

Ernestown Wind Park

Amphibian Breeding Habitat Pre-Construction Surveys Report

Prepared by: *M.K. Ince and Associates Ltd.*

Prepared for: *Ernestown Windpark LP*

July 12, 2013



M.K. INCE AND ASSOCIATES LTD.

Renewable Energy & Environmental Consulting

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1 INTRODUCTION

Site investigations of the Ernestown Wind Park project location determined the presence of four candidate amphibian breeding habitats (ABH01, ABH02, ABH03 and ABH04; see **Figure 1-1**). These sites include both woodland (ABH02, ABH03, ABH04) and wetland (ABH01) habitats. Candidate breeding habitat ABH02 was surveyed prior to the remaining areas and results for such can be found in the *Natural Heritage Environmental Impact Study Report* (MKI, 2012). The woodland candidate habitats were identified based on the presence of breeding pools within the woodland or the shortest distance from the forest habitat. Amphibians require breeding pools with standing water that persist throughout the spring months. These breeding pools are more likely to be used due to reduced risk to migrant amphibians. Candidate wetland habitat was identified >120 m away from a woodland. In wetland habitats, wetlands and pools (including vernal pools) >500 m² and isolated from woodlands (>120 m) supporting high species diversity are significant. The presence of shrubs and logs increase the significance of ponds for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. **Table 1-1** below presents additional information on the candidate habitats identified during the site investigation.

Table 1-1: Description of Candidate Amphibian Breeding Areas

Description	Feature ID	Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
			Size	ELC Community		
Amphibian Breeding Habitat – Woodlands (ABH)	ABH02	Access Road (62m) Collector (60m)	103 ha	<p>Wetland Communities: <u>WE02</u> (MAMM1-3 and SWDM2-2; ELC IDs: 22 & 23 respectively), <u>WE04</u> (SWDM2-1, OAO, and MASM1-1; ELC IDs: 32, 33 & 36 respectively), <u>WE05</u> (MAMM1-3; ELC IDs: 38,44 & 50), <u>WE09</u> (MAMM1-3; ELC ID: 55), <u>WE05-4</u> (SWDM2-2, and OAO; ELC IDs: 60 & 61 respectively)</p> <p>Woodland Communities: <u>WO06</u> [FODM9-4 (ELC IDs: 41, 47, 57); SWDM2-2 (ELC ID: 60); WOCM1-1 (ELC IDs: 46, 54, 56); FODM2-3 (ELC ID: 39)], <u>WO04</u> [FODM7-6 (ELC ID: 35); SWDM2-1 (ELC ID: 36); FODM6-1 (ELC ID: 37)]</p>	Wetland, lake or pond within or adjacent to (within 120 m) a woodland that provides 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)

Description	Feature ID	Project Components within 120 m	Attributes and Composition		Function	Associated Natural Features
			Size	ELC Community		
	ABH03	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	0.28 ha	Wetland Community: <u>WE10</u> (SWDO1-2, MASO1-1 and MASO1-4; ELC IDs: 28,29 & 30, respectively) Woodland Community: <u>WO15</u> (SWD01-2; ELC ID: 28)		Wetland (WE10) Woodland (WO15)
	ABH04	Access Road (0m) Collector (0m) Hardstand (0m) Turbine (0m)	154 ha	Wetland Community: <u>WE05-6</u> (MASM1-1; ELC ID: 65), <u>WE05-10</u> (MASM1-1; ELC ID: 70), <u>WE05-15</u> (MASM1-1; ELC ID: 59), <u>WE05-16</u> (MASM1-1; ELC ID: 77) Woodland Community: <u>WO05-4</u> [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)]		Wetland (WE05-6, WE05-10, WE05-15, WE05-16) Woodland (WO05-4)
Amphibian Breeding Habitat – Wetlands (ABH)	ABH01	Access Road (1m) Staging Area (84m)	0.60 ha	Wetland Community: <u>WE08</u> [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)

The *Natural Heritage Evaluation of Significance Report* (MKI, 2012) did not report on the outcomes of the evaluation of significance for ABH01, ABH03 and ABH04, due to seasonality constraints and surveys unable to be conducted prior to the submission of the Natural Heritage Assessment. Consequently, ABH01, ABH03 and ABH04 were treated as significant and subject to additional habitat-use surveys to determine significance. This process of treating a habitat as significant and committing to undertake studies prior to construction is outlined in Appendix D of the *Natural Heritage Assessment Guide* (MNR, 2011).

This report presents the results from the pre-construction habitat-use surveys for ABH01, ABH03 and ABH04.

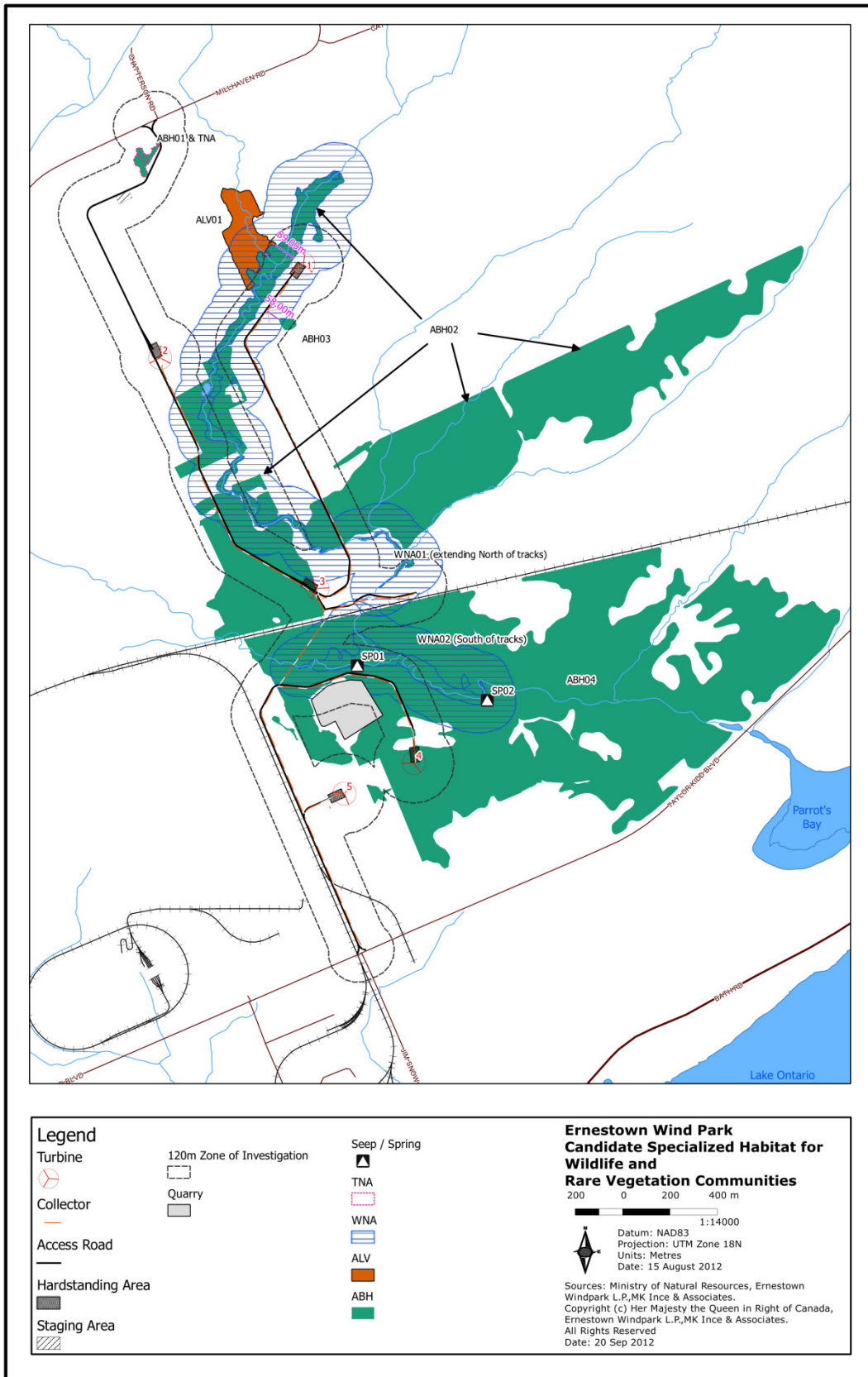


Figure 1-1: Location of candidate Amphibian Breeding Habitat at Ernestown Wind Park

2 METHODOLOGY

Detailed methodology for pre-construction surveys to evaluate the significance of ABH01, ABH03 and ABH04 has been provided within the *Natural Heritage Environmental Impact Study Report* (MKI, 2012). In April 2013, prior to the commencement of surveys, the Ministry of Natural Resources (MNR) was contacted with a copy of the methodology copied from the *Natural Heritage Environmental Impact Study Report* (MKI, 2012) and recommended survey points. **Appendix A** contains the protocol and relevant correspondence with the Ministry. **Appendix B** contains a map of the chosen survey points.

In general, identified candidate habitat was observed by field staff for the presence of breeding amphibians. Under guidance in the *Significant Wildlife Habitat Technical Guide* (OMNR, 2000), *Draft SWH Ecoregion 6E Criterion Schedule* (OMNR, 2012), and the Marsh Monitoring Program (BSC, 2003), surveys were conducted three times a year between April and July 5th, with at least 15 days between surveys. The surveys were both time sensitive and weather dependent beginning one-half hour after sunset and ending before midnight on nights with little wind and warm, ideally damp or lightly raining conditions.

3 RESULTS

A summary of the pre-construction habitat-use surveys for ABH01, ABH03 and ABH04 at the Ernestown Wind Park Project is provided in **Table 3-1** below. Details on the dates, time, point count coordinates, weather conditions during each site visit, as well as the names of each of the investigators are provided.

Table 3-1: Summary of Site Visits

Date	Habitat Surveyed	Station Location / GPS coordinate	Start / End Time	Weather Conditions	Site Investigators
2013-04-16	ABH04	A4P1- 18T 0362834 4898256	20:22-20:25	Temp: 7°C to 9°C Water Temp: unknown Wind (Beaufort): 1-3 Precipitation: none/dry	Rhiannon Leshyk & Erin Jaggard
		A4P2- 18T 0362490 4898005	20:45-20:48		
		A4P3- 18T 0362916 4897836	21:01-21:04		
		A4P4- 18T 0364408 487995	21:26-21:29		
2013-04-17	ABH01	A1P1- 18T 0361874 4900432	20:51-20:54	Temp: 7°C to 9°C Water Temp: unknown Wind (Beaufort):0-1 Precipitation: none/dry	Rhiannon Leshyk & Erin Jaggard
	ABH03	A3P1- 18T 0362493 4899748	20:31-20:34		
2013-05-30	ABH01	A1P1- 18T 0361880 4900441	22:47-22:50	Temp: 20°C to 21°C Water Temp: unknown	Rhiannon Leshyk & Francesca
	ABH03	A3P1- 18T 0362492 4899754	22:31-22:34		

Date	Habitat Surveyed	Station Location / GPS coordinate	Start / End Time	Weather Conditions	Site Investigators
	ABH04	A4P1- 18T 0362833 4898257	21:11-21:14	Wind (Beaufort): 0-1 Precipitation: none/dry	Commisso
		A4P2- 18T 0362489 4898008	21:27-21:30		
		A4P3- 18T 0362918 4897839	21:40-21:43		
		A4P4- 18T 0364408 4897995	22:00-22:03		
2013-06-18	ABH04	A4P1-18T 0362944 4898198	21:28-21:31	Temp: 14°C to 18°C Water Temp: unknown Wind (Beaufort): 0-2 Precipitation: none/dry	Erin Jaggard
		A4P2- 18T 0362485 4898009	21:52-21:55		
		A4P3- 18T 0362919 4897833	22:09-22:12		
		A4P4- 18T 0364399 4897988	22:34-22:37		
2013-06-19	ABH01	A1P1- 18T 0361885 4900438	22:33-22:36	Temp: 14°C Water Temp: unknown Wind (Beaufort): 0 Precipitation: none/dry	Erin Jaggard
	ABH03	A3P1- 18T 0362495 4899753	21:28-21:31		

All amphibian observations made during the three site visits can be seen in **Table 3-2** below. Please see **Appendix B** for a copy of all field forms as well as field maps indicating the location of each of the observations.

Table 3-2: All Amphibian Observations during Pre-Construction Habitat-Use Surveys of ABH01, ABH03 and ABH04

Date	Candidate Habitat	Point Count Location	Observations	Notes
2013-04-16	ABH04	A4P1	Spring Peeper – Full chorus,	
			Western Chorus Frog-2 individual calling	
		A4P2	Spring Peeper – Full chorus	
			Western Chorus Frog-6 individual calling	

Date	Candidate Habitat	Point Count Location	Observations	Notes
		A4P3	Western Chorus Frog-4 individuals calling	
2013-04-17	ABH01	A1P1	Spring Peeper- 8 individuals calling	Man-made pond surrounded by refuse, farm equipment
			Western Chorus Frog-2 individual calling	
	ABH03	A3P1	Spring Peeper- Full chorus	
			Western Chorus Frog- Full chorus	
2013-05-30	ABH01	A1P1	Gray Treefrog – 2 individuals calling	
	ABH03	A3P1	No frogs calling	Treefrogs calling in distance from ABH02
	ABH04	A4P1	Green Frog- 2 individuals calling	
			Gray Treefrog- 7 individuals calling	
			American Toad – 2 individuals calling	
	A4P2	Gray Treefrog - Full chorus		
		American Toad – 1 individual calling		
	A4P3	Gray Treefrog- Full chorus		
		American Toad – 1 individual calling		
		Gray Treefrog – 2 individuals calling		
	A4P4	Gray Treefrog – 4 individuals calling		
		American Toad – 1 individual calling		
2013-06-18	ABH04	A4P1	Gray Treefrog – 6 individuals calling	- Location slightly changed due to construction - Only Gray Treefrog heard calling; possibly outside 100m semi-circle, but would likely be within if survey station from prior survey was accessible
		A4P2	Gray treefrog - Full chorus	- Lots of Gray Treefrogs - 1 American Toad and 1 green Frog outside study
			Green Frog – 1 individual calling	

Date	Candidate Habitat	Point Count Location	Observations	Notes
			Boreal/Western Chorus Frog- 2 individuals calling	area
		A4P3	Gray Treefrog- 5 individuals calling	
		A4P4	Green Frog – 3 individuals calling	
	ABH01	A1P1	Gray Treefrog – 2 individuals calling	- 2 unknown frogs seen in pond

To evaluate woodland and wetland habitat the *Draft Significant Wildlife Habitat (SWH) Ecoregion 6E Criterion Schedule* (OMNR, 2012) was used. This document states that a woodland habitat is considered significant if the presence of a breeding population of 1 or more of the focal species with at least 20 individuals (adult, juveniles, eggs/larval masses) is noted. If the candidate habitat is determined to be significant then the SWH is the woodland (ELC polygons) and wetland (ELC polygons) combined. Focal species included: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Grey Treefrog, Spring Peeper, Western Chorus Frog, and Wood Frog.

The *Draft Ecoregion 6E Criterion Schedule* (OMNR, 2012) states that a wetland habitat is considered significant if the presence of a breeding population of 1 or more of the focal salamander or 3 or more of the listed frog and toad species with at least 20 individuals (adult, juveniles, eggs/larval masses) is noted. Wetlands with confirmed breeding Bullfrogs are significant. If the candidate habitat is determined to be significant then the SWH is ELC ecosite wetland area and associated shoreline. Focal species included: Eastern Newt, American Toad, Four-toed Salamander, Blue-spotted Salamander, Spotted Salamander, Grey Treefrog, Spring Peeper, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, and Bull Frog.

During the four site visits made to the survey area, significance was determined for all three sites based on the number of individuals present in the habitat.

4 CONCLUSION

There were three site visits made to Ernestown Wind Park for the evaluation of ABH01, ABH03 and ABH04. These habitats were treated as significant in the *Natural Heritage Evaluation of Significance Report* (MKI, 2012). Pre-construction habitat-use surveys were conducted three times per year between April and July 5th 2013. During the surveys, focal species including Grey Treefrogs, Green Frogs, Chorus Frogs, American Toads, and Spring Peepers were identified. Significance was determined for the evaluated habitats.

5 REFERENCES

- Bird Studies Canada. 2003. *The Marsh Monitoring Program – Training Kit and Instructions for Surveying Marsh Birds, Amphibians and Their Habitats*. 2003 Edition. 40p.
- M.K. Ince and Associates. 2012. *Natural Heritage Evaluation of Significance Report*. 133p.
- M.K. Ince and Associates. 2012. *Natural Heritage Environmental Impact Study Report*. 78p.
- Ministry of Natural Resources. 2012. *Significant Wildlife Habitat Ecoregion 6E Criterion Schedule*. 42p.
- Ministry of Natural Resources. 2011. *Natural Heritage Assessment Guide for Renewable Energy Projects*. 99p.
- Ontario Ministry of Natural Resources. 2000. *Significant Wildlife Habitat Technical Guide*. Queen's Printer for Ontario, 2010. 139 p.

6 QUALIFICATIONS AND LIMITATIONS

M. K. Ince & Associates Ltd. (MKI) 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.

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

The reports, maps and related documents may rely on information provided to MKI by the Client. This information may include but is not limited to manufacturer and construction specifications and other related information. Maps are created using a Geographic Information System (GIS) that compiles records, information, and data from various sources which may contain errors. While we have referred to and made use of reports, maps and geospatial data and specifications prepared by others, we assume no liability for the accuracy of the information contained within.

Maps and documents made available by MKI are not legal surveys and are not intended to be used as such. No original surveying is included as part of these maps. If any contradictions exist between this document and relevant municipal, provincial or federal laws, regulations, codes, or policies, the text of the laws, regulations, codes or policies will be the legal authority.

APPENDIX A – PROTOCOL AND CORRESPONDENCE

- Survey protocol, extracted from Natural Heritage Environmental Impact Study Report, September 28, 2012 (two pages)
- Email correspondence, April 11, 2013 through April 16, 2013 (two pages)

AMPHIBIAN BREEDING HABITAT – WOODLAND (ABH02 & ABH04)

Field staff will visit identified candidate amphibian breeding habitat to observe for the presence of breeding amphibians and will evaluate habitat according to guidance in the *Significant Wildlife Habitat Technical Guide* (OMNR, 2000), *Draft SWH Ecoregion 6E Criterion Schedule* (OMNR, 2012), and the Marsh Monitoring Program (BSC, 2003).

Surveys will be conducted three times per year between April and July 5th, with at least 15 days between each survey. Surveys are time sensitive (conducted half an hour after sunset) as well as weather dependent. The three surveys will be conducted on nights when the minimum nightly temperature is above 5°C, 10°C, and 17°C respectively. Surveys during the second and third windows will be repeated at the stations established during the first survey.

Surveys will start at least one-half hour after sunset and finish before midnight on nights with little wind and warm, ideally damp or lightly raining conditions. Observers will wait 1 minute before starting surveys to account for initial disturbance of entering the area and point counts will last for three minutes. Point counts will be stationed 500 m apart and will be dependent on size, so smaller ponds will likely only have one station. The observer will stand at the edge of the wet area and will record all species heard calling in a 180° semi-circle. Observers will record, date, start and end time, duration of count, weather conditions, observer name, and species richness and abundance. Data will be recorded on Frog and Toad Field Forms (see **Appendix A4**).

Species of particular interest (focal species) include: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, and Wood Frog.

The *Draft Ecoregion 6E Criterion Schedule* (OMNR, 2012) will be used to evaluate candidate habitat for significance. This document states that a habitat is considered significant if the presence of a breeding population of 1 or more of the focal species with at least 20 individuals (adult, juveniles, eggs/larval masses) is noted. If the candidate habitat is determined to be significant then the SWH is the woodland (ELC polygons) and wetland (ELC polygons) combined.

AMPHIBIAN BREEDING HABITAT – WETLAND (ABH01)

Field staff will visit identified candidate amphibian breeding habitat to observe for the presence of breeding amphibians and will evaluate habitat according to guidance in the *Significant Wildlife Habitat Technical Guide* (OMNR, 2000), *Draft SWH Ecoregion 6E Criterion Schedule* (OMNR, 2012), and the Marsh Monitoring Program (BSC, 2003).

Surveys will be conducted three times per year between April and July 5th, with at least 15 days between each survey. Surveys are time sensitive (conducted half an hour after sunset) as well as weather dependent. The three surveys will be conducted on nights when the minimum nightly temperature is above 5°C, 10°C, and 17°C respectively. Surveys during the second and third windows will be repeated at the stations established during the first survey.

Surveys will start at least one-half hour after sunset and finish before midnight on nights with little wind and warm, ideally damp or lightly raining conditions. Observers will wait 1 minute before starting surveys to account for initial disturbance of entering the area and point counts will last for three minutes. Point counts will be stationed 500 m apart and will be dependent on size, so smaller ponds will likely only have one station. The observer will stand at the edge of the wet area and will record all species heard

calling in a 180° semi-circle. Observers will record, date, start and end time, duration of count, weather conditions, observer name, and species richness and abundance. Data will be recorded on Frog and Toad Field Forms (see **Appendix A4**).

Species of particular interest (focal species): Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, and Bullfrog.

The *Draft Ecoregion 6E Criterion Schedule* (OMNR, 2012) will be used to evaluate candidate habitat for significance. This document states that a habitat is considered significant if the presence of a breeding population of 1 or more of the focal salamander or 3 or more of the listed frog and toad species with at least 20 individuals (adult, juveniles, eggs/larval masses) is noted. Wetlands with confirmed breeding Bullfrogs are significant. If the candidate habitat is determined to be significant then the SWH is ELC ecosite wetland area and associated shoreline.

MARSH BIRD BREEDING HABITAT (MBBA02)

Field staff will visit identified candidate marsh bird breeding habitat to observe for the presence of marsh breeding birds and will evaluate habitat according to the *Bird and Bird Habitats: Guidelines for Wind Power Projects* (OMNR, 2011a) and the *Marsh Monitoring Protocol* (BSC, 2003). As marsh birds can be cryptic, call playback will be used to supplement passive point count surveys. Field staff will carry an audio device (i.e. MP3 player) and a portable speaker which will be played during point counts to elicit vocalizations by nesting marsh birds. Point count protocol will follow that of the Marsh Monitoring Protocol (MMP), modified from *Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Calls* (Konze & McLaren, 1997). Observers will be stationed at the edge of the wetland with the playback device, with the number of stations differing depending on wetland size but stations will be at least 250 m apart. Each station will consist of a 100 m radius semi-circle within which observers will record all birds identified within 100 m. Stations will be surveyed twice, between mid-May and early-July with at least 10 days between surveys. Surveys will be conducted in the evening starting after 6:00PM and ending before sunset. Second station surveys will be conducted in the same sequence and at the same location as the first surveys. Additionally, surveys will be weather-dependent in that no surveys are to be conducted during bad weather or in the presence of precipitation, both which would affect survey results.

Point counts will last for 15 minutes with an initial 5 minutes before conducting the survey to account for noise disturbance from approaching the site. The point count will begin with an initial passive 5 minute listening period followed by the playback. The recording will be played containing calls from, American Bittern, Virginia Rail, Sora, Least Bittern, Pied-Billed Grebe, Yellow Rail and a combination of American Coot and Common Moorhen. Each call lasts for 30 seconds followed by 30 seconds of silence so that the observer can record any calls. The playback will last for 5 minutes followed by a passive listening period for the remaining 5 minutes of the point count. Observers will record all focal species as well as all other birds heard or seen within the focal radius. Aerial foragers observed foraging within the point count radius will be recorded but non-focal species that fly through or outside the 100 m radius point count area will be tallied separately. Observers will also record standard data including: start and end time, date and weather conditions.

Species of particular interest (focal species) include: 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 (COSSARO: Special Concern), and Yellow Rail (COSSARO: Special Concern).

Ernestown ABH and WNA surveys

5 messages

Erin Jaggard <erin.jaggard@mkince.ca>
To: "Prevost, Eric (MNR)" <eric.prevost@ontario.ca>
Cc: Thomas Bernacki <tom.bernacki@mkince.ca>

Thu, Apr 11, 2013 at 12:32 PM

Dear Eric

By month end, we will be conducted our first surveys for three candidate ABH habitats and two candidate WNA habitats at Ernestown.

Could you kindly review the proposed locations for the ABH survey stations that are presented in the attached map? There will be one survey station at both ABH01 and ABH03 which will sufficiently cover the candidate habitat. There are four stations proposed for ABH04. Two stations (one facing west, the other east) will be located at the edge of the quarry within a reasonable distance to the wetland (ABH04). If suitable and safe conditions exist, the surveyors will situate themselves as close to the wetland as possible. The third survey station is located in the far west with the fourth survey location along Taylor-Kidd Blvd. As you know, property access is quite limited for this southern habitat. Should you wish to discuss other locations, please give a call to discuss.

As for the candidate WNA habitats, area surveys and behavioral studies will be conducted throughout the candidate habitats, within accessible lands as stated in the attached protocol.

Please be sure to let me know if you suggest any changes to either the ABH or WNA protocols that were contained in the EIS.

Be in touch,
Erin

--

Erin Jaggard, MSc**Environmental Project Coordinator**

M.K. Ince and Associates Ltd.

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Web: www.mkince.ca

2 attachments**ABH Survey Locations _2013-04-11.jpg**

1244K

**Ernestown EIS 2012-09-28 Pre-Construction Protocols.pdf**

227K

Prevost, Eric (MNR) <eric.prevost@ontario.ca>
To: Erin Jaggard <erin.jaggard@mkince.ca>

Thu, Apr 11, 2013 at 8:47 PM

Hello Erin,

Would it be possible for you to apply a buffer to each survey point, related to each protocol (i.e. surveys 500 m apart for ABH) and redo the map. I have some concerns with the survey stations but want to be sure of my assumptions at this point.

Thanks
Eric

From: Erin Jaggard [erin.jaggard@mkince.ca]
Sent: Thursday, April 11, 2013 12:32 PM

To: Prevost, Eric (MNR)
Cc: Thomas Bernacki
Subject: Ernestown ABH and WNA surveys
[Quoted text hidden]
Email: erin.jaggard@mkince.ca<<mailto:erin.jaggard@mkince.ca>>
Web: www.mkince.ca<<http://www.mkince.ca/>>

Erin Jaggard <erin.jaggard@mkince.ca>
To: "Prevost, Eric (MNR)" <eric.prevost@ontario.ca>

Fri, Apr 12, 2013 at 9:41 AM

Dear Eric

Please see the attached map (please note that it is a rough/draft map and only intended for your review). Note that we removed one of the survey stations at the edge of the quarry once the 500 m buffers were applied.

I will be in the office today until 2 pm. If you would like to discuss the location of survey stations, please feel free to give me a call at [905.628.0077](tel:905.628.0077).

-Erin
[Quoted text hidden]
Web: www.mkince.ca

 **ABH Survey Map Layout_2013-04-12.pdf**
1060K

Erin Jaggard <erin.jaggard@mkince.ca>
To: "Prevost, Eric (MNR)" <eric.prevost@ontario.ca>

Mon, Apr 15, 2013 at 4:02 PM

Hi Eric

The weather is looking good for our first round of amphibian surveys this week. We will hopefully be heading out tomorrow evening to start the surveys. Please confirm the location of the survey stations.

I can be reached at [905.629.0077](tel:905.629.0077) (work) or [905.537.1051](tel:905.537.1051) (cell). We will be leaving the office late afternoon tomorrow (Tuesday).

Cheers,
Erin
[Quoted text hidden]

Erin Jaggard <erin.jaggard@mkince.ca>
To: "Prevost, Eric (MNR)" <eric.prevost@ontario.ca>
Cc: Thomas Bernacki <tom.bernacki@mkince.ca>

Tue, Apr 16, 2013 at 10:54 AM

Hi Eric

Thank you for the phone call. To reiterate the outcome of our call, we will be adding a forth survey station to ABH04, south of the two western survey locations. The forth station will focus on calls in a SE direction, specifically around the area of the two southern turbine locations.

Regards,
Erin
[Quoted text hidden]

APPENDIX B – FIELD FORMS AND MAPS










- Map depicting survey locations, April 19, 2013 (1 page)
- Field forms, April 16, 2013 through June 19, 2013 (18 pages)

Ernestown Wind Park

Ernestown Wind Park, LP
Loyalist Township, Ontario

Amphibian Breeding Habitat Map

Layout:

-  ABH Point Count Location
-  500 m ABH Buffer
-  Watercourse
-  Waterbody
-  Project Location 120 m Buffer
-  Highway
-  Road
-  Railroad
-  Building

Date: April 19, 2013

Author: RFL

Confirmed: DRAFT

Drawing Number: HE-ETWN-ABH-2013-04-19

0 400 m



Background Data Sources: Ontario Base Mapping, Ontario Ministry of Natural Resources © Queen's Printer for Ontario.

Projection: NAD 83 UTM Zone 17. All maps produced by M. K. Ince and Associates Ltd. are subject to our statement of qualifications and limitations.

Project Name/Number: ERNESTOWN

Item ID: ABH04 Station (A-Z): A4P1

Field Crew: RL + EJ

GPS Lat./long coordinates: 18T 0362834 4898256 Sunset Time: 19:52

Date: (yr/mm/dd): 2013-04-16 Start Time: 20:22 Finish Time: 20:25 5-minute Survey? 3 min

Precip: None/Dry Damp Haze Fog Drizzle Rain *rain in past 24 hrs.*

Air Temp °C 9°C Water Temp °C unknown Beaufort Wind Scale 1-2

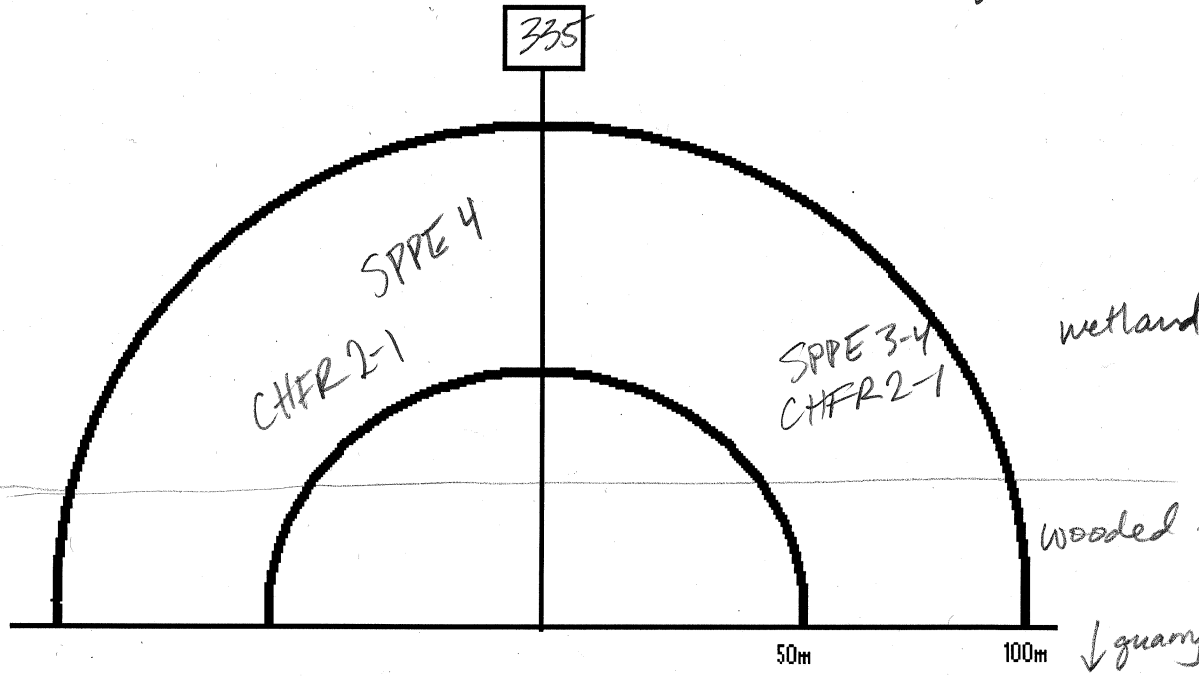
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: grasses & cattail

Overhead Canopy: Yes No *at edge of quarry with 50m of wetland*

Surrounding landscape: Agricultural Wooded Wetland Other quarry

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickrel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown

Item ID: ABH04 Station (A-Z): A4P2

Field Crew: RL + EJ

GPS Lat./long coordinates: 18T 0362490 4898005 Sunset Time: 19:52

Date: (yr/mm/dd): 2013-04-16 Start Time: 20:45 Finish Time: 20:48 5-minute Survey? 3min

Precip: None/Dry Damp ___ Haze ___ Fog ___ Drizzle ___ Rain ___ rain in past 24h

Air Temp °C 7°C Water Temp °C unknown Beaufort Wind Scale 2-3

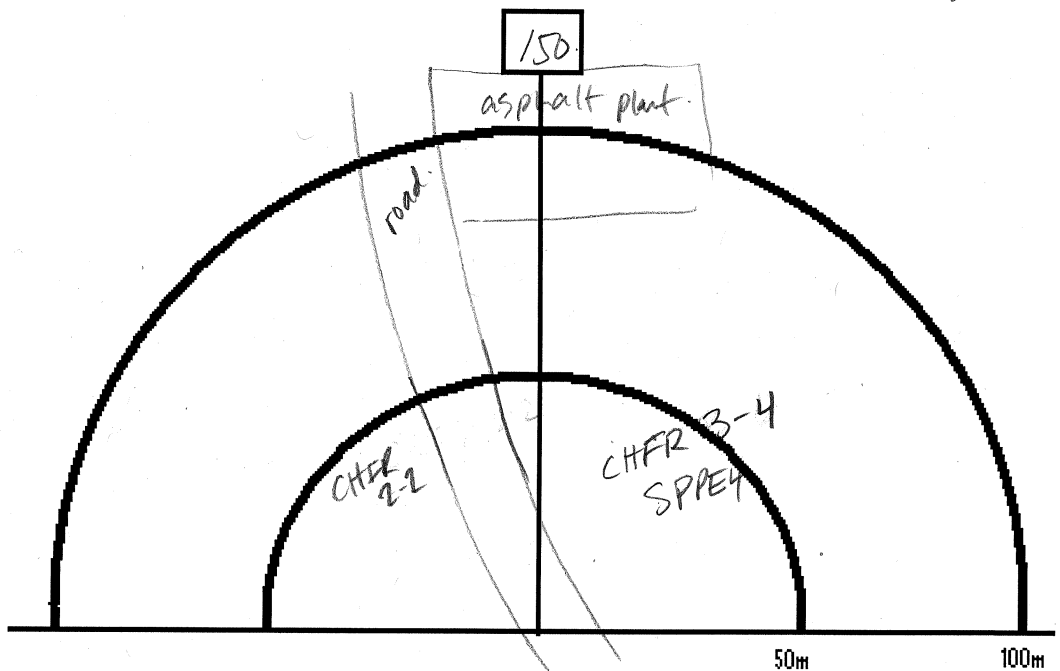
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: cattails

Overhead Canopy: Yes No

Surrounding landscape: Agricultural ___ Wooded ___ Wetland ___ Other asphalt plant area

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickrel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown

Item ID: ABH04 Station (A-Z): A4P3

Field Crew: RL + EJ

GPS Lat./long coordinates: 0362916 4897836 Sunset Time: 19:52

Date: (yr/mm/dd): 2013-04-16 Start Time: 21:01 Finish Time: 21:04 5-minute Survey? 3 min

Precip: None/Dry Damp ___ Haze ___ Fog ___ Drizzle ___ Rain ___ rain in last 24 hrs.

Air Temp °C 7°C Water Temp °C unknown Beaufort Wind Scale 2-3

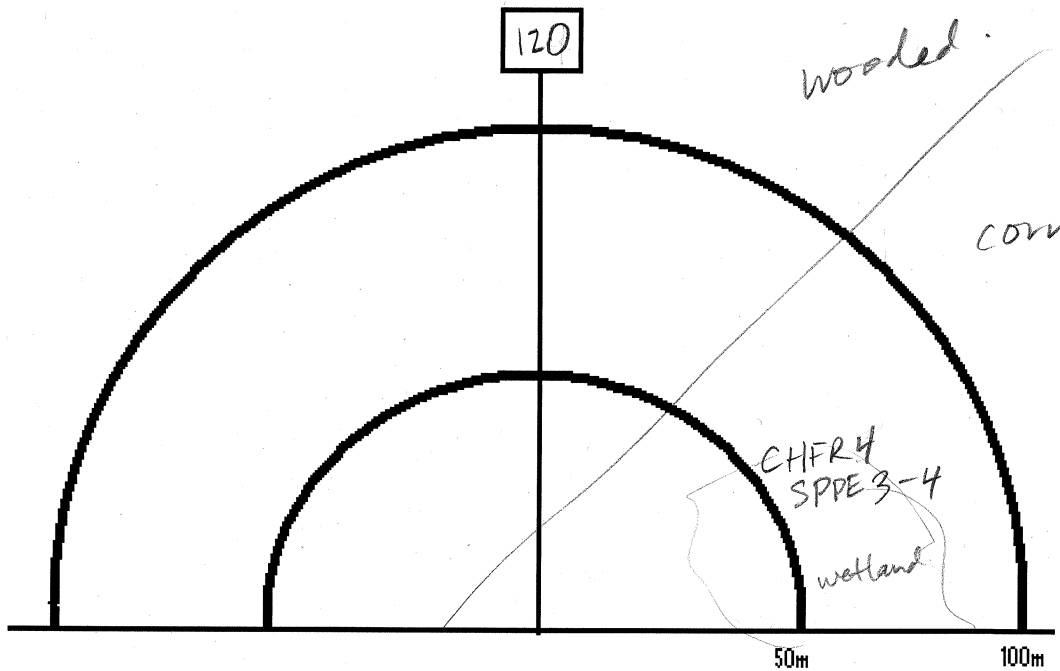
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: cattails, mainly corn? wooded

Overhead Canopy: Yes No

Surrounding landscape: Agricultural ___ Wooded Wetland Other ___

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickereel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: _____

Item ID: Ernestown Station (A-Z): A4P4

Field Crew: RL + EJ

GPS Lat./long coordinates: 18T 0364408 4897995 Sunset Time: 19:52

Date: (yr/mm/dd): 2013-01-16 Start Time: 21:26 Finish Time: 21:29 5-minute Survey? 3 min

Precip: None/Dry ✓ Damp ___ Haze ___ Fog ___ Drizzle ___ Rain ___ rain in past 24h.

Air Temp °C 7°C Water Temp °C unknown Beaufort Wind Scale 1-2

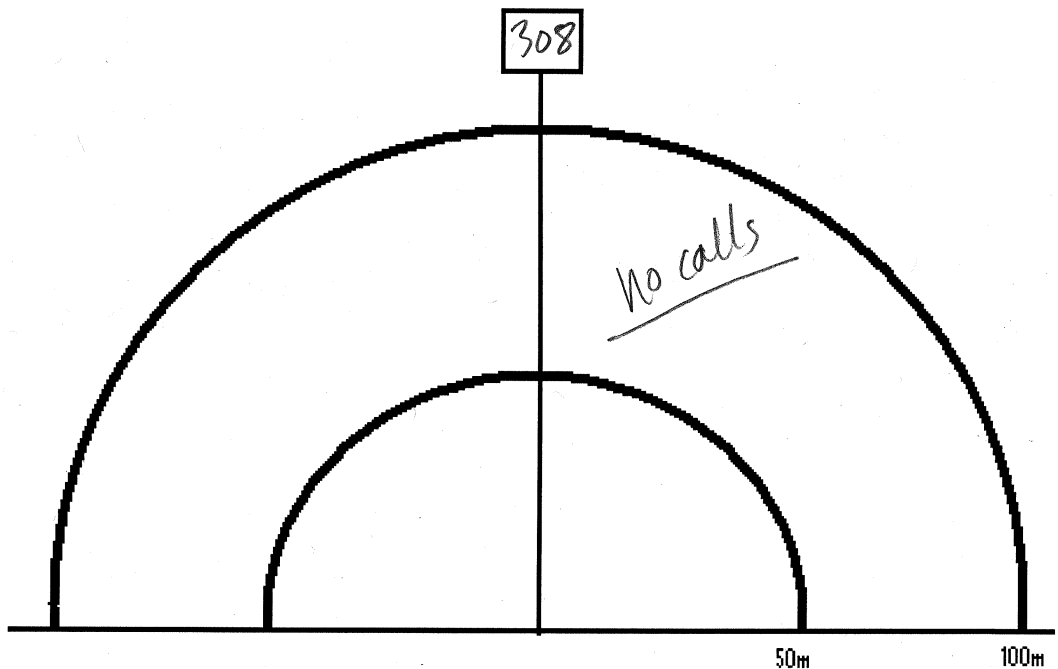
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: cedar

Overhead Canopy: Yes No

Surrounding landscape: Agricultural ___ Wooded ✓ Wetland ___ Other ___

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: _____

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown

Item ID: ABH01 (wetland) Station (A-Z): A1P1

Field Crew: RL+ET

GPS Lat./long coordinates: 156 0361874 4900432 Sunset Time: 20:00

Date: (yr/mm/dd): 2013-04-17 Start Time: 20:51 Finish Time: 20:54 5-minute Survey? 3min

Precip: None/Dry Damp Haze Fog Drizzle Rain

Air Temp °C 7°C Water Temp °C unknown Beaufort Wind Scale 0-1

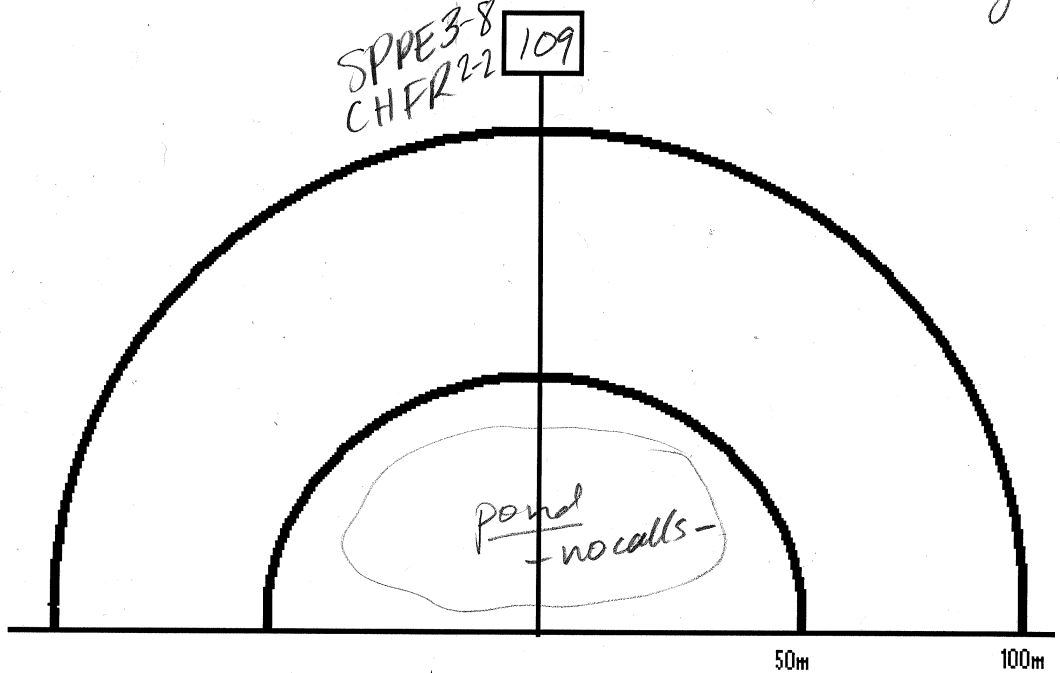
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: grasses, cattails

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland Other garbage

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: man-made pond surrounded by refuse, farm equipment

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown

Item ID: ABH03 Station (A-Z): A3P1

Field Crew: RL+ES

GPS Lat./long coordinates: 18T 0362493 4899748 Sunset Time: 20:00

Date: (yr/mm/dd): 2013-04-17 Start Time: 20:31 Finish Time: 20:34 5-minute Survey? 3min

Precip: None/Dry Damp Haze Fog Drizzle Rain

Air Temp °C 9°C Water Temp °C unknown Beaufort Wind Scale 0-1

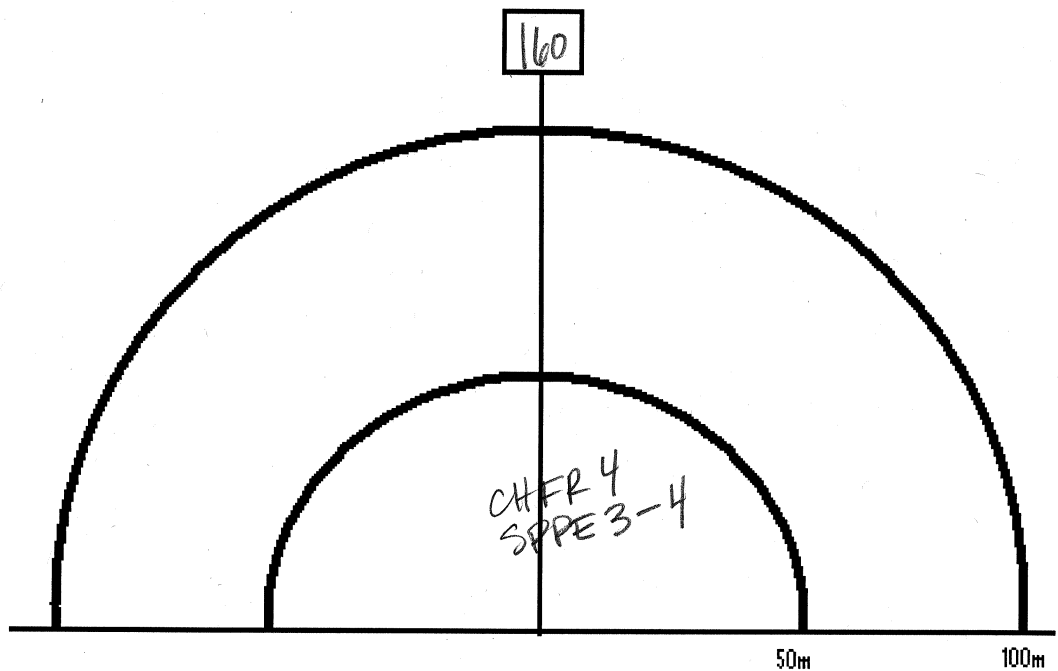
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: grasses, dogwood

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland Other

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickereel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: ERACSTOWN

Item ID: ABH-01 Station (A-Z): A191

Field Crew: FC 521

GPS Lat./long coordinates: 187 036.1980 4900 441 Sunset Time: 20:41

Date: (yr/mm/dd): 13/05/30 Start Time: 22:47 Finish Time: 22:50 5-minute Survey? 3mins

Precip: None/Dry Damp Haze Fog Drizzle Rain

Air Temp °C 21 Water Temp °C Beaufort Wind Scale 0

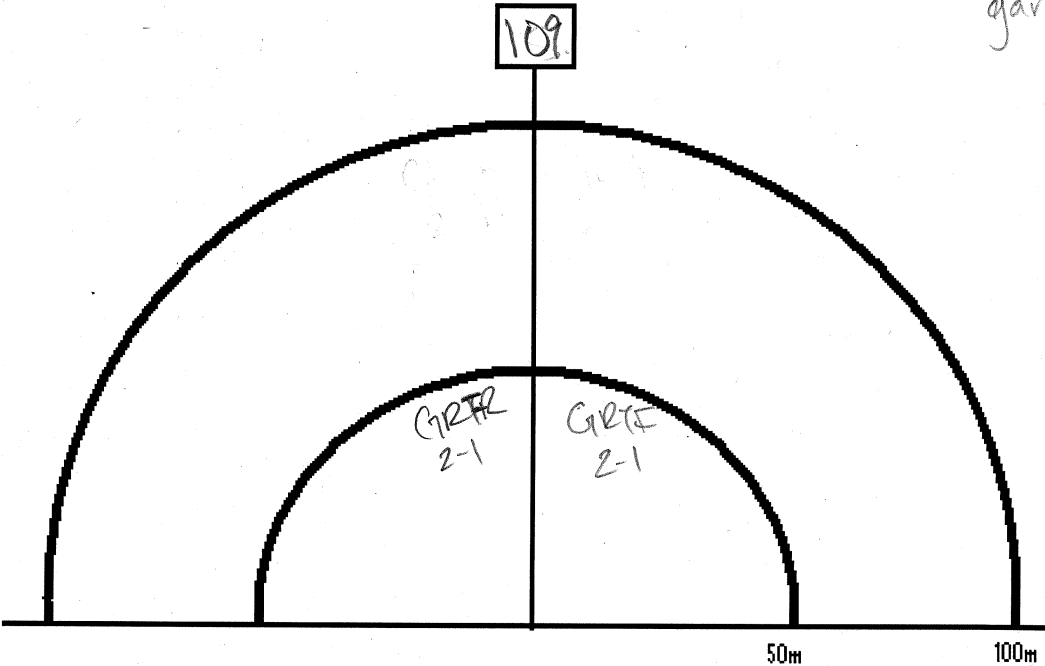
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: Grasses - lots of human disturbance: garbage.

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland Other garbage

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTE
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: BURNSTOWN

Item ID: ABH03 Station (A-Z): A3P1

Field Crew: RL:PC

GPS Lat./long coordinates: 187 0362492 4899754 Sunset Time: 20:41

Date: (yr/mm/dd): 13/05/30 Start Time: 22:31 Finish Time: _____ 5-minute Survey? 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

Air Temp °C 21°C Water Temp °C _____ Beaufort Wind Scale 0

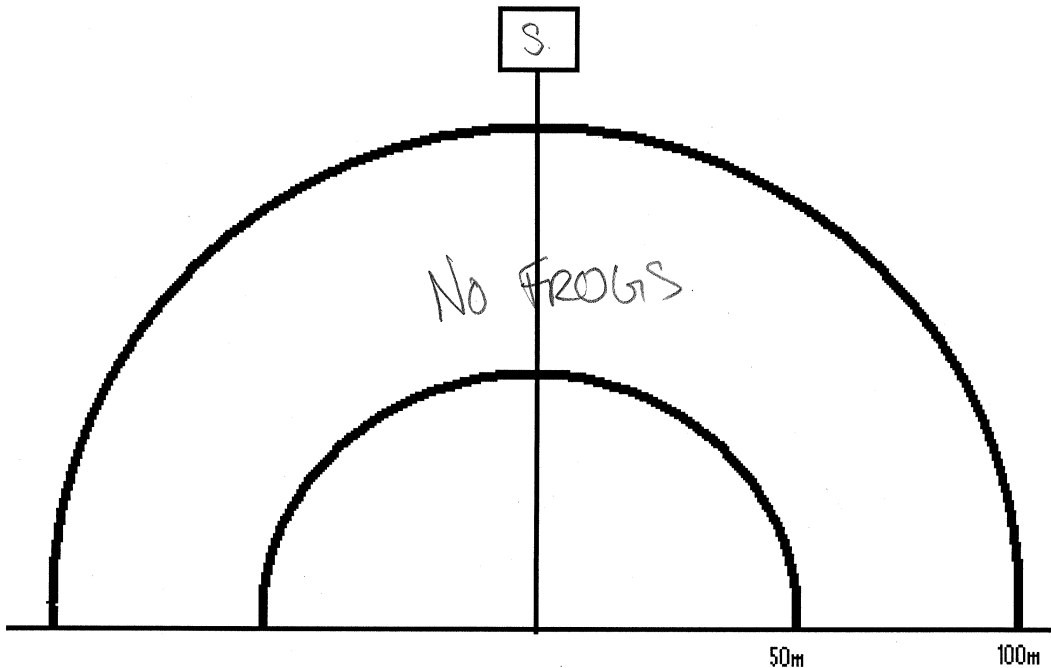
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: Grasses - mainly not wetland. (reed).

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland _____ Other _____

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Tree Frogs calling in distance from ABH02 - nothing in ABH03.

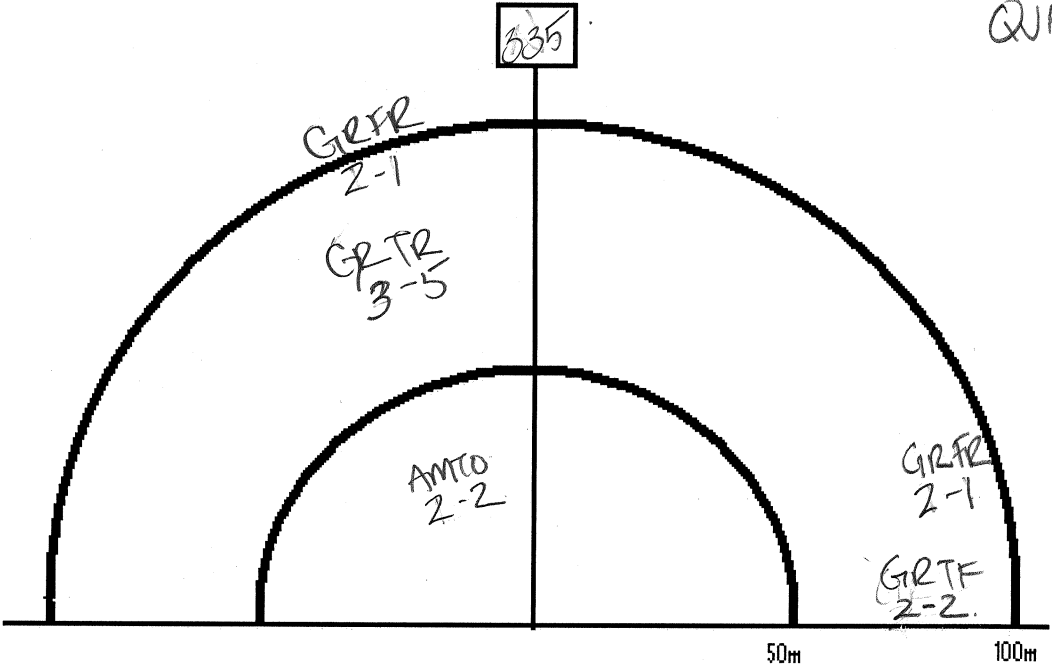
Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: ERNESTOWN.
 Item ID: ASH07 Station (A-Z): A4P1.
 Field Crew: RLSFC
 GPS Lat./long coordinates: 181 0362833 4898257 Sunset Time: 20:41
Date: (yr/mm/dd): 13/05/30 **Start Time:** 21:11 **Finish Time:** 21:14 **5-minute Survey?** 3mins

Precip: None/Dry Damp Haze Fog Drizzle Rain
 Air Temp °C 21 Water Temp °C — Beaufort Wind Scale 0-1
 Amphibian breeding area within 120m of woodland: Yes No
 General Aquatic Vegetation: Cattail & grasses.
 Overhead Canopy: Yes No - @ edge of quarry 50m from wetland.
 Surrounding landscape: Agricultural Wooded Wetland Other

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: EDINSTOWN

Item ID: ABH04 Station (A-Z): AHPZ

Field Crew: RL:FC

GPS Lat./long coordinates: 187.0362489 4898008 Sunset Time: 20:41

Date: (yr/mm/dd): 13/05/30 Start Time: 21:27 Finish Time: 21:30 5-minute Survey? 3mins

Precip: None/Dry Damp Haze Fog Drizzle Rain

Air Temp °C 21°C Water Temp °C Beaufort Wind Scale 0

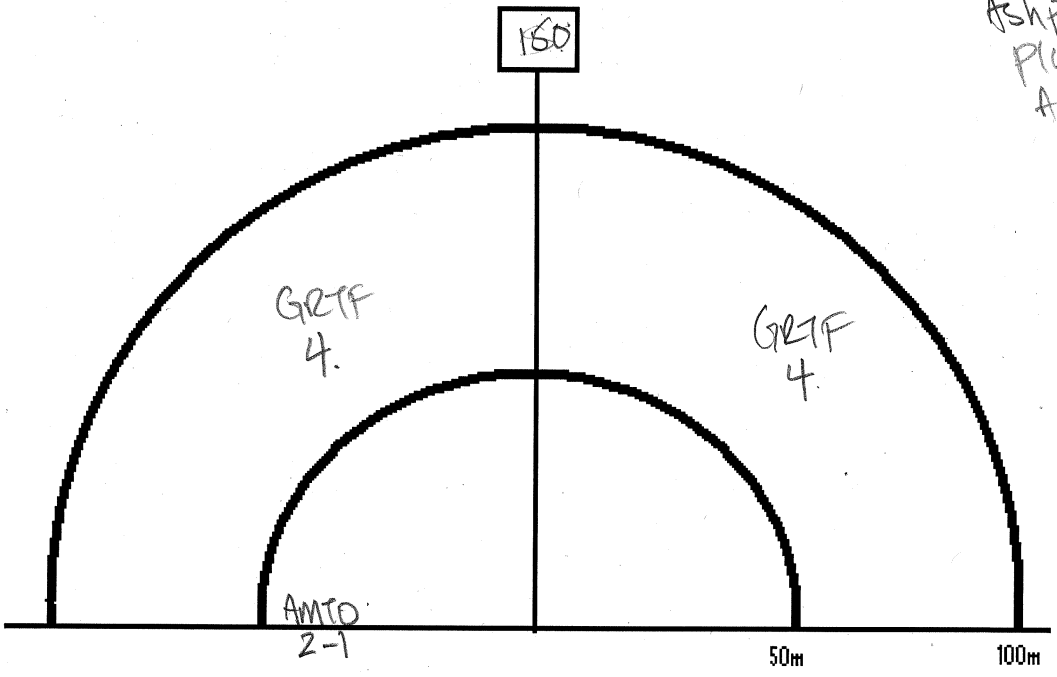
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: Cattail, grasses & regen. veg. (ie. thistle, mullen etc)

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland Other

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

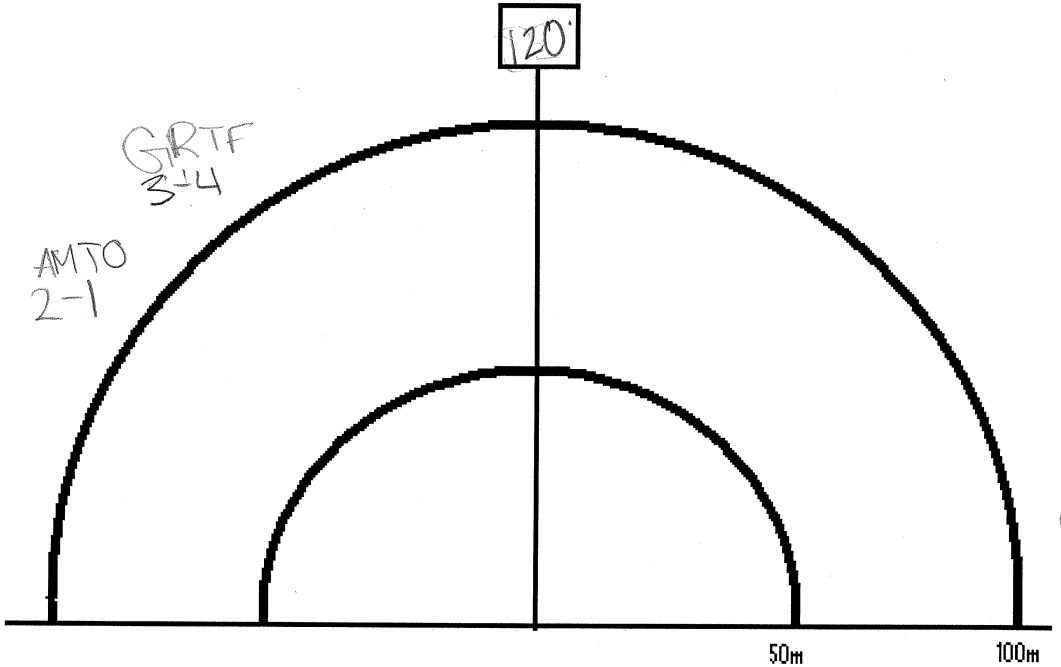
Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: ERNESTOWN
 Item ID: ABH04 Station (A-Z): A4P3
 Field Crew: RL EFC
 GPS Lat./long coordinates: 18T 0362918 4897839 Sunset Time: 2041
 Date: (yr/mm/dd): Start Time: 21:40 Finish Time: 21:45 5-minute Survey? mins

Precip: None/Dry Damp ___ Haze ___ Fog ___ Drizzle ___ Rain ___
 Air Temp °C 21 Water Temp °C ___ Beaufort Wind Scale 0
 Amphibian breeding area within 120m of woodland: Yes No ___
 General Aquatic Vegetation: N/A - corn & wooded
 Overhead Canopy: Yes ___ No
 Surrounding landscape: Agricultural Wooded Wetland ___ Other ___

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: ERNSTOWN

Item ID: _____ Station (A-Z): A494

Field Crew: RLCZL

GPS Lat./long coordinates: 181.0364408 4897995 Sunset Time: 20:41

Date: (yr/mm/dd): 13/05/20 Start Time: 22:00 Finish Time: _____ 5-minute Survey? 3mins

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

Air Temp °C 21°C Water Temp °C _____ Beaufort Wind Scale 0

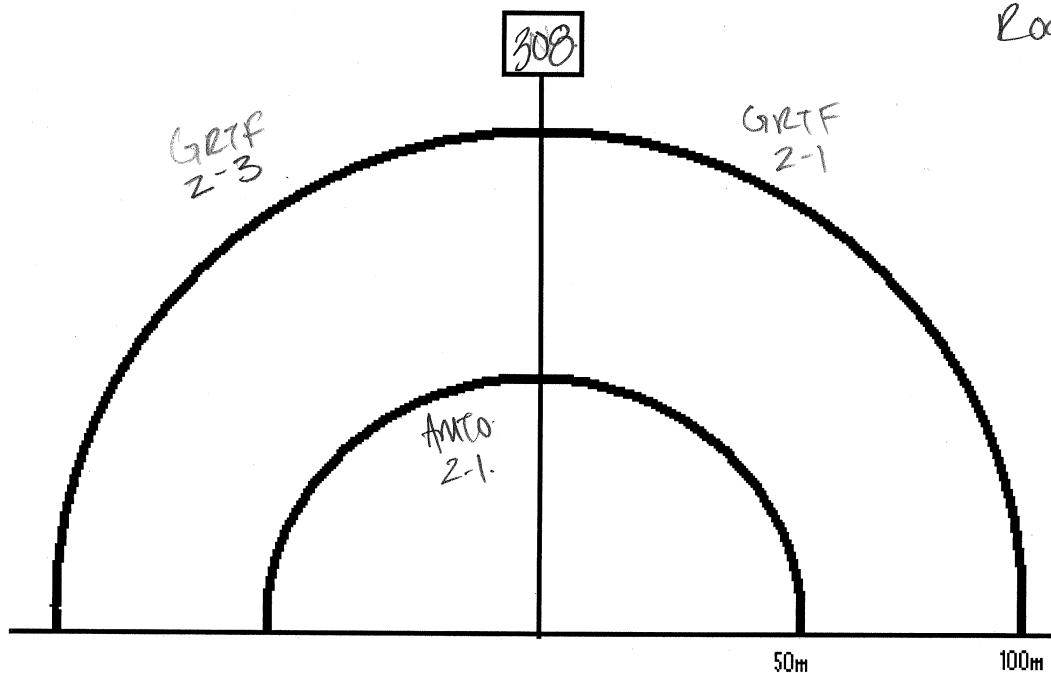
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: Cedar

Overhead Canopy: Yes No

Surrounding landscape: Agricultural _____ Wooded Wetland Other Road

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown
 Item ID: _____ Station (A-Z): A484
 Field Crew: EJ
 GPS Lat./long coordinates: 0364399 4897988 Sunset Time: 20:58

Date: (yr/mm/dd): 2013-06-18 **Start Time:** 22:34 **Finish Time:** 22:37 **5-minute Survey?** 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

Air Temp °C 14°C Water Temp °C n/a Beaufort Wind Scale 0

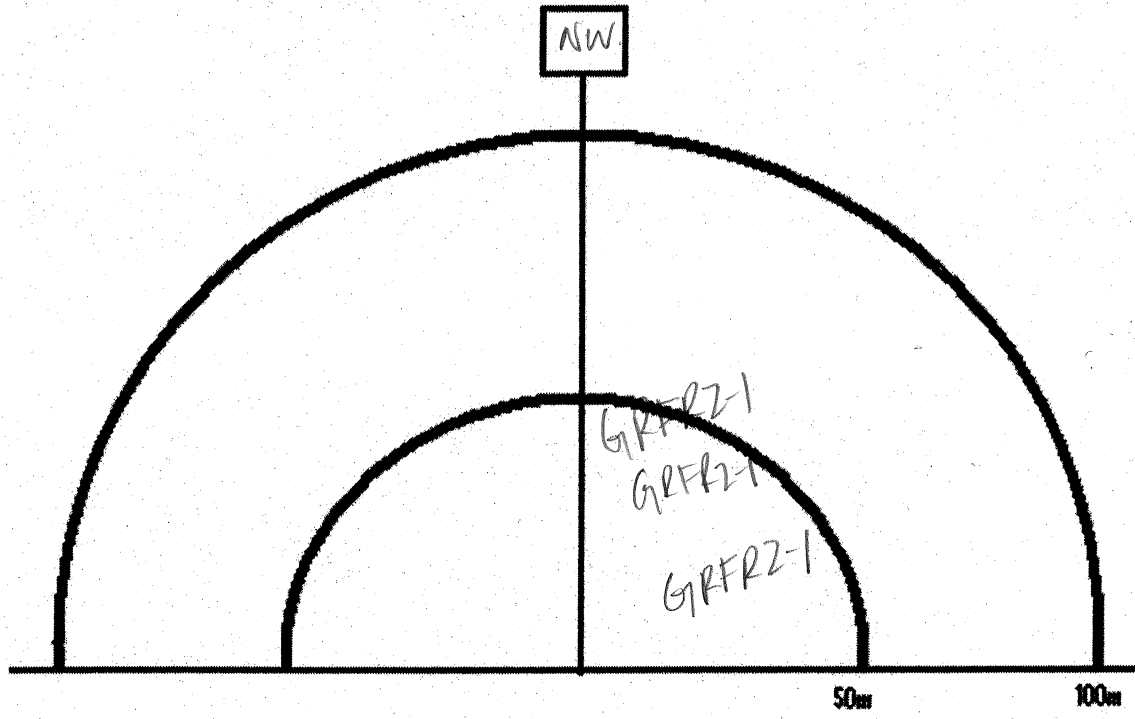
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: cedar, sumac

Overhead Canopy: Yes No

Surrounding landscape: Agricultural _____ Wooded Wetland Other _____

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: 3-Green Frogs on E side of creek

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown
 Station (A-Z): A4P3
 Item ID: _____
 Field Crew: EJ
 GPS Lat./long coordinates: 0367919 4897833
 Sunset Time: 20:58
 Date: (yr/mm/dd): 2013-06-18 | Start Time: 12:09 | Finish Time: 22:12 | 5-minute Survey? 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

Air Temp °C 15°C | Water Temp °C n/a | Beaufort Wind Scale 0

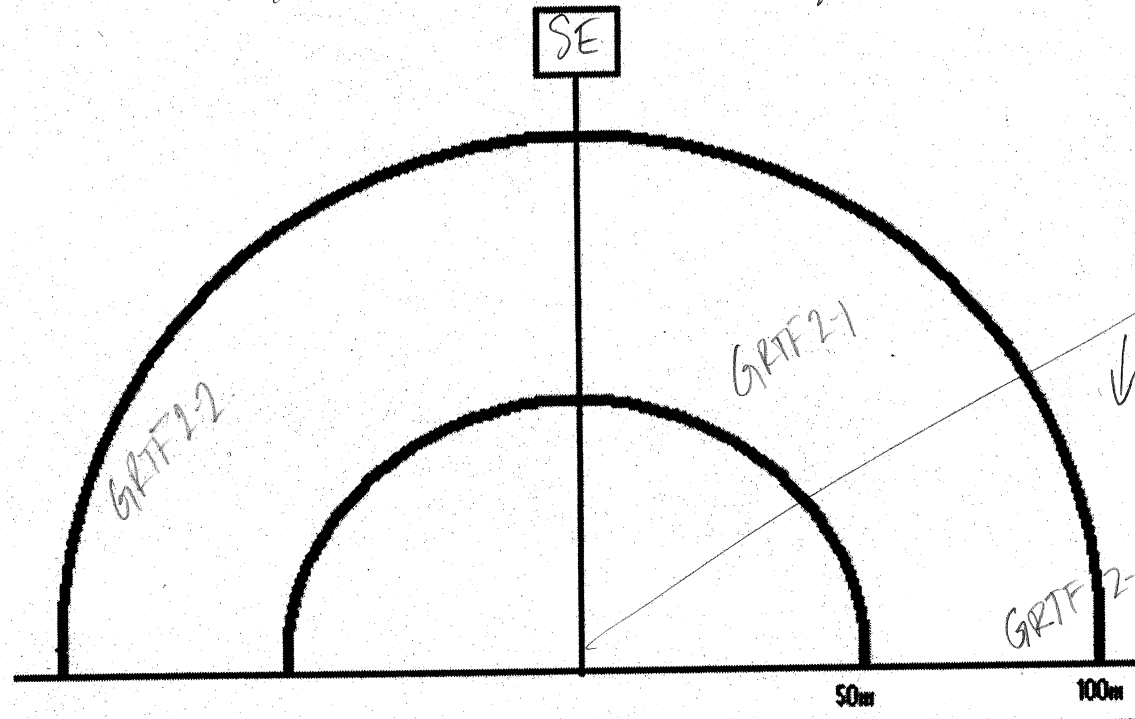
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: _____

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland Other _____

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: - only gray treefrogs!

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickereel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernesttown
 Item ID: _____ Station (A-Z): AYP2
 Field Crew: EJ
 GPS Lat./long coordinates: 0362485 4898009 Sunset Time: 20:58
Date: (yr/mm/dd): 2013-06-18 **Start Time:** 21:52 **Finish Time:** 21:55 **5-minute Survey?** 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

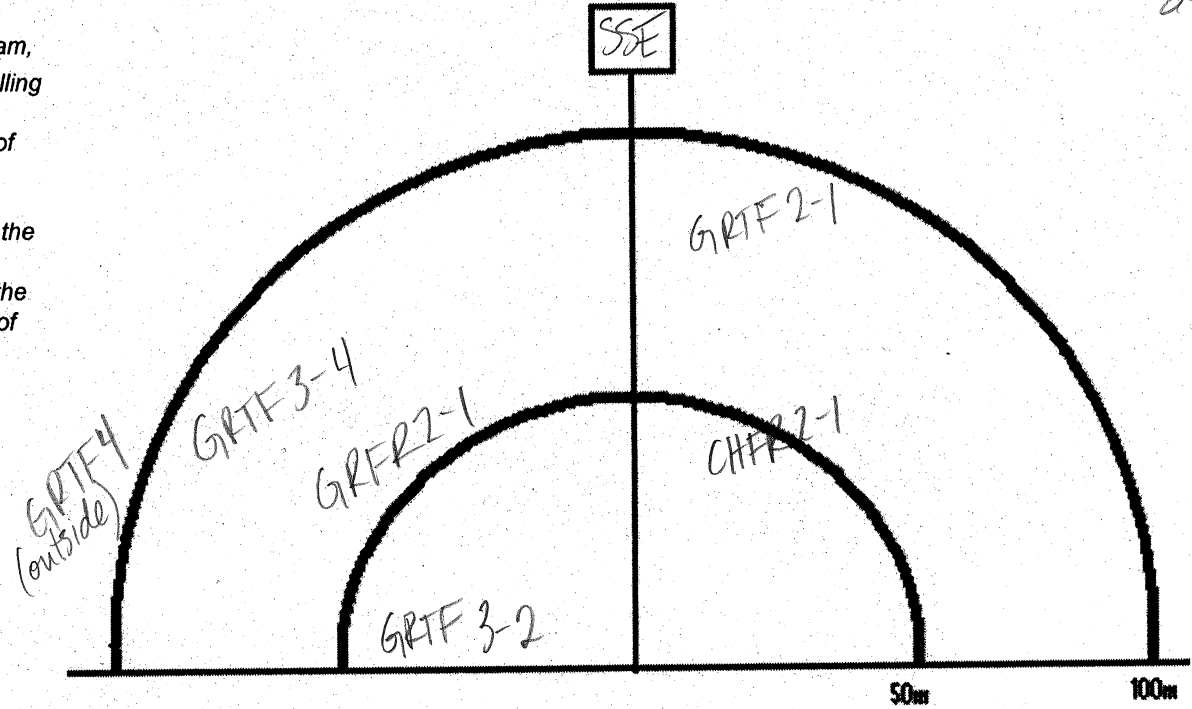
Air Temp °C 16°C Water Temp °C n/a Beaufort Wind Scale 1-2

Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: willow, cattails, grasses

Overhead Canopy: Yes _____ No _____
 Surrounding landscape: Agricultural _____ Wooded Wetland Other industrial/asphalt plant.

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: Lots of gray tree frogs. AMTO 2-1 (outside) GRFR 2-1 (outside)

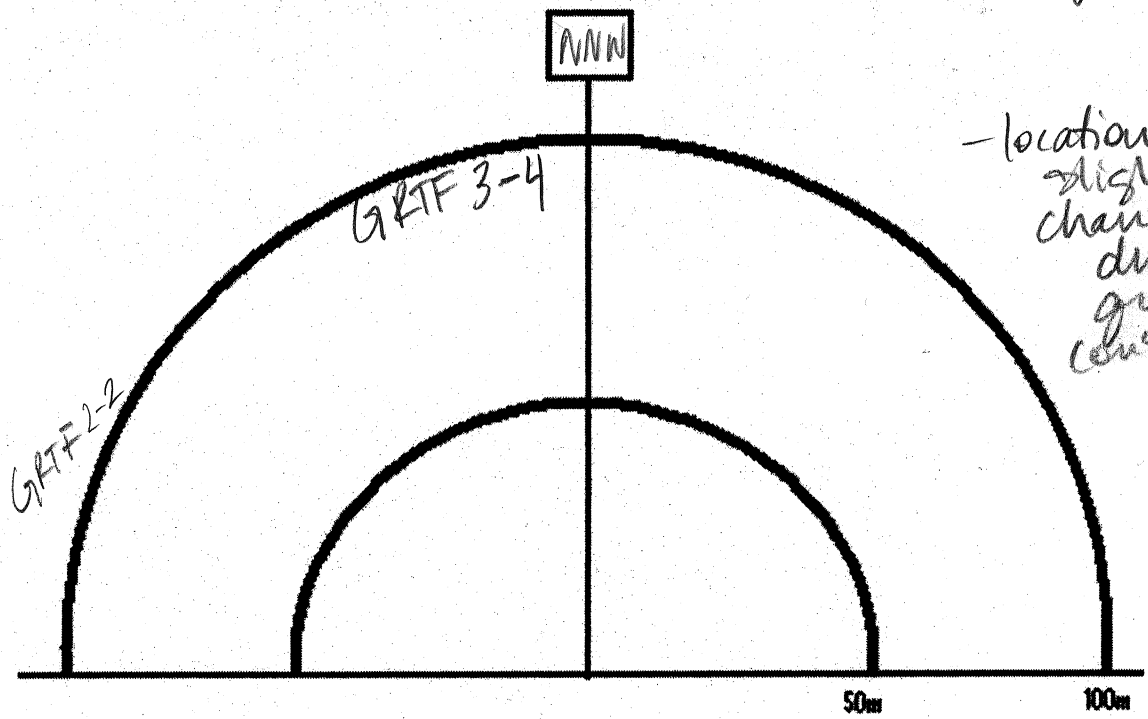
Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown
 Item ID: _____ Station (A-Z): A411
 Field Crew: EJ
 GPS Lat./long coordinates: 0362944 4898198
 Sunset Time: 20:58
 Date: (yr/mm/dd): 2013/06/18 Start Time: 21:28 Finish Time: 21:31 5-minute Survey? 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____
 Air Temp °C 18°C Water Temp °C N/A Beaufort Wind Scale 0-1
 Amphibian breeding area within 120m of woodland: Yes No
 General Aquatic Vegetation: _____
 Overhead Canopy: Yes No
 Surrounding landscape: Agricultural _____ Wooded Wetland Other quarry

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: only gray treefrog heard calling; possibly outside 100m sum-circle, but would likely be within if survey station from prior surveys was still accessible

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernststown

Item ID: _____ Station (A-Z): A1P1

Field Crew: EJ

GPS Lat./long coordinates: 0361885 4900438 Sunset Time: 20:58

Date: (yr/mm/dd): 2013-06-19 Start Time: 22:33 Finish Time: 22:36 5-minute Survey? 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

Air Temp °C 14°C Water Temp °C _____ Beaufort Wind Scale _____

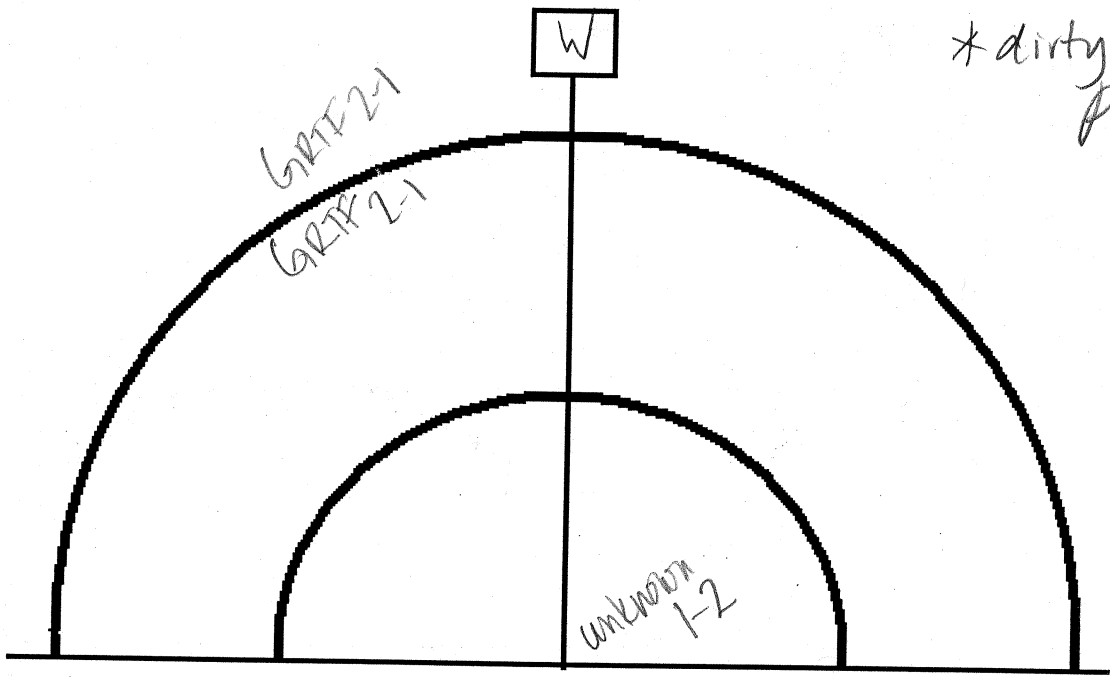
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: rees

Overhead Canopy: Yes _____ No

Surrounding landscape: Agricultural Wooded _____ Wetland _____ Other _____

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: unknown frogs seen in pond. GRTR 2-1 (not in) GRFR 2-1 (not in)

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
0=	No Frogs or Toads seen or heard
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3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Ernestown
 Item ID: _____ Station (A-Z): A3P1
 Field Crew: EJ
 GPS Lat./long coordinates: 0362495 4899753 Sunset Time: 20:58

Date: (yr/mm/dd): 2013-06-19 **Start Time:** 21:28 **Finish Time:** 21:31 **5-minute Survey?** 3min

Precip: None/Dry Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____

Air Temp °C 14°C Water Temp °C n/a Beaufort Wind Scale 0

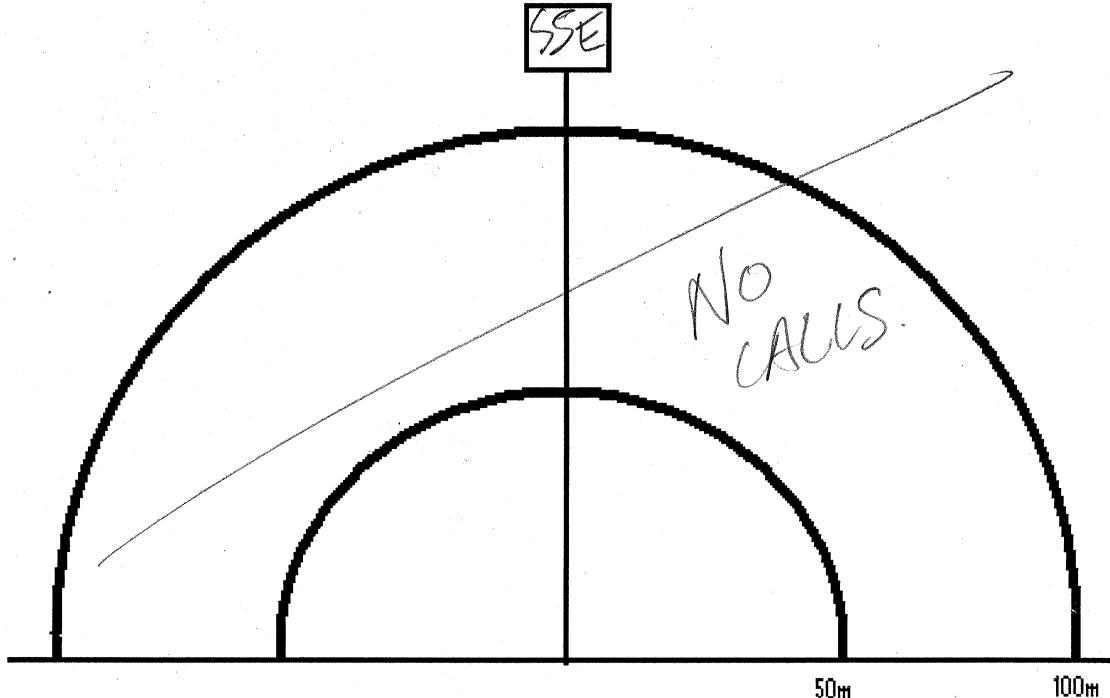
Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: willows, grasses, sedges

Overhead Canopy: Yes No

Surrounding landscape: Agricultural Wooded Wetland _____ Other _____

Note: In the diagram, fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6. The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks: No frog calls

Species Common Name	Code
American Toad	AMTO
Blanchard's Cricket Frog	BCFR
Boreal/Western Chorus Frog	CHFR
Bullfrog	BULL
Fowler's Toad	FOTO
Gray Treefrog	GRTF
Green Frog	GRFR
Leopard Frog	NLFR
Mink Frog	MIFR
Pickerel Frog	PIFR
Spring Peeper	SPPE
Wood Frog	WOFR

Abundance Codes	
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