

Ernestown Wind Park

Natural Heritage Evaluation of Significance Report

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Renewable Energy & Environmental Consulting

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1 INTRODUCTION

This report evaluates the significance of natural heritage features at the location of the proposed Ernestown Wind Park. The evaluation is based on information obtained during the records review, the site investigation, and consultation with relevant agencies as outlined in Section 27 of the *Ontario Regulation 359/09* made under the *Environmental Protection Act, Renewable Energy Approvals*, under part V.0.1 of the Act (hence forth referred to as ‘the REA regulation’). Background information on the project is also available in the *Natural Heritage Records Review Report* (AET, 2012) and the *Project Description Report*.

As per the requirements for Natural Heritage Assessment outlined in the REA regulation, a records review of documented natural heritage features was carried out for the proposed Ernestown Wind Park, the results of which are summarized in the *Natural Heritage Records Review Report* (AET, 2012). Subsequently, a site visit investigation of the proposed project area was undertaken to confirm the results of the records review and identify any additional natural heritage features found on site. Results of the Site Investigation are presented in the accompanying *Natural Heritage Site Investigation Report* (M.K. Ince and Associates Ltd., 2012). All of the afore-mentioned reports will be submitted to the Ministry of Natural Resources (MNR) for review and comment. Note that information pertaining to Species-At-Risk is handled through a separate process with the MNR.

As a reminder, the proposed Ernestown Wind Park is located in Ecoregion 6E (Lee *et al.*, 1998). As required under the REA regulation, an evaluation of significance was carried out to evaluate all features and wildlife habitat identified from the records review and site investigation in or within 120 m of the Ernestown Wind Park. The results of this Evaluation of Significance (EOS) are included in this report. Fish habitat, where applicable, is considered within the *Water Bodies Assessment and Impact Assessment* reports (M.K. Ince and Associates Ltd., 2012). Endangered and threatened species are considered in a separate process with the MNR.

Lastly, **Table 1-1**, below, demonstrates how this *Evaluation of Significance Report* meets the requirements of the Ontario Ministry of Natural Resources (MNR) and the REA regulation. **Figures 4-1 to 4-6** highlight natural features identified through within 120 m of the Project Location. Table 5-1 highlights the features that will be carried through to the *Environmental Impact Study*.

Table 1-1: Ministry of Natural Resources Checklist for Evaluation of Significance Reports

Content Requirements	Included	Location
For each natural feature that the project location is closer to than 120 m (other than ANSIs, as the applicant is only required to consider ANSIs that have previously been confirmed as provincially significant by the MNR):		
a) A summary of the evaluation criteria or procedures used in determining significance/provincial significance of a feature Note: an evaluation of significance identified through the records review is an acceptable determination of significance, provided that the evaluation was done using evaluation criteria or procedures established/accepted by MNR and evidence of the procedures used is submitted by the applicant.	☑	Sections 3 and 4, Table 4-1
Evidence of how information related to natural features obtained during records review, site investigation and consultation with the public, aboriginal communities, municipalities and local authorities was considered by the applicant on the evaluation of significance.	☑	Sections 3 and 4, Table 4-1
b) The name and qualifications of person(s) who applied the evaluation criteria or procedures	☑	Tables 3-1 and 4-1, Appendix A
c) The dates of the beginning and completion of the evaluation	☑	Table 3-1

2 OVERVIEW

The *Natural Heritage Site Investigation Report* carried out for the proposed Ernestown Wind Park investigated all natural heritage features in or within 120 m of the Project Location as outlined by the *Records Review Report* (AET, 2012). These consisted of **six wetlands** and **ten woodlands**.

Additional natural heritage features were identified within 120 m of the proposed project during the site investigation. These features include:

- three additional woodlands
- five additional wetlands
- twelve seasonal concentration areas of animals:
 - two candidate raptor wintering areas
 - four candidate bat maternity roosts (four cavity trees identified)
 - two candidate migratory butterfly stopover areas
 - four candidate landbird migratory stopover areas
- ten rare vegetation communities or specialized habitat for wildlife:
 - one candidate alvar
 - two candidate waterfowl nesting areas
 - one candidate turtle nesting area
 - two candidate seeps and springs
 - four candidate amphibian breeding habitats (one wetland and three woodland)
- four habitat for species of conservation concern:
 - one candidate marsh bird breeding habitat
 - two candidate woodland area-sensitive bird breeding habitats

- one candidate shrub/early successional bird breeding habitat
- generalized candidate significant wildlife habitat

The site investigations confirmed the presence of WO05-1, WO05-2, WO05-3 and WO07, however, determined that these woodland units are contiguous with WO06. Therefore, all of these woodland units are lumped together into WO06. Additionally, one of the woodlands (WO12) identified in the records review was not found onsite and will therefore not be carried forward as a woodland feature within 120 m of the proposed project.

Table 2-1: Summary of corrections to the *Natural Heritage Records Review Report*

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)
ANSIs (earth science and life science)		
N/A	No – sources consulted during the records review did not show any ANSIs within 120 m of the Project Location; this was verified during the site investigation	No
Valleylands		
N/A	No –LIO and CCRCA mapping does not show any valleylands within 120 m of the Project Location; this was verified during the site investigation	No
Wetlands		
WE02	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES
WE04	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES
WE05-2	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES
WE05-4	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES
WE05-6	No – this feature is accurately represented on the SOLRIS mapping.	YES
WE05-10	Yes – the extent and classification of this feature is not accurately shown on the SOLRIS mapping	YES
WE05-15	Yes – this feature was not identified during the records review	YES
WE05-16	Yes – this feature was not identified during the records review	YES
WE08	Yes – this feature was not identified during the records review	YES
WE09	Yes – this feature was not identified during the records review	YES
WE10	Yes – this feature was not identified during the records review	YES
Woodlands		

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)
WO03	Yes – the extent of this feature is shown incorrectly on the NRVIS woodland layer; feature delineated in field and using aerial imagery	YES
WO04	No – this feature is accurately shown on the NRVIS woodland layer	YES
WO05-1	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No
WO05-2	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No
WO05-3	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No
WO05-4	Yes – this woodland is not accurately shown on the NRVIS woodland layer; feature delineated in field and using aerial imagery	YES
WO05-5	Yes – this woodland is not accurately shown on the NRVIS woodland layer; feature delineated in field and using aerial imagery	YES
WO07	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No
WO12	Yes – this woodland does not exist within 120 m of the proposed Project Location	No
WO06	Yes – this feature was not identified during the records review	YES
WO13	Yes – this feature was not identified during the records review	YES
WO14	Yes – this feature was not identified during the records review	YES
WO15	Yes – this feature was not identified during the records review	YES
Habitats of Seasonal Concentration Areas of Animals		
RWA01	Yes – this feature was not identified during the records review	YES
RWA02	Yes – this feature was not identified during the records review	YES
BMR01	Yes – this feature was not identified during the records review	YES
BMR02	Yes – this feature was not identified during the records review	YES
BMR03	Yes – this feature was not identified during the records review	YES
BMR04	Yes – this feature was not identified during the records review	YES
RH01	Yes – this feature was not identified during the records review	No (see generalized candidate SWH)
BMSA01	Yes – this feature was not identified during the records review	YES
BMSA02	Yes – this feature was not identified during the records review	YES
LMSA01	Yes – this feature was not identified during the records review	YES
LMSA02	Yes – this feature was not identified during the records review	YES

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)
LMSA03	Yes – this feature was not identified during the records review	YES
LMSA04	Yes – this feature was not identified during the records review	YES
Rare Vegetation Communities or Specialized Habitat for Wildlife		
ALV01	Yes – this feature was not identified during the records review	YES
WNA01	Yes – this feature was not identified during the records review	YES
WNA02	Yes – this feature was not identified during the records review	YES
TNA01	Yes – this feature was not identified during the records review	YES
SP01	Yes – this feature was not identified during the records review	YES
SP02	Yes – this feature was not identified during the records review	YES
ABH01	Yes – this feature was not identified during the records review	YES
ABH02	Yes – this feature was not identified during the records review	YES
ABH03	Yes – this feature was not identified during the records review	YES
ABH04	Yes – this feature was not identified during the records review	YES
Habitat for Species of Conservation Concern		
MBBA01	Yes – this feature was not identified during the records review	No (see generalized candidate SWH)
MBBA02	Yes – this feature was not identified during the records review	YES
ASH01	Yes – this feature was not identified during the records review	YES
ASH02	Yes – this feature was not identified during the records review	YES
OCBB01	Yes – this feature was not identified during the records review	No (see generalized candidate SWH)
ESBR01	Yes – this feature was not identified during the records review	YES
ESBR02	Yes – this feature was not identified during the records review	No (see generalized candidate SWH)
Generalized Candidate Significant Wildlife Habitat		

3 METHODOLOGY

As specified in *Ontario Regulation 359/09* (the REA regulation), the *Natural Heritage Assessment Guide for Renewable Energy Projects* (NHA Guide) an evaluation of significance was carried out to evaluate all features and wildlife habitat identified from the records review and site investigation within 120 m of the Ernestown Wind Park.

Evaluation criteria are based on both the MNR's *Natural Heritage Assessment Guide* (2010) for woodlands, wetlands and valleylands, and the *Significant Wildlife Habitat Technical Guide* (including the *Significant Wildlife Habitat Ecoregion 6E Criteria Schedule*, OMNR 2012) for wildlife habitat in Ecoregion 6E. Field protocols for evaluation of habitat use were designed following guidelines in the *Wildlife Monitoring Programs and Inventory Techniques for Ontario* (Konze and McLaren, 1997) as well as the manuals listed above.

3.1 Wetland Assessments

3.1.1 OWES

Under the NHAG (OMNR, 2011) wetlands within 120 m of a Project Location and within areas of proposed infrastructure need to be evaluated under the OWES (OMNR, 1993) guidelines. Wetlands evaluated as not significant through the OWES evaluation can be constructed in however, those evaluated as provincially significant cannot.

Wetlands within areas of proposed project infrastructure were assessed by OWES certified individuals (see **Appendix A** for credentials), using criteria outlined in the *Ontario Wetland Evaluation System – Southern Ontario* manual (OMNR, 1993).

3.1.2 Wetland Characteristics and Ecological Functions Assessment for Renewable Energy Projects (WCEFA)

Under the NHAG (OMNR, 2011) wetlands within 120 m of a Project Location but not within areas of proposed infrastructure do not need to be evaluated under the OWES (OMNR, 1993) guidelines but instead can be treated as provincially significant. Information necessary to complete the EIS needs to be collected for wetlands being assessed under WCEFA.

Wetlands within 120 m of the Ernestown Wind Park but not within proposed project infrastructure were treated as provincially significant and data was collected to satisfy **Table 1** in **Appendix C** of the NHAG (OMNR, 2011).

3.2 Woodland Assessments

All woodlands within 120 m of the Project Location were evaluated using criteria within **Section 6.2.2.1** of the NHAG (OMNR, 2011). A combination of desktop studies (i.e. mapping data, LIO) and field data was required to complete all woodland evaluations. Mapping software was used to calculate woodland

areas and proximity to adjacent natural features. Information required for woodland diversity and rare species was collected in field as a component of ELC surveys.

The criteria outlined in **Section 6.2.2.1** of the *Natural Heritage Assessment Guide* (OMNR, 2011) were used to evaluate woodland significance. According to Ontario Base Mapping (2008) none of the woodlands were found to be the largest in the lower-tier or single-tier municipality, and as such are not significant by this criterion. The woodland cover within the municipality is 31%, falling within the 31-60% municipal woodland cover category. The area (ha) threshold for each of the following criteria is as follows:

1. Woodland Size Criterion
 - 50 ha of woodland
2. Ecological Functions Criteria
 - a) Woodland Interior
 - 8 ha of interior habitat (woodland 100 m from edge of the woodland)
 - b) Proximity to other significant woodland or habitats
 - 10 ha portion of a woodland that is located within 30 m of a significant natural feature or fish habitat
 - c) Linkages
 - 10 ha woodland that are between 120 m of significant features and allow for animal movement between habitats.
 - d) Water Protection
 - 4 ha woodlands that are located within 50 m of a sensitive headwater area, watercourse or fish habitat
 - e) Woodland Diversity Representation (composition)
 - 10 ha woodlands that have a native, naturally occurring species composition (not planted).
3. Uncommon Characteristics Criteria
 - 0.5 ha of vegetation community with a provincial ranking of S1, S2, S3 ranked by the Natural Heritage Information Centre (NHIC)
 - 10 or more trees/ha with at least 50cm diameter in woodlands >4 h

Woodlands that are found to meet any of the above criteria will be deemed significant and as such will be carried through to the *Environmental Impact Study Report*.

3.3 Candidate Significant Wildlife Habitat Evaluations

3.3.1 Habitat-use Surveys

Habitat-use surveys are required for candidate significant wildlife habitats identified within 120 m of proposed project infrastructure. Evaluations were conducted for some of the candidate significant wildlife habitats identified within the *Natural Heritage Site Investigation Report* (M. K. Ince and Associates Ltd., 2012) and a commitment has been made to undertake habitat-use surveys at those habitats which have not been evaluated prior to construction within 120 m of the corresponding candidate habitat (see **Section 3.3.2**).

Habitat-use surveys were designed to collect the data necessary to evaluate candidate habitat using the Draft SWH Ecoregion 6E Criterion Schedule (OMNR, 2012). Specific habitat evaluation criteria and methodologies can be found within **Table 4-1**.

3.3.2 Pre-construction Survey Commitment

Some of the candidate significant wildlife habitats identified within 120 m of the Project Location are currently unevaluated and being treated as significant and require additional habitat-use surveys to determine significance. Under **Appendix D** of the Natural Heritage Assessment Guide (OMNR, 2011), an applicant treats a habitat as significant and commits to undertake studies prior to construction within 120 m of the feature. Features treated as significant are identified within **Table 4-4, 4-5, and 4-6** and are carried forward to the *Environmental Impact Study*. Detailed methodology for pre-construction surveys to evaluate the significance of each feature treated as significant is provided within the *Environmental Impact Study*.

3.3.3 Generalized Candidate Significant Wildlife Habitat

As specified in Appendix D to the NHAG (MNR, 2011), habitats which are not required to be identified for a particular project component, but may exist within 120 m of that component based on landscape and geography, must be assumed to be existing (see Table 1 of Appendix D of the NHAG for specific details). These features are then classified as generalized candidate significant wildlife habitat (GcSWH), treated as significant, and construction mitigation methods are provided within the *Environmental Impact Study Report*.

Some of the cSHW identified in *Site Investigation Report* were classified as GcSWH. Further information on these features and GcSWH can be seen in **Section 4.3.4**. A map showing the GcSWH within 120 m of the Project Location is provided in **Figure 4-6**.

3.4 Evaluation of Significance Details

A summary of the evaluation of significance completed for the Ernestown Wind Park Project, including the purpose and methods used to document the flora or habitat-use for all natural features confirmed in the *Natural Heritage Site Investigation Report* (M.K. Ince and Associates Ltd., 2012) is provided below (**Table 3.1**). Details on the dates, time, duration, weather conditions during each site visit, as well as the names of each of the investigators is provided.

The qualifications of each of the investigators are provided in **Appendix A**. The field notes kept by each of the investigators are provided in **Appendix B**.

Table 3-1: Summary of site visits

Purpose / Methods	Date(s)	Start/ End Time	Duration (Hours)	Weather Conditions	Site Investigator(s), Affiliation; Qualifications
Breeding Bird Study – Following guidelines in the Ontario Breeding Bird Atlas (BSC, 2001) and Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds (Environment Canada, 2007).	2009-06-02	0630-0830	2	Beaufort Wind Scale: 1 Temp (°C): 10	Mike Burrell, AET
	2009-06-15	0656-0730	~0.5	Beaufort Wind Scale: 1 Temp (°C): 14	Mike Burrell, AET
	2009-06-16	0645-0900	2.25	Beaufort Wind Scale: 0 Temp (°C): 13	Mike Burrell, AET
	2009-06-25	0649-0851	~2	Beaufort Wind Scale: 1 Temp (°C): 19	Mike Burrell, AET
	2009-06-26	0600-0815	2.25	Beaufort Wind Scale: 1 Temp (°C): 19	Mike Burrell, AET
Amphibian Breeding Habitat Surveys – Surveys followed the Marsh Monitoring Program (BSC, 2009)	2009-05-20	2135-2223	1	Beaufort Wind Scale: 1 Temp (°C): 13-14 CC (tenths): 3-4 Precipitation: 0	Les Misch, AET
	2009-06-05	2140-2217	0.5	Beaufort Wind Scale: 0 Temp (°C): 14 CC (tenths): 4 Precipitation: 0	Mike Burrell, AET
	2009-06-29	2135-2224	1	Beaufort Wind Scale: 2 Temp (°C): 18 CC (tenths): 5 Precipitation: 0	Mike Burrell, AET
	05-01-2012	1220-1720	5	CC (tenths): 10 Temp (°C): 16 Precipitation (mm): 0 Beaufort Wind Scale: 1	Dave Jolly, M.K. Ince & Associates (Appendix A)
	06-07-2012	1245-2045	8	CC (tenths): 2-10 Temp (°C): 14-23	Dave Jolly, M.K. Ince & Associates

Wetlands – data collection on wetland characteristics and ecological function (OWES Protocol; OMNR, 1993 and WCEFA; OMNR 2011)				Precipitation (mm): 0 Beaufort Wind Scale: 2-4	(Appendix A)
	06-08-2012	0745-1915	11.5	CC (tenths): 7 Temp (°C): 16 Precipitation (mm): 0 Beaufort Wind Scale: 1	Dave Jolly, M.K. Ince & Associates (Appendix A) Joel Jamieson, M.K. Ince & Associates (Appendix A)
	06-09-2012	0900-2130	12	CC (tenths): 10 Temp (°C): 20 Precipitation (mm): 0 Beaufort Wind Scale: 1	Dave Jolly, M.K. Ince & Associates (Appendix A) Joel Jamieson, M.K. Ince & Associates (Appendix A)
	06-10-2012	0930-1945	10.25	CC (tenths): 1-3 Temp (°C): 25-26 Precipitation (mm): 0 Beaufort Wind Scale: 0-2	Dave Jolly, M.K. Ince & Associates (Appendix A) Joel Jamieson, M.K. Ince & Associates (Appendix A)
	07-15-2012	1000-1830	8.5	CC (tenths): 10 Temp (°C): 27 Precipitation (mm): <1 Beaufort Wind Scale: 2-3	Martine Esraelian, Hatch Ltd. (Appendix A)
	07-16-2012	0930-1030; 1500-1800	4.0	CC (tenths): 2 Temp (°C): 32 Precipitation (mm): 0 Beaufort Wind Scale: 1-2	Martine Esraelian, Hatch Ltd. (Appendix A)
Woodlands – data collection on woodland characteristics and ecological function (ELC; OMNR, 1998 and NHAG; OMNR 2011)	06-07-2012	1245-2045	8	CC (tenths): 2-10 Temp (°C): 14-23 Precipitation (mm): 0 Beaufort Wind Scale: 2-4	Dave Jolly, M.K. Ince & Associates (Appendix A)
	06-08-2012	0745-1915	11.5	CC (tenths): 7 Temp (°C): 16 Precipitation (mm): 0 Beaufort Wind Scale: 1	Dave Jolly, M.K. Ince & Associates (Appendix A) Joel Jamieson, M.K. Ince & Associates (Appendix A)

	06-09-2012	0900-2130	12	CC (tenths): 10 Temp (°C): 20 Precipitation (mm): 0 Beaufort Wind Scale: 1	Dave Jolly, M.K. Ince & Associates (Appendix A) Joel Jamieson, M.K. Ince & Associates (Appendix A)
	06-10-2012	0930-1945	10.25	CC (tenths): 1-3 Temp (°C): 25-26 Precipitation (mm): 0 Beaufort Wind Scale: 0-2	Dave Jolly, M.K. Ince & Associates (Appendix A) Joel Jamieson, M.K. Ince & Associate (Appendix A)
	07-10-2012	0600-1730	11.5	CC (tenths): 0 Temp (°C): 17-27 Precipitation (mm): 0 Beaufort Wind Scale: 0-2	Rob Tymstra, M.K. Ince & Associates (Appendix A)
	07-15-2012	1000-1830	8.5	CC (tenths): 10 Temp (°C): 27 Precipitation (mm): <1 Beaufort Wind Scale: 2-3	Martine Esraelian, Hatch Ltd. (Appendix A)
	07-16-2012	0930-1030; 1500-1800	4	CC (tenths): 2 Temp (°C): 32 Precipitation (mm): 0 Beaufort Wind Scale: 1-2	Martine Esraelian, Hatch Ltd. (Appendix A)

¹ – Weather data for these surveys was unavailable for this survey date. The Kingston Airport Environment Canada Weather Station data was used as a substitute. Averaged or total data is presented.

4 RESULTS

All habitats within 120 m of the Project Location (**Figures 4-1 to 4-5**) were evaluated for significance following guidelines in the Draft SWH Ecoregion 6E Criterion Schedule (OMNR, 2012). The results of these evaluations are contained within **Tables 4-1 to 4-6** which also highlights habitat-specific methodologies carried out during field visits. Habitats that were evaluated as significant will be carried forward to the *Environmental Impact Study*, where mitigation measures on the potential negative environmental effects of construction, operation, and decommissioning will be provided.

4.1 Wetlands

The *Natural Heritage Records Review* (AET, 2010) and *Site Investigation* (M.K. Ince and Associates Ltd. 2012) identified eleven wetlands within 120 m of the Project Location. An evaluation of significance was performed on these features following guidelines in the *Natural Heritage Assessment Guide for Renewable Energy Projects* (OMNR, 2011b), the results of which are provided in **Table 4-1**. A map showing the confirmed wetlands is presented in **Figure 4-1**.

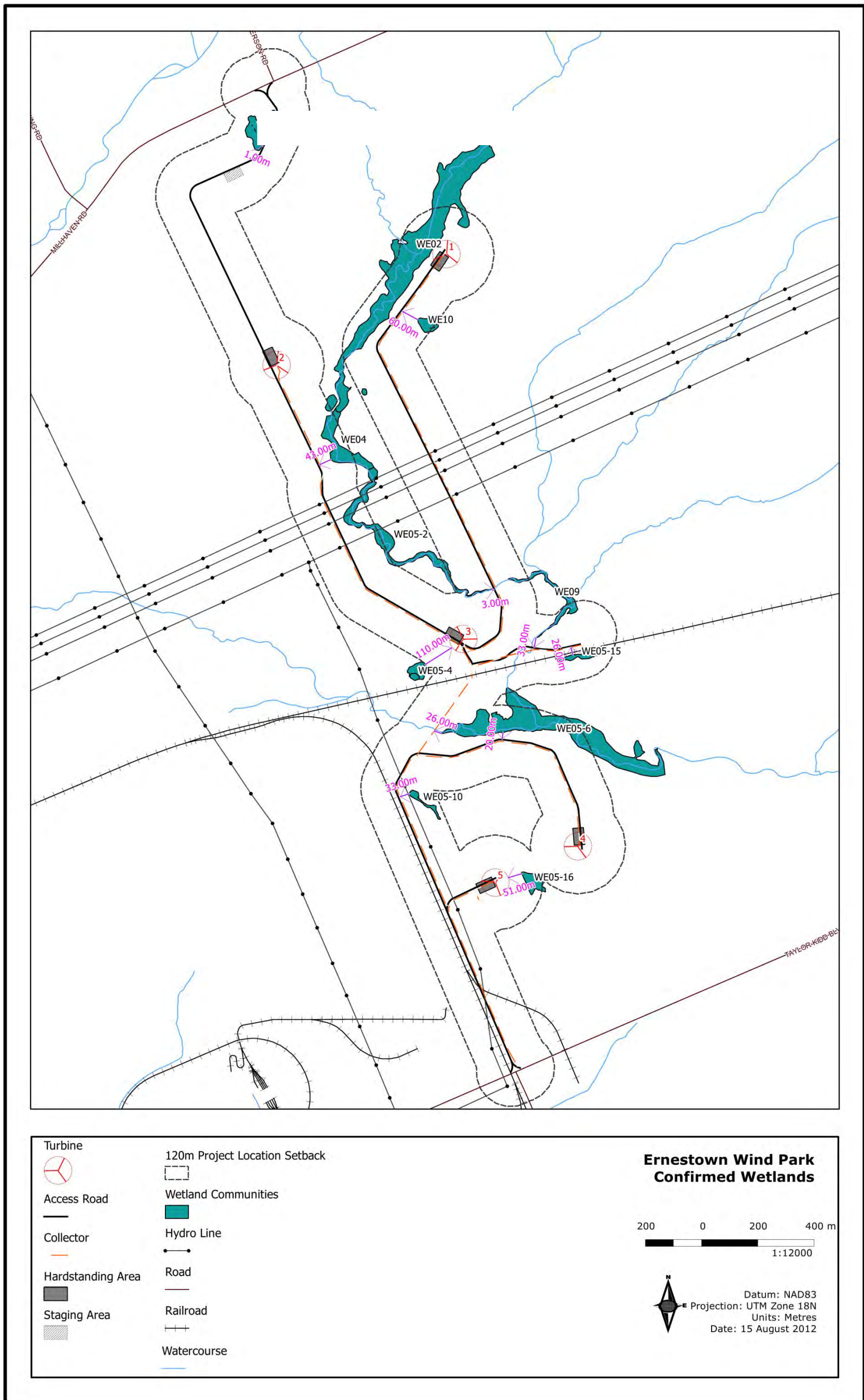


Figure 4-1: Wetlands identified within 120 m of the Project Location

Table 4-1: Results of evaluations of wetlands identified within the Project Location

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
WE02	Wetland	7.5	WO04	MAMM1-3 and SWDM2-2 (ELC IDs: 22 & 23 respectively)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005) absorbing of spring runoff from the agricultural fields.	ABH02; MBBA02; WNA01	Hardstand (21 m); Access Road (22 m); Collector (22 m); Bladeswept area (5m)	<u>Date of evaluation:</u> 2012-08-23 <u>Evaluated by:</u> Dave Jolly and Martine Esraelian	<u>Methods:</u> Wetland was characterized during ELC surveys. Mapping data was used concurrently with field data to evaluate wetland according to criteria in the NHAG (OMNR, 2011).	<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE04	Wetland	1.3	WO04	SWDM2-1, OAO, and MASM1-1 (ELC IDs: 32, 33 & 36 respectively)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). Open aquatic community is poor quality (surface covered with algae).	ABH02; WNA01	Collector (43 m); Access Road (45 m)		<u>Evaluation Criteria:</u> WCEFA; Appendix C of the <i>Natural Heritage Assessment Guide</i> (OMNR, 2011c).	<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE05-2	Wetland	1.8	WO06	MAMM1-3 (ELC IDs: 38,44 & 50)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005).	ABH02; MBBA03; WNA01	Access Road (3 m); Collector (11 m); Bladeswept area (110m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE05-4	Wetland	0.32	WO06	SWDM2-2, and OAO (ELC IDs: 60 & 61 respectively)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). High flood retention and attenuation for surrounding wetlands.	ABH02; LMSA02	Hardstand (106 m); Bladeswept area (110m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE05-6	Wetland	5.4	WO5-4	MASM1-1 (ELC ID: 65)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005).	ABH04; WNA02; SPO1 & SPO2	Access Road (20 m); Collector (26 m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE05-10	Wetland	0.17	WO5-4	MASM1-1 (ELC ID: 70)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). High flood retention and attenuation for surrounding wetlands.	ABH04	Collector (33 m); Access Road (35 m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE08	Wetland	0.60		SAS1 and MAMM1-3 (ELC IDs: 10 & 11 respectively)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). High flood retention and attenuation for surrounding wetlands.	ABH01; TNA01	Access Road (1 m); Staging Area (84 m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE09	Wetland	0.56	WO06	MAMM1-3 (ELC ID: 55)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005).	ABH02; MBBA04; WNA01	Access Road (23 m); Collector (31 m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE10	Wetland	0.28		SWDO1-2, MASO1-1 and MASO1-4 (ELC IDs: 28,29 &	Functions as wildlife habitat, storage of carbon, cleaning air,	ABH03; WNA01	Collector (60 m); Access Road (62 m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
				30, respectively)	hydrological cycling, nutrient cycling (OMNR, 2005).					
WE05-15	Wetland	0.22	WO5-4	MASM1-1 (ELC ID: 59)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005).	ABH04	Collector (26 m); Access Road (26 m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>
WE05-16	Wetland	0.39		MASM1-1 (ELC ID: 77)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005).	ABH04	Access Road (100 m); Collector (100 m); Hardstand (105m); Bladeswept area (51m)			<u>TREATED AS PROVINCIALY SIGNIFICANT</u>

4.2 Woodlands

The *Natural Heritage Records Review* (AET, 2010) and *Site Investigation* (M.K. Ince and Associates Ltd. 2012) identified five woodlands within 120 m of the Project Location. An evaluation of significance was performed on these features following guidelines in the *Natural Heritage Assessment Guide for Renewable Energy Projects* (OMNR, 2011b), the results of which are provided below in **Table 4-2** and a summary of these results appears in **Table 4-3**. A map showing the confirmed woodlands is presented in **Figure 4-2**.

Table 4-2: Woodland assessment results

Woodland ID	ELC Codes	Total Woodland Area (ha)	Woodland Interior (ha)	Proximity to Other Significant Woodland and Habitats	Linkages	Water Protection	Woodland Native Diversity Dominant	Presence of Uncommon Characteristics Criteria	Instances of Significance
Area threshold (ha)*		50	8	10	10	4	10	0.5/4	/7
WO03	FODM6-4 (ELC ID: 26)	No – 16 ha	No - 0 ha	Yes – contains potentially significant habitat (treated as significant)	No	Yes – presence of one stream	Yes – Sugar Maple, Basswood, Eastern Hemlock, Eastern White Pine	No	3 SIGNIFICANT
WO04	FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)	No – 7.8 ha	No - 0 ha	Yes – contains potentially significant habitat (treated as significant)	No	Yes – presence of stream and swamp	Yes - Sugar Maple, Black Ash, Basswood, Shagbark Hickory, Eastern Hemlock, Eastern White Pine	No	3 SIGNIFICANT
WO05-4	FOCM1-2 (ELC ID: 63); FOCM2-1 (ELC IDs: 64, 71, 72); FODM7-1 (ELC IDs: 68, 84); FODM7-2 (ELC IDs: 66, 74, 82); WOCM1-1 (ELC	Yes - 147 ha	Yes - 11 ha	Yes – within 30 m of significant woodland WO06 and contains potentially significant	Yes	Yes – presence of one stream, and two	Yes –Eastern White Pine and White Spruce	Yes - Three-fruited Sedge and Bristle-	7 SIGNIFICANT

Woodland ID	ELC Codes	Total Woodland Area (ha)	Woodland Interior (ha)	Proximity to Other Significant Woodland and Habitats	Linkages	Water Protection	Woodland Native Diversity Dominant	Presence of Uncommon Characteristics Criteria	Instances of Significance
Area threshold (ha)*		50	8	10	10	4	10	0.5/4	/7
	IDs: 62, 73, 75, 79)			habitat (treated as significant)		springs		stalked Sedge.	
WO05-5	FODM7-1 (ELC ID 84 & 89), FODM7-2 (ELC ID 82)	No – 8.8 ha	No - 0 ha	Yes – within 30 m of significant woodland WO05-4 and contains potentially significant habitat (treated as significant)	Yes	No	No	No	2 SIGNIFICANT
WO06	FODM9-4 (ELC IDs: 41, 47, 57); SWDM2-2 (ELC ID: 60); WOCM1-1 (ELC IDs: 46, 54, 56); FODM2-3 (ELC ID: 39)	Yes – 105 ha	No - 3.8 ha	Yes – within 30 m of significant woodland WO05-4 and contains potentially significant habitat (treated as significant)	Yes	Yes – presence of two streams	Yes – Shagbark Hickory, Sugar Maple, Bitternut Hickory, Eastern White Pine	No	5 SIGNIFICANT
WO13	FODM7-2 (ELC ID: 66)	No – 0.87 ha	No - 0 ha	Yes – contains potentially significant habitat (treated as significant)	No	No	No	No	1 SIGNIFICANT
WO14	FODM7-1 (ELC ID: 89)	No – 4.3 ha	No - 0 ha	No	No	Yes – presence of one stream	No	No	1 SIGNIFICANT
WO15	SWDO1-2 (ELC ID: 28)	No – 0.17 ha	No - 0 ha	Yes – contains potentially significant habitat (treated as significant)	No	No	No	No	1 SIGNIFICANT

* - the minimum required area to meet significance. This value is dependent on the amount of woodland cover within the lower-tier municipality, which is 31-60% within the Municipality of Ernestown.

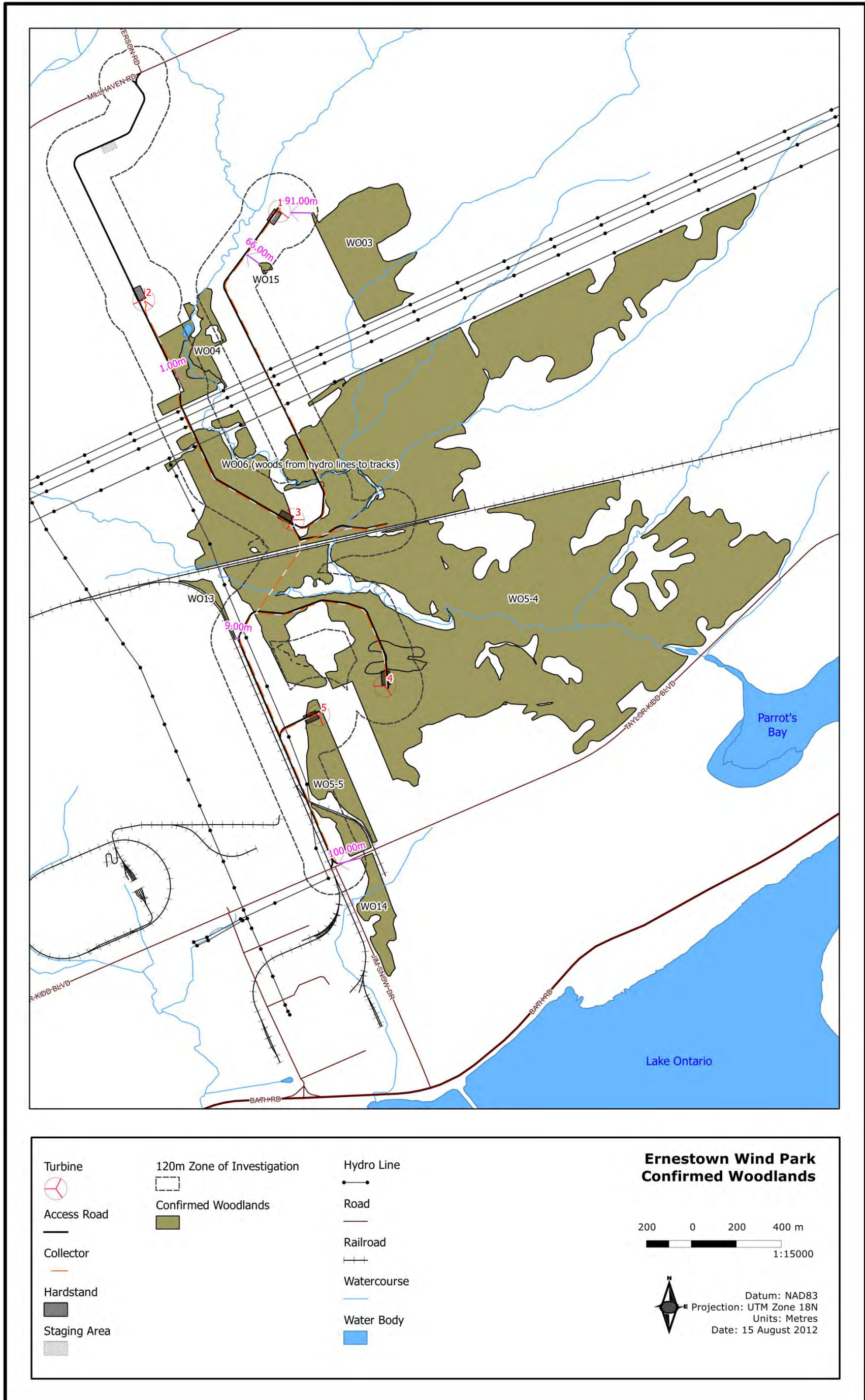


Figure 4-2: Woodlands identified within 120 m of the Project Location

Table 4-3: Results of evaluations of woodlands identified within the Project Location

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
WO03	Woodland	16	WE02, WE04, WE05-2, WE05-4; WO06	FODM6-4 (ELC ID: 26)	Functions in water protection, proximity to other significant woodlands and habitats and provides woodland native diversity dominant species.	LMSA01	Bladeswept area (91m)	<u>Date of evaluation:</u> 2012-08-23 <u>Evaluated by:</u> Dave Jolly and Yves Scholten	<u>Methods:</u> Woodland was characterized during ELC surveys. Mapping data was used concurrently with field data to evaluate woodland according to criteria in the NHAG (OMNR, 2011).	<u>SIGNIFICANT</u> WO03 acts as a source of water protection, is within close (<120 m) proximity to other potentially significant habitats and is comprised of mainly native flora.
WO04	Woodland	7.8	WE02, WE04, WE05-2, WE05-4; WO06	FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)	Functions in water protection, proximity to other significant woodlands and habitats and provides woodland native diversity dominant species.	RWA01; WNA01; ABH02; BMR01; BMR02; BMR03	Access Road (0 m); Collector (0 m)		<u>Evaluation Criteria:</u> Section 6.2.2.1 of the <i>Natural Heritage Assessment Guide</i> (OMNR, 2011c).	<u>SIGNIFICANT</u> WO04 acts as a source of water protection, is within close (<120 m) proximity to other potentially significant habitats and is comprised of mainly native flora.
WO05-4	Woodland	147	WE05-6, WE05-10, WE05-15 and WE05-16	FOCM1-2 (ELC ID: 63); FOCM2-1 (ELC IDs: 64, 71, 72); FODM7-1 (ELC IDs: 68, 84); FODM7-2 (ELC IDs: 66, 74, 82); WOCM1-1 (ELC IDs: 62, 73, 75, 79)	Functions in providing large total woodland area, interior habitat, proximity to other significant woodlands and habitats, linkages, water protection, provides woodland native diversity dominant species and the presence of uncommon characteristics criteria.	RWA02; LMSA04; ABH04; WNA02; SP01; SP02; AHS02	Access Road (0 m); Collector (0 m); Hardstand (0 m); Turbine 4 (0 m)			<u>SIGNIFICANT</u> WO05-4 exceeds the total woodland area minimum, provides interior habitat, is within close (<120 m) proximity to other potentially significant habitats as well as significant woodland WO06, provides a linkage, is a source of water protection and is comprised of mainly native flora.
WO05-5	Woodland	8.8	n/a	FODM7-1 (ELC id 84 & 89); FODM7-2 (ELC ID 82)	Functions in proximity to other significant woodlands and habitats and provides linkages.	BMSA02, RWA02	Access Road (0 m); Collector (0 m); Hardstand (0 m); Turbine (0 m)			<u>SIGNIFICANT</u> WO05-5 acts as a linkage and is within close (<120 m) proximity to other potentially significant habitats as well as significant woodland WO5-4.
WO06	Woodland	105	WE02, WE04, WE05-2, WE05-4, WE05-9; WO03 and WO04	FODM9-4 (ELC IDs: 41, 47, 57); SWDM2-2 (ELC ID: 60); WOCM1-1 (ELC IDs: 46, 54, 56); FODM2-3 (ELC ID: 39)	Functions in providing large total woodland area, proximity to other significant woodlands and habitats, linkages, water protection and provides woodland native diversity dominant species.	RWA01; BMR04; LMSA02; LMSA03; WNA01; ABH02; ASH01; ESB01	Access Road (0 m); Collector (0 m); Hardstand (0 m); Turbine (0 m)			<u>SIGNIFICANT</u> WO06 exceeds the total woodland area minimum, is within close (<120 m) proximity to other potentially significant habitats as well as significant woodland WO5-4, provides a linkage, is a source of water protection and is comprised of mainly native flora.

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
WO13	Woodland	0.87	n/a	FODM7-2 (ELC ID: 66)	Functions in providing proximity to other significant woodlands and habitats.	RWA02; BMSA02	Access Road (9 m); Collector (9 m)			<u>SIGNIFICANT</u> WO13 is within close (<120 m) proximity to other potentially significant habitats.
WO14	Woodland	4.3	WE10	FODM7-1 (ELC ID: 89)	Functions in water protection.	n/a	Access Road (100 m); Collector (100 m)			<u>SIGNIFICANT</u> WO14 is a source of water protection.
WO15	Woodland	0.17	n/a	SWDO1-2 (ELC ID: 28)	Functions in providing proximity to other significant woodlands and habitats.	ABH03	Access Road (66 m); Collector (66 m)			<u>SIGNIFICANT</u> WO15 is within close (<120 m) proximity to other potentially significant habitats.

4.3 Wildlife Habitat

The *Natural Heritage Records Review Report* (AET, 2012) did not identify any confirmed significant wildlife habitat types within 120 m of the Project Location. The *Natural Heritage Site Investigation Report* (M.K. Ince and Associates Ltd., 2012) identified 33 previously unidentified features within 120 m of Project Location. All of these features require and evaluation of significance. The criteria found in the *Draft SWH Ecoregion 6E Criteria Schedule* (OMNR, 2012) will be used to determine significance of features.

4.3.1 Seasonal Concentration Areas of Animals

The Natural Heritage Reference Manual (NHRM) (MNR, 2010b) describes habitats of seasonal concentration areas of animals as:

- areas where animals occur in relatively high densities for the species at specific periods in their life cycles and/or in particular seasons;
- seasonal concentration areas, which tend to be localized and relatively small in relation to the area of habitat used at other times of the year.

The site investigation identified 12 seasonal concentration areas within 120 m of the Project Location. An evaluation of significance was performed on these features following guidelines in the *Significant Wildlife Habitat Guide* (OMNR, 2000) and the *Draft SWH Ecoregion 6E Criteria Schedule* (OMNR, 2012), the results of which are provided in **Table 4-4**. A map showing the identified candidate wildlife habitat is presented in **Figure 4-3**.

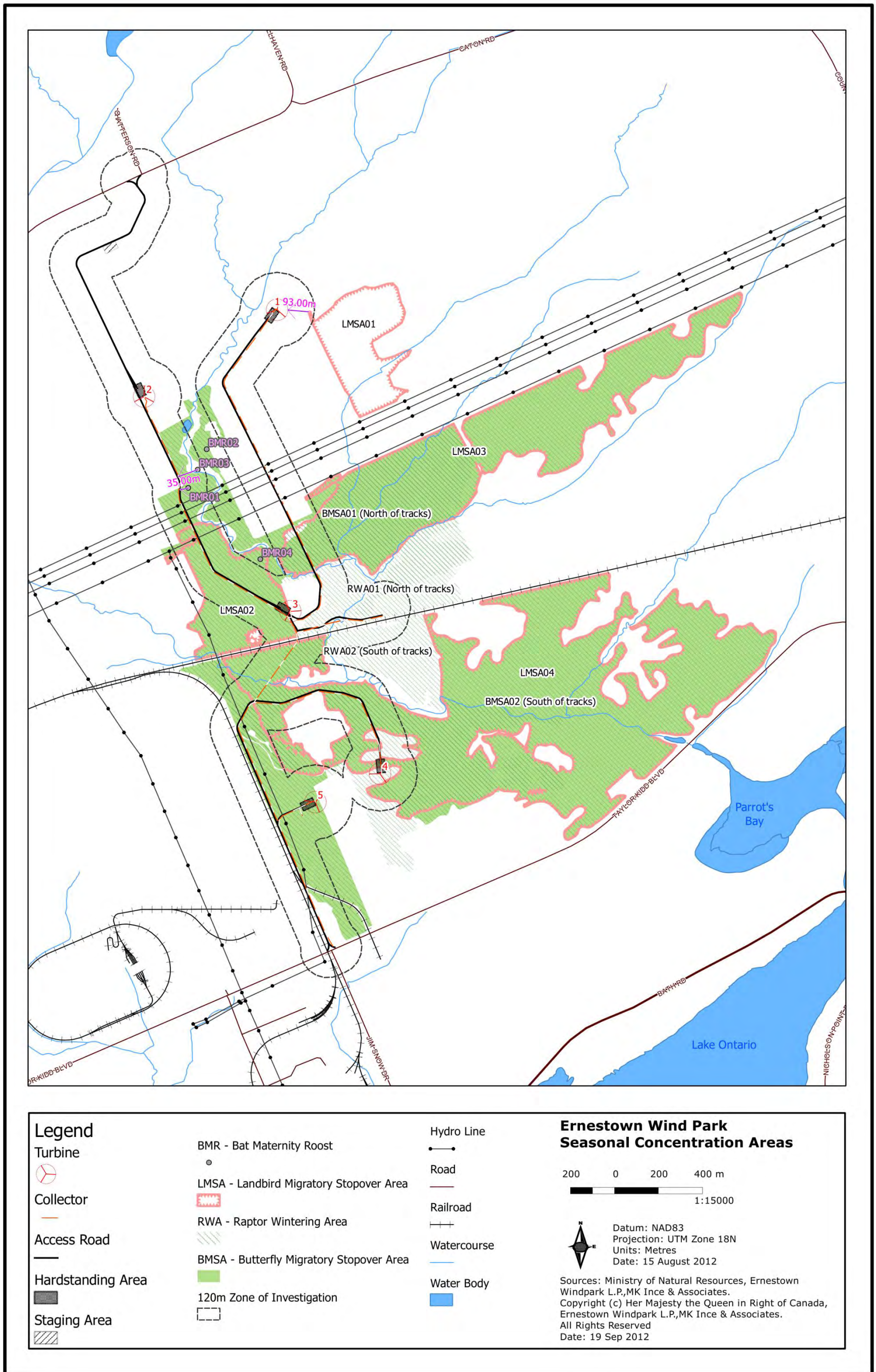


Figure 4-3: Seasonal concentration areas identified within the Project Location

Table 4-4: Results of evaluations of seasonal concentration areas identified within the Project Location

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
SEASONAL CONCENTRATION AREAS OF ANIMALS										
RWA01	Raptor Wintering Areas	119	Woodland (WO04, WO06)	Deciduous woodland communities - FODM7-6 (ELC ID: 35); FODM2-3 (ELC ID: 39); FODM9-4 (ELC ID: 41, 47, 57); SWDM2-1 (ELC ID: 36); and FODM6-1 (ELC ID: 37). Upland cultural meadow, thicket and woodland communities - MEMM3 (ELC IDs: 40, 42, 43, 45, 48, 49, 51, 52, 53), WOCM1-1 (ELC IDs: 46, 54, 56) and THDM2-4 (ELC ID: 34).	Open field hunting/foraging grounds for wintering raptors, together with woodlands which serve as roosting/perching habitat.	BMR01; LMSA02; LMSA03; WNA01; ABH02; ASH01; ESBR01; BMR01; BMR02; BMR03	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . <u>Evaluation Criteria:</u> Studies confirm: • ≥1 Short-eared Owls; or • ≥10 individuals of two listed species Site used regularly (3 of 5 years) for a minimum of 20 days	<u>TREATED AS SIGNIFICANT</u>
RWA02	Raptor Wintering Areas	158	Woodland (WO05-4, WO13)	Deciduous and coniferous woodland communities - FODM7-1 (ELC ID: 68, 84), FODM7-2 (ELC IDs: 66, 74, 82), FOCM1-2 (ELC ID: 63) and FOCM2-1 (ELC IDs: 64, 71, 72). Upland cultural meadow, thicket and woodland communities: MEMM3 (ELC ID: 67), THDM2-4 (ELC IDs: 76, 78) and WOCM1-1 (ELC IDs: 62, 73, 75, 79).		LMSA04; ABH04; WNA02; SP01; SP02; AHS02	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)			<u>TREATED AS SIGNIFICANT</u>
BMR01	Bat Maternity Roost	4.0	Woodland (WO04)	Associated with FODM6-1 (ELC ID: 37); cavity identified in White Ash tree	Individual tree cavities may provide suitable maternity roosts.	RWA01; WNA01; BMR02; BMR03	Access Road (35m) Collector (40m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . Studies confirm: • >20 Northern Myotis; or • >10 Big Brown Bats; or • >20 Little Brown Myotis; or • >5 Adult Female Silver-haired Bats	<u>TREATED AS SIGNIFICANT</u>
BMR02	Bat Maternity Roost	2.8	Woodland (WO04)	Associated with FODM7-6 (ELC ID: 35); cavity identified in Shagbark Hickory tree		RWA01; WNA01; BMR01; BMR03	N/A			<u>TREATED AS SIGNIFICANT</u>
BMR03	Bat Maternity Roost	1.1	Woodland (WO04)	Associated with SWDM2-1 (ELC ID: 36); cavity identified in White Oak tree		RWA01; WNA01; BMR01; BMR02	Access Road (93m) Collector (91m)			<u>TREATED AS SIGNIFICANT</u>
BMR04	Bat Maternity Roost	19	Woodland (WO06)	Associated with FODM9-4 (ELC ID: 57); cavity identified in Trembling Apen tree		RWA01; BMR04; LMSA02; LMSA03; WNA01; ASH01;	N/A			<u>TREATED AS SIGNIFICANT</u>

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
BMSA01	Migratory Butterfly Stopover Areas	98	Woodland (WO04, WO06)	Woodland communities - FODM7-6 (ELC ID: 35); FODM2-3 (ELC ID: 39); FODM9-4 (ELC ID: 41, 47, 57); SWDM2-1 (ELC ID: 36); and FODM6-1 (ELC ID: 37). Upland communities - MEMM3 (ELC IDs: 40, 42, 43, 45, 48, 49, 51, 52, 53) and THDM2-4 (ELC ID: 34).	The habitat, a minimum of 10 ha in size with a combination of field and forest habitat present, and located within 5 km of Lake Ontario, provides butterflies with a location to rest prior to their long migration south.	ESBR01	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . Studies confirm: <ul style="list-style-type: none"> Monarch Use Days (MUD) >5000; or MUD >3000 with the presence of Painted Ladies or White Admiral's 	<u>TREATED AS SIGNIFICANT</u>
BMSA02	Migratory Butterfly Stopover Areas	136	Woodland (WO05-4, WO13)	Deciduous and coniferous woodland communities - FODM7-1 (ELC ID: 68, 84), FODM7-2 (ELC IDs: 66, 74, 82), FOCM1-2 (ELC ID: 63) and FOCM2-1 (ELC IDs: 64, 71, 72). Upland communities - MEMM3 (ELC ID: 67) and THDM2-4 (ELC IDs: 76, 78).		RWA02; LMSA04; ABH04; WNA02; SP01; SP02; AHS02	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . Studies confirm: <ul style="list-style-type: none"> Monarch Use Days (MUD) >5000; or MUD >3000 with the presence of Painted Ladies or White Admiral's 	<u>TREATED AS SIGNIFICANT</u>
LMSA01	Landbird Migratory Stopover Areas	16	Woodland (WO03)	FODM6-4 (ELC ID: 26)	Woodland is > 10 ha and within 2 km of Lake Ontario. This woodland is also found in close proximity to wetland and meadow communities.	N/A	Bladeswept area (93m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . Studies confirm: <ul style="list-style-type: none"> >200 birds/day of 35 species with at least 10 species recorded on 5 different survey dates 	<u>TREATED AS SIGNIFICANT</u>
LMSA02	Landbird Migratory Stopover Areas	20	Woodland (WOO6)	FODM9-4 (57) and SWDM2-2 (ELC ID: 60)		RWA01; BMR01; LMSA03; WNA01; ABH02; ASH01; ESBR01	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)			<u>TREATED AS SIGNIFICANT</u>
LMSA03	Landbird Migratory Stopover Areas	64	Woodland (WOO6)	FODM2-3 (ELC ID: 39)		RWA01; BMR01; LMSA02; WNA01; ABH02; ASH01; ESBR01	Access Road (0m) Collector (0m) Turbine (107m)			<u>TREATED AS SIGNIFICANT</u>
LMSA04	Landbird Migratory Stopover Areas	126	Woodland (WO05-4)	FOCM1-2 (ELC ID: 63), FOCM2-1 (ELC IDs: 64, 71, 72), FODM7-1 (ELC ID: 68) and FODM7-2 (ELC ID: 74)		RWA02; ABH04; WNA02; SP01; SP02; AHS02	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)			<u>TREATED AS SIGNIFICANT</u>

4.3.2 Rare Vegetation Communities and Specialized Habitat for Wildlife

The Natural Heritage Reference Manual (NHRM) (MNR, 2010b) describes rare vegetation communities or specialized habitat for wildlife as:

- rare vegetation communities include:
 - areas that contain a provincially rare vegetation community
 - areas that contain a vegetation community that is rare within the planning area
- specialised wildlife habitat include:
 - areas that support wildlife species that have a highly specific habitat requirements
 - areas with exceptionally high species diversity or community a diversity
 - areas that provide habitat that greatly enhances species' survival

The site investigation identified 10 rare vegetation communities and specialized habitat for wildlife within 120 m of the Project Location. An evaluation of significance was performed on these features following guidelines in the *Significant Wildlife Habitat Guide* (OMNR, 2000) and the *Draft SWH Ecoregion 6E Criteria Schedule* (OMNR, 2012), the results of which are provided in **Table 4-5**. A map showing the identified candidate wildlife habitat is presented in **Figure 4-4**.

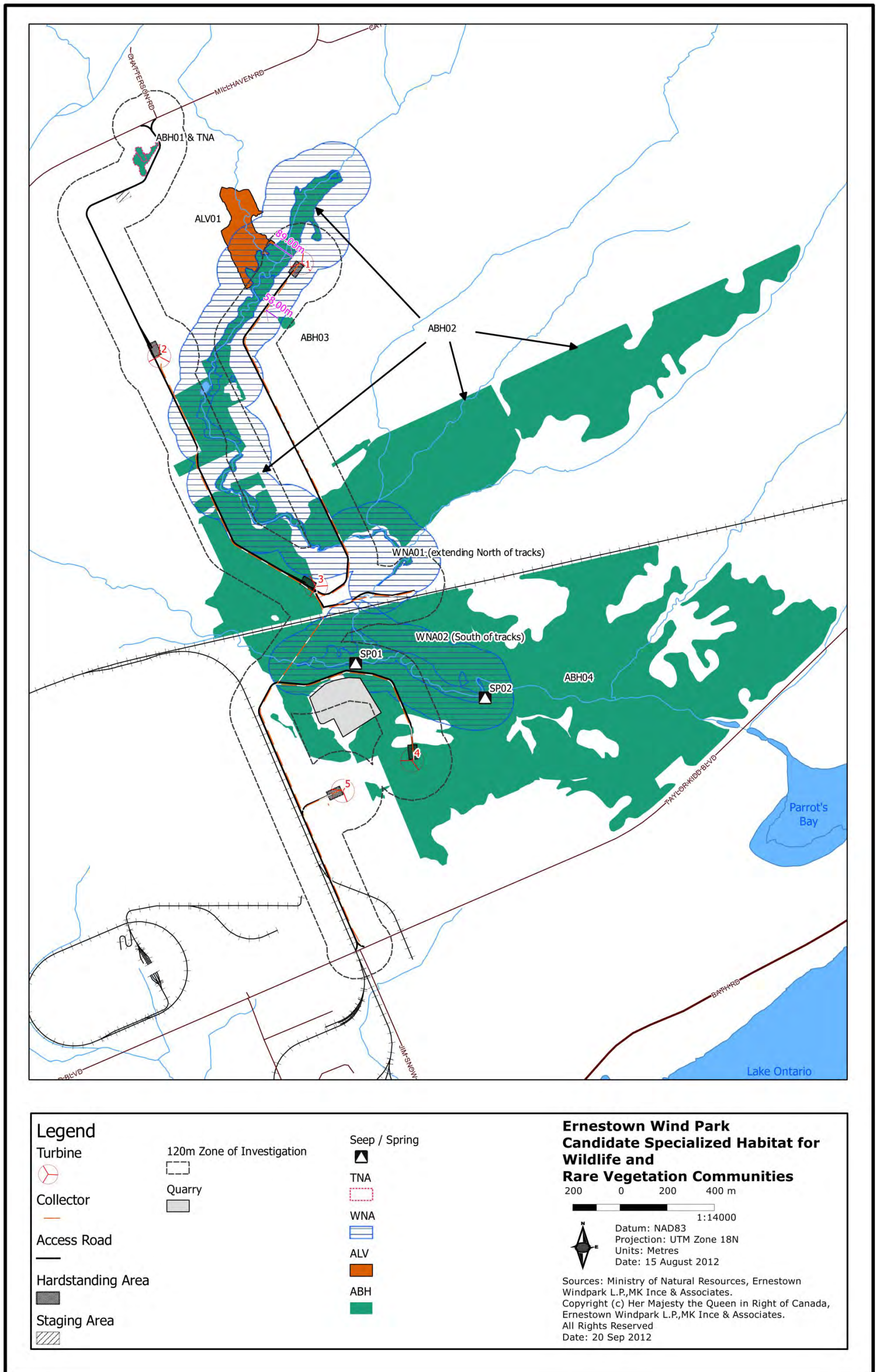


Figure 4-4: Rare vegetation communities and specialized habitat for wildlife identified within 120 m of the Project Location

Table 4-5: Results of evaluations of rare vegetation communities and specialized habitat for wildlife identified within the Project Location

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
RARE VEGETATION COMMUNITIES AND SPECIALIZED HABITAT FOR WILDLIFE										
ALV01	Alvar	4.7	n/a	Dry Annual Open Alvar Pavement Type (RBOA1-2) (ELC ID: 20)	Exposed bedrock and alvar plant species observed.		Access Road (100m) Hardstand (113m) Bladeswept area (92m) Collector (108)	<u>Date of Evaluation:</u> 2012-06-09 <u>Evaluator:</u> Dave Jolly	<u>Methods:</u> Botanical inventories were conducted concurrently with ELC surveys. This list was compared to Appendix N of the SWHTG. Studies confirm: <ul style="list-style-type: none"> ≥ 1 Alvar indicator species listed in Appendix N of the SWHTG (OMNR, 2000); and <50% exotic species cover 	<i>Not significant</i> All species identified within ALV01 do not occur within Appendix N of the SWHTG. Please refer to Appendix C in the <i>Site Investigation Report</i> for a list of species identified during ELC surveys of the community.
WNA01	Waterfowl Nesting Areas	45	Wetlands (WE02, WE04, WE05-2, WE09, WE10) Woodlands (WO04, WO06)	Wetland Communities: <u>WE02</u> (SAS1, MAMM1-3 and SWDM2-2; ELC IDs: 12, 22 and 23, respectively), <u>WE04</u> (MASM1-1, OAO and SWDM2-1 (ELC IDs: 32, 33 and 36, respectively), <u>WE05-2</u> (MAMM1-3; ELC IDs: 38, 44,50), <u>WE09</u> (MAMM1-3; ELC ID: 55) and <u>WE10</u> (SWD01-2, MAS01-4 and MASO1-1; ELC IDs: 28, 29 and 30, respectively). Upland Communities: <u>WO04</u> (FODM7-6, FODM6-1; ELC IDs: 35, 37), <u>WO06</u> (FODM9-4; ELC IDs: 41, 47, 57; FODM2-3; ELC ID: 39 and WOCM1-1; ELC IDs: 46, 54, 56), FODM7-2 (ELC ID:18), THDM2-4 (ELC ID: 34) MEMM3 (ELC IDs: 21, 25, 42, 43, 45, 48, 49, 51-53).	Potential nesting habitat for waterfowl, including Wood Ducks and Hooded Mergansers. Meadow and woodland communities present within 120 m of a wetland.	ABH02; BMR01; LMSA02; LMSA03; ASH01; ESBR01; MBBA02; MBBA03; MBBA04; BMR01; BMR02; BMR03; BMR04	Access Road (0m) Collector (0m) Hardstand (6m) Bladeswept area (0m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . Studies confirm: <ul style="list-style-type: none"> ≥3 pairs of listed species (excluding Mallard); or ≥10 of listed species (including Mallard);or ≥1 American Black Duck 	<u>TREATED AS SIGNIFICANT</u>
WNA02	Waterfowl Nesting Areas	42	Wetlands (WE05-6) Woodland (WO05-4)	Wetland Communities: <u>WE05-6</u> (MASM1-1; ELC ID: 65) Upland Communities: <u>WO05-4</u> (WOCM1-1; ELC ID: 62, 73; FOCM1-2; ELC ID: 63; FOCM2-1; ELC ID: 64, 72; FODM7-1; ELC ID: 68), MEMM3 (ELC ID: 67).	Potential nesting habitat for waterfowl, including Wood Ducks and Hooded Mergansers. Meadow and woodland communities present within 120 m of a wetland.	ABH04; ASH02; RWA02; SP01 & SP02	Access Road (0m) Collector (0m)			<u>TREATED AS SIGNIFICANT</u>
TNA01	Turtle	0.6	Wetland	Submerged Shallow Aquatic Ecosite (SAS1) and Reed-	An area for turtles to dig in, composed of sand and gravel	ABH01; TNA01	Access Road (1m)	<u>Dates of Evaluations:</u>	<u>Methods:</u> Surveyors walked the perimeter of	<i>Not Significant</i>

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
	Nesting Areas		(WE08)	canary Grass Graminoid Mineral Meadow Marsh Type (MAMM1-3) (ELC IDs: 10 & 11, respectively)	substrate, which provides nesting habitat.		Staging Area (84m)	2012-06-07 2012-06-08 2012-06-09 <u>Evaluator:</u> Dave Jolly and Joel Jameson	TNA01 over three visits in early June to look for the presence of nesting turtles or turtle nests. Studies confirm: <ul style="list-style-type: none"> ≥5 nesting Midland Painted Turtles; or ≥1 Northern Map Turtle or Snapping Turtle 	Three field visits (June 7-9, 2012) did not confirm the presence of nesting turtles or evidence of turtle nests.
SP01	Seeps and Springs	n/a - point feature	Woodland (WO05-4)	FOCM2-1 (ELC ID: 72)	Seeps and springs function as important feeding and drinking areas for a variety of animal species, as well as specialized habitat for some plant species. These sites are particularly valuable for wildlife during winter (OMNR, 2012).	RWA02; LMSA04; ABH04; WNA02; SP01; SP02; AHS02	Access Road (29m) Collector (29m)	<u>Dates of Evaluations:</u> 2012-05-31 <u>Evaluator:</u> Dave Jolly	<u>Methods:</u> Forests within headwater areas were searched for the presence of seeps or springs. Studies confirm: <ul style="list-style-type: none"> ≥2 seeps/springs within a single site 	<u>SIGNIFICANT</u> Two springs occur within the same forest polygon. SP01 and SP02 both occur within FOCM2-1. As ≥2 seeps/springs occur within the same ELC ecosite this habitat meets significance criteria. The area of the FOCM2-1 (ELC ID: 72) polygon is the boundary of the SWH. Feature will be carried forward as SP01-02.
SP02	Seeps and Springs	n/a - point feature	Woodland (WO05-4)	FOCM2-1 (ELC ID: 72)	Seeps and springs function as important feeding and drinking areas for a variety of animal species, as well as specialized habitat for some plant species. These sites are particularly valuable for wildlife during winter (OMNR, 2012).	RWA02; LMSA04; ABH04; WNA02; SP01; SP02; AHS02	N/A			<u>SIGNIFICANT</u> Two springs occur within the same forest polygon. SP01 and SP02 both occur within FOCM2-1. As ≥2 seeps/springs occur within the same ELC ecosite this habitat meets significance criteria. The area of the FOCM2-1 (ELC ID: 72) polygon is the boundary of the SWH. Feature will be carried forward as SP01-02.
ABH02	Amphibian Breeding Habitat – Woodlands	103	Wetland (WE02, WE04, WE05, WE05-4) Woodland (WO06 and WO04)	<u>WE02</u> (MAMM1-3 and SWDM2-2; ELC IDs: 22 & 23 respectively), <u>WE04</u> (SWDM2-1, OAO, and MASM1-1; ELC IDs: 32, 33 & 36 respectively), <u>WE05</u> (MAMM1-3; ELC IDs: 38, 44 & 50), <u>WE09</u> (MAMM1-3; ELC ID: 55), <u>WE05-4</u> (SWDM2-2, and OAO; ELC IDs: 60 & 61 respectively) <u>WO06</u> [FODM9-4 (ELC IDs: 41, 47, 57); SWDM2-2 (ELC	Wetland, lake or pond within or adjacent to (within 120 m) to a woodland that provide amphibian breeding habitat. Woodlands with permanent ponds or those containing water in most years until mid-July are most likely to be used as breeding habitat.	N/A	Access Road (62m) Collector (60m)	<u>Dates of Evaluation:</u> 2009-05-20 2009-06-05 2009-06-29 <u>Evaluators:</u> Les Misch and Mike Burrell	<u>Methods:</u> ABH02 was visited three times throughout the breeding season to observe for the presence of breeding amphibians. Surveys followed the Marsh Monitoring Program (BSC, 2009) were done 30 minutes after sunset on warm nights and lasted three minutes. All amphibians seen or heard were recorded. Studies confirm: <ul style="list-style-type: none"> ≥20 individuals (adults, larval/egg masses) of ≥1 species 	<u>SIGNIFICANT</u> Studies confirmed the presence of >20 individuals within breeding habitat and 6 species. Please see Appendix D for more information on surveys. Listed species heard include : Grey Tree Frog, Spring Peeper, Western Chorus Frog

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
				ID: 60); WOCM1-1 (ELC IDs: 46, 54, 56); FODM2-3 (ELC ID: 39)], WO04 [FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)]					Please see Appendix D for more information on surveys.	
ABH03	Amphibian Breeding Habitat – Woodlands	0.28	Wetland (WE10) Woodland (WO15)	WE10 (SWDO1-2, MASO1-1 and MASO1-4; ELC IDs: 28,29 & 30, respectively) WO15 (SWD01-2; ELC ID: 28)		WNA01	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	Commitment to undertake study of habitat-use prior to construction within 120 m.	Methods: Detailed methods provided in the Environmental Impact Study. Studies confirm: • ≥20 individuals (adults, larval/egg masses) of ≥1 species	<u>TREATED AS SIGNIFICANT</u>
ABH04	Amphibian Breeding Habitat – Woodlands	154	Wetland (WE05-6, WE05-10, WE05-15, WE05-16) Woodland (WO5-4)	WE05-6 (MASM1-1; ELC ID: 65), WE05-10 (MASM1-1; ELC ID: 70), WE05-15 (MASM1-1; ELC ID: 59), WE05-16 (MASM1-1; ELC ID: 77) WO5-4 [FOCM1-2 (ELC ID: 63); FOCM2-1 (ELC IDs: 64, 71, 72); FODM7-1 (ELC IDs: 68, 84); FODM7-2 (ELC IDs: 66, 74, 82); WOCM1-1 (ELC IDs: 62, 73, 75, 79)]		WNA02; RWA02; LMSA04; BMSA02	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	Commitment to undertake study of habitat-use prior to construction within 120 m.	Methods: Detailed methods provided in the Environmental Impact Study. Studies confirm: • ≥20 individuals (adults, larval/egg masses) of ≥1 species	<u>TREATED AS SIGNIFICANT</u>
ABH01	Amphibian Breeding Habitat – Wetlands	0.60	Wetland (WE08)	SAS1 and MAMM1-3 (ELC IDs: 10 and 11, respectively).	Isolated wetland that is > 120 m from a woodland. Permanent standing water and evidence of amphibians present within the wetland.	TNA01	Access Road (0m)	Commitment to undertake study of habitat-use prior to construction within 120 m.	Methods: Detailed methods provided in the Environmental Impact Study. Studies confirm: • ≥20 individuals (adults, larval/egg masses) of ≥1 salamander species; or • ≥20 individuals (adults, larval/egg masses) of ≥3 frog or toad species; or • Confirmed breeding of Bullfrogs	<u>TREATED AS SIGNIFICANT</u>

4.3.3 Habitat for Species of Conservation Concern and Animal Movement Corridors

The Natural Heritage Reference Manual (NHRM) (MNR, 2010b) describes habitats of species of conservation concern and animal movement corridors as:

- habitat of species of conservation concern:
 - includes the habitat of species that are rare or substantially declining, or have a high percentage of their global population in Ontario
 - includes species concern species identified under the ESA on the SARO list, which were formally referred to as “Vulnerable” in the Significant Wildlife Habitat Technical Guide
- animal movement corridors:
 - habitats that link two or more wildlife habitats that are critical to the maintenance of a population of a particular species or group of species
 - habitats with a key ecological function to enable wildlife to move, with minimum mortality, between areas of significant wildlife habitat or core natural areas

The site investigation identified four habitats for species of conservation concern within 120 m of the Project Location. An evaluation of significance was performed on these features following guidelines in the *Significant Wildlife Habitat Guide* (OMNR, 2000) and the *Draft SWH Ecoregion 6E Criteria Schedule* (OMNR, 2012), the results of which are provided in **Table 4-6**. A map showing the identified candidate wildlife habitat is presented in **Figure 4-5**.

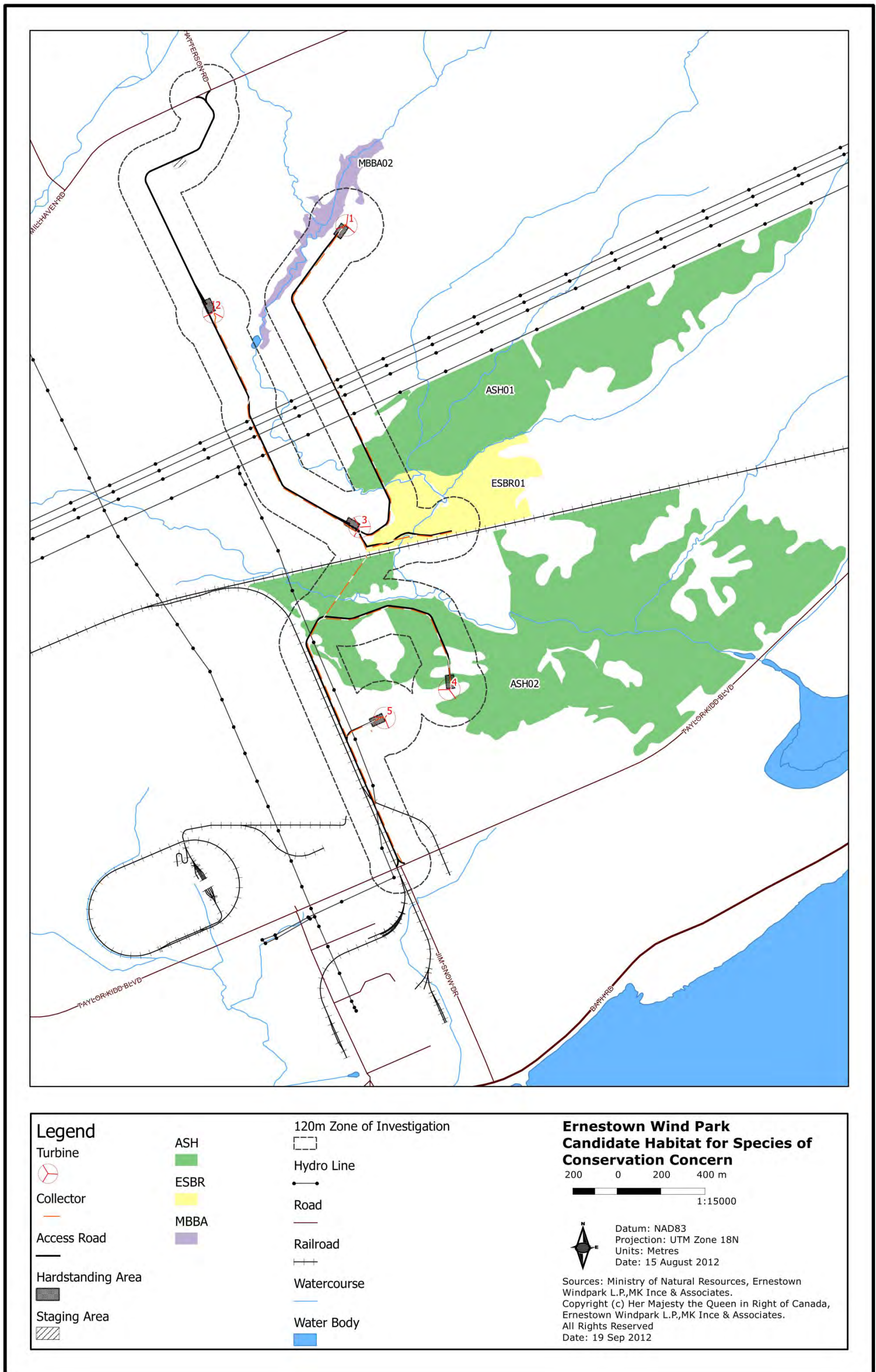


Figure 4-5: Habitats of species of conservation concern identified within 120 m of the Project Location

Table 4-6: Results of evaluations of habitat for species of conservation concern identified within the Project Location

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
HABITAT FOR SPECIES OF CONSERVATION CONCERN										
MBBA02	Marsh Bird Breeding Areas	7.2	Wetland (WE02)	SAS1 and MAMM1-3 (ELC IDs: 12 and 22, respectively); MEMM3 (ELC IDs: 21, 25)	Provides nesting habitat in wetlands for marsh birds. Wetlands contain shallow water and emergent vegetation.	ABH02; WNA01	Access Road (15m) Collector (23m) Hardstand (20m) Bladeswept area (0m)	<i>Commitment to undertake study of habitat-use prior to construction within 120 m.</i>	<u>Methods:</u> Detailed methods provided in the <i>Environmental Impact Study</i> . Studies confirm: <ul style="list-style-type: none"> • ≥5 nesting Sedge or Marsh Wrens; or • ≥1 pair Sandhill Cranes; or • ≥5 listed species breeding; or • ≥1 breeding Black Tern, Trumpeter Swan, Green Heron or Yellow Rail 	TREATED AS SIGNIFICANT
ASH01	Woodland Area-sensitive Bird Breeding Habitat	64	Woodland (WO06)	FODM7-6 (ELC ID: 39)	Provides large, natural blocks of woodland habitat within the settled area of Southern Ontario where interior forest breeding birds can breed.	RWA01; BMR04; LMSA02; LMSA03; WNA01; ESR01; ABH02	Access Road (0m) Collector (0m) Bladeswept area (105m)	<u>Date of Evaluation:</u> June 2, 2009 June 15, 2009 June 16, 2009 June 25, 2009 June 26, 2009 <u>Evaluator:</u> Mike Burrell	<u>Methods:</u> Breeding bird surveys were carried out following guidelines from the Ontario Breeding Bird Atlas (BSC, 2001). Point count locations within candidate habitat were surveyed three times throughout the breeding season within 4 hours of sunrise. All birds heard or seen were recorded. Studies confirm breeding of: <ul style="list-style-type: none"> • ≥3 listed species • ≥1 Cerulean Warbler or Canada Warbler 	<i>Not significant</i> Four Ovenbirds heard singing within habitat, likely breeding. Does not meet criteria of ≥3 species. Please see Appendix E for more information on surveys.
ASH02	Woodland Area-sensitive Bird Breeding Habitat	132	Woodland (WO05-4 and WO13)	FOCM1-2 (ELC ID: 63), FOCM2-1 (ELC IDs: 64, 71, 72), FODM7-1 (ELC ID: 68) and FODM7-2 (ELC IDs: 66, 74)	Provides large, natural blocks of woodland habitat within the settled area of Southern Ontario where interior forest breeding birds can breed.	RWA02; LMSA04; ABH04; WNA02; SP01; SP02	Access Road (0m) Collector (0m) Hardstand (0m) Bladeswept area (0m)	<u>Date of Evaluation:</u> June 2, 2009 June 15, 2009 June 25, 2009 <u>Evaluator:</u> Mike Burrell	<u>Methods:</u> Breeding bird surveys were carried out following guidelines from the Ontario Breeding Bird Atlas (BSC, 2001). Point count locations were chosen within candidate habitat and surveyed three times throughout the breeding season. All birds heard or seen were recorded. <u>Evaluation criteria:</u> Studies confirm breeding of: <ul style="list-style-type: none"> • ≥3 listed species • ≥1 Cerulean Warbler or Canada Warbler 	<i>Not significant</i> One Red-breasted Nuthatch heard singing within habitat, likely breeding. Does not meet criteria of ≥3 species. Please see Appendix E for more information on surveys.
ESBR01	Shrub/Early Successional Bird Breeding Habitat	20	Woodland (WO06)	WOCM1-1 (ELC ID: 56)	Large field areas succeeding to shrub and thickets habitats greater than 10 ha in size. Woodlands dominated by shrubs support and sustain a diversity of avian species.	RWA01; BMR04; LMSA02; LMSA03; WNA01; ASH01	Access Road (0m) Collector (0m) Hardstand (70m) Bladeswept area (25m)	<u>Dates of Evaluation:</u> 2009-06-02 2009-06-16 2009-06-26 <u>Evaluator:</u>	<u>Methods:</u> Breeding bird surveys were carried out following guidelines from the Ontario Breeding Bird Atlas (BSC, 2001). Point count locations within candidate habitat were surveyed three times throughout the breeding season within 4 hours of	SIGNIFICANT 2009 breeding bird surveys confirmed the presence of Brown Thrasher (indicator species), Clay-coloured Sparrow (indicator species),

Feature		Attributes		Composition	Function	Associated Wildlife Habitat	Project Components within 120 m	Evaluation Dates and Evaluators	Habitat-use Study Methodologies and Evaluation Criteria	Assessment Results
ID	Description	Size (ha)	Connected Features							
								Mike Burrell	<p>sunrise. All birds heard or seen were recorded.</p> <p>Studies confirm breeding of:</p> <ul style="list-style-type: none"> • ≥ 1 listed indicator species; and • ≥ 2 listed common species; or • ≥ 1 Yellow-breasted Chat or Golden-winged Warbler 	<p>Eastern Towhee (common species), and Field Sparrow (common species) within candidate habitat. Therefore, the minimum criteria: 1 indicator species and 2 common species. The area of the ELC ecosite (MEMM3; ELC ID: 80) is the SWH.</p> <p>Please see Appendix E for more information on surveys.</p>

4.3.4 Generalized Candidate Significant Wildlife Habitat

As specified in Appendix D to the NHAG (MNR, 2011), habitats which are not required to be identified for a particular project component, but may exist within 120 m of that component based on landscape and geography, must be assumed to be existing (see Table 1 of Appendix D of the NHAG for specific details). These features are then classified as generalized candidate significant wildlife habitat (GcSWH), treated as significant, and construction mitigation methods are provided within the *Environmental Impact Study Report*.

GcSWH was not evaluated but will be treated as significant and potential impacts to these habitats will be addressed in the *Environmental Impact Study*. Potential habitats that could occur within the GcSWH include Reptile Hibernaculum, Marsh Bird Breeding Habitat, Shrub/Early Successional Bird Breeding Habitat, and Open Country Bird Breeding Habitat. A map showing the GcSWH within 120 m of the Project Location is provided in **Figures 4-6**.

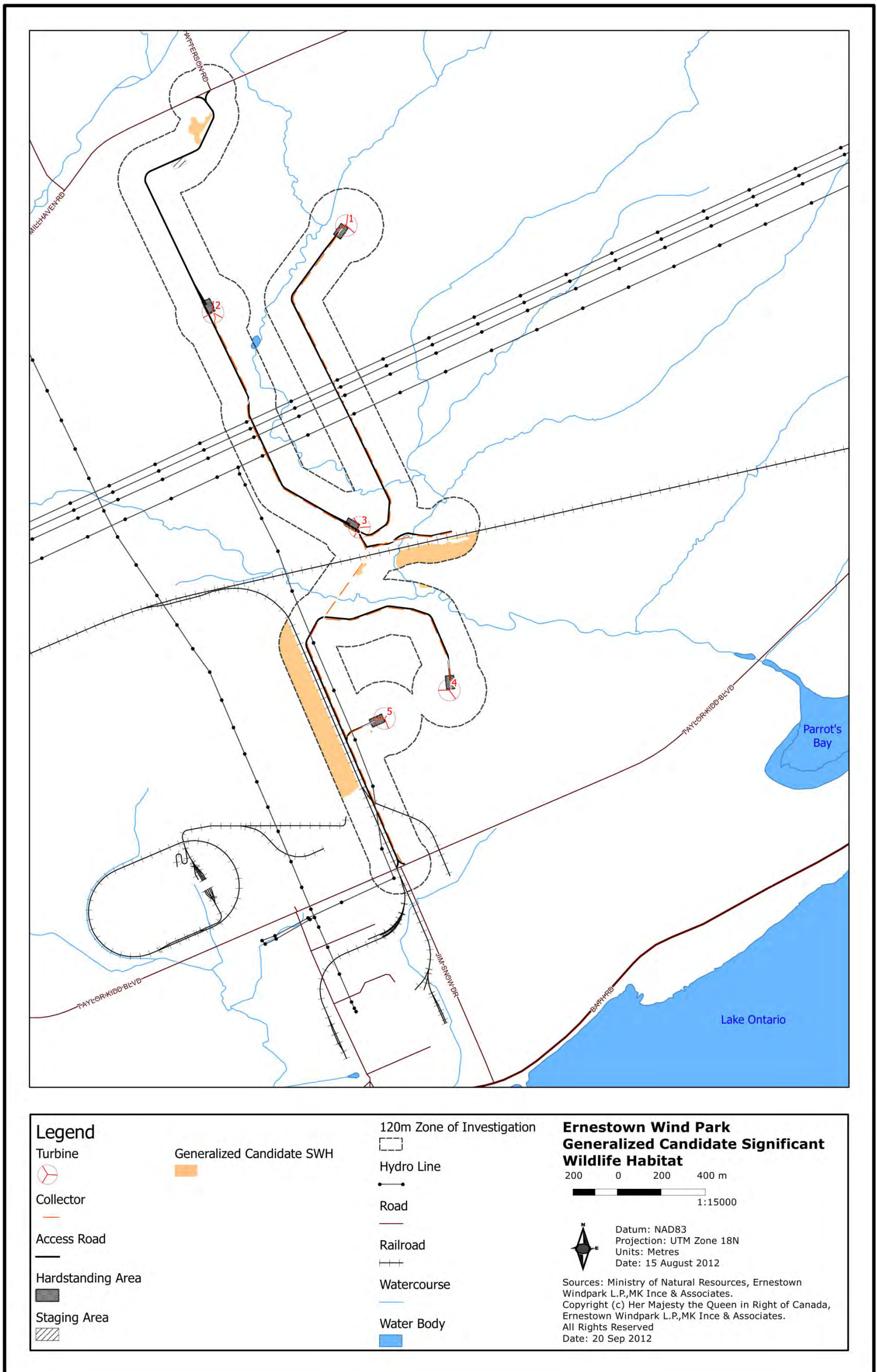


Figure 4-6: Generalized candidate significant wildlife habitat

5 CONCLUSION

Based on the *Natural Heritage Records Review* and *Site Investigation* performed as per the REA regulation, natural features requiring an evaluation of significance as they were found in or within the 120 m Project Location includes the following:

- eleven wetlands
- eight woodlands
- twelve seasonal concentration areas of animals:
 - two candidate raptor wintering areas
 - four candidate bat maternities roosts (four cavity trees identified)
 - two candidate migratory butterfly stopover areas
 - four candidate landbird migratory stopover areas
- ten rare vegetation communities or specialized habitat for wildlife:
 - one candidate alvar
 - two candidate waterfowl nesting areas
 - one candidate turtle nesting area
 - two candidate seeps and springs
 - four candidate amphibian breeding habitats (one wetland and three woodland)
- four habitat for species of conservation concern:
 - one candidate marsh bird breeding habitat
 - two candidate woodland area-sensitive bird breeding habitats
 - one candidate shrub/early successional bird breeding habitat
- generalized candidate significant wildlife habitat

Of these, 41 natural heritage features, including significant wildlife habitat were found to be significant or will be treated as significant and will be carried forward to the *Environmental Impact Study*. These include:

- eleven wetlands
- eight woodlands
- twelve seasonal concentration areas of animals:
 - two raptor wintering areas
 - four bat maternities roosts (four cavity trees identified)
 - two migratory butterfly stopover areas
 - four landbird migratory stopover areas
- seven rare vegetation communities or specialized habitat for wildlife:
 - two waterfowl nesting areas
 - one seepage area (comprised of two seeps/springs)
 - four amphibian breeding habitats (one wetland and three woodland)
- two habitat for species of conservation concern:
 - one marsh bird breeding habitats
 - one shrub/early successional bird breeding habitat
- generalized candidate significant wildlife habitat

These 41 features will be carried forward to the *Natural Heritage Environmental Impacts Study Report* (M.K. Ince and Associates Ltd., 2012). **Table 5-1** below summarizes this information and **Figure 1-1**

identifies the significant features and illustrates their location with respect to project infrastructure. Natural features that have been identified as “treated as significant” will be carried forward to the *Environmental Impacts Study Report* and will be mitigated for as though they were significant. All features listed as “treated as significant” will be evaluated prior to construction within 120 m of the feature. Pre-construction survey methodology will be prepared for each feature; outlining in detail the methods to be followed during evaluation surveys. These protocols will appear within the *Environmental Impacts Study Report*.

The *Environmental Impacts Study Report* has been compiled in accordance with *Ontario Regulation 359/09* to detail potential environmental impacts and mitigation options for all 41 features. In addition to mitigation, the EIS also describes monitoring commitments and contingency plans as they relate to natural features and wildlife habitat, which is also contained within the *Environmental Effects Monitoring Program* within the *Design and Operations Report*. Contained within the EIS is a description of how potential negative environmental effects to natural features and wildlife habitat as a result of construction will be mitigated. Information pertaining to mitigation of construction activities can also be found within the *Construction Plan Report*.

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)	Significance Assessment	Carried Forward to the EIS?
ANSIs (earth science and life science)				
N/A	No – sources consulted during the records review did not show any ANSIs within 120 m of the Project Location; this was verified during the site investigation	No	N/A	No
Valleylands				
N/A	No –LIO and CCRCA mapping does not show any valleylands within 120 m of the Project Location; this was verified during the site investigation	No	N/A	No
Wetlands				
WE02	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES	TREATED AS SIGNIFICANT	YES
WE04	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES	TREATED AS SIGNIFICANT	YES
WE05-2	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES	TREATED AS SIGNIFICANT	YES
WE05-4	Yes – the extent of this feature is shown incorrectly on the SOLRIS mapping; feature delineated in field and using aerial imagery	YES	TREATED AS SIGNIFICANT	YES
WE05-6	No – this feature is accurately represented on the SOLRIS mapping.	YES	TREATED AS SIGNIFICANT	YES
WE05-10	Yes – the extent and classification of this feature is not accurately shown on the SOLRIS mapping	YES	TREATED AS SIGNIFICANT	YES
WE05-15	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
WE05-16	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
WE08	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
WE09	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
WE10	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
Woodlands				
WO03	Yes – the extent of this feature is shown incorrectly on the NRVIS woodland layer; feature delineated in field and using aerial imagery	YES	SIGNIFICANT	YES
WO04	No – this feature is accurately shown on the NRVIS woodland layer	YES	SIGNIFICANT	YES
WO05-1	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No	N/A	No
WO05-2	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No	N/A	No
WO05-3	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No	N/A	No
WO05-4	Yes – this woodland is not accurately shown on the NRVIS woodland layer; feature delineated in field and using aerial imagery	YES	SIGNIFICANT	YES
WO05-5	Yes – this feature is accurately shown on the NRVIS woodland layer	YES	SIGNIFICANT	YES
WO07	Yes – this woodland encompasses a larger area than what is shown on the NRVIS woodland layer (see WO06)	No	N/A	No
WO12	Yes – this woodland does not exist within 120 m of the proposed Project Location	No	N/A	No
WO06	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES
WO13	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES
WO14	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES
WO15	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES
Habitats of Seasonal Concentration Areas of Animals				
RWA01	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)	Significance Assessment	Carried Forward to the EIS?
RWA02	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
BMR01	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
BMR02	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
BMR03	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
BMR04	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
BMSA01	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
BMSA02	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
LMSA01	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
LMSA02	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
LMSA03	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
LMSA04	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
Rare Vegetation Communities or Specialized Habitat for Wildlife				
ALV01	Yes – this feature was not identified during the records review	YES	<i>Not Significant</i>	No
WNA01	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
WNA02	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
TNA01	Yes – this feature was not identified during the records review	YES	<i>Not Significant</i>	No
SP01	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES – as one feature SP01-02
SP02	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	
ABH01	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
ABH02	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES
ABH03	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
ABH04	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
Habitat for Species of Conservation Concern				
MBBA02	Yes – this feature was not identified during the records review	YES	TREATED AS SIGNIFICANT	YES
ASH01	Yes – this feature was not identified during the records review	YES	<i>Not Significant</i>	No
ASH02	Yes – this feature was not identified during the records review	YES	<i>Not Significant</i>	No
ESBR01	Yes – this feature was not identified during the records review	YES	SIGNIFICANT	YES
Generalized Candidate Significant Wildlife Habitat				

6 QUALIFICATIONS AND LIMITATIONS

M.K. Ince and Associates Ltd. (MKI) have prepared this report in accordance with information provided by its Client. The information and analysis contained herein is for the sole benefit of the Client and save for regulatory review purposes may not be relied upon by any other person.

The contents of this report are based upon our understanding of information and reports prepared by others, including Ernestown Wind Park LP's and their consultants. While we may have referred to and made use of this information and reporting, we assume no liability for the accuracy of this information.

MKI's assessment was made in accordance with guidelines, regulations and procedures believed to be current at this time. Changes in guidelines, regulations and enforcement policies can occur at any time and such changes could affect the conclusions and recommendations of this report.

7 LITERATURE CITED

- AET. 2012. *Natural Heritage Records Review Report*. 47p.
- Bird Studies Canada. 2003. *The Marsh Monitoring Program – Training Kit and Instructions for Surveying Marsh Birds, Amphibians and Their Habitats*. 2003 Edition. 40p.
- Konze and McLaren. 1997. *Wildlife Monitoring Programs and Inventory Techniques for Ontario*
- M.K. Ince and Associates Ltd. 2012. *Natural Heritage Environmental Impacts Study Report*
- M.K. Ince and Associates Ltd. 2012. *Natural Heritage Site Investigation Report*
- M.K. Ince and Associates Ltd. 2012. *Water Bodies Assessment and Impact Assessment Reports*
- Ontario Ministry of Natural Resources. 1993. *Ontario Wetland Evaluation System – Southern Ontario manual*. 113p.
- Ontario Ministry of Natural Resources. 2000. *Significant Wildlife Habitat Technical Guide*. 151p.
- Ontario Ministry of Natural Resources. 2009. *DRAFT Significant Wildlife Habitat Ecoregion Criteria Schedules*. Queen's Printer for Ontario. 57p.
- Ontario Ministry of Natural Resources. 2010. *Bat and Bat Habitats: Guidelines for Wind Power Projects*. Queen's Printer for Ontario. 24p.
- Ontario Ministry of Natural Resources. 2011a. *Bird and Bird Habitats: Guidelines for Wind Power Projects*. Queen's Printer for Ontario. 32p.
- Ontario Ministry of Natural Resources. 2011b. *Natural Heritage Assessment Guide for Renewable Energy Projects*. Queen's Printer for Ontario. 99p.
- Ontario Ministry of Natural Resources. 2012. *Draft SWH Ecoregion 6E Criterion Schedule*. 42p.