This again is indicative of this area's ability to attract less

common migrants. It should be noted that in the fall in Nova Scotia, Philadelphia Vireos are much harder find then they use to be.

Pileated Woodpecker – The numbers of Pileated Woodpeckers seen at both the reference site and within the Property Boundary appear to indicate that these sites are still a regular breeding area for this species.

Pine Grosbeak – Lower than normal numbers of this species observed during the Fall Migration surveys is in line with 2011 fall surveys results for many parts of Nova Scotia.

Pine Siskin – The 160 Pine Siskins at the reference site and the impressive 369 Siskins within the Property Boundary is due to the moderate cone crop on the local spruce trees. While lower numbers of this species were recorded in many counties in Nova Scotia this fall, the Pine Siskin was common in Lunenburg County due to the increased number of cones on the Red and White Spruce Trees found there.

Pine Warbler – Like the Orange-Crowned Warbler, the Pine Warbler is one of the very few 'winter warblers', so called because they choose to spend their winters in Nova Scotia instead of the warmer tropical regions preferred by most other members of their family. This fall, Pine warblers arrived in much lower than normal numbers so it was lucky to find one during the surveys.

Prairie Warbler – A rare but regular migrant during the fall migration. Like the Forster's Tern, the Philadelphia Vireo, and the Lark Sparrow, the presence of the Prairie Warbler shows the area's ability to draw less common long-distance migrants.

Purple Finch – The South Canoe Wind Project Fall Migration surveys produced good numbers of Purple Finches in a year when they were being reported in lower than normal numbers.

Red Crossbill – Just like the Purple Finches, good numbers of Red Crossbills were observed during the Fall Migration surveys in a year when they were being reported in lower than normal numbers, a fact that can be linked to the area's increased cone crop.

Red-breasted Nuthatch – The draw of the local cone crop was most apparent in the number of Red-breasted Nuthatches present, with over 200 of these tiny birds taking advantage of the cone crop. This figure is even more impressive when taking into account the noticeable reduction in Red-breasted Nuthatches over much of the province during the 2011 fall season due to a major exodus out of the province.

Red-eyed Vireo – Good numbers of Red-eyed Vireos were observed at both reference site and within the Property Boundary during the Fall Passerine Stopover Count surveys.

Red-tailed Hawk – Slightly better than average numbers of Red-tailed Hawks can likely be attributed to the presence of the nearby Kaiser Meadow Landfill Site.

Red-winged Blackbird – Very little in the way of cattail (*Typha* spp.) habitat in the immediate area accounts for the sighting of only two Red-winged Blackbirds during the entire survey.

Ruby-crowned Kinglet – Ruby-crowned Kinglets were well represented at both the reference site and within the Property Boundary.

Ruby-throated Hummingbird – Ruby-throated Hummingbirds are widespread common migrants that can be hard to detect during fall migration after the first week of September. The fact that this species wasn't recorded at the reference site does not reflect the normal migration for the area.

Ruffed Grouse – While only two Ruffed Grouse were recorded during the surveys, interviews with hunters in the area report that, locally, 2011 was a good fall for this species as well as its close cousin the Spruce Grouse.

Rusty Blackbird – Based on local habitat we should have seen more than two individual Rusty Blackbird migrants during the Passerine Stopover Counts.

Savannah Sparrow – Based on local habitat availability, Savannah Sparrow numbers were as one might expect.

Sharp-shinned Hawk – Lower than normal numbers were detected during the surveys.

Song Sparrow – Song Sparrow sightings were much higher at the reference site due to more suitable habitat conditions (i.e. more brush, grass, and human habitation).

Spruce Grouse – While only four Spruce grouse were recorded during the surveys, interviews with hunters in the area report that, locally, 2011 was a good fall for this species as well as its close cousin the Ruffed Grouse.

Swainson's Thrush – Slightly lower than expected numbers of Swainson's Thrushes were observed at both the reference site and within the Property Boundary. Since the appropriate habitat was present one can only assume other factors were responsible.

Swamp Sparrow – Excellent numbers of Swamp Sparrows were recorded during the Fall Migration surveys in marginal habitat, i.e. mostly clear-cuts and woodlands. This can only be attributed to the survey times coinciding with heavier than normal movements of this species of sparrow.

Tennessee Warbler – Only one observation is a very poor showing, for a species that is becoming more and more difficult to find each year.

Veery – Like its closer cousin the Swainson's Thrush, Veerys were detected in slightly lower than expected numbers.

White-breasted Nuthatch – Only one White-breasted Nuthatch is a poor result in a year where increased numbers are being enjoyed in most parts of the province.

White-eyed Vireo – The one White-eyed Vireo on September 9 represents another rare find for the area.

White-throated Sparrow – White-throated Sparrows were well represented at both the reference site and within the Property Boundary.

White-winged Crossbill – Average numbers of White-winged Crossbills were present during the fall surveys.

Winter Wren – Winter Wrens were present in lower than normal numbers, and were observed less frequently than the habitat suggested they should have been.

Yellow-bellied Sapsucker – Yellow-bellied Sapsuckers were observed in lower than normal numbers for the area.

Yellow-rumped Warbler – Yellow-rumped Warblers were well represented at both the reference site and within the Property Boundary, perhaps due to the predominance of mixed forests and evergreen tree species.

Passage Migration Counts

During the Passage Migration counts, surveyors were looking for evidence of Daytime Migrants, these included various birds of prey, waterfowl, and a wide array of small to large sized diurnal migrants. In addition to the diurnal migrants, the large number of Common Ravens in the area, due to the close proximity of the Kaizer Meadow Landfill, was also documented.

It was noticed that in most cases the ravens were the first birds to note changes and take advantage of the formation of heat thermals and updrafts. Thus, by recording their behavior, surveyors were able to note when conditions were right for diurnal migrants that would normally take advantage of the same types of conditions.

This also added more depth and value to the data making it easier to interpret. For example without the Common Raven data, a survey with very little data could mean a day with poor formation of thermals or it could mean there were no birds to take advantage of the thermals. With the Common Raven data added in, it is very easy to discern the reason behind missing migrants.

Property Boundary – Passage Migration Counts

The following is a summary of each day's contributions to the overall Passage Migration Count. Complete data for the Property Boundary Passage Migration Counts are given in Table 5, Appendix A.

September 7, 2011 – This marked the first visit to the Property Boundary, so when it came time to do the Passage Migration Count surveyors had to use the location found to that point that would provide the best view. This was Dam Bay, and despite its grand vista, this turned out to be a very poor choice, a fact supported by the observation of only a single Common Raven.

September 17, 2011 – By the next week surveyors had located a hill that had been clear cut. South Canoe Passage Migration Site 2 (SCPM2) proved to be a good choice that quickly added four birds of prey to the list of recorded species; Bald Eagle, Broad-winged Hawk, Red-tailed Hawk, and Sharp-shinned Hawk. In addition, data was gathered on a small movement of Red-tailed Hawks.

Another Passage Migration Site was established at South Canoe Lake Dam which was even more productive. From that site, surveyors witnessed a movement of Sharp-shinned Hawks, and added three more birds of prey to the species list; Coopers Hawk, Osprey and American Kestrel. Flyovers of American Black Duck and Mallard were also observed but were likely local birds moving from one lake to another.

September 23, 2011 – This was a poor day for thermals evident by no soaring ravens at either SCPM2 or South Canoe Lake Dam. South Canoe Lake Dam produced two migrating falcons, a Merlin and an American Kestrel, but there was nothing to observe at SCPM2.

September 29, 2011 – Surveyors spent the entire survey at South Canoe Lake Dam and added Northern Harrier to the hawk data as well as a small flock of six Rusty Blackbirds, the only such flock observed during the fall surveys.

October 8, 2011 – The entire survey was completed at South Canoe Lake Dam and resulted in data on four species of hawks and two more species of blackbirds were added to the list of diurnal migrants: 17

Common Grackles and 2 Red-winged Blackbirds.

October 13, 2011 – At SCPM2 more migrating Common Grackles (44 Individuals), and lots of American Robins (186 Individuals). A large flock of 630 Pine Siskins indicated that winter finches were on the move and four Green-winged Teals, the only records of this species for the entire fall migration period, were observed.

October 23, 2011 – The entire survey was completed at South Canoe Lake Dam gaining data on three new species of diurnal migrants: Canada Goose, Belted Kingfisher, and American Robin.

October 29, 2011 – Two flocks of American Robins were noted at SCPM2, totaling to 83 individuals.

November 2, 2011 – More American Robins recorded as moving with a new high count of 247 individuals and more Pine Siskins (20 Individuals).

In total, 18 species of birds were observed during the Passage Migration Counts within the Property Boundary.

Reference Site – Passage Migration Counts

By and large the reference sites produced better results than those from within the Property Boundary due largely to better availability of observation sites to choose from. Table 6, Appendix A provides the complete data from the reference site Passage Migration Counts.

September 9, 2011 – Early observations were done at SCCPM1, a hilltop clear cut with a commanding view of mountain ridges and a long wooded valley below. Soaring Common Ravens were all around, which were soon joined by Bald Eagles, Broad-winged Hawks, Sharp-shinned Hawks, one Red-tailed Hawk, and a Merlin.

September 13, 2011 – A relatively quiet day at SCCPM1 with only three hawks and eight Common Ravens. No new species detected. A new site, SCCPM2, a hilltop of a commercial Christmas Tree lot overlooking a valley with a lake and a small range of mountains was used. Three new diurnal migrants were recorded: Osprey (1 Individual), Double-crested Cormorant (7 Individuals), and Great Cormorant (1 Individual).

September 20, 2011 – Both SCCPM1 & SCCPM2 were busy spots on this day resulting in Peregrine Falcon (two females, one adult, and one immature), Northern Harrier, and American Kestrel being added to the species list.

September 28, 2011 – Surveys were completed at SCCPM1 and SCCPM2. Many hawks were noted including a Northern Goshawk. It was the five new species of passerines, however, that dominated the records. They included 18 Cedar Waxwings, 5 Red-winged Blackbirds, 7 American Robins, 1 Hairy Woodpecker, and 1 Eastern Bluebird.

October 7, 2011 – At SCCPM1 a very late migrating Tree Swallow was recorded, while SCCPM2 adds one Common Grackle and one Rusty Blackbird.

October 12, 2011 – First Pine Siskins at SCCPM1, 3 flocks totaling 147 individuals.

October 18, 2011 – Common Grackles are the most abundant migrants at both sites totaling 263 birds. At SCCPM1 the first Purples Finches of the season are recorded and a Cooper's Hawk, the final new species for the year, is added at SCCPM2.

October 27, 2011 - Single flock of 72 Common Ravens at SCCPM1 flying through the valley coming from the direction of Kaizer Meadow Landfill.

November 10, 2011 – The last passage migration count of the season. A quiet day for hawk migration, not uncommon as the peak migration periods for all small and large birds of prey had passed. However at SCCPM2, American Robins are still present in large numbers with a total of 463 individuals.

Waterfowl Stop Over Counts

Waterfowl Surveys – A desktop review on the Property Boundary revealed the presence of several bodies of water mainly in the form of lakes. This indicated that there would be a good chance of migrating waterfowl occurring in the area during the time of the surveys. In an effort to detect these potential migrants, three hours was set aside on each trip to specifically search for migrating waterfowl and water associated birds. In addition, during the course of the other fall surveys these same bodies of water would be travelled past and during those times any waterfowl observed would be recorded as incidental observations.

From satellite imagery, digital and printed mapping sources, the following 10 water bodies within the Property Boundary were identified and targeted for Fall Migration surveys: South Canoe Lake, Long Bay, Big Otter Lake, Little Otter Lake, Dam Bay, Bog Lake, Joe Long Pond, Mud Lake, the Whitney River and Cooney Lake. Area search data from these water bodies are given in Table 7, Appendix A.

The selected water bodies were chosen due to their potential to attract migratory waterfowl and, to a lesser degree, migrating shorebirds. Preliminary sampling of these wetlands led to the Whitney River and Cooney Lake being excluded from the survey rotations due to their small size and extremely low levels of water (next to none). Mud Lake was surveyed on two occasions but due to access constraints and lack of any species being detected it was dropped from the weekly rotation.

At the reference site the eight water bodies were carefully selected in order to represent as closely as possible the waterways that were being surveyed within the Property Boundary. These included Card Lake, Zwicker Lake, Mockingee Lake, Pickerel Pond, Falls Lake, Little Island Lake, Clearwater Lake, North Canoe Lake, and Lewis Lake which is located along the New Ross Road just south of North Canoe Lake and is referred to as Lake Lewis on some maps. Area search data from these water bodies are given in Table 8, Appendix A.

Reference Site Lakes

Card Lake – This large lake was quite evidently home to a pair of Common Loons that could often be viewed from Card Lake Park or seen feeding on one of the lake's large bays. The observation of 70 Herring Gulls on Card Lake on October 27 was clear evidence that this lake and park are influenced by birds that forage at the nearby Kaizer Meadow Landfill. Two Canada Geese that showed up on this lake on November 10 were clearly migrants. This arrival coincided with the arrival of larger numbers of geese (and three species) in nearby Windsor.

Clearwater Lake – This lake was very typical of the lakes in the area with regard to the species it attracted. Several lakes in this region attract small numbers of Wood Ducks and Hooded Mergansers.

Falls Lake – A small local flock of American Black Ducks numbering about a half dozen birds often travel between this lake and the nearby Mockingee Lake. The run that connected these two lakes was a favourite spot for feeding Belted Kingfishers and attracted migrants that love running water such as the Common Merganser.

Lewis Lake (Referred to on some maps as Lake Lewis) – A lone Common Loon that showed up on this lake on October 18 appeared to be a migrant and was the only bird observed at this location.

Little Island Lake – Like Mockingee, Pickerel Pond, and Clearwater Lake, its patches of pickerelweed was attractive to the Wood Duck.

Mockingee Lake – Due to its larger size, a run of water that connected it to Falls Lake, and an adjacent heavily vegetated pond, this lake was the most productive of the reference site lakes in terms of bird abundances. It was big enough to attract the occasional Common Loon and it shared American Black Ducks and Belted Kingfishers with Falls Lake. It also demonstrated a symbiotic relationship with Pickerel Pond which provided the vegetative cover and Mockingee the more extended shoreline and waters. It even contained something that made it attractive to migrating Hooded Mergansers as demonstrated by a visit of three of these birds on November 10.

North Canoe Lake – Although this lake did feature birds as consistently as Mockingee, it still produced a fairly good variety of waterfowl including the only Buffleheads observed during the survey period. Other species included Common Loon, Common Merganser, and Hooded Merganser.

Pickerel Pond – Known as a reliable location to find Wood Ducks. During the surveys it also produced American Black Ducks and the only Double-crested Cormorant.

Zwicker Lake – This was the only lake on the reference site that did not feature any water associated birds on any occasion.

Property Boundary Lakes

South Canoe Lake – With the exception of South Canoe Lake, most of the lakes within the Property Boundary were small and very quiet when it came to waterfowl and water associated birds. The only Mallards and the only Spotted Sandpiper recorded were observed at this location. It also seemed to be a favourable location for Common Loons, hosting five of these birds on one occasion. It is also used by a small flock of American Black Ducks.

Bog Lake (Referred to on some maps as Bag Lake) – One Belted Kingfisher was noted here on September 7.

Big Otter Lake – Another lake that lacked birds on all but two visits. However, the location did provide the only indication that Ring-necked Ducks migrate through the area: on October 13, six were actively feeding on its far shores with one male Wood Duck. Also on September 7 it held one Common Loon.

Dam Bay – Dam Bay is actually a part of Card Lake. This bay attracts the occasional Common Loon that wanders in from the main portion of Card Lake and Belted Kingfishers like to take advantage of the outflow between it and Bog Lake.

Joe Long Pond – Failed to produce any birds during the survey period.

Little Otter Lake – Despite weekly visits, this lake failed to produce any bird.

Long Bay – Long Bay is another bay of Card Lake and large enough that it is best treated as a separate entity. Surprisingly, this body of water failed to provide any birds. However, during the breeding season this bay, along with Dam Bay, is easily big enough to each have its own family of Common Loons.

Mud Lake – This small lake failed to produce any birds during the survey period. The remoteness of this lake, combined with the recurrent lack of birds, meant that after a couple of visits it was dropped from the rotation in order to provide more time to survey the other bodies of water located within the Property Boundary.

Shorebirds and Shorebird Migration

The detection of Shorebird Migration was what would be expected from a mostly forested site located on the inland border of Hants and Lunenburg Counties. Many of the lakes in the area, such as Falls Lake at the reference site and South Canoe Lake within the Property Boundary, have water levels that are artificially controlled. This led to large expanses of fresh mud exposed during the time of the fall surveys. However, in spite on this enticement, no unexpected species of shorebirds were detected during the fall surveys. Expected species that were observed included Spotted Sandpiper along the rocky shorelines of South Canoe Lake and American Woodcock on the roadways and forests during nighttime and dawn survey times.

Winter Surveys

Winter Surveys were carried out on December 9 and December 21, 2011 and again on January 15 and January 22, 2012 using Standardized Area Search protocols.

During the winter surveys, 22 species of birds were observed within the Property Boundary with Black-capped Chickadees, Golden-crowned Kinglets, and White-winged Crossbills being the top three most numerous species present (Table 9, Appendix A). This survey turned up 154 Black-capped Chickadees and 52 Golden-crowned Kinglets, impressive numbers but down from those observed in the fall. White-winged Crossbills, conversely, climbed slightly from 30 individuals in the fall to 46, due to the continued presence a good cone crop.

With no salt or brackish water in the area and very little in the way of running water only one waterfowl species was observed, the Hooded Merganser.

The woodlands featured the typical common species one would expect to see on a winter walk, including Black-capped Chickadees, Golden-crowned Kinglets, Red Breasted Nuthatch, Dark-eyed Juncos, and Hairy and Downy Woodpecker. However, abundances and diversity were augmented by a good cone crop. There were many Red-breasted Nuthatches, White-winged Crossbills, Pine Siskins, and Common Redpolls. The woods were further enhanced by small numbers of the more exotic boreal bog species such as Gray Jay, Spruce Grouse, Black-backed Woodpecker and Boreal Chickadee. Larger trees contributed Pileated Woodpecker and Brown Creeper.

The influence of human habitation was most evident at the reference site as such birds as European Starling, Mourning Dove, American Goldfinch, Song Sparrow, Blue Jay and unusual winter birds in the form of Red-winged Blackbirds were detected (Table 10, Appendix A).

The nearby Kaizer Meadow demonstrated its influence at both the reference site and within the Property Boundary with the calling of Common Ravens and American Crows, and a very nice selection of hawks including Northern Goshawk, Red-tailed Hawk, Sharp-shinned Hawk, Broad-winged Hawk and Cooper's Hawk.

Additional Note – The January 22, 2012 Winter Survey at the reference site was conducted during heavier snow conditions which prevented surveyors from gaining access to all of the same non-paved roads used during previous surveys at the reference site. Due to limited access it was necessary to use some roads that were slightly further from the Property Boundary in order to carry out the reference

site Winter Bird Surveys. However, we were also able to use the main roads Highway 14 and the New Ross Road to gather bird data due to decreased traffic conditions.

Species at Risk Data

During the course of the Fall Migration and Winter Bird Surveys, surveyors made additional efforts to search for and document any Species at Risk (SAR) that might be present. If a potential SAR was noticed, that species was identified to the sub-species level. When a SAR was identified, its location was recorded as well as any additional data on the bird's movements and behaviour. Eleven such species were observed, and the following sections describe the circumstances of each sighting in more detail. Full details of the SAR sightings during the Fall Migration and Winter Bird surveys are provided in Table 11, Appendix A.

Bicknell's Thrush *Catharus bicknelli*

The Bicknell's Thrush is included here because it is listed as 'Yellow' by NSDNR, Threatened by COSEWIC, Of Special Concern by SARA, and Vulnerable by NSESA.

During the fall surveys on September 29, 2011 at 7:33 AM, one Bicknell's Thrush was noted within the Property Boundary along the Wile Settlement Road at the coordinates 0398886E, 4956619N. It was an adult bird viewed from less than 50 m away. In response to pishing it popped up from the forest floor, perched on a low branch for a few minutes then slipped away back into the forest.

Bobolink *Dolichonyx oryzivorus*

A flock of nine Bobolinks were observed within the Property Boundary at coordinates 0393756E, 4959608N on September 23, 2011. Since there is no preferred habitat within the Property Boundary to draw them there, it was concluded that it was just a chance encounter of a migrating flock that was passing through the area on its way southward, perhaps from the extensive farmlands found to the north of the area in and around Windsor. The Bobolink is included here because it is listed as 'Yellow' by NSDNR and Threatened by COSEWIC.

Boreal Chickadee *Parus hudsonicus*

Boreal Chickadees were more easily detected within the Property Boundary due to the greater presence of coniferous trees and Boreal Bogs, being roughly twice as common as at the reference site. Over 60 individuals were observed during the surveys. The Boreal Chickadee is included here because it listed as 'Yellow' by NSDNR.

Canada Warbler *Wilsonia canadensis*

The sighting of only one migrating Canada Warbler on September 23, 2011 in a regenerating clear cut within the Property Boundary may not be representative of its actual fall numbers as this species demonstrates an uncanny ability to hide during fall migrations. An adult male was observed between the coordinates 0399182E, 4961526N and 0399356E, 4961736N. The Canada Warbler is included here because it is listed as 'Yellow' by NSDNR, Threatened by COSEWIC, and Threatened by SARA.

Common Loon *Gavia immer*

The Common Loon was recorded at 11 locations during the surveys. The Common Loon is included here because it is listed as 'Yellow' by NSDNR.

Common Nighthawk *Chordeiles minor*

On September 13, 2011 at 7:30 in the morning between the coordinates 0400789E, 4963639N and 0401001E, 4963852N a lone Common Nighthawk was observed flying silently overhead in a southwesterly direction. Since the most Common Nighthawks migrate in August it was actually quite fortunate that one was observed at the reference site. Most likely this was a late bird from further north or an individual blown off course. The Common Nighthawk is included here because it is listed as 'Yellow' status by NSDNR, Threatened by COSEWIC, Threatened by SARA, and Threatened by NSESA.

Eastern Bluebird *Sialia sialis*

During the passerine stopover counts on October 23, 2011 one immature female Eastern Bluebird was observed flitting through the mountain ashes with a flock of 18 American Robins at coordinates 0399056E, 4958802N. A second lone Eastern Bluebird was observed on September 28, 2011 during the Passage Migration Counts at coordinates 0390899E, 4961915N, at 1:45 PM flying for some unknown reason to the northeast, high above the vegetation. The Eastern Bluebird is included here because it is listed as 'Yellow' status by NSDNR.

Gray Jay *Perisoreus canadensis*

Gray Jays were commonly encountered during the surveys. The numbers noted of this species is due to the boreal nature of these areas. It was noted however that many pairs lacked young birds which normally stay with the parents until the beginning of the next breeding season. Since Gray Jays start breeding very early in the year, this would seem to indicate that breeding conditions in the early spring/late winter of 2011 were difficult for this area. The Gray Jay is included here because it is listed as 'Yellow' status by NSDNR.

Northern Goshawk *Accipiter gentilis*

The discovery of three Northern Goshawks during the survey period is higher than normal for a typical fall woodland survey, but Card Lake Park which is part of the reference site has long been known as a place to go to observe this largest of the woodland hawks. In addition, good numbers of Ruffed and Spruce grouse in the area this fall is providing a rich food supply for this species. Goshawks were observed at the following three coordinate sets: 0405311E, 4955860N, 0399098E, 4960674N, 0399657E, 4952352N. Northern Goshawk is included here because it is listed as 'Yellow' by NSDNR.

Peregrine Falcon *Falco peregrinus*

Only two Peregrine Falcons were sighted during the surveys, both on September 20 and both at the reference site. The first, an adult female *Falco peregrinus anatum* at 12:08 PM, was soaring and gliding to the southeast just above the height of the vegetation at coordinates 0405311E, 4955860N. The second was also an *anatum* female but an immature bird seen at 1:25 PM flying to the southwest just above the vegetation at coordinates 0390899E, 4961915N. The Peregrine Falcon is included here because it is listed as 'Red' by NSDNR, Of Special Concern by COSEWIC, Threatened by SARA, and Vulnerable by NSESA.

Rusty Blackbird *Euphagus carolinus*

Rusty Blackbirds were observed four times during the fall surveys, twice during the Passerine Stopover Counts, once within the Property Boundary and once at the reference site; and twice during the Passage Migration Counts, once within the Property Boundary and once at the reference site. A total of nine birds were recorded, including a flock of six and three single birds. The Rusty Blackbird is included here because it is listed as 'Yellow' by NSDNR, Of Special Concern by COSEWIC and Of Special Concern by SARA. Details are as follows:

Species at Risk- Additional Data

For clarification purposes, here is a list of two species seen during the South Canoe Wind Project surveys that share species names with those that appear on one of the following Species at Risk lists: COSEWIC, NSDNR, NSESA or SARA but are of a different subspecies than the one at risk.

Red Crossbill - *Loxia curvirostra* subspecies unknown

During the fall migration surveys Red Crossbills were encountered seven times, for a total of 36 individuals. In each case the birds and/or calls were examined carefully for the possibility of *Loxia curvirostra percna*. While the subspecies *percna* only breeds on the island of Newfoundland it has wandered to Nova Scotia during the past presumably in search of a better food supply in times when natural food selection was low in Newfoundland.

It is thought that the Red Crossbill may not be one species but could represent eight or more very similar species or types as they are referred to, in some literature. Currently not all the experts agree on how to separate all of the subspecies so during the surveys any identification to the subspecies level was approached with great caution.

Fortunately, *Loxia curvirostra percna* is a little more distinctive than some of the subspecies/types with its relatively stout and deep bill, and a dusky colouration. So while surveyors did not positively identify to what type the Red Crossbills were, they were able to rule out the possibility of *Loxia curvirostra percna*.

Savannah Sparrow - *Passerculus sandwichensis*

During the South Canoe Wind Project surveys all of the Savannah Sparrows we found were of the *Passerculus sandwichensis savanna* race not of the listed *Passerculus sandwichensis princeps*. For that reason additional details of those observations are not included.

Conclusions & Recommendations

Site Evaluation

This Property Boundaries clearly demonstrates some interesting characteristics. Its mixed woodlands are home to a number of mature forest species such as Pileated Woodpeckers and Northern Goshawks. The species diversity of these woodlands is further enhanced by boreal wetlands as demonstrated by the presence of good numbers of boreal species such as Boreal Chickadee, Black-backed Woodpecker, Spruce Grouse, and Gray Jay. In addition, the nearby Kaizer Meadow Landfill has influenced the number and variety of birds of prey that pass through or live in the area. During the Fall Migration surveys, the area also showed an interesting tendency to draw in some unusual long distance migrants that one would not expect to encounter at such an inland site. These included White-eyed Vireo, Philadelphia Vireo, Lark Sparrow, Prairie Warbler, and Forster's Tern. The number of waterfowl migrants was lower than anticipated.

Habitat Loss and Alteration

With any Project of this size there will be some habitat loss, and Projects of this nature also create long term habitat alteration. It can also be expected to see some landscape level issues such as a degree of forest fragmentation and loss habitat connectivity. Once the turbines are installed there is also the issue of bird and bat collisions to consider.

Environment Canada is now pursuing the government's promise of no net habitat loss on Projects of this nature. Project managers can look at Project design to help decrease the amount of habitat loss and plan ahead to create smart mitigation strategies that reduce costs.

The presence of active wind turbines could lead to long term habitat disturbance and avoidance by birds. While the project managers may have very limited reference over the noise generated by wind turbines, there are a number of steps that can be taken during the construction phase of the Project to reduce the amount of damage to bird habitats.

One way is to take advantage of existing roads. On this Project choosing South Canoe Road as a main access point can:

1. Reduce additional habitat fragmentation;
2. Avoid creating additional edge effect;
3. Reduce mortality rates related to the destruction of active nests during road construction phase; and
4. Limit the loss in interior habitat.

Another way to reduce habitat loss on this site is to avoid turbine placement in the many areas dominated by larger trees.

While the bird surveys in September focused on fall migrants, a number of local breeders were detected that suggest that some mature forest species breed on the site. These consisted of either recently fledged birds that were still being fed by parents such as a begging Cape May Warbler encountered on September 7th or non-migratory species such as Northern Goshawk and Pileated Woodpeckers. Due to the relatively small areas of mature forest remaining, efforts should be made to avoid turbine placement in the any areas dominated by larger trees.

A variety of wetlands within the Property Boundary also contribute to the enrichment of the bird life in the forested areas. These wetlands continue to support a number of boreal species including Boreal Chickadees, Gray Jays, and Spruce Grouse all of which were encountered frequently and to a higher degree than one would normally expect in forested areas made up of mixed or softwood habitats.

To avoid these types of habitat loss it is recommended that large trees not be removed and that intrusion onto any wetlands be avoided in order to minimize the impact of habitat loss due to the construction of wind turbines and the relatively wide roads needed for installation of turbines.

Additional Surveys

These bird surveys should be followed by post project surveys in order to complete the recommended BACI (Before-After-Reference-Impact) study.

A primary concern is bird and bat mortality due to collision with either the turbine hub and/or the turbine blades. Therefore it is strongly recommended that follow-up/post construction surveys be carried out.

APPENDIX A
TABLES

Date	Location	Coordinates	Conditions		Start Time - End Time	Time of Observation	Species
			Start	End			
Sept. 7/2011	SCNight1	0393600E, 4961871N	Sky: Clear Precipitation: None Wind: 10km/h SE Temp: 11°C	Sky: Partly cloudy Precipitation: None Wind: 0-10km/h SE Temp: 11°C	4:00 - 6:15 AM	4:06 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:25 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:25 AM	Dark-eyed Junco
-	-	-	-	-	-	4:39 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:50 AM	Black-throated Green Warbler
-	-	-	-	-	-	4:57 AM	Black-throated Green Warbler
-	-	-	-	-	-	5:02 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:04 AM	Palm Warbler
-	-	-	-	-	-	5:09 AM	Magnolia Warbler
-	-	-	-	-	-	5:09 AM	Magnolia Warbler
-	-	-	-	-	-	5:13 AM	American Redstart
-	-	-	-	-	-	5:17 AM	Black-throated Green Warbler
-	-	-	-	-	-	5:20 AM	Dark-eyed Junco
-	-	-	-	-	-	5:20 AM	Palm Warbler
-	-	-	-	-	-	5:24 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:24 AM	Black-capped Chickadee
-	-	-	-	-	-	5:27 AM	Magnolia Warbler
-	-	-	-	-	-	5:38 AM	Northern Parula
-	-	-	-	-	-	5:38 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:38 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:38 AM	American Robin
-	-	-	-	-	-	5:39 AM	Common Loon
-	-	-	-	-	-	5:47 AM	Barred Owl x 4
-	-	-	-	-	-	5:48 AM	Veery
-	-	-	-	-	-	6:04 AM	American Woodcock
-	-	-	-	-	-	6:05 AM	Common Yellowthroat
-	-	-	-	-	-	6:08 AM	Magnolia Warbler
-	-	-	-	-	-	6:10 AM	Black-capped Chickadee
Sept. 13/2011	SCNight2	0400104E, 4954686N	Sky: Clear Precipitation: None Wind: Calm Temp: 12°C	Sky: Partially Overcast Precipitation: None Wind: Calm Temp: 10°C	4:04 - 6:20 AM	4:04 AM	Magnolia Warbler
-	-	-	-	-	-	4:06 AM	Barred Owl
-	-	-	-	-	-	4:06 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:08 AM	Magnolia Warbler
-	-	-	-	-	-	4:08 AM	Bay-breasted Warbler
-	-	-	-	-	-	4:13 AM	Black-throated Green Warbler
-	-	-	-	-	-	4:19 AM	Black-capped Chickadee
-	-	-	-	-	-	4:19 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:19 AM	Magnolia Warbler
-	-	-	-	-	-	4:19 AM	Bay-breasted Warbler
-	-	-	-	-	-	4:20 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:21 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:21 AM	Magnolia Warbler
-	-	-	-	-	-	4:22 AM	Black-capped Chickadee
-	-	-	-	-	-	4:25 AM	Black-and-White Warbler
-	-	-	-	-	-	4:27 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:31 AM	Common Yellowthroat
-	-	-	-	-	-	4:31 AM	Common Yellowthroat
-	-	-	-	-	-	4:31 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:32 AM	Common Yellowthroat
-	-	-	-	-	-	4:34 AM	Black-throated Green Warbler
-	-	-	-	-	-	4:34 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:36 AM	Black-and-White Warbler
-	-	-	-	-	-	4:36 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:36 AM	Black-and-White Warbler
-	-	-	-	-	-	4:40 AM	Black-throated Green Warbler
-	-	-	-	-	-	4:41 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:46 AM	Black-throated Green Warbler
-	-	-	-	-	-	4:46 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:47 AM	Magnolia Warbler
-	-	-	-	-	-	4:49 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:49 AM	Magnolia Warbler
-	-	-	-	-	-	4:50 AM	Magnolia Warbler
-	-	-	-	-	-	4:50 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:51 AM	Barred Owl
-	-	-	-	-	-	4:56 AM	Bay-breasted Warbler
-	-	-	-	-	-	4:58 AM	Magnolia Warbler
-	-	-	-	-	-	5:03 AM	Cape May Warbler
-	-	-	-	-	-	5:04 AM	Magnolia Warbler
-	-	-	-	-	-	5:04 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:08 AM	Magnolia Warbler
-	-	-	-	-	-	5:12 AM	Black-throated Green Warbler
-	-	-	-	-	-	5:26 AM	Barred Owl
-	-	-	-	-	-	5:31 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:31 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:31 AM	Magnolia Warbler
-	-	-	-	-	-	5:34 AM	Magnolia Warbler
-	-	-	-	-	-	5:42 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:44 AM	Black-throated Green Warbler
-	-	-	-	-	-	5:45 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:58 AM	Magnolia Warbler
-	-	-	-	-	-	6:10 AM	Yellow-rumped Warbler
-	-	-	-	-	-	6:12 AM	Black-capped Chickadee
-	-	-	-	-	-	6:12 AM	Magnolia Warbler

Table 2: South Canoe Lake Wind Project Nocturnal Bird Survey Results - Reference Site

Date	Location	Coordinates	Conditions		Start Time - End Time	Time of Observation	Species
			Start	End			
Sept. 9/2011	Card Lake Provincial Park	0399164E, 4952594N	Sky: Clear Precipitation: None Wind: calm Temp: 8°C	Sky: Partially Overcast Precipitation: None Wind: calm Temp: 9°C	3:50 AM - 6:20 AM	4:03 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:04 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:05 AM	Northern Waterthrush
-	-	-	-	-	-	4:05 AM	Common Loon x 4
-	-	-	-	-	-	4:26 AM	Northern Waterthrush
-	-	-	-	-	-	4:29 AM	Black-and-White Warbler
-	-	-	-	-	-	4:34 AM	Palm Warbler
-	-	-	-	-	-	4:40 AM	Dry, flat chip
-	-	-	-	-	-	4:40 AM	Black-capped Chickadee
-	-	-	-	-	-	4:41 AM	Blackpoll Warbler
-	-	-	-	-	-	4:41 AM	Black-and-White Warbler
-	-	-	-	-	-	4:41 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:50 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:51 AM	White-throated Sparrow
-	-	-	-	-	-	4:54 AM	Black-capped Chickadee
-	-	-	-	-	-	4:55 AM	Black-throated Green Warbler
-	-	-	-	-	-	4:55 AM	Blackpoll Warbler
-	-	-	-	-	-	4:55 AM	Palm Warbler
-	-	-	-	-	-	4:57 AM	White-throated Sparrow
-	-	-	-	-	-	4:58 AM	American Redstart
-	-	-	-	-	-	4:59 AM	Black-and-White Warbler
-	-	-	-	-	-	5:02 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:03 AM	Blackpoll Warbler
-	-	-	-	-	-	5:04 AM	Rich chip
-	-	-	-	-	-	5:11 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:11 AM	Black-throated Green Warbler
-	-	-	-	-	-	5:12 AM	Blackpoll Warbler
-	-	-	-	-	-	5:15 AM	Black-capped Chickadee
-	-	-	-	-	-	5:17 AM	Northern Waterthrush
-	-	-	-	-	-	5:18 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:19 AM	Ruby-crowned Kinglet
-	-	-	-	-	-	5:19 AM	Dark-eyed Junco
-	-	-	-	-	-	5:22 AM	Common Yellowthroat
-	-	-	-	-	-	5:24 AM	Blackpoll Warbler
-	-	-	-	-	-	5:38 AM	Fitz
-	-	-	-	-	-	5:38 AM	Black-capped Chickadee
-	-	-	-	-	-	5:39 AM	Long-eared Owl
-	-	-	-	-	-	5:42 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:45 AM	Black-capped Chickadee
Sept. 17/2011	SCCNight2	0401917E, 4966169N	Sky: Mostly Clear Precipitation: None Wind: 15 km/h NW Temp: 6°C	Sky: Clear Precipitation: None Wind: 10 km/h NW Temp: 6°C	3:43 - 6:20 AM	3:50 AM	Black-capped Chickadee
-	-	-	-	-	-	3:53 AM	Dark-eyed Junco
-	-	-	-	-	-	3:53 AM	Dark-eyed Junco
-	-	-	-	-	-	3:53 AM	Dark-eyed Junco
-	-	-	-	-	-	3:54 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:06 AM	Northern Waterthrush
-	-	-	-	-	-	4:06 AM	Yellow-rumped Warbler
-	-	-	-	-	-	4:06 AM	Magnolia Warbler
-	-	-	-	-	-	4:06 AM	Magnolia Warbler
-	-	-	-	-	-	4:45 AM	Yellow-rumped Warbler
-	-	-	-	-	-	5:37 AM	Black-capped Chickadee
-	-	-	-	-	-	5:38 AM	Yellow-rumped Warbler

Table 3: South Canoe Lake Wind Project Passerine Stopover Counts Results - Property Boundary

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SC1 - SC2	0393600E, 4961872N, 0393598E, 4961561N	Young to mid-aged hardwood	Sept. 7/2011	6:20 - 6:35 AM	American Robin	4	0-50	N/A
-	-	-	-	-	American Robin	7	50-100	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	10	50-100	N/A
-	-	-	-	-	Black-throated Green Warbler	2	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Common Loon	1	100+	N/A
-	-	-	-	-	Common Yellowthroat	3	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Gray Jay	2	50-100	N/A
-	-	-	-	-	Hermit Thrush	4	100+	N/A
-	-	-	-	-	Merlin	1	100+	N/A
-	-	-	-	-	Swainson's Thrush	3	50-100	N/A
-	-	-	-	-	Veery	1	0-50	N/A
-	-	-	-	-	Veery	7	50-100	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
-	-	-	Oct. 13/2011	9:56 - 10:07 AM	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Boreal Chickadee	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	N/A
SC3 - SC4	0393743E, 4959984N, 0393655E, 4960278N	Young yellow birch	Sept. 7/2011	8:17 - 8:41 AM	Black-capped Chickadee	23	0-50	1
-	-	-	-	-	Black-throated Green Warbler	4	0-50	1
-	-	-	-	-	Boreal Chickadee	4	0-50	1
-	-	-	-	-	Northern Parula	4	0-50	1
-	-	-	-	-	Red-eyed Vireo	5	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	6	0-50	1
-	-	-	-	-	Black-capped Chickadee	8	0-50	2
-	-	-	-	-	Magnolia Warbler	4	0-50	2
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	2
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	10	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	8	50-100	N/A
-	-	-	-	-	Magnolia Warbler	5	0-50	N/A
-	-	-	-	-	Northern Flicker	1	50-100	N/A
-	-	-	-	-	Ovenbird	1	50-100	N/A
-	-	-	-	-	Red-eyed Vireo	1	0-50	N/A
-	-	-	-	-	Ruby-throated Hummingbird	1	0-50	N/A
SC5 - SC6	0394155E, 4958983N, 0393981E, 4959237N	Mixedwoods, young to mid-aged	Sept. 7/2011	7:13 - 7:30 AM	American Redstart	4	0-50	1
-	-	-	-	-	Black-capped Chickadee	8	0-50	1
-	-	-	-	-	Black-throated Green Warbler	1	0-50	1
-	-	-	-	-	Blue-headed Vireo	3	0-50	1
-	-	-	-	-	Magnolia Warbler	2	0-50	1
-	-	-	-	-	Blue Jay	3	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	12	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	5	0-50	N/A
-	-	-	-	-	Swainson's Thrush	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	N/A
SC7 - SC8	0395206E, 4958158N, 0395505E, 4958115N	Mixedwoods, young-mid aged	Sept. 7/2011	7:42 - 8:03 AM	Black-capped Chickadee	10	0-50	1
-	-	-	-	-	Black-throated Green Warbler	5	0-50	1
-	-	-	-	-	Common Yellowthroat	4	0-50	1
-	-	-	-	-	Palm Warbler	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	1
-	-	-	-	-	American Robin	8	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	7	0-50	N/A
-	-	-	-	-	Blue Jay	8	50-100	N/A
-	-	-	-	-	Common Loon	1	Fly Over	N/A
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	10	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hermit Thrush	1	50-100	N/A
-	-	-	-	-	Northern Flicker	2	50-100	N/A
-	-	-	-	-	Pine Grosbeak	2	50-100	N/A
-	-	-	-	-	Ruby-throated Hummingbird	2	0-50	N/A
-	-	-	-	-	Veery	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	1	0-50	N/A
-	-	-	-	-	White-winged Crossbill	2	100+	N/A
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	11	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SC12 - SC11	0398805E, 4960602N 0399098E, 4960674N	Bog, black spruce stand	Sept. 7/2011	10:03 - 10:21 AM	Blackburnian Warbler	1	0-50	1
-	-	-	-	-	Black-capped Chickadee	14	0-50	1
-	-	-	-	-	Black-throated Green Warbler	6	0-50	1
-	-	-	-	-	Cape May Warbler	1	0-50	1
-	-	-	-	-	Dark-eyed Junco	3	0-50	1
-	-	-	-	-	Red-breasted Nuthatch	3	0-50	1
-	-	-	-	-	Red-eyed Vireo	4	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	4	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	9	0-50	1
-	-	-	-	-	American Goldfinch	2	100+	N/A
-	-	-	-	-	American Robin	27	50-100	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Swainson's Thrush	1	0-50	N/A
-	-	-	-	-	Swamp Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	N/A
-	-	-	Oct. 8/2011	9:56 - 10:21 AM	American Robin	3	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	12	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	3	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Gray Jay	4	100+	N/A
-	-	-	-	-	Hairy Woodpecker	2	50-100	N/A
-	-	-	-	-	Northern Goshawk	1	Fly Over	N/A
-	-	-	-	-	Pine Siskin	1	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red Crossbill	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	-	N/A
-	-	-	-	-	Swamp Sparrow	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	N/A
SC14 - SC13	0398689E, 4960080N 0398679E, 4960358N	Mixedwoods, mid-aged	Sept. 7/2011	10:25 - 10:44 AM	Black-capped Chickadee	11	0-50	1
-	-	-	-	-	Blue-headed Vireo	2	0-50	1
-	-	-	-	-	Common Yellowthroat	9	0-50	1
-	-	-	-	-	Magnolia Warbler	5	0-50	1
-	-	-	-	-	Northern Parula	6	0-50	1
-	-	-	-	-	Red-eyed Vireo	5	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	6	0-50	1
-	-	-	-	-	Winter Wren	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	1
-	-	-	-	-	Cedar Waxwing	2	0-50	N/A
-	-	-	-	-	Gray Jay	1	100+	N/A
-	-	-	-	-	Purple Finch	2	50-100	N/A
-	-	-	Nov. 2/2011	8:47 - 9:06 AM	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Blue Jay	1	50-100	N/A
-	-	-	-	-	Boreal Chickadee	2	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Downy Woodpecker	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	4	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	21	0-50	N/A
-	-	-	-	-	Purple Finch	31	50-100	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	N/A
-	-	-	-	-	White-throated Sparrow	5	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SC16-SC15	0398862E, 4959535N 0398970E, 4959254N	Mixedwoods, mid-old aged	Sept. 7/2011	10:49 - 11:00 AM	Common Yellowthroat	11	0-50	1
-	-	-	-	-	Swamp Sparrow	2	0-50	1
-	-	-	-	-	White-throated Sparrow	6	0-50	1
-	-	-	-	-	Winter Wren	1	0-50	1
-	-	-	-	-	Black-capped Chickadee	8	0-50	2
-	-	-	-	-	Black-throated Green Warbler	4	0-50	2
-	-	-	-	-	Northern Parula	3	0-50	2
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	2
-	-	-	-	-	Red-eyed Vireo	3	0-50	2
-	-	-	-	-	Ruby-crowned Kinglet	5	0-50	2
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	2
-	-	-	-	-	Blue Jay	8	50-100	N/A
-	-	-	-	-	Common Yellowthroat	8	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	Sept. 29/2011	8:30 - 8:58 AM	American Robin	3	Fly Over	N/A
-	-	-	-	-	Black-and-white Warbler	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	14	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	5	0-50	N/A
-	-	-	-	-	Blue Jay	6	0-50	N/A
-	-	-	-	-	Blue-headed vireo	4	0-50	N/A
-	-	-	-	-	Chestnut-sided Warbler	2	0-50	N/A
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	3	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Gray Jay	2	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	8	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	N/A
-	-	-	Oct. 8/2011	9:29 - 9:49 AM	American Goldfinch	2	Fly Over	N/A
-	-	-	-	-	American Robin	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	9	0-50	N/A
-	-	-	-	-	Blue-headed vireo	3	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	14	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Red Crossbill	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	5	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	N/A
-	-	-	Oct. 13/2011	8:58 - 9:14 AM	American Crow	1	100*	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Black-backed Woodpecker	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	16	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	5	0-50	N/A
-	-	-	-	-	Blue Jay	1	0-50	N/A
-	-	-	-	-	Common Raven	4	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Fox Sparrow	1	0-50	N/A
-	-	-	-	-	Gray Jay	4	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Hermit Thrush	6	0-50	N/A
-	-	-	-	-	Pine Siskin	14	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Swamp Sparrow	4	0-50	N/A
-	-	-	-	-	White-throated Sparrow	7	0-50	N/A
-	-	-	-	-	White-winged Crossbill	6	Fly Over	N/A
-	-	-	-	-	Yellow-bellied Sapsucker	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	9	0-50	N/A
-	-	-	Nov. 2/2011	8:05 - 8:25 AM	American Goldfinch	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	16	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Pine Siskin	19	0-50	N/A
-	-	-	-	-	Purple Finch	12	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	7	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-bellied Sapsucker	1	50-100	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SC18 - SC17	0398711E, 4959849N 0398691E, 4960109N	Mixedwoods (hemlock/maple), mid-aged	Sept. 17/2011	9:35 - 9:49 AM	Black-and-white Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	14	0-50	1
-	-	-	-	-	Blackpoll Warbler	4	0-50	1
-	-	-	-	-	Black-throated Green Warbler	4	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	1
-	-	-	-	-	Magnolia Warbler	5	0-50	1
-	-	-	-	-	Northern Parula	5	0-50	1
-	-	-	-	-	Northern Waterthrush	1	0-50	1
-	-	-	-	-	Palm Warbler	2	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	6	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	1
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	8	0-50	N/A
-	-	-	-	-	White-winged Crossbill	4	0-50	N/A
-	-	-	Sept. 29/2011	9:07 - 9:29 AM	Alder Flycatcher	1	0-50	N/A
-	-	-	-	-	American Crow	1	100*	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Black-backed Woodpecker	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	10	0-50	N/A
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	5	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Hermit Thrush	3	50-100	N/A
-	-	-	-	-	Red-breasted Nuthatch	7	0-50	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	N/A
-	-	-	Nov. 2/2011	8:29 - 8:44 AM	American Crow	1	0-50	N/A
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	26	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Brown Creeper	1	0-50	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Spruce Grouse	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	11	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	5	0-50	N/A
-	-	-	-	-	Swamp Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
SC20 - SC19	0399275E, 4960533N 0399147E, 4960813N	Mixedwoods, mostly mid-aged softwood	Sept. 17/2011	6:43 - 7:06 AM	American Crow	1	0-50	N/A
-	-	-	-	-	American Robin	2	0-50	N/A
-	-	-	-	-	Black-backed Woodpecker	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blue Jay	14	0-50	N/A
-	-	-	-	-	Boreal Chickadee	6	0-50	N/A
-	-	-	-	-	Cedar Waxwing	1	0-50	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	12	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	Gray-cheeked Thrush	8	0-50	N/A
-	-	-	-	-	Lincoln's Sparrow	2	0-50	N/A
-	-	-	-	-	Magnolia Warbler	2	0-50	N/A
-	-	-	-	-	Northern Flicker	1	100*	N/A
-	-	-	-	-	Pileated Woodpecker	1	100*	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	Red-tailed Hawk	1	50-100	N/A
-	-	-	-	-	Ruby-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	6	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	N/A
SC22 - SC21	0399045E, 4958876N 0399027E, 4959097N	Mixedwoods, mid-aged	Sept. 17/2011	9:03 - 9:28 AM	Black-and-white Warbler	3	0-50	1
-	-	-	-	-	Black-capped Chickadee	18	0-50	1
-	-	-	-	-	Black-throated Green Warbler	6	0-50	1
-	-	-	-	-	Blue-headed Vireo	3	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	1
-	-	-	-	-	Magnolia Warbler	6	0-50	1
-	-	-	-	-	Nashville Warbler	2	0-50	1
-	-	-	-	-	Northern Parula	7	0-50	1
-	-	-	-	-	Red-eyed Vireo	5	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	9	0-50	1
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Gray-cheeked Thrush	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SC23 - SC24	0399049E, 4958310N 0399053E, 4958009N	Mixedwoods, mid to old aged	Sept. 17/2011	7:26 - 7:36 AM	Black-capped Chickadee	24	0-50	1
-	-	-	-	-	Red-eyed Vireo	6	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	1
-	-	-	-	-	Black-throated Green Warbler	2	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	9	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	4	0-50	N/A
-	-	-	-	-	White-throated Sparrow	6	0-50	N/A
-	-	-	-	-	White-winged Crossbill	2	Fly Over	N/A
-	-	-	Oct. 8/2011	8:20 - 8:46 AM	Black-capped Chickadee	11	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	5	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	4	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	4	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	33	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	10	0-50	N/A
SC25 - SC26	0399026E, 4957961N 0398960E, 4957665N	Mid to old aged hardwoods	Sept. 17/2011	8:30 - 8:55 AM	Black-and-white Warbler	4	0-50	1
-	-	-	-	-	Black-capped Chickadee	22	0-50	1
-	-	-	-	-	Blackpoll Warbler	2	0-50	1
-	-	-	-	-	Black-throated Green Warbler	4	0-50	1
-	-	-	-	-	Blue-headed Vireo	2	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	1
-	-	-	-	-	Magnolia Warbler	5	0-50	1
-	-	-	-	-	Northern Parula	4	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	4	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	1
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	Oct. 29/2011	8:23 - 8:43 AM	American Crow	1	100*	N/A
-	-	-	-	-	American Robin	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	16	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Boreal Chickadee	4	0-50	N/A
-	-	-	-	-	Brown Creeper	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	8	0-50	N/A
-	-	-	-	-	Gray Jay	2	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	8	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red Crossbill	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
SC27 - SC28	0398987E, 4957534N 0399123E, 4957265N	Mid-aged hardwood	Sept. 17/2011	8:12 - 8:28 AM	Black-throated Green Warbler	2	0-50	1
-	-	-	-	-	Chestnut-sided Warbler	1	0-50	1
-	-	-	-	-	Northern Parula	6	0-50	1
-	-	-	-	-	Northern Waterthrush	1	0-50	1
-	-	-	-	-	Red-eyed Vireo	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	2	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Common Loon	1	100*	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	Oct. 8/2011	7:45 - 8:21 AM	American Robin	1	0-50	N/A
-	-	-	-	-	Black-backed Woodpecker	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	27	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	2	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	4	0-50	N/A
-	-	-	-	-	Blue Jay	1	0-50	N/A
-	-	-	-	-	Boreal Chickadee	2	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	8	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Pine Siskin	23	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	N/A
-	-	-	-	-	White-winged Crossbill	2	50-100	N/A
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
003 - 004	0391019E, 4959911N 0391300E, 4959710N	Young hardwood/shrub	Sept. 20/2011	7:32 - 7:59 AM	Black-and-White Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	11	0-50	1
-	-	-	-	-	Black-throated Green Warbler	5	0-50	1
-	-	-	-	-	Blue-headed Vireo	7	0-50	1
-	-	-	-	-	Common Yellowthroat	6	0-50	1
-	-	-	-	-	Magnolia Warbler	4	0-50	1
-	-	-	-	-	Nashville Warbler	6	0-50	1
-	-	-	-	-	Northern Parula	4	0-50	1
-	-	-	-	-	Palm Warbler	3	0-50	1
-	-	-	-	-	Red-eyed Vireo	2	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	3	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	1
-	-	-	-	-	American Crow	4	0-50	N/A
-	-	-	-	-	American Robin	13	0-50	N/A
-	-	-	-	-	Blue Jay	5	0-50	N/A
-	-	-	-	-	Chestnut-sided Warbler	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Northern Flicker	1	100*	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	5	0-50	N/A
-	-	-	-	-	Swamp Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	14	0-50	N/A
011 - 012	0398886E, 4956619N 0399084E, 4956794N	Regenerating clearcut	Sept. 23/2011	7:28 - 7:53 AM	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	3	0-50	N/A
-	-	-	-	-	Blue Jay	4	50-100	N/A
-	-	-	-	-	Common Yellowthroat	3	0-50	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hermit Thrush	2	50-100	N/A
-	-	-	-	-	Northern Parula	5	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	1	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	N/A
-	-	-	Sept. 29/2011	7:33 - 7:50 AM	Bicknell's Thrush	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	2	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	3	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Hairy Woodpecker	1	50-100	N/A
-	-	-	-	-	Northern Parula	2	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	2	50-100	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	N/A
013 - 014	0399050E, 4958223N 0399050E, 4458522N	Mixedwoods, mid-aged	Sept. 23/2011	8:07 - 8:37 AM	Black-capped Chickadee	8	0-50	1
-	-	-	-	-	Blackpoll Warbler	4	0-50	1
-	-	-	-	-	Black-throated Green Warbler	6	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	1
-	-	-	-	-	Hairy Woodpecker	1	0-50	1
-	-	-	-	-	Nashville Warbler	2	0-50	1
-	-	-	-	-	Northern Parula	5	0-50	1
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	1
-	-	-	-	-	Black-capped Chickadee	4	0-50	2
-	-	-	-	-	Black-throated Green Warbler	7	0-50	2
-	-	-	-	-	Downy Woodpecker	1	0-50	2
-	-	-	-	-	Palm Warbler	6	0-50	2
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	2
-	-	-	-	-	American Robin	11	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	2	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Gray Jay	1	100*	N/A
-	-	-	Oct. 8/2011	8:48 - 9:24 AM	Black-capped Chickadee	14	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	7	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Common Raven	3	100*	N/A
-	-	-	-	-	Dark-eyed Junco	11	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Palm Warbler	1	0-50	N/A
-	-	-	-	-	Pine Siskin	57	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	9	0-50	N/A
-	-	-	-	-	Spruce Grouse	2	0-50	N/A
-	-	-	-	-	Swamp Sparrow	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	N/A
-	-	-	Oct. 23/2011	8:39 - 9:05 AM	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	3	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	14	0-50	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Dark-eyed Junco	12	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	5	0-50	N/A
-	-	-	-	-	Orange-crowned Warbler	1	0-50	N/A
-	-	-	-	-	Pine Siskin	11	0-50	N/A
-	-	-	-	-	Red Crossbill	1	Fly Over	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	N/A
-	-	-	-	-	White-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
017 - 018	0393543E, 4961268N 0393473E, 4960973N	Regenerating clearcut, mixedwoods	Sept. 23/2011	10:15 - 10:38 AM	Black-capped Chickadee	12	0-50	1
-	-	-	-	-	Blackpoll Warbler	7	0-50	1
-	-	-	-	-	Black-throated Green Warbler	4	0-50	1
-	-	-	-	-	Boreal Chickadee	4	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	1
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	1
-	-	-	-	-	American Robin	1	0-50	2
-	-	-	-	-	Swainson's Thrush	2	0-50	2
019 - 020	0393756E, 4959608N 0393931E, 4959355N	Mixedwoods	Sept. 23/2011	10:50 - 11:08 AM	Black-and-white Warbler	5	0-50	1
-	-	-	-	-	Blackburnian Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	12	0-50	1
-	-	-	-	-	Blackpoll Warbler	7	0-50	1
-	-	-	-	-	Black-throated Green Warbler	7	0-50	1
-	-	-	-	-	Boreal Chickadee	8	0-50	1
-	-	-	-	-	Chestnut-sided Warbler	2	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	1
-	-	-	-	-	Hairy Woodpecker	1	0-50	1
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	3	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	1
-	-	-	-	-	Bobolink	9	0-50	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Northern Flicker	1	50-100	N/A
060 - 061	0398925E, 4956441N 0398975E, 4956141N	-	Oct.13/2011	8:18 - 8:36 AM	American Crow	4	100*	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	6	0-50	N/A
-	-	-	-	-	Black-and-white Warbler	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	14	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	4	0-50	N/A
-	-	-	-	-	Blue Jay	6	50-100	N/A
-	-	-	-	-	Common Raven	2	100*	N/A
-	-	-	-	-	Dark-eyed Junco	5	0-50	N/A
-	-	-	-	-	Fox Sparrow	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Gray Jay	2	50-100	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Hermit Thrush	1	0-50	N/A
-	-	-	-	-	Pine Siskin	36	Fly Over	N/A
-	-	-	-	-	Purple Finch	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	3	0-50	N/A
-	-	-	-	-	Red-tailed Hawk	1	0-50	N/A
-	-	-	-	-	Swamp Sparrow	4	0-50	N/A
-	-	-	-	-	White-throated Sparrow	11	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	N/A
062 - 063	0394325E, 4958642N 0394402E, 4958346N	Mixedwoods, young-mid aged	Oct. 13/2011	10:34 - 10:48 AM	American Robin	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Boreal Chickadee	4	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	5	0-50	N/A
-	-	-	-	-	Palm Warbler	2	0-50	N/A
-	-	-	-	-	Pine Siskin	11	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Swamp Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	9	0-50	N/A
-	-	-	-	-	White-winged Crossbill	2	0-50	N/A
070 - 071	0399208E, 4955949N 0399469E, 4955938N	Regenerating clearcut, softwood dominated	Oct. 23/2011	8:00 - 8:22 AM	American Crow	4	50-100	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	4	0-50	N/A
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Common Raven	2	100*	N/A
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	8	0-50	N/A
-	-	-	-	-	Forster's Tern	1	Fly Over	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	8	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Spruce Grouse	1	0-50	N/A
-	-	-	-	-	Swamp Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	N/A
072 - 073	0399056E, 4958802N 0399031E, 4959092N	Unknown	Oct. 23/2011	9:10 - 9:30 AM	American Robin	18	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	12	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Common Raven	2	100*	N/A
-	-	-	-	-	Dark-eyed Junco	8	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Eastern Bluebird	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	4	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
074 - 075	0392015E, 4957862N 0392284E, 4957768N	Regenerating clearcut	Oct. 27/2011	7:41 - 7:56 AM	American Robin	14	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	21	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Gray Jay	4	0-50	N/A
-	-	-	-	-	Indigo Bunting	1	50-100	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	Swamp Sparrow	3	0-50	N/A
080 - 081	0399142E, 4957039N	Unknown	Oct. 29/2011	7:46 - 8:01 AM	American Goldfinch	6	0-50	N/A
-	-	-	-	-	American Robin	21	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Brown Creeper	1	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Dark-eyed Junco	17	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Gray Jay	2	0-50	N/A
-	-	-	-	-	Pine Siskin	2	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	5	0-50	N/A
082 - 083	0399730E, 4955458N 0399605E, 4955681N	Old hemlocks, mid-hardwoods	Oct. 29/2011	10:46 - 11:03 AM	American Crow	2	100+	N/A
-	-	-	-	-	Boreal Chickadee	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	20	0-50	N/A
-	-	-	-	-	Pine Siskin	53	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	3	0-50	N/A
084 - 085	0393758E, 4959945N 0393718E, 4959662N	Mid-aged softwood, mixed	Nov. 2/2011	10:04 - 10:20 AM	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	8	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	43	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	18	0-50	N/A
-	-	-	-	-	Purple Finch	8	0-50	N/A
086 - 087	0393563E, 4961297N 0393600E, 4961572N	Mid-aged softwood, mixed	Nov. 2/2011	10:29 - 10:44 AM	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	19	0-50	N/A
-	-	-	-	-	Boreal Chickadee	2	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Pine Siskin	11	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	4	0-50	N/A
-	-	-	-	-	White-winged Crossbill	12	50-100	N/A

Table 4: South Canoe Lake Wind Project Passerine Stopover Counts Results - Reference Site

Project # 11-4314

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SCC1 - SCC2	0401395E, 4955912N 0401536E, 4956156N	Alder/shrub, mixedwoods beyond	Sept. 9/2011	7:03 - 7:13 AM	American Redstart	3	0-50	1
-	-	-	-	-	Black-and-White Warbler	1	0-50	1
-	-	-	-	-	Black-capped Chickadee	7	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	1
-	-	-	-	-	Black-capped Chickadee	4	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
SCC3 - SCC4	0401226E, 4955155N 0401326E, 4954905N	Mixedwoods regenerating clearcut	Sept. 9/2011	7:25 - 7:49 AM	Black-and-White Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	4	0-50	1
-	-	-	-	-	Black-throated Green Warbler	2	0-50	1
-	-	-	-	-	Blue-headed Vireo	3	0-50	1
-	-	-	-	-	Magnolia Warbler	5	0-50	1
-	-	-	-	-	Nashville Warbler	2	0-50	1
-	-	-	-	-	Palm Warbler	3	0-50	1
-	-	-	-	-	Red-eyed Vireo	2	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	3	0-50	1
-	-	-	-	-	American Crow	1	0-50	N/A
-	-	-	-	-	American Goldfinch	1	0-50	N/A
-	-	-	-	-	American Robin	6	50-100	N/A
-	-	-	-	-	Black-and-White Warbler	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	16	0-50	N/A
-	-	-	-	-	Boreal Chickadee	4	0-50	N/A
-	-	-	-	-	Chestnut-sided Warbler	2	0-50	N/A
-	-	-	-	-	Common Raven	4	100+	N/A
-	-	-	-	-	Common Yellowthroat	9	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	8	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Lincoln's Sparrow	1	0-50	N/A
-	-	-	-	-	Magnolia Warbler	5	0-50	N/A
-	-	-	-	-	Nashville Warbler	2	0-50	N/A
-	-	-	-	-	Palm Warbler	1	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	1	0-50	N/A
-	-	-	-	-	White-eyed Vireo	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	1	Fly Over	N/A
-	-	-	Sept. 28/2011	7:20 - 7:49 AM	American Crow	6	100+	N/A
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	7	0-50	N/A
-	-	-	-	-	American Woodcock	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	100+	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Common Yellowthroat	4	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Hermit Thrush	5	0-50	N/A
-	-	-	-	-	Lincoln's Sparrow	1	0-50	N/A
-	-	-	-	-	Northern Goshawk	1	0-50	N/A
-	-	-	-	-	Palm Warbler	17	0-50	N/A
-	-	-	-	-	Pine Siskin	8	0-50	N/A
-	-	-	-	-	Purple Finch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	Veery	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	36	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	N/A
-	-	-	Oct. 7/2011	7:42 - 8:15 AM	American Crow	1	100+	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	14	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	1	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	2	0-50	N/A
-	-	-	-	-	Common Raven	2	50-100	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Gray Jay	2	100+	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Hermit Thrush	1	0-50	N/A
-	-	-	-	-	Palm Warbler	5	0-50	N/A
-	-	-	-	-	Pine Siskin	7	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	Swamp Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	17	0-50	N/A
-	-	-	Nov. 10/2011	7:19 - 7:39 AM	American Crow	2	100+	N/A
-	-	-	-	-	American Goldfinch	10	0-50	N/A
-	-	-	-	-	American Robin	17	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	12	0-50	N/A
-	-	-	-	-	Lincoln's Sparrow	1	0-50	N/A
-	-	-	-	-	Pine Siskin	100+	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Song Sparrow	3	0-50	N/A
-	-	-	-	-	White-throated Sparrow	6	0-50	N/A
-	-	-	-	-	White-winged Crossbill	4	Fly Over	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SCC5 - SCC6	0402457E, 4956964N 0402669E, 4956751N	Birch/spruce regenerating clearcut	Sept. 9/2011	8:09 - 8:26 AM	Black-and-White Warbler	1	0-50	1
-	-	-	-	-	Black-capped Chickadee	16	0-50	1
-	-	-	-	-	Common Yellowthroat	6	0-50	1
-	-	-	-	-	Nashville Warbler	1	0-50	1
-	-	-	-	-	Palm Warbler	7	0-50	1
-	-	-	-	-	Black-and-White Warbler	4	0-50	N/A
-	-	-	-	-	Blue Jay	6	100*	N/A
-	-	-	-	-	Dark-eyed Junco	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	50-100	N/A
-	-	-	-	-	White-throated Sparrow	8	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	1	Fly Over	N/A
SCC7 - SCC8	0404368E, 4956700N 0404592E, 4956483N	Young birch, some old maples	Sept. 9/2011	8:35 - 9:16 AM	Black-and-White Warbler	6	0-50	1
-	-	-	-	-	Black-capped Chickadee	20	0-50	1
-	-	-	-	-	Blackpoll Warbler	2	0-50	1
-	-	-	-	-	Black-throated Green Warbler	8	0-50	1
-	-	-	-	-	Brown Creeper	1	0-50	1
-	-	-	-	-	Chestnut-sided Warbler	3	0-50	1
-	-	-	-	-	Common Yellowthroat	9	0-50	1
-	-	-	-	-	Magnolia Warbler	19	0-50	1
-	-	-	-	-	Nashville Warbler	5	0-50	1
-	-	-	-	-	Palm Warbler	7	0-50	1
-	-	-	-	-	Red-eyed Vireo	11	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	1
-	-	-	-	-	Black-and-White Warbler	2	0-50	2
-	-	-	-	-	Black-capped Chickadee	22	0-50	2
-	-	-	-	-	Black-throated Green Warbler	8	0-50	2
-	-	-	-	-	Blue-headed Vireo	29	0-50	2
-	-	-	-	-	Common Yellowthroat	11	0-50	2
-	-	-	-	-	Least Flycatcher	1	0-50	2
-	-	-	-	-	Magnolia Warbler	23	0-50	2
-	-	-	-	-	Nashville Warbler	4	0-50	2
-	-	-	-	-	Northern Parula	2	0-50	2
-	-	-	-	-	Palm Warbler	3	0-50	2
-	-	-	-	-	Red-eyed Vireo	12	0-50	2
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	2
-	-	-	-	-	American Crow	1	100*	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	2	0-50	N/A
-	-	-	-	-	Blue Jay	1	50-100	N/A
-	-	-	-	-	Cedar Waxwing	6	0-50	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Common Yellowthroat	16	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	2	0-50	N/A
-	-	-	-	-	Gray Catbird	1	0-50	N/A
-	-	-	-	-	Northern Flicker	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	6	0-50	N/A
SCC9 - SCC10	0406584E, 4953836N 0406709E, 4953564N	Regenerating clearcut, some large standing hardwoods	Sept. 9/2011	9:36 - 10:00 AM	Black-capped Chickadee	20	0-50	1
-	-	-	-	-	Blackpoll Warbler	3	0-50	1
-	-	-	-	-	Black-throated Green Warbler	4	0-50	1
-	-	-	-	-	Blue-headed Vireo	3	0-50	1
-	-	-	-	-	Common Yellowthroat	6	0-50	1
-	-	-	-	-	Magnolia Warbler	5	0-50	1
-	-	-	-	-	Northern Parula	3	0-50	1
-	-	-	-	-	Palm Warbler	6	0-50	1
-	-	-	-	-	Red-eyed Vireo	7	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	1
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	5	50-100	N/A
-	-	-	-	-	Common Yellowthroat	7	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	100*	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Northern Flicker	1	100*	N/A
-	-	-	-	-	Red-breasted Nuthatch	3	50-100	N/A
-	-	-	-	-	Red-eyed Vireo	2	50-100	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	12	0-50	N/A
SCC11 - SCC12	0403549E, 4962109N 0403477E, 4962401N	Mid-aged softwood, some young hardwoods and shrubs	Sept. 9/2011	10:42 - 10:58 AM	Black-and-White Warbler	1	0-50	1
-	-	-	-	-	Black-capped Chickadee	17	0-50	1
-	-	-	-	-	Black-throated Green Warbler	2	0-50	1
-	-	-	-	-	Red-eyed Vireo	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	1
-	-	-	-	-	Blue Jay	1	100*	N/A
-	-	-	-	-	Common Raven	1	100*	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	50-100	N/A
-	-	-	Oct.12/2011	10:28 - 10:42 AM	American Robin	9	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	4	0-50	N/A
-	-	-	-	-	Common Raven	2	100*	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Pine Siskin	18	Fly Over	N/A
-	-	-	-	-	Purple Finch	1	50-100	N/A
-	-	-	-	-	Red-breasted Nuthatch	3	0-50	N/A
-	-	-	-	-	Rusty Blackbird	1	50-100	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	Swamp Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	12	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SCC13 - SCC14	0401409E, 4964405N 0401564E, 4964659N	Large pines to S, mixedwoods (mid-aged) to N	Sept. 13/2011	6:57 - 7:14 AM	American Black Duck	8	Fly Over	N/A
-	-	-	-	-	American Crow	2	100+	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	20	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	3	0-50	N/A
-	-	-	-	-	Blue Jay	8	50-100	N/A
-	-	-	-	-	Common Raven	2	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	50-100	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	N/A
-	-	-	Sept. 20/2011	10:15 - 10:30 AM	American Robin	5	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	12	0-50	N/A
-	-	-	-	-	Blue Jay	8	0-50	N/A
-	-	-	-	-	Common Raven	4	50-100	N/A
-	-	-	-	-	Common Yellowthroat	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Gray-cheeked Thrush	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	4	0-50	N/A
SCC16 - SCC15	0400789E, 4963639N 0401001E, 4963852N	Mixedwoods, young to mid-aged	Sept. 13/2011	7:21 - 7:41 AM	Black-and-White Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	8	0-50	1
-	-	-	-	-	Black-throated Green Warbler	2	0-50	1
-	-	-	-	-	Blue-headed Vireo	2	0-50	1
-	-	-	-	-	Common Yellowthroat	6	0-50	1
-	-	-	-	-	Magnolia Warbler	3	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	4	0-50	1
-	-	-	-	-	American Crow	1	100+	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	4	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Blue-headed Vireo	1	0-50	N/A
-	-	-	-	-	Common Nighthawk	1	Fly Over	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	4	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	European Starling	1	Fly Over	N/A
-	-	-	-	-	Pileated Woodpecker	1	100+	N/A
-	-	-	-	-	Purple Finch	1	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	8	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	N/A
SCC18 - SCC17	0400349E, 4966045N 0400392E, 4966341N	Mixed aged black spruce	Sept. 13/2011	8:00 - 8:20 AM	Bay-breasted Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	8	0-50	1
-	-	-	-	-	Black-throated Green Warbler	3	0-50	1
-	-	-	-	-	Blue-headed Vireo	6	0-50	1
-	-	-	-	-	Magnolia Warbler	3	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	1
-	-	-	-	-	Broad-winged Hawk	1	0-50	N/A
-	-	-	-	-	Cedar Waxwing	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	100+	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	N/A
SCC20 - SCC19	0397879E, 4962876N 0397867E, 4963174N	Regenerating clearcut with some standing hardwoods	Sept. 13/2011	8:33 - 9:05 AM	Black-and-White Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	10	0-50	1
-	-	-	-	-	Black-throated Green Warbler	7	0-50	1
-	-	-	-	-	Blue-headed Vireo	3	0-50	1
-	-	-	-	-	Magnolia Warbler	6	0-50	1
-	-	-	-	-	Northern Parula	1	0-50	1
-	-	-	-	-	Palm Warbler	1	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	3	0-50	1
-	-	-	-	-	Savannah Sparrow	2	0-50	1
-	-	-	-	-	Tennessee Warbler	1	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	14	0-50	1
-	-	-	-	-	Black-throated Green Warbler	1	0-50	2
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	2
-	-	-	-	-	American Goldfinch	6	0-50	N/A
-	-	-	-	-	Blue Jay	8	0-50	N/A
-	-	-	-	-	Common Yellowthroat	6	0-50	N/A
-	-	-	-	-	Gray Catbird	1	0-50	N/A
-	-	-	-	-	Mourning Dove	5	0-50	N/A
-	-	-	-	-	Northern Flicker	9	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	5	0-50	N/A
-	-	-	-	-	Swamp Sparrow	2	0-50	N/A
-	-	-	Sept. 20/2011	9:47 - 10:03 AM	American Crow	6	50-100	N/A
-	-	-	-	-	American Goldfinch	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	2	0-50	N/A
-	-	-	-	-	Common Yellowthroat	9	0-50	N/A
-	-	-	-	-	Magnolia Warbler	3	0-50	N/A
-	-	-	-	-	Northern Flicker	1	100+	N/A
-	-	-	-	-	Palm Warbler	7	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	1	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Song Sparrow	9	0-50	N/A
-	-	-	-	-	Swamp Sparrow	12	0-50	N/A
-	-	-	-	-	White-throated Sparrow	8	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	11	0-50	N/A
-	-	-	Oct. 27/2011	8:58 - 9:14 AM	American Crow	4	100+	N/A
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	23	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	26	0-50	N/A
-	-	-	-	-	Blue Jay	1	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Dark-eyed Junco	18	0-50	N/A
-	-	-	-	-	European Starling	4	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Northern Mockingbird	1	0-50	N/A
-	-	-	-	-	Red Crossbill	30+	50-100	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
SCC21 - SCC22	0394072E, 4962336N 0393793E, 4962234N	Small alders/grey birch along road, bigger poplar/maple behind	Sept. 13/2011	9:25 - 9:48 AM	Blackburnian Warbler	1	0-50	1
-	-	-	-	-	Black-capped Chickadee	12	0-50	1
-	-	-	-	-	Black-throated Green Warbler	9	0-50	1
-	-	-	-	-	Blue-headed Vireo	5	0-50	1
-	-	-	-	-	Common Yellowthroat	4	0-50	1
-	-	-	-	-	Magnolia Warbler	4	0-50	1
-	-	-	-	-	Red-eyed Vireo	4	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	6	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	1
-	-	-	-	-	Black-capped Chickadee	4	0-50	2
-	-	-	-	-	Yellow-rumped Warbler	3	0-50	2
-	-	-	-	-	American Crow	1	100+	N/A
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	1	0-50	N/A
-	-	-	-	-	Blue Jay	1	50-100	N/A
-	-	-	-	-	Cedar Waxwing	1	0-50	N/A
-	-	-	-	-	Northern Flicker	2	0-50	N/A
-	-	-	-	-	Song Sparrow	4	0-50	N/A
SCC24 - SCC23	0392885E, 4961772N 0392738E, 4962034N	Open balsam fir plantation	Sept. 13/2011	9:57 - 10:14 AM	Black-throated Green Warbler	3	0-50	1
-	-	-	-	-	Common Yellowthroat	4	0-50	1
-	-	-	-	-	Lark Sparrow	1	0-50	1
-	-	-	-	-	Palm Warbler	1	0-50	1
-	-	-	-	-	Savannah Sparrow	3	0-50	1
-	-	-	-	-	Song Sparrow	5	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	1
-	-	-	-	-	Black-capped Chickadee	6	0-50	2
-	-	-	-	-	Common Yellowthroat	1	0-50	2
-	-	-	-	-	Magnolia Warbler	3	0-50	2
-	-	-	-	-	American Goldfinch	1	0-50	N/A
-	-	-	Sept. 20/2011	9:13 - 9:34 AM	American Crow	5	100+	N/A
-	-	-	-	-	American Goldfinch	14	0-50	N/A
-	-	-	-	-	American Robin	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	5	0-50	N/A
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Common Yellowthroat	7	0-50	N/A
-	-	-	-	-	Nashville Warbler	1	0-50	N/A
-	-	-	-	-	Palm Warbler	4	0-50	N/A
-	-	-	-	-	Savannah Sparrow	3	0-50	N/A
-	-	-	-	-	Song Sparrow	14	0-50	N/A
-	-	-	-	-	Swamp Sparrow	8	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	N/A
SC9 - SC10	0397528E, 4962843N 0397429E, 4962559N	Regenerating clear-cut	Sept. 7/2011	9:03 - 9:20 AM	American Redstart	3	0-50	1
-	-	-	-	-	Black-capped Chickadee	12	0-50	1
-	-	-	-	-	Common Yellowthroat	12	0-50	1
-	-	-	-	-	Northern Parula	3	0-50	1
-	-	-	-	-	Palm Warbler	5	0-50	1
-	-	-	-	-	Prairie Warbler	1	0-50	1
-	-	-	-	-	American Crow	2	100+	N/A
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	1	50-100	N/A
-	-	-	-	-	Black-capped Chickadee	14	50-100	N/A
-	-	-	-	-	Common Yellowthroat	11	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	50-100	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Hermit Thrush	1	100+	N/A
-	-	-	-	-	Northern Flicker	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
001 - 002	0386667E, 4958477N 0386394E, 4958560N	Mixedwoods, young to mid-aged	Sept. 20/2011	6:54 - 7:15 AM	Black-capped Chickadee	12	0-50	1
-	-	-	-	-	Blue-headed Vireo	1	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	6	0-50	1
-	-	-	-	-	American Crow	6	100+	N/A
-	-	-	-	-	American Robin	4	0-50	N/A
-	-	-	-	-	Blue Jay	8	50-100	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	21	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
-	-	-	-	-	Yellow-bellied Sapsucker	1	0-50	N/A
006 - 007	0391300E, 4961243N 0391121E, 4961458N	Regenerating clearcut to E, mid-aged hardwoods with shrubs to W	Sept. 20/2011	8:07 - 8:27 AM	American Crow	4	100+	N/A
-	-	-	-	-	American Goldfinch	1	50-100	N/A
-	-	-	-	-	American Robin	1	50-100	N/A
-	-	-	-	-	Baltimore Oriole	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	12	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	4	0-50	N/A
-	-	-	-	-	Blue Jay	2	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	14	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Common Yellowthroat	17	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Downy Woodpecker	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Magnolia Warbler	3	0-50	N/A
-	-	-	-	-	Palm Warbler	28	0-50	N/A
-	-	-	-	-	Philadelphia Vireo	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Red-eyed Vireo	9	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	7	0-50	N/A
-	-	-	-	-	Song Sparrow	6	0-50	N/A
-	-	-	-	-	Swamp Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	N/A

Table 4 (pg 5): South Canoe Lake Wind Project Passerine Stopover Counts Results - Reference Site

Project # 11-4314

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
008 - 009	0391059E, 4963066N 0390940E, 4962848N	Mixedwoods, small shrubs along road	Sept. 20/2011	8:37 - 8:59 AM	Black-capped Chickadee	8	0-50	1
-	-	-	-	-	Black-throated Green Warbler	5	0-50	1
-	-	-	-	-	Blue-headed Vireo	3	0-50	1
-	-	-	-	-	Common Yellowthroat	2	0-50	1
-	-	-	-	-	Magnolia Warbler	3	0-50	1
-	-	-	-	-	Northern Parula	2	0-50	1
-	-	-	-	-	Red-breasted Nuthatch	6	0-50	1
-	-	-	-	-	Red-eyed Vireo	5	0-50	1
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	1
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Cedar Waxwing	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	5	0-50	N/A
-	-	-	-	-	Evening Grosbeak	6	100*	N/A
-	-	-	-	-	Hermit Thrush	3	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	100*	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
015 - 016	0399182E, 4961526N 0399356E, 4961736N	Regenerating clearcut	Sept. 23/2011	8:59 - 9:33 AM	Black-and-white Warbler	2	0-50	1
-	-	-	-	-	Black-capped Chickadee	9	0-50	1
-	-	-	-	-	Black-throated Green Warbler	4	0-50	1
-	-	-	-	-	Blue-headed Vireo	2	0-50	1
-	-	-	-	-	Brown Creeper	1	0-50	1
-	-	-	-	-	Canada Warbler	1	0-50	1
-	-	-	-	-	Common Yellowthroat	3	0-50	1
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	1
-	-	-	-	-	Hairy Woodpecker	1	0-50	1
-	-	-	-	-	Palm Warbler	3	0-50	1
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	1
-	-	-	-	-	Swamp Sparrow	6	0-50	1
-	-	-	-	-	White-throated Sparrow	8	0-50	1
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	1
-	-	-	-	-	American Crow	4	50-100	N/A
-	-	-	-	-	American Robin	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	4	0-50	N/A
-	-	-	-	-	Blue Jay	7	0-50	N/A
-	-	-	-	-	Common Raven	1	50-100	N/A
-	-	-	-	-	Common Yellowthroat	4	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Gray Jay	4	50-100	N/A
-	-	-	-	-	Merlin	1	0-50	N/A
-	-	-	-	-	Northern Flicker	1	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Sharp-shinned Hawk	1	0-50	N/A
-	-	-	-	-	Winter Wren	2	0-50	N/A
-	-	-	Oct. 23/2011	9:37 - 10:03 AM	Black-backed Woodpecker	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	20	0-50	N/A
-	-	-	-	-	Brown Creeper	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	10	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	32	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	8	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
021 - 022	0399865E, 4952554N 0399657E, 4952352N	Card Lake, mid-aged mixedwoods	Sept. 28/2011	6:51 - 7:09 AM	American Crow	4	100*	N/A
-	-	-	-	-	American Robin	1	0-50	N/A
-	-	-	-	-	Blue Jay	2	100*	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hermit Thrush	4	0-50	N/A
-	-	-	-	-	Northern Goshawk	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	50-100	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	Swainson's Thrush	3	0-50	N/A
-	-	-	-	-	White-throated Sparrow	2	0-50	N/A
-	-	-	Oct. 12/2011	7:11 - 7:27 AM	American Crow	6	100*	N/A
-	-	-	-	-	American Robin	5	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Blue-headed Vireo	1	0-50	N/A
-	-	-	-	-	Common Raven	2	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	12	50-100	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hermit Thrush	2	0-50	N/A
-	-	-	-	-	Purple Finch	2	50-100	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	50-100	N/A
-	-	-	Nov. 10/2011	6:50 - 7:05 AM	American Crow	61	0-50	N/A
-	-	-	-	-	American Goldfinch	4	0-50	N/A
-	-	-	-	-	American Robin	37	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	5	50-100	N/A
-	-	-	-	-	Brown Creeper	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	3	0-50	N/A
-	-	-	-	-	Mourning Dove	1	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	12	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	3	0-50	N/A
-	-	-	-	-	White-winged Crossbill	8	Fly Over	N/A
023 - 024	0402713E, 4956493N 0402592E, 4956241N	Regenerating clearcut (birches and pin cherry)	Sept. 28/2011	8:13 - 8:38 AM	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	6	0-50	N/A
-	-	-	-	-	American Robin	18	Fly Over	N/A
-	-	-	-	-	Black-throated Green Warbler	1	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	1	Fly Over	N/A
-	-	-	-	-	Blue Jay	2	100*	N/A
-	-	-	-	-	Common Raven	2	100*	N/A
-	-	-	-	-	Common Yellowthroat	10	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	50-100	N/A
-	-	-	-	-	Hermit Thrush	1	0-50	N/A
-	-	-	-	-	Nashville Warbler	6	0-50	N/A
-	-	-	-	-	Northern Parula	2	0-50	N/A
-	-	-	-	-	Osprey	1	100*	N/A
-	-	-	-	-	Palm Warbler	4	0-50	N/A
-	-	-	-	-	Pine Siskin	12*	Fly Over	N/A
-	-	-	-	-	Pine Warbler	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	100*	N/A
-	-	-	-	-	Ruby-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	Song Sparrow	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	5	Fly Over	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
025 - 026	0402458E, 4959315N 0402702E, 4959217N	-	Sept. 28/2011	9:28 - 9:46 AM	American Crow	6	100+	N/A
-	-	-	-	-	American Robin	18	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	4	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Dark-eyed Junco	4	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	8	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	2	0-50	N/A
-	-	-	-	-	Palm Warbler	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	100+	N/A
-	-	-	-	-	Ruby-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	1	Fly Over	N/A
027 - 028	0403599E, 4961762N 0403636E, 4961491N	-	Sept. 28/2011	10:31 - 10:49 AM	American Robin	5	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	5	0-50	N/A
-	-	-	-	-	Blackpoll Warbler	1	Fly Over	N/A
-	-	-	-	-	Black-throated Green Warbler	2	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	1	Fly Over	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Common Yellowthroat	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	50-100	N/A
-	-	-	-	-	Nashville Warbler	2	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	6	100+	N/A
-	-	-	-	-	Red-tailed Hawk	1	100+	N/A
-	-	-	-	-	Ruffed Grouse	1	50-100	N/A
-	-	-	-	-	White-throated Sparrow	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	1	Fly Over	N/A
-	-	-	-	-	Yellow-rumped Warbler	1	Fly Over	N/A
-	-	-	Oct. 18/2011	9:13 - 9:27 AM	American Robin	6	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Chipping Sparrow	6	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Dark-eyed Junco	16	0-50	N/A
-	-	-	-	-	Fox Sparrow	7	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	8	0-50	N/A
-	-	-	-	-	Pine Siskin	60	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	8	0-50	N/A
029 - 030	0399157E, 4961279N 0399188E, 4961569N	Mixedwoods, hardwood, regenerating clearcut	Sept. 29/2011	9:45 - 10:22AM	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	1	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	9	0-50	N/A
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	4	0-50	N/A
-	-	-	-	-	Boreal Chickadee	2	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Northern Flicker	1	100+	N/A
-	-	-	-	-	Red-breasted Nuthatch	4	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Rusty Blackbird	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	8	0-50	N/A
034 - 035	0403219E, 4959056N 0403485E, 4958920N	Mixedwoods	Oct. 7/2011	9:12 - 9:47 AM	American Crow	1	0-50	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	American Robin	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	18	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	2	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	2	0-50	N/A
-	-	-	-	-	Boreal Chickadee	4	0-50	N/A
-	-	-	-	-	Common Raven	1	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Gray Jay	2	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	3	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	4	0-50	N/A
-	-	-	Oct. 18/2011	8:04 - 8:17 AM	American Robin	7	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blue-headed Vireo	1	0-50	N/A
-	-	-	-	-	Common Raven	4	50-100	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Gray Jay	8	50-100	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Palm Warbler	1	0-50	N/A
-	-	-	-	-	Pine Siskin	2	Fly Over	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	White-winged Crossbill	1	Fly Over	N/A
-	-	-	-	-	Yellow-rumped Warbler	5	0-50	N/A
036 - 037	0397860E, 4963840N 039716E, 4963560N	Regenerating clearcut, cow pasture	Oct.7/2011	11:03 - 11:20 AM	American Crow	4	0-50	N/A
-	-	-	-	-	American Goldfinch	2	0-50	N/A
-	-	-	-	-	Black-and-White Warbler	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	2	0-50	N/A
-	-	-	-	-	Common Raven	1	50-100	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	6	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Northern Flicker	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	3	0-50	N/A
-	-	-	-	-	Swamp Sparrow	6	0-50	N/A
-	-	-	-	-	Redwing Blackbirds	2	0-50	N/A
-	-	-	-	-	White-throated Sparrow	9	0-50	N/A

Table 4 (pg 7): South Canoe Lake Wind Project Passerine Stopover Counts Results - Reference Site

Project # 11-4314

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
046 - 047	0402953E, 4956390N 0403189E, 4956200N	Regenerating clearcut	Oct. 12/2011	8:02 - 8:16 AM	American Crow	2	100+	N/A
-	-	-	-	-	American Robin	18	0-50	N/A
-	-	-	-	-	Black-and-White Warbler	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	50-100	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Common Yellowthroat	2	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	4	0-50	N/A
-	-	-	-	-	Song Sparrow	6	0-50	N/A
-	-	-	-	-	Swamp Sparrow	8	0-50	N/A
-	-	-	-	-	White-throated Sparrow	17	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	27	0-50	N/A
-	-	-	-	-	American Crow	4	100+	N/A
-	-	-	Nov. 10/2011	8:04 - 8:20 AM	American Robin	7	50-100	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Common Raven	2	0-50	N/A
-	-	-	-	-	Common Raven	5	50-100	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	50-100	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red Crossbill	4	Fly Over	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	50-100	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
048 - 049	0402332E, 4959603N 0402370E, 4959352N	Mixedwoods, mid-aged	Oct. 12/2011	8:35 - 8:52 AM	American Robin	7	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	14	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Boreal Chickadee	4	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Dark-eyed Junco	12	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	4	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	8	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	7	0-50	N/A
-	-	-	Oct. 27/2011	10:16 - 10:30 AM	American Crow	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	9	0-50	N/A
-	-	-	-	-	Blue Jay	1	0-50	N/A
-	-	-	-	-	Common Raven	6	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	7	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
-	-	-	-	-	Red-tailed Hawk	2	0-50	N/A
051 - 052	0404032E, 4959793N 0403998E, 4960086N	Mixedwoods, mid-aged	Oct. 12/2011	9:41 - 9:53 AM	American Robin	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	8	0-50	N/A
-	-	-	-	-	Boreal Chickadee	6	0-50	N/A
-	-	-	-	-	Common Raven	2	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	4	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Ruby-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	White-winged Crossbill	6	Fly Over	N/A
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	N/A
-	-	-	Nov. 10/2011	9:26 - 9:40	American Crow	4	50-100	N/A
-	-	-	-	-	Dark-eyed Junco	21	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Pine Siskin	2	0-50	N/A
-	-	-	-	-	Purple Finch	4	50-100	N/A
053 - 054	0403681E, 4961355N 0403816E, 4961111N	-	Oct. 12/2011	10:06 - 10:17 AM	American Goldfinch	3	0-50	N/A
-	-	-	-	-	American Robin	8	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Boreal Chickadee	4	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Dark-eyed Junco	5	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	5	0-50	N/A
-	-	-	-	-	Gray Jay	4	0-50	N/A
-	-	-	-	-	Pine Siskin	8	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	2	0-50	N/A
055 - 056	0401140E, 4964160N 0401009E, 4963898N	Unknown	Oct. 12/2011	11:20 - 11:34 AM	Black-capped Chickadee	42	0-50	N/A
-	-	-	-	-	Black-throated Green Warbler	2	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Dark-eyed Junco	13	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	6	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	50-100	N/A
-	-	-	-	-	Ruffed Grouse	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	7	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	2	0-50	N/A
066 - 067	0403300E, 4959229N 0403206E, 4959490N	Regenerating clearcut	Oct. 18/2011	8:33 - 8:48 AM	American Robin	4	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	12	0-50	N/A
-	-	-	-	-	Blue Jay	2	50-100	N/A
-	-	-	-	-	Cedar Waxwing	6	0-50	N/A
-	-	-	-	-	Chipping Sparrow	4	0-50	N/A
-	-	-	-	-	Common Raven	2	100+	N/A
-	-	-	-	-	Dark-eyed Junco	11	0-50	N/A
-	-	-	-	-	Fox Sparrow	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Lincoln's Sparrow	1	0-50	N/A
-	-	-	-	-	Magnolia Warbler	1	0-50	N/A
-	-	-	-	-	Red-breasted Nuthatch	1	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	5	0-50	N/A
-	-	-	-	-	White-winged Crossbill	2	Fly Over	N/A
-	-	-	-	-	Yellow-rumped Warbler	7	0-50	N/A
068 - 069	0403997E, 4960194N 0403906E, 4960474N	Regenerating clearcut, young aged mixedwoods	Oct. 18/2011	9:48 - 10:02 AM	American Goldfinch	1	0-50	N/A
-	-	-	-	-	American Robin	6	0-50	N/A
-	-	-	-	-	Blue Jay	4	0-50	N/A
-	-	-	-	-	Chipping Sparrow	1	0-50	N/A
-	-	-	-	-	Common Raven	1	100+	N/A
-	-	-	-	-	Dark-eyed Junco	52	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Pine Siskin	3	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	Yellow-rumped Warbler	1	0-50	N/A

Start Waypoint - End Waypoint	Coordinates (UTM NAD83)	Habitat	Date	Start Time - End Time	Common Name	Number Observed	Distance (m)	Flock #
076 - 077	0392552E, 4956130N 0392558E, 4955836N	Regenerating clearcut, some mid-aged hardwoods	Oct. 27/2011	8:10 - 8:26 AM	American Robin	5	0-50	N/A
-	-	-	-	-	American Robin	11	Fly Over	N/A
-	-	-	-	-	Black-capped Chickadee	26	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	11	0-50	N/A
-	-	-	-	-	Downy Woodpecker	1	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	2	0-50	N/A
-	-	-	-	-	Hairy Woodpecker	1	0-50	N/A
-	-	-	-	-	Pine Siskin	12	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Red Crossbill	26	0-50	N/A
-	-	-	-	-	Song Sparrow	1	0-50	N/A
-	-	-	-	-	White-throated Sparrow	4	0-50	N/A
078 - 079	0400698E, 4963585N 0400437E, 4963521N	Regenerating clearcut	Oct. 27/2011	9:28 - 9:47 AM	American Crow	2	0-50	N/A
-	-	-	-	-	American Goldfinch	15	0-50	N/A
-	-	-	-	-	American Robin	14	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	6	0-50	N/A
-	-	-	-	-	Blue Jay	5	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	13	0-50	N/A
-	-	-	-	-	Fox Sparrow	2	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	4	0-50	N/A
-	-	-	-	-	Pileated Woodpecker	2	0-50	N/A
-	-	-	-	-	Pine Siskin	2	0-50	N/A
-	-	-	-	-	Purple Finch	2	0-50	N/A
-	-	-	-	-	Sharp-shinned Hawk	1	0-50	N/A
-	-	-	-	-	Song Sparrow	4	0-50	N/A
094 - 095	0403162E, 4959047N 0402895E, 4959111N	Mixed, mostly softwood	Nov. 10/2011	8:43 - 9:00 AM	American Robin	2	0-50	N/A
-	-	-	-	-	Black-capped Chickadee	12	0-50	N/A
-	-	-	-	-	Dark-eyed Junco	14	0-50	N/A
-	-	-	-	-	Golden-crowned Kinglet	8	0-50	N/A
-	-	-	-	-	Pine Siskin	22	0-50	N/A
-	-	-	-	-	Purple Finch	4	0-50	N/A
-	-	-	-	-	Spruce Grouse	1	0-50	N/A
-	-	-	-	-	White-winged Crossbill	4	0-50	N/A

Table 5: South Canoe Lake Wind Project Passage Migration Count Results - Property Boundary

Project # 11-4314

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Conditions		Time of Observation	Common Name	Number Observed	Behaviour	Height
SCPM1	0399283E, 4955824E	Sept. 7/2011	11:38 AM - 2:38 PM	START Sky: Overcast Precipitation: None Temp: 14°C Wind Speed: Calm Wind Direction: N/A	END Sky: Overcast Precipitation: None Temp: 14°C Wind Speed: Calm Wind Direction: N/A	Unknown	Common Raven	1	Thermal soaring, gliding to the NW	30 m*
SCPM2	-	Sept. 17/2011	10:45 AM - 12:15 PM	START Sky: Clear Precipitation: None Temp: 12°C Wind Speed: 20-40 km/h Wind Direction: NW	END Sky: Clear Precipitation: None Temp: 12°C Wind Speed: 20-40 km/h Wind Direction: NW	11:00 AM	Red-tailed Hawk	1	Perched in tree, flying through canopy	Low
-	-	-	-	-	-	11:28 AM	Common Raven	4	Gliding above trees to NW, ridge deflecting	Unknown
-	-	-	-	-	-	11:38 AM	Common Raven	1	Gliding to the NE	Unknown
-	-	-	-	-	-	11:44 AM	Red-tailed Hawk	1	Soaring to the NW	High above vegetation
-	-	-	-	-	-	11:44 AM	Broad-winged Hawk	1	Soaring to the NW	High above vegetation
-	-	-	-	-	-	11:45 AM	Red-tailed Hawk	1	Ascending from vegetation to soar in the NW	Unknown
-	-	-	-	-	-	11:46 AM	Bald Eagle	1	Gliding from E to W	High above vegetation
-	-	-	-	-	-	11:47 AM	Red-tailed Hawk	1	Ascending from vegetation to soar in the NW	Unknown
-	-	-	-	-	-	12:02 PM	Common Raven	2	Deflecting along ridge to WNW	Unknown
-	-	-	-	-	-	12:14 PM	Sharp-shinned Hawk	1	Flying above vegetation from E to W	Unknown
-	-	Sept. 23/2011	12:00 - 1:32 PM	START Sky: Overcast Precipitation: None Temp: 19°C Wind Speed: Calm Wind Direction: N/A	END Sky: Overcast Precipitation: None Temp: 19°C Wind Speed: Calm Wind Direction: N/A	Nothing Observed	N/A	N/A	N/A	N/A
-	-	Oct. 29/2011	11:19 AM - 2:19 PM	START Sky: Mostly clear Precipitation: None Temp: 3°C Wind Speed: 20 km/h Wind Direction: W	END Sky: Mostly clear Precipitation: None Temp: 5°C Wind Speed: 10 km/h Wind Direction: N/A	12:03 PM	Bald Eagle	1	Soaring to the N	Unknown
-	-	-	-	-	-	1:32 PM	American Robin	63	Flying S	Unknown
-	-	-	-	-	-	2:18 PM	American Robin	20	Flying SW	Unknown
-	-	Nov. 2/2011	11:35 AM - 2:36 PM	START Sky: clear Precipitation: None Temp: 5°C Wind Speed: 10 km/h Wind Direction: ENE	END Sky: Mostly clear Precipitation: None Temp: 9°C Wind Speed: 10 km/h Wind Direction: ENE	11:40 AM	Red-tailed Hawk	1	Soaring to the SW	Unknown
-	-	-	-	-	-	12:00 PM	Pine Siskin	20	Flying E	Unknown
-	-	-	-	-	-	12:19 PM	American Robin	73	Flying SW	Unknown
-	-	-	-	-	-	1:01 PM	Bald Eagle	1	Soaring to the N	Unknown
-	-	-	-	-	-	1:11 PM	American Robin	48	Flying SW	Unknown
-	-	-	-	-	-	1:35 PM	American Robin	126	Flying SW	Unknown
-	-	-	-	-	-	1:57 PM	Red-tailed Hawk	2	Soaring to the NW	Unknown
-	-	-	-	-	-	2:19 PM	Bald Eagle	1	Soaring to the W	Unknown
South Canoe Lake	0395094E, 4961999N	Sept. 17/2011	1:08 - 2:38 PM	START Sky: Clear Precipitation: None Temp: 13°C Wind Speed: 20-40 km/h Wind Direction: NW	END Sky: Clear Precipitation: None Temp: 15°C Wind Speed: 20-40 km/h Wind Direction: W	1:08 PM	Sharp-shinned Hawk	1	Flying SE	Unknown
-	-	-	-	-	-	1:10 PM	Cooper's Hawk	1	Flying S	Unknown
-	-	-	-	-	-	1:18 PM	Mallard Duck	2	Flying to the N toward North Canoe Lake	Unknown
-	-	-	-	-	-	1:18 PM	American Black Duck	4	Flying to the N toward North Canoe Lake	Unknown
-	-	-	-	-	-	1:27 PM	Sharp-shinned Hawk	1	Flying S, emerged from vegetation	Unknown
-	-	-	-	-	-	1:27 PM	American Kestrel	1	Flying E, emerged from vegetation	Unknown
-	-	-	-	-	-	1:40 PM	Sharp-shinned Hawk	2	Flying S	Unknown
-	-	-	-	-	-	1:48 PM	Common Raven	2	Deflecting to the S	Unknown
-	-	-	-	-	-	1:55 PM	Osprey	1	Flying E	Unknown
-	-	-	-	-	-	1:58 PM	American Kestrel	1	Perched in tree to SW	Unknown
-	-	-	-	-	-	2:00 PM	Bald Eagle	1	Gliding above trees to S	Unknown
-	-	-	-	-	-	2:01 PM	Sharp-shinned Hawk	1	Flying NE	Unknown
-	-	-	-	-	-	2:19 PM	Sharp-shinned Hawk	1	Flying SSW	Unknown
-	-	-	-	-	-	2:20 PM	Sharp-shinned Hawk	1	Flying N	Unknown
-	-	-	-	-	-	2:21 PM	Common Raven	2	Gliding along ridge to NE, attempting to soar	Unknown
-	-	-	-	-	-	2:22 PM	Sharp-shinned Hawk	2	Flying S	Unknown
-	-	-	-	-	-	2:24 PM	Sharp-shinned Hawk	1	Flying SE	Just above vegetation
-	-	-	-	-	-	2:30 PM	Common Raven	1	Flying SW	Unknown
-	-	-	-	-	-	2:31 PM	Red-tailed Hawk	2	Soaring to the W, climbing	High above vegetation
-	-	Sept. 23/2011	1:45 - 3:15	START Sky: Overcast Precipitation: Intermittent Drizzle Temp: 28°C Wind Speed: 0-10 km/h Wind Direction: SE	END Sky: Unknown Precipitation: Unknown Temp: Unknown Wind Speed: Unknown Wind Direction: Unknown	2:10 PM	Merlin	1	Flying to NE	Below the height of the vegetation
-	-	-	-	-	-	2:53 PM	American Kestrel	1	Perched in tree	N/A

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Conditions		Time of Observation	Common Name	Number Observed	Behaviour	Height
-	-	Sept. 29/2011	11:45 AM - 3:00 PM	START Sky: Cloudy Precipitation: None Temp: 16°C Wind Speed: 20-30 km/h Wind Direction: S	END Sky: Unknown Precipitation: Unknown Temp: Unknown Wind Speed: Unknown Wind Direction: Unknown	11:50 AM	Bald Eagle	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:58 PM	Merlin	1	Flying SW	Below the height of the vegetation
-	-	-	-	-	-	12:59 PM	Bald Eagle	1	Flying E	Above height of vegetation
-	-	-	-	-	-	1:00 PM	Rusty Blackbird	6	Flying SW	Above height of vegetation
-	-	-	-	-	-	1:05 PM	Bald Eagle	1	Perched in tree	N/A
-	-	-	-	-	-	1:34 PM	Northern Harrier	1	Flying SE	Above height of vegetation
-	-	-	-	-	-	1:50 PM	Common Raven	2	Soaring to the S	Unknown
-	-	-	-	-	-	1:59 PM	Common Raven	1	Soaring to the NE	Unknown
-	-	-	-	-	-	2:02 PM	Sharp-shinned Hawk	1	Soaring to the NE	Unknown
-	-	-	-	-	-	2:06 PM	American Kestrel	1	Flying SW	Above height of vegetation
-	-	Oct. 8/2011	11:40 AM - 2:40 PM	START Sky: Clear Precipitation: None Temp: 13°C Wind Speed: 20 km/h Wind Direction: SW	END Sky: Clear Precipitation: None Temp: 14°C Wind Speed: 20 km/h Wind Direction: SW	11:49 AM	Common Raven	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:26 PM	Red-tailed Hawk	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:29 PM	Northern Harrier	1	Soaring to the SE	Unknown
-	-	-	-	-	-	1:00 PM	Bald Eagle	1	Soaring to the N	Unknown
-	-	-	-	-	-	1:18 PM	Common Raven	1	Soaring to the E	Unknown
-	-	-	-	-	-	1:33 PM	Common Grackle	17	Flying SW	Unknown
-	-	-	-	-	-	1:33 PM	Red-winged Blackbird	2	Flying SW	Unknown
-	-	-	-	-	-	2:14 PM	Sharp-shinned Hawk	1	Soaring to the SW	Unknown
-	-	-	-	-	-	2:20 PM	Red-tailed Hawk	1	Soaring to the SW	Unknown
-	-	Oct. 23/2011	11:40 AM - 2:40 PM	START Sky: Mostly clear Precipitation: None Temp: 14°C Wind Speed: 20 km/h Wind Direction: SW	END Sky: Unknown Precipitation: Unknown Temp: Unknown Wind Speed: Unknown Wind Direction: N/A	12:21 PM	Common Raven	3	Soaring to the E	Unknown
-	-	-	-	-	-	12:21 PM	Bald Eagle	1	Soaring to the E	Unknown
-	-	-	-	-	-	12:27 PM	Belted Kingfisher	1	Flying SW	Unknown
-	-	-	-	-	-	12:50 PM	American Robin	36	Flying SW	Unknown
-	-	-	-	-	-	1:35 PM	Common Raven	1	Soaring to the E	Unknown
-	-	-	-	-	-	1:42 PM	Bald Eagle	1	Soaring to the E, then landing	Unknown
-	-	-	-	-	-	2:05 PM	Common Raven	4	Soaring to the S	Unknown
-	-	-	-	-	-	2:05 PM	Common Raven	2	Soaring to the E	Unknown
-	-	-	-	-	-	2:10 PM	Sharp-shinned Hawk	1	Soaring to the E	Unknown
-	-	-	-	-	-	2:40 PM	Canada Goose	1	Flying SW	Unknown

Table 6: South Canoe Lake Wind Project Passage Migration Count Results - Reference Site

Project # 11-4314

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Conditions		Time of Observation	Common Name	Number Observed	Behaviour	Height
SCCPM1	0405311E, 4955860N	Sept. 9/2011	11:25 AM - 2:25 PM	START Sky: Overcast Precipitation: None Temp: 20°C Wind Speed: Unknown Wind Direction: N/A	END Sky: Overcast Precipitation: None Temp: 20°C Wind Speed: Unknown Wind Direction: N/A	11:27 AM	Common Raven	5	Soaring in thermals to the SE, climbing from treetop height. Higher than 1 km.	1 km ⁺
-	-	-	-	-	-	11:28 AM	Common Raven	1	Flying SE, climbing from treetop height. 150m	150 m
-	-	-	-	-	-	11:28 AM	Common Raven	1	Flying N to S, climbing from treetop height	200 m
-	-	-	-	-	-	11:35 AM	Bald Eagle	1	Soaring in the SE, climbing from treetop height	100 m ⁺
-	-	-	-	-	-	11:42 AM	Broad-winged Hawk	1	Immature, deflecting along ridge to the S. Soaring in thermals	Climbing from 100 m ⁺
-	-	-	-	-	-	11:43 AM	Common Raven	1	Climbing from treetops to soar	N/A
-	-	-	-	-	-	11:55 AM	Broad-winged Hawk	1	Soaring on thermals to the S	High(?)
-	-	-	-	-	-	12:00 PM	Common Raven	1	Flying along the ridge to the E	100 m ⁺
-	-	-	-	-	-	12:07 PM	Bald Eagle	1	Soaring to the NNE	High above vegetation
-	-	-	-	-	-	12:09 PM	Common Raven	2	Soaring to the SW, climbing from vegetation	N/A
-	-	-	-	-	-	12:22 PM	Sharp-shinned Hawk	2	Soaring to the NE	High above vegetation
-	-	-	-	-	-	12:35 PM	Bald Eagle	4	Climbing from treetops to soar to the E. 2 adults and 2 immatures	N/A
-	-	-	-	-	-	12:38 PM	Common Raven	5	Soaring on thermals to the SE, climbing from treetop height.	N/A
-	-	-	-	-	-	12:38 PM	Common Raven	9	Soaring on thermals to the SE, climbing from treetop height.	N/A
-	-	-	-	-	-	12:42 PM	Common Raven	3	Soaring on thermals to the SE, climbing from treetop height.	N/A
-	-	-	-	-	-	12:56 PM	Common Raven	2	Climbing from treetop height to the SSE	N/A
-	-	-	-	-	-	1:04 PM	Bald Eagle	1	Soaring to the N. 2nd year eagle.	High(?)
-	-	-	-	-	-	1:09 PM	Red-tailed Hawk	1	Soaring on thermals to the S, climbing	High above vegetation
-	-	-	-	-	-	1:11 PM	Common Raven	1	Gliding along ridge to the S	100 m ⁺
-	-	-	-	-	-	1:15 PM	Common Raven	2	Soaring, climbing from treetop height	High(?)
-	-	-	-	-	-	1:43 PM	Common Raven	3	Climbing from treetop height to soar to the S	N/A
-	-	-	-	-	-	1:47 PM	Common Raven	2	Climbing from treetop height to soar to the S	N/A
-	-	-	-	-	-	1:55 PM	Common Raven	2	Climbing from treetop height to soar to the S	N/A
-	-	-	-	-	-	1:55 PM	Merlin	1	Flying to the S below treetop level	35 m
-	-	Sept. 13/2011	11:42 AM - 1:12 PM	START Sky: Fog Precipitation: None Temp: 17°C Wind Speed: Calm Wind Direction: N/A	END Sky: Variable Cloudiness Precipitation: None Temp: 17°C Wind Speed: Calm Wind Direction: N/A	11:42 AM	Bald Eagle	1	Adult soaring to the S	High above vegetation
-	-	-	-	-	-	11:48 AM	Red-tailed Hawk	1	Adult soaring to the NE, climbing from vegetation	N/A
-	-	-	-	-	-	12:05 PM	Broad-winged Hawk	1	Soaring to the S, climbing high above treetops	High above vegetation
-	-	-	-	-	-	12:50 PM	Common Raven	2	Soaring to the S, climbing above vegetation	N/A
-	-	-	-	-	-	1:08 PM	Common Raven	5	Soaring to the S on thermals then returned to vegetation	High above vegetation
-	-	-	-	-	-	1:15 PM	Common Raven	1	Soaring to the S, climbing high above treetops	High above vegetation
-	-	Sept. 20/2011	10:56 AM - 12:30 PM	START Sky: Clear Precipitation: None Temp: 16°C Wind Speed: 15-20 km/h Wind Direction: N	END Sky: Mainly clear Precipitation: None Temp: 18°C Wind Speed: 10-15 km/h Wind Direction: N	11:00 AM	Common Raven	1	Gliding along ridge from S to N	Unknown
-	-	-	-	-	-	11:03 AM	Bald Eagle	2	Soaring to the SE	High above vegetation
-	-	-	-	-	-	11:15 AM	Common Raven	1	Flying along ridge from SE to NE	Unknown
-	-	-	-	-	-	11:37 AM	Broad-winged Hawk	2	Soaring to the E	High above vegetation
-	-	-	-	-	-	12:06 PM	Common Raven	3	Deflecting along ridge from SE to NE	Unknown
-	-	-	-	-	-	12:08 PM	Peregrine Falcon	1	Soaring/gliding to the SE	Just above the vegetation
-	-	-	-	-	-	12:08 PM	Red-tailed Hawk	1	Soaring to the NE	High above vegetation
-	-	-	-	-	-	12:11 PM	Common Raven	2	Soaring to the SE, climbing above vegetation	High above vegetation
-	-	-	-	-	-	12:14 PM	Common Raven	3	Soaring to the E	Unknown
-	-	-	-	-	-	12:14 PM	Bald Eagle	1	Soaring to the E	Unknown
-	-	-	-	-	-	12:16 PM	Common Raven	2	Soaring to the E	Unknown
-	-	-	-	-	-	12:17 PM	Common Raven	2	Soaring to the W	Unknown
-	-	-	-	-	-	12:17 PM	Broad-winged Hawk	3	Soaring to the W	Unknown
-	-	-	-	-	-	12:17 PM	Common Raven	6	Soaring to the W	Unknown
-	-	-	-	-	-	12:17 PM	Sharp-shinned Hawk	1	Soaring to the W	Unknown
-	-	-	-	-	-	12:17 PM	Osprey	1	Soaring to the W	Unknown
-	-	-	-	-	-	12:18 PM	Common Raven	2	Soaring to the SW	Unknown
-	-	-	-	-	-	12:20 PM	Common Raven	4	Soaring to the SW	Unknown
-	-	-	-	-	-	12:21 PM	Common Raven	10	Soaring to the SE	Unknown
-	-	-	-	-	-	12:23 PM	Common Raven	2	Soaring to the E	Unknown
-	-	-	-	-	-	12:24 PM	Common Raven	10	Soaring to the SW	Unknown
-	-	-	-	-	-	12:26 PM	Common Raven	2	Soaring to the S	Unknown
-	-	-	-	-	-	12:26 PM	Common Raven	6	Soaring to the SE	Unknown
-	-	-	-	-	-	12:26 PM	Common Raven	8	Soaring to the SW	Unknown
-	-	Sept. 28/2011	11:27 AM - 12:57 PM	START Sky: Clear Precipitation: None Temp: 12°C Wind Speed: 0-20 km/h Wind Direction: W	END Sky: Clear Precipitation: None Temp: 15°C Wind Speed: Calm Wind Direction: N/A	11:32 PM	Common Raven	1	Soaring to the W	Unknown
-	-	-	-	-	-	11:32 PM	Common Raven	2	Soaring to the S	Above the vegetation
-	-	-	-	-	-	11:34 PM	Common Raven	2	Climbing to the N	Unknown
-	-	-	-	-	-	11:36 PM	Bald Eagle	1	Adult, climbing/soaring to the S	Unknown
-	-	-	-	-	-	11:43 PM	Common Raven	2	Soaring to the E	Unknown
-	-	-	-	-	-	11:45 PM	Common Raven	1	Soaring to the SE	Unknown
-	-	-	-	-	-	11:47 PM	Common Raven	2	Ascending from vegetation, soaring to the N	Unknown
-	-	-	-	-	-	11:53 PM	Common Raven	6	Soaring to the W	Unknown
-	-	-	-	-	-	11:53 PM	Broad-winged Hawk	1	Soaring to the W	Unknown
-	-	-	-	-	-	11:55 PM	Bald Eagle	1	Adult, soaring to the SE	Unknown
-	-	-	-	-	-	11:59 PM	Common Raven	3	Soaring to the W	Unknown
-	-	-	-	-	-	12:03 PM	Common Raven	5	Soaring to the W	Unknown
-	-	-	-	-	-	12:03 PM	Sharp-shinned Hawk	4	Soaring to the W	Unknown
-	-	-	-	-	-	12:05 PM	Cedar Waxwing	18	Flying to the SW	Unknown
-	-	-	-	-	-	12:13 PM	Common Raven	1	Soaring to the S	Unknown
-	-	-	-	-	-	12:16 PM	Red-winged Blackbird	5	Flying to the S	Unknown
-	-	-	-	-	-	12:17 PM	Red-tailed Hawk	1	Adult, soaring to the N	Unknown
-	-	-	-	-	-	12:22 PM	Broad-winged Hawk	1	Adult, soaring to the NE	Unknown
-	-	-	-	-	-	12:23 PM	Common Raven	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:24 PM	Broad-winged Hawk	3	Soaring to the N	Unknown
-	-	-	-	-	-	12:26 PM	American Robin	7	Flying SW	Unknown
-	-	-	-	-	-	12:28 PM	Common Raven	7	Soaring to the SW	Unknown
-	-	-	-	-	-	12:28 PM	Bald Eagle	2	Adults, soaring to the SW	Unknown
-	-	-	-	-	-	12:34 PM	Common Raven	19	Soaring to the W	Unknown
-	-	-	-	-	-	12:34 PM	Northern Harrier	2	Soaring to the W	Unknown
-	-	-	-	-	-	12:41 PM	Broad-winged Hawk	2	Soaring to the N	Unknown
-	-	-	-	-	-	12:41 PM	Northern Goshawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:41 PM	Bald Eagle	1	Soaring to the S	Unknown
-	-	-	-	-	-	12:41 PM	Common Raven	1	Soaring to the SW	Unknown
-	-	-	-	-	-	12:47 PM	Common Raven	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:50 PM	Common Raven	7	Ascending in the N	Unknown
-	-	-	-	-	-	12:51 PM	Common Raven	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:51 PM	Sharp-shinned Hawk	1	Soaring to the E	Unknown
-	-	-	-	-	-	12:51 PM	Red-tailed Hawk	1	Adult, soaring to the E	Unknown
-	-	-	-	-	-	12:54 PM	Common Raven	2	Soaring to the S	Unknown

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Conditions	Time of Observation	Common Name	Number Observed	Behaviour	Height
-	-	Oct. 7/2011	12:02 - 1:37 PM	START Sky: Mostly clear Precipitation: None Temp: 6°C Wind Speed: 25-30 km/h Wind Direction: N	END Sky: Mostly clear Precipitation: None Temp: 6°C Wind Speed: 10-20 km/h Wind Direction: N	12:02 PM Common Raven	1	Soaring to the SW	Unknown
-	-	-	-	-	-	12:05 PM Bald Eagle	1	Soaring to the NE	Unknown
-	-	-	-	-	-	12:54 PM Red-tailed Hawk	1	Soaring to the W	Unknown
-	-	-	-	-	-	1:10 PM Broad-winged Hawk	1	Soaring to the NE	Unknown
-	-	-	-	-	-	1:14 PM Tree Swallow	1	Flying SW	Unknown
-	-	Oct. 12/2011	12:03 - 1:33 PM	START Sky: Mostly clear Precipitation: None Temp: Unknown Wind Speed: 10 km/h Wind Direction: SE	END Sky: Mostly clear Precipitation: None Temp: Unknown Wind Speed: 10 km/h Wind Direction: N	12:06 PM Pine Siskin	11	Flying S	Unknown
-	-	-	-	-	-	12:19 PM American Robin	30	Flying SW	Unknown
-	-	-	-	-	-	12:32 PM Broad-winged Hawk	2	Soaring to the NE	Unknown
-	-	-	-	-	-	12:35 PM Common Raven	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:38 PM Bald Eagle	2	Adults, soaring to the N	Unknown
-	-	-	-	-	-	12:45 PM Pine Siskin	53	Flying SE	Unknown
-	-	-	-	-	-	12:47 PM American Robin	21	Flying SW	Unknown
-	-	-	-	-	-	12:55 PM Red-tailed Hawk	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:55 PM Red-tailed Hawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:59 PM Red-tailed Hawk	2	Soaring to the E	Unknown
-	-	-	-	-	-	1:00 PM Common Raven	8	Soaring to the SE	Unknown
-	-	-	-	-	-	1:00 PM Common Raven	2	Soaring to the E	Unknown
-	-	-	-	-	-	1:11 PM Bald Eagle	1	Soaring to the N	Unknown
-	-	-	-	-	-	1:11 PM Common Raven	2	Soaring to the N	Unknown
-	-	-	-	-	-	1:13 PM American Kestrel	1	Flying N	Unknown
-	-	-	-	-	-	1:15 PM Pine Siskin	83	Flying SE	Unknown
-	-	-	-	-	-	1:32 PM Red-tailed Hawk	1	Soaring to the NE	Unknown
-	-	Oct. 18/2011	11:48 AM - 1:18 PM	START Sky: Partly cloudy Precipitation: None Temp: 14°C Wind Speed: 30 km/h Wind Direction: WSW	END Sky: Partly cloudy Precipitation: None Temp: 14°C Wind Speed: 30 km/h Wind Direction: WSW	11:54 PM Broad-winged Hawk	1	Soaring to the E	Unknown
-	-	-	-	-	-	12:02 PM Red-tailed Hawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:06 PM Common Grackle	21	Flying S	Unknown
-	-	-	-	-	-	12:09 PM Bald Eagle	1	Soaring to the NW	Unknown
-	-	-	-	-	-	12:13 PM Sharp-shinned Hawk	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:16 PM Purple Finch	5	Flying S	Unknown
-	-	-	-	-	-	12:27 PM Sharp-shinned Hawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:30 PM Bald Eagle	1	Soaring to the NW	Unknown
-	-	-	-	-	-	12:35 PM Northern Harrier	1	Immature, flying to the SW	Unknown
-	-	-	-	-	-	12:38 PM Common Raven	1	Soaring to the NE	Unknown
-	-	-	-	-	-	12:41 PM Common Raven	3	Soaring to the NE	Unknown
-	-	-	-	-	-	12:44 PM Common Raven	1	Soaring to the E	Unknown
-	-	-	-	-	-	12:54 PM Broad-winged Hawk	1	Soaring to the SW	Unknown
-	-	-	-	-	-	1:00 PM American Robin	2	Flying S	Unknown
-	-	-	-	-	-	1:03 PM Common Raven	1	Soaring to the E	Unknown
-	-	-	-	-	-	1:13 PM Bald Eagle	2	Soaring to the N	Unknown
-	-	Oct. 27/2011	12:17 - 3:17 PM	START Sky: Mostly cloudy Precipitation: None Temp: 3°C Wind Speed: 10-20 km/h Wind Direction: W	END Sky: Mostly cloudy Precipitation: None Temp: 3°C Wind Speed: 10 km/h Wind Direction: W	12:18 PM Bald Eagle	1	Soaring to the S	Unknown
-	-	-	-	-	-	12:21 PM Bald Eagle	2	Soaring to the S	Unknown
-	-	-	-	-	-	12:23 PM Common Raven	4	Soaring to the S	Unknown
-	-	-	-	-	-	12:24 PM Common Raven	2	Soaring to the S	Unknown
-	-	-	-	-	-	12:25 PM Common Raven	4	Soaring to the S	Unknown
-	-	-	-	-	-	12:26 PM Bald Eagle	1	Soaring to the E	Unknown
-	-	-	-	-	-	12:32 PM American Robin	4	Flying SW	Unknown
-	-	-	-	-	-	1:12 PM Common Raven	1	Soaring to the E	Unknown
-	-	-	-	-	-	1:22 PM Common Raven	72	Flying N through the valley	Unknown
-	-	-	-	-	-	1:29 PM Bald Eagle	1	Soaring to the S	Unknown
-	-	-	-	-	-	1:35 PM Bald Eagle	1	Adult, soaring to the E	Unknown
-	-	-	-	-	-	1:46 PM Red-tailed Hawk	1	Soaring to the NE	Unknown
-	-	-	-	-	-	2:02 PM Common Raven	2	Soaring to the N	Unknown
-	-	-	-	-	-	2:03 PM American Robin	34	Flying SW	Unknown
-	-	-	-	-	-	2:28 PM Red-tailed Hawk	1	Soaring to the S	Unknown
-	-	-	-	-	-	2:48 PM Red-tailed Hawk	2	Soaring to the N	Unknown
-	-	-	-	-	-	2:58 PM Bald Eagle	1	Soaring to the E	Unknown
-	-	Nov. 10/2011	11:15 AM - 12:45 PM	START Sky: Partly cloudy Precipitation: None Temp: 12°C Wind Speed: 20-25 km/h Wind Direction: SE	END Sky: Partly cloudy Precipitation: None Temp: 12°C Wind Speed: 20-25 km/h Wind Direction: SE	11:34 AM Common Raven	1	Soaring to the N	Unknown
-	-	-	-	-	-	11:58 AM Red-tailed Hawk	1	Soaring to the NE	Unknown
-	-	-	-	-	-	12:04 PM Bald Eagle	1	Soaring to the N	Unknown
-	-	-	-	-	-	12:07 PM Broad-winged Hawk	1	Soaring to the SE	Unknown
-	-	-	-	-	-	12:14 PM Common Raven	1	Soaring to the NE	Unknown
SCCPM2	0390899E, 4961915N	Sept. 13/2011	1:55 - 3:25 PM	START Sky: ____ Precipitation: None Temp: 19°C Wind Speed: ____ Wind Direction: N/A	END Sky: Variable Cloudiness Precipitation: None Temp: 21°C Wind Speed: 20-30 km/h Wind Direction: SE	2:00 PM Osprey	1	Gliding to the E	N/A
-	-	-	-	-	-	2:05 PM Bald Eagle	1	Adult, gliding to the SSW	High above vegetation
-	-	-	-	-	-	2:09 PM Common Raven	5	Soaring to the NW, climbing	High above vegetation
-	-	-	-	-	-	2:42 PM Double-crested Cormorant	7	Flying SE	N/A
-	-	-	-	-	-	2:42 PM Great Cormorant	1	Flying SE	N/A
-	-	Sept. 20/2011	1:00 - 2:30 PM	START Sky: Mainly clear Precipitation: None Temp: 18°C Wind Speed: 15-20 km/h Wind Direction: NW	END Sky: Mainly clear Precipitation: None Temp: 18°C Wind Speed: 15-20 km/h Wind Direction: W	1:03 PM Broad-winged Hawk	2	Soaring to the NW	Unknown
-	-	-	-	-	-	1:05 PM Common Raven	2	Flying to the S	Unknown
-	-	-	-	-	-	1:05 PM Red-tailed Hawk	1	Soaring to the NW	High above vegetation
-	-	-	-	-	-	1:06 PM Bald Eagle	1	Immature, soaring to the SW	Unknown
-	-	-	-	-	-	1:25 PM Northern Harrier	1	Flying to the SW	Unknown
-	-	-	-	-	-	1:25 PM Peregrine Falcon	1	Flying to the SW	Just above the vegetation
-	-	-	-	-	-	1:29 Bald Eagle	1	Soaring to the W	Above vegetation
-	-	-	-	-	-	1:54 PM Bald Eagle	1	Adult, ascended from vegetation, gliding to the NW and slowly drifting to the SSW	Unknown
-	-	-	-	-	-	2:02 PM Osprey	1	Flying to the NE	Unknown
-	-	-	-	-	-	2:03 PM Common Raven	1	Gliding along ridge to the NE	Unknown
-	-	-	-	-	-	2:20 PM Sharp-shinned Hawk	1	Soaring to the NW	Unknown
-	-	-	-	-	-	2:27 PM American Kestrel	1	Attempting to soar to the W, ascended from vegetation	Unknown
-	-	Sept. 28/2011	1:32 - 3:02 PM	START Sky: Clear Precipitation: None Temp: 14°C Wind Speed: ~10 km/h Wind Direction: SW	END Sky: Clear Precipitation: None Temp: 15°C Wind Speed: ~10 km/h Wind Direction: W	1:32 PM American Kestrel	1	Hunting amongst vegetation	Below tree tops
-	-	-	-	-	-	1:41 PM Common Raven	3	Soaring/ascending to the NNW	High above vegetation
-	-	-	-	-	-	1:45 PM Eastern Bluebird	1	Flying to the NE	High above vegetation
-	-	-	-	-	-	1:48 PM Hairy Woodpecker	1	Flying to the S	Unknown
-	-	-	-	-	-	2:21 PM Red-tailed Hawk	1	Soaring to the W	High above vegetation
-	-	-	-	-	-	2:21 PM Red-tailed Hawk	1	Soaring to the SW	High above vegetation
-	-	-	-	-	-	2:31 PM American Kestrel	1	Gliding to the N	Just above vegetation
-	-	-	-	-	-	2:54 PM Osprey	1	Ascended from vegetation, soaring to the W	Unknown
-	-	-	-	-	-	2:54 PM Broad-winged Hawk	1	Soaring to the W, ascended from vegetation	Unknown
-	-	-	-	-	-	2:57 PM Common Raven	1	Flying from NE to SW	Unknown
-	-	Oct. 7/2011	2:09 - 3:39 PM	START Sky: Mostly clear Precipitation: None Temp: 6°C Wind Speed: 10-20 km/h Wind Direction: N	END Sky: Mostly clear Precipitation: None Temp: 6°C Wind Speed: 10-20 km/h Wind Direction: N	2:11 PM Red-tailed Hawk	1	Soaring to the S	Unknown
-	-	-	-	-	-	2:15 PM Sharp-shinned Hawk	1	Flying SW	Unknown
-	-	-	-	-	-	2:40 PM Bald Eagle	3	Soaring to the NE	Unknown
-	-	-	-	-	-	2:46 PM Rusty Blackbird	1	Flying SW	Unknown
-	-	-	-	-	-	2:49 PM Red-tailed Hawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	3:01 PM Broad-winged Hawk	1	Soaring to the NE	Unknown
-	-	-	-	-	-	3:04 PM Bald Eagle	1	Gliding to the SW	Unknown
-	-	-	-	-	-	3:24 PM Bald Eagle	1	Gliding to the SW	Unknown
-	-	-	-	-	-	3:24 PM Common Grackle	1	Flying S	Unknown

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Conditions		Time of Observation	Common Name	Number Observed	Behaviour	Height
-	-	Oct. 12/2011	2:06 - 3:36 PM	START Sky: Partially overcast Precipitation: None Temp: 10°C Wind Speed: 5-15 km/h Wind Direction: E	END Sky: Partailly overcast Precipitation: None Temp: 13°C Wind Speed: 0-10 km/h Wind Direction: SE	2:21 PM	Common Raven	6	Soaring to the W	Unknown
-	-	-	-	-	-	2:21 PM	Bald Eagle	7	Soaring to the W	Unknown
-	-	-	-	-	-	2:21 PM	Red-tailed Hawk	7	Soaring to the W	Unknown
-	-	-	-	-	-	2:21 PM	Broad-winged Hawk	2	Soaring to the W	Unknown
-	-	-	-	-	-	2:24 PM	Common Raven	20	Soaring to the NNW	Unknown
-	-	-	-	-	-	2:24 PM	Bald Eagle	2	Soaring to the NNW	Unknown
-	-	-	-	-	-	2:29 PM	Common Raven	14	Soaring to the NE	Unknown
-	-	-	-	-	-	2:30 PM	Bald Eagle	1	Soaring to the W	Unknown
-	-	-	-	-	-	2:32 PM	Bald Eagle	1	Soaring to the NW	Unknown
-	-	-	-	-	-	2:42 PM	Sharp-shinned Hawk	1	Soaring to the NW	Unknown
-	-	-	-	-	-	2:42 PM	Broad-winged Hawk	1	Soaring to the NW	Unknown
-	-	-	-	-	-	2:54 PM	American Robin	11	Flying to the SE	Unknown
-	-	-	-	-	-	3:01 PM	Bald Eagle	3	Soaring to the N	Unknown
-	-	-	-	-	-	3:03 PM	Bald Eagle	2	Soaring to the NE	Unknown
-	-	-	-	-	-	3:06 PM	Common Raven	4	Soaring to the NE	Unknown
-	-	-	-	-	-	3:10 PM	Common Raven	4	Gliding to the NE	Unknown
-	-	-	-	-	-	3:27 PM	Common Raven	1	Soaring to the N	Unknown
-	-	-	-	-	-	3:28 PM	Red-tailed Hawk	2	Soaring to the E	Unknown
-	-	-	-	-	-	3:31 PM	Bald Eagle	1	Adult, soaring to the W	Unknown
-	-	Oct. 18/2011	1:50 - 3:20 PM	START Sky: Mostly cloudy Precipitation: None Temp: 14°C Wind Speed: gusts to 30 km/h Wind Direction: WSW	END Sky: Mostly cloudy Precipitation: None Temp: 14°C Wind Speed: gusts to 30 km/h Wind Direction: S	3:00 PM	Common Grackle	242	Flying SE	Unknown
-	-	-	-	-	-	3:16 PM	Cooper's Hawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	3:16 PM	Bald Eagle	1	Soaring to the N	Unknown
-	-	Nov. 10/2011	1:26 - 2:56 PM	START Sky: Partly cloudy Precipitation: None Temp: 15°C Wind Speed: 20-25 km/h Wind Direction: SW	END Sky: Partly cloudy Precipitation: None Temp: 15°C Wind Speed: 20-25 km/h Wind Direction: SW	2:13 PM	Common Raven	1	Soaring to the N	Unknown
-	-	-	-	-	-	2:16 PM	American Robin	230	Flying SW	Unknown
-	-	-	-	-	-	2:24 PM	Bald Eagle	1	Soaring to the N	Unknown
-	-	-	-	-	-	2:30 PM	Red-tailed Hawk	1	Soaring to the N	Unknown
-	-	-	-	-	-	2:42 PM	American Robin	233	Flying S	Unknown
-	-	-	-	-	-	2:46 PM	Bald Eagle	2	Soaring to the W	Unknown

Table 7: South Canoe Lake Wind Project Waterfowl Area Search Results - Property Boundary

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Common Name	Number Observed
Bog Lake	0399571E, 4956016N	Sept. 7/2011	3:06 - 3:16 PM	Belted Kingfisher	1
-	-	Sept. 23/2011	4:12 - 4:22 PM	None Observed	N/A
-	-	Oct.13/2011	3:17 - 3:27 PM	None Observed	N/A
-	-	Oct. 27/2011	3:55 - 4:05 PM	None Observed	N/A
-	-	Oct. 29/2011	~ 2:35 PM	None Observed	N/A
-	-	Nov. 2/2011	3:28 - 3:38 PM	None Observed	N/A
Big Otter Lake	0398379E, 4959996N	Sept. 7/2011	4:57 - 5:07 PM	Common Loon	1
-	-	Sept. 29/2011	3:50 - 4:00 PM	None Observed	N/A
-	-	Oct. 8/2011	5:26 - 5:36 PM	None Observed	N/A
-	-	Oct.13/2011	4:18 - 4:28 PM	Ring-necked Duck	6
-	-	-	-	Wood Duck	1
-	-	Oct. 23/2011	5:31 - 5:41 PM	None Observed	N/A
-	-	Oct. 27/2011	3:31 - 3:41 PM	None Observed	N/A
-	-	Nov. 2/2011	4:23 - 4:33 PM	None Observed	N/A
Dam Bay	-	Sept. 7/2011	2:50 - 3:00 PM	Belted Kingfisher	2
-	-	-	-	Common Loon	1
-	-	Sept. 23/2011	4:33 - 4:43 PM	None Observed	N/A
-	-	Oct.13/2011	3:00 - 3:10 PM	None Observed	N/A
-	-	Oct. 18/2011	5:35 - 5:45 PM	None Observed	N/A
-	-	Oct. 23/2011	~ 3:50 PM	None Observed	N/A
-	-	Oct. 27/2011	2:42 - 2:52 PM	None Observed	N/A
-	-	Nov. 2/2011	3:12 - 3:22 PM	None Observed	N/A
Joe Long Lake	-	Sept. 23/2011	5:33 - 5:43 PM	None Observed	N/A
-	-	Sept. 29/2011	5:43 - 5:45 PM	None Observed	N/A
-	-	Oct. 8/2011	~ 3:35 PM	None Observed	N/A
-	-	Oct. 23/2011	3:35 - 3:45 PM	None Observed	N/A
-	-	Oct. 27/2011	5:55 - 6:05 PM	None Observed	N/A
Little Otter Lake	0398226E, 4960877N	Sept. 20/2011	5:06 - 5:16 PM	None Observed	N/A
-	-	Sept. 29/2011	4:34 - 4:44 PM	None Observed	N/A
-	-	Oct. 8/2011	6:20 - 6:30 PM	None Observed	N/A
-	-	Oct.13/2011	4:55 - 5:05 PM	None Observed	N/A
-	-	Oct. 23/2011	6:12 - 6:22 PM	None Observed	N/A
-	-	Oct. 27/2011	4:07 - 4:17 PM	None Observed	N/A
-	-	Nov. 2/2011	5:00 - 5:10 PM	None Observed	N/A
Long Bay	-	Sept. 28/2011	5:00 - 5:10 PM	None Observed	N/A
-	-	Oct. 8/2011	4:38 - 4:48 PM	None Observed	N/A
-	-	Oct. 23/2011	4:44 - 4:54 PM	None Observed	N/A
-	-	Oct. 27/2011	5:19 - 5:29 PM	None Observed	N/A
-	-	Nov. 2/2011	6:18 - 6:28 PM	None Observed	N/A
Mud Lake	0395732E, 4959688N	Sept. 9/2011	3:53 - 4:03 PM	None Observed	N/A
-	-	Sept. 17/2011	3:47 - 3:57 PM	None Observed	N/A
South Canoe Lake	0394350E, 4960236N	Sept. 9/2011	5:16 - 5:26 PM	American Black Duck	1
-	-	-	-	Common Loon	1
South Canoe Lake	0395094E, 4961999N	Sept. 17/2011	1:15 - 1:25 PM	American Black Duck	6
-	-	-	-	Common Loon	51
-	-	-	-	Spotted Sandpiper	2
-	-	Oct. 8/2011	2:30 - 2:40 PM	None Observed	N/A
-	-	Oct.13/2011	6:19 - 6:29 PM	None Observed	N/A
-	-	Oct. 23/2011	2:30 - 2:40 PM	None Observed	N/A
-	-	Oct. 27/2011	6:40 - 6:50 PM	None Observed	N/A

Table 8: South Canoe Lake Wind Project Waterfowl Area Search Results - Reference Site

Project # 11-4314

Location	Coordinates (UTM NAD83)	Date	Start Time - End Time	Common Name	Number Observed
Card Lake	0399164E, 4952594N	Sept. 7/2011	5:40 - 5:50 PM	None Observed	N/A
-	-	Sept. 23/2011	6:32 - 6:42 PM	Common Loon	2
-	-	Sept. 28/2011	6:14 - 6:24 PM	Common Loon	2
-	-	Oct. 7/2011	5:38 - 5:48 PM	None Observed	N/A
-	-	Oct. 12/2011	5:11 - 5:21 PM	None Observed	N/A
-	-	Oct.18/2011	5:13 - 5:23 PM	None Observed	N/A
-	-	Oct. 27/2011	3:32 - 3:42 PM	Herring Gull	70
-	-	-	-	Common Loon	1
-	-	Nov. 10/2011	4:35 - 4:45 PM	Canada Goose	2
Clearwater Lake	-	Sept. 13/2011	3:30 - 3:40 PM	Hooded Merganser	2
-	-	Sept. 20/2011	2:37 - 2:47 PM	None observed	N/A
-	-	Sept. 28/2011	3:08 - 3:18 PM	None observed	N/A
-	-	Oct. 7/2011	3:50 - 3:57 PM	None observed	N/A
-	-	Oct. 12/2011	3:45 - 3:55 PM	None observed	N/A
-	-	Oct. 18/2011	3:27 - 3:37 PM	None observed	N/A
-	-	Oct. 27/2011	5:35 - 5:45 PM	Wood Duck	1
-	-	Nov 10/2011	3:03 - 3:13 PM	None observed	N/A
Fall's Lake	0401703E, 4965765N	Sept. 13/2011	4:52 - 5:02 PM	American Black Duck	5
-	-	-	-	Belted Kingfisher	1
-	-	Sept. 20/2011	5:53 PM	American Black Duck	7
-	-	Sept. 28/2011	5:57 - 6:00 PM	Belted Kingfisher	1
-	-	-	-	American Black Duck	2
-	-	Oct. 7/2011	5:00 - 5:10 PM	None observed	N/A
-	-	Oct. 12/2011	4:45 - 4:55 PM	None observed	N/A
-	-	Oct. 18/2011	4:46 - 4:56 PM	None observed	N/A
-	-	Oct. 27/2011	4:41 - 4:51 PM	Common Merganser	2
-	-	Nov. 10/2011	10:37 - 10:47 AM	None observed	N/A
Lewis Lake	-	Sept. 28/2011	3:28 PM	None observed	N/A
-	-	Oct. 7/2011	4:10 PM	None observed	N/A
-	-	Oct. 12/2011	~ 4:00 PM	None observed	N/A
-	-	Oct. 18/2011	3:46 - 3:56 PM	Common Loon	1
-	-	Oct. 27/2011	5:52 - 6:02 PM	None observed	N/A
-	-	Nov. 10/2011	3:20 - 3:30 PM	None observed	N/A
Little Island Lake	0396187E, 4963398N	Sept. 13/2011	4:18 - 4:28 PM	None observed	N/A
-	-	Sept. 20/2011	3:30 - 3:40 PM	Wood Duck	1
-	-	Sept. 28/2011	3:44 - 3:54 PM	None observed	N/A
-	-	Oct. 7/2011	4:22 - 4:32 PM	None observed	N/A
-	-	Oct. 12/2011	4:12 - 4:22 PM	None observed	N/A
-	-	Oct. 18/2011	4:14 - 4:24 PM	None observed	N/A
-	-	Oct. 27/2011	5:01 - 5:11 PM	None observed	N/A
-	-	Nov. 10/2011	3:51 - 4:01 PM	None observed	N/A
Mockingee Lake A	-	Sept. 13/2011	4:40 - 4:50 PM	Common Loon	1
-	-	Sept. 20/2011	3:51 - 4:01 PM	None observed	N/A
-	-	Sept. 28/2011	4:04 - 4:14 PM	Belted Kingfisher	2
-	-	-	-	American Black Duck	6
-	-	Oct. 7/2011	4:44 - 4:54 PM	None observed	N/A
-	-	Oct. 12/2011	4:32 - 4:42 PM	None observed	N/A
-	-	Oct. 18/2011	4:34 - 4:44 PM	American Black Duck	7
-	-	-	-	Wood Duck	2
-	-	Oct. 27/2011	4:29 - 4:39 PM	None observed	N/A
-	-	Nov. 10/2011	10:25 - 10:35 AM	American Black Duck	3
-	-	-	-	Hooded Merganser	3
Mockingee Lake B	-	Sept. 13/2011	4:40 - 4:50 PM	Double-crested Cormorant	1
-	-	Sept. 20/2011	3:51 - 4:01 PM	American Black Duck	3
-	-	-	-	Wood Duck	2
-	-	Sept. 28/2011	4:04 - 4:14 PM	American Black Duck	2
-	-	-	-	Wood Duck	1
-	-	Oct. 7/2011	4:44 - 4:54 PM	None observed	N/A
-	-	Oct.12/2011	4:32 - 4:42 PM	None observed	N/A
-	-	Oct. 18/2011	4:34 - 4:44 PM	American Black Duck	2
-	-	Oct. 27/2011	4:29 - 4:39 PM	None observed	N/A
-	-	Nov. 10/2011	10:25 - 10:35 AM	None observed	N/A
North Canoe Lake	0395201E, 4962365N	Sept. 13/2011	3:57 - 4:07 PM	Common Loon	1
-	-	Sept. 20/2011	3:16 - 3:26 PM	None observed	N/A
-	-	Sept. 28/2011	3:36 - 3:39 PM	None observed	N/A
-	-	Oct. 7/2011	~ 4:15 PM	None observed	N/A
-	-	Oct.12/2011	~ 4:10 PM	None observed	N/A
-	-	Oct. 18/2011	4:00 - 4:10 PM	Hooded Merganser	4
-	-	Oct. 27/2011	5:14 - 5:24 PM	None observed	N/A
-	-	Nov. 10/2011	3:39 - 3:49 PM	Common Merganser	6
-	-	-	-	Bufflehead	3
-	-	-	-	Hooded Merganser	4
Zwicker Lake	0402359E, 4962767N	Sept. 13/2011	5:13 - 5:23 PM	None observed	N/A
-	-	Sept. 20/2011	6:00 PM	None observed	N/A
-	-	Sept. 28/2011	6:30 PM	None observed	N/A
-	-	Oct. 12/2011	~ 5:05 PM	None observed	N/A
-	-	Oct. 18/2011	~ 5:00 PM	None observed	N/A
-	-	Oct. 27/2011	~ 4:15 PM	None observed	N/A
-	-	Nov. 10/2011	4:16 - 4:26 PM	None observed	N/A

Table 9: South Canoe Lake Wind Project Winter Area Search Results - Property Boundary

Date	Location	Coordinates (UTM NAD83)	Time	Common Name	Number Observed	Distance (m)
Dec. 9/2011	001	0399125E, 4957262N	8:02 AM	Golden-crowned Kinglet	2	0-50
-	002	0398693E, 4960096N	Unknown	American Crow	4	100+
-	-	-	-	Black-capped Chickadee	8	50-100
-	-	-	-	Common Raven	2	100+
-	-	-	-	Gray Jay	1	100+
-	-	-	-	Red-breasted Nuthatch	1	50-100
-	003	0399028E, 4956957N	8:15 AM	Hooded Merganser	2	50-100
-	004	0399241E, 4955824N	Unknown	American Goldfinch	2	50-100
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	005	0398849E, 4957843N	Unknown	Black-capped Chickadee	10	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	-	-	-	White-winged Crossbill	11	0-50
-	006	0398692E, 4958131N	Unknown	Black-capped Chickadee	7	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Purple Finch	4	0-50
-	-	-	-	White-winged Crossbill	8	0-50
-	007	0397907E, 4958018N	Unknown	American Crow	2	100+
-	-	-	-	American Goldfinch	2	Fly Over
-	-	-	-	Black-capped Chickadee	6	50-100
-	-	-	-	Common Raven	1	100+
-	008	0398364E, 4958042N	Unknown	Spruce Grouse	2	0-50
-	012	0394024E, 4959125N	Unknown	Golden-crowned Kinglet	4	0-50
-	013	0394537E, 4958134N	Unknown	Golden-crowned Kinglet	2	0-50
-	-	-	-	Hairy Woodpecker	1	0-50
-	014	0393961E, 4957665N	Unknown	Golden-crowned Kinglet	2	0-50
-	015	0394801E, 4957993N	Unknown	Black-capped Chickadee	10	0-50
-	-	-	-	Boreal Chickadee	4	0-50
-	016	0395211E, 4958156N	Unknown	American Crow	2	100+
-	-	-	-	Dark-eyed Junco	8	0-50
-	017	0395263E, 4958485N	Unknown	Black-capped Chickadee	6	0-50
-	-	-	-	Blue Jay	4	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	018	0391544E, 4961056N	Unknown	American Crow	2	100+
-	-	-	-	American Goldfinch	4	0-50
-	-	-	-	Black-capped Chickadee	8	0-50
-	-	-	-	Dark-eyed Junco	2	0-50
-	019	0392457E, 4957279N	Unknown	Black-capped Chickadee	10	0-50
-	023	0398988E, 4959191N	Unknown	Black-capped Chickadee	9	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	-	-	-	Red-breasted Nuthatch	3	0-50
-	024	0399050E, 4958830N	Unknown	Black-capped Chickadee	6	0-50
-	-	-	-	Boreal Chickadee	2	0-50
-	-	-	-	Downy Woodpecker	1	0-50
-	-	-	-	Red-breasted Nuthatch	2	0-50

Date	Location	Coordinates (UTM NAD83)	Time	Common Name	Number Observed	Distance (m)
Jan. 15/2012	002	0399138E, 4960747N	7:57 AM	American Crow	4	100+
-	-	-	-	American Goldfinch	8	50-100
-	-	-	-	Black-capped Chickadee	14	0-50
-	-	-	-	Common Raven	4	100+
-	-	-	-	Common Redpoll	12	50-100
-	-	-	-	Dark-eyed Junco	8	50-100
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Gray Jay	2	50-100
-	-	-	-	Pileated Woodpecker	1	100+
-	003	0398683E, 4960142N	8:09 AM	Black-capped Chickadee	8	0-50
-	-	-	-	Boreal Chickadee	4	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	6	0-50
-	-	-	-	Red-breasted Nuthatch	1	0-50
-	-	-	-	White-throated Sparrow	4	50-100
-	004	0399041E, 4958421N	8:23 AM	American Goldfinch	8	100+
-	-	-	-	Brown Creeper	2	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Hairy Woodpecker	1	0-50
-	005	0398948E, 4956197N	8:39 AM	Black-capped Chickadee	6	50-100
-	-	-	-	Brown Creeper	1	0-50
-	-	-	-	Dark-eyed Junco	6	0-50
-	-	-	-	Downy Woodpecker	2	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	006	0399071E, 4958062N	9:05 AM	Golden-crowned Kinglet	6	0-50
-	-	-	-	White-winged Crossbill	15	100+
-	007	0398721E, 4960460N	Unknown	Cooper's Hawk	1	0-50
-	010	0393480E, 4961020N	9:59 AM	American Crow	4	100+
-	-	-	-	Common Raven	2	100+
-	-	-	-	Pileated Woodpecker	1	0-50
-	015	0392275E, 4957781N	2:01 PM	American Crow	2	100+
-	-	-	-	Common Raven	2	100+
-	-	-	-	Gray Jay	2	50-100
-	-	-	-	Red-breasted Nuthatch	1	0-50
-	016	0391160E, 4960173N	2:12 PM	Boreal Chickadee	2	0-50
-	017	0391031E, 4960507N	2:15 PM	Black-capped Chickadee	24	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Gray Jay	2	0-50
-	-	-	-	Red-breasted Nuthatch	3	0-50
-	-	-	-	Red-tailed Hawk	1	100+
-	018	0398756E, 4957694N	3:51 PM	Brown Creeper	1	0-50
-	019	0398903E, 4956563N	4:04 PM	Black-capped Chickadee	6	0-50
-	-	-	-	Boreal Chickadee	4	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	020	0399096E, 4956821N	4:09 PM	Black-capped Chickadee	10	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Red-breasted Nuthatch	2	0-50
-	021	0400225E, 4954498N	4:56 PM	Black-capped Chickadee	6	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Red-breasted Nuthatch	1	0-50

Table 10: South Canoe Lake Wind Project Winter Area Search Results - Reference Site

Project # 11-4314

Date	Location	Coordinates (UTM NAD83)	Time	Common Name	Number Observed	Distance (m)
Dec. 9/2011	009	0399167E, 4961299N	Unknown	Golden-crowned Kinglet	4	0-50
-	010	0399305E, 4961688N	Unknown	Mourning Dove	1	0-50
-	011	0397365E, 4962179N	Unknown	Bald Eagle	1	0-50
-	-	-	-	Common Raven	2	0-50
-	-	-	-	Purple Finch	4	0-50
-	-	-	-	Red-breasted Nuthatch	2	0-50
-	-	-	-	White-winged Crossbill	12	0-50
-	020	0395153E, 4962132N	Unknown	American Crow	3	0-50
-	-	-	-	Brown Creeper	2	0-50
Dec. 21/2011	027	0402327E, 4964504N	7:58 AM	American Crow	4	100+
-	-	-	-	Common Raven	1	100+
-	-	-	-	Dark-eyed Junco	6	0-50
-	-	-	-	Pine Siskin	2	0-50
-	-	-	-	Red Crossbill	1	0-50
-	-	-	-	Red-breasted Nuthatch	2	50-100
-	Card Lake	-	Unknown	American Crow	2	100+
-	-	-	-	Black-capped Chickadee	10	50-100
-	-	-	-	Blue Jay	1	50-100
-	-	-	-	Dark-eyed Junco	7	50-100
-	-	-	-	Pileated Woodpecker	1	0-50
-	-	-	-	White-winged Crossbill	8	50-100
-	028	0397752E, 4952539N	9:04 AM	American Crow	4	100+
-	-	-	-	American Goldfinch	2	0-50
-	-	-	-	Black-capped Chickadee	8	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	-	-	-	Red-breasted Nuthatch	2	50-100
-	029	0402545E, 4955955N	9:55 AM	Black-capped Chickadee	6	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Hairy Woodpecker	1	0-50
-	-	-	-	Red-breasted Nuthatch	2	50-100
-	030	0407078E, 4957853N	10:31 AM	Black-capped Chickadee	12	0-50
-	-	-	-	Downy Woodpecker	1	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	-	-	-	Red-breasted Nuthatch	2	100+
-	031	0403422E, 4958969N	10:56 AM	Black-capped Chickadee	8	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Gray Jay	2	100+
-	-	-	-	Red-breasted Nuthatch	3	0-50
-	032	0403860E, 4960823N	11:27 AM	Black-capped Chickadee	8	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Hairy Woodpecker	1	50-100
-	033	0398399E, 4963839N	12:26 PM	American Crow	2	100+
-	-	-	-	American Goldfinch	4	0-50
-	-	-	-	Black-capped Chickadee	10	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	-	-	-	Gray Jay	1	100+
-	-	-	-	Red-breasted Nuthatch	4	0-50
-	034	0397883E, 4962809N	12:35 PM	American Crow	6	100+
-	-	-	-	Common Raven	4	100+
-	-	-	-	European Starling	7	0-50
-	035	0396359E, 4963110N	1:05 PM	American Crow	4	100+
-	-	-	-	Black-capped Chickadee	6	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Hairy Woodpecker	1	0-50
-	-	-	-	Pine Siskin	8	50-100
-	-	-	-	Red-breasted Nuthatch	3	0-50
-	036	0391054E, 4963227N	1:45 PM	Black-capped Chickadee	7	0-50
-	-	-	-	Common Raven	2	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	037	0403650E, 4956614N	3:28 PM	Black-backed Woodpecker	1	0-50
-	-	-	-	Black-capped Chickadee	6	0-50
-	-	-	-	Golden-crowned Kinglet	1	0-50
-	038	0406528E, 4953974N	Unknown	Spruce Grouse	1	0-50
Jan. 15/2012	008	0399180E, 4961047N	Unknown	Spruce Grouse	1	0-50
-	009	0399180E, 4961347N	9:30 AM	Black-capped Chickadee	10	0-50
-	-	-	-	Boreal Chickadee	6	0-50
-	-	-	-	Common Raven	1	100+
-	011	0397770E, 4962897N	11:23 AM	Dark-eyed Junco	8	0-50
-	012	0394201E, 4954644N	1:01 PM	Black-capped Chickadee	8	0-50
-	-	-	-	Red-breasted Nuthatch	2	0-50
-	013	0395271E, 4953979N	1:30 PM	Brown Creeper	1	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Red-breasted Nuthatch	1	0-50
-	014	0393128E, 4954808N	1:48 PM	Broad-winged Hawk	1	50-100
-	-	-	-	Golden-crowned Kinglet	4	0-50

Date	Location	Coordinates (UTM NAD83)	Time	Common Name	Number Observed	Distance (m)
Jan. 22/2012	004	0398300E, 4951472N	7:54 AM	Northern Goshawk	1	50-100
-	005	0398095E, 4952525N	8:08 AM	Black-backed Woodpecker	1	0-50
-	-	-	-	Blue Jay	2	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Hairy Woodpecker	1	0-50
-	006	0397255E, 4952558N	8:31 AM	American Crow	2	0-50
-	-	-	-	American Goldfinch	22	0-50
-	-	-	-	Black-capped Chickadee	10	0-50
-	-	-	-	Blue Jay	12	0-50
-	-	-	-	Dark-eyed Junco	11	0-50
-	-	-	-	European Starling	14	0-50
-	-	-	-	Hairy Woodpecker	1	0-50
-	-	-	-	Mourning Dove	9	0-50
-	-	-	-	Purple Finch	4	0-50
-	-	-	-	Red-breasted Nuthatch	1	0-50
-	-	-	-	Red-winged Blackbird	1	0-50
-	-	-	-	Sharp-shinned Hawk	1	0-50
-	007	0401912E, 4958209N	8:54 AM	Black-capped Chickadee	14	0-50
-	-	-	-	Brown Creeper	1	0-50
-	-	-	-	Downy Woodpecker	1	0-50
-	-	-	-	Golden-crowned Kinglet	6	0-50
-	-	-	-	Pine Siskin	2	0-50
-	-	-	-	Red-breasted Nuthatch	2	0-50
-	008	0402133E, 4961184N	9:06 AM	American Goldfinch	45	0-50
-	-	-	-	Black-capped Chickadee	8	0-50
-	009	0402174E, 4966033N	9:27 AM	American Crow	6	0-50
-	-	-	-	Dark-eyed Junco	10	0-50
-	010	0401885E, 4967083N	9:34 AM	American Crow	4	0-50
-	-	-	-	Black-capped Chickadee	6	0-50
-	-	-	-	Blue Jay	2	0-50
-	011	0399969E, 4965002N	10:08 AM	American Goldfinch	23	0-50
-	-	-	-	Black-capped Chickadee	12	0-50
-	-	-	-	Dark-eyed Junco	8	0-50
-	012	0401365E, 4968457N	10:21 AM	Black-capped Chickadee	10	0-50
-	013	0401065E, 4966853N	10:36 AM	Black-capped Chickadee	6	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	014	0400380E, 4966279N	10:40 AM	Black-capped Chickadee	8	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Red-breasted Nuthatch	1	0-50
-	015	0399895E, 4965052N	10:47 AM	Hooded Merganser	1	0-50
-	016	0399198E, 4963887N	10:53 AM	American Goldfinch	48	0-50
-	-	-	-	Black-capped Chickadee	9	0-50
-	-	-	-	Blue Jay	12	0-50
-	-	-	-	Common Raven	2	0-50
-	-	-	-	Dark-eyed Junco	9	0-50
-	-	-	-	Downy Woodpecker	1	0-50
-	-	-	-	Golden-crowned Kinglet	1	0-50
-	-	-	-	Mourning Dove	33	0-50
-	-	-	-	Red-breasted Nuthatch	1	0-50
-	-	-	-	Red-winged Blackbird	4	0-50
-	-	-	-	Song Sparrow	1	0-50
-	-	-	-	White-breasted Nuthatch	2	0-50
-	017	0395439E, 4964116N	11:41 AM	Black-capped Chickadee	8	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Red-breasted Nuthatch	2	0-50
-	018	0390860E, 4962478N	12:05 PM	Black-capped Chickadee	6	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	019	0401827E, 4956870N	1:45 PM	Black-capped Chickadee	8	0-50
-	-	-	-	Downy Woodpecker	2	0-50
-	-	-	-	Golden-crowned Kinglet	4	0-50
-	020	0401999E, 4963660N	2:30 PM	American Crow	3	0-50
-	-	-	-	American Goldfinch	2	0-50
-	-	-	-	Black-capped Chickadee	4	0-50
-	-	-	-	Blue Jay	8	0-50
-	021	0401333E, 4964342N	2:47 PM	Black-capped Chickadee	10	0-50
-	-	-	-	Golden-crowned Kinglet	2	0-50
-	-	-	-	Red-breasted Nuthatch	4	0-50
-	022	0391104E, 4972380N	4:31 PM	Black-capped Chickadee	8	0-50
-	023	0393310E, 4964396N	4:55 PM	Brown Creeper	2	0-50
-	-	-	-	Common Raven	2	100+
-	-	-	-	Golden-crowned Kinglet	4	0-50

Table 11: South Canoe Lake Wind Project Species at Risk

Project # 11-4314

Common Name	Scientific Name	Coordinates	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status
Bicknell's Thrush	<i>Catharus bicknelli</i>	0398886E, 4956619N 0399084E, 4956794N	Yellow	Threatened	Special Concern	Vulnerable
Bobolink	<i>Dolichonyx oryzivorus</i>	0393756E, 4959608N 0393931E, 4959355N	Yellow	Threatened	No Status	Not Listed
Boreal Chickadee	<i>Parus hudsonicus</i>	0393600E, 4961872N, 0393598E, 4961561N	Yellow	Not Listed	Not Listed	Not Listed
-	-	0393743E, 4959984N 0393655E, 4960278N	-	-	-	-
-	-	0398689E, 4960080N 0398679E, 4960358N	-	-	-	-
-	-	0399275E, 4960533N 0399147E, 4960813N	-	-	-	-
-	-	0399026E, 4957961N 0398960E, 4957665N	-	-	-	-
-	-	0398987E, 4957534N 0399123E, 4957265N	-	-	-	-
-	-	0393543E, 4961268N 0393473E, 4960973N	-	-	-	-
-	-	0393756E, 4959608N 0393931E, 4959355N	-	-	-	-
-	-	0399730E, 4955458N 0399605E, 4955681N	-	-	-	-
-	-	0393563E, 4961297N 0393600E, 4961572N	-	-	-	-
-	-	0401226E, 4955155N 0401326E, 4954905N	-	-	-	-
-	-	0403219E, 4959056N 0403485E, 4958920N	-	-	-	-
-	-	0404032E, 4959793N 0403998E, 4960086N	-	-	-	-
-	-	0403681E, 4961355N 0403816E, 4961111N	-	-	-	-
-	-	0394801E, 4957993N	-	-	-	-
-	-	0399050E, 4958830N	-	-	-	-
-	-	0398683E, 4960142N	-	-	-	-
-	-	0399180E, 4961347N	-	-	-	-
-	-	0391160E, 4960173N	-	-	-	-
-	-	0398903E, 4956563N	-	-	-	-
Canada Warbler	<i>Wilsonia canadensis</i>	0399182E, 4961526N 0399356E, 4961736N	Yellow	Threatened	Threatened	Not Listed
Common Loon	<i>Gavia immer</i>	0393600E, 4961871N	Yellow	Not at Risk	Not Listed	Not Listed
-	-	0399164E, 4952594N	-	-	-	-
-	-	0393600E, 4961872N, 0393598E, 4961561N	-	-	-	-
-	-	0395206E, 4958158N 0395505E, 4958115N	-	-	-	-
-	-	0398987E, 4957534N 0399123E, 4957265N	-	-	-	-
-	-	Dam Bay	-	-	-	-
-	-	0394350E, 4960236N	-	-	-	-
-	-	0399164E, 4952594N	-	-	-	-
-	-	Lewis Lake	-	-	-	-
-	-	0395201E, 4962365N	-	-	-	-
-	-	Mockingigh Lake	-	-	-	-
Common Nighthawk	<i>Chordeiles minor</i>	0400789E, 4963639N 0401001E, 4963852N	Yellow	Threatened	Threatened	Threatened
Eastern Bluebird	<i>Sialia sialis</i>	0399056E, 4958802N 0399031E, 4959092N	Yellow	Not at Risk	Not Listed	Not Listed
-	-	0390899E, 4961915N	-	-	-	-
Gray Jay	<i>Perisoreus canadensis</i>	0401226E, 4955155N 0401326E, 4954905N	Yellow	Not Listed	Not Listed	Not Listed
-	-	0403219E, 4959056N 0403485E, 4958920N	-	-	-	-
-	-	0403681E, 4961355N 0403816E, 4961111N	-	-	-	-
-	-	0392015E, 4957862N 0392284E, 4957768N	-	-	-	-
-	-	0399142E, 4957039N	-	-	-	-
-	-	0393600E, 4961872N, 0393598E, 4961561N	-	-	-	-
-	-	0398805E, 4960602N 0399098E, 4960674N	-	-	-	-
-	-	0398689E, 4960080N 0398679E, 4960358N	-	-	-	-
-	-	0398925E, 4956441N 0398975E, 4956141N	-	-	-	-
-	-	0398862E, 4959535N 0398970E, 4959254N	-	-	-	-
-	-	0398862E, 4959535N 0398970E, 4959254N	-	-	-	-
-	-	0399026E, 4957961N 0398960E, 4957665N	-	-	-	-
-	-	0399050E, 4958223N 0399050E, 4458522N	-	-	-	-
-	-	0399182E, 4961526N 0399356E, 4961736N	-	-	-	-
-	-	0392275E, 4957781N	-	-	-	-
-	-	0391031E, 4960507N	-	-	-	-
-	-	0398693E, 4960096N	-	-	-	-
-	-	0399138E, 4960747N	-	-	-	-
-	-	0403422E, 4958969N	-	-	-	-
-	-	0398399E, 4963839N	-	-	-	-
Northern Goshawk	<i>Accipiter gentilis</i>	0405311E, 4955860N	Yellow	Not at Risk	Not Listed	Not Listed
-	-	0398805E, 4960602N 0399098E, 4960674N	-	-	-	-
-	-	0399865E, 4952554N 0399657E, 4952352N	-	-	-	-
-	-	0401226E, 4955155N 0401326E, 4954905N	-	-	-	-
-	-	0398300E, 4951472N	-	-	-	-
Peregrine Falcon	<i>Falco peregrinus</i>	0390899E, 4961915N	Red	Special Concern	Threatened	Vulnerable
-	-	0405311E, 4955860N	-	-	-	-
Rusty Blackbird	<i>Euphagus carolinus</i>	0399157E, 4961279N 0399188E, 4961569N	Yellow	Special Concern	Special Concern	Not Listed
-	-	0403549E, 4962109N 0403477E, 4962401N	-	-	-	-
-	-	0395094E, 4961999N	-	-	-	-
-	-	0390899E, 4961915N	-	-	-	-