

Memo



Stantec

To:	Adam Rosso	From:	Katherine St James
	Guelph ON Office		Guelph ON Office
File:	160960778	Date:	September 12, 2013

**Reference: Pre-Construction Evaluation of Significance Surveys for Landbird
Migratory Stopover Area LBMS01 – Port Ryerse Wind Farm**

Pre-construction surveys for spring landbird migratory stopovers were conducted at the Port Ryerse Wind Farm in Feature LBMS01. Feature LBMS01 is greater than 5 hectares, located within 5 km of Lake Erie, and contains a variety of habitats including forest, plantation, and agriculture. These attributes contribute to the potential for this habitat to be used by migratory landbirds as a resting and foraging stopover area (MNR 2012). Surveys conducted throughout this feature in fall 2012 found this feature to be significant Landbird Migratory Stopover habitat based on migratory bird observations, the details of which are included in the Natural Heritage Assessment for the Port Ryerse Wind Farm (Stantec, 2013). This feature was surveyed over 20 early-morning visits in the fall of 2012. Ten of the 20 visits had greater than 200 individual birds and all 20 visits had greater than 10 species. Greater than 35 species were observed over the entire season.

Because this type of habitat can be used in fall and/or spring migration, it was deemed important to survey this feature again in spring 2013 to provide a complete set of pre-construction results to compare with after construction.

The surveys in spring 2013 followed the same methods as those in fall 2012, which were detailed in the Natural Heritage Assessment for Port Ryerse Wind Farm (Stantec, 2013), and are also described below.

Methods

The candidate woodlot was surveyed twice weekly for a total of 20 visits in the spring 2013 between March 24th and June 1st. Visits began approximately at sunrise and extended no more than 4 hours after sunrise. Severe weather events were avoided, which included high winds and/or heavy precipitation.

Survey methods consisted of slowly walking linear transects through and along the edges of the habitat. The pre-selected transect routes are shown on the attached figure and attempt to capture the range of habitats available in this woodlot. The transect routes were flagged and delineated in the field using handheld GPS units on the first field visit.

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Observers recorded the following information: date, names of observers, time (start and end for each transect), duration of time it took to walk the transect, weather conditions (temperature, % cloud cover, Beaufort wind scale, visibility, precipitation), GPS track of each transect, species observed, total number of individuals of each species, behavior (foraging, mobbing, migration, flying, perching, perched on ground, swimming), and height category (using woodlot or fly-over). Although these surveys are targeting landbirds, all bird observations were recorded. All birds documented as flyovers or otherwise not using the woodland as a stopover habitat were clearly indicated at the time of observation. Any birds observed to be using the woodlot while the observer is traveling between transects were also recorded.

Results

Details from each survey are provided below in **Tables 1, 2 and 3**. Only birds recorded using the habitat (i.e. landing in the feature or observed within the feature) are listed in Tables 2 and 3. Fly-overs, or birds that are not using the migratory stopover habitat, are not counted towards the totals towards significance for this type of habitat.

Table 1. Survey timing and weather parameters

Survey	Date/Time (2013)	Weather				Surveyor
		Temp. (°C)	Wind (Beaufort Scale)	Cloud (%)	PPT / PPT last 24 hours	
1	March 24 (7:10-11:10)	2	2	40-70	none/none	B. Holden
2	March 25 (7:00-11:00)	1	4	100	none/none	B. Holden
3	March 30 (7:00-11:00)	5-9	2-3	30	none/none	B. Holden
4	March 31 (7:00-11:00)	7-9	3	70	none/none	B. Holden
5	April 8 (7:03-10:40)	1-7	1	20	none/none	J. Heslop
6	April 9 (6:55-10:15)	6	1	90	none/rain	J. Heslop
7	April 14 (6:40-10:15)	2-11	2	40-100	none/rain	J. Heslop
8	April 18 (6:40-10:15)	7-15	1-2	75	none/none	J. Heslop
9	April 25 (6:25-10:00)	1-7	1-4	0-5	none/rain	J. Heslop
10	April 26 (6:30-9:45)	2-7	2	0	none/rain	J. Heslop
11	April 29 (6:30-10:00)	10	1	100	none/rain	J. Heslop
12	May 1 (6:30-9:50)	10-15	1	10-80	none/none	J. Heslop
13	May 6	8-11	1-2	10	none/none	J. Heslop

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	(6:30-9:55)					
14	May 8 (6:10-9:33)	12-18	2	30-60	none/none	J. Heslop
15	May 18 (6:15-10:00)	13-15	2	80-100	none/none	J. Heslop
16	May 19 (6:05 -10:00)	9-12	1	10-40	none/none	J. Heslop
17	May 27 (5:35-9:35)	9-16	2-3	10-20	none/none	B. Holden
18	May 28 (5:45-9:45)	13-15	2-3	100	rain/rain	B. Holden
19	May 31 (5:40-9:40)	25-30	2-3	20-30	none/rain	B. Holden
20	June 1 (6:00-10:00)	20-25	3-4	80-100	none/rain	B. Holden

Table 2. Landbird Migratory Stopover Survey Results

Survey	Number of birds observed	Number of species observed	Contributes towards significance (Y/N)
1	75	14	N
2	97	12	N
3	55	18	N
4	101	17	N
5	388	33	Y
6	476	28	Y
7	486	36	Y
8	542	35	Y
9	641	31	Y
10	575	27	Y
11	1360	30	Y
12	343	30	Y
13	236	40	Y
14	235	39	Y
15	264	49	Y
16	251	48	Y
17	233	39	Y
18	357	48	Y
19	227	40	Y
20	208	38	Y
Total	7150	108*	16

* note that total number of species reflects the number of different species observed throughout the survey period (ie. does not include repeats) and is not a sum of the above numbers

Table 3: Species observations and relative abundance

Common Name	Scientific Name	Number of Individuals observed over 20 surveys
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	2714
Common Grackle	<i>Quiscalus quiscula</i>	1031

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American Robin	<i>Turdus migratorius</i>	369
Rusty Blackbird	<i>Euphagus carolinus</i>	237
Cedar Waxwing	<i>Bombycilla cedrorum</i>	235
European Starling	<i>Sturnus vulgaris</i>	167
Brown-headed Cowbird	<i>Molothrus ater</i>	162
Song Sparrow	<i>Melospiza melodia</i>	158
Blue Jay	<i>Cyanocitta cristata</i>	149
Northern Cardinal	<i>Cardinalis cardinalis</i>	148
American Goldfinch	<i>Carduelis tristis</i>	111
American Crow	<i>Corvus brachyrhynchos</i>	101
Yellow Warbler	<i>Dendroica petechia</i>	89
Mourning Dove	<i>Zenaida macroura</i>	84
Baltimore Oriole	<i>Icterus galbula</i>	78
Black-capped Chickadee	<i>Poecile atricapillus</i>	77
Red-eyed Vireo	<i>Vireo olivaceus</i>	64
Northern Flicker	<i>Colaptes auratus</i>	55
Dark-eyed Junco	<i>Junco hyemalis</i>	52
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	50
Downy Woodpecker	<i>Picoides pubescens</i>	45
Chipping Sparrow	<i>Spizella passerina</i>	44
Golden-crowned Kinglet	<i>Regulus satrapa</i>	43
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	42
Gray Catbird	<i>Dumetella carolinensis</i>	42
American Redstart	<i>Setophaga ruticilla</i>	40
Indigo Bunting	<i>Passerina cyanea</i>	40
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	38
House Wren	<i>Troglodytes aedon</i>	32
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	31
Ring-billed Gull	<i>Larus delawarensis</i>	30
White-throated Sparrow	<i>Zonotrichia albicollis</i>	29
Carolina Wren	<i>Thryothorus ludovicianus</i>	28
Tree Swallow	<i>Tachycineta bicolor</i>	25
Red-tailed Hawk	<i>Buteo jamaicensis</i>	24
Eastern Wood-Pewee	<i>Contopus virens</i>	23
Canada Goose	<i>Branta canadensis</i>	22
Common Loon	<i>Gavia immer</i>	22
White-breasted Nuthatch	<i>Sitta carolinensis</i>	21
Bonaparte's Gull	<i>Larus philadelphia</i>	19
Wood Thrush	<i>Hylocichla mustelina</i>	19
Mallard	<i>Anas platyrhynchos</i>	16
Turkey Vulture	<i>Cathartes aura</i>	16
Yellow-rumped Warbler	<i>Dendroica coronata</i>	15
Wild Turkey	<i>Meleagris gallopava</i>	14
American Tree Sparrow	<i>Spizella arborea</i>	13
Eastern Kingbird	<i>Tyrannus tyrannus</i>	13
Brown Thrasher	<i>Toxostoma rufum</i>	12
House Finch	<i>Carpodacus mexicanus</i>	12
Ruby-crowned Kinglet	<i>Regulus calendula</i>	12
Warbling Vireo	<i>Vireo gilvus</i>	12
Brown Creeper	<i>Certhia americana</i>	11
Blackpoll Warbler	<i>Dendroica striata</i>	10
Killdeer	<i>Charadrius vociferus</i>	10

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White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	10
Swainson's Thrush	<i>Catharus ustulatus</i>	9
Eastern Phoebe	<i>Sayornis phoebe</i>	8
Red-breasted Nuthatch	<i>Sitta canadensis</i>	8
Scarlet Tanager	<i>Piranga olivacea</i>	8
Barn Swallow	<i>Hirundo rustica</i>	7
Belted Kingfisher	<i>Ceryle alcyon</i>	7
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	7
Traill's Flycatcher	<i>Empidonax</i>	7
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	7
Bald Eagle	<i>Haliaeetus leucocephalus</i>	6
Field Sparrow	<i>Spizella pusilla</i>	6
Ovenbird	<i>Seiurus aurocapilla</i>	6
Wilson's Warbler	<i>Wilsonia pusilla</i>	6
Common Yellowthroat	<i>Geothlypis trichas</i>	5
Hermit Thrush	<i>Catharus guttatus</i>	5
Veery	<i>Catharus fuscescens</i>	5
Wood Duck	<i>Aix sponsa</i>	5
Great Blue Heron	<i>Ardea herodias</i>	4
Magnolia Warbler	<i>Dendroica magnolia</i>	4
Tufted Titmouse	<i>Baeolophus bicolor</i>	4
Willow Flycatcher	<i>Empidonax traillii</i>	4
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	4
Yellow-throated Vireo	<i>Vireo flavifrons</i>	4
Bank Swallow	<i>Riparia riparia</i>	3
Black-throated Green Warbler	<i>Dendroica virens</i>	3
Cape May Warbler	<i>Dendroica tigrina</i>	3
House Sparrow	<i>Passer domesticus</i>	3
Tennessee Warbler	<i>Vermivora peregrina</i>	3
Black-and-white Warbler	<i>Mniotilta varia</i>	2
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	2
Canada Warbler	<i>Wilsonia canadensis</i>	2
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	2
Fox Sparrow	<i>Passerella iliaca</i>	2
Palm Warbler	<i>Dendroica palmarum</i>	2
Rock Pigeon	<i>Columba livia</i>	2
Winter Wren	<i>Troglodytes troglodytes</i>	2
American Woodcock	<i>Scolopax minor</i>	1
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	1
Blue-headed Vireo	<i>Vireo solitarius</i>	1
Blue-winged Warbler	<i>Vermivora pinus</i>	1
Eastern Bluebird	<i>Sialia sialis</i>	1
Gray-cheeked Thrush	<i>Catharus minimus</i>	1
Hairy Woodpecker	<i>Picoides villosus</i>	1
Herring Gull	<i>Larus argentatus</i>	1
Mourning Warbler	<i>Oporornis philadelphia</i>	1
Nashville Warbler	<i>Vermivora ruficapilla</i>	1
Northern Parula	<i>Parula americana</i>	1
Osprey	<i>Pandion haliaetus</i>	1
Pine Warbler	<i>Dendroica pinus</i>	1

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Purple Martin	<i>Progne subis</i>	1
Savannah Sparrow	<i>Passerculus sandwichensis</i>	1
Swamp Sparrow	<i>Melospiza georgiana</i>	1
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	1

Evaluation of Significance Criteria

The criteria for determining the significance of this habitat are described in the Draft Significant Wildlife Habitat Ecoregion 7E Criteria Schedule (MNR, 2012). They are described as the use of woodlot by >200 birds/day and with >35 species total with at least 10 bird species recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered significant.

Summary and Conclusions

On a total of 16 of the 20 survey dates, over 200 individual birds with greater than 10 species were observed, with more than 35 different species observed over the entire survey period. This feature therefore meets the criteria for a significant Landbird Migratory Stopover Area habitat for the spring migratory period. As such, the mitigation proposed in the EIS will be required.

References

MNR. 2012. Draft Significant Wildlife Habitat Ecoregion 7E Criterion schedule (Online). Available: <http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTE1ODc5&statusId=MTczNDgy&language=en>

Stantec Consulting Ltd. 2013. Port Ryerse Wind Energy Project: Natural Heritage Assessment and Environmental Impact Study.

STANTEC CONSULTING LTD.

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Attachment: Field map



UDI Port Ryerse Wind Farm

UDI Renewables Corp.
Port Ryerse, Ontario

Landbird Migratory Stopover Area Proposed Survey Transects

Layout: 1901.R2011-11-29.EB2-2300.H108.4.V6

- Proposed Survey Transects
- Candidate Landbird Migratory Stopover Area
- Proposed Turbine
- Permanent Site Parking Lot
- Project Electrical Line
- Project Road
- Turning Radius
- Substation Area
- Component Laydown Area and Crane Pad
- Bladeswept Area
- 120 m Project Location Buffer
- Participating Properties Boundary
- Building
- Road
- 5 m Contour Line
- Intermittent Stream
- Watercourse
- Waterbody

Transect Segment

Date: July 30, 2012

Author: HV Confirmed: Draft

Drawing Number: UDI-PR-LBMS-ST-2012-07-30



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Background Data Sources: Ontario Base Mapping and Land Information Ontario, Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011. Projection: NAD 83 UTM Zone 17.
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