Ernestown Wind Park

Natural Heritage Site Investigation Report

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Prepared for: *Ernestown Windpark LP*

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Renewable Energy & Environmental Consulting

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1 INTRODUCTION

This report outlines the findings of the site investigation of natural heritage features, carried out at the location of the proposed Ernestown Wind Park. The site investigation was performed based on the specifications in Section 26 of Ontario Regulation 359/09 (henceforth referred to as 'the REA rules') (**Table 1.1**), which involved the confirmation and delineation of the boundaries of natural features within 120 m of the Project Location. In addition, the site investigation involved verifying the accuracy of the *Natural Heritage Records Review Report* (AET, 2012) and identifying any new features discovered while performing the site investigations. Background on the proposed Ernestown Wind Park project may be found in the accompanying *Natural Heritage Records Review Report* (AET, 2012). The findings of the Ernestown Wind Park records review are described in the accompanying *Natural Heritage Records Review Report* (AET, 2012) and are not repeated herein.

A site investigation undertaken according to the guidance outlined in the Ministry of Natural Resources' (MNR) Natural Heritage Assessment Guide (NHAG) (MNR, 2011) (**Table 1.1**) was completed and included an investigation of the air, land, and water within 120 m of the Project Location to:

- verify the accuracy of the records review that was performed according to Part IV, Section 25 of the REA rules and make any necessary corrections to the determinations documented in the *NH Records Review Report* (AET, 2012);
- determine whether any additional natural features exist within 120 m of the Project Location, other than those identified in the *NH Records Review Report* (AET, 2012);
- determine the boundaries of any natural feature located within 120 m of the Project Location (identified through the *NH Records Review Report* (AET, 2012) or during the site investigations); and
- determine the distance from the Project Location to the boundaries of any natural features.

The *Natural Heritage Site Investigation Report* is the second stage of the natural heritage assessment process and will be followed by an evaluation of significance of the natural features identified as a result of this site investigation. All natural heritage reports will be submitted to the MNR for review and comment. Information pertaining to Species at Risk [i.e. species listed as Endangered or Threatened on the Species at Risk in Ontario (SARO) List (Ontario Regulation 230/08) and that are protected under the Endangered Species Act, 2008] is not discussed in this report and will be handled through a separate process within the MNR.

Table 1-1: REA Reporting Requirements Summary - Natural Heritage Site Investigation

Required Documentation	**Included** ☑	**Location in Report**
A summary of any corrections to the records review report and the determinations made as a result of conducting the site investigations	☑	**Section 5**, **Table 5-1**
Information relating to each natural feature identified in the records review and identified during the site investigations, including the type, attributes, composition and function of the feature	☑	**Section 4.2**
A map showing: i. The boundaries located within 120 m of the project location, of any natural feature that was identified in the records review or the site investigations	☑	**Figures 4.2**, **4.3**, **4.4**, **4.5** and **4.6**
ii. The location and type of each natural feature identified in relation to the project location	☑	**Figures 4.2**, **4.3**, **4.4**, **4.5** and **4.6**
iii. The distance from the project location to the boundaries determined under clause (c) of Section 26(1) of O. Reg. 359/09	☑	**Figures 4.2**, **4.3**, **4.4**, **4.5** and **4.6**
The dates and times of the beginning and completion of the site investigations	☑	**Section 3.4**, **Table 3-1**
The duration of the site investigations	☑	**Section 3.4**, **Table 3-1**
The weather conditions during the site investigations	☑	**Section 3.4**, **Table 3-1**
A summary of methods used to make observations for the purpose of the site investigations	☑	**Section 3**
The name and qualifications of any person conducting the site investigations	☑	**Table 3-1**, **Appendix A**
Field notes kept by the person conducting the site investigations	☑	**Appendix B**

2 OVERVIEW

The *NH Records Review Report* (AET, 2012) carried out for the proposed Ernestown Wind Park identified fifteen natural heritage features within the project study area. These consisted of six wetlands and ten woodlands. No Life Science ANSIs, Earth Science ANSIs, provincial parks or conservation reserves were identified within 120 m of the Project Location.

In addition to the features that were identified at the records review stage, significant wildlife habitat that has the potential to occur within the Project Location based on the characteristics of Ecoregion 6E have been considered during the site investigation. **Table 2.1** summarizes the results of the records review.

Table 2-1: Summary of the results of the NH Records Review Report (AET, 2012)

Feature ID	Determination Made in the Natural Heritage Records Review Report	Distance Relative to the Project Location		Number carried forward to SI
		Within (0m)	Within 120 m	
Natural Features query for 10 x 10 km squares **18UQ60** and **18UP69**				
Provincial Parks and Conservation Reserves				
Not applicable – none occur within or near Project Location				
Provincial Plan Areas				
Not applicable – none occur within or near Project Location				
ANSI – Life Science				
Not applicable – none occur within or near Project Location				
ANSI – Earth Science				
Not applicable – none occur within or near Project Location				
Valleylands				
N/A	CCRNHS (CRCA, 2006); LIO mapping	No	No	**0**
Wetlands				
WE02	SOLRIS (MNR, 2008), First Base Solutions (Spring, 2006), OBM (2011)	No	Yes	**6**
WE04	SOLRIS (MNR, 2008), First Base Solutions (Spring, 2006), OBM (2011)	No	Yes	
WE05-2	SOLRIS (MNR, 2008), First Base Solutions (Spring, 2006), OBM (2011)	No	Yes	
WE05-4	SOLRIS (MNR, 2008), First Base Solutions (Spring, 2006), OBM (2011)	No	Yes	
WE05-6	SOLRIS (MNR, 2008), First Base Solutions (Spring, 2006), OBM (2011)	No	Yes	
WE05-10	SOLRIS (MNR, 2008), First Base Solutions (Spring, 2006), OBM (2011)	No	Yes	
Woodlands				

Feature ID	Determination Made in the Natural Heritage Records Review Report	Distance Relative to the Project Location		Number carried forward to SI
		Within (0m)	Within 120 m	
WO03	The CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	No	Yes	**10**
WO04	The CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO05-1	The CCRNHS (CCRCA, 2006) identified a portion of this woodland as significant as it meets the criteria of providing hydrological functions.	No	Yes	
WO05-2	The CCRNHS (CCRCA, 2006) identified a portion of this woodland as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO05-3	CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO05-4	CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO05-5	The CCRNHS (CCRCA, 2006) identified a portion of this woodland as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO06	The CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO07	The CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	Yes	Yes	
WO12	The CCRNHS (CCRCA, 2006) identified a portion of this woodland unit as significant as it meets the criteria of providing hydrological functions.	No	Yes	
Habitats of Seasonal Concentration Areas of Animals				
Multiple habitats of seasonal concentrations of animals potentially occur within the study area. See *Natural Heritage Records Review Report* (AET, 2012)				
Rare Vegetation Communities or Specialized Habitat for Wildlife				
Multiple rare vegetation communities or specialized habitat for wildlife potentially occur within the study area. See *Natural Heritage Records Review Report* (AET, 2012)				
Habitat for Species of Conservation Concern				
Multiple habitats for species of conservation concern potentially occur within the study area See *Natural Heritage Records Review Report* (AET, 2012)				
Animal Movement Corridors				
None identified within or near the Project Location				

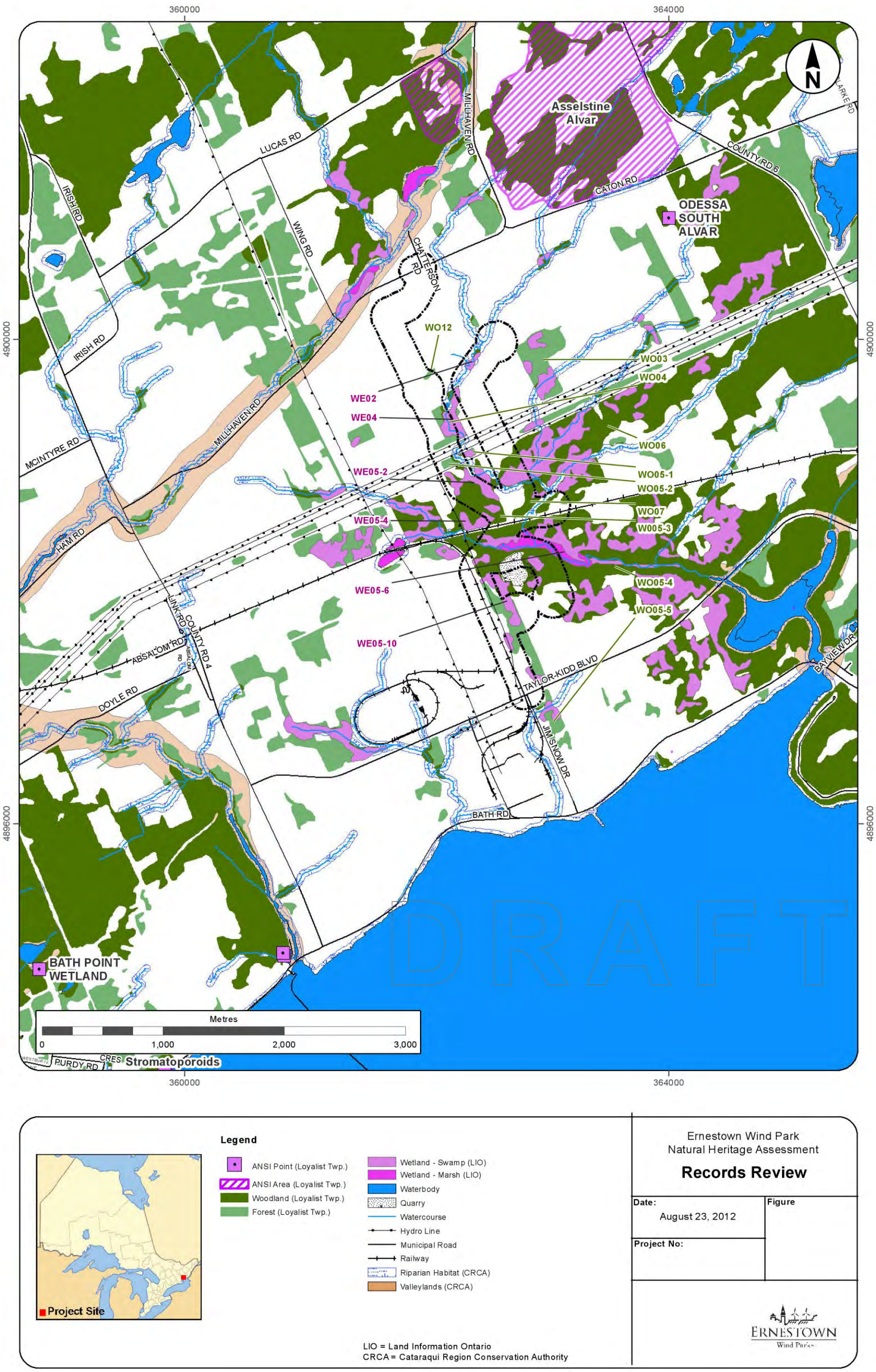


Figure 2-1: Natural Heritage Records Review Report – Natural Features Map

3 METHODOLOGY

Site investigations were conducted by trained individuals (**Appendix A)** within the 120 m REA-mandated setback of the Project Location to confirm the presence and boundaries of features identified in the *Natural Heritage Records Review* (AET, 2012) and to identify and delineate any new features characteristic of Ecoregion 6E that were not previously identified. Natural features that fell within 120 m of the Project Location but extended beyond this boundary were delineated beyond the 120 m buffer based on air photo interpretation (i.e. not ground-truthed). The *Draft Ecological Land Classification (ELC) for Southern Ontario* (Lee *et al*., 2009) was used to classify all lands within 120 m of the Project Location.

To supplement field investigations, satellite imagery, Land Information Ontario (LIO) data layers (MNR, 2012) and Ontario Base Maps (OBM) covering the Project Location and the broader study area were used to identify potential candidate significant wildlife habitat (cSWH). Mapping was also used to supplement field work photos and information obtained on site and to define the geographic extent of features on the ground with greater accuracy.

Site investigators surveyed for the following natural features:

- Areas of Natural and Scientific Interest (earth science and life science)
- Valleylands
- Wetlands
- Woodlands
- Significant Wildlife Habitat, as defined in the *Significant Wildlife Habitat Technical Guide* (SWHTG, MNR, 2000) and *Draft SWH Ecoregion 6E Criterion Schedule* (MNR, 2012) including:
    - Habitats of seasonal concentration areas of animals
    - Rare vegetation communities or specialized habitat for wildlife
    - Habitat of species of conservation concern
    - Animal movement corridors

Specific methodology for conducting wetland assessments [i.e. Ontario Wetland Evaluation System (OWES)], vegetation mapping [i.e. Ecological Land Classification (ELC)] and wildlife habitat surveys are provided in **Sections 3.1**, **3.2** and **3.3**, respectively. Technical advice from the *Significant Wildlife Habitat Technical Guide* (OMNR, 2000) and *Ecoregion 6E Criteria Schedules* (OMNR, 2012) was used to compile a complete list of significant wildlife habitat types that may be present within 120 m of the Project Location.

Full scope, time, and weather details for site investigations can be found in **Table 3.1**. Note that the field visits in **Table 3.1** are not numbered sequentially because some field visits were conducted for the purpose of Evaluation of Significance. Documentation of these evaluations can be found in the accompanying *Natural Heritage Evaluation of Significance Report*.

3.1 Ontario Wetland Evaluations System (OWES)

The Ontario Wetland Evaluation System (OWES) was used to classify and delineate all wetland features within the project. Desktop reviews of aerial imagery and other mapping sources were reviewed prior to the site investigation to determine the general ecological make-up of the area. OWES-certified biologists undertook the surveys of all wetlands and verified and delineated their boundaries based on OWES methodology. Surveys were conducted between June and July 2012 in tandem with ELC surveys to optimize ability to identify a diversity of emergent and flowering vegetation. ELC was used to inform the classification of wetlands that were identified according to the OWES.

3.2 Ecological Land Classification (ELC)

The *ELC System for Southern Ontario* (Lee et al., 2009) was used to classify and delineate all terrestrial features within the project. Desktop reviews of aerial imagery and other mapping sources were reviewed prior to the site investigation to determine the general ecological make-up of the area, and to assess potential ELC communities and areas of focus for field surveys. ELC surveys involved analysis of stand composition (investigation of canopy, sub-canopy, understory and ground cover vegetation), soil composition, topographical composition, and faunal composition. Surveys were conducted in June and July 2012 to optimize the diversity of emergent and flowering vegetation, an important component in assembling comprehensive vegetation inventories and assuring communities are accurately classified. Detailed polygon descriptions can be found in **Appendix C**.

3.3 Candidate Significant Wildlife Habitat (cSWH) Assessments

Wildlife habitat surveys were based on criteria outlined in the *Draft SWH Ecoregion 6E Criterion Schedule* (MNR, 2012)*, Significant Wildlife Habitat Technical Guide* (OMNR, 2000), associated appendices and the *Wildlife Monitoring Programs and Inventory Techniques for Ontario* (Konze and McLaren, 1997). To supplement field investigations, staff identified potential wildlife habitat from satellite imagery and OBM maps (OBM, 2002) overlapping with the Project Location. Coordinates for targeted locations were then uploaded to GPS units for use in the field. These areas were primarily targeted but additional habitat was searched for based on ELC polygons, elevation and water bodies.

Field surveying methods were based on an in-field assessment of observer visibility dependent on terrain and forest cover/type. Based on field experience and at the field naturalist's discretion, surveying was performed by walking slightly adjacent to proposed infrastructure routes while observing all areas from the project infrastructure and within the extent of REA setbacks. Habitats that fell within 120 m of the Project Location but extended beyond this boundary were fully delineated. If a natural feature was identified, the observer would perform a closer inspection, document form and function, mark the feature with a GPS waypoint and take photographs. Once completed, the original route was resumed. Delineations of boundaries were mostly completed on-site in full unless the terrain was impassable and could not be safely negotiated. This was done by traveling along a natural feature and adding additional waypoints. Where terrain was impassable, these sections of the boundaries were completed by applying judgment based on topography and remote field observation by binoculars or other visual aids. Field investigations were conducted primarily during the summer months (June-July). Incidental wildlife observations were recorded during the site investigations and used to help determine the presence/absence

of cSWH. A general search for wildlife species was also conducted to determine the presence/absence of species of conservation concern within 120 m of the Project Location.

3.4 Site Investigation Details

A summary of the site investigations completed for the Ernestown Wind Park Project, including the purpose and methods used to verify the presence/absence of each natural feature identified in the *Natural Heritage Records Review Report* (AET, 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
Valleylands	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)
Wetlands – Field verification, wetland delineations (OWES Protocol)	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 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 & Associates (Appendix A)

Purpose / Methods	Date(s)	Start/ End Time	Duration (Hours)	Weather Conditions	Site Investigator(s), Affiliation; Qualifications
	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/ Wildlife Habitat – Field verification, vegetation community mapping, general wildlife searches (ELC Protocol, Significant Wildlife Habitat Technical Guide / Draft Ecoregion Criteria Schedules for 6E)	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)

4 RESULTS

All natural heritage features and candidate significant wildlife habitats identified during the site investigations are described in detail in the following sub-sections. All boundaries identified on the maps contained in this section were confirmed during the site investigations.

4.1 Ecological Land Classification

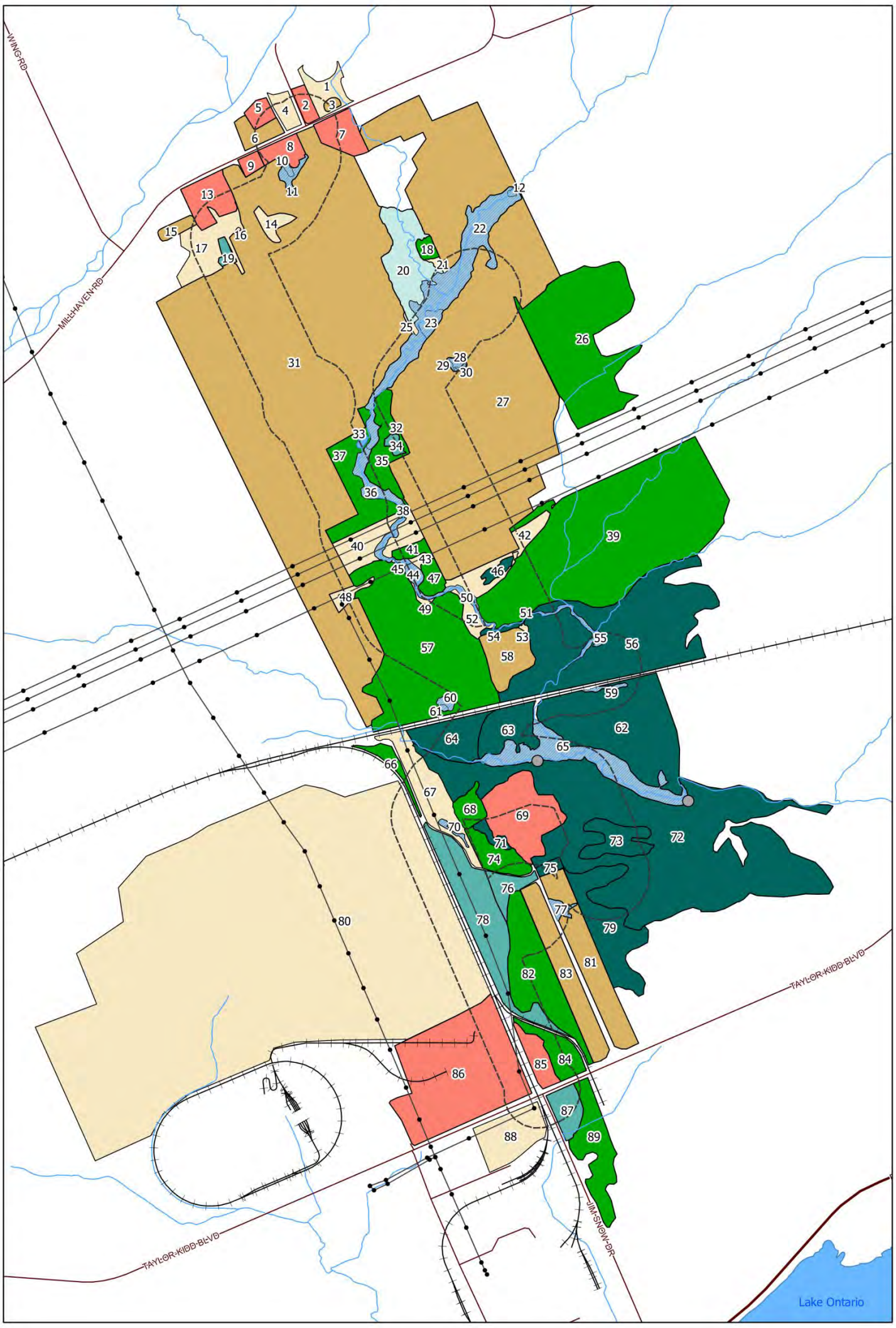
The existing conditions on and within 120 m of the Project Location were characterized following the *ELC System for Southern Ontario* (Lee *et al*., 2009). The vegetation communities identified during the site investigations were used to determine the presence/absence of natural features within 120 m of the Project Location. A list of the vegetation communities are provided in **Table 4.1** and shown on **Figure 4-1**. The completed ELC data cards are provided in **Appendix C**. The natural feature types identified in the table below are discussed further in the subsequent sections.

Table 4-1: ELC Communities Identified within 120 m of the Project Location

ELC Code	ELC Name	ELC ID	Natural Feature Type
CVC_1	Business Sector	85, 86	N/A
CVC_4	Extraction	69	N/A
CVR_1	Low Density Residential	2, 5, 7, 8, 9	N/A
FOCM1-2	Dry – Fresh White Pine – Red Pine Coniferous Forest Type	63	Woodland (WO05-4); cSWH
FOCM2-1	Dry – Fresh Red Cedar Coniferous Forest Type	64, 71, 72	Woodland (WO05-4); cSWH
FODM2-3	Dry – Fresh Hickory Deciduous Forest Type	39	Woodland (WO06); cSWH
FODM6-1	Fresh – Moist Sugar Maple – Lowland Ash Deciduous Forest Type	37	Woodland (WO04); cSWH
FODM6-4	Fresh – Moist Sugar Maple – White Elm Deciduous Forest Type	26	cSWH (WO03)
FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest Type	68	Woodland (WO05-4); cSWH
		84, 89	Woodland (WO05-5); cSWH
FODM7-2	Fresh – Moist Green Ash - Hardwood Lowland Deciduous Forest Type	66, 74	Woodland (WO05-4); cSWH
		82	Woodland (WO05-5);
FODM7-6	Fresh - Moist Black Ash - Hardwood Lowland Deciduous Forest Type	35	Woodland (WO04); cSWH
FODM9-4	Fresh – Moist Shagbark Hickory Deciduous Forest Type	41, 47, 57	Woodland (WO06); cSWH
MAMM1-3	Reed-canary Grass Graminoid Mineral Meadow Marsh Type	11	Wetland (WE08); cSWH
		22	Wetland (WE02); cSWH
		38, 44, 50	Wetland (WE05-2); cSWH
		55	Wetland (WE09); cSWH
MASM1-1	Cattail Mineral Shallow Marsh Type	32	Wetland (WE04); cSWH
		59	Wetland (WE05-15); cSWH

ELC Code	ELC Name	ELC ID	Natural Feature Type
		65	Wetland (WE05-6); cSWH
		70	Wetland (WE05-10); cSWH
		77	Wetland (WE05-16); cSWH
MASO1-1	Cattail Organic Shallow Marsh Type	30	Wetland (WE10); cSWH
MASO1-4	Reed Canary Grass Organic Shallow Marsh Type	29	Wetland (WE10); cSWH
MEMM3	Dry - Fresh Mixed Meadow Ecosite	1, 4 14, 16, 17, 21, 25, 40, 42, 43, 45, 48, 49, 51, 52, 53, 67, 80, 88	cSWH
OAGM1	Annual Row Crops	3,6, 15, 27, 31, 58, 81, 83	N/A
OAO	Open Aquatic	33	Wetland (WE04); cSWH
		61	Wetland (WE05-4); cSWH
RBOA1-2	Dry Annual Open Alvar Pavement Type	20	cSWH
SAS1	Submerged Shallow Aquatic Ecosite	10	Wetland (WE08); cSWH
		12	Wetland (WE02); cSWH
SWDM2-1	Black Ash Mineral Deciduous Swamp Type	36	Woodland (WO04); Wetland (WE04); cSWH
SWDM2-2	Green Ash Mineral Deciduous Swamp Type	23	Wetland (WE02); cSWH
		60	Woodland (WO06); Wetland (WE05-4); cSWH
SWDO1-2	Green Ash Organic Deciduous Swamp Type	28	Wetland (WE10); cSWH
THDM2-4	Gray Dogwood Deciduous Shrub Thicket Type	34, 76, 78, 87	cSWH
THDM4-1	Native Deciduous Regeneration Thicket Type	19	cSWH
WOCM1-1	Dry - Fresh Red Cedar Coniferous Woodland Type	46, 54	Woodland (WO06); cSWH
		56	Woodland (WO06); cSWH
		62, 73, 75, 79	Woodland (WO05-4); cSWH

ELC	ID	Area (ha)
MEMM3	1	1.57
CVR_1	2	0.73
OAGM1	3	0.22
MEMM3	4	0.94
CVR_1	5	0.79
OAGM1	6	1.21
CVR_1	7	2.03
CVR_1	8	1.26
CVR_1	9	0.52
SAS1	10	0.15
MAMM1-3	11	0.45
SAS1	12	0.08
CVR_1	13	2.54
MEMM3	14	0.86
OAGM1	15	0.62
MEMM3	16	0.02
MEMM3	17	3.47
FODM7-2	18	0.49
THDM4-1	19	0.43
RBOA1-2	20	4.74
MEMM3	21	0.17
MAMM1-3	22	6.87
SWDM2-2	23	0.53
MEMM3	25	0.07
FODM6-4	26	15.57
OAGM1	27	67.86
SWDO1-2	28	0.17
MASO1-4	29	0.05
MASO1-1	30	0.06
OAGM1	31	87.98
MASM1-1	32	0.03
OAO	33	0.16
THDM2-4	34	0.37
FODM7-6	35	2.81
SWDM2-1	36	1.07
FODM6-1	37	3.96
MAMM1-3	38	0.12
FODM2-3	39	31.25
MEMM3	40	3.37
FODM9-4	41	0.62
MEMM3	42	2.29
MEMM3	43	0.24
MAMM1-3	44	1.16
MEMM3	45	0.04
WOCM1-1	46	0.47
FODM9-4	47	0.92
MEMM3	48	0.64
MEMM3	49	0.14
MAMM1-3	50	0.47
MEMM3	51	0.03
MEMM3	52	0.76
MEMM3	53	0.07
WOCM1-1	54	0.25
MAMM1-3	55	0.56
WOCM1-1	56	20.19
FODM9-4	57	19.35
OAGM1	58	3
MASM1-1	59	0.22
SWDM2-2	60	0.26
OAO	61	0.06
WOCM1-1	62	12.69
FOCM1-2	63	2.97
FOCM2-1	64	3.29
MASM1-1	65	5.37
FODM7-2	66	0.87
MEMM3	67	4.16
FODM7-1	68	1.19
CVC_4	69	5.92
MASM1-1	70	0.17
FOCM2-1	71	0.53
FOCM2-1	72	38.2
WOCM1-1	73	2.44
FODM7-2	74	1.97
WOCM1-1	75	0.38
THDM2-4	76	1.3
MASM1-1	77	0.39
THDM2-4	78	7.53
WOCM1-1	79	5.95
MEMM3	80	126.14
OAGM1	81	5.66
FODM7-2	82	6.76
OAGM1	83	4.82
FODM7-1	84	2.03
CVC_1	85	1.59
CVC_1	86	16.25
THDM2-4	87	1.68
MEMM3	88	3.88
FODM7-1	89	4.34



Ecological Communities
- Wetland
- Coniferous Woodland Communities
- Meadow Communities
- Agriculture
- Built Areas
- Shrub / Thicket Communities
- Alvar Communities
- Deciduous Woodland Communities

Spring

120m Project Location Setback

Hydro Line

Road

Railroad

Watercourse

Water Body

Ernestown Wind Park
Ecological Land Classification

200 0 200 400 m
1:15000

Datum: NAD83
Projection: UTM Zone 18N
Units: Metres
Date: 31 July 2012

Figure 4-1: Ecological Land Classification Map

4.2 Natural Features

There are five main types of natural features recognized in the REA rules. These include: Areas of Natural and Scientific Interest (ANSI) (earth science and life science), valleylands, wetlands (coastal, northern and southern), woodlands and wildlife habitat. The *Natural Heritage Records Review Report* (AET, 2012) determined that there are wetlands (southern), woodlands and potential wildlife habitat within 120 m of the Project Location. There were no ANSIs (earth science or life science) or valleylands identified on or within 120 m of the Project Location based on the information sources reviewed (AET, 2012).

As required under the REA rules, the presence/absence of natural features identified in the *Natural Heritage Records Review Report* (AET, 2012) were verified during the site investigations. The results of the site investigations are provided in the following sections and include information on the type, attributes, composition, function and boundaries of each natural feature confirmed to be present on and within 120 m of the Project Location.

4.2.1 Areas of Natural and Scientific Interest

Earth science and life science ANSIs are assessed by the MNR as provincially, regionally or locally significant. Provincially significant ANSIs that are confirmed by the MNR are protected under the REA rules. Applicants of an REA are required to verify the boundaries of all ANSIs identified through the records review, however, are not required to identify additional ANSIs during the site investigation (MNR, 2011). The information sources reviewed in the *Natural Heritage Assessment Records Review Report* (AET, 2012) did not identify any provincially, regionally or locally significant earth science or life science ANSIs within 120 m of the Project Location. As a result, there are no boundaries that need to be verified through a site investigation. Therefore, ANSIs will not be carried forward to the *Natural Heritage Evaluation of Significance Report*. Also, there are no corrections required to the *Natural Heritage Records Review Report* (AET, 2012) with respect to this natural feature type.

4.2.2 Valleylands

The boundaries, presence and absence of valleylands identified through the records review must be verified during the site investigation (MNR, 2011). The *Natural Heritage Assessment Records Review Report* (AET, 2102) did not identify valleylands within 120 m of the Project Location. This information was verified during the site investigations. As a result, valleylands will not be carried forward to the *Natural Heritage Evaluation of Significance Report*. Also, there are no corrections required to the *Natural Heritage Records Review Report* (AET, 2012) with respect to this natural feature.

4.2.3 Wetlands

The *Natural Heritage Records Review Report* (AET, 2012) identified six wetlands within 120 m of the Project Location. The presence/absence of these wetlands, including additional wetlands identified during the site investigation as well as information on the type, attributes, composition and function of each wetland confirmed to be present within 120 m of the Project Location, is provided in **Table 4.2**. A map showing the confirmed wetlands is presented in **Figure 4-2**.

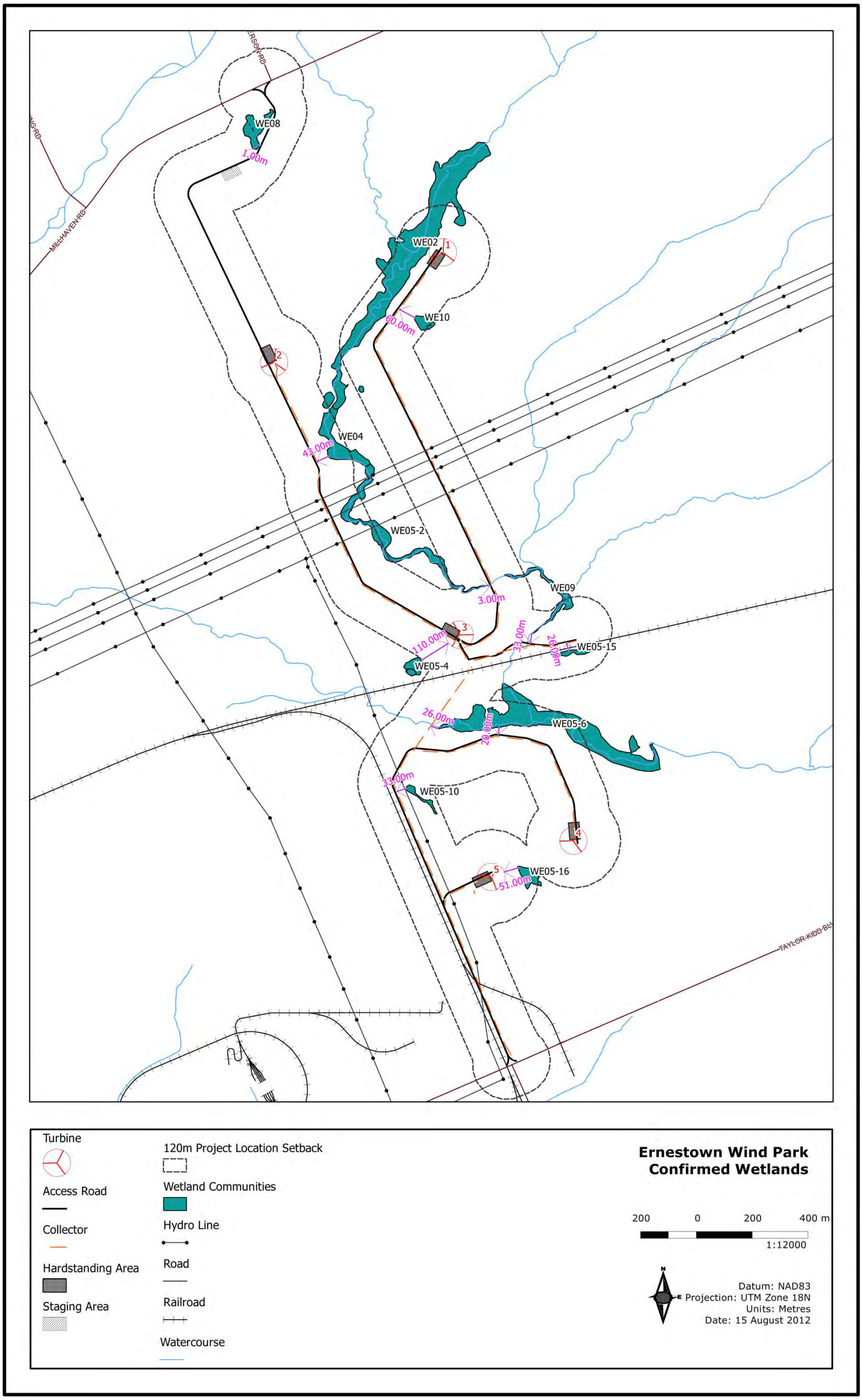


Figure 4-2: Wetlands verified during the site investigation

Table 4-2: Wetlands verified during the site investigation

Feature ID	Determination Made During the Site Investigations						Carried Forward to the EOS? (Y/N)
	Feature Present (Y/N)	Project Components / Minimum Distance to Project Location	Size	Attributes	Composition and ELC Communities/ID (Figure 4.1, Section 4.1)	*Functions	
Wetlands Identified in the *Natural Heritage Records Review Report*							
WE02	Y	Hardstand (21 m); Access Road (22 m); Collector (22 m); Bladeswept area (5m)	7.5 ha	Reed-canary grass meadow marsh and green ash swamp along an intermittent watercourse; hydrologically connected to the Parrotts Bay Provincially Significant Wetland (PSW).	MAMM1-3, SWDM2-2, SAS1 (ELC IDs: 22, 23 & 12 respectively)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005) absorbing of spring runoff from the agricultural fields. **cSWH** (Section 4.2.5) – ABH02; MBBA02; WNA01	**Y**
WE04	Y	Collector (43 m); Access Road (45 m)	1.3 ha	Black ash swamp, cattail marsh and open water communities adjacent to and alongside an intermittent watercourse; portions of this wetland unit are hydrologically connected to the Parrotts Bay PSW.	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). **cSWH** (Section 4.2.5) – ABH02; WNA01	**Y**
WE05-2	Y	Access Road (3 m); Collector (11 m); Bladeswept area (110m)	1.8 ha	Reed-canary grass meadow marsh along an intermittent watercourse; hydrologically connected to the Parrotts Bay PSW.	MAMM1-3 (ELC IDs: 38,44 & 50)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). **cSWH** (Section 4.2.5) – ABH02; WNA01	**Y**
WE05-4	Y	Hardstand (106 m); Bladeswept area (110m)	0.32 ha	Isolated green ash swamp with an open water community; surrounded by a shagbark hickory deciduous woodland	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. **cSWH** (Section 4.2.5) – ABH02; LMSA02	**Y**
WE05-6	Y	Access Road (20 m); Collector (26 m)	5.4 ha	Cattail marsh along a permanent watercourse; hydrologically connected to the Parrotts Bay PSW.	MASM1-1 (ELC ID: 65)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). **cSWH** (Section 4.2.5) – ABH04; WNA02; SPO1 & SPO2	**Y**
WE05-10	Y	Collector (33 m); Access Road (35 m)	0.17 ha	Isolated cattail marsh; disturbed wetland surrounded by mixed meadow and gray dogwood shrub thicket communities.	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. **cSWH** (Section 4.2.5) – ABH04	**Y**
Additional Wetlands Not Identified in the *Natural Heritage Records Review Report*							
WE08	Y	Access Road (1 m); Staging Area (84 m)	0.60 ha	Isolated reed-canary grass meadow marsh surrounding a submerged shallow aquatic ecosites with permanent water (i.e., water present year-round).	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.	**Y**

Feature ID	Determination Made During the Site Investigations						Carried Forward to the EOS? (Y/N)
	Feature Present (Y/N)	Project Components / Minimum Distance to Project Location	Size	Attributes	Composition and ELC Communities/ID (Figure 4.1, Section 4.1)	*Functions	
						cSWH (Section 4.2.5) – ABH01; TNA01	
WE09	Y	Access Road (23 m); Collector (31 m)	0.56 ha	Reed-canary grass meadow marsh along an intermittent watercourse; hydrologically connected to the Parrotts Bay PSW.	MAMM1-3 (ELC ID: 55)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). **cSWH** (Section 4.2.5) – ABH02; WNA01	**Y**
WE10	Y	Collector (60 m); Access Road (62 m)	0.28 ha	Isolated green ash swamp with cattail and reed-canary marsh communities; surrounded by active agricultural fields.	SWDO1-2, MASO1-1 and MASO1-4 (ELC IDs: 28,29 & 30, respectively)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). **cSWH** (Section 4.2.5) – ABH03; WNA01	**Y**
WE05-15	Y	Collector (26 m); Access Road (26 m)	0.22 ha	Isolated cattail marsh surrounded by a red cedar coniferous woodland.	MASM1-1 (ELC ID: 59)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). **cSWH** (Section 4.2.5) – ABH04	**Y**
WE05-16	Y	Access Road (100 m); Collector (100 m); Hardstand (105m); Bladeswept area (51m)	0.39 ha	Isolated cattail marsh surrounded by active agricultural fields used for the production of row crops.	MASM1-1 (ELC ID: 77)	Functions as wildlife habitat, storage of carbon, cleaning air, hydrological cycling, nutrient cycling (OMNR, 2005). **cSWH** (Section 4.2.5) – ABH04	**Y**

* The functions described in this table that are associated with a specific cSWH feature ID are discussed further in Section 4.2.5. The wildlife habitat acronyms are provided below:
ABH – Amphibian Breeding Habitat, LMSA – Landbird Migratory Stopover Areas, MBBA – Marsh Bird Breeding Areas, SP – Seeps and Spring, TNA – Turtle Nesting Areas, WNA – Waterfowl Nesting Areas

4.2.4 Woodlands

The *Natural Heritage Records Review Report* (AET, 2012) identified ten woodlands within 120 m of the Project Location. The woodlands confirmed during the site investigations are presented in **Figure 4-3**. **Table 4-3** includes information on the type, attributes, composition and functions of woodlands confirmed to be present within 120 m of the Project Location. **Table 4-3** also includes changes to woodland polygons determined through site investigations. In particular, please note that one of the woodlands (WO06) is composed of multiple individual woodlands (WO05-1, WO05-2, WO05-3 and WO07) identified as individual woodlands in the *Natural Heritage Records Review Report.* 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 described in this report as WO06 only. Additionally, site investigation confirmed that two woodlands (WO5-4 and WO5-5) identified at records review were actually four woodlands (WO5-4, WO5-5, WO13, and WO14) as distances >20 m created divisions in the original polygons. Site investigation also confirmed the presence of a previously unidentified woodland, WO15, within 120 m of the Project Location.

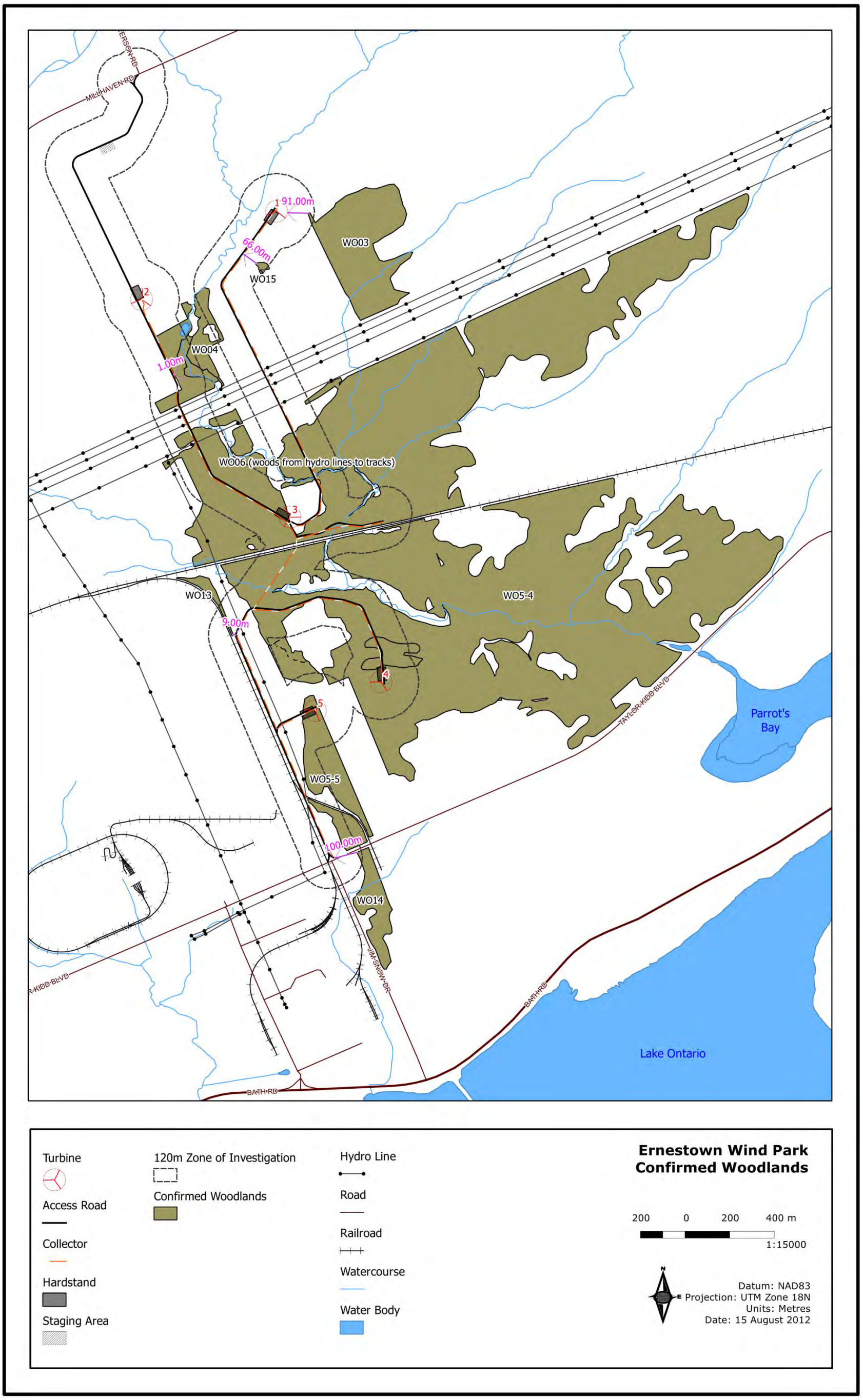


Figure 4-3: Woodlands verified during the site investigation

Table 4-3: Woodlands verified during the site investigation

Feature ID	Feature Present (Y/N)	Project Components / Minimum Distance to Project Location	Determination Made During the Site Investigations				Carried Forward to the EOS? (Y/N)
			Size	Attributes	Composition and ELC Community/ ID (Figure 4.1, Section 4.1)	**Functions	
WO03	Y	**Location**: Situated southeast of Turbine #1 with a portion found within 120 m of the Project Location **Project Components**: Bladeswept area (91m)	16 ha	**Soil Type**: Silty Loam **Characteristics**: Isolated woodland surrounded by active agricultural fields used for the production of cash crops; comprised of one vegetation community (FODM6-4), however, is considered diverse based on the presence of the following dominant species: Sugar Maple, Basswood, Eastern Hemlock, Eastern White Pine (MNR, 2011); a watercourse traverses southwest along the southern portion of this woodland; community age ranges from young to mid-aged. **Confirmed Evidence of Wildlife Use**: Pileated Woodpecker, Northern Flicker, Ovenbird, Song Sparrow, American Robin, Red-tailed Hawk	**Dominant Vegetation**: Sugar Maple, American Elm, Basswood, Eastern Hemlock, Eastern White Pine **ELC Community/ID**: FODM6-4 (ELC ID: 26)	**Water Protection:** A watercourse traverses southwest along the southern portion of this woodland **Linkages**: The watercourse provides a linkage for wildlife species to move between this woodland and the surrounding natural features (wetlands WE02, WE04, WE05-2, WE05-4) and woodland (WO06) **Wildlife Habitat**: cSWH (**Section 4.2.5**) for seasonal concentration areas of animals (LMSA01)	**Y**
WO04	Y	**Location**: Situated north of the CN Rail with a portion found on and within 120 m of the Project Location **Project Components**: Access Road (0 m); Collector (0 m)	7.8 ha	**Soil Type**: Silty Clay Loam **Characteristics**: Comprised of three vegetation communities (FODM6-1, FODM7-6, SWDM2-1) and is considered diverse based on the presence of the following dominant species: Sugar Maple, Basswood, Shagbark Hickory, Eastern Hemlock, Eastern White Pine (MNR, 2011); community age ranges from young to mid-aged; a watercourse traverses southeast through the central portion of this woodland; found in close proximity to a larger contiguous woodland (identified as woodland WO06). **Confirmed Evidence of Wildlife Use**: Cedar Waxwing, Downy Woodpecker, Rose-breasted Grosbeak, Song Sparrow, Red-eyed Vireo, Indigo Bunting, American Robin, Red Squirrel, House Wren, Ovenbird, Common Yellowthroat	**Dominant Vegetation**: Sugar Maple, Black Ash, Basswood, Shagbark Hickory, Eastern Hemlock, Eastern White Pine **ELC Communities**: FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)	**Water Protection**: A watercourse traverses southeast through the central portion of this woodland **Linkages**: The watercourse provides a linkage for wildlife species to move between this woodland and the surrounding natural features (wetlands WE02, WE04, WE05-2, WE05-4) and woodland (WO06) **Wildlife Habitat**: cSWH (**Section 4.2.5**) for seasonal concentration areas of animals (RWA01, BMR01, BMR02, BMR03, BMSA01), specialized habitat for wildlife (WNA01, ABH02)	**Y**
WO05-4	Y	**Location**: Situated south of the CN Rail with a portion found on and within 120 m of the Project Location **Project Components**: Access Road (0 m); Collector (0 m); Hardstand (0 m); Turbine 4 (0 m)	147 ha	**Soil Type**: Clay Loam **Characteristics**: Comprised of five vegetation communities (FOCM1-2, FOCM2-1, FODM7-1, FODM7-2 and WOCM1-1) and is considered diverse based on the presence of the following dominant species: Eastern White Pine and White Spruce (MNR, 2011); there are two watercourses that traverse through the central portion of this woodland; approximately 11 ha of interior forest habitat within WO05-4 (based on a 100 m buffer from the edge); found in close proximity to woodland WO06. **Confirmed Evidence of Wildlife Use**: Blue Jay, American Robin, Indigo Bunting, Song Sparrow, Common Yellowthroat, House Wren, Eastern Towhee	**Dominant Vegetation**: American Elm, Green Ash, Eastern Red Cedar, Eastern White Pine, White Spruce **ELC Communities:** 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)	**Water Protection**: Two watercourses that traverse through the central portion of this woodland **Interior Forest Habitat**: Provides 11 ha of interior habitat for species that require interior forest habitat **Linkages**: The watercourse provides a linkage for wildlife species to move between this woodland and wetland WE05-6. The woodland also provides shelter and protection for species that also use WE05-10, WE05-15 and WE05-16. **Wildlife Habitat**: cSWH (**Section 4.2.5**) for seasonal concentration areas of animals (RWA02, LMSA04, BMSA02), specialized habitat for wildlife (ABH04, WNA02), habitat for species of conservation concern (SP01, SP02, AS03)	**Y**
WO05-5	Y	**Location**: Situated east of the CN Rail with a portion found on and within 120 m of the Project Location **Project Components**: Access Road (0 m);	8.8 ha	**Soil Type**: Clay Loam **Characteristics**: Comprised of one vegetation communities (FODM7-1) and is considered moderately diverse based on the presence of the following dominant species: Green ash and White elm (MNR, 2011); found in close proximity to woodland WO05-4. **Confirmed Evidence of Wildlife Use**: American Robin, Rose breasted grosbeak,	**Dominant Vegetation**: Green Ash, White elm, Canada goldenrod **ELC Communities:** FODM7-1 (ELC ID: 84, 89); FODM2-2 (ELC ID:	**Water Protection**: Two watercourses that traverse through the central portion of this woodland **Linkages**: The watercourse provides a linkage for wildlife species to move between this woodland and wetland WE05-6. The woodland also provides shelter and protection for species that also use WE05-10, WE05-15 and WE05-16.	**Y**

Feature ID	Feature Present (Y/N)	Project Components / Minimum Distance to Project Location	Determination Made During the Site Investigations				Carried Forward to the EOS? (Y/N)
			Size	Attributes	Composition and ELC Community/ ID (Figure 4.1, Section 4.1)	**Functions	
		Collector (0 m); Hardstand (0 m); Turbine (0 m)		Yellow warbler	82)	**Wildlife Habitat**: cSWH (**Section 4.2.5**) for seasonal concentration areas of animals (BMSA02, RWA02)	
*WO06 (composed of WO05-1, WO05-2, WO05-3, WO07 as identified in the Records Review)	Y	**Location**: Situated north of the CN Rail with a portion found on and within 120 m of the Project Location **Project Components**: Access Road (0 m); Collector (0 m); Hardstand (0 m); Turbine (0 m)	105 ha	**Soil Type**: Loam and Clay Loam **Characteristics**: Comprised of four vegetation communities (FODM9-4, SWDM2-2, FODM2-3 and WOCM1-1) and is considered diverse based on the presence of the following dominant species: Shagbark Hickory, Bitternut Hickory, Sugar Maple, Eastern White Pine (MNR, 2011); this woodland is considered to be mid-aged; multiple watercourses traverse through this woodland; approximately 3.8 ha of interior forest habitat within WO06 (based on a 100 m buffer from the edge); there are wetlands and open water communities present within this woodland; found in close proximity to WO05-4. **Confirmed Evidence of Wildlife Use**: Ovenbird, Red-eyed Vireo, Great-crested Flycatcher, Wood Thrush, Eastern Towhee, American Robin, Eastern Wood-pewee, Chipping Sparrow Green Frog, Bullfrog, Leopard Frog, Canada Swallowtail	**Dominant Vegetation**: Shagbark Hickory, Sugar Maple, Green Ash, Eastern Cottonwood , American Elm, Bitternut Hickory, Eastern Red Cedar, Eastern White Pine **ELC Communities:** FODM9-4 (ELC IDs: 41, 47, 57); SWDM2-2 (ELC ID: 60); WOCM1-1 (ELC IDs: 46, 54, 56); FODM2-3 (ELC ID: 39)	**Water Protection**: There are multiple watercourses that traverse through this woodland **Interior Forest Habitat**: Provides 3.8 ha of interior habitat for species that require interior forest habitat **Linkages**: The watercourse provides a linkage for wildlife species to move between this woodland and the surrounding natural features (wetlands WE02, WE04, WE05-2, WE05-4, WE05-9) and woodlands (WO03 and WO04). **Wildlife Habitat**: cSWH (**Section 4.2.5**) for seasonal concentration areas of animals (RWA01, BMR04, LMSA02, LMSA03), specialized habitat for wildlife (WNA01, ABH02), habitat for species of conservation concern (ASH01, ESBR01)	**Y**
WO12	N	N/A	N/A	N/A	N/A	N/A	N
WO13	Y	**Location**: Situated south of the CN Rail with a portion found on and within 120 m of the Project Location **Project Components**: Access Road 9 m); Collector (9 m)	0.87 ha	**Soil Type**: Clay Loam **Characteristics**: Isolated woodland surrounded by mixed meadows; comprised of one vegetation community (FODM7-2); mainly a young vegetation community. **Confirmed Evidence of Wildlife Use**: Song Sparrow, Common Yellowthroat, House Wren	**Dominant Vegetation**: Green Ash and White Elm **ELC Communities**: FODM7-2 (ELC ID: 66)	**Wildlife Habitat**: cSWH (**Section 4.2.5**) for seasonal concentration areas of animals (RWA02, BMSA02) and habitat for species of conservation concern (ASH02)	Y
WO14	Y	**Location**: Situated east of the CN Rail with a portion found within 120 m of the Project Location **Project Components**: Access Road (100 m); Collector (100 m)	4.3 ha	**Soil Type**: Clay Loam **Characteristics**: Isolated woodland surrounded by deciduous thicket; comprised of one vegetation community (FODM7-1); there is one watercourse that runs through the woodland; mainly a mid-aged vegetation community.	**Dominant Vegetation**: White Elm and Green Ash **ELC Communities**: FODM7-1 (ELC ID: 89)	**Water Protection**: There is one watercourse that traverse through this woodland	Y
WO15	Y	**Location**: Situated southwest of Turbine 1 entirely within 120 m of the Project Location **Project Components**: Access Road (66 m); Collector (66 m)	0.17 ha	**Soil Type**: Organic **Characteristics**: Isolated green ash swamp; surrounded by active agricultural fields	**Dominant Vegetation**: Green Ash **ELC Communities**: SWDO1-2 (ELC ID: 28)	**Wildlife Habitat**: cSWH (**Section 4.2.5**) specialized habitat for wildlife (ABH03)	

Feature ID	Feature Present (Y/N)	Project Components / Minimum Distance to Project Location	Determination Made During the Site Investigations				Carried Forward to the EOS? (Y/N)
			Size	Attributes	Composition and ELC Community/ ID (Figure 4.1, Section 4.1)	**Functions	
* 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 described in this report as WO06 only.							
**The functions described in this table that are associated with a specific cSWH feature ID are discussed further in Section 4.2.5. The wildlife habitat acronyms are provided below:							
LMSA – Landbird Migratory Stopover Areas, RWA – Raptor Wintering Areas, ABH – Amphibian Breeding Habitat, MBBA – Marsh Bird Breeding Areas, SP – Seeps and Spring, TNA – Turtle Nesting Areas, WNA – Waterfowl Nesting Areas, ESBR – Early Successional Bird Breeding Habitat, BMR – Bat Maternity Roosts, ASH – Woodland Area-Sensitive Bird Breeding Habitat							

4.2.5 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 wildlife habitat types identified in the following tables were verified during the site investigation based on initial information provided in the *Natural Heritage Records Review Report* (AET, 2012). The cSWH types were assessed based on the information collected during the site investigations, including the ELC mapping (**Figure 4-1**, **Section 4.1**), as well as criteria outlined in the *Draft Ecoregion 6E Criteria Schedules* (MNR, 2012). The wildlife habitat types that were assessed during the site investigations are discussed in **Tables 4.4**, **4.6** and **4.8**. Detailed descriptions of the cSWH identified based on the results of the site investigations are provided in **Tables 4.5**, **4.7** and **4.9** and will be carried forward to the *Natural Heritage Evaluation of Significance Report*. A map showing the cSWH on and within 120 m of the Project Location is provided in **Figures 4-4**, **4-5** and **4-6**.

As specified in Appendix D to the NHAG (MNR, 2011), the MNR has scoped the cSWH that must be addressed if located within 120 m of certain project components based on the potential for that project component to affect the use of the habitat by wildlife (see Table 1 of Appendix D of the NHAG for specific details). 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. These features are then classified as generalized candidate significant wildlife habitat (GcSWH), treated as significant in the *Evaluation of Significance Report*, and construction mitigation methods are provided within the *Environmental Impact Study Report*.

Some of the cSHW identified in the tables below meet the criteria outlined in Table 1 of Appendix D of the NHAG and are consequently classified as GcSWH. Further information on these features and GcSWH can be seen in **Section 4.2.5.4**. A map showing the GcSWH within 120 m of the Project Location is provided in **Figures 4-7**.

4.2.5.1 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 *Draft Significant Wildlife Habitat Ecoregion 6E Criteria Schedules* (MNR, 2012) identifies sixteen (16) types of habitats of seasonal concentration areas of animals, including a description of wildlife habitat, species and criteria for determining significance. The following table (**Table 4.4**) describes each of these habitat types and a determination on whether they are present within 120 m of the Project Location. The habitat types that have been verified within 120 m of the Project Location are further described in **Table 4.5**, including information on the type, attributes, composition, function and minimum distance of each habitat type to the Project components. A map showing the candidate significant seasonal concentration areas of animals are provided in **Figure 4.4**.

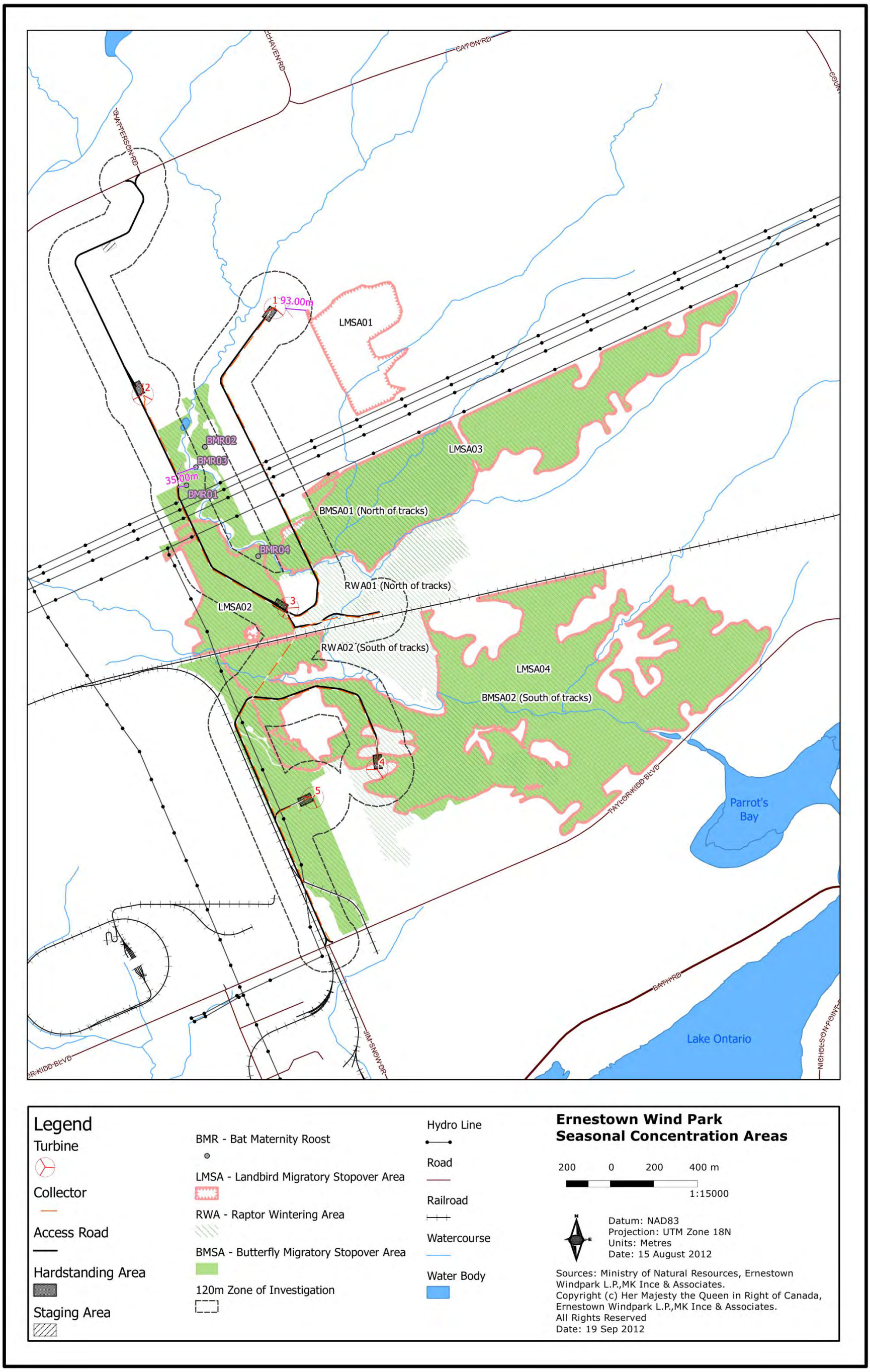


Figure 4-4: Candidate significant wildlife habitat for seasonal concentration areas of animals

Table 4-4: Assessment of wildlife habitats associated with seasonal concentration areas of animals

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID
		Assessment	cSWH Present (Yes/No)	
SEASONAL CONCENTRATION AREAS OF ANIMALS				
Waterfowl Stopover and Staging Areas (Terrestrial) (WSSA)	Fields with sheet water during the spring (mid-March to May) and with waste grains. Fields and ecosites with flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Species: American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall ELC Codes: MEM, THDM2-1, plus evidence of annual spring flooding from melt water or runoff within these Ecosites.	The agricultural fields within 120 m of the Project Location are used for the production of row crops (soybean). These fields are not flooded during the spring and do not provide foraging habitat for migrating waterfowl. The site investigations also identified twenty meadow communities (MEMM3) and five shrub/thicket communities (THDM2-4 and THDM4-1) within 120 m of the Project Location (**Figure 4-1**). The site investigations have determined that these communities are not flooded during the spring and do not provide foraging habitat for migrating waterfowl.	No	N/A
Waterfowl Stopover and Staging Areas (Aquatic) (WSSA)	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration, in any of the listed ecosites. Sewage treatment ponds and storm water ponds do not qualify as SWH, but a reservoir managed as a large wetland or pond/lake does. These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Species: Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Common Merganser, Lesser Scaup, Long-tailed Duck, Surf Scoter, White-winged Scoter, Black Scoter, Ring-necked duck, Common Goldeneye, Bufflehead, Redhead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback, Ruddy Duck ELC Codes: MAMR1, MAMM1, MAMO1, MAMM4, MAMM5, MAMM6, MASR1, MASM1, MASO1, SAS1, SAM1, SAF1, SWDM1, SWDM2, SWDM3, SWDM4, SWDO1, SWDO2, SWDO3	The site investigations identified four pond communities (SAS1 and OAO), thirteen marsh communities (MAMM1-3, MASM1-1, MASO1-4, MASO1-1), four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) and four tributaries of Lake Ontario within 120 m of the Project Location (**Figure 4-1**). The site investigations have determined that these communities do not have an abundant food supply (aquatic invertebrates and vegetation in shallow water) to provide foraging habitat for migrating waterfowl.	No	N/A
Shorebird Migratory Stopover Areas (SMSA)	Shorelines of lakes, rivers, and wetlands, including beach areas, bars and seasonally flooded shoreline, usually muddy and unvegetated, or the listed ELC ecosites. Rock groynes and other forms of armour rock lakeshores can be utilized. Species: Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden-plover, Seimpalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy Turnstone, Sanderling, Dunlin ELC Codes: SHOM1, SHOR2, SHSM1, SHSR1, SHTM1, SHTR2, SBOD1, SDS2, SBTD1, MAMR1, MAMM1, MAMO1, MAMM4, MAMM5	The Project Location is situated more than 1 km north of Lake Ontario. There are four tributaries of Lake Ontario that are within 120 m of the Project Location, however, the extent of these watercourse are vegetated and do not provide suitable habitat. The site investigations identified thirteen marsh communities (MAMM1-3, MASM1-1, MASO1-4, MASO1-1) within 120 m of the Project Location (**Figure 4-1**). These wetlands are not seasonally flooded and do not provide muddy and unvegetated shoreline habitats.	No	N/A
Raptor Wintering Areas (RWA)	Raptors require a combination of fields and woodlands that are >20 ha to provide roosting, foraging and resting habitat. Fields that are row-cropped are not candidate as they do not provide habitat to sustain rodent populations on which raptors feed. The combined habitat types must be connected and not separated by a barrier (road, railway). Species: Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl, Short-eared Owl ELC Codes: FOD, FOM, FOC, MEM, THDM2, TH, SV, WO (combination of ELC Community Series; need to have one Community Series from each land class	The site investigations identified fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4), four coniferous woodland communities (FOCM1-2, FOCM2-1), five shrub/thicket communities (THDM2-4 and THDM4-1) and seven cultural woodlands (WOCM1-1) within 120 m of the Project Location (**Figure 4-1**). The following combined communities and associated ELC IDs include woodlands that are >20 ha and adjacent upland cultural meadow, thicket and/or woodland communities that are > 15 ha. The following feature IDs have the potential provide candidate wintering areas for raptors: • **RWA01** – associated with woodlands WO04, WO06 and includes the following deciduous woodland communities: FODM7-6 (ELC ID: 35); FODM2-3 (ELC ID: 39); FODM9-4 (ELC	**Yes**	**RWA01** **RWA02**

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID
		Assessment	cSWH Present (Yes/No)	
	present).	ID: 41, 47, 57); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37); also includes the following 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). • **RWA02** – associated with woodland WO05-4 and WO13 and includes the following 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); also includes the following 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).		
Bat Hibernacula (BH)	Bats require caves or abandoned mines or the listed ecosites for successful hibernation. Species: Big Brown Bat, Little Brown Myotis, Eastern Pipistrelle/Tricoloured Bat, Northern Myotis, Eastern Small-footed Myotis ELC Codes: CCRK1, CCRN1, CCAK1, CCA2	The site investigations did not identify any caves, mine shafts, underground foundations and karsts within the vicinity of the Project Location (**Figure 4-1**). None of the requisite ELC communities were identified during the site investigation.	No	N/A
Bat Maternity Roosting Sites (BMR)	Bat maternity roost exist within tree cavities and vegetation within all ecosites of FOD or FOM. Qualifying forests contain a density of >10 large snags or cavity trees (>25 cm DBH) per hectare (OMNR, 2010). Species: Big Brown Bat, Little Brown Myotis, Silver-haired Bat, Northern Myotis ELC Codes: FOD, FOM	Site investigations conducted by AET in 2010, followed 2010 guidance documents (MNR's *Bat and Bat Habitats: Guidelines for Wind Power Projects*) for bat maternity roost area searches. During 2010 surveys all woodlands within 120m of the Project Location were searched for potential roosting sites. This survey information in conjunction with surveys conducted in 2009, identified four tree cavities. The following feature IDs have been identified as candidate significant bat maternity roosting sites: • **BMR01** – associated with FODM6-1 (ELC ID: 37) which is approximately 4.0 ha; cavity identified in White Ash tree in WO04 • **BMR02** – associated with FODM7-6 (ELC ID: 35) which is approximately 2.8 ha; cavity identified in Shagbark Hickory tree in WO04 • **BMR03** –associated with SWDM2-1 (ELC ID: 36) which is approximately 1.1 ha; cavity identified in White Oak tree in WO04 • **BMR04** – associated with FODM9-4 (ELC ID: 57) which is approximately 19 ha; cavity identified in Trembling Apen tree in WO06	**Yes**	**BMR01** **BMR02** **BMR03** **BMR04**
Bat Migratory Stopover Area (BSA)	Long distance migratory bats typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migrations concentrate these species of bats at stopover areas. The location and characteristics of stopover habitats are generally unknown. Species: Hoary Bat, Eastern Red Bat, Silver-haired Bat ELC Codes: None specified	There was no indication during the site investigations that suitable bat migratory stopover areas exist within the vicinity of the Project Location.	No	N/A
Turtle Wintering Areas (TWA)	Waterbodies, large wetlands and bogs and fens (see listed Community Classes and Series) with standing water deep enough to not freeze with soft mud substrates. Species: Midland Painted Turtle, Northern Map Turtle, Snapping Turtle ELC Codes: SW, MA, OA and SA; FEO, BOO	The site investigations identified two open water (OAO) communities (ELC IDs: 33, 61) that have suitable ELC classification for overwintering habitat for turtles (**Figure 4-1**). However, only one of these communities is within 120 m of the Project Location (ELC ID: 33). This open water community has permanent standing water and soft substrates suitable for burrowing; however, the depth of water was not deep enough not to freeze. Additionally, the water body is not a healthy environment to support aquatic fauna (highly contaminated from agricultural runoff).	No	N/A
Reptile Hibernaculum (RH)	Snake habitat may be found in any ecosite in central Ontario other than very wet ones. Talus, Rock Barren, Crevice and Cave and Alvar sites may be directly related to these habitats. Observations of congregations of snakes on sunny, warm days in the spring or fall are a good indicator. The existence of rock piles or slopes, stone fences and crumbling foundations assist in identifying candidate SWH. Species: Eastern Garternake, Northern Watersnake, Northern Red-bellied Snake,	The site investigations identified a snake hibernacula within the coniferous woodland (FOCM2-1; ELC ID: 63) located south of the CN Rail (**Figure 4-1**). This rock barren community type (less than 0.5 ha, therefore no ELC evaluation was performed) may provide suitable reptile hibernacula. An alvar community was also identified during the site investigations (RBOA1-2; ELC ID: 20). However, the site investigations did not identify any rock piles, burrows or fissures within the open dry pavement that would provide access to subterranean sites below the frost line. The following feature ID has been	**Yes**	**RH01** (classified as GcSWH – see **Table 4-5** and **Section 4.2.5.4** below)

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID
		Assessment	cSWH Present (Yes/No)	
	Northern Brownsnake, Smooth Green Snake, Northern Ring-necked Snake, Milksnake, Eastern Ribbonsnake, Five-lined Skink (southern shield population) ELC Codes (Snakes): All ecosites, except wet ones. ELC Codes (Five-lined Skink): FOD, FOM; FOCS1, FOCM3.	identified as a candidate significant reptile hibernacula site: • **RH01** – associated with rock barren ELC community type (however formal vegetation community		
Colonially-Nesting Bird Breeding Habitat (CNBBH)	**Bank and Cliff** Any site or areas with exposed soil banks, undisturbed or naturally eroding. Eroding banks, sandy hills, borrow pits, steep slopes and sand piles are needed for Bank Swallow and N. Rough-winged Swallow. Cliff faces, bridge abutments, silos, barns for Cliff Swallows. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas such as berms, embankments, soil or aggregate stockpiles. Species: Bank Swallow, Cliff Swallow, Northern Rough-winged Swallow ELC Codes: MEM, THDM2-1, SVDM3, BLOC1, BLSC1, BLTC1, CLOC1, CLSC1, CLTC1	The site investigations identified twenty meadow communities (MEMM3) and five shrub/thicket communities (THDM2-4 and THDM4-1) within 120 m of the Project Location (**Figure 4-1**). None of the listed ecosites have eroding banks, sand piles, steep slopes or sandy hills suitable for colonial breeding bird species that nest on banks and cliffs.	No	N/A
	Tree/Shrubs Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11-15 m from the ground, near the top of the tree. Species: Great Blue Heron, Black-crowned Night-heron, Great Egret, Green Heron ELC Codes: SWM2, SWM3, SWM5, SWM6, SWDM1, SWDM2, SWDM3, SWDM4, SWDO1, SWDO2, SWDO3, FETC1	The site investigations identified four deciduous swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) within 120 m of the Project Location (**Figure 4-1**). No nests or heronries were found in any of the listed ecosites.	No	N/A
	Ground Any rocky island or peninsula (natural or artificial) within a lake or large river. Close proximity to watercourses in open fields or pasture with scattered trees or shrubs. Habitat also included listed ecosites. Species: Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird ELC Codes: MAMR1, MAMM1, MAMO1, MAMM4, MAMM5, MAMM6, MASR1, MASM1, MASO1, MEM, TH, SV	The site investigations identified thirteen marsh communities (MAMM1-3, MASM1-1, MASO1-4, MASO1-1), twenty meadow communities (MEMM3) and five shrub/thicket communities (THDM2-4 and THDM4-1) within 120 m of the Project Location (**Figure 4-1**). There are also four watercourses that are within 120 m of the Project Location. There were no islands or peninsulas associated with open water or in marshy ares that may provide suitable nesting habitat.	No	N/A
Migratory Butterfly Stopover Areas (BMSA)	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. Species: Painted Lady, White Admiral, Monarch ELC Codes: MEM, TH, SV, FOC, FOD, FOM, CUP	The Project Location is situated approximately 1 km north of Lake Ontario. The site investigations identified twenty meadow communities (MEMM3), five shrub/thicket communities (THDM2-4 and THDM4-1), fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4) and four coniferous woodland communities (FOCM1-2, FOCM2-1) within 120 m of the Project Location (**Figure 4-1**). The following combined communities and associated ELC IDs include woodlands and adjacent upland habitat that is > 10 ha. The following feature IDs have the potential provide significant migratory butterfly stopover areas: • **BMSA01** – associated with woodlands WO04, WO06 and includes the following 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); FODM6-1 (ELC ID: 37); also includes the following upland cultural meadow and thicket communities: MEMM3 (ELC IDs: 40, 42, 43, 45, 48, 49, 51, 52, 53) and THDM2-4 (ELC ID: 34). **BMSA02** – associated with woodland WO05-4 and WO13 and includes the following deciduous and coniferous woodland communities: FODM7-1 (ELC ID: 68, 84), FODM7-2	**Yes**	**BMSA01** **BMSA02**

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID
		Assessment	cSWH Present (Yes/No)	
		(ELC IDs: 66, 74, 82), FOCM1-2 (ELC ID: 63) and FOCM2-1 (ELC IDs: 64, 71, 72); also includes the following upland cultural meadow and thicket communities: MEMM3 (ELC ID: 67), THDM2-4 (ELC IDs: 76, 78).		
Landbird Migratory Stopover Areas (LMSA)	Woodlands need to be >10 ha and within 5 km of Lake Ontario. ELC Codes: FOC, FOD, FOM, SWC, SWM, SWD	The Project Location is situated approximately 1 km north of Lake Ontario. The site investigations identified fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4), four coniferous woodland communities (FOCM1-2, FOCM2-1), seven (7) cultural woodlands (WOCM1-1) and four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) within 120 m of the Project Location (**Figure 4-1**). The following feature IDs have the potential to provide significant landbird migratory stopover area: • **LMSA01** – associated with FODM6-4 (ELC ID: 26) which is identified as woodland WO03 in this report (**Section 4.2.4**) • **LMSA02** – associated with FODM9-4 and SWDM2-2 (ELC IDs: 57 and 60 respectively) which are identified as part of woodland WO06 (**Section 4.2.4**). The wetland community (SWDM2-2) are also identified as WE05-4 in this report (**Section 4.2.3**) • **LMSA03** – associated with FODM2-3 (ELC ID: 39) which is identified as part of woodland WO06 in this report (**Section 4.2.4**) • **LMSA04** – associated with FOCM1-2 (ELC ID: 63), FOCM2-1 (ELC IDs: 64, 71, 72), FODM7-1 (ELC ID: 68) and FODM7-2 (ELC ID: 74) which are found within woodland WO05-4 (**Section 4.2.4**)	**Yes**	**LMSA01** **LMSA02** **LMSA03** **LMSA04**
Deer Yarding Areas (DYA)	NOTE: This habitat type is determined by the MNR.	No deer yarding areas were identified by the MNR.	No	N/A
Deer Winter Congregation Areas (DWCA)	Species: White-tailed Deer ELC Codes: FOC, FOD, FOM, SWC, SWM, SWD	No deer winter congregation areas were identified by the MNR.	No	N/A

Table 4-5: Candidate wildlife habitat associated with seasonal concentration areas of animals

Feature		Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
Description	**ID**		**Size**	**ELC Community / ELC ID (Figure 4.1, Section 4.1)**		
SEASONAL CONCENTRATION AREAS OF ANIMALS						
Raptor Wintering Areas (RWA)	RWA01	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	119 ha	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.	Woodland (WO04, WO06)
	RWA02	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	158 ha	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).		Woodland (WO05-4, WO13)
Bat Maternity Roosting Sites (BMR)	BMR01	Access Road (35m) Collector (40m)	4.0 ha	Associated with FODM6-1 (ELC ID: 37); cavity identified in White Ash tree in WO04	Individual tree cavities may provide suitable maternity roosts. Tree cavities identified during area searches will be used to determine if maternity roosting sites exist in the *Evaluation of Significance Report.*	Woodland (WO04)
	BMR02	N/A	2.8 ha	Associated with FODM7-6 (ELC ID: 35); cavity identified in Shagbark Hickory tree in WO04		Woodland (WO04)
	BMR03	Access Road (93m) Collector (91m)	1.1 ha	Associated with SWDM2-1 (ELC ID: 36); cavity identified in White Oak tree in WO04		Woodland (WO04)
	BMR04	N/A	19 ha	Associated with FODM9-4 (ELC ID: 57); cavity identified in Trembling Apen tree in WO04		Woodland (WO06)
Reptile Hibernaculum (RH)	RH01 **(classified as GcSWH given distance to project component within 120 m)**	Collector (18m)	0.1 ha	No ELC community mapped given small area (< 0.5 ha) of rock barren.	Rock barren may provide suitable snake hibernaculum.	Wetland (WE05-4)
Migratory Butterfly Stopover Areas (BMSA)	BMSA01	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	98 ha	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.	Woodland (WO04, WO06)
	BMSA02	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	136 ha	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).		Woodland (WO05-4, WO13)
Landbird Migratory Stopover Areas (LMSA)	LMSA01	Bladeswept area (93m)	16 ha	**Dominant Vegetation**: Sugar Maple, American Elm, Basswood, Eastern Hemlock, Eastern White Pine **ELC Community/ID**: 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.	Woodland (WO03)
	LMSA02	Access Road (0m)	20 ha	**Dominant Vegetation**: Shagbark Hickory, Sugar Maple, Green Ash, Eastern Cottonwood , American		Woodland (WOO6)

Feature		Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
Description	ID		Size	ELC Community / ELC ID (Figure 4.1, Section 4.1)		
		Collector (0m) Hardstand (0m) Turbine (0m)		Elm, Bitternut Hickory, Eastern Red Cedar, Eastern White Pine **ELC Communities:** FODM9-4 (57) and SWDM2-2 (ELC ID: 60)		Wetland (WE05-4)
	LMSA03	Access Road (0m) Collector (0m) Bladeswept area (107m)	64 ha	**Dominant Vegetation**: Shagbark Hickory, Sugar Maple, Green Ash, Eastern Cottonwood , American Elm, Bitternut Hickory, Eastern Red Cedar, Eastern White Pine **ELC Communities:** FODM2-3 (ELC ID: 39)		Woodland (WOO6)
	LMSA04	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	126 ha	**Dominant Vegetation**: American Elm, Green Ash, Eastern Red Cedar, Eastern White Pine, White Spruce **ELC Communities:** FOCM1-2 (ELC ID: 63), FOCM2-1 (ELC IDs: 64, 71, 72), FODM7-1 (ELC ID: 68) and FODM7-2 (ELC ID: 74)		Woodland (WO05-4)

4.2.5.2 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 *Draft Significant Wildlife Habitat Ecoregion 6E Criteria Schedules* (MNR, 2012) identifies seven (7) types of rare vegetation communities and seven (7) types of specialized habitat for wildlife found within Ecodistrict 6E. The following table (**Table 4.6**) describes each of these habitat types and a determination on whether they are present within 120 m of the Project Location. The habitat types that have been verified within 120 m of the Project Location are further described in **Table 4.7**, including information on the type, attributes, composition, function and minimum distance of each habitat type to the Project components. A map showing the candidate rare vegetation communities or specialized habitat for animals are provided in **Figure 4-4**.

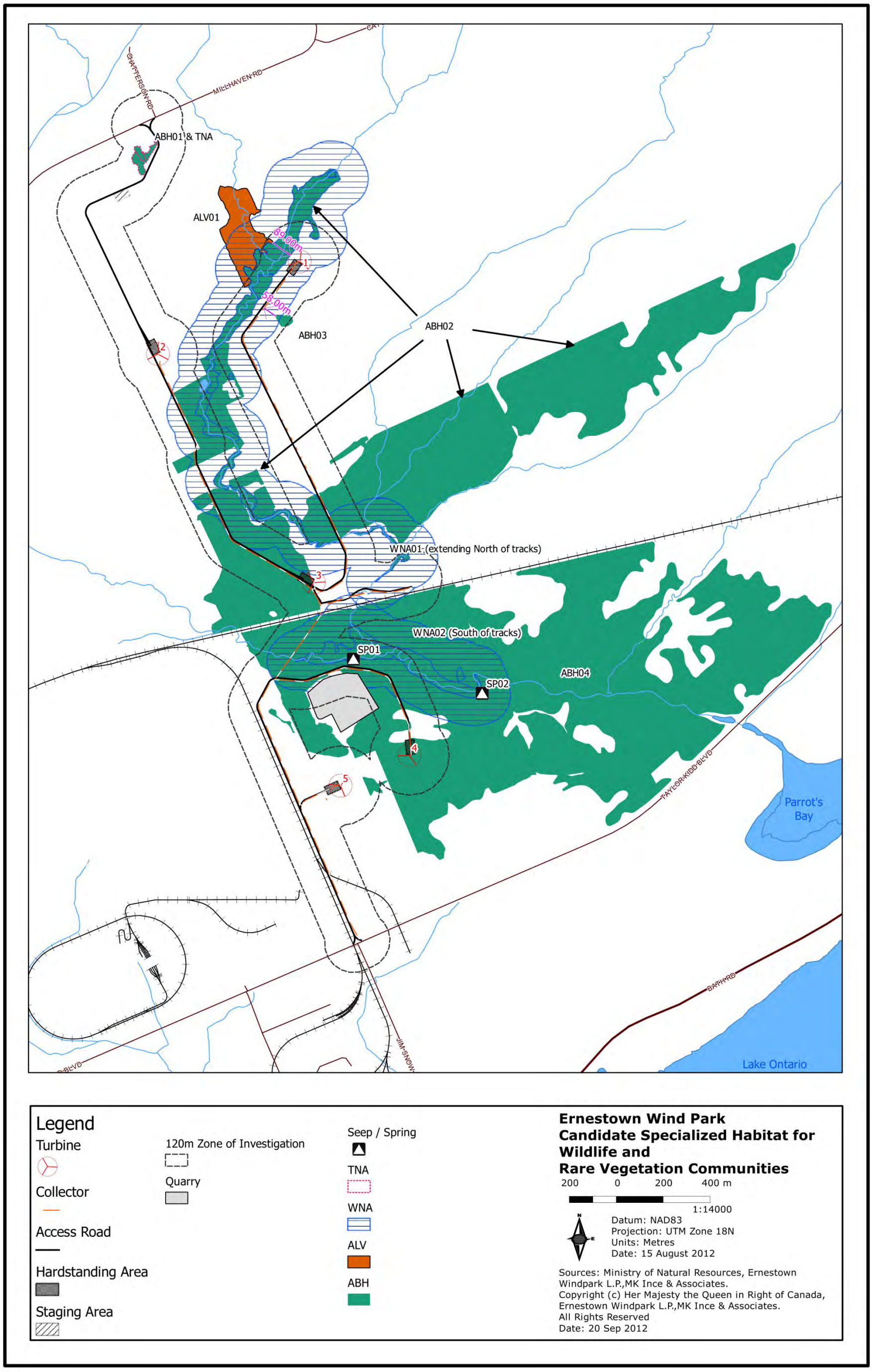


Figure 4-5: Candidate significant wildlife habitat for rare vegetation communities and specialized habitat

Table 4-6: Assessment of wildlife habitat for rare vegetation communities and specialized habitat for wildlife

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID/ELC ID
		Assessment	cSWH Present (Yes/No)	
RARE VEGETATION COMMUNITIES				
Alvars (ALV)	A level, mostly unfractured calcareous flat bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Vegetation is composed of sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Vegetation cover varies from patchy to barren with a less than 60% tree cover. An alvar that is >0.5 ha is considered cSWH. ELC Codes: RBOA1, RBSA1, RBTA1, FOCS1, FOCM2, MEM2, CUS2, CUT2-1, RBTA1	The site investigations identified one alvar community (RBOA1-2) within 120 m of the Project Location (**Figure 4-1**). • **ALV01** – associated with RBOA1-2 (ELC ID: 20); this feature ID is approximately 4.7 ha and is considered a cSWH type as it meets the size criteria.	**Yes**	**ALV01**
Cliffs and Talus Slopes (CTS)	A cliff is vertical to near vertical bedrock greater than 3 m in height. A Talus slope is rock rubble at the base of a cliff made up of coarse rocky debris, or is one of the listed ecosites. Most occur along the Niagara Escarpment. ELC Codes: TAO, TAS, TAT, CLO, CLS, CLT	The site investigations did not identify any talus slopes or cliffs within 120 m of the Project Location. None of the requisite ELC communities were identified during the site investigations.	No	N/A
Sand Barrens (SB)	Exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but <60%. . Vegetation low and patchy. Typical species: Bracken Fern, Hay Sedge, Deep-green Sedge, New Jersey Tea. Ecosites for sand barrens are SBO1, SBS1 or SBT1.	The site investigations did not identify any sand barrens within 120 m of the Project Location. None of the requisite ELC communities were identified during the site investigations and no evidence of sandy soil with sparse vegetation and exposed bedrock were found.	No	N/A
Tall-grass Prairies (TGP)	Naturally open areas containing <25% trees and a ground cover dominated by prairie grasses and forbs, identifiable by a number of indicator species. ELC Codes: TPO1, TPO2	The site investigations did not identify any tallgrass prairies within 120 m of the Project Location. None of the requisite ELC communities were identified during the site investigations. There were no tallgrass indicator species identified within the twenty meadow communities (MEMM3) identified during the site investigations (**Figure 4-1**).	No	N/A
Savannahs (SAV)	Tallgrass prairie habitat that has tree cover between 25-60%, or listed ecosites. Remnant sites such as railway right of ways are not considered SWH. ELC Codes: TPS1, TPS2, WODM1, WODM6, CUS2	The site investigations did not identify any savannahs within 120 m of the Project Location (**Figure 4-1**). None of the requisite ELC communities were identified during the site investigations.	No	N/A
Old Growth Forest (OGF)	Forests characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris. Stands > 30 has or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. ELC Codes: FOC, FOC and FOM.	The site investigations identified fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4) and four coniferous woodland communities (FOCM1-2, FOCM2-1) within 120 m of the Project Location (**Figure 4-1**). The only communities that are >30 ha include: FODM2-3 and FOCM2-1 (ELC IDs: 39 and 72, respectively). FODM2-3 is 31 ha and has approximately 18 ha of interior forest (based on a 100 m buffer from the edge) and FOCM2-1 (ELC ID:72) is 38 ha with approximately 11 ha of interior habitat. However, none of these communities are considered to be old-growth (>140 years of age).	No	N/A
Other Rare Vegetation Communities (ORVC)	Provincially rare vegetation communities (i.e., assigned an Srank of S1, S2 or S3) may include beaches, fens, forest, marsh, barrens, dunes and swamps. Appendix M of the SWHTG (MNR, 2000) and Biodiversity Explorer plant database (NHIC, 2012) should be consulted to determine the provincial Srank of a vegetation community. ELC Codes: None specified	Appendix M of the SWHTG (MNR, 2000) and Biodiversity Explorer plant database (NHIC, 2012) were consulted to determine if any of the vegetation communities identified during the site investigation are considered provincially rare. The site investigations identified a Dry Annual Open Alvar Pavement Type (RBOA1-2; ELC ID: 20) within 120 m of the Project Location (**Figure 4-1**). The SWHTG (MNR, 2000) identifies this ecosite as a provincially rare (S1) vegetation community. However, the Biodiversity Explorer plant database (NHIC, 2012) did not have this vegetation type listed on their website. This vegetation community is an alvar. Please refer to ALV01 for reference to this feature. There were no other rare vegetation communities identified within 120 m of the Project Location, based	No	N/A

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID/ELC ID
		Assessment	cSWH Present (Yes/No)	
		on the list for Picton Ecodistrict 6E-15 (NHIC, 2012; Henson and Brodribb, 2005).		
SPECIALIZED HABITAT FOR WILDLIFE				
Waterfowl Nesting Areas (WNA)	A waterfowl nesting area extends 120 m from a wetland or cluster of 3 or more small wetlands (>0.5 ha) where waterfowl nesting is known to occur. Upland areas should be at least 120 m wide. Waterfowl require upland habitats located adjacent to listed wetland ELC ecosites, including adjacency to PSW. Species: American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Mallard ELC Codes: Upland habitats adjacent to MASR1, MASM1, MASO1, SAS1, SAM1, SAF1, MAMR1, MAMM1, MAMO1, MAMM4, MAMM5, MAMM6, SWTR1, SWTM1, SWDM1, SWDM2, SWDM3, SWDM4	The site investigations identified the following wetland communities within 120 m of the Project Location: SAS1, MAMM1-3, MASM1-1, MASO1-4, MASO1-1, SWDM2-1, SWDM2-2 and SWDO1-2) (**Figure 4-1**). The upland communities found within 120 m of these wetlands include: FOCM1-2, FOCM2-1, FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4, WOCM1-1, THDM2-4 and MEMM3 (**Figure 4-1**). The following feature IDs have been identified: • **WNA01** – associated with the following wetlands: WE02 (SAS1, MAMM1-3 and SWDM2-2; ELC IDs: 12, 22 and 23, respectively), WE04 (MASM1-1, OAO and SWDM2-1 (ELC IDs: 32, 33 and 36, respectively), WE05-2 (MAMM1-3; ELC IDs: 38, 44,50), WE09 (MAMM1-3; ELC ID: 55) and WE10 (SWD01-2, MAS01-4 and MASO1-1; ELC IDs: 28, 29 and 30, respectively). The following upland communities are within 120 m of these wetlands: WO04 (FODM7-6, FODM6-1; ELC IDs: 35, 37), WO06 (FODM2-3; ELC ID: 39, FODM9-4; ELC IDs: 41, 47, 57 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). • **WNA02** – associated with the following wetland: WE05-6 (MASM1-1; ELC ID: 65). The following upland communities are within 120 m of these wetlands: WO05-4 (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).	**Yes**	**WNA01** **WNA02**
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat (BEOH)	Forest communities (FOD, FOM, FOC, SWD, SWM and SWC) directly adjacent to riparian areas: rivers, lakes, ponds, and wetlands. Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands , or on structures over water. Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Species: Bald Eagle, Osprey ELC Codes: FOD< FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	The site investigations identified fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4), four coniferous woodland communities (FOCM1-2, FOCM2-1) and four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) within 120 m of the Project Location (**Figure 4-1**). There were no stick nests identified in these communities during the site investigations.	No	N/A
Woodland Raptor Nesting Habitat (WRNH)	May be found in all forested ELC ecosites. May also be found in SWC, SWM, SWD and CUP3. Raptors require forested areas for breeding as they construct stick nests within trees. All natural or conifer plantation woodland/forest stands >30 ha with >10 ha of interior habitat. Interior habitat determined by a 200 m buffer. Species: Northern Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk ELC Codes: May be found in all forested (FO) ecosites and SWC, SWM, SWD and CUP3	The site investigations identified ten woodlands within 120 m of the Project Location (WO03, WO04, WO05-1, WO05-2, WO05-3, WO05-4, WO05-5, WO06, WO07) (**Figure 4-3**), comprised of fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4), four coniferous woodland communities (FOCM1-2, FOCM2-1) and four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) (**Figure 4-1**). The only communities that are >30 ha include: FODM2-3 (ELC ID: 39) which is 31 ha and FOCM2-1 (ELC ID:72) which is 38 ha. Neither of these woodlands and associated vegetation communities provide >10 ha of interior forest habitat based on a 200 m buffer from the edge.	No	N/A
Turtle Nesting Areas (TNA)	Turtles require exposed mineral soil (sand or gravel) areas that are well drained and are exposed to the sun and adjacent (<100m) or within the listed ecosites for nesting. Species: Midland Painted Turtle, Northern Map Turtle, Snapping Turtle ELC Codes: MAMM1, MAMO1, MAMM4, MAMM5, MAMM6, SAS1, SAM1, SAF1, BOOG1, FEOG1	The site investigations identified two submerged shallow aquatic communities (SAS1) and thirteen marsh communities (MAMM1-3, MASM1-1, MASO1-4, MASO1-1) within 120 m of the Project Location (**Figure 4-1**). There was one suitable ELC community that provides the appropriate conditions (sand and gravel) for turtles to dig in for nesting purposes. The following suitable turtle nesting area with exposed mineral soils include: • **TNA01** – associated with wetland WE08 and includes a submerged shallow aquatic community and marsh community: SAS1 and MAMM1-3 (ELC IDs: 10 and 11, respectively); this feature ID is approximately 0.60 ha.	**Yes**	**TNA01**
Seeps and	Seeps/Springs are areas where ground water comes to the surface. Often they are	The site investigations identified two seeps (SP01 and SP02) FOCM2-1 (ELC IDs: 72) located south of	**Yes**	**SP01**

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID/ELC ID
		Assessment	cSWH Present (Yes/No)	
Springs (SP)	found within headwater areas within forested habitat. Any forested ecosite within the headwater areas of a stream could have seeps/springs. Species: Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp. ELC Codes: Headwater areas within forested habitats	the CN Rail. SP01 is found within 120 m of the Project Location. The second seep (SP02) is located beyond 120 m from the Project Location; however, both seeps are associated with the same contiguous vegetation communities and have been considered as candidate significant specialized wildlife habitat. One additional seep was identified, however this other seep is not located in a forested area. Please refer to the *Water Assessment Report* for information on this additional seep. The following feature IDs have been identified: • **SP01** – associated with woodland WO05-4 (FOCM2-1; ELC ID: 72) • **SP02** – associated with woodland WO05-4 (FOCM2-1; ELC ID: 72)		**SP02**
Amphibian Breeding Habitat (ABH) – Woodlands / Wetlands	**Woodlands** Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians. All ecosites associated with the listed Community Series. Amphibians require areas with standing water that persists throughout the spring months. Areas associated (<120 m) with ponds are considered woodland pools. Species: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog (Great Lakes / St. Lawrence / Canadian Shield Population), Wood Frog ELC Codes: FOC, FOM, FOD, SWC, SWM, SWD	The site investigations identified fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4), four coniferous woodland communities (FOCM1-2, FOCM2-1) and four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) within 120 m of the Project Location (**Figure 4-1**). • **ABH02** – associated with wetland WE02 (MAMM1-3 and SWDM2-2; ELC IDs: 22 & 23 respectively), WE04 (SWDM2-1, OAO, and MASM1-1; ELC IDs: 32, 33 & 36 respectively), WE05 (MAMM1-3; ELC IDs: 38,44 & 50), WE09 (MAMM1-3; ELC ID: 55), WE05-4 (SWDM2-2, and OAO; ELC IDs: 60 & 61 respectively) and woodlands 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)], WO04 [FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)] • **ABH03** – associated with wetland WE10 and WO15 (SWDO1-2, MASO1-1 and MASO1-4; ELC IDs: 28,29 & 30, respectively) • **ABH04 –** associated with wetland 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) and woodland 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 IDs: 62, 73, 75, 79)]	**Yes**	**ABH02** **ABH03** **ABH04**
Amphibian Breeding Habitat (ABH) – Wetlands	**Wetlands** Wetlands and pools (including vernal pools) >500 m^2 (0.05 ha) isolated from woodlands (>120 m), supporting high species diversity are significant. The presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Species: Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog (Great Lakes / St. Lawrence / Canadian Shield Population), Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bullfrog ELC Codes: SW, MA, FE, BO, OA and SA.	The site investigations identified four pond communities (SAS1 and OAO), thirteen marsh communities (MAMM1-3, MASM1-1, MASO1-4, MASO1-1) and four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) within 120 m of the Project Location (**Figure 4-1**). • **ABH01** – associated with wetland WE08 (SAS1 and MAMM1-3; ELC IDs: 10 and 11, respectively). This wetland is isolated and >120 m from a woodland.	**Yes**	**ABH01**

Table 4-7: Candidate rare vegetation communities and specialized habitat for wildlife

Feature		Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
Description	ID		Size	Characteristics ELC Community / ELC ID (Figure 4.1, Section 4.1)		
RARE VEGETATION COMMUNITIES and SPECIALIZED HABITAT FOR WILDLIFE						
Alvar (ALV)	ALV01	Access Road (100m) Hardstand (113m) Bladeswept area (92m) Collector (108)	4.7 ha	Dry Annual Open Alvar Pavement Type (RBOA1-2) (ELC ID: 20)	Exposed bedrock and alvar plant species observed.	N/A
Waterfowl Nesting Areas (WNA)	WNA01	Access Road (0m) Collector (0m) Hardstand (6m) Bladeswept area (0m)	87ha	Wetland Communities: WE02 (SAS1, MAMM1-3 and SWDM2-2; ELC IDs: 12, 22 and 23, respectively), WE04 (MASM1-1, OAO and SWDM2-1 (ELC IDs: 32, 33 and 36, respectively), WE05-2 (MAMM1-3; ELC IDs: 38, 44,50), WE09 (MAMM1-3; ELC ID: 55) and WE10 (SWD01-2, MAS01-4 and MASO1-1; ELC IDs: 28, 29 and 30, respectively). Upland Communities: WO04 (FODM7-6, FODM6-1; ELC IDs: 35, 37), WO06 (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.	Wetlands (WE02, WE04, WE05-2, WE09, WE10) Woodlands (WO04, WO06)
	WNA02	Access Road (0m) Collector (0m)	33ha	Wetland Communities: WE05-6 (MASM1-1; ELC ID: 65). Upland Communities: WO05-4 (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).		Wetlands (WE05-6) Woodland (WO05-4)
Turtle Nesting Areas (TNA)	TNA01	Access Road (1m) Staging Area (84m)	0.6 ha	Submerged Shallow Aquatic Ecosite (SAS1) and Reed-canary Grass Graminoid Mineral Meadow Marsh Type (MAMM1-3) (ELC IDs: 10 & 11, respectively)	An area for turtles to dig in, composed of sand and gravel substrate, which provides nesting habitat.	Wetland (WE08)
Seeps and Springs (SP)	SP01	Access Road (29m) Collector (29m)	n/a - point feature	Woodland community: 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).	Woodland (WO05-4)
	SP02	N/A				
Amphibian Breeding Habitat – Woodlands (ABH)	ABH02	Access Road (62m) Collector (60m)	103 ha	Wetland Communities: WE02 (MAMM1-3 and SWDM2-2; ELC IDs: 22 & 23 respectively), WE04 (SWDM2-1, OAO, and MASM1-1; ELC IDs: 32, 33 & 36 respectively), WE05 (MAMM1-3; ELC IDs: 38,44 & 50), WE09 (MAMM1-3; ELC ID: 55), WE05-4 (SWDM2-2, and OAO; ELC IDs: 60 & 61 respectively) Woodland Communities: 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)], WO04 [FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)]	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.	Wetland (WE02, WE04, WE05, WE09, WE05-4) Woodland (WO06, WO04)
	ABH03	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	0.28 ha	Wetland Community: WE10 (SWDO1-2, MASO1-1 and MASO1-4; ELC IDs: 28,29 & 30, respectively) Woodland Community: WO15 (SWD01-2; ELC ID: 28)		Wetland (WE10) Woodland (WO15)
	ABH04	Access Road (0m) Collector (0m) Hardstand (0m)	154 ha	Wetland Community: 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)		Wetland (WE05-6, WE05-10, WE05-15, WE05-16) Woodland (WO05-4)

Feature		Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
Description	**ID**		**Size**	**Characteristics** **ELC Community / ELC ID** **(Figure 4.1, Section 4.1)**		
		Turbine (0m)		Woodland Community: 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 IDs: 62, 73, 75, 79)]		
Amphibian Breeding Habitat – Wetlands (ABH)	ABH01	Access Road (1m) Staging Area (84m)	0.60 ha	Wetland Community: 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.	Wetland (WE08)

4.2.5.3 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 fey ecological function to enable wildlife to move, with minimum mortality, between areas of significant wildlife habitat or core natural areas

The *Draft Significant Wildlife Habitat Ecoregion 6E Criteria Schedules* (MNR, 2012) identifies six (6) types of habitats of species of conservation concern and two (2) animal movement corridors, including a description of wildlife habitat, species and criteria for determining significance. The following table (**Table 4.8**) describes each of these habitat types and a determination on whether they are present within 120 m of the Project Location. The habitat types that have been verified within 120 m of the Project Location are further described in **Table 4.9**, including information on the type, attributes, composition, function and minimum distance of each habitat type to the Project components. A map showing the candidate habitats of species of conservation concern and animal movement corridors are provided in **Figure 4-6**.

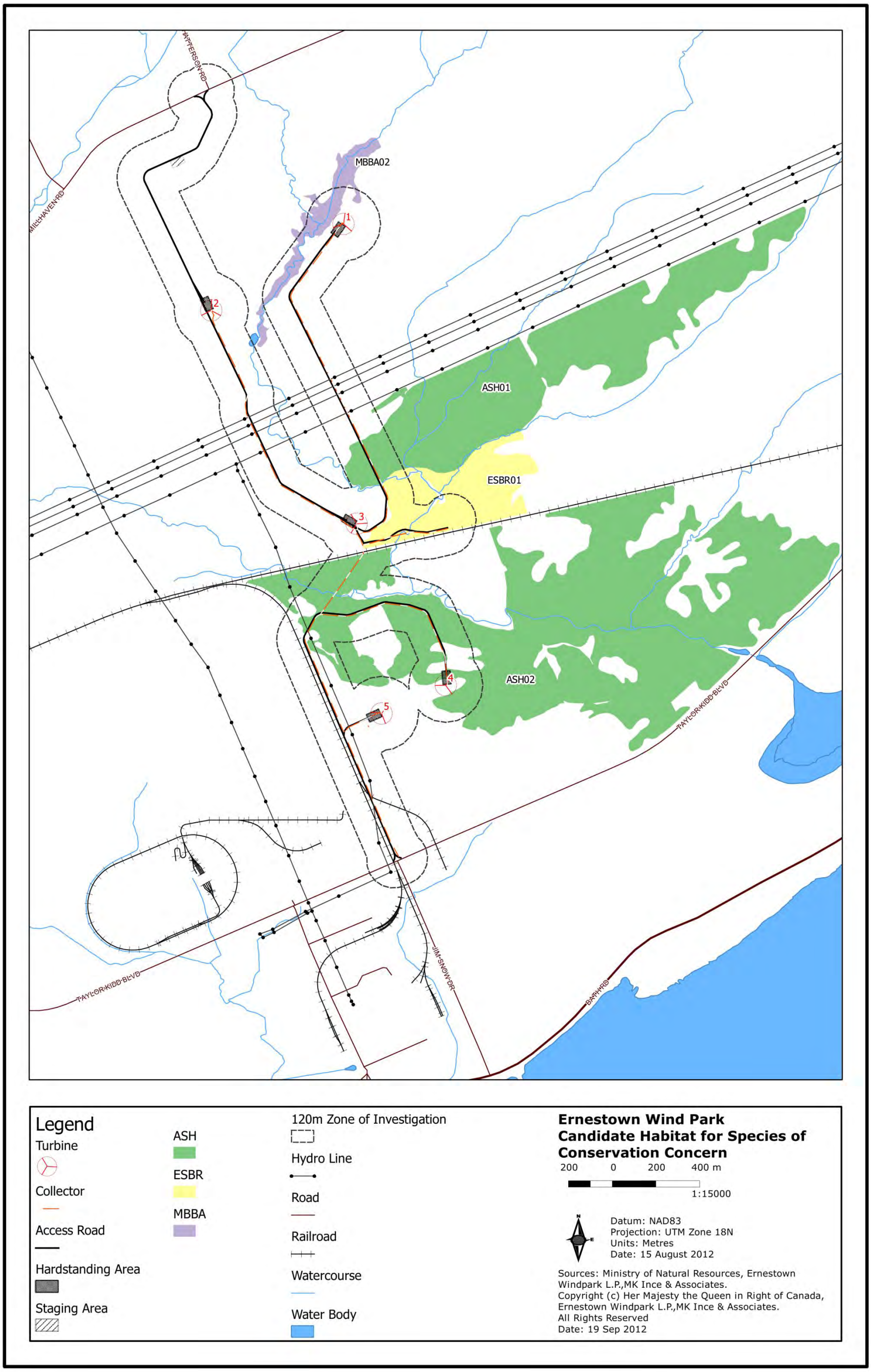


Figure 4-6: Candidate significant wildlife habitat for species of conservation concern and animal movement corridors

Table 4-8: Assessment of wildlife habitats associated with habitat for species of conservation concern and animal movement corridors

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID/ELC ID
		Assessment	cSWH Present (Yes/No)	
Habitats of Species of Conservation Concern				
Marsh Bird Breeding Areas (MBBA)	Marsh birds require shallow wetlands or any of the listed ecosites with shallow water for foraging, as well as sufficient emergent aquatic vegetation for cover (OMNR, 2012). For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. Species: American Bittern, Virginia Rail, Sora, Common Moorhen, American Coot, Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Sandhill Crane, Green Heron, Trumpeter Swan, Black Tern, Yellow Rail ELC Codes: MAMR1, MAMM1, MAMO1, MAMM4, MAMM5, MAMM6, SAS1, SAM1, SAF1, BOOG1, FEOG1; Green Heron (SW, MA and MEM sites)	The site investigations identified two submerged shallow aquatic communities (SAS1), thirteen marsh communities (MAMM1-3, MASM1-1, MASO1-4, MASO1-1), four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) and twenty meadow communities (MEMM3) within 120 m of the Project Location (**Figure 4-1**). Two candidate habitats were identified. No other communities provide shallow water and emergent aquatic vegetation. The following marsh breeding bird areas have been identified: • **MBBA01** – associated with wetland WE08 and includes two vegetation communities: SAS1 and MAMM1-3 (ELC IDs: 10 and 11, respectively); this feature ID is approximately 0.60 ha. • **MBBA02** – includes two wetland communities (submerged shallow aquatic and marsh) which are associated with wetland WE02: SAS1 and MAMM1-3 (ELC IDs: 12 and 22, respectively). Also included within this feature ID are two meadow communities that may provide Green Heron habitat as they are in close proximity to a watercourse: MEMM3 (ELC IDs: 21, 25); this feature ID is approximately 7.2 ha	**Yes**	**MBBA01** (classified as GcSWH – see **Table 4-9** and **Section 4.2.5.4** below) **MBBA02**
Woodland Area-Sensitive Bird Species (ASH)	Area-sensitive forest bird species require larger tracts of interior forest habitat which are typically >60 years of >30 ha for breeding. Interior forest habitat is at least 200 m from forest the forest edge. Species: Yellow-bellied Sapsucker, Red-breasted Nuthatch, Veery, Blue-headed Vireo, Northern Parula, Black-throated Green Warbler, Blackburnian Warbler, Black-throated Blue Warbler, Ovenbird, Scarlet Tanager, Winter Wren, Canada Warbler ELC Codes: FOC, FOC, FOM, SWC, SWM, SWD.	The site investigations identified fourteen deciduous woodland communities (FODM2-3, FODM6-1, FODM7-1, FODM7-2, FODM7-6, FODM9-4), four coniferous woodland communities (FOCM1-2, FOCM2-1) and four swamp communities (SWDM2-1, SWDM2-2, SWDO1-2) within 120 m of the Project Location (**Figure 4-1**). The WOCM1-1 communities were excluded from the calculations in determining interior forest habitat as these are considered cultural woodlands with gaps in canopy cover that are approximately 40-60%. The following woodland area-sensitive bird species habitats (ASH) have been identified as they meet the habitat and size requirements: • **ASH01** - associated with woodland WO06, located north of the CN Rail, and includes the following vegetation community: FODM7-6 (ELC ID: 39). This woodland is 64 ha in size and provides approximately 0.0023 ha of interior forest habitat based on a 200 m buffer from the edge. • **ASH02** – associated with woodland WO05-4 and WO13, located south of the CN Rail, and includes the following four woodland communities: FOCM1-2 (ELC ID: 63), FOCM2-1 (ELC IDs: 64, 71, 72), FODM7-1 (ELC ID: 68) and FODM7-2 (ELC IDs: 66, 74). These combined vegetation communities are 132 ha in size and provide approximately 0.0031 ha of interior forest habitat based on a 200 m buffer from the edge.	**Yes**	**ASH01** **ASH02**
Open Country Breeding Bird Habitat (OCBB)	Large grasslands, pasturelands, or hayfields (OAGM4) that have matured (no row cropping or intensive livestock during past five years) and are >30 ha in size (OMNR, 2012). Species: Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl ELC Codes: MEM	The site investigations identified twenty (20) meadow communities (MEMM3) within 120 m of the Project Location (**Figure 4-1**). Of these, only one of the communities meets the size criterion: MEMM3 (ELC ID:80); this feature ID is identified as OCBB01 and is approximately 126.14 ha in size. All of the agricultural fields within 120 m of the Project Location are actively used for the production of row crops and do not provide suitable habitat.	**Yes**	**OCBB01** (classified as GcSWH – see **Table 4-9** and **Section 4.2.5.4** below)
Shrub/Early Successional Bird Breeding Habitat (ESBR)	Large field areas succeeding to shrub and thicket habitats > 10 ha in size. Shrub land or early successional field, not class 1 or 2 agricultural lands, not being actively used for farming. Species: Brown Thrasher, Clay-coloured Sparrow, Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler ELC Codes: THDM2-1, CUT2, SVDM3, CUS2, WOCM1, RBTA1	The site investigations identified five shrub/thicket communities (THDM2-4 and THDM4-1) and seven cultural woodlands (WOCM1-1) within 120 m of the Project Location (**Figure 4-1**). Of these, only two of the communities meets the size criterion: • **ESBR01** – includes one vegetation community: WOCM1-1 (ELC ID: 56). This cultural woodland is 20 ha in size. • **ESBR02** - includes one vegetation community: WOCM1-1 (ELC ID: 62). This cultural woodland is 13 ha in size.	**Yes**	**ESBR01** **ESBR02** (classified as GcSWH – see **Table 4-9** and **Section 4.2.5.4** below)
Terrestrial Crayfish Habitat	Terrestrial Crayfish are only found within southwestern Ontario in Canada and their habitats are very rare (MNR, 2012).	The Project Location is not situated in southwestern Ontario. Therefore, this habitat type was not considered.	No	N/A

SWH types (Ecoregion 6E Criteria Schedules)	Habitat Criteria / Requisite ELC Codes	Site Investigation Results		cSWH Feature ID/ELC ID
		Assessment	cSWH Present (Yes/No)	
(TCH)	Species: Chimney or Digger Crayfish, Devil Crayfish or Meadow Crayfish ELC Codes: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3			
Special Concern and Rare Wildlife Species (SCRWS)	Rare plant and animal species (S1-S3) may be present in a variety of habitats within or near the Project Location. All plant and animal element occurrences (EO) within a 1 or 10 km grid.	During the site investigation, there was one observation of rare plant and animal species (S1-S3). A single monarch butterfly was observed within ELC community MEMM3 (ELC ID: 21). Despite this incidental observation of a single monarch butterfly, the presence of this species of conservation concern is likely due to candidate migratory butterfly stopover areas in the general area. Consequently, the monarch observation is not treated as a candidate SCRWS. Please refer to BMSA01 and BMSA02 for reference to candidate migratory butterfly stopover areas.	No	N/A
ANIMAL MOVEMENT CORRIDORS				
Amphibian Movement Corridors (AMC)	Movement corridors between breeding habitat and summer habitat and can be found in all ecosites associated with water. This habitat type must be considered when there is confirmed significant amphibian breeding habitat (wetlands). Species: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog (Great Lakes / St. Lawrence / Canadian Shield Population), Wood Frog	Project area was examined for the presence of linkages between ABH01 and potential terrestrial habitat. Suitable physical conditions for AMC do not exist between wetland amphibian breeding habitat and summer habitat. No suitable corridors are present; corridors are not 200 m wide or following a riparian area with at least 15 m of vegetation on both sides of the waterway.	No	N/A
Deer Movement Corridors (DMC)	Corridors may be found in all forested ecosites. Movement corridor must be determined when deer wintering habitat is confirmed SWH. Species: White-tailed Deer	There was no deer wintering habitat identified by the MNR. Consequently, no deer movement corridors have been identified within 120m of the Project Location.	No	N/A

Table 4-9: Candidate significant habitat for species of conservation concern

Feature		Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
Description	**ID**		**Size**	**ELC Community / ELC ID (Figure 4.1, Section 4.1)**		
HABITATS OF SPECIES OF CONSERVATION CONCERN						
Marsh Bird Breeding Areas (MBBA)	MBBA01 **(classified as GcSWH given distance to project component within 120 m)**	Access Road (1m) Staging Area (84m)	0.60 ha	SAS1 and MAMM1-3 (ELC IDs: 10 and 11, respectively)	Provides nesting habitat in wetlands for marsh birds. Wetlands contain shallow water and emergent vegetation.	Wetland (WE08)
	MBBA02	Access Road (15m) Collector (23m) Hardstand (20m) Bladeswept area (0m)	7.2 ha	SAS1 and MAMM1-3 (ELC IDs: 12 and 22, respectively); MEMM3 (ELC IDs: 21, 25)		Wetland (WE02)
Woodland Area-sensitive Bird Species (ASH)	ASH01	Access Road (0m) Collector (0m) Bladeswept area (105m)	64 ha	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.	Woodland (WO06)
	ASH02	Access Road (0m) Collector (0m) Hardstand (0m) Bladeswept area (0m)	132 ha	FOCM1-2 (ELC ID: 63), FOCM2-1 (ELC IDs: 64, 71, 72), FODM7-1 (ELC ID: 68) and FODM7-2 (ELC IDs: 66, 74)		Woodland (WO05-4 and WO13)
Open Country Breeding Bird Habitat (OCBB)	OCBB01 **(classified as GcSWH given distance to project component within 120 m)**	Access Road (26m) Collector (34m)	126 ha	MEMM3 (ELC ID: 80)	Large grassland area, not being used for farming, where open country birds can breed.	N/A
Shrub/Early Successional Bird Breeding Habitat (ESBR)	ESBR01	Access Road (0m) Collector (0m) Hardstand (70m) Bladeswept area (25m)	20 ha	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 avain species.	Woodland (WO06)
	ESBR02 **(classified as GcSWH given distance to project component within 120 m)**	Access Road (40m) Collector (38m)	13 ha	WOCM1-1 (ELC ID: 62)		Woodland (WO05-4)

4.2.5.4 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).

Some of the cSWH identified in the tables above meet the criteria outlined in Table 1 of Appendix D of the NHAG and are consequently classified as GcSWH. The following features meet the criteria specified in the NHAG and are therefore classified as GcSWH:

- Reptile Hibernaculum (RH01)
- Marsh Bird Breeding Habitat (MBBA01)
- Shrub/Early Successional Bird Breeding Habitat (ESBR02)
- Open Country Bird Breeding Habitat (OCBB01)

A map showing the GcSWH within 120 m of the Project Location is provided in **Figures 4-7.** All of these features are carried forward to the *Evaluation of Significant Report* where they will be assumed significant.

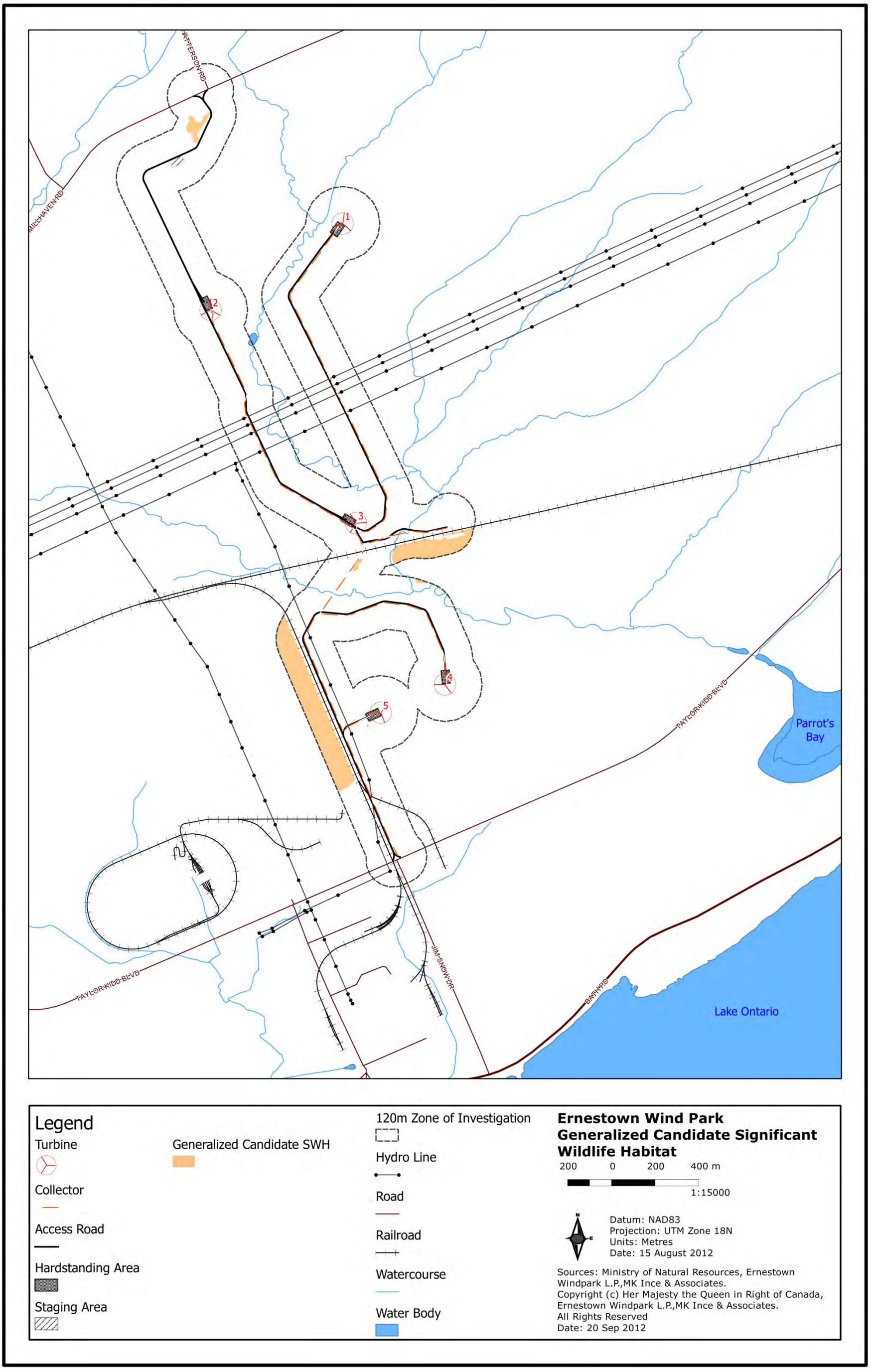


Figure 4-7: Generalized candidate significant wildlife habitat

5 CONCLUSION

A total of 16 natural heritage features were identified within 120 m of the proposed project during the records review. These features include:

- ten woodlands
- six wetlands

An addition 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 5-1: 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	No

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)
	within 120 m of the Project Location; this was verified during the site investigation	
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		
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	**YES**

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)
	imagery	
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**
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**

Feature ID	Corrections Required to the Natural Heritage Records Review Report?	Carried Forward to the EOS? (Yes/No)
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		

6 QUALIFICATIONS AND LIMITATIONS

M. K. Ince and Associates Ltd. has prepared this report in accordance with its proposal and 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 the guidelines and standards which we believe to be current at this time. Changes in guidelines and standards can occur at any time, and such changes could affect the conclusions and recommendations of this report.

While we have referred to and made use of reports and specifications prepared by others, we assume no liability for the accuracy of the information contained within those reports and specifications.

7 REFERENCES

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APPENDIX A- CURRICULUM VITAE

Martine Esraelian

TERRESTRIAL ECOLOGIST

EDUCATION

BSc, Biology, Trent University, Peterborough, Ontario, Canada, 2006

Diploma, Environmental Science, Sir Sandford Fleming College , Lindsay, Ontario, Canada, 2000

SUMMARY OF EXPERIENCE

Martine Esraelian is a Terrestrial Ecologist specializing in species at risk and terrestrial ecosystems and has more than 2 years experience in renewable power. Martine has been involved in hydro, wind and more than 40 solar power projects. Martine has a BSc from Trent University where she specialized in Conservation Biology and Ecological Management and an Ecosystem Management Technician diploma from Sir Sandford Fleming College.

Martine has diverse technical and consulting experience as well as strong field identification skills. Martine has conducted field inventories and assessments that have included wildlife and vegetation surveys, species at risk surveys and monitoring, Ecological Land Classification (ELC) and habitat mapping, wetland evaluations, soil surveys, land use surveys, and hydrological assessments. Martine has managed several environmental projects from initial design and planning through technical analysis, documentation, and delivery. She has completed several environmental and agricultural impact studies for major development projects which has enabled her to liaise with all levels of government, the community, and a portfolio of clients that include consulting firms, planners, and high-profile developers. She also has considerable experience working with species at risk, including Jefferson salamander, spotted turtle, spoon-leaved moss, Massasauga and gray ratsnake among others. Martine is a certified Butternut Health Assessor and also holds a certificate in the Ecological Land Classification (ELC) system and Ontario Wetland Evaluation System (OWES).

CAREER HISTORY

2010 - Present	Hatch, Niagara Falls, Ontario, Canada. Terrestrial Ecologist
2008 - 2009	Colville Consulting Inc., St. Catharines, Ontario, Canada. Ecologist
2007 - 2008	Ministry of Natural Resources, Vineland, Ontario, Canada. Species at Risk Technician
2004 - 2004	Regional Municipality of Niagara, Thorold, Ontario, Canada. Environmental Assistant
2003 - 2004	Ministry of Natural Resources, Peterborough, Ontario, Canada. Conservation Biologist Intern
2001 - 2003	City of St. Catharines, St. Catharines, Ontario, Canada. Environmental Technician

PROFESSIONAL DEVELOPMENT

3-day Workshop, Turtle Management and Wetland Design, 2008

Certificate, Ontario Wetland Evaluation System, 2011

Certificate, Butternut Health Assessment, 2009

Certificate, Ecological Land Classification, 2009

Certificate, PADI Scuba Diving - Basic and Advanced, 2004

Certificate, Basadur Applied Creativity Management Training Program - Levels 1 and 2, 2004

Certificate, Project Wild, 2003

LANGUAGES

English

Dave Jolly, B.Sc.
M.K. Ince and Associates Ltd.

M.K. INCE AND ASSOCIATES LTD.
Renewable Energy & Environmental Consulting

BIOGRAPHY

Dave Jolly is a Senior Biologist/Ecologist with expertise in all aspects of terrestrial and wetland ecology and has been involved with Class 1 to 4 renewable energy projects since 2008. At M.K. Ince and Associates Ltd. (MKI) Dave is presently involved in ELC, wetland assessments, and wildlife habitat surveys as part of pre-construction Environmental Assessment, Natural Heritage reporting and the new REA processes for over a dozen commercial scale wind power projects across Ontario.

Before joining MKI, Dave has worked for all levels of government and non-government agencies as well the education and private sector in Canada, the United States, Panama, Costa Rica, Peru, Mexico, and Nepal. He has experience in training environmental professionals in areas that include but are not limited to methodology and protocols for performing ecological studies, GIS, environmental law, flora and fauna identification including Species at Risk, Ecological Land Classification (ELC), Ontario Wetland Evaluation System, natural heritage assessments, and environmental assessments. Dave has experience as an expedition leader/scientist designing, marketing and operating over 20 international research and conservation expeditions to Central, South America and southeast Asia to study primates, plants, birds and mammals. He is skilled in all aspects of the environmental consulting process (with over 10 years of experience), project development/management and managing client relations. Dave has secured numerous government contracts valued at > $100 000 each and is fully adept in GIS, ELC, Wetland evaluation, staff management, environmental and site assessments.

In his spare time Dave enjoys hiking in search of various vascular plants including Species at Risk, writing books, photography, assisting non-profit organizations with their natural heritage inventories and spending time with family.

EXPERIENCE

- Facilitated regulatory approvals under the *Migratory Birds Convention Act, Fish and Wildlife Act, Conservation Authorities Act, Provincial Policy Statement, provincial and federal Species at Risk Act, provincial and federal Endangered Species Act, Planning Act, Ontario Environmental Assessment Act* and the *Canadian Environmental Assessment Act*
- Provided expertise and senior review to over 100 terrestrial and wetland biophysical assessments including wetland studies and monitoring projects, Ecological Land Classification projects, various Species at Risk projects
- Environmental inspection and compliance monitoring for construction projects in York, Durham, and Niagara Regions
- Trained environmental professionals through teaching and designing over 30 certification courses that are exempt from registration from the Ontario Ministry of Training and Colleges and Universities
- Extensive experience in negotiations and business development with Métis and First Nation groups

EDUCATION

- B.Sc., Ecology and Evolution, University of Western Ontario, 1992

AFFILIATIONS

- Field Botanists of Ontario, member
- Haldimand Bird Observatory, member

TRAINING/CERTIFICATIONS

- Lichen identification, 2012
- Bear Awareness, 2011
- Ice Safety, 2011
- Project management/ leadership, 2004
- Ontario Wetland Evaluation Systems, 2008
- Ecological Land Classification for Southern Ontario, 2004
- Standard First Aid and CPR certified

PROJECT EXPERIENCE

- ZEP Wind Farm Ganaraska, Next Era Wind Farm, Ernesttown Horizon Wind Farm, Port Ryerse Wind Farm, Grey Highlands ZEP Wind Park, Grey Highlands Clean Energy, Clean Breeze Centreton Wind Park, Clean Breeze Grafton Wind Park, Dufferin Wind Farm, Bow Lake Phase 1 —REA Application Process
- Organization and implementation of biological field studies for all projects listed above

PRIOR WORK / VOLUNTEER EXPERIENCE

- Senior Biologist/Ecologist: Dillon, AECOM, EARTHQUEST, Avalon Professional Consultants of Ontario, Fieldlife Environmental Consultants
- Senior Instructor & President: EARTHQUEST Biological Field School.
- Volunteer Botanist for the Grand River Conservation Authority
- Designed, published and marketed five field guide books on flora and fauna of Ontario and the Bruce Trail system
- Designed, marketed and operated over 20 international research/conservation expeditions to Central, South America and southeast Asia

Joel Wynn Jameson, M.Sc.

M.K. Ince and Associates Ltd.

M.K. INCE AND ASSOCIATES LTD.
Renewable Energy & Environmental Consulting

BIOGRAPHY

Joel Jameson is a Renewable Energy Biologist – Bat Specialist for M.K. Ince and Associates. He has a Bachelor (Honours) degree in Zoology from the University of Manitoba and a Masters degree in Biology from the University of Winnipeg.

Joel has worked on ecological projects in California, Ontario, Saskatchewan and Manitoba. His work has resulted in 4 peer-reviewed publications and a number of non-peer-reviewed papers, reports, and presentations, most of these on bats. During his masters, Joel designed, implemented and oversaw various research projects to understand and quantify impacts of wind energy on wildlife, especially bats. In addition to a strong background in research, Joel has worked on a number of pre-construction impact assessments of wind energy for private companies. His proficiency with a broad range of bat monitoring tools and techniques results in efficient and effective completion of REA application processes related to bats. His recent experiences with MKI have provided him with the skills to execute most REA Natural Heritage Assessment processes (e.g. Records Review, wildlife habitat surveys pertaining to the Site Investigation process, and amphibian, reptile, bat, and some bird surveys pertaining to the Evaluation of Significance process).

Joel has recently adopted an enthusiasm for birds which he is developing into a skill he can apply to the REA process. He enjoys hiking, fishing and rock climbing.

EXPERIENCE

- Over 9 years of experience conducting biological field work in remote locations and in all weather conditions
- Study design, permit and grant applications
- Writing of pre-construction reports for commercial-scale wind energy projects.
- Data analysis using a variety of software including GIS, SAS, Sonobat and Avisoft.
- Oral presentations
- Co-ordination and supervision of field researchers

EDUCATION

- B.Sc.Zoology, University of Manitoba, 2007
- M.Sc. Biology, University of Winnipeg, 2011

PROJECT EXPERIENCE

- Bow Lake Wind Farm Phase 1
- Port Ryerse Wind Farm
- Skyway 125 Wind Energy Project
- Skyway 126 Wind Energy Project

PRIOR WORK / VOLUNTEER EXPERIENCE

- Monitoring bats using Passive Integrated Transponder technology to understand the movement of White Nose Syndrome among bat populations (volunteer).
- Statistical analysis of a complex data set investigating the behaviour of bats afflicted with White Nose Syndrome
- Designed, conducted and managed large-scale acoustic and mortality surveys for bats at communication towers and at a wind energy facility.
- Recorded and studied the echolocation calls of bats at maternity colonies in Georgian Bay, ON. Excluded bats from cottages.
- Small mammal surveys for a large-scale biodiversity project in Lake Tahoe, CA.

Y. Robert Tymstra, B.E.S.
M.K.Ince and Associates Ltd.

M.K. INCE AND ASSOCIATES LTD.
Renewable Energy & Environmental Consulting

BIOGRAPHY

Robert Tymstra is an avian wildlife specialist with M.K. Ince and Associates. He graduated from the University of Waterloo with a Bachelor of Environmental Studies.

Rob's's avian wildlife experience includes bird surveys, censuses, expeditions, banding, and migration monitoring. He has worked on avian surveys and studies in Ontario and has birded in over 60 counties worldwide. Since 2004, Rob has specialized in conducting avian surveys for wind turbine projects across Canada. His broad and extensive experience in all things avian makes Rob a highly valued member of the MKI team.

EXPERIENCE

- Participated in bird surveys, censuses, expeditions and migration monitoring programs across Canada and remote parts of the world.
- Regional Co-ordinator for Ontario Herpetological Atlas and Ontario Mammal Atlas. Participated in Ontario Forest Birds Monitoring Program.
- Led bird survey expeditions in Hudson Bay Lowlands for Ontario Breeding Bird Atlas (Opinnagau and Albany Rivers) and completed several sections in Southern Ontario for Breeding Bird Atlas 1981-1985 and 2001-2005.
- Researcher and camp leader for a Habitat Based Wildlife Assessment of Ekwan Point, Longridge Point and Western James Bay coast. Field work involved walking line transects, point counts.
- Worked as Nature Interpreter at Algonquin Provincial Park
- Initiated a long-term distributional study of the birds of the little-known islands and waters of James Bay.
- Participated in Yunnan, China expedition in a successful search for *Sclater's Monal*, a rare pheasant not seen by Westerners since WWII. Also documented other limited distribution bird species.
- Conducted population surveys on endangered *Butler's Garter Snake* in southern Ontario 2008-2010.

EDUCATION

- B.E.S., University of Waterloo, 1991.
- Professional Photography Diploma, New York Institute of Photography

TRAINING

- Wildlife biology, Marine and Fisheries courses: courses, University of Guelph
- Wilderness Survival and Tracking courses: Tom Brown School, New Jersey

CORE COMPETENCIES

- Avian surveying and monitoring
- Wildlife tracking
- Bird-banding
- Recording bird songs
- Birding tourleader

RELEVANT INDUSTRY EXPERIENCE

- Over 5100 bird species observed in over 60 countries
- Avian surveys, censuses, expeditions and migration monitoring
- Preparation of technical reports, journal articles and a book for bird studies
- Publication of several photos in books and journals

MEMBERSHIPS AND ASSOCIATIONS

- Board of Directors: Pelee Island Bird Observatory (banding station)
- Board of Directors: Wilds of Pelee Island
- Ontario Field Ornithologists member
- Explorers Club fellow

APPENDIX B- FIELD NOTES

Temp = 16°C Rain T
Cloud: 10/10
Wind: 0

1223 - 1920 ①
Ernestown Harrow Wind Farm

HORWE301	Reed canary grass - common cattail wetland 6 photos 1255 { CAGO, SPPE, BLJA, AMRO, RWBL BOL } H_2O temp = 6°C flows E
SWH301	1306 Northern leopard frog lethargic from cold H_2O 1 photo
WP301	Edge of wetland = prickly ash, common buckthorn 1 photo
SWH302	Beaver dam 5 photos

②

SP301	Under white spruce Spring on edge of wetland flows North 5 photos H_2O = 11°C SWSP 1332
SWH302	Beaver damage to Eastern white cedar = using wetland
HORWE301b	wetland south side ~~b...~~ 5 photos BCCH 1350
SWH303	Wh tailed deer tracks on edge of wetland 5 photos

363253 4898248
WPT302

363243 4898185
SWH306

362990 4898336
WP303

362948 4898336
SWH307

362832 4898407
WP301

- EWTSP } 1437
- BRTR }
watercourse entering wetland from North
flows South
5 photos

- Mink frog 1450 in wetland
1 photo

- Leopard frog 1453
Bait fish
watercourse widens
5 photos

Beaver damage
5 photos

5 photos
edge of wetland

362972 4898297
SWH304

Beaver dam
5 photos north side of wetland

363014 4898271
WP302

marsh becomes watercourse
5 photos

363279 4898123
SWH305

- Deer hair + bones
6 photos
edge of wetland.
2 bodies
Recharge area
5 photos
- N leopard frog 1445

363357 4898137
SP302

363332 4898249
WPT301

watercourse narrows to main
5 photos
Tape grass flows SW

6

362595 4898275
WP704

West end of wetland - running to watercourse
Plexus E
5 photos

362737 4898272
BMR303

Dead white pine
broken @ top
4m high
35 cm DBH
5 photos
4-5cm hole
3m

362755 4898277
BMR304

Dead white pine
35 cm DBH
3m broken on top
6 holes 4-5cm
largest 10cm deep
1m high
5 photos

5

362792 4898413
WP303

[illegible]
5 photos

362779 4898331
BMR308

Beaver lodge
5 photos

362773 4898320
BMR301

Dead white pine
> 60 cm DBH
broken off top
@ 15 m
large hole Phase 1
> 20 cm dia
3m
5 photos

362771 4898313
BMR302

Phase 1 partially dead white pine
5m > 40cm DBH
5 holes 4-5cm dia
3m high
5 photos

No.352

7

362422 4898230

WP305

5 photos

EMO 1641

362419 4898259
WP306

5 photos
trails ATV &
water crossing

362467 4898241
WP307

Red cedar 20-30 yrs
< 6m high
4 photos
Survey stake

Rite in the Rain

2012-06-07
Dave Jolly 300

Ernestown
Waterbody assessment
1245 - 2045

Cloud: 2/10 - 10/10
Wind: 2-4
Temp 13.5 - 22.5 °C

T18 361944 4900604
WAØ9

Roadside ditch on north side of Millhaven Rd
man-made/artificial with some vegetation = JUNCANVA TYPLAT1
5 photos

361950 4900580
OAGM13Ø7

Annual row crop
Soybeans
5 photos

- SPSA 1408 flushed from WAØ5

361914 4900408
WAØ5

Pond = SAS1,5 photos
>30 yrs old
surrounded by Reed canary grass
- Green frog heard 1413

Part of waterbody assessment, DWES appendix C
wetland delineated

:: RWBL 1413
- HLC

No.352

361853 4900468
BARS301
• Adult BARS 1426

361959 4900481
WA05B
Natural channel
from wetland
& pond
6 photos

361910 4900446
WA05C
Pond
6 photos
• ~~White fronted~~ skimmer
dragonfly
• SASP alarm
calls 1523
mi MAMM-3

361934 4900324
OAGM1302
Soyabeans field
for > 5 yrs
Spoke with owners
(Bob) father @ 1530
(Dan = son) confirmed pond
is natural &
> 30 yrs old

362089 4900007
WA06

Grassy swale enters within 120m
6 photos
- Canada darner 1552
- SAEP 1552

362189 4899972
ERNMON301

- Monarch butterfly 1557
4 photos

362190 4899971
ERNEAME301

- EAME 1558
4,0 min N

362268 4899940
WA06B

Grassy swale leaves 120m
4 photos
Partial water-body assessment

362329 4899871
WA01

Watercourse + wetland leaves 120m on north side
4 photos

362252 4899708
WA01B

wetland & watercourse
4 photos
r bed thru wetland
has H2O
• N leopard frog
1654

362313 4899802
WA01C

wetland
6 photos
• MAHA 1715
• YEWR 1715
• SOSP 1715

362364 4899835
WA01D

wetland @
ALV01
4 photos

362411 4900034
WA01E

wetland @
watercourse
= NO watercourse
6 photos
• RWBL 1739
• SOSP 1739
• RWBL 1741
• Common ringlet
1739

362476 4900073 OAGM1 = Soyabeans
OAGM1303 OSWSP1744
4 photos

362567 4900282 Grassroad
WA01F MAM → part of
wetland
4 photos
• BOBO 20m E
802 using
Timothy field

362713 4900374 pond part of
WA01G 4 photos
wetland
• GBHE 1811

362638 4900076 Raw crop = Soya-
OAGM1304 beans
5 photos

362613 4900094 Cultivated
OAGM1305 field, not
soya beans
6 photos

No.352

362278 4899661 WA8/H delineated wetland to WA crossing #1 5 photos

362261 4899678 WA01I Full wetbody WA crossing #1 assessment 6 photos

362289 4899766 MAMM1-3A ELC soil auger 4 photos

362235 4899563 WA8/5 4 photos MAMM1-3 centre 120m

• Porcupine 20m NE 1955

361852 4900460 WA05D grassy swale north of pond 6 photos

361781 4900506 WA05F north side of grassy swale no water course

Rite in the Rain

2012-06-08
Dave Jolly 300

Ernestown
ELC + OWES
Appendix C

Temp: 16.1°C
Cloud: 7/10
Wind: 1

0745 - 1915

361941 4900618
- BARS 0800
- BOBO 30m W 0800
4 photos

362972 4897472
0960M1306
6 photos - row crops within quarry

362865 4898050
WA08
Waterbody - pond NW quarry
6 photos

362446 4898051
WA07
Full waterbody assessment
OWES Appendix C
ELC
Natural pond - MAS
5 photos
Area 0.16 ha
- Green frog 0943
- N. Leopard frog 0940
- Garter snake 0940

No.352

362445 4898052 ELC
MAS2-1 5 photos

362476 4898094 Artificial pond
WA301 5 photos
↑ referrs to WAØ5
Little-no wetland/aquatic vegetation
∴ RUGR family with, 4 displaying
1115

362567 4898129
FOCZ-1 Edge
Edge of FOCZ-1
• Giant swallowtail
1125

362579 4898201 FOCZ-1 ELC
FOCZ-1
auger
• DWBU 1205
Owl pellet
5 photos (incl. owl pellets)

362548 4898075
FODT-1
ELC auger
4 photos

Rite in the Rain

362557 4898044 FOCZ-1/FODT-1
FOCZ-1 Edge2 4 photos

362621 4897941 FOCZ-1/FODT-1
FOCZ-1 Edge3 4 photos

362658 4897944 CUT1-4
CUT1-4 Edge1 4 photos

362712 4897869 4 photos
CUT1-4 Edge2

362706 4897808 ELC auger
FODT-2 4 photos

362669 4897748 FODT-2/CUT1-4
CUT1-4 Edge3 4 photos

362719 4897701 ELC auger
CUT1-4 4 photos

362825 4897592 CUT1-4/UAGM1
CUT1-4 Edge4 4 photos

362875 4897698 Wetland
MHSZ-1B 5 photos
Appendix C
partial waterbody
assessment
ELC

362887 4897718 ELC soil
MHSZ-1B Soil 4 photos

362967 4897733 OMOM1/CUT1-4
CUT1-4Edge5 4 photos

363004 4897756 FOC2-1/CUT1-4
FOC2-1Edge4 5photos

363073 4897703 FOC2-1/CUT1-4
FOC2-1Edge5 4 photos leave
1 Zoom
• EAST 1611

363099 4897753 FOC2-1/~~CUT1-4~~
FOC2-1Edge6 4 photos

363081 4897740 4 photos
CUM1-1 ELC Soil

361952 4900497
BARS302

361998 4900438
MAMM-3B

" BARS 1808
ECC soil auger
4 photos
- OSPR 1900
flying over
Project location
Spoke with land
owner Dan
about land use
& wetlands

2012-06-09 | Ernestown
Dave Jolly 300 | ELC, ~~water~~ body assess
Wind: 1 | Appendix C
Cloud: 10/10 | 0930 - 0930
Temp: ~~16.5~~ 19.7 °C

362023 4900143
BARS304 | 4 photos
• 1101 Orange sulphur butterfly

362415 4899881 | ELC auger
BWD2-2 | 4 photos
ELC | • EWPE 1218
• EAKI 1302
• Virginia's ctenucha moth 1305
• WIFL 1313

362360 4899908
ALV01307 | Area = 4.89 ha
delineated alvar | 4 photos

362363 4899846 | ELC auger
MEMM3 | 5 photos
ELC

362310 4900114 ELC auger
ALV307 5 photos
ELC

" 12 spotted skimmer 1628

362619 4898978
MEMM3Edge1 4 photos

362729 4899047
MEMM3Edge2 4 photos

362732 4899040
MEMM3Edge3 4 photos

362771 4898973 ELC auger
FOD2-3 4 photos
ELC

362794 4898824
FOD2-3Edge1 4 photos

0362835, 4898816
WA 02 EDGE1

4 photos, wetland ends on south side of watercourse and →

vegetation is STH VOCCI

- Eastern tailed blue 1839

362953 4898668 Waterbody unnes
WA02 4 photos
Full waterbody 60m break
assessment

363021 4898763 4 photos
WA02301 Watercourse
Full Waterbody unnes crossing
362960 4898806 4 photos
WA02302 60m break
in wetland

362930 4898848
SNAIL307 4 photos

No.352

[signature] Jameson June 9, 2012
Ernestown

- On site 8:00am
- T° = 19.7°C
- Wind = 1
- precip = Ø
- Cloud = 10/10

~~SAS1 → UTM 361903, 4900448~~

Fish 3&1
361903, 4900443
WAS5 ~~[illegible]~~
ELC

- Classification
- spoke with neighbour greg.

- Gravel and sandy edge suitable for snapping turtle nesting on north side.
- Garbage and refuse.

Rite in the Rain

ERNMON 302
12:50 pm
0362444, 4900052

— 1 Monarch observed on Common Milkweed, possibly to lay eggs → suitable ~~use~~ Butterfly ~~stop~~ migratory stopover/staging area.

delineation → ~~Monarch Staging 302~~ BFMRS 301

— ~ 75 plants of common Milkweed
— 5 photos

— 1 Gardersnake at same time and place as Monarch (12:50)

deleted because not an ERNMON. All we need is the FMRS track.

~~ERNMON 303~~
13:06
0362381, 4900190

— delineate - send called ~~Monarch Staging~~ BFMRS 302
— ~ 160 Milkweed plants
— 4 photos from the waypoint

ERNEAME302
13:30 - EAME 50m west of waypoint.
↳ heard calling

362353, 4899874
AVL01EDGE1 — 7 photos
14:20 - North is Alvar, South is MEMM3

0362352, 4899874
ERNMON30H → renamed ERNMON303 → 2m north of the waypoint 4 photos
14:20

BMR601

height = ~15m

cavity # = ≥4

cavity height = 1) ~6m on North side 2x2cm
2) ~6m on North side 2x2cm
3) ~4m on East side 5x5cm
4) ~5m on // 40x5cm
5) ~5m on // 10x10cm

DBH = 38.5 on North side

Peeling Bark = None

Partly alive, more alive at top from 6m

species = Eastern White Cedar

Canopy = 60%

- hollow on bottom

UTM - 362774, 4898959

deleted because not an ERNMON, Extraneous point. All we need is the BFMRS track.

~~ERNMON305~~

363002, 4898745

1839

- ~450 Milkweed plants
- 4 photos
- delineated + called Monarch staging 303
BFMRS 303

BFMRS

SWH601 - 1 Red bellied snake
362975, 4898604

deleted because not on ERNMON Extension's property. All we need is the BFMRS track

ERNMON306 - South side of the wetland
363009, 4898721
1945
- 400 Milkweed plants
- 4 photos
- delineated + called BFMRS 3040

SWH602 - Eastern Grey Tree frogs
363021, 4898763
↳ 2-3 calling

WE02EDGE - where WE02 intersects with 120m buffer border
362456
4898897
- 4 photos

Rite in the Rain No.352

OFFSITE
21:24

Wind = 1
Cloud = 10
T° = 16.5°C
Precip = Ø

2012-06-10
Dave Jolly 300

Ernestown
ELC + OWES
Appendix C
0930-1945

Temp: 24.5 - 26.2°C
Wind: 1-2
Cloud 1/10 - 3/10

362257 4899655
MMM1-3C

- 1130 White fronted skimmer
- 1130 Tundra spotted skimmer

362571 4898815
WE02 EDGE 2

- 4 photos
- Where waterbody 02 meets MEM3

362904 4898775
FOD9-4
ELC

ELC auger
4 photos

362648 4898754 4 photos
WAB2303
Partial water-
body assessment

362773 4898758 4 photos
CUM1-1 Edge1 - CORA [33]

362863 4897736 4 photos
CUM1-1301

3622889 4898737 4 photos
CUM1-1302 Interface of
CUM1-1 & FOC2-2

362917 4898677 4 photos
MEMM3 EDGE4 - Interface between
FOC2-2 and
MEMM3
south = CUM1-1

362794 4898366 Interface of
FOC2-2 Edge1 MEM3-1 &
FOC1-2
4 photos

No. 352

362596 4898880 FOC1-2 Edge 2 — Interface of FOC2-2 & POG1-2 4 photos

362611 4898383 FOC1-2 ELC — ELC auger 4 photos

362638 4898409 FOC1-2 Edge 3 — 4 photos interface of FOC1-2 & FOC2-2

362784 4898505 ERNMOW307 — 4 photos Monarch 1647

362836 4898514 FOC2-2 Edge 2 — 5 photos

363099 4898520 CUM1-7B — 4 photos

*363083 4898553 MAS3-1B — 4 photos

* Contains blue spotted salamander larvae and tadpoles

Rite in the Rain

362241 4900241 4 photos
BOB0301 50m E

ALVOIEDGE1 → Edge of Alvar
362232 - 4 photos
4900307 - stopped here because everything north of the alvar is agricultural.

No.352

2012-06-10

ERNESTOWN 0930 - 1945
T° = 24.5 - 26.2
Wind = 1 - 2
Cloud = 1/10 - 3/10

BFMRS305 → Milkweed patch,
0362274 delineated. ~~and~~
4899658 ~~called~~. 50 plants.

ERNMON 504 → 1 Monarch
362780 4 photos.
4898754

SH601 → Potential snake
0362639 hibernaculum site,
4898407 7 photos taken.
Not a ~~karst~~ formation
(fissures in exposed bedrock.
— extends toward north
for a 20-30m
→ delineated and
called SH601.

Rite in the Rain

SWH603 — 1 Juvenile (1-2 yrs) Eastern Garter Snake on Karst surface.

WA05 → Took 4 photos (that we forgot to take previous day)

Project - Ernestown Wind Park

Date: July 15, 2012
Time: 1000 - 1830
Wind: 2-3
%C.C: 100
Temp: 27°C
Precip: <1mm

Investigator: Martine Esraelian/Hatch

"Ritz in the Rain"

SWD01-2 Green Ash Organic Deciduous Swamp

woodland – SWD / MAMM

GPS	Photo	Direction	
596	7637	SE	
597	7638	N	
598	7639	W	
599	7640	S	deer beddings?
599	7641	NW	grass/woodland
600	7642-7644	W	soil sample
601	7645	S	
~~602~~	7646#	W	reed canary?
602	7647	SE	woodland
603	7648	S	hemlock?
603	7649	S	horsetail
604	7650	N	west side of woodland
604	7651-52	N	veg
605	7653	NW	south side of wood
605	7654-56	N	veg
606	7657	N	east side

[Brown-headed cowbird?
TREES

607	7658	NE	Northeast corner

– reed canary grass? (photo) R

GC – Dominated by grass sp. (photos)

Canopy – Green Ash

fowl manna grass?

Soil sample

Organic – 0-11cm

Af. mottles @ 11cm in some fabric material

gley @ 11 cm – 40

Om – 40-60

Oh 60 – 100 cm

North Boundary (inclusion

horsetail along periphery

gray dogwood (northern boundary) (D)

wild parsnip? (photo) (R) or hemlock

reed canary grass (O)

fleabane daisy (R)

common milk (R)

green ash (A) understory

common burdock (R)

"Rite in the Rain"

West side Inclusion

- reed canary grass (D)
cow vetch (R)
wild carrot
golden-rod sp. photo (R)
small fruited bulrush (R)
small stem bulrush (R)

South side
- n-l cattail
- beggars ticks ? (R)
speedwell ? (R)
wild parsnip (photo) R)
grass sp (R)
grey dogwood (R)
common milkweed (photo) R

East side
- narrow-leaved cattail (D)
grass sp (A)
golden-rod sp?
slender willow (R)

607 reed canary grass (D)
small-fruited bulrush (R)

swp
fox sedge sedge
N-sedge
V-sedge — fruit are spread - put)
white flower / speedwell?

Water Crossing Location
- existing gravel/dirt crossing
~ 4-5m wide

608	7659	N	(south side of watercourse
609	7660	S	(north side of watercourse)

"Rite in the Rain"

610
(Wetland #11)

611	7661	N	along southern edge
611	7662-7663	N	veg
—	7664-7678		veg
	7679		
612	~~7680~~	S	
612	7680	N	
613	7681	SW	
614	7682-84	N	
614	7685	E	
615	7694	N	
615	7695-96		
615	7697		
616	—		

Gray dogwood thicket lower elevat
Gray dogwood thicket
Caterpillar
cattail
veg
cattail
soil sample

Swallowtail

Turkey Vulture

- hemlock or parsnip sp (A)
- yellow tall sunflower sp? photo 7662-7663
yellow (R)
Gray dogwood (A) (D) 7666-7667
Green ash
Awl-fruited sedge
milkweed sp (R) 7664
Bebbs sedge? 7665
American elm (D)
Timothy Hay (R)
N-sedge
grass sp(.6) 7675-7676
Goldenrod sp 7677-7678
butterfly (photo 7717)

(618) soil sample - too dry/loose for auger
SiS no calcareous

MEMM 7

(614) Caterpillar photos: 7682-84
low-lying area, soils exposed
green ash seedlings
milkweed sp
timothy grass
yellow sp. (D)
wild carrot (D)
daisy fleabane
birds foot trefoil
oxe-eye daisy

"Rite in the Rain"

red clover
bebbs sedge ? photo 7686 (R)
W-sedge (R)
Reed canary ? (R) 7687-88
vervain ? (R) 7689-7690
sedge sp. 7691-7692
Awl-fruited sedge (R)
V. sedge (R)
white pine sapling (R)
red-cedar sapling (R) 7693) (R)
cow vetch (R)
yellow loosestrife ? photo 7715-7716 (R)
purple flower (speedwell)? 7718 (R)
veg 7719-7721 veg.
hawkweed sp (R)

(616) Soil sample
- unable to obtain soil sample
- soil was too loose for auger

Loamy sand or SiS
- likely shallow - hit a rock @ ~ 5cm, not sure if it was bedrock

(615) Cattail Marsh - photo 7694

① Cattail (photo 7697 - leaf - thumb width
② Reed canary grass ?
~~shrubby St. John's wort (R)~~
③ Small-fruited bulrush (O)
mosses (O)
Spotted joe pyeweed or swamp (R) 7698-99
Boneset sp. photo 7700 Boneset?
sedge sp (looks like bebbs) 7701-7704 (O)
speedwell? pink flower - 7705-7707 (O)
V-sedge (O)
slender willow (R) 7708
sedge sp (R) 7709)
Caterpillar 7710-7711
willow sp. 7712-7713
③ Softstem bulrush (O) 7714.
gray dogwood along periphery
green ash saplings
rush sp 7722-7724

(617) soil sample

0m - 20cm ~~CL~~ CL
g = 6cm
6 = 15cm

20-30 ~~Clay sand~~ SC
or SiCL

(619) - Pond area

Photo 7725 W

(620) Reed Canary Grass

621	7726	W	meadow
622	7727	W	
	7728-7742		veg
623	7743	W	debris
623	7744	NW	debris
624	7745	W	debris
	7746	W	gravel substrate
625	7747	W	cattail
	7748-49	—	veg - spreadwell?
626	7751	W	purple flower - north edge of NE wetland -
~~626~~			
627	7752	NW	pond area on aerial
628	7753	N	dried pond
	7758		gravel/ substrate rock
629	7759	Σ	red cedar / prickly ash / buckthorn / gray dogwood
630	7760	S	adult Gaiter snake under sheet metal
631	7761	N	staff/ gage
631	7762	S	debris

Rite in the

Project: Ernestown Wind Park

Date: July 16, 2012

Time: 0900 - 1030 & 1500 - 1800

%C.C: 20

Temp: 32°C

Wind: 1-2

Precip: Ø

Investigator: Martine Esraelian

Photos to GPS as well

632	7770	W	Rock Pile
633/634	7771	SE	Rock Pile
635	7772	SE	Rock Pile dried Pond
636	7773	S	dried Pond
636	7774	SE	
638	7779	N	reed canary grass (D) cattail
639	7780	NE	SW corner of wetland
640	7781	W	SE corner wetland
640	7782	NW	SE corner of wetland

"Rite in the Rain"

West Boundary - Meadow
- Rock Pile & Cylindrical cement platform - Large boulders
- potential snake hibernacula
- searched area; no snakes or sheds found (0930-0945 am)

Pond

foul manna grass? photo 7775
fox sedge? triangular stem photo 7776
Brownish sedge? photo 7777-7778
water plantain
narrow leaved cattail
softstem bulrush

Wetland North of CN Rail 1

P01001	7783	S	reed canary
P01001	7784	SE	"
P01001	7785	E	"
P01003	7786	N	"
P01004	7787	N	OAO
P01005	7788	E	OAO
P	7789-94		veg
P01007	7795	W	green ash SWD
"	7796	N	"
"	7797	E	"
	7798-7804		veg

SWD - green ash (D)
- <10 D
10-25 - D
>50 (R) Poplar

gc = sparse
w. sedge (R)
fox sedge ? [illegible]
[illegible]

downed woody debris (A)
<10 dbh (D)

Rite in the Rain

Meadow near house

P01008	7805	SE	
P01009	7806	N	
11	7807	E	
11	7808	W	
P01110	7809	N	access road
P01111	7860	~~S~~ S	access road
P01112	7811	N	access road
P01112	7812	NW	
P01112	7813	N	bedrock
P01113	7830	NW	Red cedar
P01113	7831	NE	red cedar
P01114	7837	N	birds nest
P01115	7840	SE	old barn
P01116			Soil sample
P01117	7844	SW	Thicket
P01118			Soil Sample

Access road area
- shallow soils, exposed bedrock

Red cedar

APPENDIX C- ELC DATA CARDS

WA01

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: MAMM1-3/WE02 - west of tractor lane
DATE: 2012-06-07
SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	5	4	4	50°	2	S	C	18	362289	4899716
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X	0=1cm				
HORIZON	A>120cm				
A TEXTURE	CL				
A COURSE FRAGMENTS					
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	2				
SURFACE ROCKINESS	1				
DEPTH TO/OF					
MOTTLES	5cm				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	>120cm				
CARBONATES	>120cm				
ORGANICS	1cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

WA81

3

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: MAMM-3/WE02
	DATE: 2012-06-01
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
COROBLI			O	O	
FRAPENC	R	R	R	R	
ULMAMER	R	R	R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
PHAARUN				A	
PASSATI				O	
JUNCANA				O	
CARBEBB				O	
GALPALU				R	
CARSTI				R	
LYTSALI				R	
BROINE				R	
CARBREV				R	
MENARVA				R	
ASCINC				R	
VICCRAC				R	
ASTLANC				R	
ARTVULG				R	
TARAFF				R	

WA01

ELC	SITE: Ernestown		
	POLYGON: MAMM-3/WE02		
	DATE: 2012-06-07		
WILDLIFE	SURVEYORS: DJ		
	START TIME: 1905	END TIME: 2000	

TEMP (°C): 13.5	CLOUD (10th): 10/10	WIND: 4	PRECIPITATION: 1-2 mm
CONDITIONS: Windy, cool, cloudy			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	SWSP	VO	singing ♂	•
B	SOSP	VO	" "	•
M	N. leopard frog	OB		••
L	Common ringlet	OB		◦•
L	Question mark	OB		•
L	Spring azure	OB		•
B	COVE	VO	" 4	•

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT

SI = OTHER SIGNS (specify)

WA01

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: MAMM1-3/WE02
	SURVEYORS: DJ DATE: 2012-06-07	TIME: start 1654 end 1900
	UTMZ: 18 UTME: 362289	UTMN: 4899766

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☒Wetland	☒Mineral Soil	☒Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☒Marsh
	☐Carb. Bedrock	☐Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
☐Open Water		☐Rockland	**COVER:**		☐Thicket
☐Shallow Water		☐Beach/Bar	☒Open		☐Savannah
☒Surficial Dep		☐Sand Dune	☐Shrub		☐Woodland
☐Bedrock		☐Bluff	☐Treed		☐Forest
					☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	1	FRAPENS = ULMAMER
2 Sub-Canopy	2	3	CARABL
3 Understory	4	4	PHAARUN
4 Grd. Layer	6		PASSATT = JUNCANA = CARBEBB

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m
CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	O	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = N/A	G = N/A
MOISTURE: 6	DEPTH OF ORGANICS:	(cm)
(HOMOGENOUS)/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Meadow marsh	MAM
ECOSITE:	~~Graminoid~~ Mineral meadow marsh ecosite	MAM1
VEGETATION TYPE:	Reed Canary Grass Mineral Meadow Marsh type	MAMM1-3
INCLUSION:		
COMPLEX:		

Notes:

ELC	
SOILS ONTARIO	SITE: Emestown
	POLYGON: ~~[illegible]~~ THOM2-4
	DATE: 2012-06-08
	SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	4	1	20	1	S	2	18	362719	489 7701
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O=1cm A>1cm				
A TEXTURE	CL				
COURSE FRAGMENTS					
B TEXTURE	/				
COURSE FRAGMENTS					
C TEXTURE	/				
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				

DEPTH TO/OF

	1	2	3	4	5
MOTTLES	13cm				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	>120cm				
CARBONATES	>120cm				
ORGANICS	1cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				

SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC PLANT SPECIES LIST	SITE: Forestown
	POLYGON: CUT 1-4 THDM2-4
	DATE: 2012-06-08
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
SPIALBA			D	D	
CARRACE			O	O	
DICHAMER	R	R	R	R	
ERAPENS	R	R	R	R	
VIBLENT			R	R	
THUVIRG	R	R	R	R	
PRUBANER				R	

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLCANA				R	
POASTRI				R	
ASTLANC				R	
SCIATR				R	
STEGRAM				R	
JUNEFFU				R	
VACCRAC				R	
[illegible]					
CAREGLOB				R	
POTSIMP				R	
JUNCANA				R	
SCIRJUNC				R	
CARBREV				R	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernest town	POLYGON: ~~CUT-4~~ THDM2-4
	SURVEYORS: ~~DT~~ DATE: 2012-06-08	TIME: start 1420
	UTMZ: 18 UTME: 362719	end 1430 / UTMN: 4897701

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☐Organic	☐Lacustrine	☐Natural	☐Plakton	☐Lake
☐Wetland	☒Mineral Soil	☐Riverine	☒Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☒Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
☐Open Water		☐Rockland	**COVER:**		☒Thicket
☐Shallow Water		☐Beach/Bar			☐Savannah
☒Surficial Dep		☐Sand Dune	☐Open		☐Woodland
☐Bedrock		☐Bluff	☒Shrub		☐Forest
			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	1	FRAPENS = ULMAMER
2 Sub-Canopy	3	2,3	VIBLENT
3 Understory	4	3	~~CORRACE~~ SPIALBA > CORRACE
4 Grd. Layer	6	1,2	SCIATRO > POATSTR = SOLCANA

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER	X	YOUNG		MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = 13 cm G =	
MOISTURE: D	DEPTH OF ORGANICS: 14	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: > 120 cm	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	~~Cultural~~ Thicket	~~CU~~ TH
COMMUNITY SERIES:	~~Cultural~~ Thicket	~~CUT~~ THD
ECOSITE:	~~Mineral Cultural~~ Thicket Forest	~~CUT1~~ THDM
VEGETATION TYPE:	Gray dogwood ~~cultural~~ deciduous Thicket Type	~~CUT~~ 4 THDM2-4
INCLUSION:		
COMPLEX:		

Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Emerson	POLYGON: MASM1-1 WA07/WE05
	SURVEYORS: DS DATE: 2012-06-08	TIME: start 0940 end 0950
	UTMZ: 17 UTME: 362496	UTMN: 4898057

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☑Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☒Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☒Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	2	1,2	PRAPENS > JUNVIR
2 Sub-Canopy	2	1	CORORE1 > SALCORD
3 Understory	4	3	TYPANGU > TYPLAT1 > PHAARUN
4 Grd. Layer	5	2,3	CARSTR = JUNCANA > LYTSAL

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER	X	YOUNG		MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = N/A	G = N/A
MOISTURE: S	DEPTH OF ORGANICS: 0	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Shallow marsh	MAS
ECOSITE:	Cultural mineral shallow marsh ecosite	MAS1
VEGETATION TYPE:	Cultural mineral shallow marsh Type	MASM1-1
INCLUSION:		
COMPLEX:		

Notes:

ELC	SITE: Ernestown	
	POLYGON: MAM1-1 - WAT1 / CUL5	
	DATE: 2012-06-08	
WILDLIFE	SURVEYORS: DS	
	START TIME: 0940	END TIME: 1000

TEMP (°C): 16°	CLOUD (10th): 9/10	WIND: 3	PRECIPITATION: 1-2 mm
CONDITIONS: cool, cloudy, windy			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	SOSP	VO		1					
B	RWBL	VO		1					
H	N. Leopard Frog	OB		2					
H	Green Frog	VO		2					
H	Garter Snake	OB		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC PLANT SPECIES LIST	SITE: Emerytown
	POLYGON: MAS MI-1 - WAT / WEAS
	DATE: 2012-06-05
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAPENS	R	R	R	R	
COROBLI			R	R	
SALCORD				R	
SALPETI				R	
JUNVIRG	R	R	R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
TYPLATI				R	
TYPANGU				O	
PHRARUN				R	
LYTSALI				R	
JUNEFFU				R	
JUNCANA				D	
CARSTIP				O	
CARSCOP				R	
CARBEBB				R	
PASSATI				R	
SCIATRO				R	
ALIAQUA				R	
CARTENE				R	
ERIANNU				R	
CALCANA				R	
ROTEPIL				O	

ELC

SOILS ONTARIO

SITE: Ernest Oun
POLYGON: MASM1-1 - WA07/WE05
DATE: 2012-06-08
SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	7	2	20	2	S	2	17	382446	4898051
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X-HORIZON	0-31 cm A> 31 cm				
A TEXTURE	CL				
COURSE FRAGMENTS					
B TEXTURE	/				
COURSE FRAGMENTS					
C TEXTURE	/				
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	3				
SURFACE ROCKINESS	2				
DEPTH TO/OF					
MOTTLES	31 cm				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	0 cm				
CARBONATES	>120cm				
ORGANICS	0 cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	5				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: ~~MAS2-4B~~ MASM1-1/WEB5
DATE: 2012-06-08
SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	4	1	80	2	S	2	18	362887	4897718
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	A<22 B>22				
A TEXTURE	CL				
COURSE FRAGMENTS					
B TEXTURE	CL				
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	23cm				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	45cm				
CARBONATES	>120cm				
ORGANICS	0cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2					
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: ~~MAS2-13~~ MASM1-1/WE05
	DATE: 2012-06-05
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
SALPET	R	R	R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
TYPANGU	O	O	O	O	
CARRETR			R	R	
LARREBB			R	R	
CARSCOR			O	O	
SOLCANA			R	R	
VERHAST			R	R	
POAPALU			R	R	
LYTSALI			R	R	
OENPARV			R	R	
JUNEFFU			R	R	
SCIATRO			R	R	

ELC	SITE: Ernestown	
	POLYGON: ~~MAS~~ B MASM1-1/WE05	
	DATE: 2012-06-08	
WILDLIFE	SURVEYORS: PJ	
	START TIME: 1530	END TIME: 1540

TEMP (°C): 22.6	CLOUD (10th): 10/10	WIND: 1	PRECIPITATION: NIL
CONDITIONS: Cloudy, mild			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	RWBL	VO		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: ~~MA-SE-1~~ B MASMI-1.1WEAS
	SURVEYORS: DJ DATE: 2012-06-08	TIME: start 1530
	UTMZ: 18 UTME: 362887	end 1546 UTMN: 4897715

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☒Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☒Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☒Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	3	1	SALPET
2 Sub-Canopy	4	3	TYPANGU > SCIATRO
3 Understory	5	1,2	VERHAST
4 Grd. Layer	6,7	2,3	CARSCOR > CARBEBB = CARRETR

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	R < 10	A 10 - 24	A 25 - 50	A > 50	
STANDING SNAGS:	N < 10	N 10 - 24	N 25 - 50	N > 50	
DEADFALL / LOGS:	N < 10	N 10 - 24	N 25 - 50	N > 50	

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG		MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = 23	G = N/A
MOISTURE: 6	DEPTH OF ORGANICS: 0	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Shallow marsh	MAS
ECOSITE:	Graminoid mineral shallow marsh ecosite	MASMI
VEGETATION TYPE:	Cattail mineral shallow marsh Type	MASMI-1
INCLUSION:		
COMPLEX:		

Notes:

WA05 6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: MAMM1-3 / WE08
	SURVEYORS: DT DATE: 2012-06-08	TIME: start 1815 end 1830
	UTMZ: 18 UTME: 361918	UTMN: 4904438

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☒Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☒Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☒Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	2	POPDELT
2 Sub-Canopy	3	3	SALPET1
3 Understory	4	4	PHAARUN >> PASSAT1 = PHLPRAT
4 Grd. Layer	5	1	BIDFRON > RANSCEL

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER	X	YOUNG		MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = N/A G = N/A	
MOISTURE: 5	DEPTH OF ORGANICS: 1	(cm)
HOMOGENOUS / VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Meadow marsh	MAM
ECOSITE:	Mineral meadow marsh ecosite	MAMM
VEGETATION TYPE:	Reed canary grass mineral meadow marsh type	MAMM1-3
INCLUSION:		
COMPLEX:		

Notes:

WA05

ELC WILDLIFE	SITE: Emerson	
	POLYGON: MAMM1-3 / WE05	
	DATE: 2012-06-05	
	SURVEYORS: DS	
	START TIME: 1875	END TIME: 1530

TEMP (°C): 22°	CLOUD (10th): 8/10	WIND: 2	PRECIPITATION: NIL
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	SPSA	OB	Miami bank	•
B	KILL	OB		•
B	RWBL	OB		••
H	N. leopard frog	OB		•

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT
SI = OTHER SIGNS (specify)

WA05

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: MAMMI-3, 7WE08
	DATE: 2012-06-08
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
SALPET				R	
POPDELT	R	R	R	R	
				1	

SPECIES CODE	LAYER 1	2	3	4	COL.
PHARUN				D	
RANSCEL				R	
PASSATI				O	
PHLPRAT				O	
SOLDULC				R	
BIDFRON				R	
RUMCRIS				R	

WA05 - pond (natural) wetland surrounding

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: MAMM1-3 / WE08
DATE: 2012-06-08
SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	S	3	1	300	2	S	2	18	361918	4910438
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X	0=1cm				
HORIZON	A>120				
A TEXTURE	CL				
COURSE FRAGMENTS	/				
B TEXTURE	/				
COURSE FRAGMENTS	/				
C TEXTURE	/				
COURSE FRAGMENTS	/				
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				

DEPTH TO/OF

MOTTLES	2 cm				
GLEY	0 cm				
BEDROCK	>120 cm				
WATER TABLE	>120 cm				
CARBONATES	>120 cm				
ORGANICS	1 cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	5				

SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC

SOILS ONTARIO

SITE: Pinestown
POLYGON: ~~FOC2~~ 1 FOCM2-1/CW085
DATE: 2012-06-08
SURVEYORS: DS

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	/	/	1	30	5	5	3	18	362579	4898207
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X-HORIZON	O = 19cm rock				
A TEXTURE	/				
A COURSE FRAGMENTS					
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	N/A				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	N/A				
GLEY	N/A				
BEDROCK	19 cm				
WATER TABLE	19 cm				
CARBONATES					
ORGANICS	19 cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2					
MOISTURE REGIME	N/A				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: ~~POEZ~~ / POCM2-1
	DATE: 2012-06-08
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
JUNVIRG	D	D	D	D	
ULMAMER	R	R	R	R	
ZANAMER			O	O	
RHALATH			R	R	
RIBCYAN				R	
PRUPENS				R	
RUBIDAE				R	
CORRACE			R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAVIRG				O	
DIAROFF				R	
PENDIGI				R	
CARBREV				R	
ASTDULE				R	
SOL_JUNC				R	
GALLANC				R	
THADIO1				R	
HEPAMER				R	
ERVAMER				R	
HIEPRAT				R	
HYPPERF				R	
RANACR1				R	
ARCMINU				R	
ANTNEGL				R	
RUMACET				R	
GALAPR				R	
PASSAT1				R	

ELC	SITE: Ernestown		
	POLYGON: ~~E~~ 1 FOCMZ-1		
WILDLIFE	DATE: 2012-06-08		
	SURVEYORS: DJ		
	START TIME: 1150	END TIME: 1200	

TEMP (°C): 19.3	CLOUD (10th): 10/10	WIND: 1	PRECIPITATION: 1-3 mm
CONDITIONS: Cool, cloudy			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	AMRO	VO		1
B	RWBL	VO	singing M	1

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: ~~FOC~~ 1 FOCM2-1
	SURVEYORS: DJ DATE: 2012-06-08	TIME: start 1150 / end 1200
	UTMZ: 18 UTME: 362579	UTMN: 4895207

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☒Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☐Wetland	☐Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☒Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☐Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☒Forest
☐Bedrock			☒Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	4	JUNVIRG > ULMAMER
2 Sub-Canopy	2	3	RHACATH
3 Understory	3	2, 3	ZANAMER > RUBIDAE = RIBCYAN
4 Grd. Layer	6	2, 3	FRAVIRG > GAL LANC = HEPAMER

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: /	DEPTH TO MOTTLES/GLEY: g = N/A G = N/A	
MOISTURE: /	DEPTH OF ORGANICS: 19	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 19	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	FO
COMMUNITY SERIES:	Con, ferous forest	FOC
ECOSITE:	Dry-fresh Cedar Coniferous Forest Ecosite	~~FOC2~~ FOCM2
VEGETATION TYPE:	Dry-fresh Red cedar Coniferous Forest Type	~~FOC2-1~~ FOCM2-1
INCLUSION:		
COMPLEX:		

Notes:

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: ~~FOD1~~ 1 FODM7-1/WOBS
DATE: 2012-06-08
SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	4	~~3~~ 1	250	2	S	2	18	362548	4849875
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O= 1cm A> 1cm				
A TEXTURE	CL				
A COURSE FRAGMENTS	/				
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS	/				
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				

DEPTH TO/OF

MOTTLES	10 cm				
GLEY	N/A				
BEDROCK	>120 cm				
WATER TABLE	>120 cm				
CARBONATES	>120 cm				
ORGANICS	1 cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2					
MOISTURE REGIME	6				

SOIL SURVEY MAP					
LEGEND CLASS					

ELC PLANT SPECIES LIST	
SITE:	Ernestown
POLYGON:	~~FOD~~-1 FODM7-1
DATE:	~~DJ~~ 2012-06-08
SURVEYORS:	DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
ULMAMER	O	O	O	O	
FRAPENS	R	R	R	R	
RHACATH			R	R	
COROBLI			O	O	
ZANAMER			O	O	
VITRIPA			R	R	
SPIALBA			R	R	
VIBOPUL				R	

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
CERVULG				R	
SOLCANA				O	
LYCAMER				R	
CARBREV				O	
URTDIOI				R	
POASTRI				D	
TRIREPE				R	
PASSATI				R	
FRAVIRG				R	
EUPRUGO				O	
ACHMILL				R	
CIRLUTE				R	
~~PETMUL~~				~~R~~	
INUHELE				R	

FODM7-1

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: ~~FOD7~~ 1
	SURVEYORS: DJ DATE: 292-06-08	TIME: start 1230 end 1240
	UTMZ: 18 UTME: 362548	UTMN: 4898035

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial ☐Wetland ☐Aquatic	☐Organic ☒Mineral Soil ☐Parent Mat'l ☐Acidic Bedrock ☐Basic Bedrock ☐Carb. Bedrock	☐Lacustrine ☐Riverine ☐Bottomland ☐Terrace ☐Valley Slope ☒Tableland ☐Roll Upland ☐Cliff ☐Talus ☐Crevice/Cave ☐Alvar ☐Rockland ☐Beach/Bar ☐Sand Dune ☐Bluff	☒Natural ☐Cultural	☐Plakton ☐Submerged ☐Floating-LVD ☐Graminoid ☐Forb ☐Lichen ☐Bryophyte ☒Deciduous ☐Coniferous ☐Mixed	☐Lake ☐Pond ☐River ☐Stream ☐Marsh ☐Swamp ☐Fen ☐Bog ☐Barren ☐Meadow ☐Prairie ☐Thicket ☐Savannah ☐Woodland ☒Forest ☐Plantation

SITE:	COVER:
☐Open Water ☐Shallow Water ☒Surficial Dep ☐Bedrock	☐Open ☐Shrub ☒Treed

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	3	ULMAMER > FRAPENS
2 Sub-Canopy	3	3	CORORBI > RHACATH
3 Understory	3,4	3	= ANAMER
4 Grd. Layer	6	2,3	SOLCANA = PODASTR1

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	R < 10	R 10 - 24	A 25 - 50	A > 50	
STANDING SNAGS:	R < 10	R 10 - 24	N 25 - 50	N > 50	
DEADFALL / LOGS:	N < 10	N 10 - 24	A 25 - 50	A > 50	

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = 10 cm G = N/A	
MOISTURE: 0	DEPTH OF ORGANICS: 1 cm	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 7120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	FO
COMMUNITY SERIES:	Deciduous forest	FOD
ECOSITE:	Fresh-moist Lowland Deciduous Forest Ecosite	FOD M7
VEGETATION TYPE:	Fresh-moist White elm Lowland Deciduous Forest Type	~~FOD7~~ 1 FODM7-1
INCLUSION:		
COMPLEX:		

Notes:

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: FOD7-2 / WOAS
DATE: 2012-06-08
SURVEYORS: DS

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	4	1	30	2	5	2	17	362706	4857808
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X-HORIZON	O<1cm A>1cm				
A TEXTURE	CL				
COURSE FRAGMENTS	/				
B TEXTURE	/				
COURSE FRAGMENTS					
C TEXTURE	/				
COURSE FRAGMENTS	/				
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	23cm				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	>120cm				
CARBONATES	>120cm				
ORGANICS	1cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2					
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: FOOW-2 / WOOS
	DATE: 2012-06-08
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAPENS	A	A	A	A	
ULMAMER	O	O	O	O	
CORRACE			O	O	
RHAGLAT1			R	R	
PRUPENS				R	

SPECIES CODE	LAYER 1	2	3	4	COL.
GEUCANA				R	
PASSAT1				O	
FRAVIRG				R	
SOLCANA				D	
HYPPERF				R	
POTSIMP				O	
RANACR1				R	
PRUVULG				R	
ARALATE				O	
LARLEP				R	
POASTR1				R	
VICCRAC				R	
CARBLAN				O	
GALTRI				R	

ELC	SITE: Ernestown
	POLYGON: ~~FOO~~ 2 FODMT-2/WOOS
	DATE: 2012-06-08
WILDLIFE	SURVEYORS: DJ
	START TIME: 1255 END TIME: 1310

TEMP (°C): 21.2	CLOUD (10th): 10/10	WIND: 1	PRECIPITATION: NIL
CONDITIONS: cool, partially sunny			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	SOSP	VO		6
B	GOYE	VO		2
B	HOWR	VO		1

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

FODM7-2/W085 6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: FODM7-2
	SURVEYORS: DJ DATE: 2012-06-08	TIME: start 1255 end 1310
	UTMZ: 18 UTME: 362766	UTMN: 4897805

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☐Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☒Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☐Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☒Forest
☐Bedrock			☒Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	3,4	FRAPENS > ULMAMER
2 Sub-Canopy	3	3	CORRACE > QUAACATH
3 Understory	4	2,3	PRUPENS
4 Grd. Layer	5	1,2	PASSATI = CARBLAN = POTSIMP

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	N	10 - 24	A	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	R	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	☒	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = 23cm G = N/A	
MOISTURE: 6	DEPTH OF ORGANICS: 15	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	FO
COMMUNITY SERIES:	Deciduous forest	FOD
ECOSITE:	Fresh-moist Lowland Deciduous Forest Type	FODM7
VEGETATION TYPE:	Fresh-moist Lowland Deciduous Forest Type Ash	FODM7-2 FODM7-2
INCLUSION:		
COMPLEX:		

Notes:

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Emestown	POLYGON: ~~CUMT1~~ WOCM1-1/WO05
	SURVEYORS: DJ DATE: 2012-06-08	TIME: start 1630 end 1640
	UTMZ: 18 UTME: 363081	UTMN: 4897740

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ Terrestrial	☐ Organic	☐ Lacustrine	☐ Natural	☐ Plakton	☐ Lake
☐ Wetland	☒ Mineral Soil	☐ Riverine	☐ Cultural	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Mat'l	☐ Bottomland		☐ Floating-LVD	☐ River
	☐ Acidic Bedrock	☐ Terrace		☐ Graminoid	☐ Stream
	☐ Basic Bedrock	☐ Valley Slope		☐ Forb	☐ Marsh
	☐ Carb. Bedrock	☒ Tableland		☐ Lichen	☐ Swamp
		☐ Roll Upland		☐ Bryophyte	☐ Fen
		☐ Cliff		☐ Deciduous	☐ Bog
		☐ Talus		☒ Coniferous	☐ Barren
		☐ Crevice/Cave		☐ Mixed	☐ Meadow
SITE:		☐ Alvar			☐ Prairie
☐ Open Water		☐ Rockland	**COVER:**		☐ Thicket
☐ Shallow Water		☐ Beach/Bar	☐ Open		☐ Savannah
☒ Surficial Dep		☐ Sand Dune	☒ Shrub		☒ Woodland
☐ Bedrock		☐ Bluff	☐ Treed		☐ Forest
					☐ Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	3	3	JUNVIRG > PINSTRO > ULMAMER
2 Sub-Canopy	4	3	CORRACE
3 Understory	5	2	SPIALBA
4 Grd. Layer	6	3	SOLCANA < HIEPRAT

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	O	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	R	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = N/A	G = N/A
MOISTURE: 2	DEPTH OF ORGANICS: 1 ~~cm~~	(cm)
(HOMOGENOUS)/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	~~Cultural~~ Woodland	~~CU~~ WO
COMMUNITY SERIES:	~~Cultural~~ Coniferous Woodland	~~CUW~~ WOC
ECOSITE:	~~Mineral Cultural~~ Dry-Fresh Coniferous Woodland Ecosite	~~CUW1~~ WOCM1
VEGETATION TYPE:	Red Cedar ~~Cultural~~ Dry-Fresh Coniferous Woodland Type	~~CUW1~~ WOCM1-1
INCLUSION:		
COMPLEX:		

Notes:

ELC WILDLIFE	
SITE:	Ernestown
POLYGON:	~~[illegible]~~ WOLM1-1/WOODS
DATE:	2012-06-08
SURVEYORS:	DJ
START TIME:	1636
END TIME:	1646

TEMP (°C): 28.3	CLOUD (10th): 7/10	WIND: 2	PRECIPITATION: NIL
CONDITIONS: Partly sunny, hot			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	EATO	VO	singing ♂	[illegible]					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENC! SC = SCAT
SI = OTHER SIGNS (specify)

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: ~~CUL-1~~ WOCM1-1/WOD5
DATE: 2012-06-08
SURVEYORS: DJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	3	1	40	2	5	2	18	363081	4897746
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X					
HORIZON	0-1cm / A 1/20cm				
A TEXTURE	CL				
A COURSE FRAGMENTS					
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	N/A				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	>120cm				
CARBONATES	>120cm				
ORGANICS	1cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2					
MOISTURE REGIME	2				
SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: ~~[illegible]~~ WOLM1-1/WD04
	DATE: 2012-06-08
	SURVEYORS: DJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
JUNVIRG	O	O	O	O	
PINSTRO	R	R	R	R	
LARLAR			R	R	
ULMAMER	R	R	R	R	
SPIALBA				R	

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLCANA				O	
HIEPRAT				O	
CIRARVE				R	
CIRBREV				O	
ASTNOVA				R	
CIRTENE				O	
VERIPPI				R	
POAPRAT				O	
POASAT				R	
FRAVIR2				R	
POTSIMP				R	
ACHMILL				R	
DAUCARO				R	
STEGRAM				R	

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: MEMM3
DATE: 2012-06-09
SURVEYORS: DS, JT

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	5	4	4	50	1°	5	2	18	362363	4899846
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O = 40cm A > 40cm				
A TEXTURE	SCL				
COURSE FRAGMENTS					
B TEXTURE	/				
COURSE FRAGMENTS	/				
C TEXTURE	/				
COURSE FRAGMENTS	/				
EFFECTIVE TEXTURE	SCL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	44 cm				
GLEY	N/A				
BEDROCK	>120				
WATER TABLE	>120				
CARBONATES	>120				
ORGANICS	40 cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	5				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: MEMM3
	DATE: 2012-06-09
	SURVEYORS: DJ, JJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAPENN	R	R	R	R	
ULMAMER	R	R	R	R	
CORUBLI			R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
INUELAC				O	
CARBREV				O	
PASSATT				R	
GALTEAR				R	
CIRARVE				R	
RUMCRIS				R	
VICCRAC				R	
AGRALBA				R	
RANACRI				R	
CALCANA				R	

ELC	SITE: Ernestown	
	POLYGON: MEMM3	
	DATE: 2012-06-09	
WILDLIFE	SURVEYORS: DJ, JO	
	START TIME: 1445	END TIME: 1455

TEMP.(°C): 25°2	CLOUD (10th): 10/10	WIND: 1	PRECIPITATION: light rain
CONDITIONS: Cloudy, warm			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	COYE	VO		1					
B	SOSP	VO		1					
B	RWBL	VO		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernest Town	POLYGON: MEMM3
	SURVEYORS: DJ DATE: 2012-06-09	TIME: start 1245
		end 1510
	UTMZ: 18 UTME: 362363	UTMN: 4899846

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☐Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☒Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☒Meadow
SITE:		☐Alvar			☐Prairie
☐Open Water		☐Rockland	**COVER:**		☐Thicket
☐Shallow Water		☐Beach/Bar			☐Savannah
☒Surficial Dep		☐Sand Dune	☒Open		☐Woodland
☐Bedrock		☐Bluff	☐Shrub		☐Forest
			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	3	1	FRAPENS > ULMAMER
2 Sub-Canopy	4	3	CORCOR
3 Understory	5	2,3	ILLVERAC
4 Grd. Layer	6	3	CAREBREV > RANACRI = RUMCRIS

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER	X	YOUNG		MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SCL	DEPTH TO MOTTLES/GLEY: g = 44 cm G = N/A	
MOISTURE: 5	DEPTH OF ORGANICS: 40	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Meadow	ME
COMMUNITY SERIES:	mixed meadow	MEM
ECOSITE:	Dry-fresh mixed meadow ecosite	MEMM3
VEGETATION TYPE:		
INCLUSION:		
COMPLEX:		

Notes:

ELC

SOILS ONTARIO

SITE: ERNESTOWN
POLYGON: RBOA1-2
DATE: 2012-06-09
SURVEYORS: DT + JS

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	/	/	6	130°	10	S	2	18	362310	4900014
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X					
HORIZON	O=12cm Bedrock				
A TEXTURE	NA				
A COURSE FRAGMENTS	/				
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	/				
SURFACE STONINESS	2				
SURFACE ROCKINESS	2				

DEPTH TO/OF

MOTTLES	NA				
GLEY	NA				
BEDROCK	12cm				
WATER TABLE	NA				
CARBONATES	/				
ORGANICS	/				
PORE SIZE DISC #1					
PORE SIZE DISC #2	/				
MOISTURE REGIME	/				
SOIL SURVEY MAP	/				
LEGEND CLASS					

10-15cm of detritus built up on top layer

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: RBOA1-2
	DATE: 2012-06-09
	SURVEYORS: DJ, JJ

LAYERS: 1 = CANOPY. 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
JUNVIRG		R	R	R	
FRAPEAN		R	R	R	
ULMAMER	R	R	R	R	
RHUARO			R	R	
RHURAD				R	

SPECIES CODE	LAYER 1	2	3	4	COL.
CARREN				A	
IMMHELE				R	
VICCRAC				R	
SOLCANA				R	
AGRALBA				O	
ELEOBTU				R	
PASSAT				R	
SCIATRO				R	
RUMCRIS				R	
STEARVE				O	
CARLAS1				O	
DIAARME				R	

ELC	SITE: Engstrom		
	POLYGON: RROAD-2		
	DATE: 2012-06-09		
WILDLIFE	SURVEYORS: DJ, JJ		
	START TIME: 1530	END TIME: 1550	

TEMP (°C): 22.6	CLOUD (10th): 10/10	WIND: 1	PRECIPITATION: Light rain
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS
	HIBERNACULA

	SNAGS
X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	COYE	VO		2
B	MALL	OB		2
B	FAME	VO		1
B	SOSP	VO		1

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: RBOA1-2
	SURVEYORS: DJH DATE: 2012-06-09	TIME: start 1550 end 1550
	UTMZ: 18 UTME: 363310	UTMN: 4900014

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☒Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☐Wetland	☐Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☒Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☒Open		☐Woodland
☐Surficial Dep		☐Bluff	☐Shrub		☐Forest
☒Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	1	ULMAMER
2 Sub-Canopy	3	1	JUNVIRG > FRAPENS
3 Understory	5	2,3	AGRALA = CARLAS1
4 Grd. Layer	6	4	CARBREV

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	R	< 10	R	10 - 24	M	25 - 50	M	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY: g = N/A G = N/A	
MOISTURE:	DEPTH OF ORGANICS: 12	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 12	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Rock Barren	RB
COMMUNITY SERIES:	Open rock barren	RBO
ECOSITE:	Open Alvar rock barren ecosite	RBOA1
VEGETATION TYPE:	Dry-annual Open Alvar pavement Type	RBOA1-2
INCLUSION:		
COMPLEX:		

Notes:

WA01

ELC

SOILS ONTARIO

SITE: FRNESTOWN
POLYGON: SWDM-2 / WE02
DATE: 2012-06-09
SURVEYORS: DJ + JS

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM 18 Z	EASTING	NORTHING
1	A	4	4	4	50°	2	S	2	18	362415	4899887
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X-HORIZON	O = 37cm A > 37cm				
A TEXTURE	SCL			—	—
A COURSE FRAGMENTS					
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SCL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	42 cm				
GLEY	NA				
BEDROCK	NA				
WATER TABLE	>120cm				
CARBONATES	>120cm				
ORGANICS	37cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	4				
SOIL SURVEY MAP	\				
LEGEND CLASS	\				

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: SWAMP-2 / WE02
	DATE: 2012-06-09
	SURVEYORS: DJ, JJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
~~BETRAPEN~~	O	O	O	O	
ULMAMER	R	R	R	R	
CORSER			R	R	
RHACATH			R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
CALCANA				O	
STEGRAM				R	
THAPAL				R	
SOLANI				R	
POAPAL				R	
CARSTI				R	
CARBEBB				R	
GALTET				R	
GYM. MIL				R	
LYCAMER				R	
CIRMAC				R	
CHEGLAB				R	
AGILANC				R	
LYSCIL				R	
IMPLAPE				R	
CARBREV				R	
VIOLONS				R	
RANSEMI				R	

WA01

ELC WILDLIFE	SITE: ERNESTOWN	
	POLYGON: SWDM2-2/WE02	
	DATE: 2012-06-09	
	SURVEYORS: DJ + JJ	
	START TIME: 1200	END TIME: 1218

TEMP (°C): 16.5	CLOUD (10th): 10/10	WIND: 1	PRECIPITATION: Nil
CONDITIONS: Cloudy, cool			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	EWPE	VO		1					
B	COYE	VO		2					
B	AMRO	VO		1					
B	AMCR	VO		2					
B	SOSP	VO		1					
B	EUST	VO		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT
SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ERNESTOWN	POLYGON: SWDM2-2/WE02
	SURVEYORS: DJ + JJ DATE: 2012-06-09	TIME: start 12:02 end 12:18
	UTMZ: 18 UTME: 362415	UTMN: 4894887

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☒Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☒Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☐Tableland		☐Lichen	☒Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☒Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
☐Open Water		☐Rockland	**COVER:**		☐Thicket
☐Shallow Water		☐Beach/Bar			☐Savannah
☒Surficial Dep		☐Sand Dune	☐Open		☐Woodland
☐Bedrock		☐Bluff	☐Shrub		☐Forest
			☒Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	3	FRA PENS > ULM AMER
2 Sub-Canopy	2	2,3	RHA CATH
3 Understory	3	2,3	COR OBLI
4 Grd. Layer	5,6	3	CAL CANA > SO CANA = POA PALU = LYC AMER

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:								BA:
SIZE CLASS ANALYSIS:	O	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SCL	DEPTH TO MOTTLES/GLEY: g = 42cm G = N/A	
MOISTURE: 4	DEPTH OF ORGANICS: 37	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 7/20	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	SWAMP	SW
COMMUNITY SERIES:	deciduous swamp	SWD
ECOSITE:	Ash mineral Deciduous Swamp	SWDM2
VEGETATION TYPE:	Green ash mineral deciduous swamp (ecosite type)	~~SWDM2~~ SWDM2-2
INCLUSION:		
COMPLEX:		

Notes:

WADS

ELC

SOILS ONTARIO

SITE: Emeryville
POLYGON: SAS1 / WE86
DATE: 2012-06-09
SURVEYORS: DI, JJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	4	4	1	300°	3	S	2	18	0361903	4900443
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X-HORIZON	A>120cm				
A TEXTURE	SCL			-	
A COURSE FRAGMENTS	/				
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SCL				
SURFACE STONINESS	2				
SURFACE ROCKINESS	1				

DEPTH TO/OF

MOTTLES	5cm				
GLEY	/				
BEDROCK	>120cm				
WATER TABLE	0cm				
CARBONATES	>120cm				
ORGANICS	0cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS					

WA05

3

ELC PLANT SPECIES LIST	SITE: Emerytown
	POLYGON: SAS1/wE06
	DATE: 2012-06-09
	SURVEYORS: DO, KT

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
PHAARUN				R	
TWOFLEX	A	A	A	A	
LYTSAL				R	
GALPAL				R	

WABS – natural pond 6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ERNESTOWN	POLYGON: SAS1/WEGB
	SURVEYORS: DJ + JJ DATE: 2012-06-09	TIME: start 1000 end 1030
	UTMZ: 18 UTME: 361903	UTMN: 4900443

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☑Natural	☐Plakton	☐Lake
☐Wetland	☑Mineral Soil	☐Riverine	☐Cultural	☑Submerged	☑Pond
☑Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☑Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
☐Open Water		☐Rockland	COVER:		☐Thicket
☐Shallow Water		☐Beach/Bar			☐Savannah
☑Surficial Dep		☐Sand Dune	☑Open		☐Woodland
☐Bedrock		☐Bluff	☐Shrub		☐Forest
			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	4	1	PHAARUN > LYTSALI
2 Sub-Canopy	5	1	PHAARUN > LYTSALI
3 Understory	6	1	PHAARUN > LYTSALI
4 Grd. Layer	7	1	PHAARUN > LYTSALI

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50
STANDING SNAGS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50
DEADFALL / LOGS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:	☐ PIONEER	☐ YOUNG	☐ MID-AGE	☐ OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SCL	DEPTH TO MOTTLES/GLEY: g = N/A	G = N/A
MOISTURE: 6	DEPTH OF ORGANICS: 0	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120cm	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Shallow Water	SA
COMMUNITY SERIES:	Submerged Shallow Aquatic	SAS
ECOSITE:	Submerged Shallow Aquatic ecosite	SAS1
VEGETATION TYPE:		
INCLUSION:		
COMPLEX:		

Notes: Gravelly, sandy edge on north edge suitable for snapping turtle nesting. Garbage and refuse.

WA05

ELC WILDLIFE	SITE: ERNESTOWN	
	POLYGON: SAS1/WE08	
	DATE: 2012-06-09	
	SURVEYORS: DJ + JJ	
	START TIME: 10 00	END TIME: 1022

TEMP (°C): 19.7	CLOUD (10th): 0	WIND: 1	PRECIPITATION: 0
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	0	SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	SPSA	VO		6					
B	EAKI	VO		1					
H	GRFR	VO		11					
B	RWBL	VO		1					
B	KILL	VO		1					
H	BUFR	VO		2					
B	SOSP	VO		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: ~~5~~ FoDM2-3/WO06
DATE: 2012-06-~~08~~ 01
SURVEYORS: DJ, JD

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	S	4	4	NW	1	S	2	18	362771	4898913
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O = 22cm A > 22cm				
A TEXTURE	CL				
COURSE FRAGMENTS	0				
B TEXTURE	/				
COURSE FRAGMENTS					
C TEXTURE	/				
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	N/A				
GLEY	N/A				
BEDROCK	>120 cm				
WATER TABLE	>120 cm				
CARBONATES	>22 cm				
ORGANICS	22 cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2					
MOISTURE REGIME	2				
SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC PLANT SPECIES LIST	
SITE:	Emeshman
POLYGON:	FODM2-3 / WOB6
DATE:	2012-06-09
SURVEYORS:	DJ, JT

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.	SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
CAROVAT	R	R	R	R		LAPCANA				R	
CARCORD	O	O	O	O		IMPCAPE				A	
ULMAMER		R	R	R		CRYCANA				O	
RHUCATH			R	R		SMIMARI				R	
TILAMER	R	R	R	R		THAPOLY				R	
THUOCCI	R	R	R	R		RANSEPT				R	
ZANAMER			R	R		GALASPR				R	
RHURADI				R		VIOPUBE				R	
PARINSE				R		RANACRI				R	
RIBCRIS				R		GEUCANA				R	
CARGRACR				R		FRAVIRG				R	
PICGLAU		R	R	R		SALDALU				R	

ELC WILDLIFE	
SITE:	ERNESTOWN
POLYGON:	FODM2-3/WO06
DATE:	2012-06-09
SURVEYORS:	DJ + JT
START TIME:	1652 — END TIME: 1701

TEMP (°C): 19.3	CLOUD (10th): 10	WIND: 1	PRECIPITATION: Ø
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	✓	SNAGS
	HIBERNACULA	✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	AMRO	VO							
B	EWPE	VO							
B	CHSP	VO							
B	WOTH	VO							

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

1W086

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernest Imm	POLYGON: FODM2-3
	SURVEYORS: DJ, JJ DATE: 2012-06-04	TIME: start 1650
	UTMZ: 16 UTME: 362721	end 1700
		UTMN: 4898973

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☐Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☒Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☒Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☐Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☒Forest
☐Bedrock			☒Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	3	CARCORD > CAROVA > ULMAMER
2 Sub-Canopy	2	4	PICGLA
3 Understory	3	2	RHUCAT
4 Grd. Layer	6		IMPCAPE > Honeysuckle

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	R	25 - 50	N > 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N > 50
DEADFALL / LOGS:	R	< 10	R	10 - 24	N	25 - 50	N > 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SL	DEPTH TO MOTTLES/GLEY: g = N/A	G = N/A
MOISTURE: 2	DEPTH OF ORGANICS: 22	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	F
COMMUNITY SERIES:	Deciduous	FOD
ECOSITE:	Dry-fresh Oak-Maple-Hickory Deciduous Forest Ecosite	FODM2
VEGETATION TYPE:	Dry-Fresh Hickory Deciduous Forest Type	FODM2-3
INCLUSION:		
COMPLEX:		

Notes:

ELC

SOILS ONTARIO

SITE: Farnestown
POLYGON: MAMM1-3 → WADZ west side / WEDZ
DATE: 2012-06-10
SURVEYORS: DJ, JJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	4	4	4	200	1	5	2	18	362257	4999655
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O = 18cm A > 18cm				
A TEXTURE	SCL				
A COURSE FRAGMENTS					
B TEXTURE	/				
B COURSE FRAGMENTS					
C TEXTURE	/				
C COURSE FRAGMENTS					
EFFECTIVE TEXTURE	SCL				
SURFACE STONINESS	2				
SURFACE ROCKINESS	1				
DEPTH TO/OF					
MOTTLES	19cm				
GLEY	N/A				
BEDROCK	25cm				
WATER TABLE	25cm				
CARBONATES	N/A				
ORGANICS	18cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: MAMM1-3 LWEB2
	DATE: 2012-06-10
	SURVEYORS: DJ JJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAPENS	R	R	R	R	
CORORBI			R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
PHAARUN				D	
BRUMER				R	
CARBRE				R	
GALPAL				R	
PASSAT				R	
CALCAN				R	
VICCRA				R	
LYCCIL				R	
LYTSAL				R	
ASCSYR				R	
ARCVUL				R	
Marsh yellow cress				R	

ELC WILDLIFE	
SITE:	Ernestown
POLYGON:	MAMM1-37WE02
DATE:	2012-06-10
SURVEYORS:	[illegible]
START TIME: 1030	END TIME: 1040

TEMP (°C): 23	CLOUD (10th): 3/10	WIND: 2	PRECIPITATION: NIL
CONDITIONS: Sunny, partly cloudy			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	SOSP	VO	singing ♂	••					
M	Porcupine	OB		•					
B	COYE	VO		•					
B	AMRO	VO		••					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ERnestown		POLYGON: MAMM1-3/WE02	
	SURVEYORS: DJ + JJ	DATE: 2012-06-10	TIME: start	1030
			end	1045
	UTMZ: 18	UTME: 362257	UTMN: 4899655	

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☑Natural	☐Plakton	☐Lake
☑Wetland	☑Mineral Soil	☑Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☑Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☑Marsh
	☐Carb. Bedrock	☐Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☑Open		☐Woodland
☑Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	1	FRAPENS
2 Sub-Canopy	2	1	ULMAMER
3 Understory	3	3	CORUBLI
4 Grd. Layer	5	3,4	PHAARUN >> PASATI = ASCSYRI

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m
CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SCL	DEPTH TO MOTTLES/GLEY: g = 19cm	G = NA	
MOISTURE: 6	DEPTH OF ORGANICS:	18cm	(cm)
HOMOGENOUS/VARIABLE (VARIABLE circled)	DEPTH TO BEDROCK:	25cm	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Meadow Marsh	MAM
ECOSITE:	Bedrock Meadow Marsh ecosite	MAM1
VEGETATION TYPE:	Reed-canary grass bedrock Meadow Marsh type	MAM1-3
INCLUSION:	/	
COMPLEX:	/	/

Notes:

WA04
changed to WE05

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: MASM1-1-WE03
	SURVEYORS: DJ DATE: 2012-06-10	TIME: start 1700 end 1730
	UTMZ: 18 UTME: 362828	UTMN: 4898339

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☒Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☒Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☒Marsh
	☐Carb. Bedrock	☐Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☒Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	1	FRAPIENS > ZANAMER
2 Sub-Canopy	2	3, 4	PHAARUN > TYPLATI
3 Understory	3	3	EUPMACU = ONOSENS
4 Grd. Layer	5	3	URTDIOI = CARSTIP = GALPALU

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES/GLEY: g = 28 cm G = N/A	
MOISTURE: 6	DEPTH OF ORGANICS: 26	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Shallow marsh	MAS
ECOSITE:	Cattail mineral shallow marsh ecosite	MASM1-1
VEGETATION TYPE:	Cattail mineral shallow marsh type	MASM1-1
INCLUSION:		
COMPLEX:		

Notes:

WA04 changed to WE05

ELC SOILS ONTARIO	SITE: Ernestown POLYGON: MASM1-1 - WE03 DATE: 2012-06-10 SURVEYORS: DT, JJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	5	3	5	280	1	5	2	18	362820	4898339
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O=26cm A>120cm				

		1	2	3	4	5
A	TEXTURE	CL				
	COURSE FRAGMENTS	N/A				
B	TEXTURE	/				
	COURSE FRAGMENTS					
C	TEXTURE	/				
	COURSE FRAGMENTS					
EFFECTIVE TEXTURE		CL				
SURFACE STONINESS		0				
SURFACE ROCKINESS		0				

DEPTH TO/OF

	1	2	3	4	5
MOTTLES	28cm				
GLEY	N/A				
BEDROCK	>120cm				
WATER TABLE	8cm				
CARBONATES	>120cm				
ORGANICS	26cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				

SOIL SURVEY MAP					
LEGEND CLASS	/				

WA84 changed to WE05

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: MASM1-1 - WE03
	DATE: 2012-06-10
	SURVEYORS: DT, JJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAPENS				R	
ZANAMER				R	
RIBTRIS				R	

SPECIES CODE	LAYER 1	2	3	4	COL.
TYPLAT				A	
PHAARUN				O	
LYSTHYR				R	
EUPMACU				R	
ONOSENS				R	
IMPCAPE				O	
POLPERS				O	
GALPALU				O	
CARSTIP				R	
EQUPALU				R	
URTDIOI				R	

WA84
changed to WE05

4

ELC WILDLIFE	SITE: Ernestown	
	POLYGON: MASM1-1 — WE03	
	DATE: 2012-06-10	
	SURVEYORS: DJ, JJ	
	START TIME: 1300	END TIME: 1330

TEMP (°C): 26	CLOUD (10th): 4/10	WIND: 1	PRECIPITATION: NIL
CONDITIONS: Sunny, warm			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	RWBL	OB	singing ♂	4					
B	GBHE	OB		1					
B	AMCR	VO	sing ♂	1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

Changed to WE05

ELC

SOILS ONTARIO

SITE: Eastown

POLYGON: MASM1-1 - WE04

DATE: 2012-06-10

SURVEYORS: DJ + JJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	5	W3	5	280°	1%	5	2	18	363083	4898553
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X					
HORIZON	O=3cm A>120cm				
A TEXTURE	SiCL				
COURSE FRAGMENTS	10mm				
B TEXTURE	/				
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS	/				
EFFECTIVE TEXTURE	Si				
SURFACE STONINESS	1				
SURFACE ROCKINESS	Ø				

DEPTH TO/OF

MOTTLES	NA				
GLEY	NA				
BEDROCK	>120cm				
WATER TABLE	4.5cm				
CARBONATES	>120cm				
ORGANICS	3cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

changed to WE05

3

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: MAM-SML-1 - WE04
	DATE: 2012-06-10
	SURVEYORS: DS, JJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ERIANGER	R	R	R	R	
SALPETI			R	R	
ULMAMER			R	R	
CORORBI			R	R	

SPECIES CODE	LAYER 1	2	3	4	COL.
CARLAS1				O	
PARCOM0				R	
LYTSAL1				R	
APOINTE				R	
ELEPAL1				D	
TYPANG1				A	
TASCINCA				R	
SUNCANA				R	

changed to WE05

ELC	SITE: Ernestown		
	POLYGON: WMASM1-1 - WE04.		
	DATE: 2012-06-10		
WILDLIFE	SURVEYORS: DJ, JJ		
	START TIME: 1701	END TIME: 1730	

TEMP (°C): 29 - 32	CLOUD (10th): 1/10	WIND: 1	PRECIPITATION: NIL
CONDITIONS: Sunny, warm			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	SOSP	VO	singing ♂	•
B	CEDWA	OB		•
H	EGGFrog	VO	singing ♂	•
B	RWBL	VO	♂ / ♀	•
B	COYE	VO	♂ ♀	•
B	LBMW	OB		•
H	BI spotted sal larvae	OB		>20

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

Salamanders abundant in larval stage within 3-5

changed to WE05

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: MASMI-1/WE04
	SURVEYORS: DS JS DATE: 2012-06-10	TIME: start 1501 end 1517
	UTMZ: 18 UTME: 363083	UTMN: 4898553

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☒Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☒Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☒Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☒Marsh
	☐Carb. Bedrock	☐Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☒Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☐Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	1,2	FRAMIGR > JUNVIR6 = PINSTRO
2 Sub-Canopy	2	3	ROSACAR = SALPET
3 Understory	4	3,4	TYPLAT
4 Grd. Layer	5	3	CARLAS > LYTSAL = ASTPUN

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: Si	DEPTH TO MOTTLES/GLEY: g = N/A	G = N/A
MOISTURE: 6	DEPTH OF ORGANICS: 3	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 7120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Marsh	MA
COMMUNITY SERIES:	Shallow marsh	MAS
ECOSITE:	Cattail mineral shallow marsh ecosite	MAS1
VEGETATION TYPE:	Cattail Mineral Shallow Marsh Type	MASMI-1
INCLUSION:		
COMPLEX:		

Notes:

ELC

SOILS ONTARIO

SITE: Ernestown
POLYGON: FOCM2 / WO85
DATE: 2012-06-10
SURVEYORS: DJ + JJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	4	3	2	[illegible]	3°	S	3	18	362611	4898383
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O = 1cm A > 120cm				
A TEXTURE	L				
COURSE FRAGMENTS	NA				
B TEXTURE	/				
COURSE FRAGMENTS					
C TEXTURE	/				
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	L				
SURFACE STONINESS	NA				
SURFACE ROCKINESS	NA				
DEPTH TO/OF					
MOTTLES	NA				
GLEY	NA				
BEDROCK	> 120cm				
WATER TABLE	> 120cm				
CARBONATES	> 120cm				
ORGANICS	1cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	2				
SOIL SURVEY MAP	/				
LEGEND CLASS					

ELC PLANT SPECIES LIST	
SITE:	Ernestown
POLYGON:	FOCM1-2 / woods
DATE:	2012-06-10
SURVEYORS:	DJ, OJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
PINSTRO	A	A	A	R	
PICGLAU	R	R	R	R	
QUANNG	R	R	R	R	
ZANAMER	R	R	R	R	
PRUPENS			R	R	
RHURAD				R	
VITRIPA				R	
RHACATH			R	R	
VIBRAFG			R	R	
NUERUBR				R	

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
CIRLUTE				R	
GEUCANA				R	
GERROBR				R	
ZIZAURE				R	
LITOFFI				R	
FRAVIRG				R	
SOLFLEX				R	
GALASPR				R	
TRITRIP				R	
VINMIOR				R	
CARRASE				R	
TRIARAN				R	

ELC WILDLIFE			
SITE: Ernestown			
POLYGON: FOCM1-2 / W085			
DATE: 2012-06-10			
SURVEYORS: DJ, JJ			
START TIME: 1540		END TIME: 1550	

TEMP (°C): 26.2	CLOUD (10th): 1/10	WIND: 0	PRECIPITATION: nil
CONDITIONS: sunny, warm			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA	X	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	BLUJA	VO	singing						

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

W085

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: FOCM1-2
	SURVEYORS: RS, JS DATE: 2012-06-10	TIME: start 1540
		end 1550
	UTMZ: 18 UTME: 362611	UTMN: 4898383

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒Terrestrial	☐Organic	☐Lacustrine	☒Natural	☐Plakton	☐Lake
☐Wetland	☒Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☒Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☐Deciduous	☐Bog
		☐Talus		☒Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☐Open		☐Woodland
☒Surficial Dep		☐Bluff	☐Shrub		☒Forest
☐Bedrock			☒Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	4	PINSTR>> PICGLAU > JUNVIRG
2 Sub-Canopy	2	3	FRAPENS
3 Understory	3	3	ZANAMER > PRUPENS
4 Grd. Layer	5	2	RIBCYNN = CARPENS = LITLUTE

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:								BA:
SIZE CLASS ANALYSIS:	O	< 10	R	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24 *	R	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	R	10 - 24	R	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: fL	DEPTH TO MOTTLES/GLEY: g = N/A G = N/A	
MOISTURE: 3	DEPTH OF ORGANICS: 1	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	FO
COMMUNITY SERIES:	Coniferous forest	FOC
ECOSITE:	Dry-fresh Pine Coniferous Forest	FOCM1
VEGETATION TYPE:	Dry-fresh White Pine-Red Pine Coniferous Forest Type	FOCM1-2
INCLUSION:		
COMPLEX:		

Notes:

* Note: No snags contain cavities; therefore identified snags are not Bat maternity roosting sites

ELC

SOILS ONTARIO

SITE: Eastown
POLYGON: ~~P4~~ 4 FODM9-4/WO85
DATE: 2012-06-10
SURVEYORS: DJ + JJ

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	4	4	6	80°	2°	S	2	18	362504	4898779
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	O = 15cm / A > 15cm				
A TEXTURE	SCL				
COURSE FRAGMENTS	~~CM~~ NA				
B TEXTURE	/				
COURSE FRAGMENTS	/				
C TEXTURE	/				
COURSE FRAGMENTS	/				
EFFECTIVE TEXTURE	L				
SURFACE STONINESS	0				
SURFACE ROCKINESS	0				

DEPTH TO/OF

MOTTLES	~~23~~ 23cm				
GLEY	NA				
BEDROCK	>120cm				
WATER TABLE	>120cm				
CARBONATES	>120cm				
ORGANICS	15cm				
PORE SIZE DISC #1	/				
PORE SIZE DISC #2	/				
MOISTURE REGIME	6				
SOIL SURVEY MAP	/				
LEGEND CLASS	/				

ELC PLANT SPECIES LIST	
SITE:	Emestown
POLYGON:	FODM9-4 / WOD5
DATE:	2012-06-10
SURVEYORS:	DO, SJ

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
CAROVAT	D	D	O	D	
CARGLAB			R	R	
ACESACC	R	R	R	R	
ULMAMER		R	R	R	
ABIBALS			R	R	
PINSTRO	R	R	R	R	
ZANAMER				R	
RHURADI				R	

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
PHLDIVA				R	
CARPEDU				R	
IMPPALL				O	
[illegible]				R	
CIRLUTE				R	
GOOPUBE				R	
GALASPR				R	
CARPENS				R	
GEUCANA				R	
SANMARI				R	

ELC WILDLIFE	
SITE:	Emestinum
POLYGON:	FODM9-4 / CWOBS
DATE:	2012-06-10
SURVEYORS:	DS / DJ
START TIME:	1201
END TIME:	1226

TEMP (°C): 27.1	CLOUD (10th): 4/10	WIND: 1	PRECIPITATION: non
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS
	HIBERNACULA

✓	SNAGS
✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	WOTH	VO	singing ♂	•
B	OVEN	VO	" "	•
B	REVI	VO	" "	•
B	EWPE	VO	" "	•
B	GCFL	VO	" "	•

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown	POLYGON: FODM9-4
	SURVEYORS: DJ, JJ DATE: 2012-06-10	TIME: start 1200 / end
	UTMZ: 18 UTME: 362504	UTMN: 4898779

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ Terrestrial	☐ Organic	☐ Lacustrine	☒ Natural	☐ Plakton	☐ Lake
☐ Wetland	☒ Mineral Soil	☐ Riverine	☐ Cultural	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Mat'l	☐ Bottomland		☐ Floating-LVD	☐ River
	☐ Acidic Bedrock	☐ Terrace		☐ Graminoid	☐ Stream
	☐ Basic Bedrock	☐ Valley Slope		☐ Forb	☐ Marsh
	☐ Carb. Bedrock	☒ Tableland		☐ Lichen	☐ Swamp
		☐ Roll Upland		☐ Bryophyte	☐ Fen
		☐ Cliff		☒ Deciduous	☐ Bog
		☐ Talus		☐ Coniferous	☐ Barren
		☐ Crevice/Cave		☐ Mixed	☐ Meadow
SITE:		☐ Alvar			☐ Prairie
		☐ Rockland	**COVER:**		☐ Thicket
☐ Open Water		☐ Beach/Bar			☐ Savannah
☐ Shallow Water		☐ Sand Dune	☐ Open		☐ Woodland
☒ Surficial Dep		☐ Bluff	☐ Shrub		☒ Forest
☐ Bedrock			☒ Treed		☐ Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	1	3	QUERUBR > ACESACC > FRAPENS
2 Sub-Canopy	2	1,2	PINSTRO = ULMAMER
3 Understory	3	2,3	CARCAR
4 Grd. Layer	5	3	EMPPAL > SANMARI = PILDIVA

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	O	< 10	R	10 - 24	R	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	X	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: L	DEPTH TO MOTTLES/GLEY: g = 23cm G = N/A	
MOISTURE: 6	DEPTH OF ORGANICS: 15	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 7120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	F
COMMUNITY SERIES:	Deciduous forest	FOD
ECOSITE:	Fresh-moist oak - maple - beech	FODM9
VEGETATION TYPE:	Fresh - moist Sugar Maple - Hickory Deciduous Forest Type	FODM9-4
INCLUSION:		
COMPLEX:		

Notes:

WE-04,

ELC

SOILS ONTARIO

SITE: ERNESTOWN
POLYGON: WE04 / SWDM2-1
DATE: 10 JULY 2012
SURVEYORS: ROB TYMSTRA

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	5	6	5	020	0	S	B	18T	362178	4899385
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X	O				
HORIZON	A 19				
	B 38				
	C 65				
	Bedrock				
A TEXTURE	SiCL				
COURSE FRAGMENTS	2%				
B TEXTURE	SiCL				
COURSE FRAGMENTS	0				
C TEXTURE	CL				
COURSE FRAGMENTS	5%				
EFFECTIVE TEXTURE	SiCL				
SURFACE STONINESS	2				
SURFACE ROCKINESS	1				
DEPTH TO/OF					
MOTTLES	44				
GLEY	22				
BEDROCK	65				
WATER TABLE	999				
CARBONATES	N/A				
ORGANICS	1				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	Moist 5				
SOIL SURVEY MAP	—				
LEGEND CLASS	—				

ELC PLANT SPECIES LIST	
	SITE: ERNESTOWN
	POLYGON: ELC #4 WE-04/SWDM2-1
	DATE: 10 July 2012
	SURVEYORS: R Tymstra

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAX NIG	D				
TILI AME	O				
THUJ OCC	C				
ULMU AME	R				
FRAX NIG		D			
Rose sp.		O			
TILI AME		O			

SPECIES CODE	LAYER 1	2	3	4	COL.
IMPA CAP			A		
CIRC QUA			A		
Can. Reedgrass (Phal Aru)			D		
ONOC SEN			A		
RHUS TOX			O		
LEER ORY			O		
EUPA DUB			A		
CALT PAL			A		
SAMO PAR				A	
CAREX PEN				A	
Sedge sp.					
CAREX				A	
PART QUI				O	
Sedge sp.				A	
Monkeyflower				O	
water pepper and				A	
Swamp buttercup				C	
Wild parsley				O	
Water plantain				C	
Herb Robert				O	

4

WE04.

ELC **WILDLIFE**	**SITE:** ERNESTOWN	
	POLYGON: WE04/SWDM2-1.	
	DATE: 10 Jly 12	
	SURVEYORS: 4147	
	START TIME: 15:00	**END TIME:** 16:30

TEMP (°C): 27	CLOUD (10th): 0	WIND: W2	PRECIPITATION: 0
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

✓	VERNAL POOLS dry	✓	SNAGS
	HIBERNACULA	✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	REVI	SM		1					
B	WOOD	SH		2					
B	SOSP	SM		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT

SI = OTHER SIGNS (specify)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ERNESTOWN	POLYGON: SWDM2-1/WE04
	SURVEYORS: R Tyrrell DATE:	TIME: start 1500 end 1630.
	UTMZ: 18 UTME: 362178	UTMN: 4879385

POLYGON DESCRIPTION: WE04

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐Terrestrial	☐Organic	☐Lacustrine	☑Natural	☐Plakton	☐Lake
☑Wetland	☑Mineral Soil	☑Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☑River
	☐Acidic Bedrock	☐Terrace		☑Graminoid	☐Stream
?	☑Basic Bedrock	☐Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☐Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☑Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☑Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☑Shallow Water		☐Sand Dune	☐Open		☑Woodland
☐Surficial Dep		☐Bluff	☐Shrub		☐Forest
☐Bedrock			☑Treed		☐Plantation

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	2	4	FRAX NIG > TILIAME > THUJ OCC > ULMU AME
2 Sub-Canopy	3	3	FRAX NIG > TILIAME > Rose sp.
3 Understory	4	2	PHAL ARU > IMPA CAP = ONOC SEN = EUPA OUS
4 Grd. Layer	5,6	4	CARE PEN > SAMO PAR > Water Plantain sp. > Wild Parsley sp.

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	A	< 10	O	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	O	< 10	R	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER	✓	YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: Si CL	DEPTH TO MOTTLES/GLEY: g = 44	G = 22
MOISTURE: Moist 5	DEPTH OF ORGANICS: 1	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 65	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Swamp	SW
COMMUNITY SERIES:	Deciduous	SWD
ECOSITE:	Ash mineral Acid swamp	SWDM2
VEGETATION TYPE:	Ash mineral acid swamp type	SWDM2-1
INCLUSION:		
COMPLEX:		

Notes:

W003

ELC

SOILS ONTARIO

SITE: W003 ERNESTOWN
POLYGON: W003 / FODM6-4
DATE: 10 JULY 2012
SURVEYORS: ROB TYMSTRA

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	4	5	2	270	1	5	B	18T	0362772	4899907
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X HORIZON	L · 2 A = 26cm B = 70cm C = 105cm Rock / Tough soil				

A	TEXTURE	SiL				
	COURSE FRAGMENTS	0				
B	TEXTURE	L				
	COURSE FRAGMENTS	1%	K(2cm Ø)			
C	TEXTURE	LS				
	COURSE FRAGMENTS	C				
EFFECTIVE TEXTURE		SiL				
SURFACE STONINESS		1				
SURFACE ROCKINESS		0				

DEPTH TO/OF

MOTTLES	65cm 2%				
GLEY	999				
BEDROCK	999				
WATER TABLE	999				
CARBONATES	—				
ORGANICS	2				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	very fresh,				
SOIL SURVEY MAP	—				
LEGEND CLASS	—				

W003

3

ELC PLANT SPECIES LIST	SITE: ERNESTOWN
	POLYGON: W003 / FODM6-4
	DATE: 10 July 2012
	SURVEYORS: R. TYMSTRA

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
TSUGCAN	O				
ACER SAC	A				
ACER RUB	R				
PINU STR	O				
QUER RUB	R				
FRAX NIG	O				
ULMU AME	O				
TILIAME	A				
PRUN SER		O			
ULMU AME		O			

B1 cherry

SPECIES CODE	LAYER 1	2	3	4	COL.
ULMU AME			A		
IMPA CAN				R	
ARCT MIN				R	
cleaver sp.				R	
VIOLA-SP				R	
POOC-PEC				R	
Grass sp				R	
~~poplar~~ sp				R	

FOD6-1A Fresh-moist Sugar maple-white elm deciduous forest type

6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ERNESTOWN	POLYGON: WO03/FODM6-4
	SURVEYORS: R. RAMSTRA DATE: 10 JULY 12	TIME: start 640
		end 820
	UTMZ: 18 UTME: 362 772	UTMN: 4899907

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑Terrestrial	☐Organic	☐Lacustrine	☑Natural	☐Plakton	☐Lake
☐Wetland	☑Mineral Soil	☐Riverine	☐Cultural	☐Submerged	☐Pond
☐Aquatic	☐Parent Mat'l	☐Bottomland		☐Floating-LVD	☐River
	☐Acidic Bedrock	☐Terrace		☐Graminoid	☐Stream
	☐Basic Bedrock	☑Valley Slope		☐Forb	☐Marsh
	☐Carb. Bedrock	☑Tableland		☐Lichen	☐Swamp
		☐Roll Upland		☐Bryophyte	☐Fen
		☐Cliff		☑Deciduous	☐Bog
		☐Talus		☐Coniferous	☐Barren
		☐Crevice/Cave		☐Mixed	☐Meadow
SITE:		☐Alvar			☐Prairie
		☐Rockland	**COVER:**		☐Thicket
☐Open Water		☐Beach/Bar			☐Savannah
☐Shallow Water		☐Sand Dune	☐Open		☑Woodland
☑Surficial Dep		☐Bluff	☐Shrub		☑Forest
☐Bedrock			☑Treed		☐Plantation

WO·03

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	2	4	ACERSAC > ULMUAME > TILIAME > TSUGCAN / PINUSTR
2 Sub-Canopy	3	2	ULMUAME > OSTRVIR >
3 Understory	4	1	ULMUAME >
4 Grd. Layer	5,6	1	IMPACAN > VIOLASP > PODOPEL

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	A	< 10	O	10 - 24	R	25 - 50	M	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER	✓	YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SIL	DEPTH TO MOTTLES/GLEY: g = 65	G = N/A	
MOISTURE: V Fresh	DEPTH OF ORGANICS: 2		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 999		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	FOREST	FO
COMMUNITY SERIES:	Deciduous Forest Ecosite	FOD
ECOSITE:	Fresh-moist Sugar Maple decid.	FOD6
VEGETATION TYPE:	Fresh Moist Sugar Maple-White elm deciduous Forest Type	FODM6-4
INCLUSION:	—	—
COMPLEX:	—	—

Notes:

ELC	SITE: ERNESTOWN	
	POLYGON: WO03 / FODM6-4	
	DATE: 10 JULY 12	
WILDLIFE	SURVEYORS: R. TYMSTRA	
	START TIME: 6:40	END TIME: 8:20

WO-03

TEMP (°C): 17	CLOUD (10th): 0	WIND: 0	PRECIPITATION: 0
CONDITIONS: SUNNY, NORMAL			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	✓	SNAGS
	HIBERNACULA	✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	PIWO	SM		1					
B	NOFL	SM		1					
B	OVEN	SM		1					
B	SOSP	SM		1					
B	AMRO	SM		1					
B	RTHA	SM		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR

A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG

NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS

DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG

TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT

SI = OTHER SIGNS (specify)

W004-A

ELC

SOILS ONTARIO

SITE: ERNESTOWN
POLYGON: W004-A - ELC#2/POD#6-1
DATE: 10 JULY 2012
SURVEYORS: R. TYMSTRA

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	6	4	1	270	0	S	B	18T	362190	4899201
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X	L-1cm				
HORIZON	A 35 / B 65 / C ↓ 100				

soil too hard below

A	TEXTURE	SiCL VF				
	COURSE FRAGMENTS	0				
B	TEXTURE	SiCL VF				
	COURSE FRAGMENTS	0				
C	TEXTURE	SiCL				
	COURSE FRAGMENTS	0				
EFFECTIVE TEXTURE		SiCL				
SURFACE STONINESS		1				
SURFACE ROCKINESS		0				

DEPTH TO/OF

MOTTLES	999				
GLEY	999				
BEDROCK	999				
WATER TABLE	999				
CARBONATES	—				
ORGANICS	1				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	fresh 2				
SOIL SURVEY MAP	X				
LEGEND CLASS	X				

ELC PLANT SPECIES LIST	SITE: ERNESTOWN
	POLYGON: ELC #2 WOD4-1 / FODM6-1
	DATE: 10 JULY 12
	SURVEYORS: K. TAMSTRA

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAX NIG	D				
ACER SAC	D				
PINU STR	O				
TILI AME	O				
QUER RUB	R				
TSUG CAN	R				
ACER SAC		A			
OSTR VIR		O			
ULMU AME		O			
ABIE BAL		R			
FRAX NIG		O			

SPECIES CODE	LAYER 1	2	3	4	COL.
FRAX NIG			A		
TILIA AME			O		
ROSE Sp			A		
PODOPEL				O	
Grass sp				D	
VIOLA - SP				A	
FRAX NIG				O	
CIRC QUA				A	

FODm6-1 6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ELC #2 ERNESTOWN	POLYGON: ELC #2 - WORK (A)
	SURVEYORS: YRT DATE: 2012-07-10	TIME: start 1150 end 1315
	UTMZ: 18 UTME: 362190	UTMN: 4899201

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ Terrestrial	☐ Organic	☐ Lacustrine	☑ Natural	☐ Plakton	☐ Lake
☐ Wetland	☑ Mineral Soil	☐ Riverine	☐ Cultural	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Mat'l	☐ Bottomland		☐ Floating-LVD	☐ River
	☐ Acidic Bedrock	☐ Terrace		☐ Graminoid	☐ Stream
	☐ Basic Bedrock	☑ Valley Slope		☐ Forb	☐ Marsh
	☐ Carb. Bedrock	☑ Tableland		☐ Lichen	☐ Swamp
		☐ Roll Upland		☐ Bryophyte	☐ Fen
		☐ Cliff		☑ Deciduous	☐ Bog
		☐ Talus		☐ Coniferous	☐ Barren
		☐ Crevice/Cave		☑ Mixed	☐ Meadow
		☐ Alvar			☐ Prairie
		☐ Rockland			☐ Thicket
		☐ Beach/Bar			☐ Savannah
		☐ Sand Dune			☑ Woodland
		☐ Bluff			☑ Forest
					☐ Plantation

SITE:	COVER:
☐ Open Water	☐ Open
☐ Shallow Water	☐ Shrub
☑ Surficial Dep	☑ Treed
☐ Bedrock	

mostly decid. maple with occ. Wh. pine

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	2	4	ACER SAC > FRAX NIG > TILIA ME > PINU STR
2 Sub-Canopy	3	4	ACER SAC > ULMU AME > FRAX NIG > OSTR VIR
3 Understory	4	1	FRAX NIG > ROSE SP. > TILIA AME
4 Grd. Layer	5,6	1	VIOLA SP. > CIRC QUA > FRAX NIG > POD PEL

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	S	< 10	D	10 - 24	R	25 - 50	M	> 50
STANDING SNAGS:	M	< 10	R	10 - 24	M	25 - 50	M	> 50
DEADFALL / LOGS:	O	< 10	R	10 - 24	R	25 - 50	M	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: SiCL	DEPTH TO MOTTLES/GLEY: g = N/A G = N/A	
MOISTURE: fresh 2	DEPTH OF ORGANICS: 2	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK:	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	FOREST	FO
COMMUNITY SERIES:	Deciduous	FOD
ECOSITE:	Fresh-moist Sugar Maple-Beech-Yellow Birch Deciduous Forest Ecosite	FOD-6
VEGETATION TYPE:	Fresh-moist Sugar Maple-Lowland Ash Deciduous Forest Type	FODm6-11
INCLUSION:		
COMPLEX:		

Notes:

ELC	SITE: ERNESTO		
	POLYGON: ELC #2 / FODM6-1/WO84		
WILDLIFE	DATE: 18 July 12		
	SURVEYORS: YRT		
	START TIME: 1200	END TIME: 1315	

WO-04 (A)

TEMP (°C): 25	CLOUD (10th): 0	WIND: W/	PRECIPITATION: 0
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA	✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#
B	RBGR	SM		1
B	REVI	SM		1
B	SOSP	SM		1
B	COYE	SM	50 m +	1
B	OVEN	SM		1

TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

W004-B

ELC

SOILS ONTARIO

SITE: ERNESTOWN
POLYGON: W004-B ELC-3/FODM7-6
DATE: 10 JULY 2012
SURVEYORS: R. TYMSTRA

	P/A	PP	Dr	SLOPE: Position	Aspect	%	Type	Class	UTM Z	EASTING	NORTHING
1	A	5	4	1	010	2	S	B	18T	362233	4899362
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE X	L-1				
HORIZON	A				
	15				
	B 55				
	C 80				
	Rock hard				
A TEXTURE	Si				
A COURSE FRAGMENTS	0				
B TEXTURE	CL				
B COURSE FRAGMENTS	0				
C TEXTURE	Si CL				
C COURSE FRAGMENTS	1%				
EFFECTIVE TEXTURE	Si				
SURFACE STONINESS	1				
SURFACE ROCKINESS	0				
DEPTH TO/OF					
MOTTLES	60 <2%				
GLEY	999				
BEDROCK	999				
WATER TABLE	999				
CARBONATES	—				
ORGANICS	1				
PORE SIZE DISC #1	—				
PORE SIZE DISC #2	—				
MOISTURE REGIME	3 V. Fresh				
SOIL SURVEY MAP	—				
LEGEND CLASS	—				

WOO4-B 3

ELC PLANT SPECIES LIST	SITE: Ernestown
	POLYGON: ELC #3 WOOD-B / FODM7-6
	DATE: 10 July 2012
	SURVEYORS: Rob Tymstra

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
TILI AME	O				
FRAX NIG	A				
JUGL NIG	O				
TSUG CAN	O				
THUJ OCC	R				
CARY OVA	O				
ACER SAC		O			
TILI AME		O			
FRAX NIG		O			
OSTR VIR		O			
ABIE BAL		R			
ULMU AME		C			

SPECIES CODE	LAYER 1	2	3	4	COL.
TILI AME			O		
MARTICA - SP			O		
ORTO CAR			O		
ONOC SEN			O		
Rose Sp			A		
ULMU AME			O		
ABIE AME			R		
RUBU IDA			O		
CARY OVA			R		
AQUI CAN				R	
PRUN VUL				R	
Viola sp				O	
Aster sp				O	
Sedge sp				D	
Poda Pod				A	
Acer SAC				O	
TILI AME				C	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: ERNESTOWN	POLYGON: FODM7-6/W004 WOOD(B)
	SURVEYORS: VRT DATE: 10 JULY 12	TIME: start 1325
	UTMZ: 18 UTME: 362233	end 1440
		UTMN: 4899362

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ Terrestrial	☐ Organic	☐ Lacustrine	☑ Natural	☐ Plakton	☐ Lake
☐ Wetland	☑ Mineral Soil	☐ Riverine	☐ Cultural	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Mat'l	☐ Bottomland		☐ Floating-LVD	☐ River
	☐ Acidic Bedrock	☐ Terrace		☐ Graminoid	☐ Stream
	☐ Basic Bedrock	☐ Valley Slope		☐ Forb	☐ Marsh
	☐ Carb. Bedrock	☑ Tableland		☐ Lichen	☐ Swamp
		☐ Roll Upland		☐ Bryophyte	☐ Fen
		☐ Cliff		☑ Deciduous	☐ Bog
		☐ Talus		☐ Coniferous	☐ Barren
		☐ Crevice/Cave		☑ Mixed	☐ Meadow
		☐ Alvar			☐ Prairie
		☐ Rockland			☐ Thicket
		☐ Beach/Bar			☐ Savannah
		☐ Sand Dune			☐ Woodland
		☐ Bluff			☑ Forest
					☐ Plantation

SITE:	COVER:
☐ Open Water	☐ Open
☐ Shallow Water	☐ Shrub
☑ Surficial Dep	☑ Treed
☐ Bedrock	

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	2	4	FRAX NIG > ACER SAC > TSUG CAN > hick.
2 Sub-Canopy	3	4	Hop ~~ulmus~~ me OSTR VIR > ULMUAME
3 Understory	4	2	Rose sp > Ulm > Abies > FraxN.g
4 Grd. Layer	5,6	2	PODE PEL > VIOLA sp / Sedge sp.

HT CODES: 1= >= 25m; 2= 10 - <25m; 3= 2 - <10m; 4= 1 - <2m; 5= 0.5 - <1m; 6= 0.2 - <0.5m; 7= <0.2m

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	R	25 - 50	M	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	M	25 - 50	M	> 50
DEADFALL / LOGS:	O	< 10	R	10 - 24	R	25 - 50	M	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMMUNITY AGE:		PIONEER		YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE: Si	DEPTH TO MOTTLES/GLEY: g = 60	G = N/A
MOISTURE: 3 V fresh	DEPTH OF ORGANICS: 1	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: 999	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Forest	FO
COMMUNITY SERIES:	Forest decid	FOD
ECOSITE:	AFRESH moist Lowland Decid Forest Ecosite	FODM7
VEGETATION TYPE:	Fresh-Moist Black ash-hardwood lowland Decid Forest type	FODM7-6
INCLUSION:		
COMPLEX:		

Notes:

WOOD B

ELC	SITE: ERNESTOWN	
	POLYGON: ELC #3 WOOD B/FODM7-6	
	DATE: JULY 10, 2012	
WILDLIFE	SURVEYORS:	
	START TIME: 1325	END TIME: 1440

TEMP (°C): 27	CLOUD (10th): 0	WIND: W 2	PRECIPITATION: 0
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	✓	SNAGS
	HIBERNACULA	✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	CEDW	SM		1					
B	DOWO	SM		1					
B	RBGR	SM		2					
B	SOSP	SM		2					
B	REVI	SM		1					
B	INBU	SM		1					
B	AMRO	SM		1					
M	RESQ	–		1					
B	HOWR	SM		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS/YOUNG
TK = TRACKS FE = FEEDING EVIDENCI SC = SCAT
SI = OTHER SIGNS (specify)

SWD01-2 with MAS01-1, MAS01-4 inclusions

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Ernestown Wind Park	POLYGON: 28, 29, 30
	SURVEYOR(S): MME	DATE: July 15, 2014
	TIME: start / finish	
	UTMZ:	UTME:
	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
G TERRESTRIAL G WETLAND G AQUATIC	G ORGANIC G MINERAL SOIL G PARENT MIN. G ACIDIC BEDRK. G BASIC BEDRK. G CARB. BEDRK.	G LACUSTRINE G RIVERINE G BOTTOMLAND G TERRACE G VALLEY SLOPE G TABLELAND G ROLL. UPLAND G CLIFF G TALUS G CREVICE / CAVE G ALVAR G ROCKLAND G BEACH / BAR G SAND DUNE G BLUFF	G NATURAL G CULTURAL	G PLANKTON G SUBMERGED G FLOATING-LVD. G GRAMINOID G FORB G LICHEN G BRYOPHYTE G DECIDUOUS G CONIFEROUS G MIXED	G LAKE G POND G RIVER G STREAM G MARSH G SWAMP G FEN G BOG G BARREN G MEADOW G PRAIRIE G THICKET G SAVANNAH G WOODLAND G FOREST G PLANTATION
SITE G OPEN WATER G SHALLOW WATER G SURFICIAL DEP. G BEDROCK			**COVER** G OPEN G SHRUB G TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	FRAPENN >> ULMAMER >> QUEMAC
2	SUB-CANOPY	-	-	
3	UNDERSTOREY	-	-	
4	GRD. LAYER			OSMSTR

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	< 10	10 - 24	25 - 50	> 50
	O	A	O	N
STANDING SNAGS:	R	N	N	N
DEADFALL / LOGS:	R	A	A	N

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
		X			

SOIL ANALYSIS:

TEXTURE: CL	DEPTH TO MOTTLES / GLEY	g = 11 cm	G= 11 cm
MOISTURE:	DEPTH OF ORGANICS:	100	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	<150	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Swamp	SW
COMMUNITY SERIES:	Deciduous Swamp	SWD
ECOSITE:	Ash Organic Deciduous Swamp	SWD01
VEGETATION TYPE:	Green Ash Organic Deciduous Swamp Type	SWD01-2
INCLUSION	Cattail organic shallow marsh	MAS01-1
COMPLEX	Reed Canary Grass	MAS01-4

Notes: Inclusion

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

ELC

SOILS ONTARIO

SITE: Ernestown Wind Park
POLYGON: 28, 29, 30
DATE: July 15, 2012
SURVEYOR(S): MMcE

	P/A	PP	Dr	Slope Position	Slope Aspect	Slope %	Slope Type	Slope Class	UTM Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE	CL				
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES	11 cm				
GLEY	11 cm				
BEDROCK	>100				
WATER TABLE					
CARBONATES	—				
DEPTH OF ORGANICS	100				
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC

PLANT SPECIES LIST

SITE: Ernestown Wind Park
POLYGON: 28, 29, 30
DATE: July 15, 2012
SURVEYOR(S): MMcE

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
FRAPENN	D	B	R	-	
ULMAMER	R				
QUSMACR			R		
FAGGRAN			R		

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.	
GLYSTRI				D		
PHAARUN				R		
CORSTOL			R			
CORFORA			R			
ONOSENS				R		
sedge				R		
[illegible]				R		
[illegible]				R		
[illegible]				R		photo
[illegible]			R			
SCIMCR				R		
SOLCANA				D		
CARCRIN				R		
SCINALI				R		
CARVULP				R		
PASSATI						
ERIANNU				R		Daisy fleabane
ARCMINI				R		common burdock
ASCSYRI						common milkweed
CARLACU						M-sedge
CARUTRI						V-sedge
LYCAMER						water horehound DSC-0075 & DSC-0044
BID_SP						
SAL_SP						
SOL_SP						

ELC

MANAGEMENT / DISTURBANCE

SITE: Ernestown Wind Park
POLYGON: 28 29 30
DATE: July 15, 2012
SURVEYOR(S): AMC

DISTURBANCE / EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE: Ernestown Wind Park
POLYGON: 28 29 30
DATE: July 15, 2012
SURVEYOR(S): AMC
START TIME: END TIME:

TEMP (°C): 28 CLOUD (10th): 10 WIND: 2 PRECIPITATION: < 1mm

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

✓	VERNAL POOLS	✓	SNAGS
	HIBERNACULA	✓	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	GRCA	OB							
H	LCFR	OB							

FAUNAL TYPE CODES (TY):
B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:
T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:
DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
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OTHER WILDLIFE EVIDENCE:
OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS OR YOUNG
TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT
SI = OTHER SIGNS (specify)

THDM4-1

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Enestown Wood Park		POLYGON: 19	
SURVEYOR(S): MMG	DATE: July 16, 2012	TIME: start / finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
G TERRESTRIAL G WETLAND G AQUATIC	G ORGANIC G MINERAL SOIL G PARENT MIN. G ACIDIC BEDRK. G BASIC BEDRK. G CARB. BEDRK.	G LACUSTRINE G RIVERINE G BOTTOMLAND G TERRACE G VALLEY-SLOPE G TABLELAND G ROLL. UPLAND G CLIFF G TALUS G CREVICE / CAVE G ALVAR G ROCKLAND G BEACH / BAR G SAND DUNE G BLUFF	G NATURAL G CULTURAL	G PLANKTON G SUBMERGED G FLOATING-LVD. G GRAMINOID G FORB G LICHEN G BRYOPHYTE G DECIDUOUS G CONIFEROUS G MIXED	G LAKE G POND G RIVER G STREAM G MARSH G SWAMP G FEN G BOG G BARREN G MEADOW G PRAIRIE G THICKET G SAVANNAH G WOODLAND G FOREST G PLANTATION
SITE G OPEN WATER G SHALLOW WATER G SURFICIAL DEP. G BEDROCK			**COVER** G OPEN G SHRUB G TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	4	American Elm > Green Dogwood ≥ Green Ash
2	SUB-CANOPY	—	—	
3	UNDERSTOREY			Green Dogwood
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	R	10 - 24	—	25 - 50	—	> 50
STANDING SNAGS:	R	< 10	—	10 - 24	—	25 - 50		> 50
DEADFALL / LOGS:	R	< 10	—	10 - 24	—	25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :		PIONEER	X	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE: SL	DEPTH TO MOTTLES / GLEY	g = 5	G= —
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	Thicket	TH
COMMUNITY SERIES:	Deciduous Thicket	THD
ECOSITE:	Dry-Fresh Deciduous Regen.	THDM4
VEGETATION TYPE:	Native Deciduous Regeneration Thicket Type	THDM4-1
INCLUSION		
COMPLEX		

Notes:

ELC — STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

ELC

SOILS ONTARIO

SITE: Ernestown Wind Park
POLYGON: 19
DATE: July 16, 2012
SURVEYOR(S): MME

	P/A	PP	Dr	Position	Aspect	Slope %	Slope Type	Slope Class	Z	UTM EASTING	UTM NORTHING
1									18	361066	4900140
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON					
A TEXTURE	SL				
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES	5 cm				
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES	nc				
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

unable to sample - too loose no auger

ELC PLANT SPECIES LIST

SITE: Ernestown Wind Park
POLYGON: 19
DATE: July 16, 2012
SURVEYOR(S): MME

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.	SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
Gray dogwood	A	+	D			curly dock				R	
[illegible]	R	+				crown vetch				R	
buckthorn	O	+			7814, 15	common milkweed				R	
Hickory	R				7816	Timothy Hay				O	
Holly sp			R	R	7817	wild carrot				O	
rasp. sp				R		poison ivy				R	
Canada Goldenrod				A	7818-19	virginia creep				R	
Elm D	D				[illegible] 21	wild grape				R	
St. [illegible]				R	7820, 21	[illegible]					
grass sp	R			R	7822, 24	water [illegible]				R	
green ash	R					yarrow				O	
[illegible]	R				7838-39	birds foot trefoil				R	
						[illegible] sedge				O	7827
						fox sedge				O	
						sedge sp				O	7825
						[illegible]				R	7826
						pearly everlasting	?			R	7828
						[illegible]	?			O	7829
						glossy buck?				R	7833
						[illegible] sp					7834-35
						Strawberry sp				R	7836
						[illegible]				R	
						hawk sp				R	7841-42
						[illegible] sp				O	
						[illegible]				R	7843

15' height, 3-4m (D)

Page ......

ELC

MANAGEMENT / DISTURBANCE

SITE: Ernestown Wind Park
POLYGON: 19
DATE: July 16, 2012
SURVEYOR(S): MMD

DISTURBANCE / EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC

WILDLIFE

SITE: Ernestown Wind Park
POLYGON: 19
DATE: July 16 2012
SURVEYOR(S): MMD
START TIME: END TIME:

TEMP (°C): 32 | CLOUD (10th): 20 | WIND: 1-2 | PRECIPITATION: S

CONDITIONS:

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS	X	SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	AMGO	SM							

FAUNAL TYPE CODES (TY):
B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
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DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS OR YOUNG
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WE04

HATCH™

Project Name:	Ernestown Wind Park	**Project Number:**	H342036
Observer(s):	MMG	**Location:**	Ernestown Wind Park
Date:	July 15, 2012	**Time:**	1400-1520
Temp:	27°C	**%C.C:**	100
Wind Speed:	2-3		

Field ID: WE04 Wetland Type: Marsh Site Type: Isolated Dominant Form: RC

% Open Water: 0 Water Depth (cm): — Seepage Y/N): N Iron Precipitates (Y/N): —

Depth of Organics (cm): 20 (OL) CL

GPS 917 — calibrate @ OCW

Soil Horizon A Texture: CL Depth to Mottles (cm): 6 Depth to Gley (cm): 15

Soil Horizon B Texture: Depth to Mottles (cm): — Depth to Gley (cm): —

Vegetation Forms: Circle forms that are ≥25%; dominant species[1], secondary species[2], present species[P]

Form	% of Form	Species Composition
h	—	
c	—	
dc, dh, ds	—	
ts	<1	Fraxinus pennsylvanica
ls		Salix petiolaris, Salix sp.
gc	15	Eupatorium perfoliatum, Eupatorium maculatum, Lythrum salicaria
ne	25	Phalaris arundinacea[2], Carex sp., Juncus sp.
be		
re	60	Typha latifolia, Scirpus microcarpus, S. validus
ff		
f		
su		
m	1	MOSSES

Other Observations

Hypericum perforatum

WEOS-4

HATCH™

Project Name:	Ernestown Wind Park	**Project Number:**	H342036
Observer(s):	MME	**Location:**	Ernestown Wind Park
Date:	July 16, 2012	**Time:**	1500-1600
Temp:	32°C	**%C.C:**	20
Wind Speed:	1-2		

Field ID: WEOS-4 Wetland Type: Swamp Site Type: Isolated Dominant Form: h

% Open Water: 25% Water Depth (cm): >20? Seepage Y/N): N Iron Precipitates (Y/N): N

Depth of Organics (cm): 2 cm

Soil Horizon A Texture: SL Depth to Mottles (cm): 20 Depth to Gley (cm): 40 cm

Soil Horizon B Texture: Depth to Mottles (cm): Depth to Gley (cm):

Vegetation Forms: Circle forms that are ≥25%; dominant species[1], secondary species[2], present species[P]

Form	% of Form	Species Composition
h	75%	FRAPENN POPDECT
c		
dc, dh, ds		
ts		
ls	25%	FRAPENN
gc	1	ONOSENS
ne	5	CAREX SP.
be		
re		
ff		
f		
su		
m		

ONO: 2%

Other Observations

green frog calling + observed
leopard frog calling
Bullfrog heard calling
canadian swallowtail