

Appendix C

Summary of 2011, 2012 and 2013 Waterfowl Migration Surveys – Henvey Inlet Wind Energy Centre Study Area

Henvey Inlet Wind LP

Henvey Inlet Wind

Summary of 2011, 2012 and 2013 Waterfowl Migration Surveys – Henvey Inlet Wind Energy Centre Study Area

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Project Number:

60341251

Date:

September 2015

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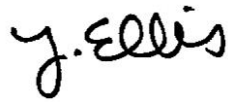
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AECOM Signatures

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Table of Contents

Statement of Qualifications and Limitations

	page
1. Introduction	1
2. Methods.....	2
2.1 Spring Waterfowl Migration Work Plan.....	2
2.2 Fall Waterfowl Migration Work Plan	2
3. Results	3
3.1 Waterfowl Migration Survey Study Area.....	3
3.2 Waterfowl Migration Survey Results	3
3.2.1 Spring Waterfowl Migration Survey	3
3.2.2 Fall Waterfowl Migration Survey	6
4. Summary	7
5. Assumptions and Clarification	8
6. References	9

List of Figures

Figure 3-1: Spring / Fall Waterfowl Migration Survey Locations	5
----------------------------------------------------------------------	---

List of Tables

Table 3-1: Summary of Waterfowl Observed During Spring Migration Surveys.....	3
Table 3-2: Summary of Waterfowl Observed During Fall Migration Surveys	6

Appendices

Appendix A.	Stantec 2013 Field Notes and Documentation
Appendix B.	Stantec's Terrestrial Survey Work Program (Stantec 2013)
Appendix C.	Results of Stantec 2013 Field Studies

1. Introduction

In 2013, Stantec Consulting Ltd. (Stantec) collected field data to determine baseline conditions within the Henvey Inlet Wind Energy Centre (HIWEC) study area. Data collected by Stantec included:

- Raptor Migration;
- Passerine Migration;
- Waterfowl Migration;
- Breeding Birds;
- Herpetological Surveys;
- Bat Acoustic Monitoring;
- Ecosite Classification and Rare Flora; and
- Incidental Wildlife Observations.

This report has been prepared by AECOM to summarize the **Waterfowl Migration** field data for the HIWEC study area. This is based on raw field and GIS data collected by Stantec during the 2013 season. This information was provided to AECOM by Stantec in October 2014. The following provides the work plan written by Stantec outlining data collection methods as well as AECOM's summary and analysis of the data collected, and assumptions made concerning the data.

Stantec provided AECOM with the following documents which were used to produce this report:

- Scanned handwritten field notes entitled "60824_migrationwaterfowl.pdf"; and
- An Excel spreadsheet indicating all survey locations entitled "All survey locations_UTM_MC_07112013.xlsx".

A copy of the above files is provided in **Appendix A**¹.

1. *Records of Species At Risk considered to be restricted are not being made public due to the threat of poaching experienced by these species. These records will be provided under a separate cover to the Ministry of Natural Resources and Forestry (MNR) and / or Environment Canada – Canadian Wildlife Service (EC-CWS) for permitting purposes.*

2. Methods

The following section provides a description of methodology for the survey work contained in the work plans written by Stantec for the **Waterfowl Migration** surveys. This description is taken directly from Stantec's *Terrestrial Survey Work Program* (Stantec, 2013).

A complete copy of Stantec's *Terrestrial Survey Work Program* (Stantec, 2013) is provided in **Appendix B**.

2.1 Spring Waterfowl Migration Work Plan

"Spring monitoring for migrating waterfowl will be focused along Henvey Inlet and will consist of four bi-weekly surveys undertaken by boat in April and May. Surveys will include waterfowl counts to record species and number of individuals observed along the inlet, as well as characteristics of the wetlands to support migrating waterfowl (e.g., size, vegetation, permanence, etc.)."

The use of scattered wetlands and ponds throughout the Project Location by staging waterfowl will be assessed through the spring passerine surveys."

2.2 Fall Waterfowl Migration Work Plan

"Fall monitoring for migrating waterfowl will be focused along Henvey Inlet and will consist of four bi-weekly surveys undertaken by boat in September through October. Surveys will include waterfowl counts to record species and number of individuals observed along the inlet, as well as characteristics of the wetlands to support migrating waterfowl (e.g., size, vegetation, permanence, etc.)."

The use of scattered wetlands and ponds throughout the Project Location by staging waterfowl will be assessed through the fall passerine surveys."

3. Results

3.1 Waterfowl Migration Survey Study Area

The spring and fall waterfowl migration surveys were conducted by boat throughout Henvey Inlet as described in the *Terrestrial Survey Work Program* (Stantec, 2013). Waterfowl observations were made throughout Henvey Inlet and along the Georgian Bay coastline and the Key River, therefore it is assumed that the entirety of Henvey Inlet was surveyed. Refer to **Figure 3-1** for the locations of observations of migratory waterfowl.

3.2 Waterfowl Migration Survey Results

3.2.1 Spring Waterfowl Migration Survey

In general, Stantec field staff recorded the spring waterfowl migration data as follows. The date, weather conditions, start time and end time were recorded. When migratory waterfowl were observed, the observation was marked on the field map with a flock number. On the field sheets, the flock number, time of observation, four (4) letter species code, number of individuals, location and behaviour were recorded.

Based on the field notes provided, a total of five (5) spring waterfowl migration surveys were conducted on April 9, 16, 17, 23 and 30, 2013 across various locations within Henvey Inlet. However, field maps for the spring waterfowl migration surveys were not available, therefore only those flocks with UTM co-ordinates recorded could be shown in **Figure 3-1**. The 2013 spring waterfowl migration field notes are provided in **Appendix A**. Surveys were generally conducted between 10 a.m. and 4 p.m. throughout Henvey Inlet. The final survey conducted on April 30, 2013 was recorded as taking place over one hour rather than from 10 a.m. to 4 p.m.

The results of the spring waterfowl migration surveys are summarized in **Table C-1** in **Appendix C**. A total of 739 waterfowl comprised of ten (10) species were observed over the course of the spring migratory waterfowl surveys. The mostly common species observed were Lesser Scaup (*Aythya affinis*) and Bufflehead (*Bucephala albeola*), with 250 and 228 individuals observed, respectively. The number of each waterfowl species observed is presented below in **Table 3-1**. No Species at Risk or Species of Conservation Concern were observed during the spring waterfowl migration surveys.

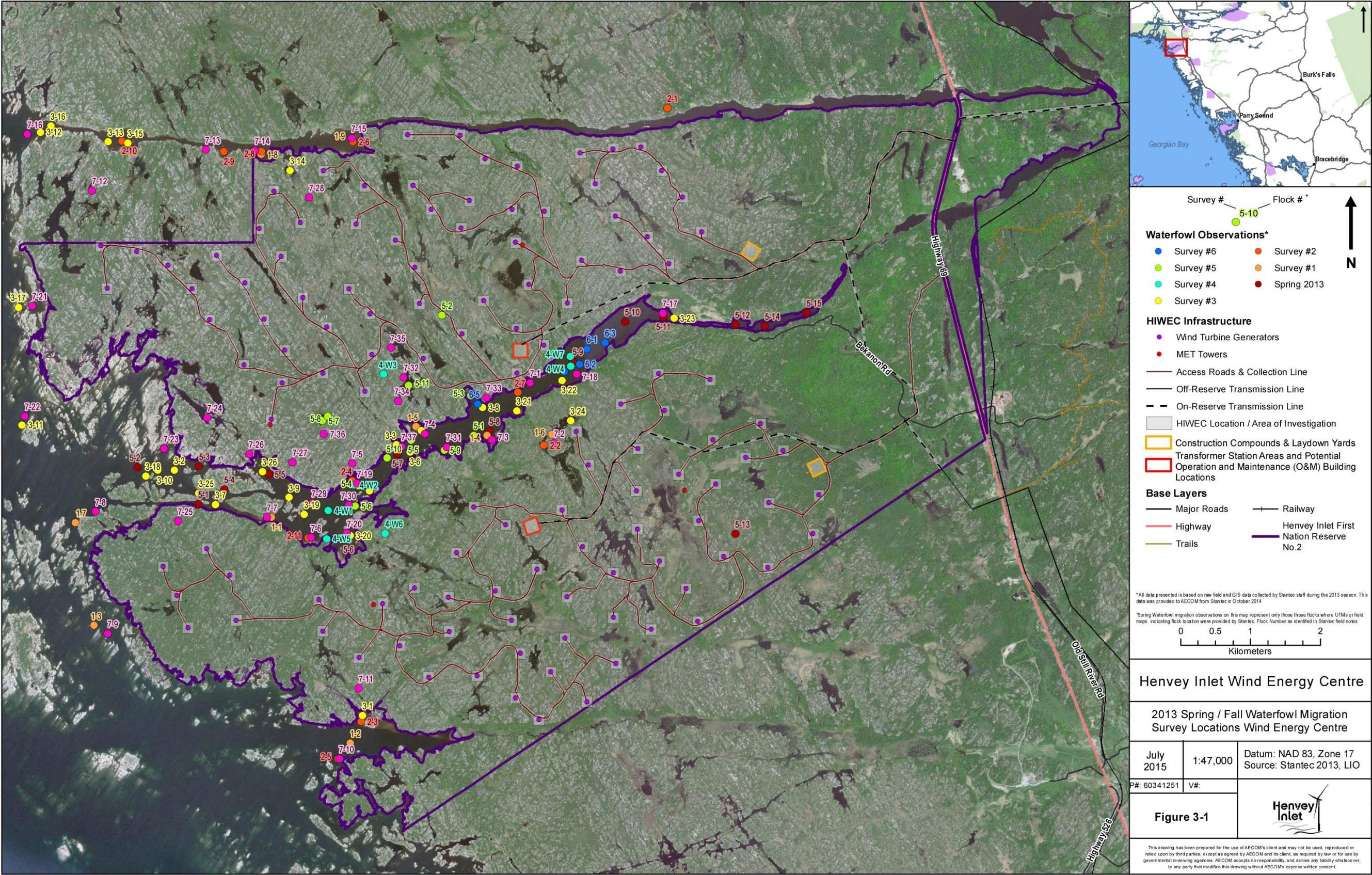
Table 3-1: Summary of Waterfowl Observed During Spring Migration Surveys

Common Name	Scientific Name	ESA Status ¹	SARA Status ²	S-rank ³	Total Number Observed
American Black Duck	<i>Anas rubripes</i>	-	-	S4	42
Bufflehead	<i>Bucephala albeola</i>	-	-	S4	228
Canada Goose	<i>Branta canadensis</i>	-	-	S5	38
Common Goldeneye	<i>Bucephala clangula</i>	-	-	S5	21
Common Merganser	<i>Mergus merganser</i>	-	-	S5	28
Green-winged Teal	<i>Anas crecca</i>	-	-	S4	2
Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	S5	10
Lesser Scaup	<i>Aythya affinis</i>	-	-	S4	250
Scaup species	<i>Aythya</i> sp.	-	-	-	92

Common Name	Scientific Name	ESA Status ¹	SARA Status ²	S-rank ³	Total Number Observed
Mallard	<i>Anas platyrhynchos</i>	-	-	S5	20
Ring-necked Duck	<i>Aythya collaris</i>	-	-	S5	8
Grand Total					739

- Notes: 1. **ESA Status:** The Endangered Species Act 2007 (ESA) protects Species at Risk (Threatened and Endangered) at a provincial level.
2. **SARA Status:** The Species at Risk Act (SARA) protects Species at Risk (Special Concern, Threatened and Endangered) at a federal level.
3. **S-rank:** The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. Definitions are as follows:
- S1 Extremely rare in Ontario; usually 5 or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.
 - S2 Very rare in Ontario; usually between 5 and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.
 - S3 Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.
 - S4 Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.
 - S5 Very common and demonstrably secure in Ontario.
 - SH Possibly Extirpated (Historical). Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years.
 - S#S# A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.
 - S#? Rank uncertain.

Figure 3-1: Spring / Fall Waterfowl Migration Survey Locations



3.2.2 Fall Waterfowl Migration Survey

In general, Stantec field staff recorded the fall waterfowl migration data as follows. Date, weather conditions, start time and end time were recorded. When migratory waterfowl were observed, the observation was marked on the field map with a flock number. On the field sheets, the flock number, time of observation, four (4) letter species code, number of individuals, location and behaviour were recorded.

Based on the field notes provided, a total of six (6) fall waterfowl migration surveys were conducted on September 11 to 14 and 23 to 26, October 8 to 11, 24 and 29, and November 8, 2013 across various locations within Henvey Inlet and along the shorelines of Georgian Bay and the Key River. Some surveys took place over several days. Field maps were provided for all of the fall waterfowl migration surveys. Refer to **Figure 3-1** for the locations where waterfowl were observed during the fall waterfowl migration surveys. The 2013 fall waterfowl migration field notes are provided in **Appendix A**.

The results of the fall waterfowl migration surveys are summarized in **Table C-2** in **Appendix C**. A total of 438 waterfowl comprised of 14 species were observed over the course of the fall waterfowl migration surveys. The most common species observed were Canada Goose (*Branta canadensis*), unidentified ducks, and Mallard with 111, 102 and 41 individuals observed, respectively. The number of each waterfowl species observed is presented below in **Table 3-2**. No Species at Risk or Species of Conservation Concern were observed during the fall waterfowl migration surveys.

Table 3-2: Summary of Waterfowl Observed During Fall Migration Surveys

Common Name	Scientific Name	ESA Status ¹	SARA Status ²	S-rank ³	Total Number Observed
Bufflehead	<i>Bucephala albeola</i>	-	-	S4	26
Blue-winged Teal	<i>Anas discors</i>	-	-	S4	3
Canada Goose	<i>Branta canadensis</i>	-	-	S5	111
Common Goldeneye	<i>Bucephala clangula</i>	-	-	S5	24
Common Merganser	<i>Mergus merganser</i>	-	-	S5	33
Duck species	N/A	-	-	-	102
Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	S5	6
Lesser Scaup	<i>Aythya affinis</i>	-	-	S4	29
Mallard	<i>Anas platyrhynchos</i>	-	-	S5	41
Ring Necked Duck	<i>Aythya collaris</i>	-	-	S5	4
Scaup species	<i>Aythya</i> sp.	-	-	S5	3
Surf Scoter	<i>Melanitta perspicillata</i>	-	-	-	34
Tundra Swan	<i>Cygnus columbianus</i>	-	-	S4	3
Wood Duck	<i>Aix sponsa</i>	-	-	S5	16
White-winged Scoter	<i>Melanitta fusca</i>	-	-	S4	3
Grand Total					438

- Notes:
- ESA Status:** The Endangered Species Act 2007 (ESA) protects Species at Risk (Threatened and Endangered) at a provincial level.
 - SARA Status:** The Species at Risk Act (SARA) protects Species at Risk (Special Concern, Threatened and Endangered) at a federal level.
 - S-rank:** The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. Definitions are as follows:
 - S1 Extremely rare in Ontario; usually 5 or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.
 - S2 Very rare in Ontario; usually between 5 and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.
 - S3 Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.
 - S4 Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.
 - S5 Very common and demonstrably secure in Ontario.
 - SH Possibly Extirpated (Historical). Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years.
 - S#S# A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.
 - S#? Rank uncertain.

4. Summary

Stantec conducted the following waterfowl migration surveys in 2013 within the HIWEC study area:

- Five (5) spring waterfowl migration surveys and six (6) fall waterfowl migration surveys.
- A total of 739 and 438 waterfowl were observed during the spring and fall waterfowl migration surveys, respectively.
- The mostly common species observed included Lesser Scaup, Bufflehead, Canada Goose, unidentified ducks and Mallard.
- No Species at Risk or Species of Conservation Concern were observed in either the spring or fall waterfowl migration surveys.

5. Assumptions and Clarification

The following are assumptions and clarifications made and / or required by AECOM based on the field notes provided by Stantec in October 2014:

- The work plan states that “The use of scattered wetlands and ponds throughout the Project Location by staging waterfowl will be assessed through the spring passerine surveys.” It is assumed that this was conducted as the spring and fall passerine migration field data do include waterfowl species. These observations are discussed in *Summary of 2013 Passerine Migration Surveys – Henvey Inlet Wind Energy Centre Study Area* (AECOM, 2015).
- Field maps of the spring surveys were not provided, therefore only those flocks with UTM coordinates recorded could be shown in **Figure 3-1** for the spring migration survey locations.
- During the spring waterfowl migration surveys, four weekly surveys for migrating waterfowl were conducted rather than four bi-weekly surveys as stated in the work plan.
- The final survey during the spring was reported as having been conducted over 1 hour rather than a full day as the other surveys were conducted.
- Complete weather conditions were not recorded during the spring waterfowl migration surveys for survey 1 on April 9, survey 3 on April 17, and survey 4 on April 23, 2013. On February 26, 2015, Stantec provided comments which provided the previously unrecorded weather conditions.
- A start time was not recorded in the spring waterfowl migration surveys for survey 4 on April 23, 2013. On February 26, 2015, Stantec provided comments which provided the previously unrecorded start time.
- Weather conditions, start time and end time were not recorded in the fall waterfowl migration surveys for surveys 1 and 2. On February 26, 2015, Stantec provided comments that confirmed that the unrecorded data could not be provided.
- Weather conditions and end time were not recorded in the fall waterfowl migration surveys for survey 3. On February 26, 2015, Stantec provided comments that confirmed that the unrecorded data could not be provided.
- All end times were not recorded in the fall waterfowl migration surveys for surveys 4, 5 and 6. On February 26, 2015, Stantec provided comments that confirmed that the unrecorded data could not be provided.
- A small number of four letter bird codes in the fall waterfowl migration field sheets were unable to be matched to known bird codes. On February 26, 2015, Stantec provided comments that provided the unmatched codes with the exception of the code “BWC”. This code has been included as “Species Code Unrecognized” in **Table C-2** in **Appendix C**.

6. References

AECOM, 2015:

Summary of 2013 Passerine Migration Surveys – Henvey Inlet Wind Energy Centre Study Area. Prepared for Henvey Inlet Wind LP.

Stantec Consulting Ltd., 2013:

2013 Terrestrial Survey Work Program. Prepared for Nigig Power Corp., 25 p.

Appendix A

Stantec 2013 Field Notes and Documentation



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Waterfowl Migration Observation Form

Project Name: Nigeria

Field Personnel: R.A. N.M.

Weather Conditions:

TEMP (°C):

3-15

WIND:

W 2-3

CLOUD:

70-80

PPT.

PPT (in last 24 hrs):


Start Time:

Don


End Time:

4 p r

Total KM Driven:

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. agr. field near puddle, shoreline, etc.)	(i.e. height/direction of flight, feeding, flock behaviour, etc.)
		CAGE	14		Water fowl using
		BUFF	8		small patches of
		COGO	8		open water in
		COME	6		the frozen
		MAU	4		inlet.
		ABDU	2		
		HOM	8		

Signature:



(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-05-18 / FORM 010-c



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Waterfowl Migration Observation Form

Project Number: 160960824

Project Name: Nigig

Date: Apr 16, 13

Field Personnel: BA BM

Weather Conditions:

TEMP (°C): <u>5°C - 7</u>	WIND: <u>R-4 W</u>	CLOUD: <u>100-40</u>	PPT: <u>/</u>	PPT (in last 24 hrs): <u>RAIN</u>
------------------------------	-----------------------	-------------------------	------------------	--------------------------------------

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
①	1040	CAME	2	New Hawk	-Flying along ice
①	1040	BUFF	1	" "	" "
②	1042	CAGE	5	flew S to the west of Hawk	
3	1100	CAGE	2	In small puddle in ice,	
4	1111	BUFF	10	In opening in ice	
4	1111	OW	1	w/ BUFF in patch,	
5	1120	ABDU	18	-flew N over hlt	
6	1125	CAGE	4	" " "	"

Signature: [Signature]

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-05-05 / FORM 010b

~~Other Bird Species~~ Waterfowl Cent'd.

Please record any flock behavior (i.e. gulls, crows, blackbirds), raptors or any significant species.

[illegible]

Quality Control: This form is complete ☐ & legible ☐.

Signature:

Signature:

(Field Personnel)

(Project Manager)

REV: 2011-05-05 / FORM 010b



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

HENNEY INLET Waterfowl Migration Observation Form

Project Number: 160960824

Project Name: Nigiz

Date: Apr 17, 2013

Field Personnel: B. Holden B. Miller

Weather Conditions:

TEMP (°C):

0C

WIND:

0-

CLOUD:

PPT:

PPT (in last 24 hrs):

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
①	1000	BUFF	15	Using a small patch of	
↓	↓	COGO	7	Open water just NW of	
		ABOV	10	Hawk 1	
		MALE	12		
		CABO	4		
		COMB	2		
②	1100	SACR CABO	4 2	Using open water patch near the creek just past the fishing pier.	
③	10-4	BUFF	24	Using open water to the E of Hawk 1	
		COMB	2		
		COLO	1		

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-05-05 / FORM 010b

**Stantec**

Stantec Consulting Ltd.
 1 - 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Waterfowl Migration Observation Form

Project Number: 160960824Project Name: Mig 19Date: Apr 23, 2013Field Personnel: B. Holden B. Miller

Weather Conditions:

TEMP (°C):

6-15°C

WIND:

4-5

CLOUD:

30

PPT:

PPT (in last 24 hrs):

/

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
(A)	11:30	BUFF -	2	Observed on Hervey hlt Between Hawk 1 and Hawk 2.	
(B)		BUFF -	12		
(C)	12:00	BUFF -	20		
"	11	COGO -	4		
"	11	CAME -	4		
"	11	OCCO -	14		
(D)		Homo -	2		
		BUFF -	8		
(E)		ABDU -	4		
		MALE -	2		
(F)		CAME	4		
(G)		Scup sp -	75		
"		BUFF -	20		
		CAME -	4		
(H)		CAME -	7		
(I)		ABDU -	8		
(J)		RNDU -	8		

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-05-05 / FORM 010b

SKINIC

17T 0523078

5076199

17T

0522794

5081233

Blandys

17T

Bear / Wolf Den

0524611

5081132

sarah_richer@yahoo.com

APPENDIX C: SPECIES 4-LETTER CODES

RTLO	Red-throated Loon †	RBM	Red-breasted Merganser	RNPH	Red-necked Phalarope †
PALO	Pacific Loon	RUDU	Ruddy Duck †	PAJA	Parasitic Jaeger †
COLO	Common Loon	OSPR	Osprey	LIGU	Little Gull †
PBGR	Pied-billed Grebe	BAEA	Bald Eagle †	BOGU	Bonaparte's Gull
HOGH	Horned Grebe †	NOHA	Northern Harrier	RBGU	Ring-billed Gull §
RNGR	Red-necked Grebe †	SSHA	Sharp-shinned Hawk	CAGU	California Gull †
EAGR	Eared Grebe †	COHA	Cooper's Hawk	HERG	Herring Gull §
AWPE	Amer. White Pelican †	NOGO	Northern Goshawk	GBBG	Great Black-backed Gull †
DCCO	Double-crested Cormorant §	BSHA	Red-shouldered Hawk †	CATE	Caspian Tern †
AMBI	American Bittern †	BWHA	Broad-winged Hawk	COTE	Common Tern §
LEBI	Least Bittern †	RTHA	Red-tailed Hawk	ARTE	Arctic Tern †
GBHE	Great Blue Heron §	RLHA	Rough-legged Hawk †	FOTE	Forster's Tern † §
GREG	Great Egret †	GOEA	Golden Eagle †	BLTE	Black Tern † §
SNEG	Snowy Egret †	AMKE	American Kestrel	BLGU	Black Guillemot †
CAEG	Cattle Egret †	MERT	Martin	RODO	Rock Dove
GRHE	Green Heron §	PEFA	Peregrine Falcon †	MODO	Mourning Dove
BCNH	Black-crowned Night-Heron †	GRPA	Gray Partridge	BBGU	Black-billed Cuckoo
YCNH	Yellow-crowned Night-Heron †	RIPH	Ring-necked Pheasant	YBCU	Yellow-billed Cuckoo
TRUS	Trumpeter Swan †	RUGR	Rufed Grouse	BNOV	Barn Owl †
TUSW	Tundra Swan †	SPGR	Spruce Grouse	EASO	Eastern Screech-Owl
GADW	Gadwall	WIPF	Willow Ptarmigan	GHOW	Great Horned Owl
ABDU	American Black Duck	STGR	Sharp-tailed Grouse †	NHOW	Northern Hawk Owl
MALL	Mallard	WITU	Wild Turkey	BDOW	Barred Owl
BWTE	Blue-winged Teal	NOBO	Northern Bobwhite †	GGOW	Great Gray Owl †
CITE	Cinnamon Teal †	YERA	Yellow Rail †	LEOW	Long-eared Owl
NSHO	Northern Shoveler	KIRA	King Rail †	SEOW	Short-eared Owl †
NOPI	Northern Pintail	VIRA	Virginia Rail	BOOW	Boreal Owl
AGWT	Amer. Green-winged Teal	SORA	Sora	NSWO	Northern Saw-whet Owl
CANV	Canvasback †	COMO	Common Moorhen	CWMI	Chuck-will's-widow †
REDH	Redhead †	SACR	Sandhill Crane	WPWI	Whip-poor-will
RNDU	Ring-necked Duck	AMGP	Amer. Golden-Plover †	GHSW	Chimney Swift
GRSC	Greater Scaup †	SEPL	Semipalmated Plover	RTHU	Ruby-throated Hummingbird
LESC	Lesser Scaup	PIPL	Piping Plover †	RHWO	Red-headed Woodpecker †
COEI	Common Eider †	KILL	Killdeer	RBWO	Red-bellied Woodpecker
SUSC	Surf Scoter †	AMAV	American Avocet †	YBSA	Yellow-bellied Sapsucker
WMSC	White-winged Scoter †	GRYE	Greater Yellowlegs	DOMO	Downy Woodpecker
LTDU	Long-tailed Duck †	LEYE	Lesser Yellowlegs	HAWO	Hairy Woodpecker
BUFF	Bufflehead †	UPSA	Upland Sandpiper	TTWO	Three-toed Woodpecker
COGO	Common Goldeneye	SPSA	Spotted Sandpiper	BZWO	Black-backed Woodpecker
HOME	Hooded Merganser	WHIM	Whimbrel †	NOFL	Northern Flicker
COME	Common Merganser	HUGO	Hudsonian Godwit †	PWOW	Pileated Woodpecker
		MAGO	Marbled Godwit †	OSFL	Olive-sided Flycatcher
		SESA	Semipalmated Sandpiper	EAWP	Eastern Wood-Pewee
		LESA	Least Sandpiper	YBFL	Yellow-bellied Flycatcher †
		PESA	Pectoral Sandpiper †	ACFL	Acadian Flycatcher †
		DUNL	Dunlin †	ALFL	Alder Flycatcher
		STSA	Stilt Sandpiper †	WIFL	Willow Flycatcher
		SBDO	Short-billed Dowitcher †	LEFL	Least Flycatcher
		COSN	Common Snipe	EAPH	Eastern Phoebe
		AMWO	American Woodcock	GCFL	Great Crested Flycatcher
		WIFH	Wilson's Phalarope †	WEKI	Western Kingbird †

**Stantec**

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Page 1 of 3

Waterfowl Migration Observation Form

Project Number: 160960824Project Name: Henvey/Nigig InletDate: Apr 30/13Field Personnel: N. Burnett, S. Richter

Weather Conditions: TEMP (°C): 18°C WIND: 3-beavft CLOUD: Trace-15% PPT: None PPT (in last 24 hrs): 4-5mm-bst night

Start Time: 14:25End Time: 15:25Total KM Driven: ~ 8.5 km (approx)

Flock No.	Time	Species	No. of Individuals	UTM of Centroid of Location	Behaviour
				Area found (e.g. agr. field near puddle, shoreline, etc.)	(i.e. height/direction of flight, feeding, flock behaviour, etc.)
<u>1</u>	<u>14:25</u>	<u>Lesser Scaup</u>	<u>~250</u>	<u>522862</u> <u>5076343</u>	<u>on water surface;</u> <u>flew at our approach</u>
	<u>14:25</u>	<u>Bufflehead</u>	<u>3</u>	<u>"</u>	
	<u>"</u>	<u>Osprey</u>	<u>1</u>	<u>"</u>	
		<u>RUFF</u>	<u>4</u>	<u>521991</u> <u>5076868</u>	<u>2 p (2m + 2p)</u>
		<u>COLO</u>	<u>1</u>	<u>"</u>	<u>swimming</u>
		<u>DCCO</u>	<u>1111</u>	<u>"</u>	<u>swimming</u>
		<u>COME</u>	<u>4</u>	<u>"</u>	<u>flying away at our approach;</u> <u>2m, 2p</u>
<u>274</u> <u>2</u>	<u>2:45</u>	<u>Scaup sp</u>	<u>15</u>	<u>522870</u> <u>5076885</u>	
		<u>RUFF</u>	<u>24</u>	<u>"</u>	
		<u>GWTE</u>	<u>2</u>	<u>"</u>	

Signature: David R. L.

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-05-18 / FORM 010-c

Other Bird Species

Please record any flock behavior (i.e. gulls, crows, blackbirds), raptors or any significant species.

Time	Species	No. of Individuals	Location (e.g. agr. field near puddle, shoreline, etc.)	Behaviour (i.e. height/direction of flight, feeding, flock behaviour, etc.)
3:00	CAGO	1	523282 5076553	potentially nesting in area
3:00	Scooby sp	2	"	
3:05	DCCO	5	523869 5076768	
3:05	BUFF	15	"	
3:10	MALL	1	524938 5075832	male, swimming
3:10	BUFF	2	"	1 male
3:12	BUFF	14	525716 5077059	flying
3:15	BUFF	7	527020 5077391	
3:15	DCCO	1	"	
3:17	BUFF	8	528224 5078388	
3:17	BUFF	4	528976 5078954	
3:18	DCCO	12	"	
3:20	BUFF	13	529527 5079019	
3:20	SACK	11	530558 5078916	

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-05-18 / FORM 010-c



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Page 2 of 3

Waterfowl Migration Observation Form

Project Number: 160960824

Project Name: Henvey/Nigig

Date: Apr 30 2013

Field Personnel: N. Burnett & Sarah Richer

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18°C</u>	<u>Beaufort</u>	<u>Trace-15%</u>	<u>0</u>	<u>4-5mm last night</u>

Start Time: 14:25

End Time: 15:25

Total KM Driven: ~8.5 km (approx)

Flock No.	Time (pm)	Species	No. of Individuals	UTM of Centroid of Location Area found	Behaviour
				(e.g. agr. field near puddle, shoreline, etc.)	(i.e. height/direction of flight, feeding, flock behaviour, etc.)
	<u>3:21</u>	<u>MALL</u>	<u>1</u>	<u>530558</u> <u>5078916</u>	<u>1, male</u>
	<u>3:21</u>	<u>CAGO</u>	<u>21</u>	<u>530558</u> <u>5078916</u>	<u>on nest</u>
	<u>3:22</u>	<u>BUFF</u>	<u>10</u>	<u>530980</u> <u>5078892</u>	<u>on water,</u> <u>flew at our approach</u>
	<u>3:25</u>	<u>BUFF</u>	<u>4</u>	<u>531578</u> <u>5079081</u>	<u>on water</u>
	<u>3:25</u>	<u>DCCO</u>	<u>13</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>2</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>5</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>3</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>8</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>9</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>1</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>
		<u>BUFF</u>	<u>3</u>	<u>531111</u> <u>5079081</u>	<u>on water</u>

Quality Control: This form is complete ☐ & legible ☐.

Signature: Sarah Richer

(Field Personnel)

Signature: _____

(Project Manager)

REV: 2011-05-18 / FORM 010-c

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Fax: (519) 836-2493

Waterfowl Migration Observation Form

Project Number:

160960824

Project Name:

Nigig/Henvey Inlet

Date:

Sept 11-14 2013

Field Personnel:

SRicher & C Patterson

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
Sept 11 ①	9:00	CAGO	8	flew up from water on our approach	flew S/sw, below x at blade height
Sept 11 ②	9:30	DCCO	24	on rock island	huddled on rock
Sept 11 ③	10:30	COME	7	on rock island	huddled on rock
Sept 12 ④	10:00 -4:00	COLO	2	on water	foraging
Sept 13 ⑤	9:40	COME	3	on water surface in bay	2 sleeping, 1 preening
Sept 13 ⑥	9:20	WODU	3	flew up from water on our approach	flew S/SE, below x at blade height
Sept 14 ⑦	8:00	COLO	4	2 2 adults 2 fledged young on water	feeding on & below water's surface
Sept 14 ⑧	8:30	CAGO MALL AMBL BWTE	6 3 3 = 17	on water feeding a preening; BWTE flew away on our approach	BWTE flew SE below at blade height
Sept 14 ⑨	11:15	MALL	4	flew away on our approach	flew E/SE, below x at blade height

Signature:

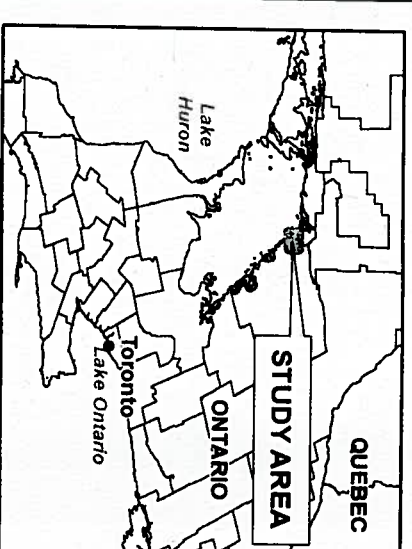
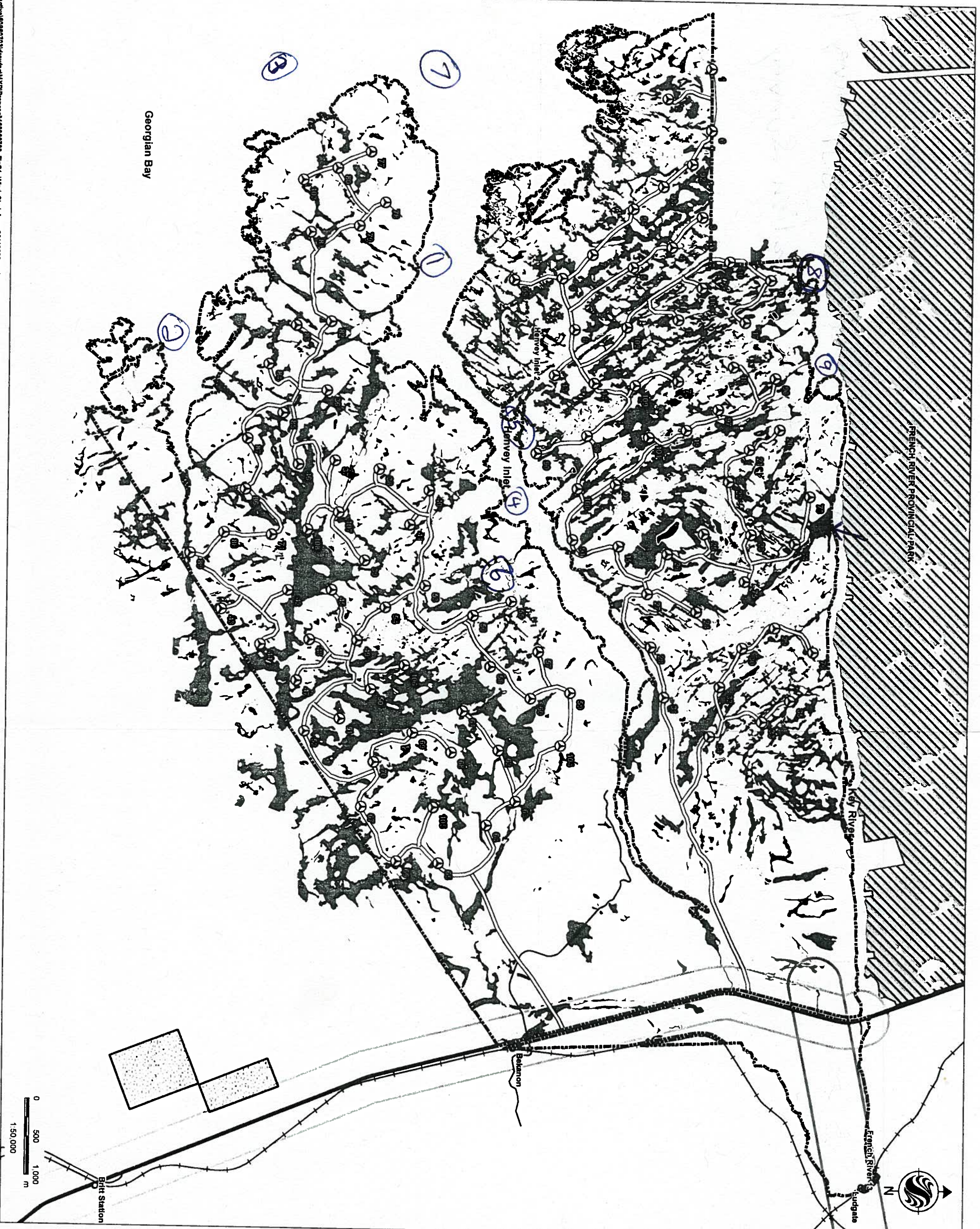
(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.














Signature:

(Project Manager)

REV: 2011-05-05 / FORM 010b



Legend

- Study Area**
-  **Proposed Turbine**
-  **Proposed Access Road**
-  **Option A**
-  **Option B**
-  **Highway**
-  **Major Road**
-  **City/Town**
-  **Water Body**
-  **Wetland (LGL)**
-  **Watercourse**
-  **Provincial Park**
-  **First Nation**
-  **Aggregate Site**

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



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Client/Project

NIGIG POWER CORP.

HENVEY INLET WIND PROJECT

Figure No.

C1

Title

WIND STUDY AREA

Pj# 160960824 Nigig/Henvey Inlet

Waterfowl Migration Survey

Sept 11-14 2013



Stantec Consulting Ltd.
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Fax: (519) 836-2493

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Waterfowl Migration Observation Form

Project Number: 160960224

Project Name: Nigig / Henvey Inlet

Date: Sept. 23 - 26 2013

Field Personnel: S. Richer & C. Paterson

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

None

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
①	9:50 - 4:10pm Sept 23 2013	CAGO	12	on water's surface	staying staying together throughout the day
②	Sept 24 2013	WODU - 6 + CAGO - 7		flew south from water's surface at our approach	were foraging before we got there
③	Sept 25 2013	MALL - AMBL -	18	on water's surface	flew SW as we left Sandy Bay
④	Sept 25 2013	WODU CAGO	9	flying west	below blade height
⑤	Sept 25 2013	DOCO	9	@Sandy Bay, sunning on rocks	sunning, foraging in water
⑥	Sept 25 2013	MALL	②	Key River, water's surface	foraging
⑦	Sept 26 2013	HOMÉ	3	Key River, on water's surface	foraging, flew east at our approach
⑧	Sept 26 2013	MALL	5	Key River, on water's surface	foraging
⑨	Sept 26 2013	COGO - 4 MALL - 10		Key River, on water's surface	foraging
⑩	Sept 26 2013	Duck sp	12	Key River flying southwest	at blade height above
⑪	Sept 26 2013	CAGO	9	in Henvey Inlet	flying west, below at blade height

Signature:

[Signature]
(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-05-05 / FORM 010b

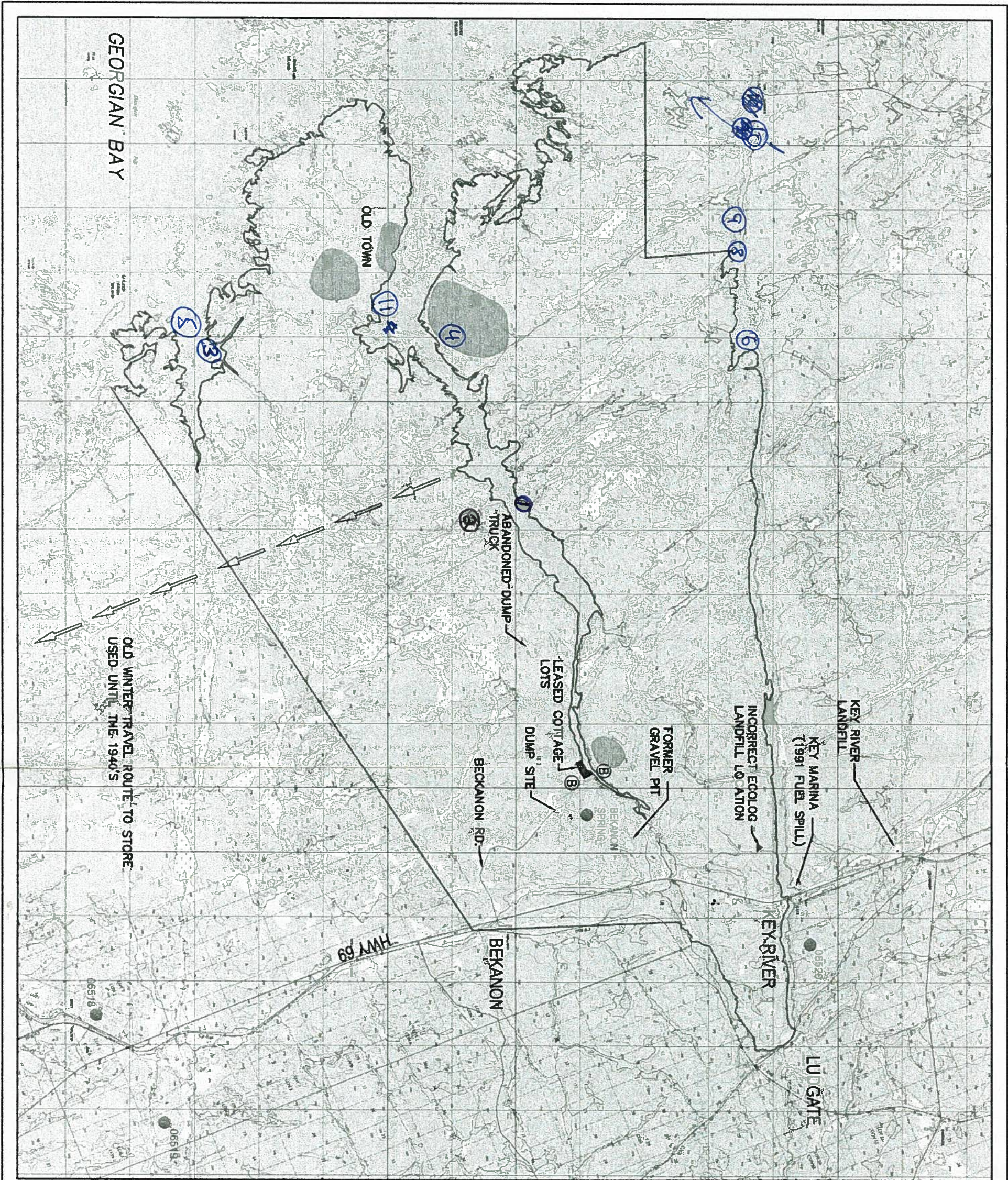
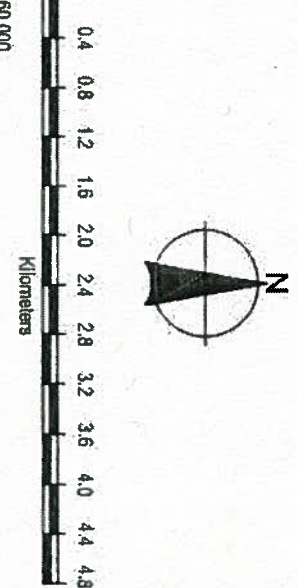


FIGURE 3
IPR - GDF SUEZ NA
HENVEY INLET FIRST NATION
NIGIG POWER CORP/HENVEY INLET PROJECT
PRELIMINARY ENVIRONMENTAL CONSTRAINTS ANALYSIS
REGIONAL PLAN

- Legend**
- APPROXIMATE HENVEY INLET INDIAN RESERVE NO. 2 BOUNDARY
 - ABANDONED MINE INFORMATION SYSTEM RECORD NUMBER
(Data for AMIS record locations obtained from The Ministry of Northern Development Mines)
 - WATER TESTING LOCATIONS
 - FORMER AREAS OF SETTLEMENT
 - BURIAL GROUND



1:50,000
September 2011
Project Number: FEA020521
Prepared by: Z. Nevar
Projection: UTM Zone 17
Datum: NAD83
Verified by: Z. Nevar

Hello,
We are conducting wildlife surveys
(weekly) with the Henvey Inlet First
Nation's permission.

If you have any questions, please call

1-519-579-6496

--Sarah Richer

Pj#

160960824 - Nigig-Henvey Inlet

Sept. 23-26, 2013

S. Richer + C. Paterson

~~W~~ Waterfowl Migration Obs



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Fax: (519) 836-2493

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Waterfowl Migration Observation Form

Project Number: 160960824

Project Name: Nigig Henvey Inlet

Date: Oct. 8 - Oct 11 2013

Field Personnel: J. Richer & C. Peterson

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
1	8:15am Oct 8 2013	COLO Common Loon	1 2	flying north	flying below/at blade height, North
2	9:10 9:45 Oct 8 2013	LESSER Scaup (LESC)	1 5	on water	flew up from water at our approach
3	9:50 Oct 8 2013	CAGO Canada Goose	8	on water	foraging
4	8:50 Oct 9 2013	LESSER Scaup (LESC)	17	flying	at above blade height, west
5	7:45 Oct 9 2013	WOOD duck (WOBU)	3	flying	below/at blade height, SW
6	8:15 Oct 9 2013	COME — 1 MALL — 1	1 1	on water	foraging
7	10:07 Oct 9 2013	HOME	1	on water	foraging
8	7:40 Oct 10	COLO	2	on water	foraging, one adult + 1 juvenile
9	7:45 Oct 10	LESC	5	on water	flew N/NW at our approach
10	7:48 Oct 10	RNOU	4	on water	

Signature: [Signature]

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: [Signature]

(Project Manager)

REV: 2011-05-05 / FORM 010b

OVER

Other Bird Species

Please record any flock behavior (i.e. gulls, crows, blackbirds), raptors or any significant species.

Flock #	Time	Species	#	Location (e.g. in water puddle, agr. field near puddle, mowed lawn, etc.)	Behaviour (i.e. height/direction of flight, feeding, etc.)
11	7:55 Oct 10	COCO	2	on water	foraging, both juveniles
12	8:05 Oct 10	SUSC Surf Scoter	8	on water	foraging; no longer there on our return through at 12:20
14	8:30 Oct 10	MALL	2	on water in marsh	foraging, flew up at our approach & south
13	8:10 Oct 10	Surf Scoter	6	on water	foraging
15	12:35 Oct 10	LESC SUSC	2 1	on water	foraging
16	12:50 Oct 10	BLWC	3	on water	foraging
17	1:00 Oct 10	COCO	2	on water	both juveniles
18	1:05 Oct 10	COME COCO	1 1	on water	foraging COCO is juvenile
19	1:12 Oct 10	WOBV	2	on water	both males, foraging
20	1:20 Oct 10	COME	1	on water	foraging
21	1:30 Oct 10	CAGO	11	on water	foraging
22	1:31 Oct 10	COME	2	on water	foraging
23	1:44 Oct 10	WOBV	2	on water	foraging
24	9:30 Oct 11	CAGO	9	on water, in pond @ end of migration transect 3	flew south at our arrival to the pond
25	10:10 Oct 11	SUSC (Surfscoter)	11	flying south	from below to at blade height
26	11:00 Oct 11	COME	2	flying east	below blade height

Quality Control: This form is complete ☒ & legible ☒.

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)

REV: 2011-05-05 / FORM 010b

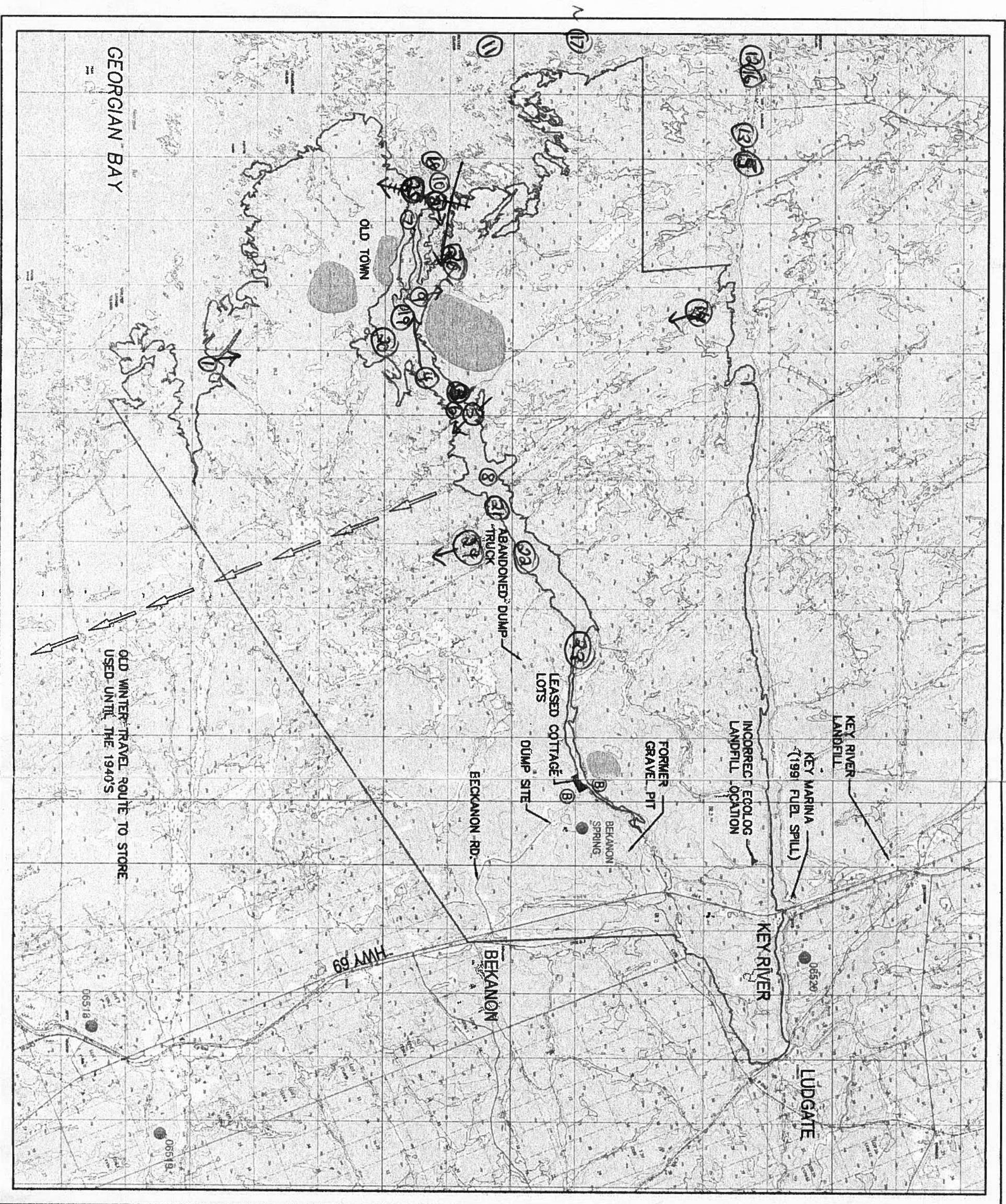


FIGURE 3

IPR - GDF SUEZ NA

HENVEY INLET FIRST NATION

NGIG POWER CORP/HENVEY INLET PROJECT

PRELIMINARY ENVIRONMENTAL CONSTRAINTS ANALYSIS

REGIONAL PLAN

Legend

APPROXIMATE HENVEY INLET INDIAN RESERVE NO. 2 BOUNDARY

066520
ABANDONED MINE INFORMATION SYSTEM RECORD NUMBER
(Data for AMIS record locations obtained from The Ministry of Northern Development Mines.)

THE POINT
WATER TESTING LOCATIONS

FORMER AREAS OF SETTLEMENT

BURIAL GROUND

Map Source:
Background 1:10,000 Ontario Base Mapping obtained from First Base Solutions Inc.

0 0.4 0.8 1.2 1.6 2.0 2.4 2.8 3.2 3.6 4.0 4.4 4.8
Kilometers

1:80,000
September 2011
Project Number: TEA020521
Prepared by: Z. Nivar

Projection: UTM Zone 17
Datum: NAD83
Verified by: Z. Nivar

NEEGAN BURNSIDE

Waterfowl Migration Survey

October 8-11, 2013

Sarah Richer & Carolyn Peterson

PJ # 160960824

PJ Name: Nigig/Hevey Inlet



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Guelph, Ontario, Canada
N1G 4P5
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Fax: (519) 836-2493

Migrating ~~Raptor~~ ^{Waterfowl} Observation Form

Project Number: 160960824

Project Name: Nisig/Hevey

Date / Time: Oct 24 2012 Thurs

Field Personnel: J. Fisher

Weather Conditions:

Temp: 3-4°C

Wind: 19-28 km/hr Cloud: 90-100%

PPT: None

PPT in last 24 hrs: snow pellets

observations recorded btwn 10:00am - pm while at Hawk watch point

Species / Time (# on map)	# of Individuals	Flight height* and direction	Notes
W1 COLO (Common Loon)	1	on water	juvenile, foraging, called once
W2 Rufflehead (BUFF)	2	below blade height	flew west/sw
W3 CAGO	2	at blade height	flew West
W4 BUFF	3	below at blade height	flew west
W5 COME	2	on water	1 female, 1 immature
W6 - Scaup W6 - Scaup	3	on water	heads tucked in
W7 W7 Surf Scoter	8	on water	swimming east, together

"W" for Waterfowl

at north end of Milton Bay

Quality Control: This form is complete () & legible ().

Signature: [Signature]
(Field Personnel)

Signature: _____
(Project Manager)

Other Bird Species

Please record any flock behaviour (i.e. snow gulls, waterfowl, crows, blackbirds) or any significant species.

[illegible]

Quality Control: This form is complete () & legible ().

Signature: _____

(Field Personnel)

Signature: _____

(Project Manager)

Page ____ of ____

REV: Aug 10

Form 018

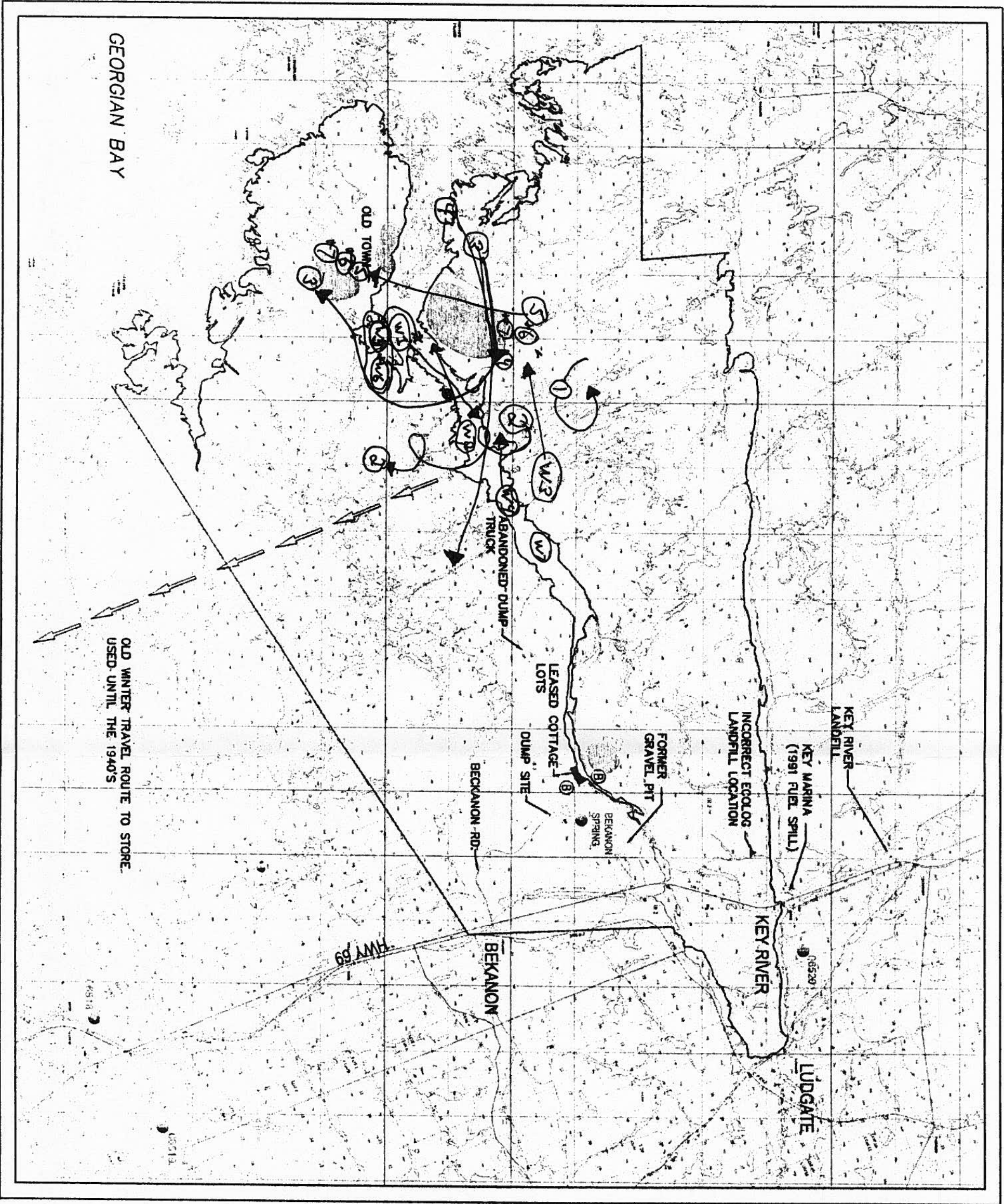
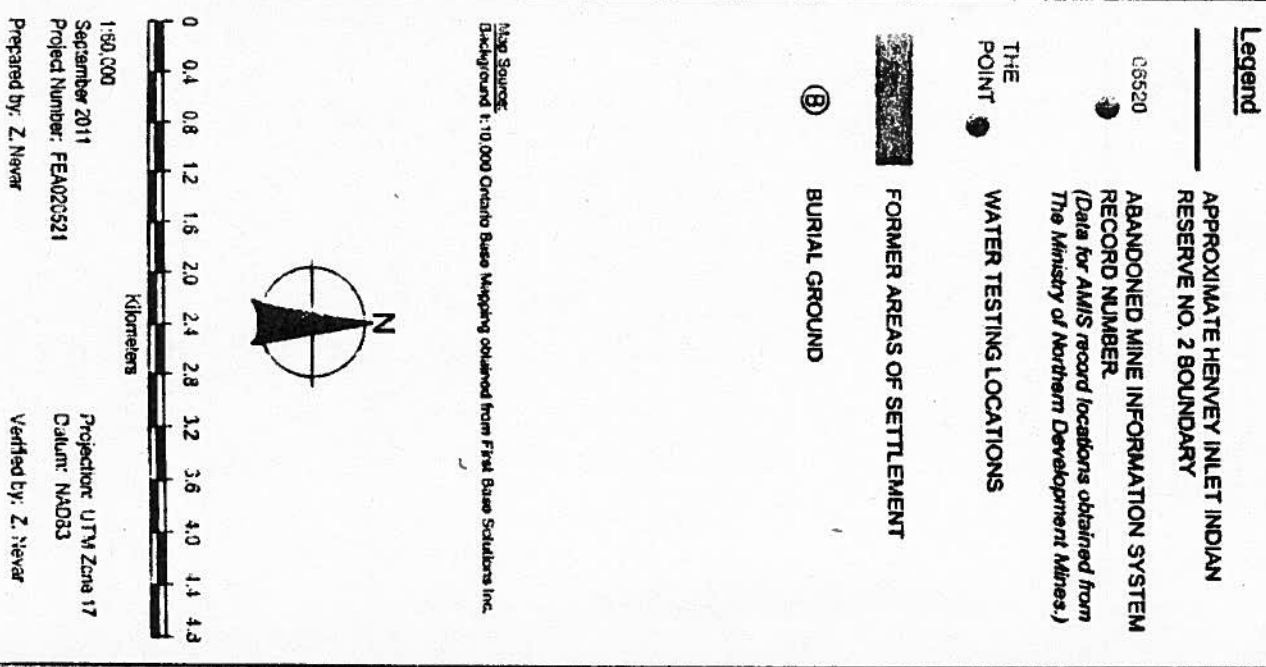


FIGURE 3
IPR - GDF SUEZ NA
HENVEY INLET FIRST NATION
NIIG POWER CORP/HENVEY INLET PROJECT
PRELIMINARY ENVIRONMENTAL CONSTRAINTS ANALYSIS
REGIONAL PLAN



MEEGAN BURNSIDE

**Stantec**

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Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Waterfowl Migration Observation Form

Project Number: 160960824Project Name: Nigig/Henvey InletDate: Oct 29 2013Field Personnel: S. Richer

Weather Conditions: TEMP (°C): -3°C to 5°C WIND: 10:00 NE B. 1-2 (-12:45) + WSW, B. 2-4 (12:45-4:00) CLOUD: 10% PPT: None PPT (in last 24 hrs): None

Flock No.	Time	Species	No. of Individuals	Location	Behaviour
				(e.g. in water, agr. field near puddle, mowed lawn, etc.)	(i.e. height/direction of flight, feeding, etc.)
1	10:00	Bufflehead (9♂, 4♀)	13	on water	foraging together, moving E
2	10:14	Unknown Duck sp.	~30	too far to ID	flying SW SW at & above blade sweep
3	11:00	Bufflehead	8	just above water's surface	flying W, below blade sweep
4	11:35	Common Merganser	4	just above water's surface	flying SW, below below blade sweep
5	11:50	Hooded Merganser	2	on water	both females, foraging
6	12:40	Common Merganser	8	just above water surface	flying SW, below blade height
7	1:30	Unknown Duck sp.	~35	too far to ID	flying SW, at & above blade sweep
8	2:15	Unknown Duck sp.	~25	too far to ID	flying W, at & above blade sweep
9	3:30	White-winged Scoter	2	on water	foraging
10	3:45 All day	COLO Common Loon	1	on water	juvenile, on water throughout the day, foraging & preening
11	3:45	Common Goldeneye	20		

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-05-05 / FORM 010b

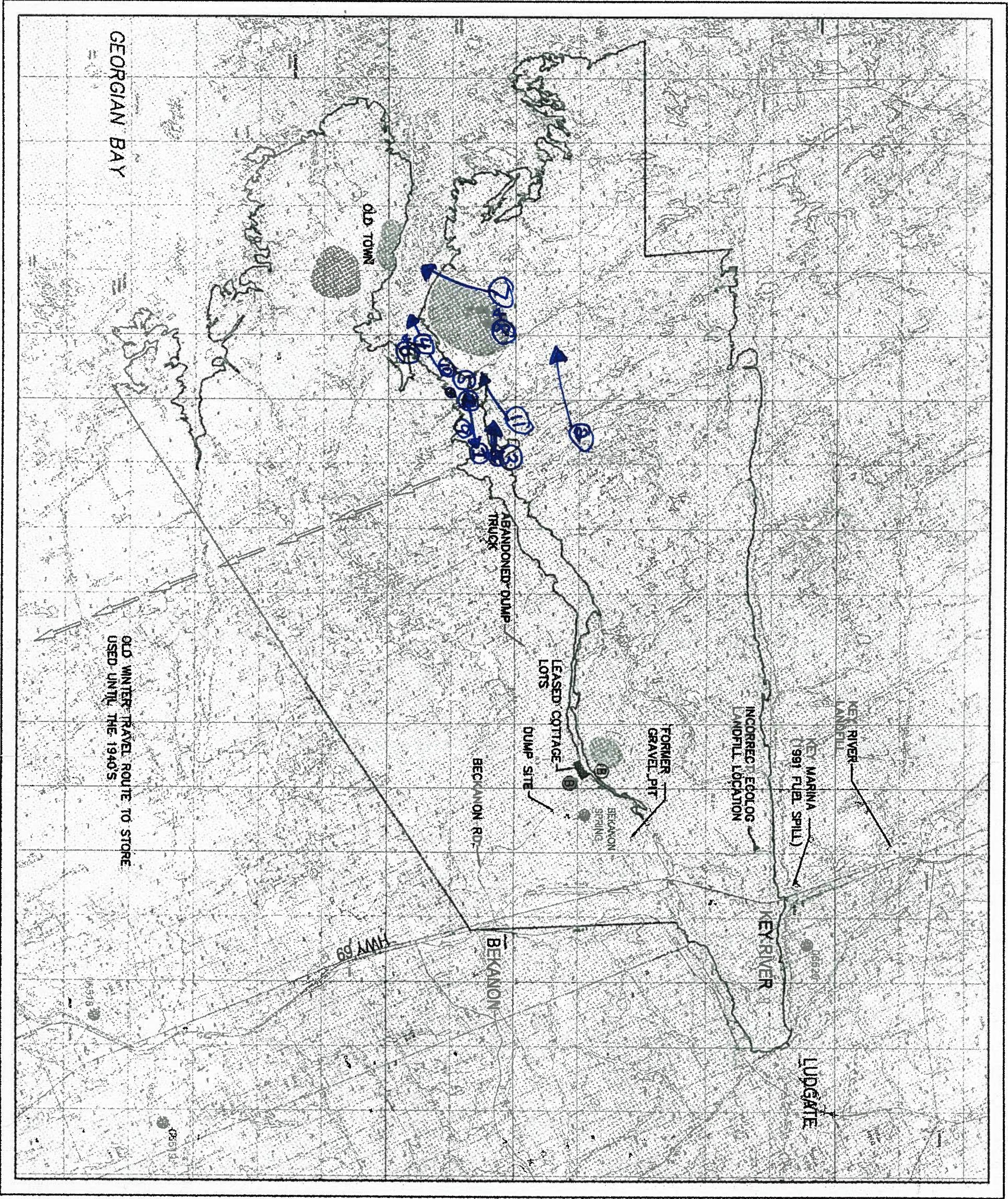


FIGURE 3

IPR - GDF SUEZ NA
HENVEY INLET FIRST NATION
NIGIG POWER CORP/HENVEY INLET PROJECT
PRELIMINARY ENVIRONMENTAL CONSTRAINTS ANALYSIS
REGIONAL PLAN

Legend

APPROXIMATE HENVEY INLET INDIAN
RESERVE NO. 2 BOUNDARY

06520
ABANDONED MINE INFORMATION SYSTEM
RECORD NUMBER
(Data for AMIS record locations obtained from
The Ministry of Northern Development Mines.)

THE
POINT
WATER TESTING LOCATIONS

FORMER AREAS OF SETTLEMENT

BURIAL GROUND

Map Source:
Background: 1:10,000 Ontario Base Mapping obtained from First Base Solutions Inc.



0 0.4 0.8 1.2 1.6 2.0 2.4 2.8 3.2 3.6 4.0 4.4 4.8
kilometers

1:60,000
September 2011
Project Number: FEA020521
Prepared by: Z. Newar
Projection: UTM Zone 17
Datum: NAD83
Verified by: Z. Newar

NEECAN BURNSIDE

Map & Data Sheet

PJ # 160960824 Nigig/Henney Inlet

S. Richer

Oct 29 2013 Tuesday 10:00^{am} - 4:00^{pm}

Waterfowl observations while

stationed at the inland raptor watch,
south side of Inlet, across from Flash's camp



Waterfowl Migration Observation Form

Project Name:

Date:

Field Personnel:

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

$$1 - \frac{1}{2} + \frac{1}{2} = 1$$

NW-9:00-12:50

40%

Name _____

vein

observations made from
Beckman landing/boat launch
between 9:00am and 4:00pm

Signature:

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-05-05 / FORM 010b

Other Bird Species

Please record any flock behavior (i.e. gulls, crows, blackbirds), raptors or any significant species.

[illegible]

page 2 of 2

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-05-05 / FORM 010b

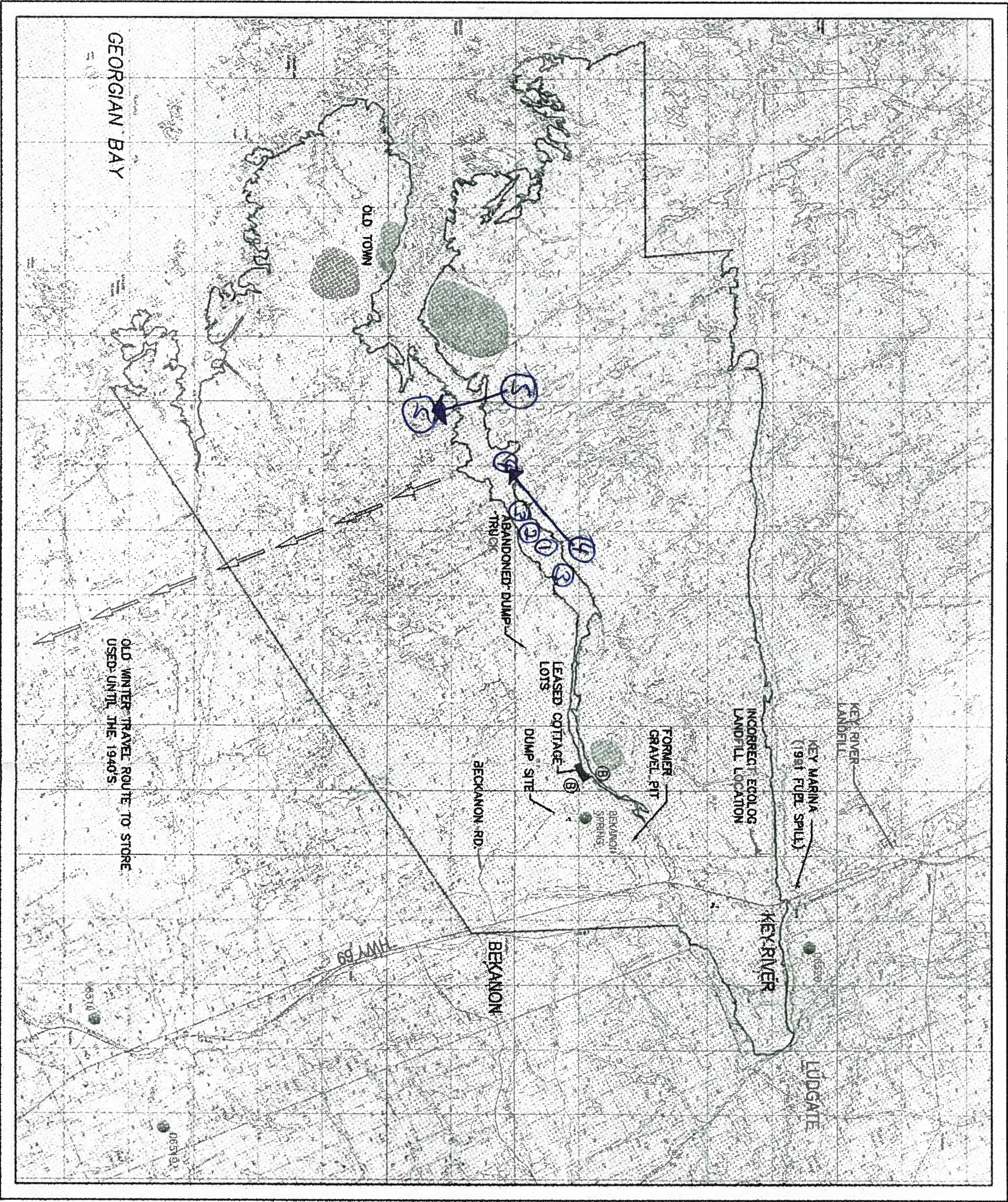


FIGURE 3

IPR - GDF SUEZ NA
HENVEY INLET FIRST NATION
MIGG POWER CORP/HENVEY INLET PROJECT
PRELIMINARY ENVIRONMENTAL CONSTRAINTS ANALYSIS
REGIONAL PLAN

Legend

APPROXIMATE HENVEY INLET INDIAN
RESERVE NO. 2 BOUNDARY

ABANDONED MINE INFORMATION SYSTEM
RECORD NUMBER
(Data for AMIS record locations obtained from
The Ministry of Northern Development Mines.)

WATER TESTING LOCATIONS

FORMER AREAS OF SETTLEMENT

BURIAL GROUND

Map Source:
Background: 1:10,000 Ontario Base Mapping obtained from First Base Solutions Inc.



0 0.4 0.8 1.2 1.6 2.0 2.4 2.8 3.2 3.6 4.0 4.4 4.8
Kilometers

1:60,000
September 2011
Project Number: FEA020621
Prepared by: Z. Nevar
Projection: UTM Zone 17
Datum: NAD83
Verified by: Z. Nevar

NEECAM BURNSIDE

What: Waterfowl migration obs

When: Fri November 8 2013

For: Proj # 160960 ~~824~~ - Nigig Henvey Inlet

Where: Station at Becharon landing/boat launch

Time: 9:00am to 4:00pm

Who: Sarah Richer

→ Why different than hawk
watch time of 10:00am start?
included observations while
addressing
boat issues

This map + 1 data sheet = 2 sheets

Fall water fall

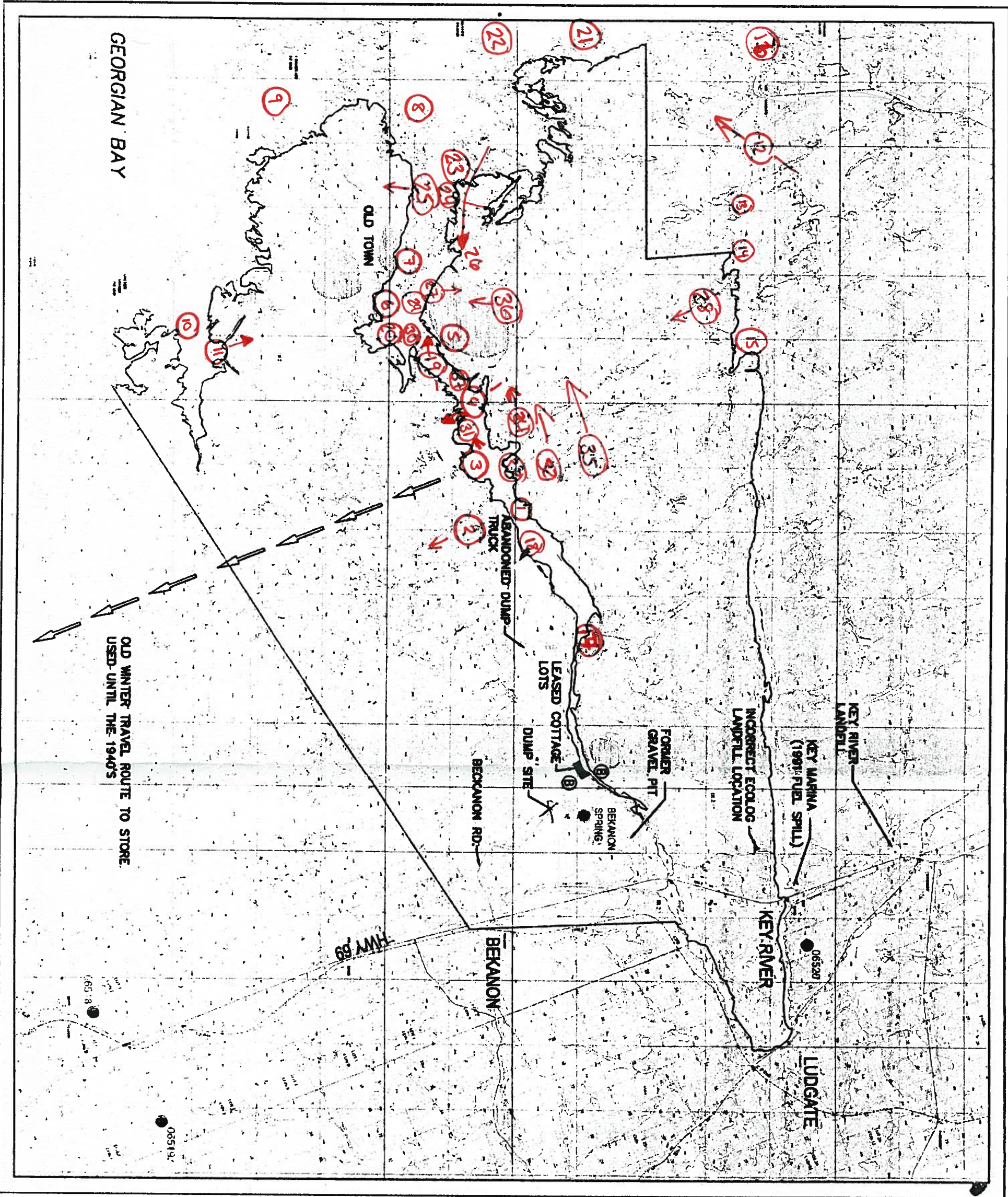
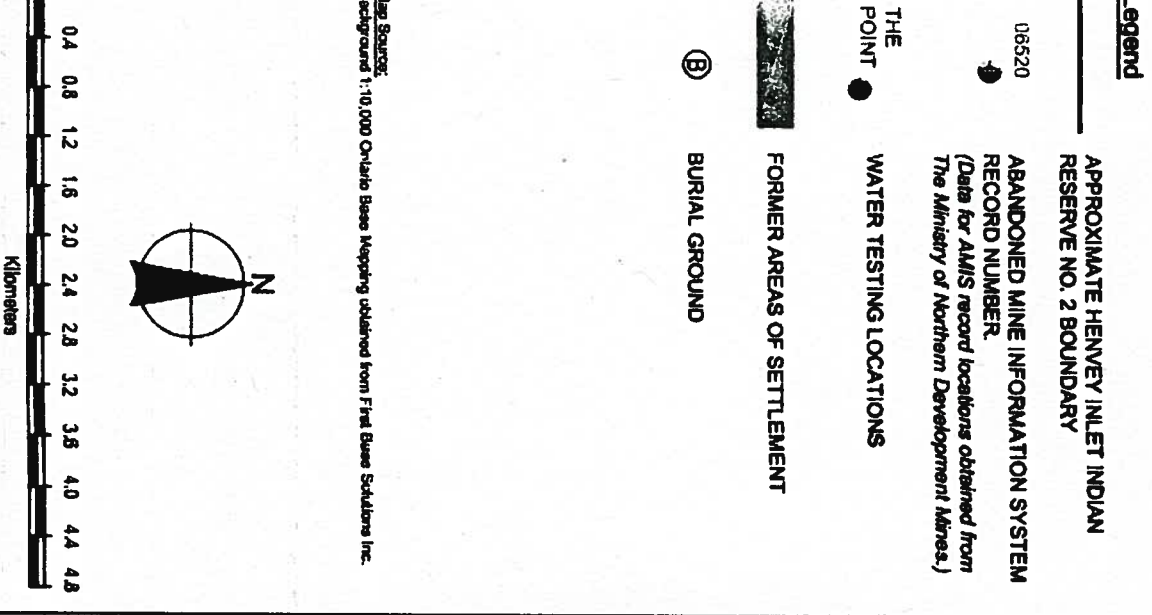


FIGURE 3
IPR - GDF SUEZ NA
HENVEY INLET FIRST NATION
NIGIG POWER CORPHENVEYINLET PROJECT
PRELIMINARY ENVIRONMENTAL CONSTRAINTS ANALYSIS
REGIONAL PLAN



1:50,000
September 2011
Project Number: FEA020321
Prepared by: Z. Neyer

Projection: UTM Zone 17
Datum: NAD83
Verified by: Z. Neyer

NEECAN BURNSIDE

10/27/2014

Fall Water fowl.



Area A					First Visit	Second Visit
Code	Site	Point Counts				
		Zone	Easting	Northing		
1 A1	PC201	17T	526702	5078127	4-Jun-13	24-Jun-13
2 A2	PC203	17T	526173	5078766	4-Jun-13	24-Jun-13
3 A3	PC204	17T	526055	5079242	4-Jun-13	24-Jun-13
4 A4	PC206	17T	525618	5079954	4-Jun-13	24-Jun-13
5 A5	PC207	17T	525194	5080508	4-Jun-13	24-Jun-13
6 A6	Marsh 1	17T	525860	5079203	4-Jun-13	24-Jun-13
7 A7	V1	17T	524660	5076679	16-Jun-13	26-Jun-13
8 A8	V2	17T	524778	5077164	16-Jun-13	26-Jun-13
9 A9	V3	17T	524635	5077455	16-Jun-13	26-Jun-13
10 A10	W01	17T	523585	5077154	7-Jun-13	21-Jun-13
11 A11	W02	17T	523365	5077772	7-Jun-13	21-Jun-13
12 A12	W03	17T	523059	5078254	7-Jun-13	21-Jun-13
13 A13	W04	17T	523133	5078765	7-Jun-13	21-Jun-13
14 A14	W05	17T	523320	5079223	7-Jun-13	21-Jun-13
15 A15	W06	17T	523693	5079796	7-Jun-13	21-Jun-13

Area B

	Site	Point Counts				
		Zone	Easting	Northing		
16 B1	PC216	17T	528618	5079111	7-Jun-13	20-Jun-13
17 B2	PC217	17T	528666	5079514	7-Jun-13	20-Jun-13
18 B3	PC218	17T	528361	5079267	7-Jun-13	20-Jun-13
19 B4	PC222	17T	528063	5079633	7-Jun-13	20-Jun-13
20 B5	PC233	17T	527935	5080068	7-Jun-13	20-Jun-13
21 B6	PC224	17T	527602	5080573	7-Jun-13	20-Jun-13
22 B7	PC225	17T	527283	5081020	7-Jun-13	20-Jun-13
23 B8	PC226	17T	527388	5080346	7-Jun-13	20-Jun-13
24 B9	PC232	17T	529216	5079462	8-Jun-13	25-Jun-13
25 B10	PC233	17T	528979	5079939	8-Jun-13	25-Jun-13
26 B11	PC234	17T	528937	5080074	8-Jun-13	25-Jun-13
27 B12	PC235	17T	528809	5080360	8-Jun-13	25-Jun-13
28 B13	PC236	17T	528682	5080494	8-Jun-13	25-Jun-13
29 B14	PC237	17T	528532	5080879	8-Jun-13	25-Jun-13
30 B15	PC238	17T	528438	5081043	8-Jun-13	25-Jun-13
31 B16	PC239	17T	528256	5081418	8-Jun-13	25-Jun-13

Area C

	Site	Point Counts				
		Zone	Easting	Northing		
32 C1	PC209 (forest)	17T	533565	5081897	6-Jun-13	18-Jun-13
33 C2	X1	17T	530013	5078948	6-Jun-13	20-Jun-13
34 C3	X2	17T	530558	5079625	6-Jun-13	20-Jun-13
35 C4	X3	17T	530764	5080346	6-Jun-13	20-Jun-13
36 C5	X4	17T	531110	5080754	6-Jun-13	20-Jun-13

Area D

	Site	Point Counts			
		Zone	Easting	Northing	

37 D1	PC210	17T	533332	5079992	6-Jun-13	18-Jun-13
38 D2	PC211	17T	532871	5078133	6-Jun-13	18-Jun-13
39 D3	PC212	17T	532092	5078861	6-Jun-13	18-Jun-13
40 D4	PC214	17T	529757	5078310	6-Jun-13	18-Jun-13
41 D5	D1 (?) T01	17T	529201	5077915	17-Jun-13	28-Jun-13
42 D6	D2 (?) T02	17T	529411	5077454	17-Jun-13	28-Jun-13
43 D7	D3 (?) T03	17T	529783	5077131	17-Jun-13	28-Jun-13
44 D8	D4 (?) T04	17T	529758	5076540	17-Jun-13	28-Jun-13
45 D9	D5 (?) T05	17T	530275	5076494	17-Jun-13	28-Jun-13
46 D10	D6 (?) T06	17T	530830	5076637	17-Jun-13	28-Jun-13
47 D11	D7 (?) T07	17T	530650	5077108	17-Jun-13	28-Jun-13
48 D12	Z1	17T	532946	5080021	4-Jun-13	18-Jun-13
49 D13	Z2	17T	532736	5079563	4-Jun-13	18-Jun-13
50 D14	Z3	17T	532482	5079124	4-Jun-13	18-Jun-13
51 D15	Z4	17T	532289	5078660	4-Jun-13	18-Jun-13
52 D16	Z5	17T	531989	5078254	4-Jun-13	18-Jun-13
53 D17	Z6	17T	531846	5077768	4-Jun-13	18-Jun-13
54 D18	Z7	17T	531934	5077271	4-Jun-13	18-Jun-13
55 D19	Z8	17T	532418	5077061	4-Jun-13	18-Jun-13
56 D20	Z9	17T	532493	5076815	4-Jun-13	18-Jun-13
57 D21	Z10	17T	532678	5076615	4-Jun-13	18-Jun-13

Area E

		Point Counts				
	Site	Zone	Easting	Northing		
58 E1	PC10 (swd-ash)	17T	524945	5075396	5-Jun-13	25-Jun-13
59 E2	PC11 (marsh/fom)	17T	525437	5075483	5-Jun-13	25-Jun-13
60 E3	PC12 (swt/fom)	17T	526475	5075295	5-Jun-13	25-Jun-13
61 E4	PC8 (jack pine/red maple)	17T	526691	5075204	5-Jun-13	
62 E5	PC9 (pine)	17T	527088	5075214	5-Jun-13	
63 E6	PC7 (mas/oa/swc)	17T	527537	5074800	5-Jun-13	
64 E7	PC15(fom/poplar,spruce)	17T	525853	5076584	6-Jun-13	27-Jun-13
65 E8	PC13 (jack pine)	17T	526185	5076403	6-Jun-13	27-Jun-13
66 E9	PC14 (swt)	17T	526451	5076545	6-Jun-13	27-Jun-13
67 E10	PC16 (lowland spruce forest)	17T	527005	5076650	6-Jun-13	27-Jun-13
68 E11	PC17 (pine barren)	17T	527537	5076352	6-Jun-13	27-Jun-13
69 E12	PC18 (pine barren)	17T	527765	5075981	6-Jun-13	27-Jun-13
70 E13	PC1 (fom-pin/maple/oak)	17T	528208	5077811	7-Jun-13	24-Jun-13
71 E14	PC2 (bog)	17T	529355	5075881	7-Jun-13	24-Jun-13
72 E15	PC5 (pine barren)	17T	528224	5077357	7-Jun-13	24-Jun-13
73 E16	PC6 (pine barren)	17T	528325	5076931	7-Jun-13	24-Jun-13
74 E17	PC3 (pine barren)	17T	528789	5076454	7-Jun-13	24-Jun-13
75 E18	PC4 (bog)	17T	529180	5076307	7-Jun-13	24-Jun-13
76 E19	U1	17T	526702	5073100	15-Jun-13	26-Jun-13
77 E20	U2	17T	526797	5073664	15-Jun-13	26-Jun-13
78 E21	U3	17T	526621	5074132	15-Jun-13	26-Jun-13
79 E22	U4	17T	526118	5074163	15-Jun-13	26-Jun-13
80 E23	U5	17T	525769	5073789	15-Jun-13	26-Jun-13

Area F

Point Counts

	<i>Site</i>	<i>Zone</i>	<i>Easting</i>	<i>Northing</i>		
81 F1	Y1	17T	523131	5076211	5-Jun-13	19-Jun-13
82 F2	Y2	17T	522657	5076058	5-Jun-13	19-Jun-13
83 F3	Y3	17T	522275	5075719	5-Jun-13	19-Jun-13
84 F4	Y4	17T	522185	5075226	5-Jun-13	19-Jun-13
85 F5	Y5	17T	522697	5075239	5-Jun-13	19-Jun-13
86 F6	Y6	17T	523055	5074843	5-Jun-13	19-Jun-13
87 F7	Y7	17T	523375	5074421	5-Jun-13	19-Jun-13
88 F8	Y8	17T	523625	5074854	5-Jun-13	19-Jun-13
89 F9	Y9	17T	523294	5075229	5-Jun-13	19-Jun-13

Area MTO**Point Counts**

	<i>Site</i>	<i>Zone</i>	<i>Easting</i>	<i>Northing</i>		
TL01	TL01	17T	533352	5083133	10-Jun-13	30-Jun-13
TL02	TL02	17T	533608	5080784	10-Jun-13	30-Jun-13
TL03	TL03	17T	533598	5079442	10-Jun-13	30-Jun-13
TL04	TL04	17T	534022	5078237	10-Jun-13	30-Jun-13
TL05	TL05	17T	534484	5076512	10-Jun-13	30-Jun-13
TL06	TL06	17T	534777	5075251	10-Jun-13	30-Jun-13
TL07	TL07	17T	535302	5074024	10-Jun-13	30-Jun-13
TL08	TL08	17T	535857	5072690	10-Jun-13	30-Jun-13
TL09	TL09	17T	536392	5071361	10-Jun-13	30-Jun-13
TL10	TL10	17T	537424	5070118	10-Jun-13	30-Jun-13
TL11	TL11	17T	538725	5069753	10-Jun-13	30-Jun-13
TL12	TL12	17T	539262	5068545	10-Jun-13	30-Jun-13
TL13	TL13	17T	539804	5066946	10-Jun-13	30-Jun-13
TL14	TL14	17T	540363	5065728	10-Jun-13	30-Jun-13
TL15	TL15	17T	540917	5064486	10-Jun-13	30-Jun-13
TL16	TL16	17T	541501	5063176	10-Jun-13	1-Jul-13
TL17	TL17	17T	541923	5061938	10-Jun-13	1-Jul-13
TL18	TL18	17T	542520	5060781	10-Jun-13	1-Jul-13
TL19	TL19	17T	543198	5059275	12-Jun-13	1-Jul-13
TL20	TL20	17T	544066	5058149	12-Jun-13	1-Jul-13
TL21	TL21	17T	544941	5057268	12-Jun-13	1-Jul-13
TL22	TL22	17T	545943	5056213	12-Jun-13	1-Jul-13
TL23	TL23	17T	546861	5054959	12-Jun-13	1-Jul-13
TL24	TL24	17T	547179	5053667	12-Jun-13	1-Jul-13
TL25	TL25	17T	547588	5052527	12-Jun-13	1-Jul-13
TL26	TL26	17T	548249	5051310	12-Jun-13	1-Jul-13
TL27	TL27	17T	548537	5050090	12-Jun-13	1-Jul-13
TL28	TL28	17T	549682	5048337	12-Jun-13	2-Jul-13
TL29	TL29	17T	550511	5047371	12-Jun-13	2-Jul-13
TL30	TL30	17T	551720	5046617	12-Jun-13	2-Jul-13
TL31	TL31	17T	552831	5046119	12-Jun-13	2-Jul-13
TL32	TL32	17T	554042	5045491	12-Jun-13	2-Jul-13
TL33	TL33	17T	555293	5044758	12-Jun-13	2-Jul-13
TL34	TL34	17T	556389	5043937	12-Jun-13	2-Jul-13
TL35	TL35	17T	557486	5043000	12-Jun-13	2-Jul-13
TL36	TL36	17T	558569	5041932	12-Jun-13	2-Jul-13
TL37	TL37	17T	559620	5040841	12-Jun-13	2-Jul-13
TL38	TL38	17T	560672	5039756	13-Jun-13	2-Jul-13
TL39	TL39	17T	561721	5038694	13-Jun-13	3-Jul-13

TL40	TL40	17T	562680	5037847	13-Jun-13	3-Jul-13
TL41	TL41	17T	563686	5036949	13-Jun-13	3-Jul-13
TL42	TL42	17T	564664	5035972	13-Jun-13	3-Jul-13
TL43	TL43	17T	565706	5034882	13-Jun-13	3-Jul-13
TL44	TL44	17T	566384	5034183	13-Jun-13	3-Jul-13
TL45	TL45	17T	573208	5029393	13-Jun-13	3-Jul-13
TL46	TL46	17T	572989	5029419	13-Jun-13	3-Jul-13
TL47	TL47	17T	568664	5031923	13-Jun-13	3-Jul-13
TL48	TL48	17T	564173	5036499	13-Jun-13	3-Jul-13
TL49	TL49	17T	561024	5039420	13-Jun-13	3-Jul-13
TL50	TL50	17T	558024	5042490	13-Jun-13	3-Jul-13
TL51	TL51	17T	540651	5065085	13-Jun-13	4-Jul-13
TL52	TL52	17T	572659	5030346	14-Jun-13	4-Jul-13
TL53	TL53	17T	578307	5022423	14-Jun-13	4-Jul-13
TL54	TL54	17T	581614	5020363	14-Jun-13	4-Jul-13
TL55	TL55	17T	581561	5020624	14-Jun-13	4-Jul-13
TL56	TL56	17T	582693	5018280	14-Jun-13	4-Jul-13
TL57	TL57	17T	582226	5019032	14-Jun-13	4-Jul-13
TL58	TL58	17T	582508	5016960	14-Jun-13	4-Jul-13
TL59	TL59	17T	583330	5016881	14-Jun-13	4-Jul-13
TL60	TL60	17T	582287	5018595	14-Jun-13	4-Jul-13

Appendix B

Stantec's Terrestrial Survey Work Program (Stantec 2013)



**2013 TERRESTRIAL SURVEY
WORK PROGRAM**

File No. 160960770
March 2013

Prepared for:

Nigig Power Corp.
Henvey Inlet Wind Project

Prepared by:

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph ON N1G 4P5

Table of Contents

1.0 TERRESTRIAL FIELD PROGRAM	1.1
2.0 FIELD PROGRAM OVERVIEW	2.1
2.1 ECOSITE CLASSIFICATION AND WETLANDS	2.1
2.2 WILDLIFE HABITAT	2.2
2.3 ENDANGERED, THREATENED AND SPECIAL CONCERN SPECIES	2.2
3.0 PROPOSED FIELD WORK PROGRAM	3.1
3.1 GENERAL RECONNAISSANCE.....	3.1
3.2 SPRING MIGRATORY BIRD SURVEYS	3.1
3.3 BREEDING BIRD SURVEYS	3.2
3.4 AMPHIBIAN AND REPTILE SURVEYS	3.4
3.5 REPTILE HABITAT AND TARGETED SURVEYS.....	3.4
3.6 BAT SURVEYS.....	3.6
3.7 ECOSITE, WETLAND AND VEGETATION SURVEYS.....	3.6
3.8 FALL MIGRATORY BIRD SURVEYS.....	3.7
3.9 INCIDENTAL OBSERVATIONS.....	3.8
4.0 REFERENCES AND INFORMATION SOURCES.....	4.1

List of Tables

Table 1: Endangered, threatened and special concern terrestrial wildlife species potentially present within the Study Area	2.2
Table 2: General Habitat Description and Use by Reptile Species at Risk.....	3.5
Table 3: Rare Plant Species and Flowering Period.....	3.7
Table 4: Summary of Natural Environment Field Program	3.9

List of Figures

Appendix A

Figure 1: Study Area for the proposed Nigig Power Corp. Henvey Inlet Wind Project and Transmission Corridor

1.0 Terrestrial Field Program

Stantec Consulting Ltd. ("Stantec") is providing this work plan to Environment Canada for the terrestrial field investigations for the 300 MW, Feed-In Tariff ("FIT") Contracted, Henvey Inlet Wind Project (the "Project"). The key Project elements include:

- i) *On-Reserve Facilities:* up to 120 wind turbines, a transformer station, operations and maintenance building, access roads, collector lines, and ancillary facilities on Henvey Inlet First Nation Lands (Reserve No. 2); and
- ii) *Off-Reserve Facilities:* approximately 90 km of 230 kV, double circuit overhead transmission line from Reserve No. 2 to the Town of Parry Sound, Ontario where the project will interconnect with the provincial electricity grid at Hydro One Networks Inc.'s ("Hydro One") existing Parry Sound Transformer Station. The transmission line, as presently proposed, would be located within the current and future rights-of-way held by the Ontario Ministry of Transportation for King's Highway 69/400.

Save the Project's transmission line and interconnection works at the Parry Sound Transformer Station, all Project infrastructure will be located on Henvey Inlet First Nation Reserve Lands (Reserve No. 2). Preliminary siting of the wind turbines, collector lines, operations and maintenance building, transformer station, and access roads are in progress and are taking into account important cultural and environmental features as they are identified through field surveys, traditional ecological knowledge studies, and engagement efforts with the Henvey Inlet First Nation community.

For the transmission line, as proposed to be located within the current and future rights-of-way held by the Ontario Ministry of Transportation for King's Highway 69/400, the natural heritage field investigations for the majority of the transmission corridor fall under the requirements of Ontario Regulation 116/01 of Ontario's *Environmental Assessment Act* and will therefore be subject to review and approval by the Ministry of the Environment. However, portions of the highway corridor traverses roughly 35 ha of the Magnetewan First Nation Reserve (No. 1) and about 11 ha of the Shawanaga First Nation Reserve (No. 17), lands which are under federal jurisdiction.

Throughout this document, the wind project component on the Reserve Lands will be referred to as the Project Location and the transmission line corridor will be referred to as the Transmission Line. Collectively, these areas will be referred to as the Study Area for the purpose of the terrestrial survey work program.

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Terrestrial Field Program

March 2013

The Project Location and Transmission Line alignment are shown on **Figure 1**. The purpose of the natural environment field program is to collect data relevant to vegetation communities (ecosites), wetlands, wildlife habitat, and Species at Risk. The objective of this work plan is to seek Environment Canada's agreement with the study methodologies and protocols set out herein for terrestrial investigations of the Project during the late winter, spring, summer and fall of 2013.

2.0 Field Program Overview

The Project Location is within the Henvey Inlet First Nation Reserve along the eastern shore of Georgian Bay, south of French River Provincial Park and directly north of North Georgian Bay Shoreline and Islands Conservation Reserve. Generally, the Project Location has shallow soils, with many rocky outcrops forming longitudinal ridges running on a northwest to southeast axis, and is divided roughly in half by Henvey Inlet. Numerous wetland pockets are located between the ridges and across the Project Location, with upland areas supporting forested areas of poplar and jack pine.

The characteristics of terrestrial habitat and areas of potential significance or sensitivity will first be identified as part of the early-on consultation with Henvey Inlet First Nations and relevant agencies, as well as a review of the available natural heritage information. Information gained through the consultation process and desktop review will be supplemented by general aerial and ground-level (by foot or boat) surveys of the Study Area to fine-tune the field program and assist in siting monitoring stations. Wildlife and vegetation surveys will begin in March, when raptors begin their spring migration and will continue into November, when the final fall migratory waterfowl are expected to move through the Study Area.

2.1 ECOSITE CLASSIFICATION AND WETLANDS

Ecosite classification forms the backbone of wildlife habitat assessment. For the Project, the Ecosites of Ontario classification system (Banton *et al.*, 2009) will be used as it includes forest and non-forest communities as well as wetlands.

A wetland is land that is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained soils, hydrophytic vegetation and various kinds of biological activity which are adapted to a wet environment (The Federal Policy on Wetland Conservation ("FPWC"), Environment Canada, 1991). The protection and conservation of wetlands on federal lands is mandated by the FPWC. Mitigation of adverse environmental effects on wetlands is guided by the FPWC goal of achieving 'no net loss of wetland functions'. The no net loss principal can be achieved by using a hierarchical sequence of mitigation alternatives: avoidance, minimization, and compensation. Wetlands on federal lands can be described using The Canadian Wetland Classification System (National Wetlands Working Group, Second Edition, 1997).

Provincially, the Ontario Wetland Evaluation System (Ministry of Natural Resources, 2002), is used to map and score wetlands based on biological productivity and diversity, human use, hydrologic functions, and unique characteristics such as geographical rarity. It is anticipated that no wetlands have been evaluated using the OWES on the Henvey Inlet First Nation Reserve Lands.

2013 TERRESTRIAL SURVEY

WORK PROGRAM

Field Program Overview

March 2013

2.2 WILDLIFE HABITAT

Wildlife habitat is defined as an area where plants, animals and other organisms live, including areas where species concentrate at a vulnerable point in their life cycle and that are important to migratory and non-migratory species. The work program has been designed to capture those wildlife species and their habitats which may occur in the Study Area and may be influenced by the Project.

2.3 ENDANGERED, THREATENED AND SPECIAL CONCERN SPECIES

A desktop review of the MNR Natural Heritage Information Centre (NHIC) database, as well as provincial atlases for breeding birds, mammals, reptiles and amphibians, was conducted to identify species of conservation concern in the vicinity of the Study Area. Twenty-seven terrestrial species listed as endangered, threatened or special concern at the provincial and federal level have the potential to occur within the Study Area (Table 1). Several of these species were recorded within the Project Location during previous terrestrial field investigations by LGL Limited. Site investigations in the proposed 2013 terrestrial work program will assess the presence and identify preferred habitat of these species.

Table 1: Endangered, threatened and special concern terrestrial wildlife species potentially present within the Study Area

Type	Common Name	Scientific Name	S - Rank	COSSARO	COSEWIC
Reptile	Stinkpot / Eastern Musk Turtle	<i>Sternotherus odoratus</i>	S3	THR	THR
Reptile	Blanding's Turtle	<i>Emydoidea blandingii</i>	S3	THR	THR
Reptile	Snapping Turtle	<i>Chelydra serpentina</i>	S3	SC	SC
Reptile	Northern Map Turtle	<i>Graptemys geographica</i>	S3	SC	SC
Reptile	Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	S3	THR	THR
Reptile	Eastern Foxsnake (Georgian Bay)	<i>Pantherophis gloydi</i>	S3	THR	END
Reptile	Eastern Massasauga (Great Lakes/ St Lawrence)	<i>Sistrurus catenatus catenatus</i>	S3	THR	THR
Reptile	Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	S3	SC	SC
Reptile	Milksnake	<i>Lampropeltis triangulum</i>	S3	SC	SC
Reptile	Five-lined Skink (Southern Shield population)	<i>Plestiodon fasciatus</i>	S3	SC	SC
Bird	Least Bittern	<i>Ixobrychus exilis</i>	S4B	THR	THR
Bird	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	S4B	THR	THR
Bird	Chimney Swift	<i>Chaetura pelagica</i>	S4B, S4N	THR	THR
Bird	Barn Swallow	<i>Hirundo rustica</i>	S4B	THR	THR (NS)
Bird	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR (NS)
Bird	Eastern Meadowlark	<i>Sturnella magna</i>	S4B	THR	THR (NS)
Bird	Bald Eagle	<i>Haliaeetus leucocephalus</i>	S4B, S2N	SC	SC
Bird	Common Nighthawk	<i>Chordeiles minor</i>	S4B	SC	THR
Bird	Olive-sided Flycatcher	<i>Contopus borealis</i>	S4B	SC	THR
Bird	Eastern Wood-Pewee	<i>Contopus virens</i>	S4B	-	SC (NS)
Bird	Wood Thrush	<i>Hylocichla mustelina</i>	S4B	-	THR (NS)

2013 TERRESTRIAL SURVEY

WORK PROGRAM

Field Program Overview

March 2013

Table 1: Endangered, threatened and special concern terrestrial wildlife species potentially present within the Study Area

Type	Common Name	Scientific Name	S - Rank	COSSARO	COSEWIC
Bird	Golden-winged Warbler	<i>Vermivora chrysoptera</i>	S4B	SC	THR
Bird	Canada Warbler	<i>Wilsonia canadensis</i>	S4B	SC	THR
Mammal	Little Brown Myotis	<i>Myotis lucifugus</i>	S5	END	END (NS)
Mammal	Northern Myotis	<i>Myotis septentrionalis</i>	S3?	END	END (NS)
Mammal	Tri-coloured Bat	<i>Perimyotis subflavus</i>	S3?	-	END (NS)

COSSARO: Committee on the Status of Species at Risk in Ontario

COSEWIC: Committee on the Status of Endangered Species in Canada

S2 – Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3: Vulnerable—Vulnerable in the province, relatively few populations (often 80 or fewer)

S4: Apparently Secure—Uncommon but not rare

S5: Secure—Common, widespread, and abundant in the province

S#B: Breeding status rank

S#N – Non-breeding status rank

S? – Rank Uncertain

NAR: Not At Risk

END: Endangered

THR: Threatened

SC: Special Concern

N/A: not applicable

NS: Not on Species at Risk Act Schedule

3.0 Proposed Field Work Program

Due to the known presence of Species at Risk, the project is considered to have “Very High” site sensitivity and would be ranked as “Category 4” by Environment Canada’s “Wind Turbines and Birds: A Guidance Document for Environmental Assessment” (2007a). Projects in this category usually require comprehensive baseline surveys; a requirement that has been considered in the development of this work program.

The survey protocols are consistent with Environment Canada’s “Recommended Protocols for Monitoring Impacts on Wind Turbines on Birds” (Environment Canada, 2007b) and on Environment Canada’s comments on LGL Limited’s 2011 workplan for the Project. Recommended protocols for species at risk are based on Stantec’s technical expertise and on experience with the Ministry of Natural Resources species-specific surveys requirements.

Detailed protocols of each survey type are outlined below. The suite of surveys proposed along the Transmission Line differs slightly than those within the Project Location, due to differences in potential environmental effects. For example, migratory bird surveys are not proposed along the Transmission Line. **Table 4** provides a summary of all proposed surveys, including a breakdown of which surveys are to be conducted within the Project Location and those to be conducted along the Transmission Line.

3.1 GENERAL RECONNAISSANCE (EARLY APRIL)

Given the limited access in and around the Project Location and the relatively rugged topography and abundance of wetlands in the Study Area, multi-purpose broad-scale surveys will be completed to obtain an overall understanding of the landscape, and to put the detailed field study locations in context.

An aerial survey by helicopter will be conducted in early April to observe the landscape without leaf cover and at a time of pronounced hydrological activity (i.e. spring melt). Leaf-off conditions will also allow a search for habitat features such as stick nests and wetland types. A reconnaissance survey of the Project Location by boat and foot will be undertaken in early April, guided by local members of the Henvey Inlet First Nations. The purpose of the reconnaissance survey will be to gain a better understanding of site access and points of interest, including locations of rare species, based in local knowledge.

3.2 SPRING MIGRATORY BIRD SURVEYS

3.2.1 Spring raptor migration (Ten surveys, early March to end of April):

Monitoring will consist of ten surveys throughout the spring migration period (March to end of April) to record presence of diurnal migrant raptors. Surveys will be comprised of six-hour point counts starting at 9:00 am, conducted by two observers stationed at two appropriate vantage

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Proposed Field Work Program

March 2013

points within the Project Location. When site access allows, surveys stations will be situated in the east and west portions of the Project Location. However, during times of year when site access is limited (i.e. late winter, early spring) alternative locations may be used with efforts to maximize spatial coverage.

All raptors observed during the surveys will be recorded and mapped. Behaviour of the raptors will be noted with emphasis on flight height and determining which individuals were actively migrating as opposed to staging (e.g. hunting, perching, etc.). For actively migrating raptors, flight paths will be mapped.

3.2.2 Spring passerine migration (Eight surveys, early April to late May):

Natural habitat located in close proximity to the Georgian Bay shoreline provides stopover habitat for migrating passerine birds. Eight weekly surveys are proposed in April and May. Monitoring will consist of ten, 500m long transects distributed throughout the Project Location. Transects will be placed in different habitat types (i.e. woodland, rock barren and wetland). Given the variable nature of vegetation communities within the Project Location, it is likely most 500m transects will include more than one habitat type. A description of the habitat along each of the 10 transects will be recorded.

Surveys will be conducted in the morning, between dawn and approximately 10:00 am. A tally of all species observed will be recorded on each transect. These surveys will include characterizing the abundance and diversity of passerines within the Project Location.

3.2.3 Spring waterfowl migration (Four surveys, April to late May):

Spring monitoring for migrating waterfowl will be focused along Henvey Inlet and will consist of four bi-weekly surveys undertaken by boat in April and May. Surveys will include waterfowl counts to record species and number of individuals observed along the inlet, as well as characteristics of the wetlands to support migrating waterfowl (e.g. size, vegetation, permanence, etc.).

The use of scattered wetlands and ponds throughout the Project Location by staging waterfowl will be assessed through the spring passerine surveys.

3.3 BREEDING BIRD SURVEYS**3.3.1 Daytime breeding birds (Two surveys, late May to early July):**

Two rounds of breeding bird surveys will be conducted in each major habitat type with the Study Area (woodland, rock barren and wetland). Surveys will consist of ten-minute point counts, in conjunction with area searches (wandering transects) between point count locations. The area searches will allow for collection a comprehensive species list, whereas point counts will provide information on species density.

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Proposed Field Work Program

March 2013

Surveys would take place starting 30 minutes before sunrise and continue until approximately 10:00 am. As per Environment Canada guidance, a minimum of 20 point counts will be sited in each major habitat type. However, given the variability of habitat types that occur within the Study Area, it is anticipated that many point counts may cover more than one habitat type.

In marsh habitat, play-back call surveys for marsh breeding birds will be conducted following the ten-minute point count, to assist in detection of more secretive marsh bird species, specifically, the threatened Least Bittern.

Location of all species at risk observations will be geo-referenced using a hand-held GPS unit, mapped and compared to ecosite classification to develop habitat mapping for each species.

3.3.2 Crepuscular breeding birds (Two surveys, May and June):

Eastern Whip-poor-will surveys will be conducted in suitable open habitat within forested areas. Surveys will be conducted in May and June and will consist of six-minute point counts at stations spaced within the Project Location and Transmission Line corridor. Due to the remote location of much of the Study Area, survey locations may be selected with consideration to access and surveyor safety.

Surveys will begin approximately 30 minutes after sunset within appropriate weather conditions (not in high winds, persistent rain or an overcast sky) and will, if possible, coincide with the full moon. All individuals heard will be recorded, with an estimated direction and distance from the observer.

3.3.3 Owls (One survey, April):

Given the difficulty in detecting owl species, the use of playback calls to elicit a response will be used. A single survey in April is proposed, and will include various stations throughout the Project Location. Due to the remote location of much of the Study Area, survey locations may be selected based on facility of access and surveyor safety.

Surveys will begin approximately 30 minutes after dark and will consist of 10 minute point counts incorporating playback and periods of silent listening. All individual heard will be recorded, with an estimated direction and distance from the observer.

3.3.4 Raptor and colonial nesting birds (Two surveys, April and June):

Searches for large stick nests or “nest bowls” in trees, typically exhibiting a DBH (diameter at breast height) of >50 cm, will be conducted during the aerial reconnaissance prior to leaf-out. Searches will target trees along watercourses, with special attention afforded to large white pines, and swamps along large bodies of water, as well as other appropriate habitat within the Study Area. If present, nests will be surveyed for activity concurrent with breeding bird point counts and area searches in June.

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Proposed Field Work Program

March 2013

3.4 AMPHIBIAN AND REPTILE SURVEYS**3.4.1 Western Chorus Frog and Salamanders (April):**

Western Chorus Frog surveys will consist of 3-minute call counts at potential breeding habitat conducted in April, during appropriate weather conditions. This species breeds in small or shallow aquatic habitats associated with moist, open terrestrial habitat (COSEWIC, 2008c). Males call from the water and are typically active when air temperatures are above 5°C, although calls have been detected at air temperatures as low as -1°C (COSEWIC, 2008c).

Unlike many anurans, Western Chorus Frogs are generally very active throughout the day. As such, daytime survey will be used to cover larger portions of the Study Area than evening call surveys would permit.

Surveys for amphibian egg masses will take place concurrent with calling surveys. These will consist of perimeter surveys of suitable breeding ponds by trained field personnel. Egg masses of different species are often characteristic based on features such as where they are laid, how many eggs are in the mass, density of the egg mass, and whether or not the eggs are encased in jelly.

3.5 REPTILE HABITAT AND TARGETED SURVEYS (MAY AND JUNE):

Reptile habitat and targeted species surveys will take place in three stages.

Preliminary surveys for reptiles will also take place throughout the migratory and breeding bird survey periods. Field biologists familiar with reptile species identification will be conducting area searches and wandering transect surveys in a variety of areas providing habitat for reptiles at both the Project Location, weekly from early April until early July, and along the Transmission Line, weekly from late May until early July. Any incidental observations of turtles, snakes or lizards, including shed skins or shells, will be recorded on survey forms and used to refine the field survey program proposed for June.

Potential snake or turtle habitat within the Study Area will also be identified during Ecosite surveys, beginning in May. The habitat assessment will involve identification of potential reptile habitat features, including:

- Turtle overwintering habitat and snake/skink hibernacula;
- Nesting sites; and,
- Foraging habitats.

Targeted field surveys for reptile species at risk will occur in June. Timing of these surveys will coincide with a period of high activity for reptiles (nesting and foraging), but also when air temperatures encourage basking behavior. Surveys for snake species at risk and Five-lined Skink will consist of wandering transects through all appropriate habitat types (**Table 2**).

2013 TERRESTRIAL SURVEY

WORK PROGRAM

Proposed Field Work Program

March 2013

Additional survey effort will be directed toward areas with previous observations of these species which may indicate high quality or limited habitat. To the extent possible, surveys will be conducted on sunny days when air temperatures are a minimum of 15°C (ideally 20°C). Surveys for turtles will consist of daytime basking surveys from land or boat in suitable wetland and open water habitat (Table 2), and evening nesting surveys in potential upland nesting sites identified during Ecosite surveys. Basking surveys will be conducted on sunny days when air temperatures are a minimum of 15°C (ideally 20°C). Nesting surveys will take place on warm evenings (daytime air temperature >20°C), ideally before or after rainfall. All surveys will record species, number, location and behaviour of observed reptiles.

The purpose of the targeted surveys is to confirm habitat used by the various reptile species at risk within the Study Area and provide information on general abundance and distribution. Survey results will be used to produce detailed mapping of reptile habitat features which will be used to guide the siting layout process and maximize avoidance of sensitive features.

Table 2: General Habitat Description and Use by Reptile Species at Risk

Common Name	General Habitat and Use*
Turtles	
Blanding's Turtle	Lakes, ponds and wetlands with clear shallow water and muck bottoms. Will move between habitats within active season; aerial basking; nesting in late May to early July, in open sandy soil up to 2.5km from primary wetland, but typically within 400m of water; overwinter in marsh, bog or fen with >0.5m water depth.
Stinkpot	Shallow water in rivers, lakes and ponds with slow current and soft bottom; aquatic basking, often under floating vegetation; nesting in June, in shallow soil near water, occasionally in or under leaf litter; overwinter in primary habitat with muck bottom.
Northern Map Turtle	Large rivers and lakes with soft bottom; aerial basking; nesting June and July in sandy soil; overwinter in general habitat in areas with >5m water depth.
Snapping Turtle	All aquatic habitats, but rarely in moving water, prefer large water bodies associated with marsh and/or swamp; aquatic basking
Snakes and Lizard	
Eastern Hog-nosed Snake	Open forest and forest edges with sandy soil in proximity to water; egg-laying in late June and July in nests excavated in sandy soil, often under cover objects; hibernation in mammal burrows.
Eastern Foxsnake	Georgian Bay populations inhabit rock barrens with sparse trees and shrubs in close proximity to shoreline; basking under or near rocks or in rock crevices; egg-laying late June to July in rock crevices or decaying vegetation; communal hibernation in rock crevices near shoreline.
Eastern Massasauga	Georgian Bay populations use rock barrens, wetlands and shorelines; viviparous, bearing young in late summer; communal gestation under rock cover; hibernation in rock crevices or animal burrows where water level is close to surface.
Eastern Ribbonsnake	Wetland edges with low vegetation and open basking areas; often seen swimming; viviparous, bearing young in late summer; hibernation in rock crevices and mammal burrows.

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Proposed Field Work Program

March 2013

Table 2: General Habitat Description and Use by Reptile Species at Risk

Common Name	General Habitat and Use*
Milksnake	Forest edges and open meadow; bask under cover objects; egg-laying May to July in loose soil, decomposing wood or vegetation; hibernation in rock crevices and mammal burrows, often communally and with other species.
Five-lined Skink	Open forest and rock barren; abundance of cover objects (rocks and woody debris) is important, longer/larger cover is preferred; nesting in shallow soil under cover objects.

* Habitat description and use data obtained from COSEWIC assessment and status reports.

3.6 BAT SURVEYS (TWO SURVEYS, JUNE):

Bat surveys will be conducted in conjunction with Whip-poor-will surveys. A portable, hand-held broad band acoustic monitor will be used to detect bat calls. Recorded bat calls will be analysed to guild or species, where possible, following completion of the field program. The goal of the bat surveys will be to determine the presence and relative abundance of bat species at risk.

3.7 ECOSITE, WETLAND AND VEGETATION SURVEYS**3.7.1 Ecosite Classification, including Wetlands (May to July):**

Vegetation communities within the Study Area will be delineated on aerial photographs and confirmed during field investigations. Community characterizations will be based on the Ecosites of Ontario system (Banton et al., 2009) and will be identified to the Vegetation Type unit level.

The Ecosites of Ontario classification system includes wetlands. Searches for wetlands not previously identified within the Study Area will be conducted as part of the Ecosite surveys. If encountered, previously unidentified wetlands will be recorded through field notes, photographs and geo-referenced using handheld GPS units.

3.7.2 Rare flora (May to July):

Searches for rare plants and habitat supporting these plants will be conducted concurrent with Ecosite surveys, where possible, but may also require spring assessments for ephemeral species or mid-summer assessments for species where identification is dependent on the flowering period of the species. If encountered, rare plants or habitat will be recorded through field notes, photographs and geo-referenced using handheld GPS units.

A review of the MNR Natural Heritage Information Centre (NHIC) database (NHIC, 2012) indicates that two provincially rare vegetation communities are known to occur within the Study Area:

- Atlantic Coastal Plain Shallow Marsh Type; and,
- Buttonbush Organic Thicket Swamp Type

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Proposed Field Work Program

March 2013

The following rare plant species (Table 3) may also be encountered in the Study Area:

Table 3: Rare Plant Species and Flowering Period		
Common Name	Scientific Name	Flowering Period
Flowering Plants		
St. Lawrence Grape Fern	<i>Botrychium rugulosum</i>	Mid-Spring
Thread-like Naiad	<i>Najas gracillima</i>	Summer to Fall, seeds important to ID so survey at end of period
Large Round-leaved Orchid	<i>Plantathera macrophylla</i>	June to August
Snailseed Pondweed	<i>Potamogeton bicupulatus</i>	Early Summer to Fall, seeds important to ID so survey at end of period
Alga Pondweed	<i>Potamogeton confervoides</i>	Summer, seeds important to ID so survey at end of period
Twin-stemmed Bladderwort	<i>Utricularia geminiscapa</i>	July to August
Liverworts		
Liverwort sp.		Unknown, best period for general identification is June-August

3.8 FALL MIGRATORY BIRD SURVEYS

3.8.1 Fall passerine migration (Eight surveys, end of August to mid October)

Natural habitat located in close proximity to shorelines provides stopover habitat for migrating birds. Eight weekly surveys are proposed between the end of August and mid October. Monitoring will consist of ten, 500 m long transects distributed throughout the Project Location. The same transects will be used as in the Spring Passerine Migration surveys.

Survey will be conducted in the morning, between dawn and approximately 10:00 am. A tally of all species observed will be recorded on each transect. These surveys will include characterizing the abundance and diversity of passerines within the Project Location.

3.8.2 Fall waterfowl migration (Six surveys, September to October):

Fall monitoring for migrating waterfowl will be focused along Henvey Inlet and will consist of four bi-weekly surveys undertaken by boat in September through October. Surveys will include waterfowl counts to record species and number of individuals observed along the inlet, as well as characteristics of the wetlands to support migrating waterfowl (e.g. size, vegetation, permanence, etc.).

The use of scattered wetlands and ponds throughout the Project Location by staging waterfowl will be assessed through the Fall Passerine surveys.

2013 TERRESTRIAL SURVEY**WORK PROGRAM**

Proposed Field Work Program

March 2013

3.8.3 Fall raptor migration (Ten surveys, September to October):

Monitoring will consist of ten surveys throughout the fall migration period (September to October) to record presence of diurnal migrant raptors. Surveys will be comprised of six-hour point counts starting at 9:00 am, conducted by two observers stationed at two appropriate vantage points within the Project Location. When site access allows, surveys stations will be situated in the east and west portions of the Project Location.

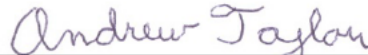
All raptors observed during the survey will be recorded and mapped. Behaviour of the raptors will be noted with emphasis on flight height and determining which individuals were actively migrating as opposed to staging (e.g. hunting, perching, etc.). For actively migrating raptors, flight paths will be mapped.

3.9 INCIDENTAL OBSERVATIONS

In addition to targeted wildlife surveys described above, all incidental observations of terrestrial wildlife or other significant sightings made during surveys throughout the 2013 field season will be recorded. Notes will be taken on the species, number of individuals, locations and behavior. Observations made early in the field season may be used to refine the remainder of the field program.

STANTEC CONSULTING LTD.

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Andrew Taylor
Terrestrial Ecologist

2013 TERRESTRIAL SURVEY

WORK PROGRAM

Proposed Field Work Program

March 2013

Table 4: Summary of Natural Environment Field Program

Study	Mode	Frequency	Timing	Study Area
General Reconnaissance				
Aerial survey	Helicopter	Once	early April, prior to leaf-out	PL
Ground survey	Foot / boat survey with Henvey Inlet First Nations	Once	early April	PL
Bird Surveys				
Spring Migration				
Passerines	Ten, 500m long transects	Once per week, each transect (8 surveys)	Early April to late May	PL
Waterfowl Stopover and Staging	Henvey Inlet	Once every other week (4 surveys)	April to Late May	PL
Raptors	2 stations	Ten surveys	Early March to end April	PL
Breeding Birds				
Point Counts	Minimum of 20 stations in each major habitat type	Two rounds of surveys	Late May to early July	PL, TL
Area Searches	Wandering transect between point count stations	Two rounds of surveys	Late May to early July	PL, TL
Play-back call surveys	Stations in suitable habitat	Owls – once Marsh Birds – Two rounds of surveys	Owls – April Marsh Birds – May to July	PL, TL
Crepuscular surveys	In suitable Whip-poor-will habitat	Two round of surveys	May - June	PL, TL
Raptor and Colonial Bird Nests	Visual survey for raptor and colonial nesting bird nests	Twice – once to locate, once to confirm use	Concurrent with aerial reconnaissance, then with point counts to confirm use	PL, TL
Fall Migration				
Passerines	Ten, 500m long transects	Once per week, each transect (8 surveys)	End August to mid-October	PL
Waterfowl Stopover and Staging	Henvey Inlet only	Once every other week (4 surveys)	September to October	PL
Raptors	2 stations	Ten surveys	September to October	PL

2013 TERRESTRIAL SURVEY

WORK PROGRAM

Proposed Field Work Program

March 2013

Table 4: Summary of Natural Environment Field Program

Study	Mode	Frequency	Timing	Study Area
Bat Surveys				
Ultrasonic Recording Units	Handheld units	Twice	June, in conjunction with crepuscular surveys	PL, TL
Reptile Surveys				
General Habitat Survey	Habitat Assessment	Once	Concurrent with Ecosite and vegetation surveys	PL, TL
SAR Surveys	Targeted surveys for turtle, snake and lizard species at risk	Once	June	PL, TL
Amphibian Surveys				
Western Chorus Frog Call Counts	Daytime call surveys, including audio recordings	Once	April	PL, TL
Salamander Egg Mass	Daytime surveys in wetlands	Once	April, concurrent with frog call counts	PL, TL
FEC / Botanical Surveys				
Ecosite classification, including wetlands	Ground surveys	Once	May to July	PL, TL
Rare Plants – Spring Ephemerals	Ground surveys	Once	May and June	PL, TL
Rare Plants – Summer Botanical	Ground surveys	Once	July	PL, TL

PL – Project Location.

TL – Transmission Line.

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2013 TERRESTRIAL SURVEY

WORK PROGRAM

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March 2013

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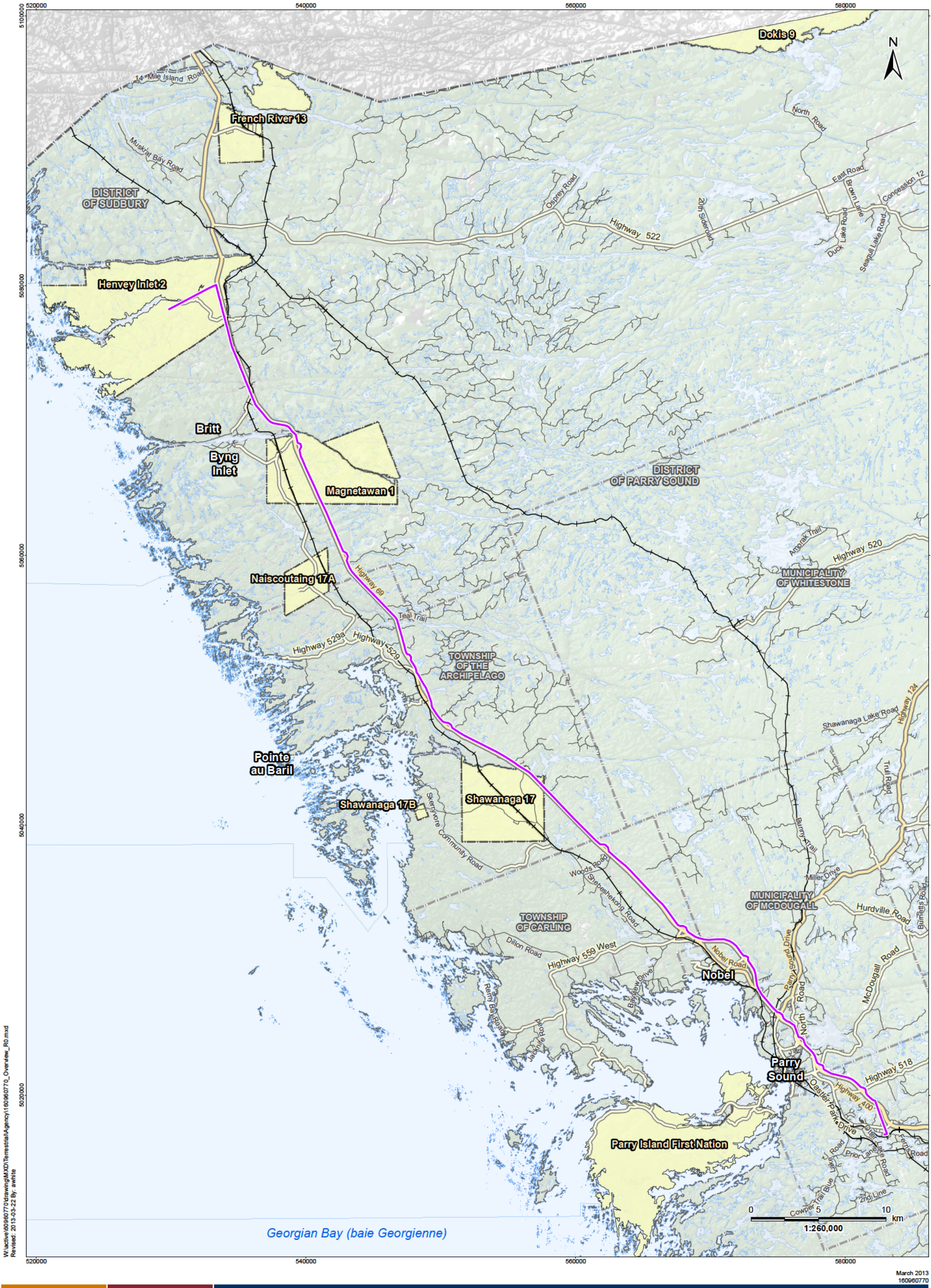
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Appendix A

Figures



W:\active\60960770\drawing\MXD\Terrestrial\Agency\160960770_Overview_RO.mxd
Revised: 2013-03-22 By: awhite

March 2013
160960770



Legend

Proposed Transmission Line

Existing Features

Highway

Major Road

Local Road

Railway

Watercourse

First Nation Reserve

Upper Tier Boundary

Lower Tier Boundary

Waterbody

Notes

- Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

*Precise location of transmission line within highway corridor to be determined

Client/Project

NIGIG POWER CORP.
HENVEY INLET WIND PROJECT

Figure No.

1

Title

Study Area Overview

DRAFT

Appendix C

Results of Stantec 2013 Field Studies

Table C-1: Spring Waterfowl Migration Survey Results - HIWEC Study Area

Henvey Inlet Wind
Summary of 2013 Waterfowl Migration Surveys –
Henvey Inlet Wind Energy Centre Study Area

							Survey No.	1	2	3	4	5	5	5	5	5	5	5	5	
							Station ID	Not Recorded (Not Mapped)	Not Recorded (Not Mapped)	Not Recorded (Not Mapped)	Not Recorded (Not Mapped)	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9
							Temperature (°C)	3-5	5-7	0	6-15	18	18	18	18	18	18	18	18	18
							Wind (Beaufort Scale)	2-3	1-4	4	4-5	3	3	3	3	3	3	3	3	3
							Relative Cloud Cover (%)	50-80	100	0	30	0-15	0-15	0-15	0-15	0-15	0-15	0-15	0-15	0-15
							Precipitation	-	-	None	0	None	None	None	None	None	None	None	None	None
							Precipitation (24h)	Rain	Rain	None	0	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm
							Start Time	10:00	10:40	10:00	10:00	14:25	14:25	14:25	14:25	14:25	14:25	14:25	14:25	14:25
							End Time	16:00	11:25	16:00	16:30	15:25	15:25	15:25	15:25	15:25	15:25	15:25	15:25	15:25
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	9-Apr-13	16-Apr-13	17-Apr-13	23-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	
Waterfowl Observations																				
ABDU	American Black Duck	Anas rubripes	-	-	-	S4		2	18	10	12									
BUFF	Bufflehead	Bucephala albeola	-	-	-	S4		8	11	39	62	3	4	24		15	2	14	7	8
CANG	Canada Goose	Branta canadensis	-	-	-	S5		14	9	6	7				1					
COGO	Common Goldeneye	Bucephala clangula	-	-	-	S5		8	2	7	4									
COME	Common Merganser	Mergus merganser	-	-	-	S5		6	2	4	12		4							
GWTE	Green-winged Teal	Anas crecca	-	-	-	S4								2						
HOME	Hooded Merganser	Lophodytes cucullatus	-	-	-	S5		8			2									
LESC	Lesser Scaup	Aythya affinis	-	-	-	S4						250								
N/A	Scaup species	Aythya sp.	-	-	-	-					75			15	2					
MALL	Mallard	Anas platyrhynchos	-	-	-	S5		4		12	2						1			
RNDU	Ring-necked Duck	Aythya collaris	-	-	-	S5					8									
Incidental Wildlife Observations																				
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank														
COLO	Common Loon	Gavia immer	-	-	-	S5			1	1			1							
DCCO	Double-crested Cormorant	Phalacrocorax auritus	-	-	-	S5					14		4			5			1	
OSPR	Osprey	Pandion haliaetus	-	-	-	S5						1								
SACR	Sandhill Crane	Grus canadensis tabida	-	-	-	S5				4										

Data transcribed exactly as given in field sheets provided by Stantec in October 2014.

Legend

Beaufort Scale:
0 (Less than 1 Km/h), 1 (1 -5 Km/h), 2 (6 - 11 Km/h), 3 (12 - 19 Km/h), 4 (20 - 28 Km/h), 5 (29 - 38 Km/h), 6 (39 - 49 Km/h), 7(50 - 61 Km/h), 8 (62 - 74 Km/h), 9 (75 - 88 Km/h), 10 (89 - 102 Km/h), 11 (103 - 117 Km/h), 12 (118 - 133 Km/h)

ESA Status: The Endangered Species Act 2007 (ESA) protects Species at Risk at a provincial level.
SC - Special Concern
THR - Threatened
END - Endangered

SARA Status: The Species at Risk Act (SARA) protects Species at Risk at a federal level.
SC - Special Concern
THR - Threatened
END - Endangered

COSEWIC Status: The Committee on the Status of Endangered Wildlife in Canada assesses the status of species in Canada.
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S-rank: The nNatural hHeritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. Definitions are as follows:
S1 - Critically Imperiled, often < 5 occurrences
S2 - Imperiled, often <20 occurrences
S3 - Vulnerable, often 80 or fewer
S3S4 - Uncertain between S3 and S4
S4 - Apparently Secure, ncommon
S5 - Secure, common
SNA - Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
SH - Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered.

References

1 - Ontario Ministry of Natural Resources. 2009. Natural Heritage Information Centre

Table C-1: Spring Waterfowl Migration Survey Results - HIWEC Study Area

							Survey No.	5	5	5	5	5	5		
							Station ID	5-10	5-11	5-12	5-13	5-14	5-15		
							Temperature (°C)	18	18	18	18	18	18		
							Wind (Beaufort Scale)	3	3	3	3	3	3		
							Relative Cloud Cover (%)	0-15	0-15	0-15	0-15	0-15	0-15		
							Precipitation	None	None	None	None	None	None		
							Precipitation (24h)	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm	4-5 mm		
							Start Time	14:25	14:25	14:25	14:25	14:25	14:25		
							End Time	15:25	15:25	15:25	15:25	15:25	15:25		
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	30-Apr-13	Grand total	
Waterfowl Observations															
ABDU	American Black Duck	Anas rubripes	-	-	-	S4								42	
BUFF	Bufflehead	Bucephala albeola	-	-	-	S4		4	13			10	4	228	
CANG	Canada Goose	Branta canadensis	-	-	-	S5					1			38	
COGO	Common Goldeneye	Bucephala clangula	-	-	-	S5								21	
COME	Common Merganser	Mergus merganser	-	-	-	S5								28	
GWTE	Green-winged Teal	Anas crecca	-	-	-	S4								2	
HOME	Hooded Merganser	Lophodytes cucullatus	-	-	-	S5								10	
LESC	Lesser Scaup	Aythya affinis	-	-	-	S4								250	
N/A	Scaup species	Aythya sp.	-	-	-	-								92	
MALL	Mallard	Anas platyrhynchos	-	-	-	S5				1				20	
RNDU	Ring-necked Duck	Aythya collaris	-	-	-	S5								8	
														739	
Incidental Wildlife Observations															
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank									
COLO	Common Loon	Gavia immer	-	-	-	S5								3	
DCCO	Double-crested Cormorant	Phalacrocorax auritus	-	-	-	S5		12					13	49	
OSPR	Osprey	Pandion haliaetus	-	-	-	S5								1	
SACR	Sandhill Crane	Grus canadensis tabida	-	-	-	S5				1				5	
														58	

Data transcribed exactly as given in field sheets provided by Stantec in October 2014.

Legend

Beaufort Scale:
0 (Less than 1 Km/h), 1 (1 -5 Km/h), 2 (6 - 11 Km/h), 3 (12 - 19 Km/h), 4 (20 - 28 Km/h), 5 (29 - 38 Km/h), 6 (39 - 49 Km/h), 7(50 - 61 Km/h), 8 (62 - 74

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SH - Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered.

References

1 - Ontario Ministry of Natural Resources. 2009. Natural Heritage Information Centre

Table C-2: Fall Waterfowl Migration Survey Data

							Station ID	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9		2-1	
							Survey No.	1	1	1	1	1	1	1	1	1		2	
							Temperature (°C)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Wind	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Relative Cloud Cover (%)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Precipitation	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Precipitation (24h)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Start Time	9:00	9:30	10:30	10:00	9:40	9:20	8:00	8:30	11:15		9:50	
							End Time	Not Recorded	Not Recorded	Not Recorded	16:00	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		16:10
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	11-Sep-13	11-Sep-13	11-Sep-13	12-Sep-13	13-Sep-13	13-Sep-13	14-Sep-13	14-Sep-13	14-Sep-13	Subtotal	23-Sep-13	
Waterfowl Observations																			
BUFF	Bufflehead	<i>Bucephala albeola</i>	-	-	-	S4											0		
BWTE	Blue-winged Teal	<i>Anas discors</i>	-	-	-	S4									3		3		
CANG	Canada Goose	<i>Branta canadensis</i>	-	-	-	S5		8							6		14	12	
COGO	Common Goldeneye	<i>Bucephala clangula</i>	-	-	-	S5											0		
COME	Common Merganser	<i>Mergus merganser</i>	-	-	-	S5				7		3					10		
N/A	Duck species		-	-	-	-											0		
HOME	Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	-	S5											0		
LESC	Lesser Scaup	<i>Aythya affinis</i>	-	-	-	S4											0		
MALL	Mallard	<i>Anas platyrhynchos</i>	-	-	-	S5									3	4	7		
RNDU	Ring Necked Duck	<i>Aythya collaris</i>	-	-	-	S5											0		
N/A	Scaup species	<i>Aythya</i> sp.	-	-	-	-											0		
SUSC	Surf Scoter	<i>Melanitta perspicillata</i>	-	-	-	S4											0		
TUSW	Tundra Swan	<i>Cygnus columbianus</i>	-	-	-	S4											0		
WODU	Wood Duck	<i>Aix sponsa</i>	-	-	-	S5							3				3		
WWSC	White-winged Scoter	<i>Melanitta fusca</i>	-	-	-	S4											0		
																	37		
Incidental Willdife Observations																			
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank													
AMBL	American Bittern	<i>Botaurus lentiginosus</i>	-	-	-	S4									5		5		
COLO	Common Loon	<i>Gavia immer</i>	-	-	-	S5					2			4			6		
DCCO	Double-crested Cormorant	<i>Phalacrocorax auritus</i>	-	-	-	S5			24								24		
BWC	Species Code Unrecognized (not included in total)		-	-	-	-											-		

Data transcribed exactly as given in field sheets provided by Stantec in October 2014.

Legend

Beaufort Scale:
0 (Less than 1 Km/h), 1 (1 -5 Km/h), 2 (6 - 11 Km/h), 3 (12 - 19 Km/h), 4 (20 - 28 Km/h), 5 (29 - 38 Km/h), 6 (39 - 49 Km/h), 7(50 - 61 Km/h), 8 (62 - 74 Km/h), 9 (75 - 88 Km/h), 10 (89 - 102 Km/h), 11 (103 - 117 Km/h), 12 (118 - 133 Km/h)

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SNA - Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
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References
1 - Ontario Ministry of Natural Resources. 2009. Natural Heritage Information Centre

Table C-2: Fall Waterfowl Migration Survey Data

							Station ID	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	
							Survey No.	2	2	2	2	2	2	2	2	2	2	
							Temperature (°C)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Wind	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Relative Cloud Cover (%)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Precipitation	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Precipitation (24h)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							Start Time	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
							End Time	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	24-Sep-13	25-Sep-13	25-Sep-13	25-Sep-13	25-Sep-13	26-Sep-13	26-Sep-13	26-Sep-13	26-Sep-13	26-Sep-13	Subtotal
Waterfowl Observations																		
BUFF	Bufflehead	Bucephala albeola	-	-	-	S4												0
BWTE	Blue-winged Teal	Anas discors	-	-	-	S4												0
CANG	Canada Goose	Branta canadensis	-	-	-	S5		7		9							9	37
COGO	Common Goldeneye	Bucephala clangula	-	-	-	S5									4			4
COME	Common Merganser	Mergus merganser	-	-	-	S5												0
N/A	Duck species		-	-	-	-											12	12
HOME	Hooded Merganser	Lophodytes cucullatus	-	-	-	S5							3					3
LESC	Lesser Scaup	Aythya affinis	-	-	-	S4												0
MALL	Mallard	Anas platyrhynchos	-	-	-	S5			9			7		5	10			31
RNDU	Ring Necked Duck	Aythya collaris	-	-	-	S5												0
N/A	Scaup species	Aythya sp.	-	-	-	-												0
SUSC	Surf Scoter	Melanitta perspicillata	-	-	-	S4												0
TUSW	Tundra Swan	Cygnus columbianus	-	-	-	S4												0
WODU	Wood Duck	Aix sponsa	-	-	-	S5		6										6
WWSC	White-winged Scoter	Melanitta fusca	-	-	-	S4												0
																		93
Incidental Willdife Observations																		
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank												
AMBL	American Bittern	Botaurus lentiginosus	-	-	-	S4			9									9
COLO	Common Loon	Gavia immer	-	-	-	S5												0
DCCO	Double-crested Cormorant	Phalacrocorax auritus	-	-	-	S5					9							9
BWC	Species Code Unrecognized (not included in total)		-	-	-	-												-

Data transcribed exactly as given in field sheets provided by Stantec in October 2014.

Legend

Beaufort Scale:
0 (Less than 1 Km/h), 1 (1 -5 Km/h), 2 (6 - 11 Km/h), 3 (12 - 19 Km/h), 4 (20 - 28 Km/h), 5 (29 - 38 Km/h), 6 (39 - 49 Km/h), 7(50 - 61 Km/h), 8 (62 - 74 Km/h)

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S1 - Critically Imperiled, often < 5 occurrences
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S3 - Vulnerable, often 80 or fewer
S3S4 - Uncertain between S3 and S4
S4 - Aparently Secure, ncommon
S5 - Secure, common
SNA - Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
SH - Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered.

References

1 - Ontario Ministry of Natural Resources. 2009. Natural Heritage Information Centre

Table C-2: Fall Waterfowl Migration Survey Data

							Station ID	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10
							Survey No.	3	3	3	3	3	3	3	3	3	3
							Temperature (°C)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
							Wind	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
							Relative Cloud Cover (%)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
							Precipitation	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
							Precipitation (24h)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
							Start Time	8:15	9:45	9:50	8:50	7:45	8:15	10:07	7:40	7:45	7:48
							End Time	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	8-Oct-13	8-Oct-13	8-Oct-13	9-Oct-13	9-Oct-13	9-Oct-13	9-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13
Waterfowl Observations																	
BUFF	Bufflehead	<i>Bucephala albeola</i>	-	-	-	S4											
BWTE	Blue-winged Teal	<i>Anas discors</i>	-	-	-	S4											
CANG	Canada Goose	<i>Branta canadensis</i>	-	-	-	S5				8							
COGO	Common Goldeneye	<i>Bucephala clangula</i>	-	-	-	S5											
COME	Common Merganser	<i>Mergus merganser</i>	-	-	-	S5							1				
N/A	Duck species		-	-	-	-											
HOME	Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	-	S5								1			
LESC	Lesser Scaup	<i>Aythya affinis</i>	-	-	-	S4			5		17					5	
MALL	Mallard	<i>Anas platyrhynchos</i>	-	-	-	S5							1				
RNDU	Ring Necked Duck	<i>Aythya collaris</i>	-	-	-	S5											4
N/A	Scaup species	<i>Aythya</i> sp.	-	-	-	-											
SUSC	Surf Scoter	<i>Melanitta perspicillata</i>	-	-	-	S4											
TUSW	Tundra Swan	<i>Cygnus columbianus</i>	-	-	-	S4											
WODU	Wood Duck	<i>Aix sponsa</i>	-	-	-	S5							3				
WWSC	White-winged Scoter	<i>Melanitta fusca</i>	-	-	-	S4											
Incidental Wildlife Observations																	
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank											
AMBL	American Bittern	<i>Botaurus lentiginosus</i>	-	-	-	S4											
COLO	Common Loon	<i>Gavia immer</i>	-	-	-	S5		2							2		
DCCO	Double-crested Cormorant	<i>Phalacrocorax auritus</i>	-	-	-	S5											
BWC	Species Code Unrecognized (not included in total)		-	-	-	-											

Data transcribed exactly as given in field sheets provided by Stantec in October 2014.

Legend

Beaufort Scale:
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References

1 - Ontario Ministry of Natural Resources. 2009. Natural Heritage Information Centre

Table C-2: Fall Waterfowl Migration Survey Data

								Station ID	3-11	3-12	3-13	3-14	3-15	3-16	3-17	3-18	3-19	3-20
								Survey No.	3	3	3	3	3	3	3	3	3	3
								Temperature (°C)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
								Wind	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
								Relative Cloud Cover (%)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
								Precipitation	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
								Precipitation (24h)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
								Start Time	7:55	8:05	8:10	8:30	12:35	12:50	13:00	13:05	13:12	13:20
								End Time	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13	10-Oct-13
Waterfowl Observations																		
BUFF	Bufflehead	<i>Bucephala albeola</i>	-	-	-	S4												
BWTE	Blue-winged Teal	<i>Anas discors</i>	-	-	-	S4												
CANG	Canada Goose	<i>Branta canadensis</i>	-	-	-	S5												
COGO	Common Goldeneye	<i>Bucephala clangula</i>	-	-	-	S5												
COME	Common Merganser	<i>Mergus merganser</i>	-	-	-	S5										1		1
N/A	Duck species		-	-	-	-												
HOME	Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	-	S5												
LESC	Lesser Scaup	<i>Aythya affinis</i>	-	-	-	S4						2						
MALL	Mallard	<i>Anas platyrhynchos</i>	-	-	-	S5					2							
RNDU	Ring Necked Duck	<i>Aythya collaris</i>	-	-	-	S5												
N/A	Scaup species	<i>Aythya</i> sp.	-	-	-	-												
SUSC	Surf Scoter	<i>Melanitta perspicillata</i>	-	-	-	S4			8	6			1					
TUSW	Tundra Swan	<i>Cygnus columbianus</i>	-	-	-	S4												
WODU	Wood Duck	<i>Aix sponsa</i>	-	-	-	S5											2	
WWSC	White-winged Scoter	<i>Melanitta fusca</i>	-	-	-	S4												
Incidental Wildlife Observations																		
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank												
AMBL	American Bittern	<i>Botaurus lentiginosus</i>	-	-	-	S4												
COLO	Common Loon	<i>Gavia immer</i>	-	-	-	S5		2							2	1		
DCCO	Double-crested Cormorant	<i>Phalacrocorax auritus</i>	-	-	-	S5												
BWC	Species Code Unrecognized (not included in total)		-	-	-	-								3				

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Table C-2: Fall Waterfowl Migration Survey Data

							Station ID	3-21	3-22	3-23	3-24	3-25	3-26		4-W1	4-W2	4-W3	4-W4
							Survey No.	3	3	3	3	3	3		4	4	4	4
							Temperature (°C)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		3 - 4	3 - 4	3 - 4	3 - 4
							Wind	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		19-29 KM/H	19-29 KM/H	19-29 KM/H	19-29 KM/H
							Relative Cloud Cover (%)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		90-100	90-100	90-100	90-100
							Precipitation	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		None	None	None	None
							Precipitation (24h)	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		Snow pellets	Snow pellets	Snow pellets	Snow pellets
							Start Time	13:30	13:31	13:44	9:30	10:10	11:00		10:20	10:20	10:20	10:20
							End Time	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded		Not Recorded	Not Recorded	Not Recorded	Not Recorded
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	10-Oct-13	10-Oct-13	10-Oct-13	11-Oct-13	11-Oct-03	11-Oct-13	Subtotal	24-Oct-13			
Waterfowl Observations																		
BUFF	Bufflehead	<i>Bucephala albeola</i>	-	-	-	S4								0		2		3
BWTE	Blue-winged Teal	<i>Anas discors</i>	-	-	-	S4								0				
CANG	Canada Goose	<i>Branta canadensis</i>	-	-	-	S5		11			9			28			2	
COGO	Common Goldeneye	<i>Bucephala clangula</i>	-	-	-	S5								0				
COME	Common Merganser	<i>Mergus merganser</i>	-	-	-	S5			2				2	7				
N/A	Duck species		-	-	-	-								0				
HOME	Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	-	S5								1				
LESC	Lesser Scaup	<i>Aythya affinis</i>	-	-	-	S4								29				
MALL	Mallard	<i>Anas platyrhynchos</i>	-	-	-	S5								3				
RNDU	Ring Necked Duck	<i>Aythya collaris</i>	-	-	-	S5								4				
N/A	Scaup species	<i>Aythya</i> sp.	-	-	-	-								0				
SUSC	Surf Scoter	<i>Melanitta perspicillata</i>	-	-	-	S4						11		26				
TUSW	Tundra Swan	<i>Cygnus columbianus</i>	-	-	-	S4								0				
WODU	Wood Duck	<i>Aix sponsa</i>	-	-	-	S5				2				7				
WWSC	White-winged Scoter	<i>Melanitta fusca</i>	-	-	-	S4								0				
														105				
Incidental Wildlife Observations																		
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank												
AMBL	American Bittern	<i>Botaurus lentiginosus</i>	-	-	-	S4								0				
COLO	Common Loon	<i>Gavia immer</i>	-	-	-	S5								9	1			
DCCO	Double-crested Cormorant	<i>Phalacrocorax auritus</i>	-	-	-	S5								0				
BWC	Species Code Unrecognized (not included in total)		-	-	-	-								-				

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Table C-2: Fall Waterfowl Migration Survey Data

							Station ID	4-W5	4-W6	4-W7		5-1	5-2	5-3	5-4	5-5	5-6	5-7
							Survey No.	4	4	4		5	5	5	5	5	5	5
							Temperature (°C)	3 - 4	3 - 4	3 - 4		-3 - 5	-3 - 5	-3 - 5	-3 - 5	-3 - 5	-3 - 5	-3 - 5
							Wind	19-29 KM/H	19-29 KM/H	19-29 KM/H		1-4	1-4	1-4	1-4	1-4	1-4	1-4
							Relative Cloud Cover (%)	90-100	90-100	90-100		10	10	10	10	10	10	10
							Precipitation	None	None	None		None	None	None	None	None	None	None
							Precipitation (24h)	Snow pellets	Snow pellets	Snow pellets		None	None	None	None	None	None	None
							Start Time	10:20	10:20	10:20		10:00	10:14	11:00	11:35	11:50	12:40	13:30
							End Time	Not Recorded	Not Recorded	Not Recorded		Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date				#####	29-Oct-13	29-Oct-13	29-Oct-13	29-Oct-13	29-Oct-13	29-Oct-13	29-Oct-13
Waterfowl Observations																		
BUFF	Bufflehead	<i>Bucephala albeola</i>	-	-	-	S4					5	13		8				
BWTE	Blue-winged Teal	<i>Anas discors</i>	-	-	-	S4					0							
CANG	Canada Goose	<i>Branta canadensis</i>	-	-	-	S5					2							
COGO	Common Goldeneye	<i>Bucephala clangula</i>	-	-	-	S5					0							
COME	Common Merganser	<i>Mergus merganser</i>	-	-	-	S5		2			2			4		8		
N/A	Duck species		-	-	-	-					0		30					35
HOME	Hooded Merganser	<i>Lophodytes cucullatus</i>	-	-	-	S5					0				2			
LESC	Lesser Scaup	<i>Aythya affinis</i>	-	-	-	S4					0							
MALL	Mallard	<i>Anas platyrhynchos</i>	-	-	-	S5					0							
RNDU	Ring Necked Duck	<i>Aythya collaris</i>	-	-	-	S5					0							
N/A	Scaup species	<i>Aythya</i> sp.	-	-	-	-			3		3							
SUSC	Surf Scoter	<i>Melanitta perspicillata</i>	-	-	-	S4				8	8							
TUSW	Tundra Swan	<i>Cygnus columbianus</i>	-	-	-	S4					0							
WODU	Wood Duck	<i>Aix sponsa</i>	-	-	-	S5					0							
WWSC	White-winged Scoter	<i>Melanitta fusca</i>	-	-	-	S4					0							
											20							
Incidental Willdife Observations																		
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank												
AMBL	American Bittern	<i>Botaurus lentiginosus</i>	-	-	-	S4					0							
COLO	Common Loon	<i>Gavia immer</i>	-	-	-	S5					1							
DCCO	Double-crested Cormorant	<i>Phalacrocorax auritus</i>	-	-	-	S5					0							
BWC	Species Code Unrecognized (not included in total)		-	-	-	-					-							

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							Station ID	5-8	5-9	5-10	5-11		6-1	6-2	6-3	6-4	6-5			
							Survey No.	5	5	5	5		6	6	6	6	6			
							Temperature (°C)	-3 - 5	-3 - 5	-3 - 5	-3 - 5		-2 - 5	-2 - 5	-2 - 5	-2 - 5	-2 - 5			
							Wind	1-4	1-4	1-4	1-4		25 KM/H	25 KM/H	25 KM/H	25 KM/H	25 KM/H			
							Relative Cloud Cover (%)	10	10	10	10		30	30	30	30	30			
							Precipitation	None	None	None	None		None	None	None	None	None			
							Precipitation (24h)	None	None	None	None		Rain, Flurries	Rain, Flurries	Rain, Flurries	Rain, Flurries	Rain, Flurries			
							Start Time	2:15	15:30	10:00	15:45		09:00	09:00	09:00	10:00	12:00			
							End Time	Not Recorded	Not Recorded	15:45	Not Recorded		16:00	16:00	16:00	Not Recorded	Not Recorded			
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank	Survey Date	29-Oct-13	29-Oct-13	29-Oct-13	29-Oct-13	Subtotal	8-Nov-13	8-Nov-13	8-Nov-13	8-Nov-13	8-Nov-13	Subtotal	Grand Total	
Waterfowl Observations																				
BUFF	Bufflehead	Bucephala albeola	-	-	-	S4						21						0	26	
BWTE	Blue-winged Teal	Anas discors	-	-	-	S4						0						0	3	
CANG	Canada Goose	Branta canadensis	-	-	-	S5						0				30		30	111	
COGO	Common Goldeneye	Bucephala clangula	-	-	-	S5					20	20						0	24	
COME	Common Merganser	Mergus merganser	-	-	-	S5						12			2			2	33	
N/A	Duck species		-	-	-	-		25				90						0	102	
HOME	Hooded Merganser	Lophodytes cucullatus	-	-	-	S5						2						0	6	
LESC	Lesser Scaup	Aythya affinis	-	-	-	S4						0						0	29	
MALL	Mallard	Anas platyrhynchos	-	-	-	S5						0						0	41	
RNDU	Ring Necked Duck	Aythya collaris	-	-	-	S5						0						0	4	
N/A	Scaup species	Aythya sp.	-	-	-	-						0						0	3	
SUSC	Surf Scoter	Melanitta perspicillata	-	-	-	S4						0						0	34	
TUSW	Tundra Swan	Cygnus columbianus	-	-	-	S4						0					3	3	3	
WODU	Wood Duck	Aix sponsa	-	-	-	S5						0						0	16	
WWSC	White-winged Scoter	Melanitta fusca	-	-	-	S4			2			2	1					1	3	
												147						36	438	
Incidental Wildlife Observations																				
Code	Common Name	Scientific Name	ESA Status	SARA Status	COSEWIC Status	S-rank														
AMBL	American Bittern	Botaurus lentiginosus	-	-	-	S4						0						0	14	
COLO	Common Loon	Gavia immer	-	-	-	S5				1		1		1				1	18	
DCCO	Double-crested Cormorant	Phalacrocorax auritus	-	-	-	S5						0						0	33	
BWC	Species Code Unrecognized (not included in total)		-	-	-	-						-						-	-	
																			65	

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