

Appendix F

Field Notes

**(M.K. Ince & Associates and
Natural Resource Solutions Inc.)**

Appendix F-1

Amphibian Call Surveys

Project Name/Number: Bow Lake Phase 1

Item ID: _____

Station (A-Z): ABH101 (A)Field Crew: Robert Timstra / Joel JamesonGPS Lat./long coordinates: N 46° 06' 44.78", W 122° 31' 33.2"Sunset Time: 20:48Date: (yr/mm/dd): 12/05/01Start Time: 21:28Finish Time: 21:335-minute Survey? ☒Precip: None/Dry ☒ Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____Air Temp °C 10°C Water Temp °C 2.6°C Beaufort Wind Scale 1Amphibian breeding area within 120m of woodland: ☒ Yes ☐ No

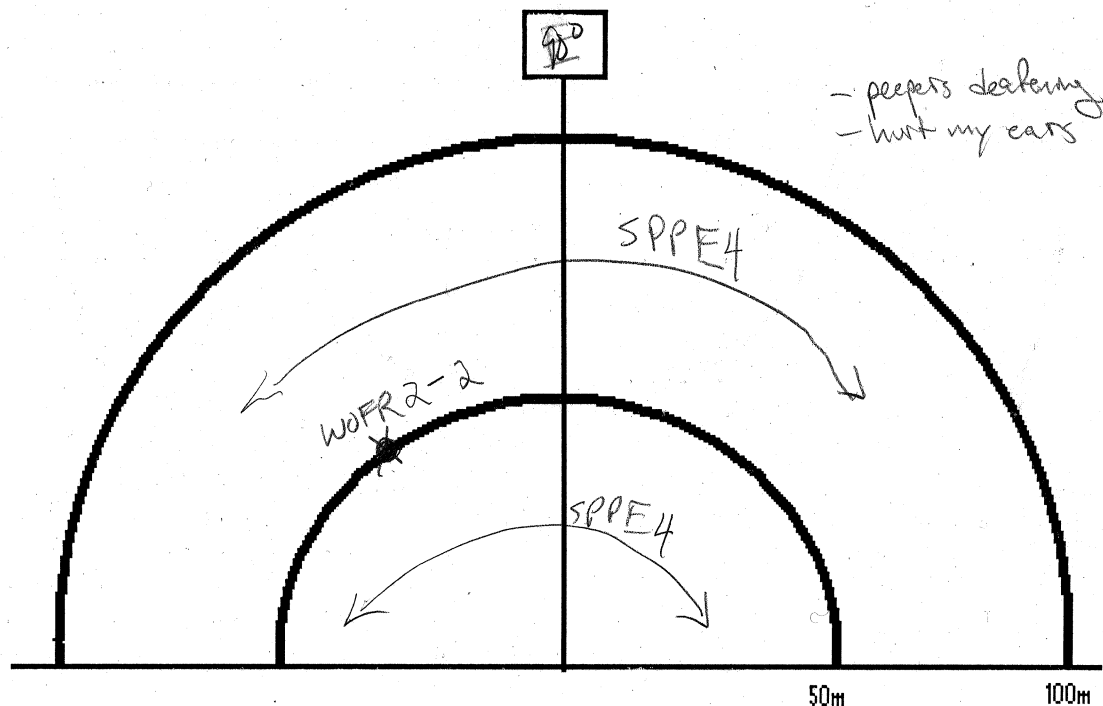
General Aquatic Vegetation: _____

Overhead Canopy: Yes ☐ No ☒Surrounding landscape: Agricultural _____ Wooded ☒ Wetland _____ Other _____**Note:** In the diagram,

fully indicate the calling code and the estimated number of individuals calling.

e.g. AMTO 2-6.

The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Station 10P 2. (A).

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

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

Project Name/Number: Bow Lake PI

Item ID:

Station (A-Z): 4BH104

Field Crew: Robert Timms, Joel Jameson

GPS Lat./long coordinates: 46° 06' 43.80" N, 121° 31' 49.6" W

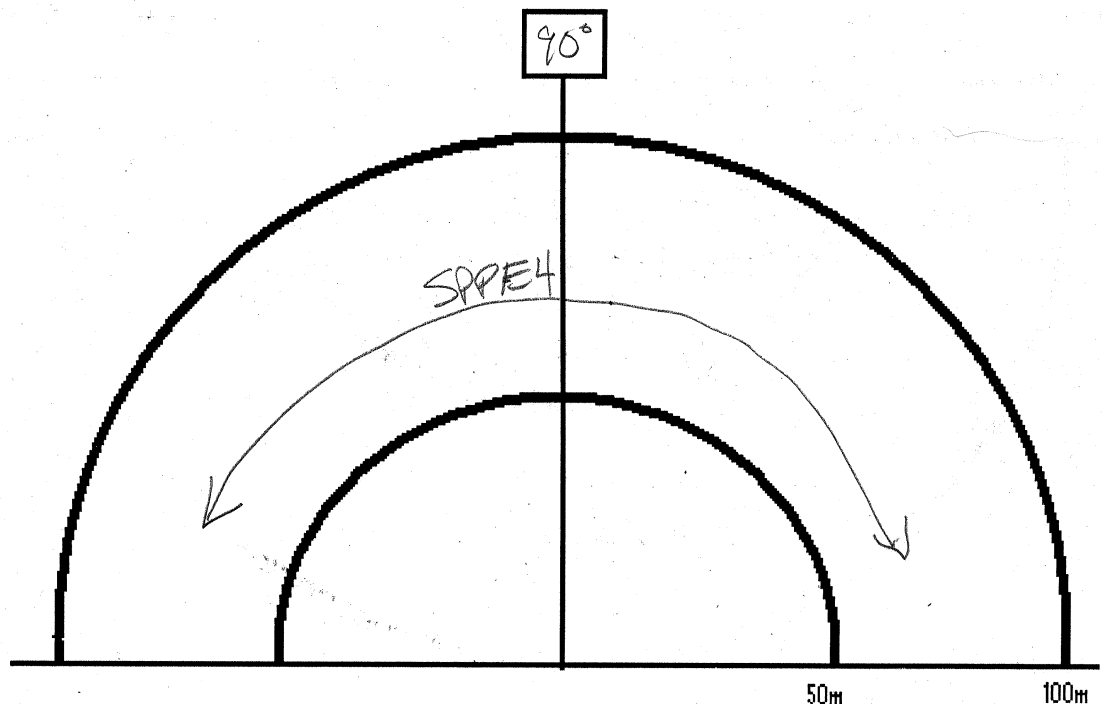
Sunset Time: 20:48

Date: (yr/mm/dd): 12/05/11 Start Time: 21:18 Finish Time: 21:23 5-minute Survey? ☒Precip: None/Dry ☒ Damp ☐ Haze ☐ Fog ☐ Drizzle ☐ Rain ☐

Air Temp °C 12.5°C Water Temp °C 12°C Beaufort Wind Scale 1

Amphibian breeding area within 120m of woodland: ☒ Yes ☐ NoGeneral Aquatic Vegetation: ☐Overhead Canopy: ☒ Yes ☐ NoSurrounding landscape: Agricultural ☐ Wooded ☒ Wetland ☐ Other ☐**Note:** In the diagram,fully indicate the
calling code and the
estimated number of
individuals calling.

e.g. AMTO 2-6.

The first number is the
calling code; the
second number is the
estimated number of
individuals calling.

Remarks:

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

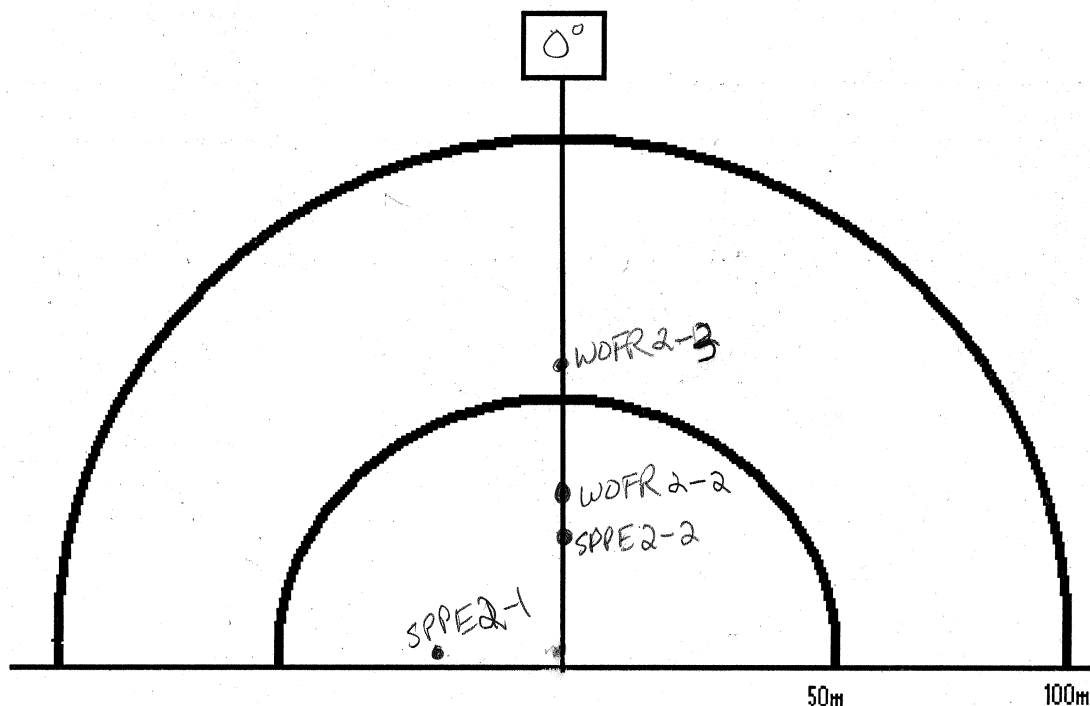
Abundance Codes	
0=	No Frogs or Toads seen or heard
1=	Frog(s) or Toad(s) seen but not heard
2=	Individuals can be counted, calls not overlapping
3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: Bow Lake Phase I

Item ID: _____

Station (A-Z): ADH 202Field Crew: Robert Timstra / Joel JamesonGPS Lat./long coordinates: N 46° 42' 28.00, W 122° 31' 27.00Sunset Time: 20:48Date: (yr/mm/dd): 12/05/01 Start Time: 21:51 Finish Time: 21:56 5-minute Survey? ☒Precip: None/Dry ☒ Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____Air Temp °C 7°C Water Temp °C 10°C Beaufort Wind Scale 1Amphibian breeding area within 120m of woodland: ☒ Yes No

General Aquatic Vegetation: _____

Overhead Canopy: ☒ Yes ~50% ☒ NoSurrounding landscape: Agricultural _____ Wooded ☒ Wetland _____ Other _____**Note:** In the diagram,fully indicate the
calling code and the
estimated number of
individuals calling.
e.g. AMTO 2-6.The first number is the
calling code; the
second number is the
estimated number of
individuals calling.

Remarks:

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

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

Project Name/Number: Bow Lake Phase 1

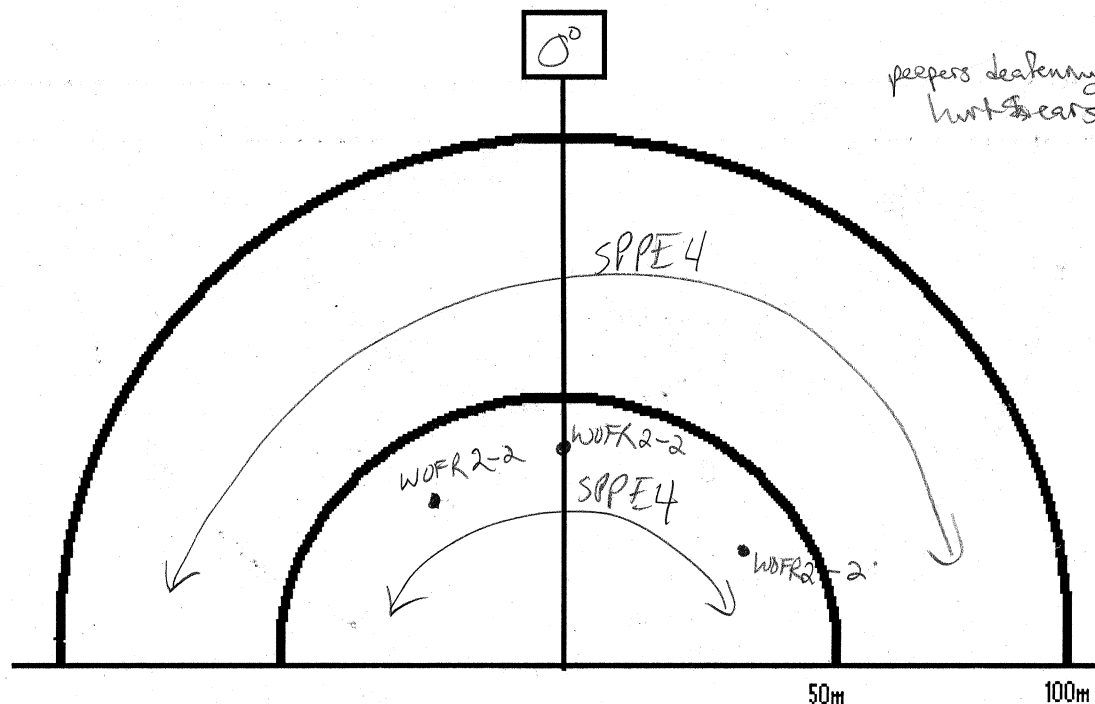
Item ID: _____

Station (A-Z): ABH 101 (B)Field Crew: Robert Timstra / Joel JamesonGPS Lat./long coordinates: N 61° 06' 44.55", W 123° 19' 10"Sunset Time: 20:48Date: (yr/mm/dd): 12/05/01 Start Time: 21:35 Finish Time: 21:40 5-minute Survey? ☒Precip: None/Dry ☒ Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____Air Temp °C 9.2° Water Temp °C 12.6 Beaufort Wind Scale 1Amphibian breeding area within 120m of woodland: ☒ Yes ☐ No

General Aquatic Vegetation: _____

Overhead Canopy: Yes ☐ No ☒Surrounding landscape: Agricultural _____ Wooded ☒ Wetland _____ Other _____**Note:** In the diagram,fully indicate the
calling code and the
estimated number of
individuals calling.

e.g. AMTO 2-6.

The first number is the
calling code; the
second number is the
estimated number of
individuals calling.

50m

100m

Remarks:

STATION 2 OF 2 (B)

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

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

Project Name/Number: Bow Lake Phase 1
Item ID: _____ **Station (A-Z):** ABH 201
Field Crew: JOEL JAMESON / ROBTY MSTR
GPS Lat./long coordinates: N 16° 68' 41.3.04, 52° 31' 00.86 **Sunset Time:** 20:48

Date: (yr/mm/dd): 12/05/01 **Start Time:** 22:05 **Finish Time:** 22:10 **5-minute Survey?** ☒

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

Air Temp °C 7.5 °C **Water Temp °C** 10 °C **Beaufort Wind Scale** 1

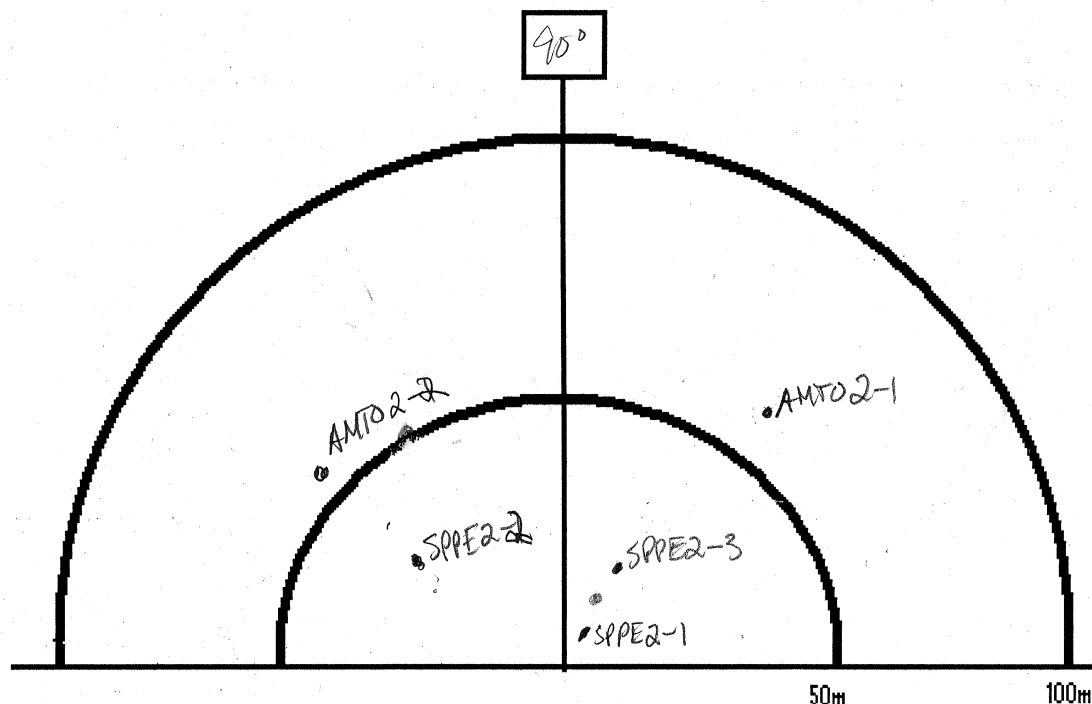
Amphibian breeding area within 120m of woodland: ☒ Yes ☐ No

General Aquatic Vegetation: _____

Overhead Canopy: Yes ☐ No ☒

Surrounding landscape: Agricultural _____ Wooded ☒ Wetland _____ Other _____

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



Remarks:

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

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

Project Name/Number: <u>BLP1</u>			
Item ID: <u>ABH212</u>		Station (A-Z): <u>1</u>	
Field Crew: <u>DCS RFL</u>			
GPS Lat./long coordinates: <u>16T 068455E 523116N</u>		Sunset Time: <u>8:45pm</u>	
Date: (yr/mm/dd): <u>12/05/01</u>	Start Time: <u>10:09pm</u>	Finish Time: <u>10:14pm</u>	5-minute Survey? <u>X</u>

Precip: None/Dry X Damp Haze Fog Drizzle Rain

Air Temp °C 10°C Water Temp °C 9°C Beaufort Wind Scale 0

Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: Marsh warrigold, wetland grasses scarce

Overhead Canopy: Yes No

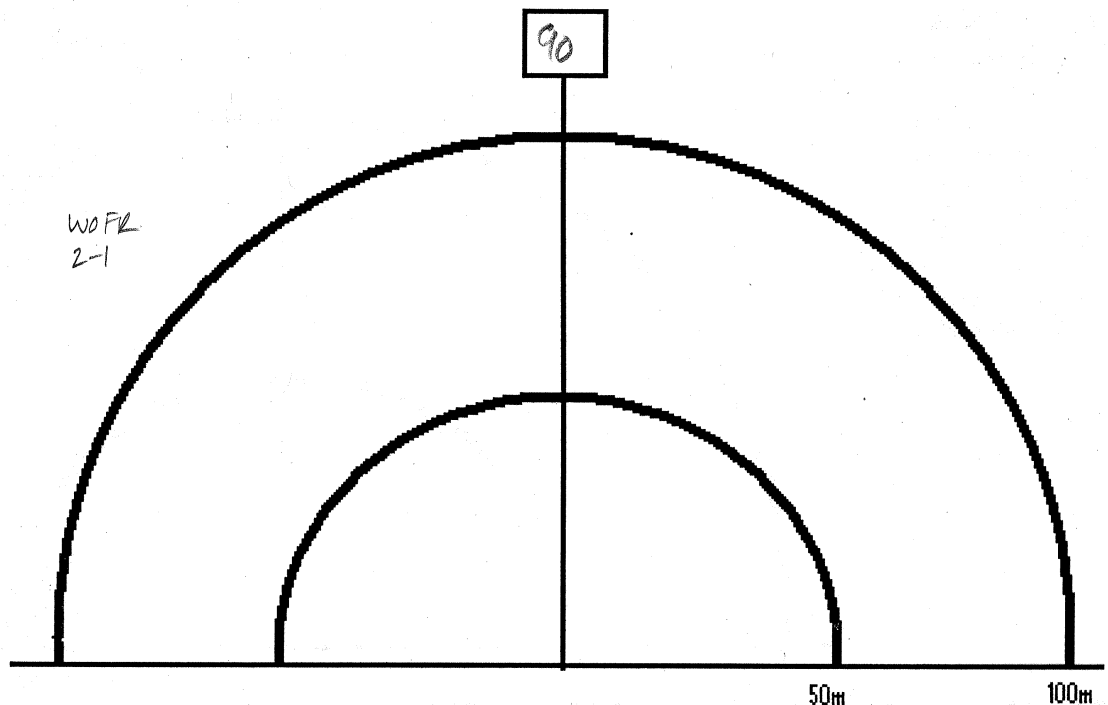
Surrounding landscape: Agricultural Wooded X Wetland Other

Note: In the diagram,

fully indicate the calling code and the estimated number of individuals calling.

e.g. AMTO 2-6.

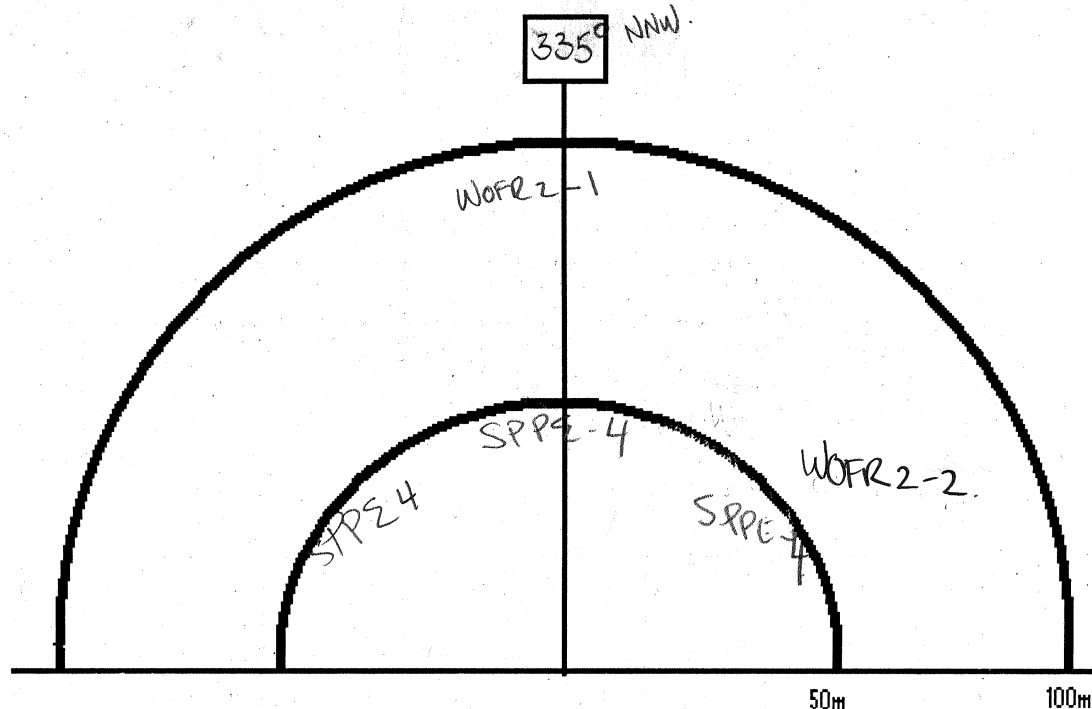
The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

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

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

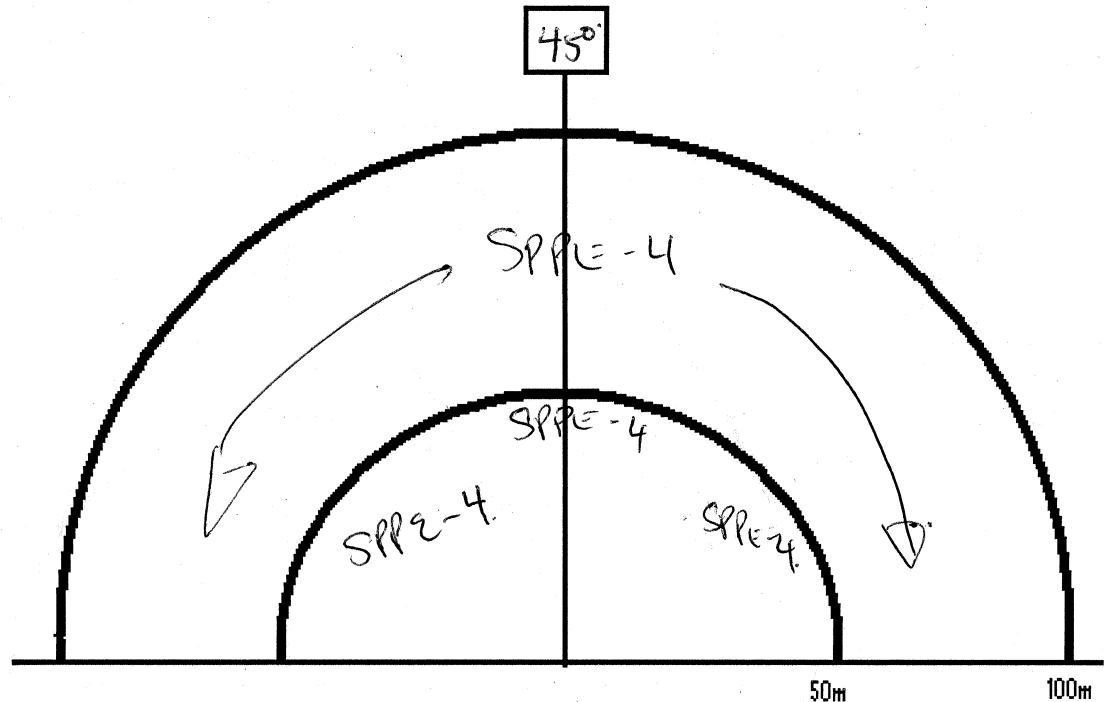
Project Name/Number: BOW LAKE PARSE 1.Item ID: ABH 207 - WETLAND WITH A LARGE FOREST Station (A-Z): AField Crew: RHANNON L. & DAN STUARTGPS Lat./long coordinates: 16T 0605328 5232477 Sunset Time: 8:45 PMDate: (yr/mm/dd): 12/05/01 Start Time: 9:15 PM Finish Time: 9:20 PM 5-minute Survey? ☒Precip: None/Dry ☒ Damp ☐ Haze ☐ Fog ☐ Drizzle ☐ Rain ☐Air Temp °C 10°C Water Temp °C 9°C Beaufort Wind Scale 0Amphibian breeding area within 120m of woodland: ☒ Yes ☐ NoGeneral Aquatic Vegetation: MARSH GRASSES, SWAMP CATTAIL, B. SPICE, LEATHER LEAF, SPARGANNUMOverhead Canopy: Yes ☐ No ☒Surrounding landscape: Agricultural ☐ Wooded ☒ Wetland ☒ Other ☐**Note:** In the diagram,fully indicate the
calling code and the
estimated number of
individuals calling.
e.g. AMTO 2-6.The first number is the
calling code; the
second number is the
estimated number of
individuals calling.**Remarks:**FULL PEEPER CHORUS

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

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

Project Name/Number: BOW LAKE PHASE 1.

Item ID: _____

Station (A-Z): ABIT 206.Field Crew: AUDIO EQUIPMENT.GPS Lat./long coordinates: 167.684941 5233086Sunset Time: 8:45 PM.Date: (yr/mm/dd): 2012/05/01 Start Time: 9:15 PM Finish Time: 9:20 PM 5-minute Survey? XPrecip: None/Dry X Damp _____ Haze _____ Fog _____ Drizzle _____ Rain _____Air Temp °C 10°C. Water Temp °C 9°C. Beaufort Wind Scale 1Amphibian breeding area within 120m of woodland: (Yes) NoGeneral Aquatic Vegetation: SWEET GALE, LEMNINE LEAF, MARSH GRASSES, B.C. SPICE.Overhead Canopy: Yes (No)Surrounding landscape: Agricultural _____ Wooded ✓ Wetland ✓ Other _____**Note:** In the diagram,fully indicate the
calling code and the
estimated number of
individuals calling.
e.g. AMTO 2-6.The first number is the
calling code; the
second number is the
estimated number of
individuals calling.

Remarks:

DESKTOP LISTENING OF AUDIO DONE BY RHANNON LESHYK.

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

Abundance Codes	
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3=	Some individuals can be counted, other calls overlapping
4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: <u>BLP1</u>			
Item ID: <u>ABH213</u>		Station (A-Z): <u>1</u>	
Field Crew: <u>DCS RT</u>			
GPS Lat./long coordinates: <u>16T 0884651E 5233510N</u>		Sunset Time: <u>8:45pm</u>	
Date: (yr/mm/dd): <u>12/05/02</u>	Start Time: <u>9:15pm</u>	Finish Time: <u>9:20pm</u>	5-minute Survey? <u>X</u>

Precip: None/Dry ☒ Damp ☐ Haze ☐ Fog ☒ Drizzle ☐ Rain ☐

Air Temp °C 11°C Water Temp °C 11°C Beaufort Wind Scale 1

Amphibian breeding area within 120m of woodland: Yes No

General Aquatic Vegetation: Marsh grasses, sweet gale, latherleaf

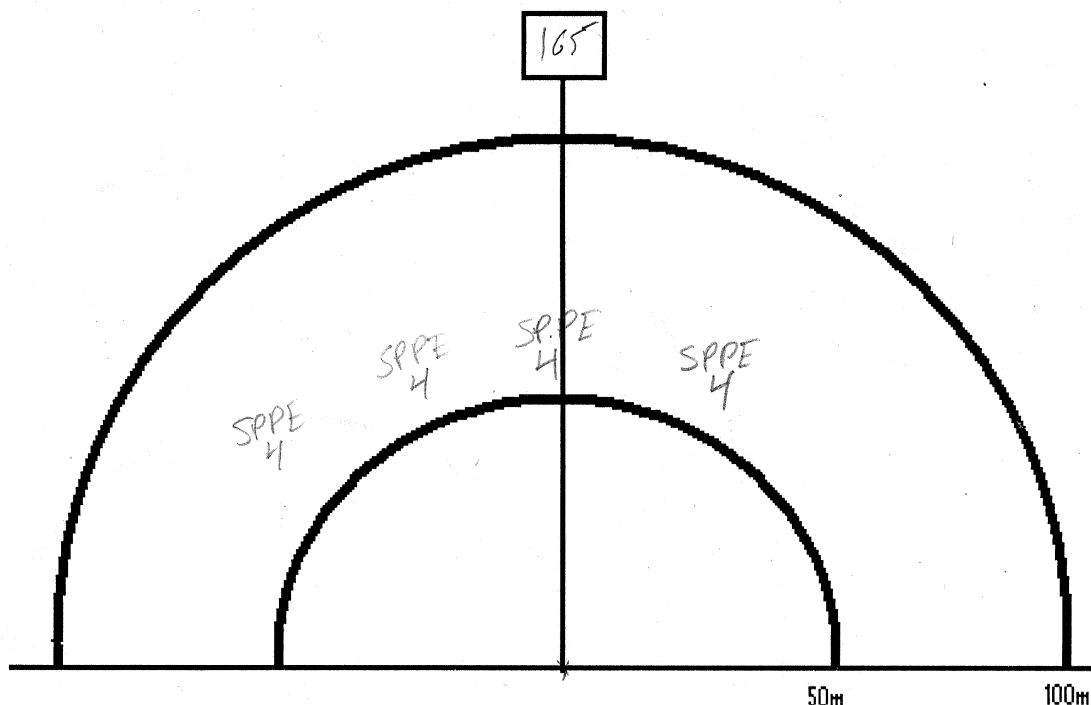
Overhead Canopy: Yes ☒ No ☐

Surrounding landscape: Agricultural ☐ Wooded ☒ Wetland ☒ Other ☐

Note: In the diagram,

fully indicate the calling code and the estimated number of individuals calling. e.g. AMTO 2-6.

The first number is the calling code; the second number is the estimated number of individuals calling.



Remarks:

Full chorus, spring peepers

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

Abundance Codes	
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4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Project Name/Number: BLP1

Item ID: ABH103

Station (A-Z): 1

Field Crew: DCS RT

GPS Lat./long coordinates: 16T 068°18'08"E 5233974"N

Sunset Time: 8:45pm

Date: (yr/mm/dd): 12/05/02

Start Time: 9:36pm

Finish Time: 9:41pm

5-minute Survey? ☒Precip: None/Dry ☐ Damp ☐ Haze ☐ Fog ☒ Drizzle ☐ Rain ☐

Air Temp °C 10°C

Water Temp °C 11°C

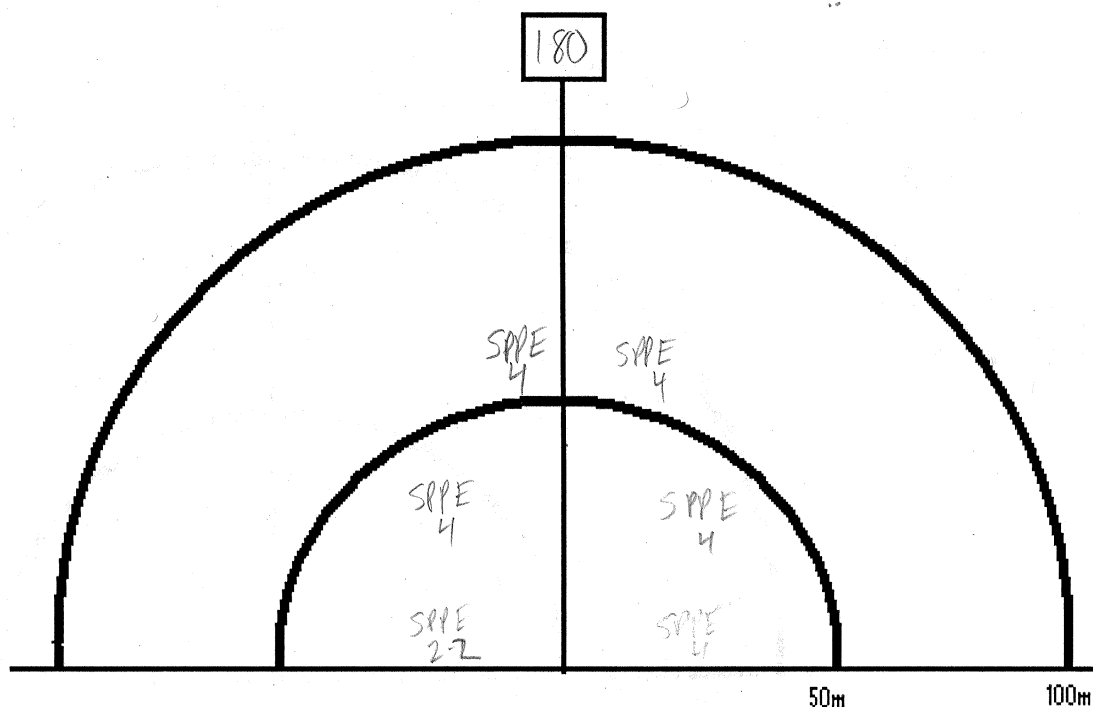
Beaufort Wind Scale 1

Amphibian breeding area within 120m of woodland: Yes ☒ No ☐

General Aquatic Vegetation: sweet gale, leather leaf, E. white cedar, marsh grasses

Overhead Canopy: Yes ☒ No ☐Surrounding landscape: Agricultural ☐ Wooded ☒ Wetland ☒ Other ☐**Note:** In the diagram,fully indicate the calling code and the estimated number of individuals calling.
e.g. AMTO 2-6.

The first number is the calling code; the second number is the estimated number of individuals calling.



Full chorus

Remarks:

7 spotted salamanders observed in shallows (2 of which in act of mating)

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

Abundance Codes	
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4=	Full chorus, calls continuous and overlapping, individuals not distinguishable

Appendix F-2

Amphibian Egg Searches

AMPHIBIAN EGG SEARCHES

Date: Apr. 26/12 ABH ID: 101 ¹⁶⁷UTMs: 684455 5231938 Observer(s): RR, DCS, JJ, RT. Polarized Sunglasses?: Y/N
 Temp: 8 Water Temp: 13 Wind: 0 CC: 10/10 Precip: 0 Last 24 hrs: No Rain.
 Start Time: 7:15 AM End Time: 7:45 AM Total Time Actively Searching: 30 mins Water Clarity Notes: Very Clear.

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	3 groups of ~50 masses.	~150							
Spotted Salamander		4							
Blue-spotted Salamander									
Spring Peeper									1
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

Date: Aug 26/12 ABH ID: 213 UTM^{16T}s: 0684686 5233471 Observer(s): RL, JJ, DCS, KM-B, YRT Polarized Sunglasses?: Y/N

Temp: 21°C Water Temp: 8°C Wind: 1 CC: 10/10 Precip: Ø Last 24 hrs: Rain

Start Time: 5:36 PM End Time: 6:00 PM Total Time Actively Searching: 25 mins Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	1	1							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

RDND
COOL
OTHER ENVELOPE FOUND NO VITELL.

AMPHIBIAN EGG SEARCHES

Date: Apr 26/12 ABH ID: 103 UTMs: ¹⁶¹684801 5232968 Observer(s): REL, DCS, JJ, RT Polarized Sunglasses? (Y/N)
 Temp: 1°C Water Temp: 8°C Wind: 1 CC: 10/10 Precip: Snow Last 24 hrs: Clear - Snow in Morn.
 Start Time: 10:00 AM End Time: 10:25 AM Total Time Actively Searching: 25 mins Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	<u> </u>	<u>11</u>							
Blue-spotted Salamander									
Spring Peeper									<u>1</u>
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):							<u>1</u>		

WNR 5 x 2

WNR 5 x 2

Date: Apr 26/12 ABH ID: 201 UTM^s: ¹⁶⁷681363 5231559 Observer(s): R. D. J. J. Y. R. T. Polarized Sunglasses?: Y/N

Temp: 1°C Water Temp: 5°C Wind: 1-2 CC: 10/10 Precip: 3mm Last 24 hrs: Clear - Rain in Morn.

Start Time: 8:30 AM End Time: 9:05 AM Total Time Actively Searching: 35 mins Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander		4							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

Date: Apr 27/12 ABH ID: 201 UTM^s: 0684363 5231559 Observer(s): RFL YMB Polarized Sunglasses?: Y/N

Temp: -3° Water Temp: N/A Wind: Ø CC: 0/10 Precip: Ø Last 24 hrs: Clear, Freezing and Night

Start Time: 8:25am End Time: 8:35am Total Time Actively Searching: 10 mins Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander		4.							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

Date: Apr 27/12

ABH ID: 212

UTMs: 167 0684553 5231629

Observer(s): RFL, RMB

Polarized Sunglasses?: Y/N

Temp: -3°C

Water Temp: 2.9°C

Wind: 1

CC: 9/10

Precip: 0

Last 24 hrs: NO RAIN

Start Time: 8:15 AM

End Time: 8:25 AM

Total Time Actively Searching: 10 MIN

Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander									
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

Nothing observed

Date: Apr 27/12 ABH ID: 103 UTM^s: ¹⁶⁷060480 5233968 Observer(s): RFC, JJ Polarized Sunglasses?: Y/N

Temp: 21°C Water Temp: 7°C Wind: 1 CC: 1/10 Precip: Ø Last 24 hrs: Rained yesterday morning

Start Time: 9:50 AM End Time: 10:55 AM Total Time Actively Searching: 65 mins Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	<u> </u>	<u>9.</u>							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

Date: Apr. 27/12 ABH ID: 101 UTM's: 694455 5231938 Observer(s): RPL : DCS, JJ, RT, KMB Polarized Sunglasses?: Y/N
Temp: -4°C Water Temp: 5.7°C Wind: Ø CC: 0/10 Precip: Ø Last 24 hrs: RAIN
Start Time: 7:20 AM End Time: 7:58 AM Total Time Actively Searching: 35 mins Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	3 Groups of ~ 50 masses	~150							
Spotted Salamander	HIT HIT	10.							
Blue-spotted Salamander									
Spring Peeper							1	1	
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

FOUND 1 ~~NO~~ SPRING PEPPER.

AMPHIBIAN EGG SEARCHES

Date: Apr 28/12 ABH ID: ABH202 ^{10T}UTMS: 0684264 5231893 Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: -3°C Water Temp: 5°C Wind: 0 CC: 0/10 Precip: No Last 24 hrs: None
 Start Time: 7:00 End Time: 7:20 Total Time Actively Searching: 20 mins Water Clarity Notes: clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	2 clusters, cloudy, each ~15cm depth	2	0	0	0	0	0	0	0
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

16 of 28

Date: Apr 28/12 ABH ID: ABH212 ^{16T}UTMs: 0684553 5231629 Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: -3°C Water Temp: 10°C Wind: 0 CC: 0/10 Precip: None Last 24 hrs: None
 Start Time: 7:45 End Time: 8:00am Total Time Actively Searching: 15 mins Water Clarity Notes: clear, some thin ice.

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander									
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

none observed

AMPHIBIAN EGG SEARCHES

19 of 28

Date: Apr 28/12 ABH ID: 104 UTM's: _____ Observer(s): KL Polarized Sunglasses? Y/N
 Temp: 2.4°C Water Temp: 6.3°C Wind: Ø CC: 0/10 Precip: Ø Last 24 hrs: No rain - clear - <0°C
 Start Time: 7:20 AM End Time: 7:40 PM Total Time Actively Searching: 20 mins Water Clarity Notes: Clear in Ponds
Pollen collected on
West side.

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	1	1							
Spotted Salamander									
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

200828

Date: Apr 28/12 ABH ID: 101 UTM: _____ Observer(s): REL, JJ, YRT, Polarized Sunglasses?: Y/N
 Temp: -2 Water Temp: 6 Wind: 0 CC: 0/10 Precip: 0 Last 24 hrs: No rain.
 Start Time: 7:50 End Time: 8:40 Total Time Actively Searching: 50 mins Water Clarity Notes: Very clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	1 + 8	9							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt							III (TRAP)	3	
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

Date: Apr 28/12 ABH ID: ABH201 ^{16T}UTMs: 0684363E 5231559N Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: 10C Water Temp: 3°C Wind: 0 CC: 0/10^{hrs} Precip: none Last 24 hrs: none
 Start Time: 8:00 a.m. End Time: 8:30 a.m. Total Time Actively Searching: 30 mins Water Clarity Notes: Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	2 - cloudy, ~15cm deep. Same two as observed during egg search 1	2	0	0	0	0	0	0	0
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

Date: APR 29/12 ABH ID: 103 UTM: 167 0624801 5233968 Observer(s): RFL, DCS, JJ, YRT Polarized Sunglasses?: Y/N

Temp: 4°C Water Temp: 5°C Wind: 1 CC: 1/10 Precip: Ø Last 24 hrs: No. RAIN, Brown FREEZING

Start Time: 9:05 AM End Time: 9:40 AM Total Time Actively Searching: 35 mins Water Clarity Notes: Very Clear, Sunny

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog			1 (temp)	1					
Spotted Salamander		11							
Blue-spotted Salamander									
Spring Peeper									1
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog			11	2					
American Bullfrog			(temp)	5					
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

10 OF 28

AMPHIBIAN EGG SEARCHES

Date: Apr 29/12 ABH ID: 101 ¹⁶¹ UTMs: 684454 5231938 Observer(s): RFL, DCS, SJ, YRT Polarized Sunglasses?: Y/N
 Temp: -6°C Water Temp: 7.3°C Wind: Ø CC: 9/10 Precip: Ø Last 24 hrs: No RAIN, Below Freezing
 Start Time: 7:10 AM End Time: 7:50 AM Total Time Actively Searching: 40 mins Water Clarity Notes: Very clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	<u>~50-7 34+ PROBABLY ~</u> <u>50</u>	<u>84 to 102</u>							
Spotted Salamander	<u>III III I</u> <u>SOME SMALLER MASSES ~ 50 (smaller)</u>	<u>11</u>							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

11 of 28

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

[illegible]

AMPHIBIAN EGG SEARCHES

12 of 28

Date: Apr 29/12 ABH ID: ABH 202 UTM^{16T}s: 0684363E 523559N Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: -2°C Water Temp: 3°C Wind: 0 CC: 0/10^{hrs} Precip: None Last 24 hrs: None
 Start Time: 7:45am End Time: 8:15am Total Time Actively Searching: 30 mins Water Clarity Notes: clear, some thin ice.

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	2 - cloudy, ~15cm deep. Save two as observed egg search 1 and 2								
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

161
AMPHIBIAN EGG SEARCHES

Date: ~~ABH 202~~ Apr 29/12 ABH ID: ABH 202 UTM's: 0884264 5231893 Observer(s): DCS Polarized Sunglasses? (Y/N)
 Temp: -6°C Water Temp: 5°C Wind: 0 CC: 0/10 Precip: None Last 24 hrs: None
 Start Time: 6:45am End Time: 7:00am Total Time Actively Searching: 15 mins Water Clarity Notes: Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	2 clusters, cloudy, each ~15cm depth. Same as 10'd Apr 28/12	2	0	0	0	0	0	0	0
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

Date: Apr 29/12 ABH ID: ABH212 ^{16T}UTMs: 0684553E 5231629N Observer(s): DCS Polarized Sunglasses?: Y/N
Temp: -30C Water Temp: 1°C Wind: 0 CC: 0/10 Precip: None Last 24 hrs: None
Start Time: 7:30 am End Time: 7:45 am Total Time Actively Searching: 15 mins Water Clarity Notes: clear, some thin ice

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander									
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

None observed.

AMPHIBIAN EGG SEARCHES

Date: Apr 30/12 ABH ID: ABH208 ^{16T}UTMs: 0684994 E 5232979 Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: 6°C Water Temp: 6°C Wind: 2 CC: 10/10ths Precip: light wet flurries Last 24 hrs: none
 Start Time: 11:45am End Time: 12:15pm Total Time Actively Searching: 30 mins Water Clarity Notes: clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	15 - in five metacusters, communally laid	15							
Spotted Salamander	53 - in five metacusters, communally laid.	53							
Blue-spotted Salamander									
Spring Peeper							1 (not observed)	1	1
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

Date: Apr 30/12 ABH ID: ABH207 16T UTMs: 0685210 E 5232513 N Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: 6°C Water Temp: 6°C Wind: 2 CC: 10/10 Precip: None Last 24 hrs: None
 Start Time: 17:30pm End Time: 17:40pm Total Time Actively Searching: 10 mins Water Clarity Notes: clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	1 - communally laid	7	-	-	-	-	-	-	-
Spotted Salamander	7 (4 in cluster, 1 cluster in 2, 1 alone)	7	-	-	-	-	-	-	-
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

Very little open water. Clusters at S. end.

AMPHIBIAN EGG SEARCHES

Date: Apr 30/12 ABH ID: 104 UTM's: _____ Observer(s): RFL, YET Polarized Sunglasses?: Y/N
 Temp: 6°C Water Temp: 3.8°C Wind: 0 CC: 10/10 Precip: 0 Last 24 hrs: No Rain
 Start Time: 7:15AM End Time: 7:30AM Total Time Actively Searching: 15 mins Water Clarity Notes: Clear in Paris, Pallen
covered in others.

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	1	1							
Spotted Salamander									
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

WTSP x 2
 AMRO

Ponds not frozen this morning 1st in 4 days.

AMPHIBIAN EGG SEARCHES

Date: Apr 30/12 ABH ID: 213 UTMs: _____ Observer(s): RFL YRT Polarized Sunglasses?: Y/N
 Temp: 7.7°C Water Temp: 4.4°C Wind: 0-1 CC: 10/10 Precip: Ø Last 24 hrs: No PRECIP - LOW ~0-1
 Start Time: 11:20AM End Time: 11:45AM Total Time Actively Searching: 25MINS Water Clarity Notes: Very Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	1	1							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

HARD TO PHOTO EGG MASS AS ITS FAR IN MIDDLE OF POND.

Bearspray Lake South 24 of 29

AMPHIBIAN EGG SEARCHES

Date: 1 MAY 12 ABH ID: 209 UTM: 684702 5233476 Observer(s): YRT Polarized Sunglasses? Y/N

Temp: 17°C Water Temp: 16°C Wind: S-1 CC: 0 Precip: 0 Last 24 hrs: 0

Start Time: 1720 End Time: 1730 Total Time Actively Searching: 10 min Water Clarity Notes: Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog									
Spotted Salamander	/	/							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

AMPHIBIAN EGG SEARCHES

25 of 28

Date: May 1/12 ABH ID: ABH206 ^{16T} UTM's: 0685126E 5232961N Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: 21°C Water Temp: 9°C Wind: 1 CC: 1/10 Precip: None Last 24 hrs: None
 Start Time: 6:15pm End Time: 6:45pm Total Time Actively Searching: 30 minutes Water Clarity Notes: Clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	20 - 5 additional to first survey	20							
Spotted Salamander	53 - no additional occurrences	53							
Blue-spotted Salamander									
Spring Peeper							<u>Many</u>	<u>Full chorus</u>	<u>Full chorus</u>
Chorus Frog							<u>11</u>	<u>1</u>	<u>1</u>
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

Wood Frog, 1 calling

AMPHIBIAN EGG SEARCHES

Date: May 18th / 12 ABH ID: 207 UTM's: _____ Observer(s): Des. RFL Polarized Sunglasses? Y/N
 Temp: 20°C Water Temp: 14.5 Wind: 0-1 CC: 1/10 Precip: 0 Last 24 hrs: WARM NIGHT, SLIGHT Y-STRONG
 Start Time: 4:45 PM End Time: 4:55 PM Total Time Actively Searching: 10 MINS Water Clarity Notes: VERY CLEAR

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	1								1
Spotted Salamander	111								
Blue-spotted Salamander									
Spring Peeper									1
Chorus Frog									1
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):									

YBSA
WSP

ADULTS OF UNKNOWN SPP. SEEN

AMPHIBIAN EGG SEARCHES

Date: May 2/12 ABH ID: ABH207 ^{16T}UTMs: 0685292E 523258N Observer(s): DCS Polarized Sunglasses?: Y/N
 Temp: 12°C Water Temp: 11°C Wind: 0 CC: 10/10 Precip: None Last 24 hrs: Rain
 Start Time: 5:45 pm End Time: 6:00 pm Total Time Actively Searching: 15 mins Water Clarity Notes: clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

	Egg Mass	Total	Larvae	Total	Metamorph	Total	Adult	Total	Calling
Wood Frog	1 - same as prev. identified	1							
Spotted Salamander		4							
Blue-spotted Salamander									
Spring Peeper									
Chorus Frog									
Four-toed Salamander									
Eastern Newt									
American Toad									
Gray Treefrog									
Mink Frog									
Green Frog									
American Bullfrog									
N. Leopard Frog									
Pickerel Frog									
E. Red-backed Salamander									
Other (include reptiles):							Unknown	1	

(jumped into pond)

AMPHIBIAN EGG SEARCHES

28

AMPHIBIAN EGG SEARCHES

Date: May 2/12 ABH ID: AB4206 ¹⁶⁷UTMS: 06848245 5133205N Observer(s): DCS RT Polarized Sunglasses?: Y/N

Temp: 12°C Water Temp: 11°C Wind: 1 CC: 10/10 Precip: None Last 24 hrs: Rain in morning

Start Time: 6:15pm End Time: 6:45pm Total Time Actively Searching: 30 minutes Water Clarity Notes: clear

Tally counts for each life stage. Where counts cannot be made use estimates: 0-10, 20-50, 50-100, 100-500, 500-1000, >1000.

For calling frogs use the Call Index Value - 1: Individuals of the species can be counted; there is silence between the calls you hear. 2: Calls of individuals can be distinguished, but there is some overlapping of the species' calls. 3: Full chorus for the species. Calls are constant, continuous, and overlapping.

[illegible]

Appendix F-3

Bat Maternity Roosting Areas

Investigators DCS RFLWoodland ID NADate/Time March 31/12 - Apr 5/12Temp NA Cloud NA Wind NA Precip NA Precip in last 24 hrs NA**CANDIDATE BAT MATERNITY ROOSTING AREAS**

Plot #	Easting	Northing	Snag/tree #	Tree Species	DBH (cm)	Height (m)	Height of cavity (m)	# of Cavities	Size of hole(s)	State of decay	Peeling bark? (lots/little/none)	# of Photos
1	0684314	5232269	None identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	0684989	5231552	1	ACESAC	43	15	N/A	N/A	N/A	Dead	Medium	2
2	"	"	2	BETALLE	45	5 (Snapped)	4	1	3cm diam.	Dead	Lots	1
3	0684974	5231862	None identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
4	0685551	5231994	None identified	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	0685608	5232347	1	BETALLE	80	25	0.10 1) crack base	2	large cracks ~10cm diam	Dead	medium	2
5	0685608	5232347	2	BETALLE	25	20	NA	NA	NA	Alive, healthy	Lots	1
6	0685480	5233501	None identified	N/A	NA	NA	NA	NA	NA	NA	NA	NA
7	0685420	5233964	1	BETALLE	60	22	NA	NA	NA	Alive, healthy	Lots	2
8	0685328	5232995	1	Unsure	40	15	8-12	6	Woodpecker holes, ~5cm DBH	very decayed, tip gone	medium	2
9	0685492	5232251	N/A	NA	NA	NA	NA	NA	NA	NA	NA	N/A
10	0685558	5232795	N/A	NA	NA	NA	NA	NA	NA	NA	NA	N/A
11	0685456	5233108	1	ACESAC	94	10	5	2	N/A	Dead	Lots	1
11	0685456	5233108	2	BETALLE	63	15	UNKNOWN POSSIBLE	UNKNOWN POSSIBLE	N/A	MOSTLY DEAD 1 Live branch	Lots	1
12	0685458	5233856	1	ACESAC	43	10	5-7m	4	10-20 diameter	Dead	Some	2



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Investigators OCS RFLWoodland ID NADate/Time Apr 2/12Temp 7°CCloud 10/10Wind 1Precip NONEPrecip in last 24 hrs NONE

	Plot #	Easting	Northing	Snag/tree #	Tree Species	DBH (cm)	Height (m)	Height of cavity (m)	# of Cavities	Size of hole(s)	State of decay	Peeling bark? (lots/little/none)	# of Photos
BMR205	13	0684899	5234213	1	BETALLE	57	20	8-12	2	large cracks in main trunk, first branch	heartwood rotted, but live	medium	2
BMR206	14	0684787	5232720	1	BETALLE	55	20	12	1, cracked trunk open at top	width of tree	large split, but live	lots	2
BMR106	15	0685123	5232317	1	BETALLE	63	15	10-14	2	2/10cm in knotholes	mostly living	LITTLE	2
BMR107	16	0684836	5232811	1	ACESACC	83	15	10-14	15	some woodpecker cavity tree, others heartrot	mostly dead	LITTLE	3
T03	17	0684412	5233022	Ø	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BMR108	18	0684429	5233049	1	BETALLE	73	15	UNKNOWN	POSSIBLE	UNKNOWN	DEAD	LOTS	2
T08	19	0685140	5232265	Ø	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BMR207	20	0684440	5233685	1	BETALLE	30	20	NA	NA	NA	Alive, peeling bark	Medium	2
BMR208	21	0684169	5233341	1	ACESACC	35	20	15	2	~10cm diameter (both)	alive, poor health	little	1
BMR209	22	0684998	5233322	1	ACESACC	45	12	7, 10, 12	9	Bottom 3: 15cm x 5cm Rest: 10cm x 10cm	Dead, cracked	little	2
BMR210	23	0686289	5234802	1	UNKNOWN	65	18	NA	NA	NA	Dead	Extensive	3
BMR	24	0683376	5234310	1	ACESACC	63	15	13	1	~20cm	Dead	LITTLE	1



CANDIDATE BAT MATERNITY ROOSTING AREAS

Plot #	Easting Zone 16T	Northing	Snag/ tree #	Tree Species	DBH (cm)	Height (m)	Height of cavity (m)	# of Cavities	Size of hole(s) (cm)	State of decay	Peeling bark? (lots/little/non e)	# of Photos	Flagged?	Quality + comments
BMR104	685456	5233108	1	ACESACC	94	10	5	2	~15 CM DIAMETER	DEAD	LOTS	1	?	SUITABLE, IT WILL DO, ONLY ASSESSED PHOTO
BMR105	685458	5233856	1	ACESACC	43	10	5-7	4	~10-20 DIAMETER	DEAD	SOME	2	Y	SUITABLE (QUITE POSSIBLE), ONLY ASSESSED PHOTO
BMR108	684429	5233049	1	BETALLE	73	15	UNKNOWN	POSSIBLE	UNKNOWN	DEAD	LOTS	2	Y	SUITABLE (WILL DO), ONLY ASSESSED PHOTO
BMR201	685608	5232347	1	BETALLE	80	25	CRACK FROM 0-10	2	LARGE CRACKS ~10CM DIAMETER	DEAD	MEDIUM	2	Y	
BMR206	684787	5232729	1	BETALLE	55	20	12	1 CRACKED TRUNK OPEN AT TOP	WIDTH OF TREE	LARGE SPLIT BUT ALIVE	LOTS	2	Y	SUITABLE (WILL DO), ONLY ASSESS PHOTO
BMR208	684169	5233391	1	ACESACC	35	20	15	2	~10 DIAMETER (BOTH)	ALIVE, POOR HEALTH	LITTLE	1	Y	SUITABLE, ONLY ASSESSED PHOTO
BMR209	684998	5233322	1	ACESACC	45	12	7, 10, 12	9	BOTTOM 3 = 15x15, REST=10x10	DEAD CRACKED	LITTLE	2	Y	SUITABLE, DON'T SEE MUCH IN PHOTO BUT WILL ACCEPT AS MEETS CRITERIA FROM DESCRIPTION, ONLY ASSESSED PHOTO
BMR210	686289	5234802	1	UNKNOWN	65	18	NA	NA	NA	DEAD	EXTENSIVE	3	Y	SUITABLE, NOT SURE IF TOO DECAYED, ONLY ASSESSED PHOTO
BMR601	684903	5234201	1	UNKNOWN	UNKN OWN	UNK NOW N	UNKNOWN	1 GOOD CRACK – FACES GROUND, GOOD EMERGENCE SPACE	UNKNOWN	UNKNOW N	UNKNOWN	12	Y	OTHER LARGE CRACKS, TOO BIG, TOO EXPOSED, LAST PHOTO IS A VIEW TO THE SOUTH FROM THE TREE'S LOCATION
BMR602	684610.60	5233746.02	1	UNKNOWN	UNKN OWN	UNK NOW N	UNKNOWN	1 GOOD ONE, NO CRACKS	UNKNOWN	UNKNOW N	NONE	3	Y	
BMR603	684627.10	5233642.53	1	BETALLE	~50	UNK NOW N	NA	NA	NA	UNKNOW N	ALL, ALOT	4	Y	

Investigator: Joel Jameson

Project: Bow Lake Phase 1 NHA, SI

Survey Period: 25 April – 3 May, 2012

Plot #	Easting Zone 16T	Northing	Snag/ tree #	Tree Species	DBH (cm)	Heig ht (m)	Height of cavity (m)	# of Cavities	Size of hole(s) (cm)	State of decay	Peeling bark? (lots/little/non e)	# of Phot os	Flagg ed?	Quality + comments
BMR604	684439.69	5233677.72	1	UNKNOWN	40	UNK NOW N	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOW N	SOME	4	Y	A GOOD ONE
BMR605	684790.82	5233681.47	1	BETALLE	UNK OWN	UNK NOW N	UNKNOWN	>5 WOODPECKE R HOLES	UNKNOWN	UNKNOW N	NONE	4	Y	OK LAST PHOTO IS VIEW TO SOUTH FROM TREE
BMR606	684713.27	5234658.55	1	UNKNOWN	35	UNK NOW N	UNKNOWN	1 LARGE CAVITY/CHA MBER AT TOP	UNKNOWN	DEAD, TOP BROKEN OFF	2-3 POTENTIAL BAT ROOSTS	NA	Y	PLENTY OF SUN EXPOSURE
BMR607	686123.52	5234911.08	1	UNKNOWN	81	VERY TALL	UNKNOWN	1 LARGE CRACK ALONG SIDE THAT FEEDS INTO LARGE CAVITY	UNKNOWN	UNKNOW N	SUITABLE PEELING BARK ALL ALONG TRUNK	NA	Y	DIFFICULT TO ASSESS CANOPY WHEN NO LEAVES PRESENT BUT SEEMS LIKE WILL BE NEAR 100% CANOPY IN IMMEDIATE VICINITY OF TREE
BMR608	684960.80	5231821.99	1	UNKNOWN	58	~16 -20	NA	NA	NA	ALIVE	A LOT, 15-20 POTENTIAL ROOSTS	4	N	SUITABLE, BEST I COULD DO, PHOTOS INCLUDE 1 PHOTO OF CANOPY, ~50% CANOPY
BMR609	685494.87	5232054.85	1	UNKNOWN	60-70 (NOT MEASU RED)	~16 -20	14 (SPLIT IN BARK), 12 (UNDERSIDE OF BRANCH), 13 (END OF BROKEN BRANCH)	≥3	WIDTH = 30CM, 10CM, 20CM, ALL ARE LONG AND NARROW	ALIVE	NO POTENTIAL ROOSTS	4	N	SUITABLE (PROBABLY HIGHLY SUITABLE)
BMR610	685315.41	5232233.20	1	UNKNOWN	36	~14	9, 9.5, 10, 11, 12, ALL WOODPECKER HOLES	≥5	ROUND AND ALL ~5CM DIAMETER	PARTLY ALIVE	NONE	2	Y	SUITABLE (QUITE POSSIBLE)
BMR611	683264.76	5234325.31	1	UNKNOWN	62	~13 -15	1, 2, 3, 7, 9.5, 8, + ≥3 WOODPECKER HOLES AT TOP	~10	RANGE 2- 20CM DIAMETER	DEAD	A LOT, ≥6 POTENTIAL ROOSTS	6	Y	HIGHLY SUTABLE, A LOT OF SUN EXPOSURE, GOOD TAKE- OFF ROOM FOR BATS, GOOD TREES AROUND THIS ONE, AT LEAST 3 IN VIEW.
BMR612	684078.00	5232094.00	1	BETALLE	60	~20	8, 17 (LARGE DEAD BRANCH)	2	1 OBVIOUS LARGE CAVITY, 2 OPENINGS (20- 30CMX5CM), OTHER IS IN IN BROKEN	2 LARGE LIVE BRANCHE S, 1 LARGE DEAD BRANCH	A LOT, ≥5 POTENTIAL ROOSTS	3	Y	HIGHLY SUITABLE

Investigator: Joel Jameson

Project: Bow Lake Phase 1 NHA, SI

Survey Period: 25 April – 3 May, 2012

Plot #	Easting Zone 16T	Northing	Snag/ tree #	Tree Species	DBH (cm)	Height (m)	Height of cavity (m)	# of Cavities	Size of hole(s) (cm)	State of decay	Peeling bark? (lots/little/non e)	# of Photos	Flagged?	Quality + comments
									BRANCJ					
BMR613	684139.75	5231097.92	1	UNKNOWN	78	~20	1, 4, 10, 10, 12	≥4	2x30-40CM NARROW OPENING, 5x10CM SPACE UNDER KNOT, 30x2.5CM CRACK, UNDERSIDE OF DEAD BRANCH	ALIVE	~3 POTENTIAL ROOSTS	3	Y	HIGHLY SUITABLE, NOT MUCH CANOPY (50%)
BMR614	684101.73	5231084.61	1	UNKNOWN	51	~15	ONE AT 7-8	1	CRACK 30x2CM, PROBABLY HOLLOW INSIDE	DEAD	A LOT, ≥5 POTENTIAL ROOSTS, LIFTING THROUGHOUT TREE	4	Y	SUITABLE, SIDE OF HILL
BMR615	684165.92	5230953.69	1	BETALLE	79.7	~18	FOLLOWS LENGTH OF BASE OF TREE AND OVERLAID WITH BARK, ~10 LONG, OVERHANGING BRANCH AT 13M THAT COULD GIVE SUITABLE SHELTER AT UNDERSIDE	≥1	NA	HALF ALIVE	NOWHERE REALLY EXCEPT AROUND THE CRACK	3	Y	SUITABLE (WILL DO), ONE OTHER GOOD TREE AT WEST OF THIS ONE WITH CRACK ALONG SIDE.
BMR616	682849.14	5233418.47	1	BETALLE	74.7	24	6, 7, 9, 10, 12, 10, 9 (UNDER A BRANCH), ALL PRETTY SHALLOW	≥7	7x7CM, 5x5CM, 20x4CM CRACK, 10x5CM	ALIVE	NONE FOR ROOSTING	6	Y	SUITABLE, PRETTY GOOD. RELATIVELY DENSE CANOPY (80%)
BMR617	683362.60	5234275.52	1	UNKNOWN	62	19	4 AT 8-10M, 1 AT 15M	≥5	WOODPECKER HOLES ALL 5- 10CMx5- 10CM, HOLLOW AT BASE SO COULD BE HOLLOW ALL WAY THROUGH	DEAD	EXTENSIVE, ≥5 POTENTIAL ROOSTS	4	Y	



Investigator: Joel Jameson

Project: Bow Lake Phase 1 NHA, SI

Survey Period: 25 April – 3 May, 2012

Plot #	Easting Zone 16T	Northing	Snag/ tree #	Tree Species	DBH (cm)	Height (m)	Height of cavity (m)	# of Cavities	Size of hole(s) (cm)	State of decay	Peeling bark? (lots/little/non e)	# of Phot os	Flagg ed?	Quality + comments
BMR618	683765.62	5234351.12	1	UNKNOWN	49.5	14- 15	≥8 WOODPECKER HOLES BETWEEN 10- 13M HIGH	≥8	A RANGE OF SIZES E.G. 2x2CM, 5x5CM, 30x5CM	2 LIVE BRANCHE S, REST SEEMS DEAD	NOT MUCH, 1 POTENTIAL ROOST SITE	3	Y	SUITABLE, IT WILL DO. WOOD SEEMS A LITTLE DAMP AT THE BASE
BMR619	686543.12	5234707.09	1	BETALLE	59.5	15	NA	NA	NA	TRUNK DEAD, 1 LIVE BRANCH	≥3 POTENTIAL ROOSTS	4	Y	SUITABLE, PRETTY GOOD, TOP OF TREE BROKEN OFF, WOOD AND BARK SPLITTING
BMR620	686507.31	5234663.24	1	BETALLE	79.3	17(R HIAN NON) , 22(ME)	9 (BRANCH BROKEN OFF SO BARE WOOD SPLIT WITH A LONG NARROW 1x30CM CRACK + SOME PEELING BARK	1	UNKNOWN	ALIVE	NONE	4	Y	NOT AS GREAT AS OTHERS BUT BEST I COULD DO.
BMR621	686296.00	5234618.00	1	BETALLE	90.2	16 (ME), 21 (RHI ANN ON)	8-10 (LONG CRACK 30x2- 3CM)	≥1	30x2-3CM	2 LARGE DEAD BRANCHE S, REST ALIVE	EXTENSIVE AT TOP, ≥5 POTENTIAL ROOSTS	4	UNKN OWN	GOOD ONE
BMR622	686658.82	5234706.63	1	BETALLE	73.1	13(M3), 14(R HIAN NON)	3-10	3	100x2-3CM (LONG CRACK), 30x2-3 (LONG CRACK), 15x10CM (CRACK)	TOP OF TREE BROKEN OFF, 2 LIVE BRANCHE S + REST OF TREE DEAD REALLY	BARK IS GONE ON ONE SIDE ALONG THE LENGTH OF TREE SO POTENTIAL ROOSTS ON EITHER SIDE	4	Y	CANOPY=70%, ABOUT 10- 15M FROM A STREAM
BMR623	684989.04	5231552.02	1	UNKNOWN	46	15	5, 12, 12	3	20 (NARROW), 5 (ROUND), 5 (OVAL)	DEAD	A LOT, ~9 POTENTIAL ROOSTS	5	Y	SUITABLE
BMR624	686088.00	5235081.37	1	BETALLE	49	15	7, 8, 9, 9.5, 12	≥6	FIRST 5 ARE ~5CM DIAMETER (LIKELY WOODPECKER HOLES) >2CM DEEP	DEAD	≥3 POTENTIAL ROOSTS	3	Y	SUITABLE



Appendix F-4

Features & Wildlife Habitat Daily Summaries

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS	
Date:	Apr 11/12
Project Name:	BLP1
Site Investigators:	DCS RFL

Project Name: B2P1

Site Investigators: DCS RFL

[illegible]

QA/QC: _____ (Data Manager)

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS	
Date:	Apr 3/12
Project Name:	BLP1
Site Investigators:	DCS PFL

Site Investigators: DCS RFL

QA/QC: _____ (Data Manager)

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS	
Date:	Apr 5/12
Project Name:	BLP1
Site Investigators:	DCS RFL

Project Name: BLP1

Site Investigators: DCS RFL

[illegible]

QA/QC: _____ (Data Manager).

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NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: Mar 30/12

Project Name: BLP1

Site Investigators: DCS RFL

[illegible]

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QA/QC: _____ (Data Manager)

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NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: Mar 31, 2012

Project Name: BLP1

Site Investigators: DCS RFL

[illegible]

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Renewable Energy & Environmental Consulting

QA/QC: _____ (Data Manager)

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Also see Woodland Habitat Assessment Form W002, T6, T7 - Apr 1/12

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: Apr 1/12

Project Name: BLPI

Site Investigators: DCS RFL

Feature ID	Associated Features	Easting 16T	Northing	# of Photos	Comments
ABH204	WA207	0685093	5231412	4	Depth avg ~30 cm, conif. treed, no breeding signs
ABH205	WA210	0685531	5231903	2	Depth ~50 cm, surrounded by conif. trees
ABH206	WA212	0684635	5231721	3	Depth ~30 cm, closed canopy decid.
ABH207	WA107	0684531	5231487	3	WOODLAND WARM POOL
RN201	NA	0685164	5231495	1	see attached RN form
WAV201	NA	0684449	5231450	7	E/W portions surrounded by cliffs ~10m high
WA206	NA	0684807	5231375	1	Spring, visible for ~10m, disappears after 20m
WA207	ABH204	0685093	5231412	4	ephemeral pool and flowing intermittent stream
WA208	NA	0685091	5231849	3	vernal pooling and int. stream
WA209	NA	0685201	5231999	3	intermittent stream, crosses T6 access road
WA210	ABH205	0685531	5231903	2	vernal pool
WA211	SP202	0684789	5232132	2	seep to westward flowing spring
WA212	NA	0684635	5231721	3	several braided streams and pools, very disturbed
WA103	SP102	0684822	5231455	3	SPRING FLOWS WEST. INTERMITTENT.
WA104	N/A	0685205	5231986	6	STREAM. INTERMITTENT.
WA105	SP103	0684858	5231772	3	SPRING.
WA106	N/A	0684840	5231588	2 + 3	INTERMITTENT STREAM
WA107	ABH207	0684531	5231487	3	Also ABH. WOODLAND POOL.
WA205	NA	0684732	5231367	2	spring running S. Disappears after 20m.
SH202	cliffs near WAV201	0684449	5231450	3	~10m tall, fissures visible.



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Renewable Energy & Environmental Consulting

QA/QC: _____ (Data Manager)

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Companion to BLPI Apr 2/12 Woodland Habitat Assessment for WO03

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: Apr 2/12

Project Name: BLP1

Site Investigators: DCS RFL

[illegible]

M.K. INCE AND ASSOCIATES LTD.

Renewable Energy & Environmental Consulting

QA/QC: _____ (Data Manager)

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: APR. 3RD / 12.

Project Name: Ban Lax Phase 1

Site Investigators: RPL & DCS

[illegible]

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: APR 4/12

Project Name: Bow Lake Phase 1

Site Investigators: RL & DCS

UTM 16T

Feature ID	Associated Features	Easting	Northing	# of Photos	Comments
WA111	N/A	0684325	5233570	5	SPRUCE CEDAR LOW AREA TO STREAM FLOWS TO WFS102 FLOWS E
WA119	SP109	0684525	5233531	2	CONNECTS TO WA111 SLOW & INTERMITTENT
WA112	SP105	0684012	5233658	2	STREAM FLOWS N TO WFS101 1M/S V. LKLY STEEP
WA113	SP106	0684002	5233389	4	SEEP FLOWS TO STREAM FLOWS N 1/1M TURN DIRECTION
WA114	N/A	0684050	5233358	4	LOW CEDAR AREA LEADS TO STREAM FLOWS N
WA115	N/A	0684067	5233335	6	CONIFER LOW AREA FLOWS TO STREAM FLOWS N W/IN 30M OF TP2
WA116	SP107	0684831	5233280	4	SEEP TO STREAM. LEADS PROJECT FLOWS N. LKLY FLOWS TO WFS102
CL101	SH102	0685143	5233445	5	CLIFF 5m tall by 20m wide POTENTIAL SNACK HABITAT FOR NESTING BIRDS
WA117	SP108	0685033	5233491	5	SEEP TO STREAM FLOWS N OUT OF PROJECT
WA118	N/A	0684397	5233454	2	INTERMITTENT STREAM. JOINS WA111 - FLOWS N
WA228	ABH209	0684916	5234402	2	- no inflow or outflow, standing water
WA229	SP211	0684233	5233633	4	Spring, collating in conifer, groundwater confirmed, forced int. stream at W
WA230	SP212	0683987	5233297	4	Seep to mouse scat and ground water, int. stream at W terminates
WA231	SP242	0684174	5233285	7	drainage area to int. stream at S, flows into seep to groundwater upwelling
WA232	NA	0685043	5233175	4	drainage basin flows W into int. stream, terminates Bear Paw Wetland
WA233	SP213	0684828	5233281	2	Spring and collation basin, limited flow
WA234	SP214	0684452	5233310	5	Spring flowing N to WFS102.
SH204	NA	0684605	5234021	2	two large boulders (3m x 1m x 3m height) + no snakes observed. (1m x 1m x 1m height)
WA119	SP109	0684525	5233531	2	slow intermittent spring.



NATURAL FEATURES AND WILDLIFE HABITAT TOTALS

Date: Apr 5/12

Project Name: BLPI

Site Investigators: DCS RFL

Feature ID	Associated Features	Easting 16T	Northing	# of Photos	Comments
ABH210	NA	0685651 E	5234924 N	8	moist woods with shallow ephemeral pooling
ABH211	NA	0685841	5231562	1	" " "
WA01B	SP215	0685195	5234477	4	Permanent stream orig. from numerous springs, very steep
WA235	SP216	0686215	5234759	4	intermittent stream, N-flowing
WA236	SP217	0686147	5234732	4	intermittent stream N-flowing, disappears underground
WA237	SP218	0685985	5234679	5	intermittent stream from numerous springs, N-flowing, disappears underground
WA238	SP219	0685802	5234639	2	small spring running E into int. stream
WA239	SP220	0685848	5234854	4	seep outward from N-facing hillside as int. stream
WA240	NA	0685638	5234969	3	reappearance of disappeared streams, drains into hydro corridor.
WA243	WE03 M166203	0685616	5234942	5	along hydro line, marsh
SH103	NA	0683196	5234381	4	Stream rock face N5W. Rugged @ bottom. Very mossy. Cliff not good but. Sh.
WA120	SP110	0685256	5234528	3	Spring to intermittent stream beds in pool by road. Flows N.
WA121	SP111	0685206	5234465	2	Spring to intermittent joins WA01B flows N.
WA122	SP112	0685241	5234498	1	Spring to stream joins to WA121.
WA123	SP113	0686178	5234826	2	Spring very small flows N. Few m. May be seep from 201.
WA124	SP114	0686158	5234806	8	Beams half fern @ end of spring.
WA125	SP115	0685980	5234768	5	Spring only flows a few m.
WA126	NA	0685931	5234503	4	Intermittent stream originating @ center area @ hill top. No evidence of seep.





NOTE TO READER:

For greater clarity, the consultant's note on the following page indicates that the field data collected in April 2012 for the water assessment is to be made public only after it has undergone standard quality assurance and quality control reviews and been properly analyzed and integrated into the project design. The referenced data has been made public along with the results of all environment field studies undertaken in relation to this project (See entirety of Appendices E and F of this Natural Heritage Assessment, as well as Appendices B, C, and D of the Water Body and Water Assessment Report) for review and comment.

In addition, the water assessment field work referenced in the note was subsequently re-done by Stantec and made public in the Draft Water Body and Water Assessment Report (Stantec 2012). All such data and results have been submitted to and reviewed by the relevant government agencies.

These files include water body reconnaissance work that was completed at Bow Lake Phase 1 during late March/early April 2012. Due to the sensitivity of this information (i.e. that the public does not become aware that surveys took place at this early point in the season due to timing of public meeting/report submissions), handlers of this data should not allow this information become open to the public at any time.

DCS

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS	
Date:	Mar 30 / 12
Project Name:	BLP1
Site Investigators:	DCS RFL

Site Investigators: DCS RFL

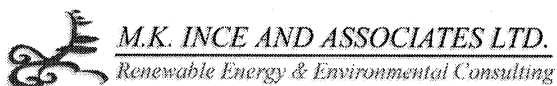


QA/QC: _____ (Data Manager)

NATURAL FEATURES AND WILDLIFE HABITAT TOTALS	
Date:	Mar 31/12
Project Name:	BLP1
Site Investigators:	DCS RFL

Project Name: BLP1

Site Investigators: DCS RFL

[illegible]

QA/QC: _____ (Data Manager)

Appendix F-5

Raptor Nests

Ontario Raptor Nest Form

- BLP1 - RN201

11T 085164E
5231495N

Ontario Raptor Nest Form

Date* Apr 1 12012 Your Name Dan Stuart (D.C.S.)
District Algoma Township Smiths Bay
General Location
Probable Hawk Species

Active? ☐ Yes ☐ No ☒ Unsure - No raptors observed

Evidence of Activity (please check off all that apply)

- ☐ adult(s) in nest
- ☐ adults nearby
- ☐ adults calling
- ☐ chicks seen or heard in the nest
- ☐ chicks seen or heard nearby
- ☐ whitewash on nest or tree or ground
- ☐ fresh green decoration on nest
- ☐ fresh sticks on nest (see white ends if fresh)
- ☐ down feathers on the nest
- ☐ egg shells nearby
- ☐ other

Nest Features (these help to identify hawk species)

- d location in the tree and height hillside, deciduous woods, yellow birch ~20m
(e.g., lowest main fork, upper fork in the canopy, upper side branch)
- d outside diameter of nest (cm) ~60cm
- d outside depth of nest (cm) ~30cm
- d thickness of sticks in the nest (straw [fine], pencil [medium],
thumb or larger [large]) medium - large
- d nest materials sticks - no evidence of greenery
- d nest condition numerous twigs getting from nest, fair condition

Nest Tree (you may add details later after fledging)

- d species of nest tree yellow birch
- d diameter of nest tree (DBH in cm) 40
- d total height of nest tree (m) ~20m
- d other nests nearby none noted

Habitat Features

- d FRI stand codes (age, height, stocking, species composition)
yellow Birch / Sugar Maple Decid. ES 29.1
- d general habitat type
- d distance to nearest water and type intermittent stream ~20m
*write out months to w

Please Attach a Map

Ontario Raptor Nest Form

16T 0685381E 5234284N

Ontario Raptor Nest Form

Date* May 3/12 Your Name DCS RFL
 District Algoma Township Smilsky/Peever
 General Location Stream edge
 Probable Hawk Species Red-tailed hawk

Active? ☒ Yes ☐ No ☐ Unsure

Evidence of Activity (please check off all that apply)

- ☒ adult(s) in nest
- ☐ adults nearby
- ☒ adults calling
- ☐ chicks seen or heard in the nest
- ☐ chicks seen or heard nearby
- ☐ whitewash on nest or tree or ground
- ☒ fresh green decoration on nest
- ☐ fresh sticks on nest (see white ends if fresh)
- ☐ down feathers on the nest
- ☐ egg shells nearby
- ☐ other

Nest Features (these help to identify hawk species)

- d location in the tree and height Stream edge
 (e.g., lowest main fork, upper fork in the canopy, upper side branch)
- d outside diameter of nest (cm) ~ 50
- d outside depth of nest (cm) ~ 30
- d thickness of sticks in the nest (straw [fine], pencil [medium],
 thumb or larger [large]) pencil-thick (medium), some
fresh conifer boughs
- d nest materials pencil-thick twigs, conifer boughs
- d nest condition good condition

Nest Tree (you may add details later after fledging)

- d species of nest tree Yellow birch
- d diameter of nest tree (DBH in cm) ~ 50 cm
- d total height of nest tree (m) ~ 20 m
- d other nests nearby None known

Habitat Features

- d FRI stand codes (age, height, stocking, species composition)
ES 29.1
- d general habitat type sugar maple/yellow birch decid forest
- d distance to nearest water and type ~ 20m S of permanent stream
 *write out months

10 Please Attach a Map

Active -> adult observed sitting in nest - Lagan alarm calls. Flew from nest and remained in area (vantage point ~ 100m N of nest).

Appendix F-6

Salamander Trap Surveys

Aquatic Funnel Trap Survey Form

Observer Name: Phyllis L. Davis, Joe T. Rob T.

Date: Apr 26, 2012

Start Time: 7:00 AM Air T: 1°C Water T: 5°C Wind: Ø B Sky Code: 10/10 Last Rain: Ø Days Ago: THIS MORNING. End Time: 7:15 AM. RAIN DRIZZLE TO SLEET TO SNOW.

Site Name and location (give coordinates): ABH104 NEAR T05. UTM 16T. 0684368 5231909.

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
N/A.	Ø		Ø	Ø	Ø	<hr/>				
BLUE SPOTTED Salamander		1								

Visual observations:

Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: RHANNON, DAN, JAC S. ROBT.Date: APR / 26 / 2012Start Time: 7:15 AM Air T: 1°C Water T: 8.5°C Wind: Ø B Sky Code: 10/10 Last Rain TUES MOR Days Ago Ø End Time: 7:40 AM RAIN = WET SNOWSite Name and location (give coordinates): AB4101

list species below	Trap 1 ^{DS}	Trap 2 ^{DS}	Trap 3 ^{JS}	Trap 4 ^{JS}	Trap 5 ^{JS}	Trap 6 ^{DS}	Trap 7 ^{JS}	Trap 8 ^{JS}	Trap 9 ^{DS}	Trap 10 ^{DS}
NOTHING	✓	✓	✓		✓	✓				
INSECTS				3 WATER BEETLES SEE PHOTOS			Ø INSECT TERR VOLE	Leech see photo	LEECH NO PHOTO	P. D. INSECT NO PHOTO

Visual observations:

AT LEAST 50 WOOD FROG EGGS IN PLOT 1 & 25 WOOD FROG EGGS IN PLOT 2
 CRUING Ø ROBT^{x2} - LIKELY BREEDING & TERRITORY
 Ø HOODED MERRANSER (HOME) - FLY - ONE POTENTIALLY WITH AB4101
 Ø SWSP CRUING
 DRUMMING Ø BSA X 2
 Ø WTSP - CRUING
 AMRO - DISTANT CRUING
 WIWR - Ø CRUING

Calling frogs:

Aquatic Funnel Trap Survey Form

Observer Name: RFL, DCS, JJ YET

Date: APR / 26 / 2012

Start Time: 8:30am Air T: 1°C Water T: 5°C Wind: 122 B Sky Code: 10/10 Last Rain: X Days Ago: THIS MORNING End Time: 8:40am

Site Name and location (give coordinates): ABA 201 - NEAR ROAD TO TOS

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Ys. A. MACULATUM	1									
BS. A. LATERALE	1									
NOTHING		✓	✓	✓	✓	—————				

Visual observations:

X2 WHURR ♂
 X1 ROKI ♂
 X2 YBSA DRUMMING
 4 MASSES OF SPOTTED SUMMNER EGGS. ≥100 EGGS PER MASS. 2 MASSES MURKY, 2 CLEAR
 X2 WHSP - ONLINE
 X2 ROKI - ONLINE

Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: RPL, DCS, JJ, YRPDate: Apr. 1 26 / 2012Start Time: 7:50^{am} Air T: 1°C Water T: 8.1°C Wind: Ø B Sky Code: 10/10 Last Rain Ø Days Ago THIS MORNING End Time: 7:55^{am}Site Name and location (give coordinates): ABH-202

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Nothing	✓	✓	✓	✓						
INSECTS					X2. PARASITIC D. BEETLE SEE PHOTOS					

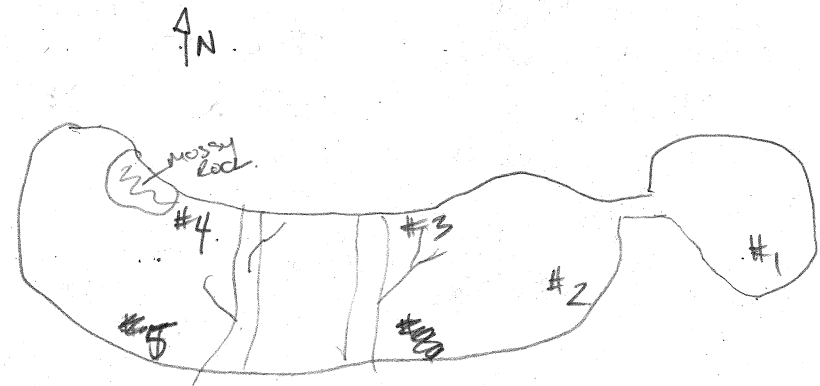
Visual observations:

♂ WILK CHIRING
 ♂ PUP CHIRING
 ♂ AMRO - 11
 ♂ GCKI - 11

♂ WISP - CHIRING
 ♂ RUGR - DRUMMING
 YBSA - DRUMMING

Calling frogs:

PEPER 1 CHIRING



Aquatic Funnel Trap Survey Form

Observer Name: DCS JJ

Date: 2012 / 04 / 27

Start Time: 7:00am Air T: -4°C Water T: 5.3°C Wind: 0 B Sky Code: 0110 Last Rain 1 Days Ago End Time: 7:10am

Site Name and location (give coordinates): ABH202

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
water beetle				1						
Not in NR	/	/	/		/					

Visual observations:

Some ice on the pond - cold morning. No signs of amphibian activity.

Calling frogs:

None

Aquatic Funnel Trap Survey Form

Observer Name: RFL & JJ

Date: April 28, 2012

Start Time: 9:49 Air T: 2.1°C Water T: 7°C Wind: 1 B Sky Code: (1 cloud) Last Rain: 01 Days Ago: reservoir margin End Time: 10:55

Site Name and location (give coordinates): ABH 103

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
	26 minnows (took photos with GPS at 1)	13 minnows (took photos at 1)	20 minnows took photos at 1	5 minnows (took photos at 1)	44 minnows (took photos at 1)					
			1 tadpole (probably bull frog?)		2 insect larvae					
			1 tadpole (likely same as above but dorsal spots less defined)		1 water beetle					
			1 water beetle							

Visual observations:

Tadpoles have spots & photos were taken.

Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: R. R. R. R. B.Date: Apr 27 / 12Start Time: 7:15 Air T: -4°C Water T: 0.4°C Wind: 0 B Sky Code: 9/10 Last Rain 1 Days Ago End Time: 7:20Site Name and location (give coordinates): ABH 104

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Blue Spotted	1									
Nothing		✓	✓	✓	✓	—	—	—	—	—

Visual observations:

AND CRUNCH.

MORTALITY OF BLUE SPOTTED SALAMANDER. LAST NIGHT TEMPERATURES DROPPED & VENTRAL POOL FROZEN. WATER WAS 0°C @ TRAP CHECK. PERHAPS HE FROZE? NO EVIDENCE OF WOUNDS OR INJURY.

Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: RL, DCS, J1, KMB, J121.Date: Apr 27, 2012Start Time: 7:20 Air T: 4°C Water T: 5.7°C Wind: 0 B Sky Code: 0/10 Last Rain 1 Days Ago End Time: 7:58Site Name and location (give coordinates): ASH 101.

list species below	Trap 1 ^{J1}	Trap 2 ^{J1}	Trap 3 ^{J1}	Trap 5 ^{J1} ^{over 2000}	Trap 4 ^{J1}	Trap 6 ^{DCS}	Trap 7 ^{DCS}	Trap 8 ^{DCS}	Trap 9 ^{DCS}	Trap 10 ^{DCS}
INSECTS	WATER BEETLE			LARVA WATER BEETLE						
TADPOLE		BULLFROG LARVA								
NOTHING			✓		✓	✓	✓	✓		✓
FROG									SPRING POACHER	

Visual observations:

SAVING CRANE
2x CANADA GOOSE
WWR
RBL
RBL x2

8 WSP.

SPOTTED SAMUNDER - 10 EGG MASSES.

Calling frogs:

#8 DCS
#7 DCS
#6 DCS
#5
#4
#3
#2
#1
Dinner time

Aquatic Funnel Trap Survey FormObserver Name: Rhiannon LeshykDate: 27/04/2012Start Time: 8:15 Air T: -3 Water T: 2.9 Wind: 1 B Sky Code: 0/10 Last Rain 1 Days Ago End Time: 8:20Site Name and location (give coordinates): A4442

list species below	Trap 1 <i>RL</i>	Trap 2 <i>RL</i>	Trap 3 <i>JS</i>	Trap 4 <i>JS</i>	Trap 5 <i>JS</i>	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Nothing	A dozen waterbeetles	2 waterbeetles	1 water beetle	1 beetle	1 water beetle	<hr/>				

Visual observations:Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: DCS, RPL, VRTDate: 28/11/2012Start Time: 9:45 Air T: 5°C Water T: -6°C Wind: 1 B Sky Code: 7/10 Last Rain 2 Days Ago End Time: 10:10Site Name and location (give coordinates): ABH 103

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
MINNOW	8.	1	2.		15					
TADPOLES	BULLFROG PHOTOS		4 BULLFROG PHOTOS							
NO MINN				✓						

Visual observations:

TADPOLE LIKE BULLFROG - PHOTOS (~6cm LONG - VERY LARGE). SHOWING LIMB DEVELOPMENT HANDLEGS.
 ALL MINNOWS THE SAME - PHOTOS
 YELWA. RED SQUIRREL.
 WIRE. WTSR

Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: REL, ART, JJDate: APR 1 28 12012Start Time: 7:50 Air T: 6-2 Water T: 6°C Wind: 0 B Sky Code: 0/10 Last Rain 2 Days Ago End Time: 8:40Site Name and location (give coordinates): ASH 101

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
NOTHING	<u>sc</u>				<u>✓</u>	<u>—</u>			<u>✓</u>	<u>✓</u>
INSECTS	<u>1 INSECT</u> <u>WORM</u>	<u>3 WORM</u> <u>BEETLES</u>				<u>3 BEETLES</u> <u>1 INSECT</u> <u>WORM</u>	<u>2 BEETLES</u> <u>1 LARVA</u>			
				<u>WORM</u>						
EASTERN NEWT			<u>1</u>	<u>1</u>				<u>1</u>		

Visual observations:

ROCK X2
POND X2
ROCK X2
SWAMP
GRASS X3
Calling frogs:

EUNO X2

BEET

AMRO

SANDHILL CRANE LANDING IN NORTHERN AREA, NOISY?

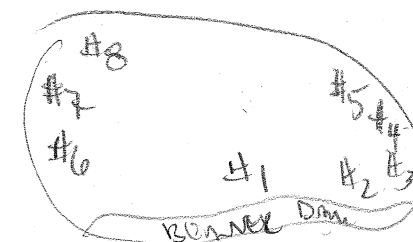
THIS IS SECOND TIME.

YRWA (MYNA) X3

BROAD-WING HAWK

HETH

2 NEWES! HOW EXCITED

YR (GIBB) DELIMITED. - NEED TO
CONNECT ON
ETRL

29 110

Aquatic Funnel Trap Survey FormObserver Name: Pat. J.Date: 28 / Apr / 2012Start Time: 7:15 AM Air T: -2°C Water T: 1.1°C Wind: Ø B Sky Code: 9/10 Last Rain 2 Days Ago End Time: 7:25 AMSite Name and location (give coordinates): ABH 104.

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Nothing	✓	✓	✓	✓	✓					

Visual observations:

WILK - calling x 3.

YBSA - drumming x 2.

HUEO - calling.

WTSP - calling x 2.

RBN - calling.

Vernal pool frozen and di. egg mass scattered this morn.

Sandhill crane - calling in distance

Calling frogs:

BLP1
Aquatic Funnel Trap Survey Form

Observer Name: DCS

Date: 202 / 09 / 28

Start Time: 7:45 Air T: -3°C Water T: 1°C Wind: 0 B Sky Code: 0/10 Last Rain 2 Days Ago End Time: 8:00 am

Site Name and location (give coordinates): ABH212 16T 0684553E 5231679N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
water beetle				1						
Nothing	/	/	/		/	/				
							/			

Visual observations:

None

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCSDate: 2012 / 04 / 28Start Time: 8:00am Air T: 1°C Water T: 3°C Wind: 0 B Sky Code: 0/10 Last Rain 2 Days Ago End Time: 8:30amSite Name and location (give coordinates): ^{BLPI}
ABH201, 16T 0684363E 5231559N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Leech				1						
Not Hatched	/	/	/		/					

Visual observations:

None

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCSDate: 2012 / 04 / 28Start Time: 7:00am Air T: -3°C Water T: 5°C Wind: 0 B Sky Code: 0/10 Last Rain 2 Days Ago End Time: 7:20amSite Name and location (give coordinates): BLP1, ABH202 16T 0684258E 5231904N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
water beetle			1		4					
Worm	/	/		/		/				

Visual observations:

None

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCSDate: 2012 / 04 / 29Start Time: 7:30am Air T: -3°C Water T: 1°C Wind: 0 B Sky Code: 0/10 Last Rain 3 Days Ago End Time: 7:45amSite Name and location (give coordinates): ABH212, ^{16T} 0684553 E 523629 N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
water beetle -	1		1							
JOHN W		/		/	/	/	/	/	/	/

Visual observations:

None

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCSDate: 2012 / 04 / 29Start Time: 7:45 am Air T: -2°C Water T: 3°C Wind: 0 B Sky Code: 0/10 Last Rain 3 Days Ago End Time: 8:15 amSite Name and location (give coordinates): BLPI ABH201, 16T 0884363E 5231559 N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Blue Spotted Salamander		1	/	/	/					
WORM NIN	/		/	/	/					

Visual observations:

None (Blue spotted salamander in trap)

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCSDate: 2012 / 04 / 29Start Time: 6:45am Air T: -6°C Water T: 5°C Wind: 0 B Sky Code: 0/10 Last Rain 3 Days Ago End Time: 7:00amSite Name and location (give coordinates): ABH202, 16T 0684264 5231893

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Water Beetle				1						
Notmanu	✓	✓	✓		✓	—————				

Visual observations:

None

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: RFL, DCS, JJ, YRTDate: Apr 129 12012Start Time: 7:00 AM Air T: -6°C Water T: 0.6°C Wind: Ø B Sky Code: 0/10 Last Rain 3 Days Ago End Time: 7:10 AMSite Name and location (give coordinates): ABH 104

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Nothing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Visual observations:

2 YELWA (MYWA)
 2 WISP X2
 1 PHTH
 DAND OR HAWD (Drumming)

POND FROZE AGAIN OVER NIGHT. - CANT DO EGGS MASS SEARCHES. WILL
 DO THIS EVENING

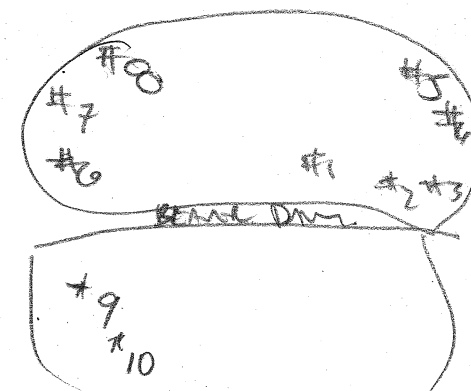
Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: RFL JS, DLS, VRTDate: APR 29 / 2012Start Time: 7:10 AM Air T: -6°C Water T: 7°C Wind: Ø B Sky Code: 0/10 Last Rain 3 Days Ago End Time: 8:45 AMSite Name and location (give coordinates): ABH 101

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
<u>ANUR</u>								<u>PROPOSED NO PHOTOS</u>		
<u>NOTHIN</u>				<u>2 WATER BOTTLE</u>	<u>1 WATER BOTTLE</u>	<u>/</u>	<u>/</u>			
<u>INSECTS</u>	<u>1 LARVA</u> <u>2 BEETLE</u>	<u>3 BEETLES</u> <u>1 LARVA</u>	<u>1 WATER BOTTLE</u> <u>1 LARVA</u>	<u>↓</u>	<u>↓</u>				<u>3 BEETLES</u>	<u>LARVA</u>

Visual observations:

WASP x2 GEXI RUBL VOSA
ANURO x2 ANURO RBNU ANURO OR POWO (DRUMMING)
ROKI x3 PINO SWSP x3 RUGR (DRUMMING)
YUNA (MYUNA) x2 HETH

Calling frogs:

Aquatic Funnel Trap Survey FormObserver Name: RFL, DCS, YRT, JJ.Date: Apr 29 / 2012Start Time: 9:05 AM Air T: 4°C Water T: 5°C Wind: Ø B Sky Code: 1/10 Last Rain: 3 Days Ago End Time: 7:40 AMSite Name and location (give coordinates): ABH 103.

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
TADPOLES	Green Frog (Photo)		Bull Frog (Photo) Green Frog (Photo)		1 Wood Frog (Photo)					
MINNOWS	15	7	20	1	1					
INSECTS	1 Stick Insect	1 Stick Insect								

Visual observations:

YRNA Red Squirrel

HETA WESP.

Pair of COGL.

YBSA x3

Calling frogs:

1 Peep

RUBL
RBNU

→ COGLS NESTING? PAIR POTENTIAL.

Aquatic Funnel Trap Survey FormObserver Name: R. L. YETDate: Apr. 30 / 2012Start Time: 10:10 AM Air T: 7°C Water T: 6.6°C Wind: 2-3 B Sky Code: 10/10 Last Rain 4 Days Ago End Time: 10:50Site Name and location (give coordinates): ABH 103

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
MINNOW	1	26	30	1	10					
TADPOLES	2 Bluegill	2 Bluegill (PHOTOS)	1 Bluegill (PHOTOS)	1 Bluegill (PHOTOS)						
EASTERN NEWT		1 Newt (PHOTOS)		1						

Visual observations:

MALE COGL.

UNKNOWN TADPOLE FROM TRAP #4 - SMALLER THAN OTHERS WE HAVE CAUGHT. (SEE PHOTOS).

EYES DORSAL, VENT. DORSAL.

PAIR OF ABDU (♂ & ♀). POTENTIALLY NESTERS. ONE ♂ COGL. YRWA, WWR, RPI, PAWA (PACU NORTHERN)

Calling frogs:

IT'S SNOWING (JUST DRIZZLY).

Aquatic Funnel Trap Survey FormObserver Name: REL C. YETDate: APR 30 / 2011Start Time: 7:55 AM Air T: 6°C Water T: 7°C Wind: 1-2 B Sky Code: 10/10 Last Rain: 4 Days Ago End Time: 8:30 AM
L LOOKS LIKE RAIN.Site Name and location (give coordinates): ABH 101

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
TADPOLES	1 Bull Frog					2 Green Frogs PITOC.	2 Bullfrogs PHOTO	1 Green Frog		
EASTERN NEWT						1				
INSECTS	2 LARVA	1 Beetle	1 BEETLE 1 LARVA	1 PNEUMATIC DIVING BEETLE 2 SMALL BEETLES		8 WATER BEETLES	1 BEETLE		200 LARVA	6 BEETLES
NOTHING					✓					

Visual observations:

PARK (P. L. A.) COGL.

NOWA - NORTH WATERMASH OPENING

HETH X2.

BRAND-WING HAWK.

MERLIN.

RTAA

ROBIN.

WING.

RUB.

PRAWA

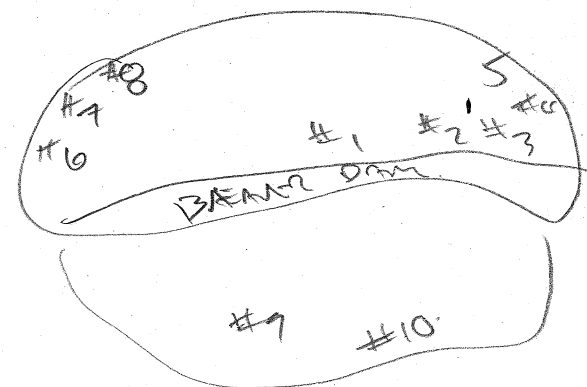
X2 RED SQUIRRELS

Calling frogs:

GREEN FROGS WHILE SMALLER THAN BULLFROGS

BULLFROGS ~ 8 CM. LONG. - BACK SPOTS

W. CHORUS FROG CHIRP.



Aquatic Funnel Trap Survey FormObserver Name: Ra. i. y. a. t.Date: Dec 30 2012Start Time: 7:10 AM Air T: 6°C Water T: 3.2°C Wind: 0 ^{Gust 2.0} B Sky Code: 10/10 Last Rain 4 Days Ago End Time: 7:25 PMSite Name and location (give coordinates): ABH 104

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
<u>Northern</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>

Visual observations:W168 x 2AmboCalling frogs:

Aquatic Funnel Trap Survey FormObserver Name: DCS JJDate: 2012 / 04 / 30Start Time: 8:00 am Air T: 6°C Water T: 4°C Wind: 1 B Sky Code: 9/10^{hrs} Last Rain 4 Days Ago End Time: 8:20 amSite Name and location (give coordinates): BLP1, 16T 0684358E 5231562N, ABH201

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Blue Spotted Salamander					1					
Nyctanolis	/	/	/	/		/				

Visual observations:

None

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCS JJDate: 2012 / 04 / 30Start Time: 7:30 a.m. Air T: 6°C Water T: 6°C Wind: 1 B Sky Code: 9/10 Last Rain 4 Days Ago End Time: 7:50 a.m.Site Name and location (give coordinates): BLPI, AB4212, 16T 0684553E 5231629 N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
water Beetle		2								
Green Frog (ADULT)		1								
NOTHING	/		/	/	/					

Visual observations:

None - Frog in trap (Green).

Calling frogs:

None

Aquatic Funnel Trap Survey FormObserver Name: DCS JJDate: 2012 / 04 / 30Start Time: 7:00 Air T: 6°C Water T: 7°C Wind: 1 B Sky Code: 9/10 Last Rain 4 Days Ago End Time: 7:15amSite Name and location (give coordinates): BLP1, ABH202 16T 0684258E 5231904N

list species below	Trap 1	Trap 2	Trap 3	Trap 4	Trap 5	Trap 6	Trap 7	Trap 8	Trap 9	Trap 10
Not much	/	/	/	/	/	/	/	/	/	/

Visual observations:

none observed

Calling frogs:

none observed

The first round of salamander trapping occurred between April 26 and April 30 2012. Six areas were surveyed (ABH101, ABH103, ABH104, ABH 201, ABH202, ABH212). With the exception of ABH 103 all sites were surveyed for 5 nights while ABH 103 was only surveyed for four. The reason that ABH 103 was not surveyed for 5 nights is because on the first night (April 25th) we ran out of daylight when setting the traps for the first time and ABH 103 was in the northern part of the project and hard to get to. Therefore there is no form for April 26th for ABH103. Under the protocol (Casper and Hecnar 2011) it states that 4-5 trapping nights is sufficient.

Appendix F-7

Waterfowl Stopover & Staging

WATERFOWL STOPOVER AND STAGING OBSERVATION FORM

Project Name: <u>BLP1</u>	Site Investigators: <u>DCS RFL</u>
Weather Conditions	
Temperature: <u>NA</u>	Wind: <u>NA</u>
Precipitation: <u>NA</u>	Precipitation (last 24 hours): <u>NA</u>
Cloud Cover: <u>NA</u>	

Date	Start Time	End Time	Feature ID	Point ID (if more than 1)	Aquatic/ Terrestrial	Species	Number of Individuals	Comments
Mar 30, 2012	6:15pm	7:15pm	WFS102		Aquatic	BUFF (2♀, 1♂)	3	Flying over water
Mar 31, 2012	12:45pm	1:15pm	WFS102		Aquatic	BUFF (2♂, 1♀)	3	on water in SW area of lake
Apr 1, 2012	9:45am	10:15am	WFS102		Aquatic	BUFF (♂)	1	Foggy cond., visibility reduced
Apr 2, 2012	10:00am	10:30am	WFS102		Aquatic	BUFF (2♀, 1♂) COGO (1♂)	4	Thin layer of ice near shallow portion of lake
Apr 3, 2012	10:00am	10:30am	WFS102		Aquatic	none	0	—
Apr 4, 2012	10:00am	10:20am	WFS102		Aquatic	BUFF (1♂) COGO (1♂)	2	—
Apr 5, 2012	10:30	10:50	WFS102		Aquatic	COGO (2♂)	2	—

WATERFOWL STOPOVER AND STAGING OBSERVATION FORM

Project Name: BLP1

Site Investigators: DCS RFL

Weather Conditions

Temperature: NA

Wind: NA

Cloud Cover: NA

Precipitation: NA

Precipitation (last 24 hours): NA

Date	Start Time	End Time	Feature ID	Point ID (if more than 1)	Aquatic/ Terrestrial	Species	Number of Individuals	Comments
Mar 30, 2012	3:00	4:00	WFS101		Aquatic	None	0	-
Mar 31, 2012	1:00	1:15	WFS101		Aquatic	None	0	-
Apr 1, 2012	11:00	11:15	WFS101		Aquatic	None	0	Foggy conditions, visibility poor
Apr 2, 2012	10:45	11:00	WFS101		Aquatic	None	0	-
Apr 3, 2012	10:45	11:00	WFS101		Aquatic	None	0	-
Apr 4, 2012	9:45	10:00	WFS101		Aquatic	None	0	-
Apr 5, 2012	9:45	10:00	WFS101		Aquatic	None	0	Sandhill crane heard in distance, calling from W section of wetland, outside of suitable stopover habitat



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QA/QC: Complete ☐ _____ (Data Manager)

Appendix F-8

Wetland Habitat Assessments

Site Investigators: REL & DCS Date: MAY 30/12 Time (S/End): 2:00PM/7:45PM
Temp: 3°C Wind: 1 Cloud: 10/10th Precip: LIGHT FLURRIES Precip in last 24 hrs: UNKNOWN

WETLAND HABITAT ASSESSMENT

★ OUTSIDE OF PROJECT
FOR EVERYTHING BUT
WFN & WFS

Project Name Bowline Phase 1 Form # (to be tallied at end of the day) 1 of 2

Wetland ID (indicate on map) _____

Property Access? Y N Type of Investigation (show on map) Full Partial None – no access

ELC code (broad ecosite code if more than one ELC code): TBD

UTMs (where sheet was started): _____ Track file name _____

Habitat boundaries delineated (within 120 m)? Y N Yes ELC code (ecosite code if more than one ELC): _____

UTMs (where sheet was started): _____

Habitat delineated? Yes

Important wetland/aquatic food plants – eg Duckweed (i.e. waterfowl or marsh birds): Abundant Present
Absent WATER LILIES, MARSH MALLOW, ZOSTERA WFN 204

Emergent vegetation for nesting marsh birds or waterfowl – eg. Cattail: Abundant Present Absent

Adjacent grassy shrubby fields with dense vegetation at least 50 cm tall or the presence of >60 cm dbh cavity trees near wetland areas (waterfowl nesting) Present Absent Unknown – no access

Vertical sandy banks (bank swallow) Present Absent

Shorelines, including beach areas, bars, and seasonally flooded shoreline, usually muddy and unvegetated (migrating shorebirds) Present Absent ONLY if within 5 km of a Great Lake

Presence of stick nests (herons/osprey) Present Absent

Standing water present at least part of the growing season, suitable for use by: breeding amphibians turtles foraging waterfowl (stopover/nesting) fish

Depressions that may serve as vernal/autumnal pools: Present Absent Unknown – no access If yes, fill out below:

WHERE WETLAND ★ OUTSIDE PL. FOR ABH

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Presence of Veg	Spps ID and Form (i.e. egg/larval)
<u>ABH 1</u>		<u>WATER LILIES, MARSH MALLOW, ZOSTERA</u>	<u>WATER LILIES, MARSH MALLOW, ZOSTERA</u>	<u>WATER LILIES, MARSH MALLOW, ZOSTERA</u>	<u>WATER LILIES, MARSH MALLOW, ZOSTERA</u>



Permanent waterbodies with presence of wetland vegetation that may be used by hibernating turtles ☒ Present
☐ Absent ~~PRESENT~~ * OUTSIDE PL FOR TOW.

Exposed areas of well drained, sandy soil suitable for turtle nesting ☐ Present ☒ Absent

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM! ☐ Completed

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 2: Species observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
BIRD	Rusty Blackbird (RUBL)	PAIR SEEN W/IN WE 101.

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 3 below to record photo file names of features and habitat**

Table 3: Photo file names



Site Investigators: RFL & DCS Date: Mar. 30/12 Time (S/End): 2:00pm / 7:45 pm
Temp: 3°C Wind: 1 Cloud: 10/100 Precip: LIGHT RAIN Precip in last 24 hrs: UNKNOWN

WETLAND HABITAT ASSESSMENT

Project Name Bow Lake Phase 1 Form # (to be tallied at end of the day) 2 of 2

Wetland ID (indicate on map) WE 104

Property Access? Y N Type of Investigation (show on map) Full Partial None – no access

ELC code (broad ecosite code if more than one ELC code): T5D

UTMs (where sheet was started): _____ Track file name WFS102

Habitat boundaries delineated (within 120 m)? Yes ELC code (ecosite code if more than one ELC): _____

UTMs (where sheet was started): _____ LD SOME - WITHIN PROJECT OTHER BOUNDARIES WILL BE DELINEATED USING OFRI

Habitat delineated? Yes

Important wetland/aquatic food plants – eg Duckweed (i.e. waterfowl or marsh birds): Abundant Present
Absent MBS 204

Emergent vegetation for nesting marsh birds or waterfowl – eg. Cattail: Abundant Present Absent

Adjacent grassy shrubby fields with dense vegetation at least 50 cm tall or the presence of >60 cm dbh cavity trees near wetland areas (waterfowl nesting) Present Absent Unknown – no access

Vertical sandy banks (bank swallow) Present Absent

Shorelines, including beach areas, bars, and seasonally flooded shoreline, usually muddy and unvegetated (migrating shorebirds) Present Absent ONLY if within 5 km of a Great Lake

Presence of stick nests (herons/osprey) Present Absent

Standing water present at least part of the growing season, suitable for use by:

breeding amphibians turtles foraging waterfowl (stopover/nesting) fish

Depressions that may serve as vernal/autumnal pools: Present Absent Unknown – no access If yes, fill out below:

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Presence of Veg	Spps ID and Form (i.e. egg/larval)
<u>ABH 21</u>		<u>UNKNOWN BUT MULTIPLE METRES</u>	<u>MULTIPLE HECTARES</u>	<u>YES GRASSES, LEANING LEAF, SWEET GALE</u>	<u>N/A</u>



Permanent waterbodies with presence of wetland vegetation that may be used by hibernating turtles ☒ Present
☐ Absent *Tow 201*

Exposed areas of well drained, sandy soil suitable for turtle nesting ☐ Present ☒ Absent

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM! ☐ Completed

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 2: Species observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
BIRD	BUFFLEHEAD & COMMON GOLDENEYE	VISUAL OBSERVATION

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 3 below to record photo file names of features and habitat**

Table 3: Photo file names

Site Investigators: DCS RFL Date: Mar 31/12 Time (S/End): 12:30pm - 6:30pm
 Temp: 5°C Wind: 2 Cloud: 9/10ths Precip: none Precip in last 24 hrs: light snow

WETLAND HABITAT ASSESSMENT

Project Name BLPI Form # (to be tallied at end of the day) 1 of 1

Wetland ID (indicate on map) WE101

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☐ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): pending

UTMs (where sheet was started): 16T 0684521E 5231915N Track file name WE101

Habitat boundaries delineated (within 120 m)? ☒ Yes ELC code (ecosite code if more than one ELC): pending
some on eFR1

UTMs (where sheet was started): —

Habitat delineated? ☒ Yes

Important wetland/aquatic food plants – eg Duckweed (i.e. waterfowl or marsh birds): ☒ Abundant ☐ Present
☐ Absent *WFN101*

Emergent vegetation for nesting marsh birds or waterfowl – eg. Cattail: ☒ Abundant ☐ Present ☐ Absent *MBB101*

Adjacent grassy shrubby fields with dense vegetation at least 50 cm tall or the presence of >60 cm dbh cavity trees near wetland areas (waterfowl nesting) ☒ Present ☐ Absent ☐ Unknown – no access *WFN101*

Vertical sandy banks (bank swallow) ☐ Present ☒ Absent

Shorelines, including beach areas, bars, and seasonally flooded shoreline, usually muddy and unvegetated (migrating shorebirds) ☐ Present ☒ Absent *ONLY if within 5 km of a Great Lake*

Presence of stick nests (herons/osprey) ☐ Present ☒ Absent

Standing water present at least part of the growing season, suitable for use by:

☒ breeding amphibians ☒ turtles ☐ foraging waterfowl (stopover/nesting) ☐ fish

Depressions that may serve as vernal/autumnal pools: ☐ Present ☐ Absent ☐ Unknown – no access If yes, fill out below:

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Presence of Veg	Spps ID and Form (i.e. egg/larval)
ABH101	16T 0684521E 5231915N	Appears ~1-2 m at deepest.	~ 1 ha.	Marsh veg.	None observed



Permanent waterbodies with presence of wetland vegetation that may be used by hibernating turtles ☒ Present
☐ Absent *TOW201*

Exposed areas of well drained, sandy soil suitable for turtle nesting ☐ Present ☒ Absent

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM! ☐ Completed

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 2: Species observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
NA		

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 3 below to record photo file names of features and habitat**

Table 3: Photo file names

NA			

Site Investigators: DCS RFL Date: Apr 2/12 Time (S/End): 9:45- 6:30pm
Temp: 30C-10C Wind: 2 Cloud: 0/10% Precip: None Precip in last 24 hrs: None

WETLAND HABITAT ASSESSMENT - Bear Paw

Project Name BLP1 Form # (to be tallied at end of the day) 1 of 1

Wetland ID (indicate on map) WE201

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None - no access

ELC code (broad ecosite code if more than one ELC code): OWES Completed

UTMs (where sheet was started): ^{16T} 0685245E 5233048N Track file name pending

Habitat boundaries delineated (within 120 m)? ☐ Yes ELC code (ecosite code if more than one ELC): late april during ELC

UTMs (where sheet was started):

Habitat delineated? ☐ Yes eff. full delineation April/May when wetland veg has grown

Important wetland/aquatic food plants - eg Duckweed (i.e. waterfowl or marsh birds): ☐ Abundant ☐ Present
☒ Absent to be revisited

Emergent vegetation for nesting marsh birds or waterfowl - eg. Cattail: ☐ Abundant ☒ Present ☐ Absent MBB201

Adjacent grassy shrubby fields with dense vegetation at least 50 cm tall or the presence of >60 cm dbh cavity trees near wetland areas (waterfowl nesting) ☒ Present ☐ Absent ☐ Unknown - no access WE201

Vertical sandy banks (bank swallow) ☐ Present ☒ Absent

Shorelines, including beach areas, bars, and seasonally flooded shoreline, usually muddy and unvegetated (migrating shorebirds) ☐ Present ☒ Absent ONLY if within 5 km of a Great Lake

Presence of stick nests (herons/osprey) ☐ Present ☒ Absent

Standing water present at least part of the growing season, suitable for use by:

☐ breeding amphibians ☐ turtles ☐ foraging waterfowl (stopover/nesting) ☒ fish

Depressions that may serve as vernal/autumnal pools: ☒ Present ☐ Absent ☐ Unknown - no access If yes, fill out below:

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Presence of Veg	Spps ID and Form (i.e. egg/larval)
ABH206	16T 0685245E 5233048N	50cm-100cm	Medium wetland, ~10 ha	Marsh veg	None seen.



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QA/QC: (Data Manager)

Permanent waterbodies with presence of wetland vegetation that may be used by hibernating turtles ___ Present
✓ Absent

Exposed areas of well drained, sandy soil suitable for turtle nesting ___ Present ✓ Absent

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM! ___ Completed

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 2: Species observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
NA		

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 3 below to record photo file names of features and habitat**

Table 3: Photo file names

NA			



Site Investigators: DCS RFL Date: Apr 3/12 Time (S/End): 10:00 - 6:45 pm
Temp: 7°C Wind: 1 Cloud: 10/10ths Precip: None Precip in last 24 hrs: None

WETLAND HABITAT ASSESSMENT

Project Name BLP1 Form # (to be tallied at end of the day) 1 of 1

Wetland ID (indicate on map) WE202

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): OWES pending

UTMs (where sheet was started): 16T 6685321 E 5232507 Track file name Pending

Habitat boundaries delineated (within 120 m)? ☐ Yes ELC code (ecosite code if more than one ELC): _____

↳ Late April during ELC

UTMs (where sheet was started): _____

Habitat delineated? ☐ Yes e FRI, full delineation April/May when wetland veg has grown

Important wetland/aquatic food plants – eg Duckweed (i.e. waterfowl or marsh birds): ☐ Abundant ☐ Present
☒ Absent to be revisited

Emergent vegetation for nesting marsh birds or waterfowl – eg. Cattail: ☐ Abundant ☒ Present ☐ Absent MBB202

Adjacent grassy shrubby fields with dense vegetation at least 50 cm tall or the presence of >60 cm dbh cavity trees near wetland areas (waterfowl nesting) ☒ Present ☐ Absent ☐ Unknown – no access WFN202

Vertical sandy banks (bank swallow) ☐ Present ☒ Absent

Shorelines, including beach areas, bars, and seasonally flooded shoreline, usually muddy and unvegetated (migrating shorebirds) ☐ Present ☒ Absent ONLY if within 5 km of a Great Lake

Presence of stick nests (herons/osprey) ☐ Present ☒ Absent

Standing water present at least part of the growing season, suitable for use by:

☐ breeding amphibians ☐ turtles ☐ foraging waterfowl (stopover/nesting) ☒ fish

Depressions that may serve as vernal/autumnal pools: ☒ Present ☐ Absent ☐ Unknown – no access If yes, fill out below:

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Presence of Veg	Spps ID and Form (i.e. egg/larval)
<u>ABH207</u>	<u>16T 6685321 E 5232507N</u>	<u>50cm - 100 cm</u>	<u>Small wetland ~3 ha</u>	<u>Marsh veg.</u>	<u>None seen</u>



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QA/QC: _____ (Data Manager)

Permanent waterbodies with presence of wetland vegetation that may be used by hibernating turtles ___ Present
✓ Absent

Exposed areas of well drained, sandy soil suitable for turtle nesting ___ Present ___ Absent

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM! ___ Completed

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 2: Species observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
NA		

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 3 below to record photo file names of features and habitat**

Table 3: Photo file names



Site Investigators: DCS RFL Date: Apr 5/12 Time (S/End): 9:15-3:45 pm
Temp: -1°C Wind: 1 Cloud: 0/10^h Precip: None Precip in last 24 hrs: None

WETLAND HABITAT ASSESSMENT

Project Name BLP1 Form # (to be tallied at end of the day) 1 of 1

Wetland ID (indicate on map) WE03

Property Access? ☒ Y ☐ N **Type of Investigation** (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): pending

UTMs (where sheet was started): 0 685664 E 5235075 N Track file name WED3

Habitat boundaries delineated (within 120 m)? ☒ Yes **ELC code** (ecosite code if more than one ELC): *pending*

UTMs (where sheet was started): _____

Habitat delineated? ✓ Yes

Important wetland/aquatic food plants – eg Duckweed (i.e. waterfowl or marsh birds): ___ Abundant ___ Present
 ✓ Absent

Emergent vegetation for nesting marsh birds or waterfowl – eg. Cattail: Abundant ☒ Present Absent *MSB 203*

Adjacent grassy shrubby fields with dense vegetation at least 50 cm tall or the presence of >60 cm dbh cavity trees near wetland areas (waterfowl nesting) Present ✓ Absent Unknown – no access

Vertical sandy banks (bank swallow) Present ☒ Absent ☐

Shorelines, including beach areas, bars, and seasonally flooded shoreline, usually muddy and unvegetated (migrating shorebirds) Present ☒ Absent *ONLY if within 5 km of a Great Lake*

Presence of stick nests (herons/osprey) Present ☒ Absent ☐

Standing water present at least part of the growing season, suitable for use by:

✓ breeding amphibians turtles foraging waterfowl (stopover/nesting) fish

Depressions that may serve as vernal/autumnal pools: ___ Present ✓ Absent ___ Unknown – no access If yes, fill out below:

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Presence of Veg	Spps ID and Form (i.e. egg/larval)
ABH210	0685864 E 5235075 N	~30-50cm	low area w/ standing water, marshy	cat tails	None observed

Permanent waterbodies with presence of wetland vegetation that may be used by hibernating turtles ___ Present
✓ Absent

Exposed areas of well drained, sandy soil suitable for turtle nesting ___ Present ✓ Absent

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM! ___ Completed

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 2: Species observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
NA		

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 3 below to record photo file names of features and habitat**

Table 3: Photo file names

NA			



Appendix F-9

Woodland Habitat Assessments

Site Investigators: PHILIP & DAN Date: 18:30 Time (S/End): 18:30 PM
 Temp: 5°C Wind: 2 Cloud: 9/10 Precip: 0 Precip in last 24 hrs: LIGHT SNOW

WOODLAND HABITAT ASSESSMENT

Project Name Bowlake Park 1 Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) W001-D11-TURBINE 5 Age of Stand (approximate in years) ~20

Evidence of Human Disturbance (i.e. logging, trails, garbage) Y N; Type LOGGING w/IN SYSTEMS

Property Access? Y N Type of Investigation (show on map) Full Partial None – no access

ELC code (broad ecosite code if more than one ELC code): N/A - TBD

UTMs (where sheet was started): NA

Habitat boundaries delineated (within 120 m)? Y Yes - TRANSECTS YES

Important upland plants (hard mast and fruit/berry producers) Y Abundant Y Present Y Absent Y Unknown – no access

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) Y Abundant Y Few Y None Y Unknown – no access

10 snags ≤ 10 ha, or 30 snags ≤ 30 ha - conduct BMR candidate study (BMR form) Y completed - STARTED

Depressions that may serve as vernal/autumnal pools: Y Present Y Absent Y Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
ABH201	16T 0684248 5231555	~50cm	Several connected ponds near creek	N/A	None	2
ABH202	16T 0684277 5231859	~50cm	Several connected	N/A	None	2
ABH203	16T 0684178 5232323	~30cm	Several connected	N/A	None	4

ABH101 16T 0684480 5231975 UNKNOWN BOT DEEP 5 ha (WILLOW) Some emergent NONE 5 photos

Evidence of stick nests (raptors, herons, etc.) Y Yes (details below) Y No Y Unknown – no access

Seeps/springs Y Present Y Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or SubS ?	# of Photos



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QA/QC: _____ (Data Manager)

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ☐ Present
☒ Absent ☐ Unknown – no access *NOT APPLICABLE*

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ☐ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☒ Present ☐ Absent ☐ Unknown – no access

Presence of karst topography or caves (hibernating bats) ☐ Present ☒ Absent ☐ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
SH201	Snake Hiber CLIFFS	NO USE. CLIFFS 410M ↑	10T 0664393 5232359	2

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
ABH201 BRDS	^{RUGIE, ATSP, NPL} Puff, Dove, BBN, DCR, Merin.	Caus : OBS.
Herp	Garter Snake	
Mammal	red squirrel, chipmunk, moose tracks	

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

	ABH201	(2 photos)	
WFN101, ^{SH101} _{MB101}	ABH202	(2 photos)	
BHF201 (3 photos)	ABH203	(4 photos)	
BHF202 (3 photos)			



Site Investigators: DCS RFL Date: Apr 1/12 Time (S/End): 9:45am-6:45pm
 Temp: 2°C Wind: 0 Cloud: 9/10ths, 10/10ths Precip: Light rain Precip in last 24 hrs: Light Show, light rain

WOODLAND HABITAT ASSESSMENT

Project Name BLP1 Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) ^{W082} Tubines 6+7 Age of Stand (approximate in years) ~20

Evidence of Human Disturbance (i.e. logging, trails, garbage) ☒ Y ☐ N; Type Majority logged in last 5-10 years

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): TBD

UTMs (where sheet was started): _____

Habitat boundaries delineated (within 120 m)? ☒ Yes Transsects

Important upland plants (hard mast and fruit/berry producers) ☐ Abundant ☒ Present ☐ Absent ☐ Unknown – no access
↳ Raspberry

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) ☐ Abundant ☒ Few
☐ None ☐ Unknown – no access

10 snags ≤ 10 ha, or 30 snags ≤ 30 ha - conduct BMR candidate study (BMR form) ☒ completed - started

Depressions that may serve as vernal/autumnal pools: ☒ Present ☐ Absent ☐ Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
See attached summary sheet for April 1/12						

Evidence of stick nests (raptors, herons, etc.) ☒ Yes (details below) ☐ No ☐ Unknown – no access

RN201 - Saw Raptor Nest Form

Seeps/springs ☐ Present ☐ Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or SubS ?	# of Photos

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ___ Present
☒ Absent ___ Unknown – no access - N/A

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ___ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☒ Present ☒ Absent ___ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☒ Present ___ Absent ___ Unknown – no access

Presence of karst topography or caves (hibernating bats) ___ Present ☒ Absent ___ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
See attached summary form				

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
Birds	Sandhill crane! also. winter.	

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

See summary sheet			

Site Investigators: DCS RFL Date: Apr 2/12 Time (S/End): 9:45am - 6:30p.m.
Temp: 3°C - 10°C Wind: 2 Cloud: 0/10ths Precip: None Precip in last 24 hrs: Fair, some cloud

WOODLAND HABITAT ASSESSMENT

Project Name BLP1 Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) Woods-Box 3- T9 Age of Stand (approximate in years) 20-60

Evidence of Human Disturbance (i.e. logging, trails, garbage) ☒ Y ☐ N; Type Logging, some in areas

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None - no access

ELC code (broad ecosite code if more than one ELC code): FEC to come

UTMs (where sheet was started): see attached maps

Habitat boundaries delineated (within 120 m)? ☒ Yes

Important upland plants (hard mast and fruit/berry producers) ☐ Abundant ☒ Present ☐ Absent ☐ Unknown - no access

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) ☐ Abundant ☒ Few ☐ None ☐ Unknown - no access

10 snags \leq 10 ha, or 30 snags \leq 30 ha - conduct BMR candidate study (BMR form) ☒ completed - EOS pending

Depressions that may serve as vernal/autumnal pools: ☐ Present ☒ Absent ☐ Unknown - no access

↳ but many fast-flowing streams

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
None						

Evidence of stick nests (raptors, herons, etc.) ☐ Yes (details below) ☒ No ☐ Unknown - no access

Seeps/springs ☐ Present ☐ Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or SubS ?	# of Photos



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QA/QC: _____ (Data Manager)

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ☐ Present
☒ Absent ☐ Unknown – no access

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ☐ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☒ Present ☐ Absent ☐ Unknown – no access

Presence of karst topography or caves (hibernating bats) ☐ Present ☒ Absent ☐ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
SH203	Cond. Snake hibernaculum	Large boulder (5m x 5m x 5m height), unique to area. No snakes observed.	10T 0685278 E 5233093 N	2 photos

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
Plants	Braun's Holly Fern 10T 0685453 E 5234110 N	3 individuals - 3 photos

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

NA			

Site Investigators: RFL : DCS Date: APR 3/12 Time (S/End): 10 AM / 6:45 PM
Temp: 6.6 Wind: 1 Cloud: 10/10 Precip: 0 Precip in last 24 hrs: NO RAIN

WOODLAND HABITAT ASSESSMENT

Project Name Bowl Lake P1 Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) T08, T04, T03 Age of Stand (approximate in years) 20-40

Evidence of Human Disturbance (i.e. logging, trails, garbage) ☒ Y ☐ N; Type IN SPOTS, LOGGING

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): T00

UTMs (where sheet was started): ^{16T} 01685076, 5232594

Habitat boundaries delineated (within 120 m)? ☒ Yes

Important upland plants (hard mast and fruit/berry producers) ☐ Abundant ☒ Present ☐ Absent ☐ Unknown – no access
RASPBERRY

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) ☐ Abundant ☒ Few
☐ None ☐ Unknown – no access

10 snags \leq 10 ha, or 30 snags \leq 30 ha - conduct BMR candidate study (BMR form) ☒ completed

Depressions that may serve as vernal/autumnal pools: ☒ Present ☐ Absent ☐ Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
See NH	Summary Sheet					

Evidence of stick nests (raptors, herons, etc.) ☐ Yes (details below) ☒ No ☐ Unknown – no access

Seeps/springs ☐ Present ☐ Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or Subs ?	# of Photos



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QA/QC: _____ (Data Manager)

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ☐ Present
☒ Absent ☐ Unknown – no access

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ☐ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☒ Present ☐ Absent ☐ Unknown – no access

Presence of karst topography or caves (hibernating bats) ☐ Present ☒ Absent ☐ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
SH 101	SNAKE HIBERNACULA	NEAR T88 - UNKNOWN SP.	16T 0685076 5232594	2

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
BIRD	AMERICAN WOODCOCK	SEEN : HEARD

FIELD PHOTOS

**All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID

Table 5: Photo file names

NA			



Site Investigators: RFL & DCS Date: Apr 4/12 Time (S/End): 9:45am/6:15pm
Temp: 3.6°C Wind: 1 Cloud: 0/100% Precip: 0 Precip in last 24 hrs: None

WOODLAND HABITAT ASSESSMENT

Project Name Bowlace Phase 1 Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) T01, T02 & T10 Age of Stand (approximate in years) 20-40

Evidence of Human Disturbance (i.e. logging, trails, garbage) ☒ Y ☐ N; Type LOGGING (NOT RECENT >10 yrs)

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): TBD

UTMs (where sheet was started): 16T 0684325 5233570

Habitat boundaries delineated (within 120 m)? ☒ Yes

Important upland plants (hard mast and fruit/berry producers) ☐ Abundant ☒ Present ☐ Absent ☐ Unknown – no access
RASPBERRY

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) ☒ Abundant ☐ Few
☐ None ☐ Unknown – no access

10 snags \leq 10 ha, or 30 snags \leq 30 ha - conduct BMR candidate study (BMR form) ☐ completed

Depressions that may serve as vernal/autumnal pools: ☐ Present ☒ Absent ☐ Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
NA						

Evidence of stick nests (raptors, herons, etc.) ☐ Yes (details below) ☒ No ☐ Unknown – no access

Seeps/springs ☐ Present ☐ Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or SubS ?	# of Photos

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ☐ Present
☒ Absent ☐ Unknown – no access

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ☒ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☒ Present ☐ Absent ☐ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☒ Present ☐ Absent ☐ Unknown – no access

Presence of karst topography or caves (hibernating bats) ☐ Present ☒ Absent ☐ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
SH102	SNAKE HIBERNACULA	RUBBLE @ BOTTOM OF Smtall 20 m wide	167 0685143 5233445	5
SH204	"	Two large boulders (3m x 1m x 5m high) No snakes observed. (1m x 1m x 1.5m high)	167 0684605 5234021	2

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
NA		

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

NA			

Site Investigators: DCS RFL Date: Apr 4/12 Time (S/End): 5:30pm - 6:15pm
Temp: 4°C Wind: 1 Cloud: 0/100% Precip: None Precip in last 24 hrs: None

WOODLAND HABITAT ASSESSMENT

Project Name BLP1 Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) Southern Substation Age of Stand (approximate in years) 15

Evidence of Human Disturbance (i.e. logging, trails, garbage) ☒ Y ☐ N; Type plantation, upheaved soil

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): FEC to be completed - Jack Pine plantation

UTMs (where sheet was started): 16T 0689573E 5229759N

Habitat boundaries delineated (within 120 m)? ☒ Yes

Important upland plants (hard mast and fruit/berry producers) ☐ Abundant ☐ Present ☒ Absent ☐ Unknown – no access

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) ☐ Abundant ☐ Few ☒ None ☐ Unknown – no access

10 snags \leq 10 ha, or 30 snags \leq 30 ha - conduct BMR candidate study (BMR form) ☐ completed NA

Depressions that may serve as vernal/autumnal pools: ☐ Present ☒ Absent ☐ Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
<u>None</u>						

Evidence of stick nests (raptors, herons, etc.) ☐ Yes (details below) ☒ No ☐ Unknown – no access

Seeps/springs ☐ Present ☒ Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or Subs ?	# of Photos
<u>None</u>				



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QA/QC: _____ (Data Manager)

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ___ Present
✓ Absent ___ Unknown – no access

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM NA Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ___ Present ✓ Absent ___ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ___ Present ✓ Absent ___ Unknown – no access

Presence of karst topography or caves (hibernating bats) ___ Present ✓ Absent ___ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
NA				

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
NA		

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

NA			

Site Investigators: RFL & DCS Date: Apr 5/12 Time (S/End): 9:15 AM / 3:45 PM
 Temp: -1.1°C Wind: 1 Cloud: 0/10 m Precip: 0 Precip in last 24 hrs: Below 0 NO RAIN

WOODLAND HABITAT ASSESSMENT

Project Name Bow Lake Phas 1 Form # (to be tallied at end of the day) 1 of 2 → (N. BP.)
 Woodland ID (indicate on map) CONSTRUCTION LAY DOWN AREA Age of Stand (approximate in years) 20-40 (NOT RECENTLY LOGGED!)
 Evidence of Human Disturbance (i.e. logging, trails, garbage) Y N; Type GARBAGE (OIL DRUMS); TRAILS (ROADS) DIRT.
 Property Access? Y N Type of Investigation (show on map) Full Partial None – no access
 ELC code (broad ecosite code if more than one ELC code): TBD - Some FOD & FOC
 UTM's (where sheet was started): 16T 0685256, 5234528
 Habitat boundaries delineated (within 120 m)? Y Yes OF FEATURES. NO WO
 Important upland plants (hard mast and fruit/berry producers) Abundant Present Absent Unknown – no access
 Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) Abundant Few None Unknown – no access
 10 snags ≤ 10 ha, or 30 snags ≤ 30 ha - conduct BMR candidate study (BMR form) completed
 Depressions that may serve as vernal/autumnal pools: Present Absent Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
ABH209	16T 0685651 E 5234924 N	~ 50cm max	Several small vernal pools	Ostrich fern, mosses, Birch, fir	None observed	1
ABH210	0685841 E 5235162 N	~ 50cm max	large area marbled w vernal pools	Dogwoods, W. Birch, Balsam fir	None observed	6

Evidence of stick nests (raptors, herons, etc.) Yes (details below) No Unknown – no access

Seeps/springs Present Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or SubS ?	# of Photos



M.K. INCE AND ASSOCIATES LTD.
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QA/QC: _____ (Data Manager)

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ☐ Present
☒ Absent ☐ Unknown – no access → NO TURKEYS IN RANGE

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ☐ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of karst topography or caves (hibernating bats) ☐ Present ☒ Absent ☐ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
None				

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
Plant	Brown's Holly Fern	10 plants observed 16T 0686085E 5234849N

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

NA			

Site Investigators: DCS RFL Date: Apr 5/12 Time (S/End): 9:00 am
 Temp: -1°C Wind: 1 Cloud: 0/10ths Precip: None Precip in last 24 hrs: None

WOODLAND HABITAT ASSESSMENT

Project Name BLPI Form # (to be tallied at end of the day) 1 of 1

Woodland ID (indicate on map) _____ Age of Stand (approximate in years) 60

Evidence of Human Disturbance (i.e. logging, trails, garbage) ☒ Y ☐ N; Type logging

Property Access? ☒ Y ☐ N Type of Investigation (show on map) ☒ Full ☐ Partial ☐ None – no access

ELC code (broad ecosite code if more than one ELC code): FEC upcoming - late April 2012

UTMs (where sheet was started): 2 sites, TCC and northern BP

Habitat boundaries delineated (within 120 m)? ☒ Yes

Important upland plants (hard mast and fruit/berry producers) ☐ Abundant ☒ Present ☐ Absent ☐ Unknown – no access

Large >25 dbh standing dead trees or cavity trees (potential for cavity nesting or bat roosting) ☐ Abundant ☒ Few ☐ None ☐ Unknown – no access

10 snags \leq 10 ha, or 30 snags \leq 30 ha - conduct BMR candidate study (BMR form) ☒ completed

Depressions that may serve as vernal/autumnal pools: ☒ Present ☐ Absent ☐ Unknown – no access

Table 1: Amphibian Breeding Habitat

ABH ID	UTMs	Depth of water	Size of pond	Veg	Spps ID and Form (i.e. egg/larval)	Photo #
ABH211	0685841 E 5235162 N	~50cm	wet woods, several shallow pools	spinulose wood fern	NA	
ABH210	0685851 E 5234924 N	~50cm	braided series of wide int. stream overflow	spinulose wood fern	NA	

Evidence of stick nests (raptors, herons, etc.) ☐ Yes (details below) ☒ No ☐ Unknown – no access

Seeps/springs ☐ Present ☐ Absent If yes, fill out below AND A WATER BODY ASSESSMENT for each

Table 2: Seeps and Springs

Seep/Spring ID	UTMs	Description	w/in 30 m of Tur or SubS ?	# of Photos



M.K. INCE AND ASSOCIATES LTD.
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QA/QC: _____ (Data Manager)

Presence of seeps/springs within conifer patches adjacent to agriculture (turkey wintering areas) ☐ Present
☒ Absent ☐ Unknown – no access

IF THERE ARE WATERBODIES FILL OUT A WATERBODIES FORM ☐ Completed

Cliffs (raptor nests, roosting vultures, talus slopes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of fissured rock piles or rock crevices (hibernating snakes) ☐ Present ☒ Absent ☐ Unknown – no access

Presence of karst topography or caves (hibernating bats) ☐ Present ☒ Absent ☐ Unknown – no access

If evidence of hibernacula fill out table below:

Table 3: Bat or Reptile Hibernacula

Feature ID	Feature Type	Description including Location and Species Use	UTMs	Photo #
None				

Species Observations – provide details of identified species and the form in which they were identified (e.g. heard, seen, track, other sign, carcass, eggs, larva etc.) – *don't repeat the ABH data*

Table 4: Species Observations

Taxa (i.e. bird, mammal, herp etc.)	Species	Observation Type
Plant	Braun's Holly Fern	~10 individuals Assoc. with SE114

FIELD PHOTOS

****All identified/confirmed features or candidate Wildlife Habitat needs to be documented with a photo. Use Table 5 below to record photo file names of features and habitat. Make sure every photo name has a feature ID**

Table 5: Photo file names

NA			



Appendix F-10

Wetland Assessments

Map Legend

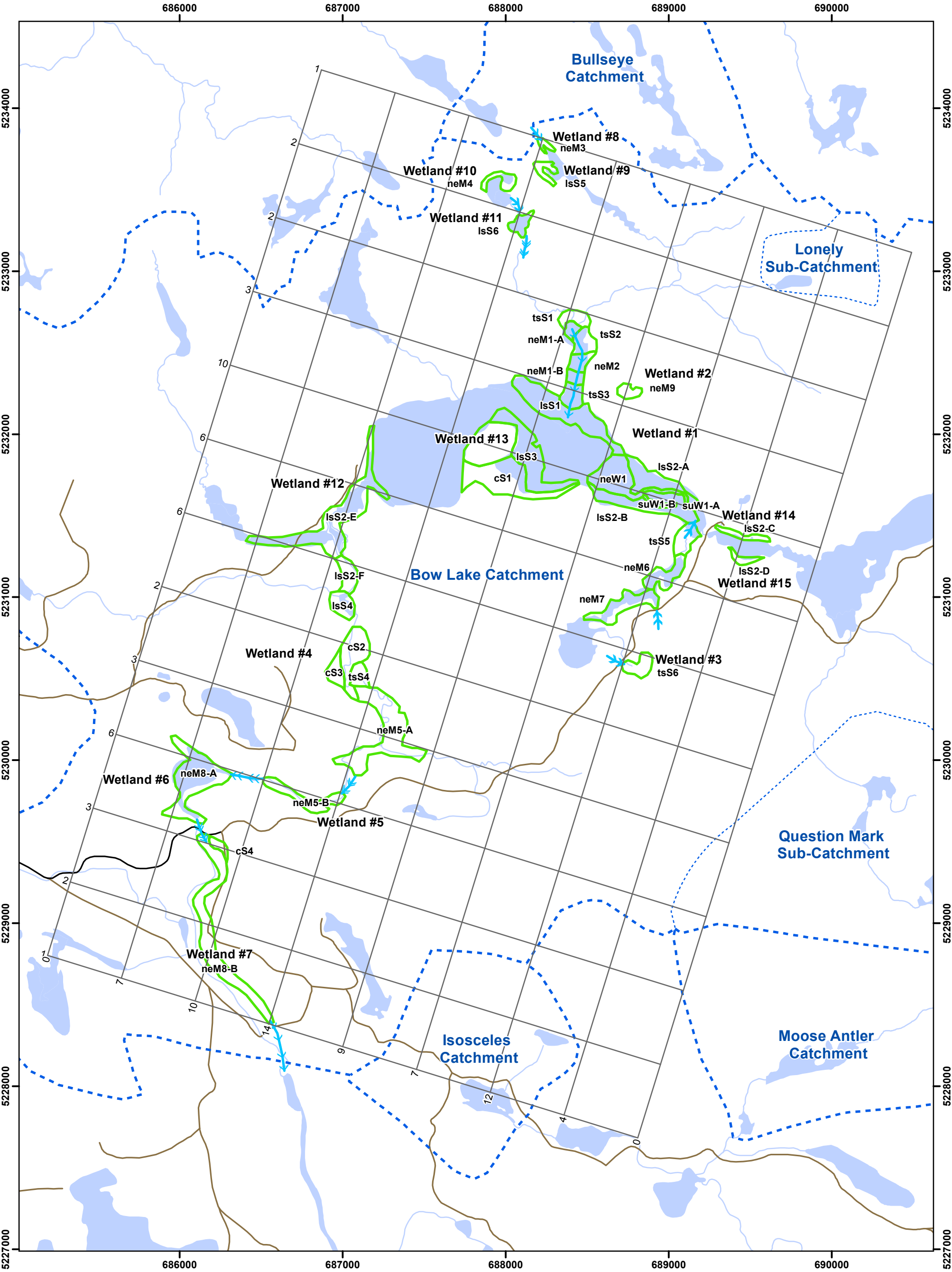
Map Code	Wetland	Forms	Dominant Species
cS1	Swamp	c, ls, m	Eastern White Cedar (<i>Thuja occidentalis</i>); Sweetgale (<i>Myrica gale</i>), Leatherleaf (<i>Chamaedaphne calyculata</i>); <i>Sphagnum magellanicum</i> , <i>Sphagnum palustre</i> , <i>Sphagnum girgensohnii</i> , <i>Sphagnum rubellum</i>
cS2	Swamp	c, ts, m	Black spruce (<i>Picea mariana</i>); Speckled alder (<i>Alnus incana</i> spp. <i>rugosa</i>); <i>Sphagnum angustifolium</i> , <i>S. girgensohnii</i>
cS3	Swamp	c, dc, ls, ne	Black spruce (<i>P. mariana</i>); Black spruce (<i>P. mariana</i>); Sweetgale (<i>M. gale</i>), Leatherleaf (<i>C. calyculata</i>); Livid sedge (<i>Carex livida</i>), Canada blue joint (<i>C. canadensis</i>)
cS4	Swamp	c, ne	Eastern white cedar (<i>Thuja occidentalis</i>); Canada blue joint (<i>Calamagrostis canadensis</i>)
lsS1	Swamp	ls, ne, gc	Sweetgale (<i>M. gale</i>), Leatherleaf (<i>C. calyculata</i>) ; Tussock sedge (<i>Carex stricta</i>), Canada blue joint (<i>C. canadensis</i>); Marsh St. Johns-wort (<i>Triadenum fraseri</i>)
lsS2	Swamp	ls, ne	Sweetgale (<i>M. gale</i>); <i>Carex livida</i> , Tussock sedge (<i>C. stricta</i>), Bottle sedge (<i>Carex utriculata</i>)
lsS3	Swamp	ls, ne	Sweetgale (<i>M. gale</i>), Leatherleaf (<i>Chamaedaphne calyculata</i>); <i>Carex livida</i>
lsS4	Swamp	ls	Sweetgale (<i>Myrica gale</i>); Canada blue joint (<i>C. canadensis</i>)
lsS5	Swamp	ls	Sweetgale (<i>M. gale</i>)
lsS6	Swamp	ls	Sweetgale (<i>M. gale</i>), Leatherleaf (<i>C. calyculata</i>)
neM1	Marsh	ne, gc	Canada blue joint (<i>C. canadensis</i>), Bottle sedge (<i>C. utriculata</i>); St. John's wort (<i>Hypericum punctatum</i>)
neM2	Marsh	ne, m	Canada blue joint (<i>C. canadensis</i>); <i>Sphagnum</i> spp.
neM3	Marsh	ne, ls	Bottle sedge (<i>C. utriculata</i>); Sweetgale (<i>M. gale</i>)
neM4	Marsh	ne, m	Three-way sedge (<i>Dulichium arundinaceum</i>), Bottle sedge (<i>C. utriculata</i>); <i>Sphagnum</i> spp.
neM5	Marsh	ne, ls	<i>Carex</i> spp., Canada blue joint (<i>C. canadensis</i>); Sweetgale (<i>M. gale</i>)
neM6	Marsh	ne	Canada blue joint (<i>C. canadensis</i>), Bottlesedge (<i>C. utriculata</i>), Three-way sedge (<i>Carex arundinaceum</i>)
neM7	Marsh	ne	Bottlesedge (<i>C. utriculata</i>)
neM8	Marsh	ne, ls	<i>Carex livida</i> ; Leatherleaf (<i>C. calyculata</i>)
neW1	Marsh	ne, su	<i>Eleocharis</i> spp.; Unknown Aquatic Species
suW1	Marsh	su, be, ff	Unknown Aquatic Species; <i>Sparganium fluctuan s</i> , <i>Potamegeton epihydrus</i>
tsS1	Swamp	ts, ne	Speckled alder (<i>A. incana</i> spp. <i>rugosa</i>); Canada blue joint (<i>C. canadensis</i>)
tsS2	Swamp	ts, hb, m	Speckled alder (<i>A. incana</i> spp. <i>rugosa</i>); Evergreen woodfern (<i>Dryopteris intermedia</i>); <i>Sphagnum girgensohnii</i>
tsS3	Swamp	ts, ne, m	Speckled alder (<i>A. incana</i> spp. <i>rugosa</i>); <i>Carex</i> spp.; <i>Sphagnum squarrosum</i>
tsS4	Swamp	ts, ls, ne	Speckled alder (<i>A. incana</i> spp. <i>rugosa</i>); Sweetgale (<i>M. gale</i>); Bottle sedge (<i>C. utriculata</i>), Rattlesnake grass (<i>Glyceria canadensis</i>)
tsS5	Swamp	ts, ne, m	Speckled alder (<i>A. incana</i> spp. <i>rugosa</i>); Canada blue joint (<i>C. canadensis</i>), <i>Carex livida</i> ; <i>S. girgensohnii</i> , <i>S. angustifolium</i> , <i>S. palustre</i> , <i>Sphagnum wolfianum</i>
tsS6	Swamp	ts	Black spruce (<i>Picea mariana</i>)

Wildlife Observations

Includes tracks and/or signs observed in the field.

Common Name	Scientific Name
Beaver	<i>Castor canadensis</i>
Common merganser	<i>Mergus merganser</i>
Rusty blackbird*	<i>Euphagus carolinus</i>
Unidentified cyprinids	

*5 (total) rusty blackbirds were observed in communities cS1, lsS3, and tsS6.



Legend

	Highway		Interspersion Grid
	Secondary Road		Ecological Land Classification
	Resource Road	(cS) Conifer Swamp	
	Waterbody	(IsS) Low Shrub Swamp	
	Watercourse	(neM) Narrow-leaved Emergent Marsh	
	Catchment Area Boundary	(neW) Narrow-leaved Emergent Open Water Marsh	
	Sub-catchment Area Boundary	(suW) Submerged Plant Open Water Marsh	
	Flow Direction	(tsS) Tall Shrub Swamp	

Bow Lakes Wetland Complex - Inset

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

0 500 1,000 1,500 Meters

Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Source: Data provided by MNR © Copyright: Queen's Printer Ontario

Project: 1186
Date: March-15-12
NAD83 - UTM Zone 1x
Scale: 1:22,000 (11x17")

WETLAND DATA AND SCORING RECORD

i)	WETLAND NAME: Bow Lake Wetland Complex		
ii)	MNR ADMINISTRATIVE REGION: North East	DISTRICT:	Sault Ste. Marie
	AREA OFFICE (if different from District):		
iii)	CONSERVATION AUTHORITY JURISDICTION:		
	(If not within a designated CA, check here: <u> X </u>)		
iv)	COUNTY OR REGIONAL MUNICIPALITY: City of Sault Ste. Marie		
v)	TOWNSHIP: Peever and Smilsky		
vi)	LOTS & CONCESSIONS: None		
	(attach separate sheet if necessary)		
vii)	MAP AND AIR PHOTO REFERENCES		
	a) Latitude: _____ Longitude: _____		
	b) UTM grid reference:	Zone: <u> 16 </u>	Block: <u> T </u>
		Grid:E 688439.93	N 5232165.82
	c) National Topographic Series:		
	map name(s)	<u> Mamainse Point </u>	
	map number(s)	<u> 41 N/2 </u>	edition <u> 3 </u>
	scale	<u> 1:50,000 </u>	
	d) Aerial photographs: Date photo taken: _____ Scale: _____		
	Flight & plate numbers: <u> Google Earth Images 2004 </u>		
	(attach separate sheet if necessary)		
	e) Ontario Base Map numbers & scale <u> #166805230 1:20,000 </u>		
	(attach separate sheets if necessary)		

viii) WETLAND SIZE AND BOUNDARIESa) Single contiguous wetland area: hectaresb) Wetland complex comprised of 15 individual wetlands:

Wetland Unit Number (for reference)		Size of each wetland unit				
		Isolated	Palustrine	Riverine	Lacustrine	
Wetland Unit No.	1		16.43		24.49	ha
Wetland Unit No.	2	0.99				ha
Wetland Unit No.	3		1.75			ha
Wetland Unit No.	4			17.00		ha
Wetland Unit No.	5			3.13		ha
Wetland Unit No.	6			8.54		ha
Wetland Unit No.	7			9.74		ha
Wetland Unit No.	8		0.47			ha
Wetland Unit No.	9		1.05			ha
Wetland Unit No.	10		1.33			ha
Wetland Unit No.	11		1.23			ha
Wetland Unit No.	12			2.00	13.05	ha
Wetland Unit No.	13				15.15	ha
Wetland Unit No.	14				1.04	ha
Wetland Unit No.	15				0.75	ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit Totals:		0.99	22.26	40.41	54.48	

(Attach additional sheets if necessary)

(Attach additional sheets if necessary)

TOTAL WETLAND SIZE 118.14 ha

c) Brief documentation of reasons for including any areas less than 2 ha in size:

At the time this evaluation was undertaken, MNR's recommendation with respect to wetlands assessed for the purpose of an evaluation of significance under a Natural Heritage Assessment was to include all wetland areas within the evaluation, regardless of size.

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS**

(check one)

- 1) _____ <1600
 2) _____ 1600-2000
 3) X 2000-2400
 4) _____ 2400-2800
 5) _____ 2800-3000
 6) _____ >3000

SOILS

Estimated Fractional Area

<u>0.210</u>	clay/loam
<u>0.330</u>	silt/marl
_____	limestone
<u>0.250</u>	sand
<u>0.190</u>	humic/mesic
_____	fibric
<u>0.010</u>	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400	18	15	13	11	9	8	7
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

(maximum score 30; if wetland contains more than one soil type,

evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score

<u>18</u>	clay/loam	<u>3.78</u>
<u>15</u>	silt/marl	<u>4.95</u>
_____	limestone	<u>0.00</u>
<u>11</u>	sand	<u>2.75</u>
<u>9</u>	humic/mesic	<u>1.71</u>
_____	fibric	<u>0.00</u>
<u>7</u>	granite	<u>0.07</u>

Final Score Growing Degree-Days/Soils (maximum 30 points)**13**

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

Fractional Area		Score	
Bog		x 3	0.00
Fen		x 6	0.00
Swamp	0.59	x 8	4.72
Marsh	0.41	x 15	6.15

Wetland type score (maximum 15 points)**11****1.1.3 SITE TYPE** (Fractional Area = area of site type/total wetland area)

Fractional Area		Score	
Isolated	0.010	x 1 =	0.010
Palustrine (permanent or intermittent flow)	0.190	x 2 =	0.380
Riverine	0.340	x 4 =	1.360
Riverine (at rivermouth)		x 5 =	0.000
Lacustrine (at rivermouth)		x 5 =	0.000
Lacustrine (on enclosed bay, with barrier beach)		x 3 =	0.000
Lacustrine (exposed to lake)	0.460	x 2 =	0.920
Sub Total:			2.670

Site Type Score (maximum 5 points)**3****1.2 BIODIVERSITY****1.2.1 NUMBER OF WETLAND TYPES**

(Check only one)		Score
1)		9 points
2)	X	13
3)		20
4)		30

Number of Wetland Types Score (maximum 30 points)**13**

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species.

Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities
with 1-3 forms = 40

1 = 1.5 points

2 = 2.5

3 = 3.5

4 = 4.5

5 = 5

6 = 5.5

7 = 6

8 = 6.5

9 = 7

10 = 7.5

11 = 8

+ .5 each additional
community = 11.5

Total # of communities
with 4 -5 forms = 23

1 = 2 points

2 = 3.5

3 = 5

4 = 6.5

5 = 7.5

6 = 8.5

7 = 9.5

8 = 10.5

9 = 11.5

10 = 12.5

11 = 13

+ .5 each additional
community = 2.0

Total # of communities
with 6 or more forms = 1

1 = 3 points

2 = 5

3 = 7

4 = 9

5 = 10.5

6 = 12

7 = 13.5

8 = 15

9 = 16.5

10 = 18

11 = 19

+ 1 each additional
community = 13

e.g., a wetland with 3 one form communities
8 six form communities would score:

4 two form communities

12 four form communities and

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points)

13

Wetland Name: Bow Lake Wetland ComplexWetland Size (ha): 118.14

<u>Vegetation Form</u>	<u>% area in which form is dominant</u>
h	<u> </u>
c	<u>12.39</u>
dh	<u> </u>
dc	<u> </u>
ts	<u>8.76</u>
ls	<u>37.46</u>
ds	<u> </u>
gc	<u> </u>
m	<u> </u>
ne	<u>40.29</u>
be	<u> </u>
re	<u> </u>
ff	<u> </u>
f	<u> </u>
su	<u>1.10</u>
u (unvegetated)	<u> </u>
Total = 100%	<u>100.00</u>

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input type="checkbox"/>	recent burn (< 5 yr)
<input type="checkbox"/>	abandoned agricultural land
<input type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input type="checkbox"/>	abandoned pits and quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input checked="" type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	creek flood plain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)**6****1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

- | | | | |
|----|-------------------------------------|---|----------|
| 1) | <input checked="" type="checkbox"/> | Hydrologically connected by surface water to other wetlands (different dominant wetland type) or open lake or river within 1.5 km | 8 points |
| 2) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km | 8 |
| 3) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away (Second Marsh Wetland) | 5 |
| 4) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away | 5 |
| 5) | <input type="checkbox"/> | Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water | 5 |
| 6) | <input type="checkbox"/> | Within 1 km of other wetlands, but not hydrologically connected by surface water | 2 |
| 7) | <input type="checkbox"/> | No wetland within 1 km | 0 |

Proximity to other Wetlands Score (Choose one only, maximum 8 points)**8**

1.2.5 INTERSPERSION

Number of Intersections
(Check one)

Score

1)	26 or less	<input type="checkbox"/>	3
2)	27 to 40	<input type="checkbox"/>	6
3)	41 to 60	<input type="checkbox"/>	9
4)	61 to 80	<input type="checkbox"/>	12
5)	81 to 100	<input type="checkbox"/>	15
6)	101 to 125	<input checked="" type="checkbox"/>	18
7)	126 to 150	<input type="checkbox"/>	21
8)	151 to 175	<input type="checkbox"/>	24
9)	176 to 200	<input type="checkbox"/>	27
10)	>200	<input type="checkbox"/>	30

Interspersion Score (Choose one only maximum 30 points)

18

1.2.6 OPEN WATER TYPES

Permanently flooded:
(Check one)

Score

1)	<input type="checkbox"/>	type 1	8
2)	<input checked="" type="checkbox"/>	type 2	8
3)	<input type="checkbox"/>	type 3	14
4)	<input type="checkbox"/>	type 4	20
5)	<input type="checkbox"/>	type 5	30
6)	<input type="checkbox"/>	type 6	8
7)	<input type="checkbox"/>	type 7	14
8)	<input type="checkbox"/>	type 8	3
9)	<input type="checkbox"/>	no open water	0

Open Water Type Score (Choose one only maximum 30 points)

8

1.3 SIZE

118.14

hectares

66

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)**15**

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	9	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

		Score
1)	<input type="checkbox"/> <5 ha	0
2)	<input checked="" type="checkbox"/> 5 -25 ha	4
3)	<input type="checkbox"/> 26 -50 ha	6
4)	<input type="checkbox"/> 51- 100 ha	8
5)	<input type="checkbox"/> 101 -200 ha	11
6)	<input type="checkbox"/> >200 ha	14

Source of information: Field Observations (NRSI 2010)

Wood Products Score (Score one only, maximum 14 points)

4

2.1.2 Lowbush Cranberry

(Check one)

Present

1)

Score (Choose one)

2 points

Absent

2)

☒

0

Source of information: Field Observations (NRSI 2010)

Lowbush Cranberry Score (maximum 2 points)

0

2.1.3 Wild Rice

(Check one)

Present (at least 0.5 ha)

1)

Score (Choose one)

10 points

Absent

2)

☒

0

Source of information: Field Observations (NRSI 2010)

Wild Rice Score (maximum 10 points)

0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

X

Score (Choose one)

12 points

Absent

2)

0

Source of information: Field Observations - Cyprinids observed - NRSI 2010**Commercial Fish Score (maximum 12 points)****12****2.1.5 FURBEARERS**

(Consult Appendix 9)

Name of furbearer

Source of information

1) Beaver (*Castor canadensis*)

3

Field Observations (NRSI 2010)

2)

3)

4)

5)

Scoring: 3 points for each species. maximum 12

Furbearer Score (maximum 12 points)**3****2.2 RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use						
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing	
High	40 points		40 points		40 points	
Moderate	20	X	20		20	
Low	8		8	X	8	X
Not possible/NotKnown	0		0		0	
Totals		20		8		8

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: No evidence of hunting observed, however it is likely due to size of wetland and easy access.Nature: Bow Lake is fairly accessible - however, no one observed in the field. No sign of human activity within wetlands.Fishing: A boat was observed at the shore of Bow Lake. Fishing is possible.**Recreational Activities Score (maximum 80 points)****36**

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct

1)

Score (Choose one)

3 points

Indistinct

2)

0

Landscape Distinctness Score (maximum 3 points)**0****2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so

1)

Score (Choose one)

7 points

One or several localized disturbances

2)

4

Moderate disturbance; localized water pollution

3)

2

Wetland intact but impairment of ecosystem quality
intense in some areas

4)

1

Extreme ecological degradation, or water pollution
severe and widespread

5)

0

Source of information:

Field Observations (NRSI 2010)

Absence of Human Disturbance Score (maximum 7 points)**7****2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent

1)

Score (Choose one)

20 points

Infrequent

2)

12

No visits

3)

0

Source of information:

Field Observations - Access issues (NRSI 2010)

Educational Uses Score (maximum 20 points)**0****2.4.2 FACILITIES AND PROGRAMS**

(check one)

Staffed interpretation centre

1)

Score (Choose one)

8 points

No interpretation centre or staff but a system of
self-guiding trails or brochures available

2)

4

Facilities such as maintained paths (e.g., woodchips)
boardwalks, boat launches or observation towers
but no brochures or other interpretation

3)

2

No facilities or programs

4)

0

Source of information:

Field Observations (NRSI 2010)

Facilities and Programs Score (maximum 8 points)**0**

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

Score

12 points

Research papers published in refereed scientific journal or as a thesis

10

One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.

5

No research or reports

0

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points)**0****2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT**

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community
1) Within or adjoining settlement	40 points	26	16
2) 0.5 to 10 km from settlement	26	16	10
3) 10 to 60 km from settlement	12	8	4
4) >60 km from settlement	5	2	0
5) >100 km from settlement	0	0	0
	0	0	10

Name of settlement:

Montreal River Harbour, Ontario

Proximity to Human Settlement Score (maximum 40 points)**10****2.6 OWNERSHIP** (FA= fraction Area)

Score

FA of wetland in public or private ownership

held under contract or in trust for wetland protection

x

10

= 0.00

FA of wetland area in public ownership, not as above

0.99

x

8

= 7.92

FA of wetland area in private ownership, not as above

0.01

x

4

= 0.04

Source of information:

OMNR Critical Values Map (Dec 21, 2009)

Ownership Score (maximum 10 points)**8**

2.7 SIZE**118.14** hectares**65** Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)**16**

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant	X	=	30 points
2) Not Significant		=	0
3) Unknown		=	0
Total:	30		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant	X	=	0
3) Unknown		=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

30

Batchewana First Nation (BFN) was contacted on October 19, 2010 and asked about the significance of this wetland in terms of aboriginal values. A response was received on November 17, 2010 (letter appended), which states the wetlands are "very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities."
(Dave Sewell, BNR Field Technician)

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area.
For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1: If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area: lake area is <0.1 , or wetland is riverine on the St. Mary's River, go to Step 5

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2: **Determination of Upstream Detention Factor (DF)**

(a)	Wetland area (ha)	118.14
(b)	Total area (ha) of <u>upstream</u> detention areas (include the wetland itself)	444.08
(c)	Ratio of (a):(b)	0.27
(d)	Upstream detention factor: (c) x 2 = (maximum allowable factor = 1)	0.53

Step 3: **Determination of Peak Flow Attenuation Factor (AF)**

(a)	Wetland area (ha)	118.14
(b)	Size of catchment basin (ha) <u>upstream</u> of wetland (include wetland itself in catchment area)	4626.25
(c)	Ratio of (a):(b)	0.03
(d)	Wetland attenuation factor: (c) x 10 = (maximum allowable factor = 1)	0.30

Step 4: **Determination of Wetland Surface Form Factor (FF)**

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	X 0.2
Flat (lawn) vegetation (typical of fens)	0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1
Surface Form Factor (FF)	0.2

(Maximum allowable factor = 1)

Step 5:

1. Wetland is entirely Isolated 100 points

2. Wetland is lacustrine and the ratio of wetland area: lake area is <0.1 0 points

3. Wetland is riverine along the St. Mary's River 0 points

4. For all other wetlands*, calculate as follows:

a)	Upstream Detention Factor (DF) (Step 2)	0.53
b)	Wetland Attenuation Factor (AF) (Step 3)	0.30
c)	Surface Form Factor (FF) (Step 4)	0.20

$$[(DF + AF + FF)/3] \times 99.16^* \quad 34.04 \quad \text{Isolated score: 0.84}$$

*Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points) 35**3.2 GROUND WATER RECHARGE****3.2.1 SITE TYPE**

(a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River

Score = 0

(b) Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland)

0.2	FA of isolated or palustrine wetland	x 20 =	4.00
0.34	FA of riverine wetland	x 5 =	1.70
0.46	FA of lacustrine wetland (wetland <50% lacustrine)	x 0 =	0.00

Site Type Score: (maximum 20 points) 6**3.2.2 SOILS****EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till		Clay or bedrock	
Lacustrine or on St. Mary's River	0	X	0	
Isolated	10		5	
Palustrine	7		4	
Riverine (not on St. Mary's River)	5		2	
Totals		0		0

Hydrological Soil Class Score (maximum 10 points) 0

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland.

Site Type	Improvement Factor (IF)			
Isolated	FA	0.01	x 0.5 =	0.01
Riverine	FA	0.34	x 1 =	0.34
Palustrine with no inflow	FA		x 0.7 =	0.00
Palustrine with inflows	FA	0.19	x 1 =	0.19
Lacustrine on lake shoreline	FA	0.37	x 0.2 =	0.07
Lacustrine at lake inflow or outflow	FA	0.09	x 1 =	0.09

Watershed Improvement Score (IF x 30) (maximum = 30)

21

**3.3.2 ADJACENT AND WATERSHED LAND USE
EVALUATION**
Step 1: Determination of Maximum Initial Score

- ☐ Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)
☒ All other wetlands (Go through steps 2, 3, 4 and 5b)

Step 2: Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
>50% of catchment basin	20
20-50% of catchment basin	14
<20% of catchment basin	4

Score for BLU

14

Step 3: Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200m of the wetland boundary.

Choose the highest only	Score
Major corridor*	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

Score for LUU

3

Major, secondary and tertiary roads are those that are indicated as such on the provincial highways maps. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4: Determination of Point-source Land Use (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0

Step 5: Calculation of total score for Adjacent and Watershed Land Use

- a) Wetland on the Great Lakes or St. Mary's River
b) All other wetlands, calculate as follows:

Final Score BLU+LUU+PS 17

3.3.3 VEGETATION FORM

Choose the category that best describes the vegetation of the wetland

		Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	X	8 points
Emergents, submergents (ne, re, be, f, ff, su)		10
Little or no vegetation (u)		0

Dominant Vegetation Form Score (maximum 10 points) 8

3.4 CARBON SINK

Choose the category that best describes the wetland

- | | | |
|----|---|-----------|
| 1) | Wetland a bog or fen with >50% organic soils | 15 points |
| 2) | Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type) | 6 |
| 3) | Marshes and swamps with >50% organic soil | 9 |
| 4) | Wetland with less than 10% of soils organic | 0 |

Carbon Sink Score (maximum 15 points) 6

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

Step 1:

Score

	Wetland entirely isolated or palustrine	0
X	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)	X	Trees and shrubs	15
2)		Emergent vegetation	8
3)		Submergent vegetation	6
4)		Other shoreline vegetation	3
5)		No vegetation	0

Shoreline Erosion Control Score (maximum 15 points)

15

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores)

Category	Catchment Interaction					
Wetland type	Bog = 0		Swamp/Marsh = 2	2	Fen = 5	
Basin topography	Flat/Rolling = 5		Hilly = 2	2	Major relief break = 5	
Wetland area: Upslope catchment area	Large (>50%) = 0		Moderate (6-50%) = 2	2	Small (<5%) = 5	
Lagg Development	None found = 0	0	Minor = 2		Extensive = 5	
Seeps at wetland edge	None found = 0	0	1-3 seeps = 5		4 or more seeps = 10	
Iron precipitates evident at edge	None = 0	0	1-3 deposits = 2		4 or more deposits = 5	
Surface marl deposits	None = 0	0	1-3 deposits = 2		>3 = 5	
Wetland pH	Low < 4.2 = 0		Moderate 4.2-5.7 = 5	5	High >5.7 = 10	
Catchment soil coverage	Patchy = 0		Thin (<20cm) = 2	2	Thick = 5	
Catchment soil permeability	Low = 0	0	Moderate = 2		High = 5	
Totals		0		13		0

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

13

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**Hills Site Region and Site District (5E only): 5E-13

Wetland type (check one or more)

<input type="checkbox"/>	Bog
<input type="checkbox"/>	Fen
<input checked="" type="checkbox"/>	Swamp
<input checked="" type="checkbox"/>	Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	10	0	10	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

10

4.1.2 SPECIES**4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
Total:	0

Attach documentation.

Scoring:

For one species 250 points

For each additional species 250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered Species Score (no maximum)

0

4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
Total:	0

Attach documentation.

Scoring:

For one species 150 points

For each additional species 75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)

0

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) <u>*Rusty Blackbird (<i>Euphagus carolinus</i>)</u>	<u>Field Observation (NRSI Oct 5, 2010)</u>
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____

Attach separate list if necessary; Attach documentation

* Tracked by NHIC

Scoring:

Number of provincially significant animal species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

50

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)**0**

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

** Score only if there is an approved list

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Significant Species (Site Region) Score (no maximum)

0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum)

0

4.1.2.7 SPECIES OF SPECIAL STATUS**Black Duck**

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40-80 Indicated Pairs/100 km sq	<input type="checkbox"/>	25 points
20-40 Indicated Pairs/100 km sq	<input type="checkbox"/>	20
10-20 Indicated Pairs/100 km sq	<input checked="" type="checkbox"/>	15
5-10 Indicated Pairs/100 km sq	<input type="checkbox"/>	10
1-5 Indicated Pairs/100 km sq	<input type="checkbox"/>	5
Habitat not suitable	<input type="checkbox"/>	0
Out of assessment range	<input type="checkbox"/>	0

Black Duck Score (maximum 25 points)**15****4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT****4.2.1 NESTING OF COLONIAL WATERBIRDS**

Status	Name of species	Source of Information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations etc., if known)

Colonial Waterbirds Score (maximum 50 points)**0****4.2.2. WINTER COVER FOR WILDLIFE**

(Check only highest level of significance)

Score (one only)

- | | | | |
|----|-------------------------------------|-------------------------------------|-----|
| 1) | <input type="checkbox"/> | Provincially significant | 100 |
| 2) | <input type="checkbox"/> | Significant in Site Region | 50 |
| 3) | <input type="checkbox"/> | Significant in Site District | 25 |
| 3) | <input type="checkbox"/> | Locally significant | 10 |
| 4) | <input checked="" type="checkbox"/> | Little or poor winter cover present | 0 |

Source of information:

Field Observations (NRSI 2010) - Only 14.6ha of treed swamp was observed within this wetland, which is a very small area compared to the surrounding landscape.

Winter Cover for Wildlife Score (maximum 100 points)**0**

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur		10		10
5) Not possible		0		0
6) Not known	X	0	X	0
Total:	0		0	

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

0

4.2.4 WATERFOWL BREEDING

	(Check only highest level of significance)	Score
1)	Provincially significant	100
2)	Regionally significant	50
3)	X Habitat suitable	10
4)	Habitat not suitable	0

Source of information:

Field Observations (NRSI 2010)

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

	(check highest applicable category)	Score
1)	Provincially significant	100
2)	Significant in Site Region	50
3)	Significant in Site District	10
4)	X Not significant	0

Source of information:

OMNR Values Map (June 25, 2010)

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

4.2.6 UNGULATE HABITAT**EVALUATION**

Score (1) + (2) + one of (3) to (6)

		Score
(1)	<input checked="" type="checkbox"/> Ungulate summer cover	15 points
(2)	<input type="checkbox"/> Mineral licks	50
(3)	<input type="checkbox"/> Moose aquatic feeding area Class 1	0
(4)	<input checked="" type="checkbox"/> Moose aquatic feeding area Class 2	10
(5)	<input type="checkbox"/> Moose aquatic feeding area Class 3	20
(6)	<input type="checkbox"/> Moose aquatic feeding area Class 4	35

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points)**25****4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1:☐ Fish habitat is not present within the wetland (Score = 0)☒ Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

- 1) ☒ Significance of the spawning and nursery habitat within the wetland is known (Go to Step 3)
- 2) ☐ Significance of the spawning and nursery habitat within the wetland is not known (Go through Steps 4, 5, 6 and 7)

Step 3: Select the highest appropriate category below attach documentation:

- 1) ☐ Significant in Site Region 100 points
- 2) ☐ Significant in Site District 50
- 3) ☒ Locally Significant Habitat (5.0+ ha) 25
- 4) ☐ Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points)

25

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

☐ Low marsh not present (Continue to Step 5)

☐ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Total Score (maximum 75 points)						0.0

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

☐ High marsh not present (Continue to Step 6)

☐ High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High 1 Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
Total Score (maximum 25 points)						12.0

Step 6: (**Swamp:** Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

☐ Swamp containing fish habitat not present (Continue to Step 7)

☒ Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded				10	0.0
Permanently flooded				10	0.0
SCORE (maximum 20 points)					4.0

Step 7: Calculation of final scoreScore for Spawning and Nursery Habitat (Low Marsh) (maximum 75) = Score for Spawning and Nursery Habitat (High Marsh) (maximum 25) = Score for Swamp Containing Fish Habitat (maximum 20) =

Sum (maximum score 100 points) =

0

4.2.6.2 Migration and Staging Habitat**Step 1:**

- 1) ☒ Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) ☐ Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) ☐ Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

- | | Score |
|---|-----------|
| 1) <input type="text"/> Significant in Site Region | 25 points |
| 2) <input type="text"/> Significant in Site District | 15 |
| 3) <input type="text"/> Locally Significant | 10 |
| 4) <input type="text"/> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Fish Migration and Staging Habitat (maximum score 25 points)

0

Step 3: Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). Note name of river for 2) and 3).

- | | Score |
|---|-----------|
| 1) <input type="text"/> Wetland is riverine at rivermouth or lacustrine at rivermouth | 25 points |
| 2) <input type="text"/> Wetland is riverine, within 0.75 km of rivermouth | 15 |
| 3) <input type="text"/> Wetland is lacustrine, within 0.75 km of rivermouth | 10 |
| 4) <input type="text"/> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Staging and Migration Habitat (maximum score 25 points)

0

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland type/total area of wetland)

	Fractional Area			Scoring
Bog		x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl		x	20 =	0.0
Fen, on limestone rock		x	5 =	0.0
Swamp	0.59	x	3 =	1.8
Marsh	0.41	x	0 =	0.0
Sub Total:				1.8

Ecosystem Age Score (maximum 25 points)**2****4.4 GREAT LAKES COASTAL WETLANDS****Score for coastal (see text for definition) wetlands only**

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)**0**

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**X Absent/Not seen Present(a) One location in wetland Two to many locations

Abundance code

(b) (1) < 20 plants (2) 20-99 plants (3) 100-999 plants (4) >1000 plants **5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

Check one or more

Ephemeral

(less than 2 weeks)

Temporal

(2 weeks to 1 month) X

Seasonal

(1 to 3 months) X

Semi-permanent

(>3 months) X No seasonal flooding **5.3 SPECIES OF SPECIAL SIGNIFICANCE****5.3.1 Osprey**Present and nesting (attach map showing nest site) Known to have nested in last 5 yr Feeding area for osprey Not as above X **5.3.2 Common Loon**Nesting in wetland (attach map showing nest site) Feeding at edge of wetland

Observed or heard on lake or

river adjoining the wetland X Not as above

INVESTIGATORS**AFFILIATION**

Lisa Keable

Natural Resource Solutions Inc.

Derek Goertz

Natural Resource Solutions Inc.

DATES WETLAND VISITED

September 21 and October 5th, 2010

DATE THIS EVALUATION COMPLETED:**ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"**

32 hours (2 people)

September 21 0830-1430hrs and Oct 5 0800-1800hrs

WEATHER CONDITIONS**i) at time of field work**

Sept 21: Sunny, 16°C, Wind 3 (SW), no precipitation

Oct 5: Sunny, 5°-13°C, Wind 2 (W), no precipitation

ii) summer conditions in general

Overall the summer of 2010 was fairly dry and very hot. However, during the very late summer months/early fall months heavy rains did occur, bringing water levels up substantially.

OTHER POTENTIALLY USEFUL INFORMATION:**CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:**

A list of all flora and fauna observed in the wetland is appended.

WETLAND EVALUATION SCORING RECORD

WETLAND NAME

Bow Lake Wetland Complex

1.0 BIOLOGICAL COMPONENT1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

13

1.1.2 Wetland Type

11

1.1.3 Site Type

3

Total for Productivity

27

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

13

1.2.2 Vegetation Communities (maximum 45)

13

1.2.3 Diversity of Surrounding Habitat (maximum 7)

6

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

18

1.2.6 Open Water Type

8

Total for Biodiversity

66

Sub Total for Biodiversity

66

1.3 SIZE (Biological Component)

15

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

108

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	4
2.1.2 Lowbush Cranberry	0
2.1.3 Wild Rice	0
2.1.4 Commercial Fish	12
2.1.6 Furbearers	3

Total for Economically Valuable Products **19**

2.2 RECREATIONAL ACTIVITIES (maximum 80) **36**

2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	0
2.3.2 Absence of Human Disturbance	7

Total for Landscape Aesthetics **7**

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies (maximum 12)	0

Total for Education and Public Awareness **0**

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT **10**

2.6 OWNERSHIP **8**

Subtotal for Social Component **65**

2.7 SIZE (Social Component) **16**

2.8 ABORIGINAL AND CULTURAL VALUES (maximum 30) **30**

TOTAL FOR SOCIAL COMPONENT (not to exceed 250) **126**

3.0 HYDROLOGICAL COMPONENT3.1 FLOOD ATTENUATION

35

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

6

3.2.2 Soils

0

Total for Groundwater Recharge

6

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

21

3.3.2 Adjacent and Watershed Land Use

17

3.3.3 Vegetation Form

8

Total for Water Quality Improvement

46

3.4 CARBON SINK

6

3.5 SHORELINE EROSION CONTROL

15

3.6 GROUNDWATER DISCHARGE

13

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

121

4.0 SPECIAL FEATURES4.1 RARITY

4.1.1 Wetlands

10

4.1.2 Species

4.1.2.1 Endangered or Threatened Species Breeding

0

4.1.2.2 Traditional Use by Endangered or Threatened Species

0

4.1.2.3 Provincially Significant Animals

50

4.1.2.4 Provincially Significant Plants

0

4.1.2.5 Regionally Significant Species

0

4.1.2.6 Locally Significant Species

0

4.1.2.7 Species of Special Status

15

Total for Species Rarity

65

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds

0

4.2.2 Winter Cover for Wildlife

0

4.2.3 Waterfowl Staging and Moulting

0

4.2.4 Waterfowl Breeding

10

4.2.5 Migratory Passerine, Shorebird or Raptor Stopover

0

4.2.6 Ungulate Habitat

25

4.2.7 Fish Habitat

25

Total for Significant Features and Habitat

60

4.3 ECOSYSTEM AGE

2

4.4 GREAT LAKES COASTAL WETLANDS

0

TOTAL FOR SPECIAL FEATURES (maximum 250)137

SUMMARY OF EVALUATION RESULT

Wetland	Bow Lake Wetland Complex
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TOTAL FOR 1.0 BIOLOGICAL COMPONENT	108
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TOTAL FOR 2.0 SOCIAL COMPONENT	126
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TOTAL FOR 3.0 HYDROLOGICAL COMPONENT		121
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TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	137
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WETLAND TOTAL 491

INVESTIGATORS

Lisa Keable

Derek Goertz

Katharina Walton (evaluation revision, March 2012)

AFFILIATION

Natural Resource Solutions Inc.

Natural Resource Solutions Inc.

Natural Resource Solutions Inc.

<u>DATE</u>	March 15, 2012
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BOTANICAL NAME		COMMON NAME	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	NRSI
	SOURCE		MNR RARE 4th Ed. 2009	SARO List	SARA Registry	Field Observations (2010)
<u>PTERIDOPHYTES</u>		<u>FERNS & ALLIES</u>				
Dryopteridaceae		Wood Fern Family				
<i>Dryopteris</i>	<i>carthusiana</i>	Spinulose Wood Fern	S5			X
<i>Dryopteris</i>	<i>intermedia</i>	Evergreen Wood Fern	S5			X
<i>Onoclea</i>	<i>sensibilis</i>	Sensitive Fern	S5			X
Equisetaceae		Horsetail Family				
<i>Equisetum</i>	<i>fluviatile</i>	Water Horsetail	S5			X
Isoetaceae		Quillwort Family				
<i>Isoetes</i>	spp.					X
<u>GYMNOSPERMS</u>		<u>CONIFERS</u>				
Cupressaceae		Cedar Family				
<i>Thuja</i>	<i>occidentalis</i>	Eastern White Cedar	S5			X
Pinaceae		Pine Family				
<i>Larix</i>	<i>laricina</i>	Tamarack	S5			X
<i>Picea</i>	<i>mariana</i>	Black Spruce	S5			X
<u>DICOTYLEDONS</u>		<u>DICOTS</u>				
Asteraceae		Composite or Aster Family				
<i>Eupatorium</i>	<i>maculatum</i> ssp. <i>maculatum</i>	Spotted Joe-pye-weed	S5			X
<i>Solidago</i>	<i>rugosa</i> ssp. <i>rugosa</i>	Rough Goldenrod	S5			X
Balsaminaceae		Touch-me-not Family				
<i>Impatiens</i>	<i>capensis</i>	Spotted Touch-me-not	S5			X
Betulaceae		Birch Family				
<i>Alnus</i>	<i>incana</i> ssp. <i>rugosa</i>	Speckled Alder	S5			X
<i>Betula</i>	<i>papyrifera</i>	White Birch	S5			X
Ericaceae		Heath Family				
<i>Andromeda</i>	<i>polifolia</i> ssp. <i>glaucophylla</i>	Bog Rosemary	S5			X
<i>Chamaedaphne</i>	<i>calyculata</i>	Leatherleaf	S5			X
<i>Gaultheria</i>	<i>hispidula</i>	Creeping Snowberry	S5			X
<i>Kalmia</i>	<i>polifolia</i>	Bog Laurel	S5			X
<i>Ledum</i>	<i>groenlandicum</i>	Labrador-tea	S5			X
<i>Vaccinium</i>	<i>myrtilloides</i>	Velvet-leaf Blueberry	S5			X
Grossulariaceae		Currant Family				
<i>Ribes</i>	<i>glandulosum</i>	Skunk Currant	S5			X
Guttiferae		St. John's-wort Family				
<i>Hypericum</i>	<i>boreale</i>	Northern St. John's-wort	S5			X
<i>Hypericum</i>	<i>punctatum</i>	Corymbled St. John's-wort	S5			X
<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	S5			X

Lamiaceae		Mint Family				
<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	S5			X
Myricaceae		Wax-myrtle Family				
<i>Myrica</i>	<i>gale</i>	Sweet Gale	S5			X
Nymphaeaceae		Water-lily Family				
<i>Nymphaea</i>	<i>odorata</i>	Fragrant Water-lily	S5			X
Ranunculaceae		Buttercup Family				
<i>Coptis</i>	<i>trifolia</i>	Goldthread	S5			X
<i>Thalictrum</i>	<i>pubescens</i>	Tall Meadow-rue	S5			X
Rosaceae		Rose Family				
<i>Comarum</i>	<i>palustre</i>	Marsh Cinquefoil	S5			X
<i>Rubus</i>	<i>allegheniensis</i>	Alleghany Blackberry	S5			X
<i>Rubus</i>	<i>idaeus ssp. melanolasius</i>	Wild Red Raspberry	S5			X
Cyperaceae		Sedge Family				
<i>Carex</i>	<i>gynandra</i>	Nodding Sedge	S5			X
<i>Carex</i>	<i>intumescens</i>	Bladder Sedge	S5			X
<i>Carex</i>	<i>livida</i>	Livid Sedge	S5			X
<i>Carex</i>	<i>stricta</i>	Tussock Sedge	S5			X
<i>Carex</i>	<i>trisperma var. trisperma</i>	Three-seeded Sedge	S5			X
<i>Carex</i>	<i>utriculata</i>	Beaked Sedge	S5			X
<i>Dulichium</i>	<i>arundinaceum</i>	Reed-like Three-way Sedge	S5			X
<i>Eleocharis</i>	<i>spp.</i>					X
<i>Schoenoplectus</i>	<i>pungens</i>	Common Three-square	S5			X
<i>Scirpus</i>	<i>cyperinus</i>	Wool-grass	S5			X
Eriocaulaceae		Pipewort Family				
<i>Eriocaulon</i>	<i>aquaticum</i>	Seven-angled Pipewort	S5			X
Iridaceae		Iris Family				
<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	S5			X
Juncaceae		Rush Family				
<i>Juncus</i>	<i>brevicaudatus</i>	Short-tailed Rush	S5			X
<i>Juncus</i>	<i>effusus ssp. solutus</i>	Soft Rush	S5			X
Poaceae		Grass Family				
<i>Calamagrostis</i>	<i>canadensis</i>	Blue-joint Grass	S5			X
<i>Glyceria</i>	<i>canadensis</i>	Rattlesnake Grass	S4S5			X
Potamogetonaceae		Pondweed Family				
<i>Potamogeton</i>	<i>spp.</i>					X
<i>Potamogeton</i>	<i>epihydus</i>	Nuttall's Pondweed	S4S5			X
<i>Potamogeton</i>	<i>natans</i>	Common Floating Pondweed	S5			X
Sparganiaceae		Bur-reed Family				
<i>Sparganium</i>	<i>americanum</i>	Nuttall's Bur-reed	S4?			X

<i>Sparganium</i>	<i>fluctuans</i>	Floating Bur-reed	S4?			X
<u>BRYOPHYTES</u>						
Sphagnaceae						
<i>Sphagnum</i>	<i>girgensohnii</i>	Common Green Peat Moss	S5			X
<i>Sphagnum</i>	<i>magellanicum</i>	Midway Peat Moss	S5			X
<i>Sphagnum</i>	<i>palustre</i>		S5			X
<i>Sphagnum</i>	<i>rubellum</i>	Red Peat Moss	S5			X
<i>Sphagnum</i>	<i>squarrosum</i>	Shaggy Peat Moss	S5			X
<i>Sphagnum</i>	<i>wolfianum</i>	Wulfe's Peat Moss	S5			X

BOW LAKE PHASE 1 WETLAND EVALUATION

BEAR PAW WETLAND COMPLEX



Prepared for:
M.K. Ince & Associates Ltd.
11 Cross Street
Dundas, Ontario
L9H 2R3

Project No. 1186A

Date: November 10, 2010



NATURAL RESOURCE SOLUTIONS INC.

Aquatic, Terrestrial and Wetland Biologists

November 10, 2010

Project: 1186a

Thomas Bernacki
M. K. Ince and Associates Ltd.
11 Cross St.
Dundas, ON L9H 2R3

Dear Mr. Bernacki

**Re: Bow Lake Phase I Wetland Evaluation (Bear Paw Wetland Complex)
MNR Recommendations**

On behalf of Natural Resource Solutions Inc., I am pleased to provide to you an amended version of the Wetland Evaluation for Bear Paw Wetland Complex, originally submitted on September 12, 2010.

This amendment is a result of recommendations prepared by the OMNR (Sault Ste. Marie) upon review of the original evaluation. All recommendations for Bear Paw Wetland Complex have been addressed throughout the OWES data and scoring records resulting in a change in final score from 501 (September 12, 2010) to a score of 547. Based on the scores of each subsection, as well as the overall score of the evaluation, this wetland is not considered to be Provincially Significant.

Below are the recommendations which were provided by MNR as well corresponding comments or changes made by NRSI;

Pg. 1: iv) County or Regional Municipality = District of Algoma and not City of SSM
vii) OBM scale = 1:20,000

These edits have been made and are included in the new document.

Pg. 2: viii) If the wetland is a complex, chose 'option b' only

These edits have been made and are included in the new document.

Pg. 4: 1.2.2 Wetland Type – Only marsh and swamp identified; however, low bush cranberry observed (section 2.1.2) which indicates bog or sometimes fen condition. Please provide rationale.

The community in which the cranberry was observed was comprised of yellow birch and red maple as the tall shrub component. It was my recollection that more than one indicator species was needed to call a community a bog or a fen and the presence of the birch and maple initially suggested a swamp community. Wetland Plants of Ontario (Newmaster et. al 1997) indicates that V. macrocarpon can be found in swamps and on wet shores. However, in looking into this further, I came across a reading in the OWES Northern Ontario manual stating that low bush cranberry is restricted to bogs and fens. Due to this finding, we have changed the mapping and scoring so as to include a fen community where the cranberry

was observed. Appropriate maps, legends, and scores have been changed to reflect this edit.

Pg. 5: 1.2.2 Vegetation Communities – Wetland map definitions includes neW2; however it is not shown on map or listed on the data summary form in the appendix. If it does not exist as a separate community then the scoring is correct and we request that you fix the Wetland Evaluation Map Definitions. However, it looks like there could be one vegetation community not labelled on the vegetation map in wetland unit #1. Please address.

The community neW2 does not exist, and should not have appeared on the wetland map definitions. It has been removed. The polygon that was not labelled on the original map is not a wetland community, it was deep water (>2m) with no wetland vegetation present. We have removed the polygon from the map for visual clarity.

Pg. 15: 2.8.1 Aboriginal Values: As part of the wetland evaluation please provide documentation for sources.

A letter documenting an interview with a member of Batchewana First Nation and a biologist from NRSI is appended to the evaluation.

Pg. 18: 3.3.2 Step 2: Determination of Broad Upslope Land Use – Since the area south of wetland unit #2 within the catchment area has been harvested, we would think that the BLU would likely represent more than 20% but less than 50%. If that is not the case, please provide rationale.

NRSI agrees with this recommendation, and has made the appropriate changes to the data and scoring record.

Pg. 21: 4.1.1 Wetlands – Site Region and Site District = 5E-13 (Batchewanan) [Marsh - 10, Swamp - 0, Fen - 10, Bog - 30].

We have included this Site Region and Site District to the table, and have made the appropriate scoring changes resulting from this edit.

Pg. 23: 4.1.2.3 Provincially Significant Animal Species – Please provide a list of faunal species.

We apologize for not appending this list originally. A list of all wildlife observations within Bear Paw Wetland Complex is now included.

Pg. 27: 4.1.2.7 Species of Special Status: Black Duck – Please check the line associated with '10-20 pairs/100km sq'.

Noted. This edit has been made and the scoring has been changed accordingly.

Pg 30: 4.2.7.1 Spawning and Nursery Habitat – We are inclined to score Step 3 – Item 4 'Locally significant habitat (<0.5ha)' as baitfish were observed by NRSI in section 2.1.4. Palustrine habitats would provide spawning and nursery habitats for these fish.

NRSI agrees with this recommendation. We have changed the data scoring record to reflect this change.

Pg. 32: 4.2.7.2 Migration and Staging Habitat – Ensure that Step 1, #1 is checked off.

Step 1 is now checked off.

If you have any questions regarding this updated evaluation for Bear Paw Wetland Complex, or require further comment on MNR recommendations, please feel free to contact Lisa Keable at (705) 971-4771.

Sincerely,
Natural Resource Solutions Inc.

A handwritten signature in cursive script that reads "Lisa Keable".

Lisa Keable
Wetland & Terrestrial Biologist

WETLAND DATA AND SCORING RECORD

- i) **WETLAND NAME:** Bear Paw Wetland Complex
- ii) **MNR ADMINISTRATIVE REGION:** Northeast **DISTRICT:** Sault Ste. Marie
AREA OFFICE (if different from District): _____
- iii) **CONSERVATION AUTHORITY JURISDICTION:** _____
(If not within a designated CA, check here: ☒)
- iv) **COUNTY OR REGIONAL MUNICIPALITY:** District of Algoma
- v) **TOWNSHIP:** Smulsky Township & Peever Township
- vi) **LOTS & CONCESSIONS:** None
(attach separate sheet if necessary)
- vii) **MAP AND AIR PHOTO REFERENCES**
- a) Latitude 47° 13' 26.3" Longitude: 84° 33' 20.1"
- b) UTM grid reference: Zone: 16 Block: T
Grid: E 68 50 56 N 5232954
- c) National Topographic Series:
- map name(s) Mamainse Point
- map number(s) 41 N/2 edition 3
- scale _____
- d) Aerial photographs: Date photo taken: _____ Scale: _____
- Flight & plate numbers: Google Earth Images
- _____
(attach separate sheet if necessary)
- e) Ontario Base Map numbers & scale #166805230 1:20,000
- _____
(attach separate sheets if necessary)

viii) WETLAND SIZE AND BOUNDARIES

a) Single contiguous wetland area: _____ hectares

b) Wetland complex comprised of 3 individual wetlands:

Wetland Unit Number (for reference)	Size of each wetland unit
Wetland Unit No. 1	<u>3.61</u> ha
Wetland Unit No. 2	<u>3.71</u> ha
Wetland Unit No. 3	<u>1.12</u> ha
Wetland Unit No. 4	_____ ha
Wetland Unit No. 5	_____ ha
Wetland Unit No. 6	_____ ha
Wetland Unit No. 7	_____ ha
Wetland Unit No. 8	_____ ha
Wetland Unit No. 9	_____ ha
Wetland Unit No. 10	_____ ha

(Attach additional sheets if necessary)

TOTAL WETLAND SIZE

8.44 ha

Brief documentation of reasons for including any areas less than 0.5 ha in size:

(Attach separate sheets if necessary.)

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS SOILS**

(check one)	Estimated Fractional Area
<input type="checkbox"/> <1600	<u>0.73</u> clay/loam
<input type="checkbox"/> 1600-2000	<u>0.23</u> silt/marl
<input checked="" type="checkbox"/> 2000-2400	<u>0</u> limestone
<input type="checkbox"/> 2400-2800	<u>0</u> sand
<input type="checkbox"/> 2800-3000	<u>0</u> humic/mesic
<input type="checkbox"/> >3000	<u>0</u> fibric
	<u>0.04</u> granite

SCORING:

Growing Degree Days	Clay/Loam	Silt/Marl	Lime-stone	Sand	Humic/Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400 ✓	18 x <u>0.73</u>	15 x <u>0.23</u>	13	11	9	8	7 x <u>0.04</u>
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

= 16.87

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine % of area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
3. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Growing Degree Days/Soils Score (maximum 30 points) 17

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/ total wetland area)

Fractional Area Score

Bog		x 3 =	
Fen	<u>0.94/8.44</u>	x 6 =	<u>0.11</u>
Swamp	<u>2.34/8.44</u>	x 8 =	<u>2.22</u>
Marsh	<u>5.16/8.44</u>	x 15 =	<u>9.17</u>

Wetland Type Score (maximum 15 points) 111.1.3 SITE TYPE (Fractional Area = area of site type/ total wetland area)

Fractional Area Score

isolated		x 1 =	
palustrine (permanent or intermittent flow)	<u>1.0</u>	x 2 =	<u>2</u>
riverine		x 4 =	
riverine (at rivermouth)		x 5 =	
lacustrine (at rivermouth)		x 5 =	
lacustrine (on enclosed bay, with barrier beach)		x 3 =	
lacustrine (exposed to lake)		x 2 =	

Site Type Score (maximum 5 points) 21.2 BIODIVERSITY1.2.1 NUMBER OF WETLAND TYPES

(Check one) Score (Choose one only)

<u> </u> one	9 points
<u> </u> two	13
<u> ✓ </u> three	20
<u> </u> four	30

Number of Wetland Types Score (Maximum 30 points) 20

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species. Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities with 1-3 forms	Total # of communities with 4-5 forms	Total # of communities with 6 or more forms
1 = 1.5 points	1 = 2 points	1 = 3 points
2 = 2.5	2 = 3.5	2 = 5
③ = 3.5	3 = 5	3 = 7
4 = 4.5	④ = 6.5	4 = 9
5 = 5	5 = 7.5	5 = 10.5
6 = 5.5	6 = 8.5	6 = 12
7 = 6	7 = 9.5	7 = 13.5
8 = 6.5	8 = 10.5	8 = 15
9 = 7	9 = 11.5	9 = 16.5
10 = 7.5	10 = 12.5	10 = 18
11 = 8	11 = 13	11 = 19
+ .5 each additional community = <u>3.5</u>	+ .5 each additional community = <u>6.5</u>	+ 1 each additional community = <u>0</u>

e.g., a wetland with 3 one form communities, 4 two form communities, 12 four form communities and 8 six form communities would score:

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points) 10

Wetland Name: Bear Paw Wetland ComplexWetland Size (ha): 8.44 ha

<u>Vegetation Form</u>	<u>% area in which form is dominant</u>
------------------------	---

h	—
---	---

c	<u>1.42</u>
---	-------------

dh	—
----	---

dc	<u>13.1</u>
----	-------------

ts	<u>24.4</u>
----	-------------

ls	—
----	---

ds	—
----	---

gc	—
----	---

m	—
---	---

ne	<u>37.9</u>
----	-------------

be	—
----	---

re	—
----	---

ff	—
----	---

f	—
---	---

su	<u>23.2</u>
----	-------------

u (unvegetated)	—
-----------------	---

Total = 100%

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items)

<input type="checkbox"/>	recent burn (< 5yr)
<input type="checkbox"/>	abandoned agricultural land
<input checked="" type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input type="checkbox"/>	abandoned pits or quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input checked="" type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	creek floodplain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points) 7**1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

1) <input checked="" type="checkbox"/>	Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river within 1.5 km	8 points
2) <input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km	8
3) <input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away	5
4) <input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away	5
5) <input type="checkbox"/>	Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water	5
6) <input type="checkbox"/>	Within 1 km of other wetlands, but not hydrologically connected by surface water	2
7) <input type="checkbox"/>	No wetland within 1 km	0

Proximity to other Wetlands Score (Choose one only, maximum 8 points) 8

1.2.5 INTERSPERSIONNumber of Intersections
(check one)

Score

1) 26 or less	_____	3 points
2) 27 to 40	_____	6
3) 41 to 60	<u>✓</u> _____	9
4) 61 to 80	_____	12
5) 81 to 100	_____	15
6) 101 to 125	_____	18
7) 126 to 150	_____	21
8) 151 to 175	_____	24
9) 176 to 200	_____	27
10) >200	_____	30

Interspersion Score (Choose one only, maximum 30 points) 91.2.6 OPEN WATER TYPES

Permanently flooded:

(Check one)

Score

1) _____	no open water	0 points
2) _____	type 1	8
3) _____	type 2	8
4) _____	type 3	14
5) _____	type 4	20
6) <u>✓</u> _____	type 5	30
7) _____	type 6	8
8) _____	type 7	14
9) _____	type 8	3

Open Water Score (Choose one only, maximum 30 points) 30

1.3 SIZE8.44 hectaresSize Score (Biological Component) (maximum 50 points) 9

Table 2. Evaluation Table for Size Score (Biological Component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84 77	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	(9)	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**Area of wetland forested (ha); not wetland size

1) <u>✓</u>	=	<5 ha	Score
2) _____	=	5 - 25 ha	0 points
3) _____	=	26 - 50 ha	4
4) _____	=	51 - 100 ha	6
5) _____	=	101 - 200 ha	8
6) _____	=	>200 ha	11
			14

Source of information: NRSI Field Observations - Aug 30/31, 2010Wood Products Score (Score one only, maximum 14 points) 0**2.1.2 LOWBUSH CRANBERRY**

(Check one)

Score (Choose one)

present
absent1) ✓
2) _____2 points
0Source of information: NRSI Field Observations - Aug 30/31, 2010Lowbush Cranberry Score (maximum 2 points) 2**2.1.3 WILD RICE**

(Check one)

Score (Choose one)

present (at least 0.5 ha)
absent1) _____
2) ✓10 points
0Source of information: NRSI Field Observations - Aug 30/31, 2010Wild Rice Score (maximum 10 points) 0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

present 1) ✓ Score (Choose one)
absent 2) 12 points
0

Source of information: NRSI Field Observations (Aug 30, 2010)

Commercial Fish Score (maximum 12 points) 12

2.1.5 FURBEARERS

(Consult Appendix 9)

	<u>Name of furbearer</u>	<u>Source of information</u>
1)	<u>Red Fox</u>	<u>NRSI Field observation (Aug 30, 2010)</u>
2)	<u>Red squirrel</u>	<u>NRSI field observations (Aug 30, 2010)</u>
3)	<u>Beaver</u>	<u>NRSI Field Observations (Aug 31, 2010)</u>
4)	<u> </u>	<u> </u>
5)	<u> </u>	<u> </u>

Scoring: 3 points for each species, maximum 12

Furbearer Score (maximum 12 points) 9

2.2 RECREATIONAL ACTIVITIES

Type of Wetland-Associated Use			
Intensity of Use	Hunting	Nature Enjoyment/ Ecosystem Study	Fishing
High	40 points	40 points	40 points
Moderate	20	20	20
Low	<u>(8)</u>	<u>(8)</u>	<u>(8)</u>
Not Possible	0	0	0

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of
information:

hunting: Field Observations (NRSI - Aug 30/31, 2010)
nature: Field Observations - access issues (NRSI - Aug 30/31)
fishing: Field Observations - (NRSI - Aug 30/31, 2010)

Recreational Activities Score (maximum 80 points) 24

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct 1) _____
Indistinct 2) ✓

Score (Choose one)

3 points
0Landscape Distinctness Score (maximum 3 points) 0**2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so
One or several localized disturbances
Moderate disturbance; localized water pollution
Wetland intact but impairment of ecosystem quality
intense in some areas
Extreme ecological degradation, or water pollution
severe and widespread

Score (Choose one)

1) ✓ 7 points
2) _____ 4
3) _____ 2
4) _____ 1
5) _____ 0Source of information: NRSI Field Observations (Aug 30/31 2010)Absence of Human Disturbance Score (maximum 7 points) 7**2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent 1) _____
Infrequent 2) _____
No visits 3) ✓

Score (Choose one)

20 points
12
0

Source of information: _____

Educational Uses Score (maximum 20 points) 0**2.4.2 FACILITIES AND PROGRAMS**Staffed interpretation centre with shelters,
trails, literature

Score (choose one)

= 8 points

No interpretation centre or staff, but a system
of self-guiding trails and observation points
or brochures available.

= 4

Facilities such as maintained paths (e.g., wood chips)
boardwalks, boat launches, or observation towers
but no brochures or other interpretation

= 2

No facilities or programs

= 0

Source of information: NRSI Field Observations (Aug 30/31, 2010)Facilities and Programs Score (maximum 8 points) 0

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

1) _____

Score

12 points

Research papers published in refereed scientific journal or as a thesis

2) _____

10

One or more (non-research) reports have been written on some aspect of the wetland's flora, fauna, hydrology, etc.

3) _____

5

No reports known

4) ✓

0

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points) 0**2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT**

Circle the highest scoring category applicable

Distance of wetland from settlement	population >10,000	population 2,500 - 10,000	population <2,500 or cottage community
Within or adjoining settlement	40 points	26	16
0.5 to 10 km from settlement	26	16	<u>(10)</u>
10 to 60 km from settlement	12	8	4
>60 km from settlement	5	2	0
>100 km from settlement	0	0	0

Name of settlement: Montreal Harbour**Proximity to Human Settlement Score (maximum 40 points) 10****2.6 OWNERSHIP** (FA = fractional area)

Fractional Area Score

Wetland in public or private ownership, held under contract or in trust for wetland protection

_____ x 10 = _____

Wetland in public ownership, not as above

1.0 x 8 = 8

Wetland in private ownership, not as above

_____ x 4 = _____

Source of information: _____

Ownership Score (maximum 10 points) 8

2.7 SIZE (See size table -- Social Component)8.44 hectaresSize Score (Social Component) (maximum 20 points) 5

Table 3. Evaluation Table for Size Score (Social Component)

Wetland size (ha)	Total for Size Dependent Score									
	<30	31-45	46-60	61-75	76-90	91-105	106-120	121-135	136-150	>150
2-4	1	2	4	8	12	13	14	14	15	16
5-8	2	2	5	9	13	14	15	15	16	16
9-12	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

2.8 ABORIGINAL AND CULTURAL VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

<u>✓</u>	Significant	=	30 points
<u> </u>	Not Significant	=	0
<u> </u>	Unknown	=	0

2.8.2 CULTURAL HERITAGE

<u> </u>	Significant	=	30 points
<u>✓</u>	Not Significant	=	0
<u> </u>	Unknown	=	0

Aboriginal Values/Cultural Heritage Score (maximum 30 points) 30

3.0 HYDROLOGICAL COMPONENT**3.1 FLOOD ATTENUATION**

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area. For example, if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of the remaining 90 points.

Step 1.

If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area:lake area is <0.1 , or wetland is riverine on the St. Mary's River, go to Step 5.

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2.**Determination of Upstream Detention Factor (DF)**

- | | | |
|-----|--|---------------|
| (a) | Wetland area (ha) | <u>8.44</u> |
| (b) | Total area (ha) of <u>upstream</u> detention areas
(include the wetland itself) | <u>10.34</u> |
| (c) | Ratio of (a):(b) | <u>0.8162</u> |
| (d) | Upstream detention factor: (c) x 2 =
(Maximum allowable factor = 1) | <u>1</u> |

Step 3.**Determination of Peak Flow Attenuation Factor (AF)**

- | | | |
|-----|---|---------------|
| (a) | Wetland area (ha) | <u>8.44</u> |
| (b) | Size of catchment basin (ha) <u>upstream</u> of wetland
(include wetland itself in catchment area) | <u>127.07</u> |
| (c) | Ratio of (a):(b) | <u>0.0664</u> |
| (d) | Wetland attenuation factor: (c) x 10 =
(Maximum allowable factor = 1) | <u>0.664</u> |

Step 4.**Determination of Wetland Surface Form Factor (FF)**

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	0.2
Flat (lawn) vegetation (typical of fens)	<u>✓</u> 0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1.0

Surface Form Factor (FF) 0.5

(Maximum allowable factor = 1)

Step 5. Calculation of Final Score

1. Wetland is entirely Isolated 100 points
2. Wetland is lacustrine and the ratio of wetland area:lake area is <0.1 0 points
3. Wetland is riverine along the St. Mary's River 0 points
4. For all other wetlands*, calculate as follows:

- (a) Upstream Detention Factor (DF) (Step 2) 1
- (b) Wetland Attenuation Factor (AF) (Step 3) 0.604
- (c) Surface Form Factor (FF) (Step 4) 0.5

$$[(DF + AF + FF)/3] \times 100^*$$

72.13

* Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points) 72**3.2 GROUND WATER RECHARGE****3.2.1 SITE TYPE**

- (a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River Score = 0
- (b) Wetland not as above. Calculate final score as follows:
(FA = area of site type/total area of wetland)

- 1 FA of isolated or palustrine wetland x 20 = 20
 _____ FA of riverine wetland x 5 = _____
 _____ FA of lacustrine wetland (wetland <50% lacustrine) x 0 = _____

Site Type Score: (maximum 20 points) 20**3.2.2 SOILS****EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till	Clay, bedrock
Lacustrine or on St. Mary's River	0	0
Isolated	10	5
Palustrine	<u>7</u>	4
Riverine (not on St. Mary's River)	5	2

Hydrological Soil Class Score (maximum 10 points) 7

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland

Site Type	Improvement Factor (IF)
Isolated	FA _____ x 0.5 = _____
Riverine	FA _____ x 1.0 = _____
Palustrine with no inflow	FA <u>0.5723</u> x 0.7 = <u>0.4006</u>
Palustrine with inflows	FA <u>0.4277</u> x 1.0 = <u>0.4277</u>
Lacustrine on lake shoreline	FA _____ x 0.2 = _____
Lacustrine at lake inflow or outflow	FA _____ x 1.0 = _____

Watershed Improvement Score (IF x 30) (maximum = 30) 25

3.3.2 ADJACENT AND WATERSHED LAND USE EVALUATION:**Step 1. Determination of Maximum Initial Score**

_____ Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)

☒ All other wetlands (Go through steps 2, 3, 4, and 5b)

Step 2. Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses as logging within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
> 50% of catchment basin	20
20-50% of catchment basin	<u>14</u>
< 20% of catchment basin	4

Score for BLU 14

Step 3. Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200 m of the wetland boundary.

Choose the highest only	Score
Major corridor ¹	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

Score for LUU 3 points

¹ Major, secondary and tertiary roads are those that are indicated as such on the provincial highways map. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4. Determination of Point-source Land Uses (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1 km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0**Step 5. Calculation of total score for Adjacent and Watershed Land Use**

	Score
a) Wetland on the Great Lakes or St. Mary's River	0
b) All other wetlands, calculate as follows:	

Final Score BLU + LUU + PS 17**3.3.3 VEGETATION FORM**

Choose the category that best describes the vegetation of the wetland

	Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	8 points
Emergents, submergents (ne, re, be, f, ff, su)	10
Little or no vegetation (u)	0

Dominant Vegetation Form Score (maximum 10 points) 10**3.4 CARBON SINK**

Choose the category that best describes the wetland.

1)	Wetland a bog or fen with > 50% organic soils	15 points
2)	Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type)	6
3)	Marshes and swamps with >50% organic soil	9
4)	Wetland with less than 10% or soils organic	0

Carbon Sink Score (maximum 15 points) 0

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

- Step 1.** ✓ Wetland entirely isolated or palustrine Score
0
 _____ Any part of the wetland riverine, or lacustrine (proceed to Step 2)

Step 2. Choose the one characteristic that best describes the shoreline vegetation.
 (See text for the definition of shoreline.)

- | | Score | |
|----------------------------------|-------|----|
| _____ Trees and shrubs | | 15 |
| _____ Emergent vegetation | 8 | |
| _____ Submergent vegetation | 6 | |
| _____ Other shoreline vegetation | | 3 |
| _____ No vegetation | 0 | |

Shoreline Erosion Control Score (maximum 15 points) 0

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and sum the scores.)

Category	Catchment interaction		
Wetland type	Bog = 0	Swamp/Marsh = <u>(2)</u>	Fen = 5
Basin topography	Flat/Rolling = 0	Hilly = <u>(2)</u>	Major relief break = 5
Wetland area:Upslope catchment area	Large (>50%) = 0	Moderate (6 - 50%) = <u>(2)</u>	Small (<5%) = 5
Lagg development	None found = <u>(0)</u>	Minor = 2	Extensive = 5
Seeps at wetland edge	None found = <u>(0)</u>	1 to 3 seeps = 5	4 or more seeps = 10
Iron precipitates evident at edge	None = <u>(0)</u>	1-3 deposits = 2	4 or more deposits = 5
Surface marl deposits	None = <u>(0)</u>	1-3 deposits = 2	> 3 = 5
Wetland pH	Low < 4.2 = 0	Moderate 4.2-5.7 = <u>(5)</u>	High > 5.7 = 10
Catchment soil coverage	Patchy = 0	Thin (<20 cm) = <u>(2)</u>	Thick = 5
Catchment soil permeability	Low = 0	Moderate = 2	High = <u>(5)</u>

(Scores are cumulative, maximum score 30 points)

Groundwater Discharge Score (maximum 30 points) 18

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**

Hills Site Region and Site District (5E only):

5E-13

Wetland type (check one or more)

<input type="checkbox"/>	Bog
<input checked="" type="checkbox"/>	Fen
<input checked="" type="checkbox"/>	Swamp
<input checked="" type="checkbox"/>	Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	(10)	(0)	(10)	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

20

4.1.2 SPECIES4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species	Source of information
-----------------	-----------------------

1) _____	_____
----------	-------

2) _____	_____
----------	-------

3) _____	_____
----------	-------

Attach documentation

Scoring

For one species 250 points

For each additional species 250

(Score is cumulative, no maximum score)

Breeding Habitat for Endangered or Threatened Species Score (no maximum) 04.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species	Source of information
-----------------	-----------------------

1) _____	_____
----------	-------

2) _____	_____
----------	-------

3) _____	_____
----------	-------

Attach documentation

Scoring

For one species 150 points

For each additional species 75

(Score is cumulative, no maximum score)

Traditional Habitat for Endangered or Threatened Species Score (no maximum) 0

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____

Attach separate list if necessary. Attach documentation.

Scoring

Number of provincially significant animal species in the wetland:

One species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum) 0

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

Common Name	Scientific Name	Source of information
1) <u>oval-leaved hillyberry</u>	<u>Vaccinium ovalifolium</u>	<u>NRSI Field Observation</u>
2) _____	_____	<u>(Aug 30, 2010)</u>
3) _____	_____	_____
4) _____	_____	_____
5) _____	_____	_____

Attach separate list if necessary. Attach documentation.

Scoring

Number of provincially significant plant species in the wetland:

One species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum) 50

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species to be scored must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

Common Name	Scientific Name	Source of information
1) _____	_____	_____
2) _____	_____	_____
3) _____	_____	_____
4) _____	_____	_____
5) _____	_____	_____
6) _____	_____	_____
7) _____	_____	_____
8) _____	_____	_____

Attach separate list if necessary; Attach documentation

** Score only if there is an approved list.

Scoring

No. of species significant in Site Region

One species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (No maximum score)

Significant Species (Site Region) Score (no maximum) 0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species to be scored must be approved by MNR.**

Common Name	Scientific Name	Source of information
1) _____	_____	_____
2) _____	_____	_____
3) _____	_____	_____
4) _____	_____	_____
5) _____	_____	_____
6) _____	_____	_____
7) _____	_____	_____
8) _____	_____	_____
9) _____	_____	_____
10) _____	_____	_____

Attach separate list if necessary; Attach documentation.

Scoring

No. of species significant in Site District

One species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum) 0

4.1.2.7 SPECIES OF SPECIAL STATUSBlack Duck

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40 - 80 Indicated Pairs/100 km sq	_____	25 points
20 - 40 Indicated Pairs/100 km sq	_____	20
10 - 20 Indicated Pairs/100 km sq	<input checked="" type="checkbox"/>	15
5 - 10 Indicated Pairs/100 km sq	_____	10
1 - 5 Indicated Pairs/100 km sq	_____	5
Habitat not suitable	_____	0
Out of assessment range	_____	0

Black Duck Score (maximum 25 points) 15

4.2 SIGNIFICANT FEATURES AND HABITATS4.2.1 NESTING OF COLONIAL WATERBIRDS

Status	Name of species	Source of information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations, etc., if known)

Colonial Waterbirds Score (maximum 50 points) 0

4.2.2. WINTER COVER FOR WILDLIFE

(Check only highest level of significance) Score (one only)

- | | | |
|--|-------------------------------------|------------|
| 1) _____ | Provincially significant | 100 points |
| 2) _____ | Significant in Site Region | 50 |
| 3) _____ | Significant in Site District | 25 |
| 3) _____ | Locally significant | 10 |
| 4) <input checked="" type="checkbox"/> | Little or poor winter cover present | 0 |

Source of information: NRSI observations (Aug 30/31, 2010) → Only 0.12 ha of treed swamp present in wetland. Also referred to MNR Values Map (June 25, 10)

Winter cover for Wildlife Score (maximum 100 points) 0

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum 150 points)

	<u>Staging</u>	Score (one only)	<u>Moulting</u>	Score (one only)
1) Nationally significant	_____	150	_____	150
2) Provincially significant	_____	100	_____	100
3) Regionally significant	_____	50	_____	50
4) Known to occur	_____	10	_____	10
5) Not possible	_____	0	_____	0
6) Not known	<u>✓</u>	0	<u>✓</u>	0

Source of information: _____

Waterfowl Moulting and Staging Score (maximum 150 points) 0

4.2.4 WATERFOWL BREEDING

(Check only highest level of significance) Score

1) _____	Provincially significant	100
2) _____	Regionally significant	50
3) <u>✓</u>	Habitat suitable	<u>10</u>
4) _____	Habitat not suitable	0

Source of information: Field Observations (NE-SI - Aug 20/31, 2010)

Waterfowl Breeding Score (maximum 100 points) 10

4.2.5 MIGRATORY PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

(check highest applicable category)

	Score
1) _____ Provincially significant	100
2) _____ Significant in Site Region	50
3) _____ Significant in Site District	10
4) <input checked="" type="checkbox"/> Not significant	0

Source of information: MNR Values Map (June 25, 2010) & Field Observations

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points) 0

4.2.6 UNGULATE HABITAT**EVALUATION:**Score (1) + (2) + one of (3) to (6)

- | | | | |
|---|------------------------------------|-------|-------------|
| (1) <input checked="" type="checkbox"/> | Ungulate summer cover | Score | = 15 points |
| (2) <input type="checkbox"/> | Mineral licks | | = 50 |
| (3) <input type="checkbox"/> | Moose aquatic feeding area Class 1 | | = 0 |
| (4) <input type="checkbox"/> | Moose aquatic feeding area Class 2 | | = 10 |
| (5) <input checked="" type="checkbox"/> | Moose aquatic feeding area Class 3 | | = 20 |
| (6) <input type="checkbox"/> | Moose aquatic feeding area Class 4 | | = 35 |

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points) 35**4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5 - 4.9	0.2
5.0 - 9.9	0.4
10.0 - 14.9	0.6
15.0 - 19.9	0.8
20.0+ ha	1.0

Step 1:☐ Fish habitat is not present within the wetland (Score = 0)☒ Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

- 1) ☒ Significance of the spawning and nursery habitat within the wetland is known (Go to Step3)
- 2) ☐ Significance of the spawning and nursery habitat within the wetland is not known (Go through Steps 4, 5, 6, and 7)

Step 3: Select the highest appropriate category below, attach documentation:

- 1) Significant in Site Region 100 points
- 2) Significant in Site District 50
- 3) Locally Significant Habitat (5.0+ ha) 25
- 4) ✓ Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points) 15

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not scored

(Low Marsh: marsh area from the existing water line out to the outer boundary of the wetland)

- Low marsh not present (Continue to Step 5)
- Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	
2	Shortgrass-Sedge				11	
3	Cattail-Bulrush-Burreed				5	
4	Arrowhead-Pickerelweed				5	
5	Duckweed				2	
6	Smartweed-Waterwillow				6	
7	Waterlily-Lotus				11	
8	Waterweed-Watercress				9	
9	Ribbongrass				10	
10	Coontail-Naiad-Watermilfoil				13	
11	Narrowleaf Pondweed				5	
12	Broadleaf Pondweed				8	
Total Score (maximum 75 points)						

Step 5: High Marsh: area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.

_____ High marsh not present (Continue to Step 6)

_____ High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	
2	Shortgrass-Sedge				11	
3	Cattail-Bulrush-Burreed				5	
4	Arrowhead-Pickerelweed				5	
Total Score (maximum 25 points)						

Step 6: Swamp: Swamp communities containing fish habitat, either seasonally or permanently.

Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.

_____ Swamp containing fish habitat not present (Continue to Step 7)

_____ Swamp containing fish habitat present (Score as follows)

Swamp containing fish habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
seasonally flooded				10	
permanently flooded				10	
SCORE (maximum 20 points)					

Step 7: Calculation of final score

Score for Spawning and Nursery Habitat (Low Marsh) (maximum 75 points) = ____

Score for Spawning and Nursery Habitat (High Marsh) (maximum 25 points) = ____

Score for Swamp Containing Fish Habitat (maximum 20 points) = ____

Sum (maximum score 100 points) = ____

4.2.7.2 Migration and Staging Habitat**Step 1:**

- 1) ☒ Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) ____ Staging or Migration Habitat is present in the wetland, significance of the habitat is known (Go to Step 2)
- 3) ____ Staging or Migration Habitat is present in the wetland, significance of the habitat is not known (Go to Step 3)

Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

- | Score | |
|---|-----------|
| 1) ____ Significant in Site Region | 25 points |
| 2) ____ Significant in Site District | 15 |
| 3) ____ Locally Significant | 10 |
| 4) ____ Fish staging and/or migration habitat present, but not as above | 5 |

Score for Fish Migration and Staging Habitat (maximum score 25 points) 0**Step 3:** Select the highest appropriate category below based on presence of the designated site type (i.e. does not have to be the dominant site type). Note name of river for 2) and 3).

- | | Score |
|---|-----------|
| 1) ____ Wetland is riverine at rivermouth or lacustrine at rivermouth | 25 points |
| 2) ____ Wetland is riverine, within 0.75 km of rivermouth | 15 |
| 3) ____ Wetland is lacustrine, within 0.75 km of rivermouth | 10 |
| 4) ____ Fish staging and/or migration habitat present, but not as above | 5 |

Score for Staging and Migration Habitat (maximum score 25 points) 0

4.3 ECOSYSTEM AGE (Fractional Area = Area of wetland type/total area of wetland)

	Fractional Area		Scoring
Bog	_____	x 25	_____
Fen, treed to open on deep soils, floating mats or marl	<u>0.1114</u>	x 20	<u>2.2274</u>
Fen, on limestone rock	_____	x 5	_____
Swamp	<u>0.2773</u>	x 3	<u>0.8318</u>
Marsh	<u>0.6114</u>	x 0	<u>0</u>

Ecosystem Age Score (maximum 25 points) 3**4.4 GREAT LAKES COASTAL WETLANDS**Score for coastal (see text for definition) wetlands only

Choose one only

_____ wetland <10 ha	= 10 points
_____ wetland 10-50 ha	= 25
_____ wetland 51-100 ha	= 50
_____ wetland >100 ha	= 75

Great Lakes Coastal Wetlands Score (maximum 75 points) 0

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**☒ Absent/Not seen☐ Present(a) One location in wetland ☐
Two to many locations ☐

abundance code

(b) (1) < 20 plants ☐
(2) 20-99 plants ☐
(3) 100-999 plants ☐
(4) >1000 plants ☐**5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

check one or more

No seasonal flooding		<input checked="" type="checkbox"/>
Ephemeral	(less than 2 weeks)	<input type="checkbox"/>
Temporal	(2 weeks to 1 month)	<input type="checkbox"/>
Seasonal	(1 to 3 months)	<input checked="" type="checkbox"/>
Semi-permanent	(>3 months)	<input checked="" type="checkbox"/>
No seasonal flooding		<input type="checkbox"/>

5.3 SPECIES OF SPECIAL SIGNIFICANCE**5.3.1 Osprey**

☐ Present and nesting (attach map showing nest site)
☐ Known to have nested in last 5 yrs.
☐ Feeding area for Osprey
☒ not as above

5.3.2 Common Loon

☐ Nesting in wetland (attach map showing nest site)
☐ Feeding at edge of wetland
☐ Observed or heard on lake or river adjoining the wetland
☒ not as above

INVESTIGATORS

Derek Goertz

Lisa Keable

AFFILIATION

Natural Resource Solutions Inc (NRSI)

NRSI

DATES WETLAND VISITED

Aug 30/31, 2010

DATE THIS EVALUATION COMPLETED:

Friday Sept 10, 2010 - Amended Nov 9, 2010

ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"

20 hrs

WEATHER CONDITIONS

i) at time of field work 24-29°C, no rain, wind (3-5 beaufort scale) SW

ii) summer conditions in general Very hot & dry summer however heavy rains occurred over last week prior to site visits.

OTHER POTENTIALLY USEFUL INFORMATION:

* While conducting field surveys NRSI biologist Derek Goertz observed a juvenile salmonid within community scum, (likely a brook trout due to habitat).

While no voucher of oval-leaved bilberry was collected NRSI (Sault Ste. Marie office) has photographs of this species & WTM is provided in plant list appended.

CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:

attach list of all flora and faun observed in the wetland:

* Indicate if voucher specimens or photos have been obtained, where located, etc.)

WETLAND EVALUATION SCORING RECORD

WETLAND NAME Bear Paw Wetland Complex

1.0 BIOLOGICAL COMPONENT

1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

17

1.1.2 Wetland Type

11

1.1.3 Site Type

2

Total for Productivity

30

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

20

1.2.2 Vegetation Communities (maximum 45)

10

1.2.3 Diversity of Surrounding Habitat (maximum 7)

7

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

9

1.2.6 Open Water Type

30

Total for Biodiversity

84

1.3 SIZE (Biological Component)

9

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

123

2.0 SOCIAL COMPONENT2.1 ECONOMICALLY VALUABLE PRODUCTS

- 2.1.1 Wood Products
- 2.1.2 Low Bush Cranberry
- 2.1.3 Wild Rice
- 2.1.4 Commercial Fish
- 2.1.5 Furbearers

0
2
0
12
9

Total for Economically Valuable Products

23

2.2 RECREATIONAL ACTIVITIES (maximum 80)

24

2.3 LANDSCAPE AESTHETICS

- 2.3.1 Distinctness
- 2.3.2 Absence of Human Disturbance

0
7

Total for Landscape Aesthetics

7

2.4 EDUCATION AND PUBLIC AWARENESS

- 2.4.1 Educational Uses
- 2.4.2 Facilities and Programs
- 2.4.3 Research and Studies

0
0
0

Total for Education and Public Awareness

0

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

10

2.6 OWNERSHIP

8

2.7 SIZE (Social Component)

5

2.8 ABORIGINAL AND CULTURAL VALUES

30

TOTAL FOR SOCIAL COMPONENT (not to exceed 250)

107

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

72

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

20

3.2.2 Soils

7

Total for Groundwater Recharge

27

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

25

3.2.2 Adjacent and Watershed Land Use

17

3.2.3 Vegetation Form

10

Total for Water Quality Improvement

52

3.4 CARBON SINK

0

3.5 SHORELINE EROSION CONTROL

0

3.6 GROUNDWATER DISCHARGE (maximum 30)

18

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

169

4.0 SPECIAL FEATURES4.1 RARITY4.1.1 Wetlands 20

4.1.2 Species

4.1.2.1 Endangered or Threatened Species
Breeding Habitat 04.1.2.2 Traditional Use by Endangered
or Threatened Species 04.1.2.3 Provincially Significant Animals 04.1.2.4 Provincially Significant Plants 504.1.2.5a Regionally Significant Species 04.1.2.5b Locally Significant Species 04.1.2.6 Species of Special Status 15Total for Species Rarity 854.2 SIGNIFICANT FEATURES OR HABITAT4.2.1 Colonial Waterbirds 04.2.2 Winter Cover for Wildlife 04.2.3 Waterfowl Staging and Moulting 04.2.4 Waterfowl Breeding 104.2.5 Migratory Passerine, Shorebird or Raptor Stopover 04.2.6 Ungulate Habitat 354.2.7 Fish Habitat 15Total for Significant Features and Habitat 604.3 ECOSYSTEM AGE 34.4 GREAT LAKES COASTAL WETLANDS 0TOTAL FOR SPECIAL FEATURES (not to exceed 250) 148

SUMMARY OF EVALUATION RESULT

Wetland Bear Paw Wetland Complex

TOTAL FOR 1.0 BIOLOGICAL COMPONENT

123

TOTAL FOR 2.0 SOCIAL COMPONENT

107

TOTAL FOR 3.0 HYDROLOGICAL COMPONENT

169

TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT

148

WETLAND TOTAL

547

INVESTIGATORS

Lisa Gable
Derek Goertz

AFFILIATION

Natural Resource Solutions Inc.

DATE NOV 9, 2010

Data Summary Form

Wetland Name Bear Paw Wetland Complex Page 1 of 1

Map Code	Field Code	# Forms	Dominant Form	Forms	% open water	area (ha)	ha open water	Soils	Site Type	Fish Habitat (LM or HM)
neM1	M1	3	ne	ls, m	20	0.84+ 1.6+ 0.43	0.574	clay/loam	Palustrine	
neM2	m2	3	ne	re, ff	50	0.33	0.165	granite	Palustrine	
suW1	m3	2	su	ff	90	1.96	1.764	silt/marl	Palustrine	✓
dcS1	S2	5	dc	c, ts, ne, m	0	0.65+ 0.45	0	clay/loam	Palustrine	
cs2	S3	4	c	ts, ne, m	5	0.12	0.006	clay/loam	Palustrine	
tsS3	S4	4	ts	dc, ne, m	0	1.12	0	clay/loam	Palustrine	
tsF1	S1	4	ts	ne, gc, m	0	0.94	0	clay/loam	Palustrine	

MARSH

SWAMP

FEN

Bow Lake Phase 1
Wetland Vegetation



November 8, 2010
Project: 0868
NAD83 - UTM Zone 16
Scale: 1:10,000 (11x17")



Legend

- Vegetation Community
- Beaver Dam
- Watercourse Flow
- Watercourse
- Waterbody
- Wooded Area

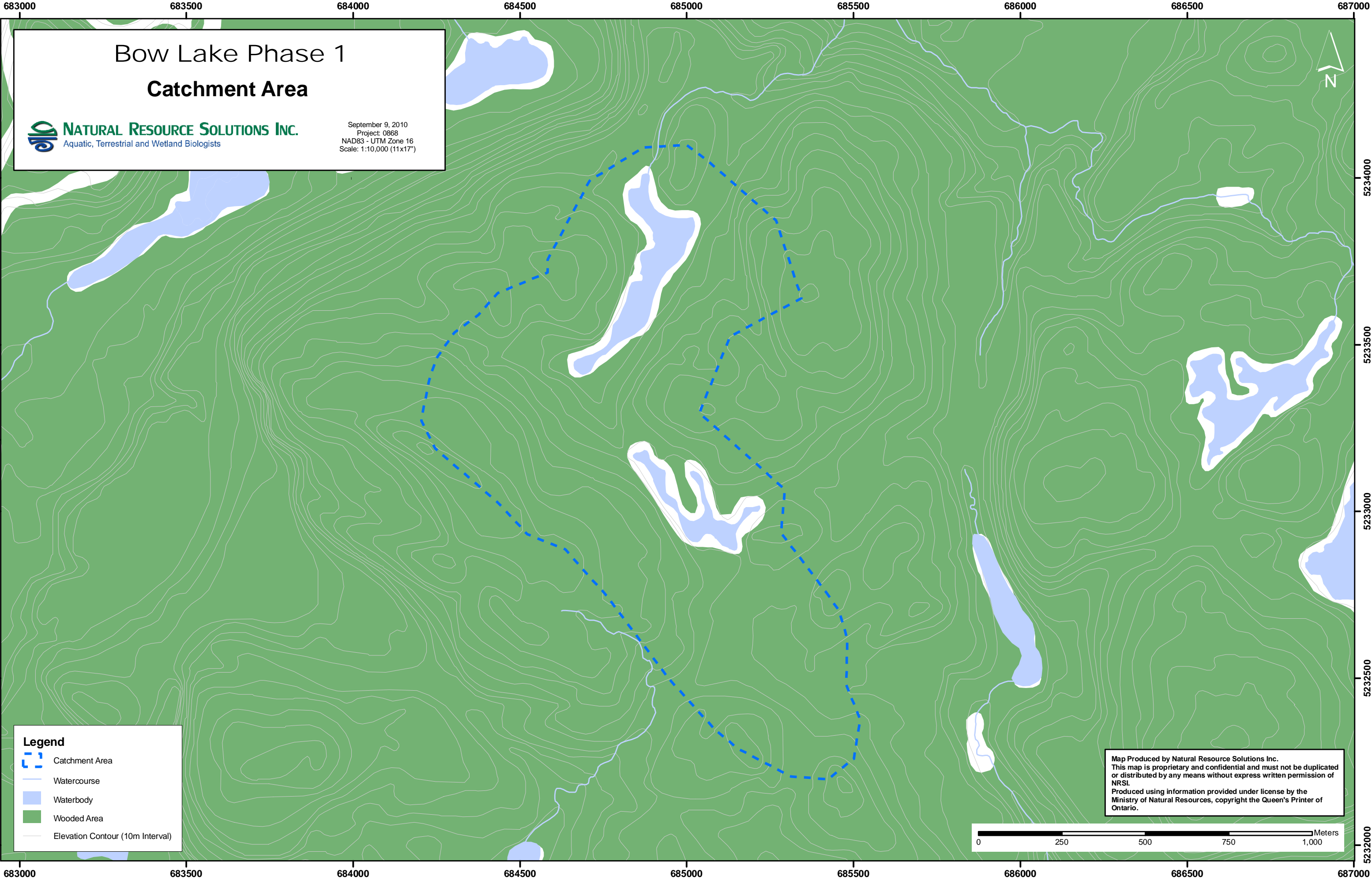
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0 250 500 750 1,000 Meters

Bow Lake Phase 1 Wetland Evaluation Map Definitions

Bear Paw Wetland Complex

Map Code	Wetland Type	Forms	Dominant Species
neM1	Marsh	ne, ls, m	<i>Carex utriculata</i> , <i>Calamagrostis canadensis</i> ; <i>Myrica gale</i> , <i>Chaemaedaphne calyculata</i> ; <i>Sphagnum</i> spp.
neM2	Marsh	ne, re	<i>Carex utriculata</i> , <i>Dulichium arundinaceum</i> , <i>Calamagrostis canadensis</i> ; <i>Sparganium americanum</i>
suW1	Marsh	su, ff	<i>Hippuris vulgaris</i> ; <i>Sparganium fluctuans</i> , <i>Potamogeton natans</i>
tsF1	Fen	ts, ne, gc, m	<i>Betula alleghaniensis</i> , <i>Acer rubrum</i> ; <i>Carex utriculata</i> ; <i>Triadenum fraseri</i> ; <i>Sphagnum</i> spp.
dcS1	Swamp	dc, c, ts, ne, m	<i>Dead Picea mariana</i> ; <i>Thuja occidentalis</i> , <i>Picea mariana</i> ; <i>Betula alleghaniensis</i> ; <i>Calamagrostis canadensis</i> ; <i>Sphagnum</i> spp.
cS2	Swamp	c, ts, ne, m	<i>Picea mariana</i> , <i>Thuja occidentalis</i> ; <i>Picea mariana</i> , <i>Thuja occidentalis</i> ; <i>Carex utriculata</i> , <i>Calamagrostis canadensis</i> ; <i>Sphagnum</i> spp.
tsS3	Swamp	ts, dc, ne, m	<i>Picea mariana</i> ; <i>Picea mariana</i> ; <i>Carex utriculata</i> , <i>Calamagrostis canadensis</i> ; <i>Sphagnum</i> spp.



Bow Lake Phase 1 Catchment Area

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

September 9, 2010
Project: 0868
NAD83 - UTM Zone 16
Scale: 1:10,000 (11x17")

- Legend**
- Catchment Area
 - Watercourse
 - Waterbody
 - Wooded Area
 - Elevation Contour (10m Interval)

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0 250 500 750 1,000 Meters

Bow Lake Phase 1 Interspersion Map



November 8, 2010
Project: 0868
NAD83 - UTM Zone 16
Scale: 1:10,000 (11x17")



Legend

Vegetation Community

Catchment Area

Grid (135.61m x 135.61m)

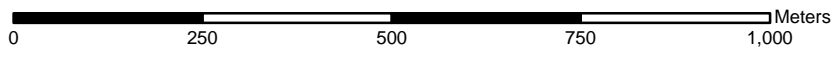
Beaver Dam

Watercourse Flow

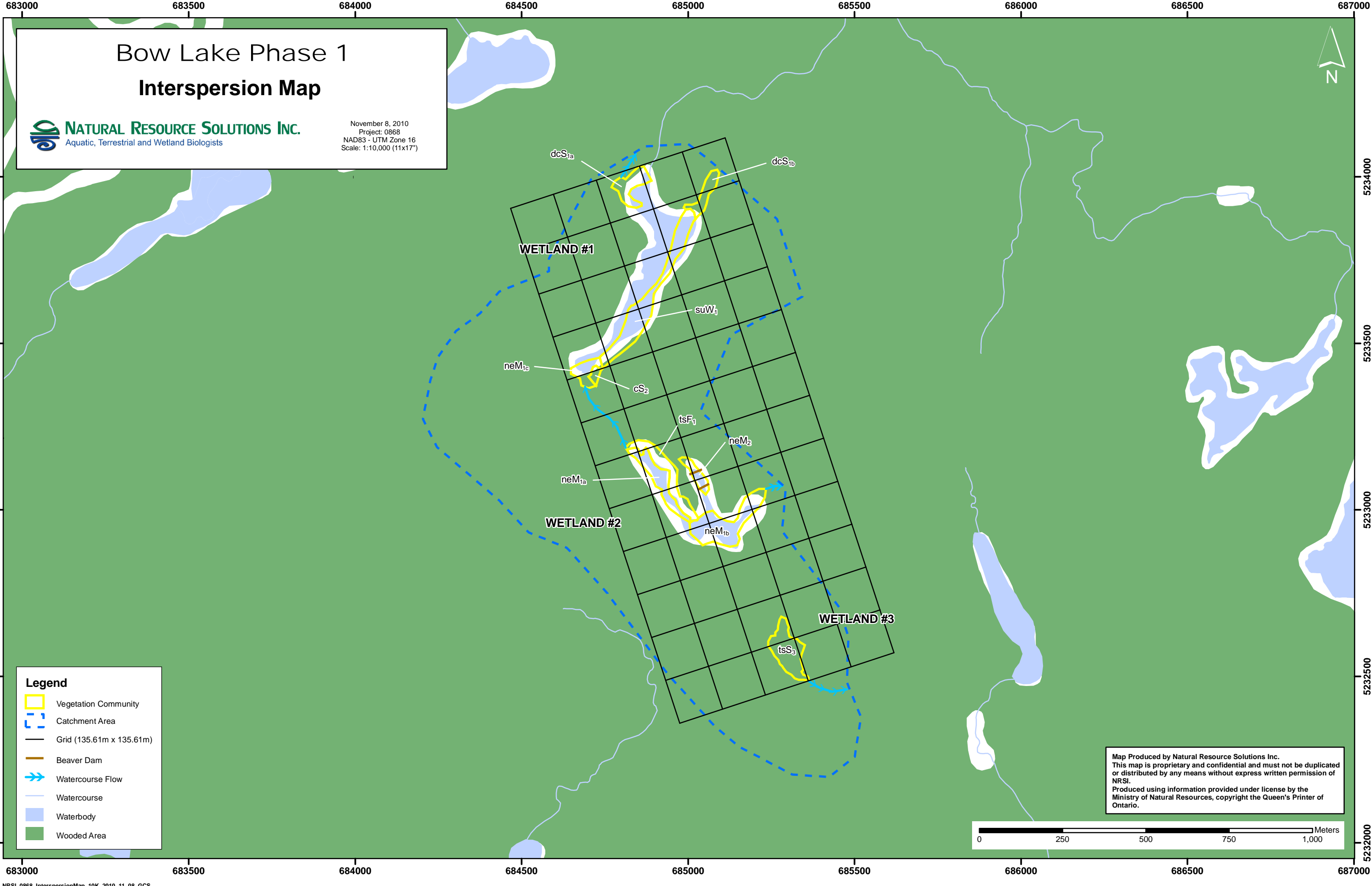
Watercourse

Waterbody

Wooded Area



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Bow Lake Phase 1 Wetland Evaluation

Bear Paw Wetland Complex Plant List

	BOTANICAL NAME		COMMON NAME	Location (UTM)
	<u>PTERIDOPHYTES</u>		<u>FERNS & ALLIES</u>	
	Dryopteridaceae		Wood Fern Family	
	<i>Athyrium</i>	<i>filix-femina var. angustum</i>	Northern Lady Fern	
	<i>Dryopteris</i>	<i>cristata</i>	Crested Wood Fern	
	<i>Dryopteris</i>	<i>intermedia</i>	Evergreen Wood Fern	
	<i>Onoclea</i>	<i>sensibilis</i>	Sensitive Fern	
	Equisetaceae		Horsetail Family	
	<i>Equisetum</i>	<i>sylvaticum</i>	Wood Horsetail	
	Osmundaceae		Royal Fern Family	
	<i>Osmunda</i>	<i>cinnamomea</i>	Cinnamon Fern	
	<i>Osmunda</i>	<i>claytoniana</i>	Interrupted Fern	
	Thelypteridaceae		Marsh Fern Family	
	<i>Phegopteris</i>	<i>connectilis</i>	Northern Beech Fern	
	<u>GYMNOSPERMS</u>		<u>CONIFERS</u>	
	Cupressaceae		Cedar Family	
	<i>Thuja</i>	<i>occidentalis</i>	Eastern White Cedar	
	Pinaceae		Pine Family	
	<i>Abies</i>	<i>balsamea</i>	Balsam Fir	
	<i>Picea</i>	<i>mariana</i>	Black Spruce	
	<u>DICOTYLEDONS</u>		<u>DICOTS</u>	
	Aceraceae		Maple Family	
	<i>Acer</i>	<i>rubrum</i>	Red Maple	
	<i>Acer</i>	<i>saccharum ssp. saccharum</i>	Sugar Maple	
	Aquifoliaceae		Holly Family	
	<i>Ilex</i>	<i>mucronata</i>	Mountain-holly	
	Asteraceae		Composite or Aster Family	
	<i>Anaphalis</i>	<i>margaritacea</i>	Pearly Everlasting	
	<i>Eupatorium</i>	<i>perfoliatum</i>	Perfoliate Thoroughwort	
	<i>Eupatorium</i>	<i>maculatum ssp. maculatum</i>	Spotted Joe-pye-weed	
	<i>Symphyotrichum</i>	<i>puniceum var. puniceum</i>	Purple-stemmed Aster	
	Balsaminaceae		Touch-me-not Family	
	<i>Impatiens</i>	<i>capensis</i>	Spotted Touch-me-not	
	Betulaceae		Birch Family	
	<i>Betula</i>	<i>alleghaniensis</i>	Yellow Birch	

	<i>Betula</i>	<i>papyrifera</i>	White Birch	
	Cornaceae		Dogwood Family	
	<i>Cornus</i>	<i>canadensis</i>	Bunchberry	
	Droseraceae		Sundew Family	
	<i>Drosera</i>	<i>rotundifolia</i>	Round-leaved Sundew	
	Ericaceae		Heath Family	
	<i>Chamaedaphne</i>	<i>calyculata</i>	Leatherleaf	
	<i>Gaultheria</i>	<i>hispidula</i>	Creeping Snowberry	
	<i>Vaccinium</i>	<i>macrocarpon</i>	Large Cranberry	
	<i>Vaccinium</i>	<i>myrtilloides</i>	Velvet-leaf Blueberry	
	<i>Vaccinium</i>	<i>ovalifolium</i>	Oval-leaf Bilberry	16T 688151 5228199
	Hypericaceae		St. John's-wort Family	
	<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	
	Hippuridaceae		Mare's-tail Family	
	<i>Hippuris</i>	<i>vulgaris</i>	Common Mare's-tail	
	Lamiaceae		Mint Family	
	<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	
	Lentibulariaceae		Bladderwort Family	
	<i>Utricularia</i>	<i>intermedia</i>	Flat-leaved Bladderwort	
	Myricaceae		Wax-myrtle Family	
	<i>Myrica</i>	<i>gale</i>	Sweet Gale	
	Onagraceae		Evening-primrose Family	
	<i>Epilobium</i>	<i>palustre</i>	Marsh Willow-herb	
	Rosaceae		Rose Family	
	<i>Rubus</i>	<i>allegheniensis</i>	Alleghany Blackberry	
	<i>Rubus</i>	<i>idaeus</i>	Wild Red Raspberry	
	<i>Rubus</i>	<i>pubescens</i>	Dwarf Raspberry	
	<i>Sorbus</i>	<i>decora</i>	Showy Mountain-ash	
	Rubiaceae		Madder Family	
	<i>Galium</i>	<i>trifidum ssp. trifidum</i>	Small Bedstraw	
	MONOCOTYLEDONS		MONOCOTS	
	Cyperaceae		Sedge Family	
	<i>Carex</i>	<i>gynandra</i>	Nodding Sedge	
	<i>Carex</i>	<i>utriculata</i>	Beaked Sedge	
	<i>Scirpus</i>	<i>cyperinus</i>	Wool-grass	
	Iridaceae		Iris Family	
	<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	

[illegible]

Wildlife Observations**Wetland: Bear Paw Wetland Complex**

**Observations include tracks and signs*

Mammals**Scientific Name**

Beaver	<i>Castor canadensis</i>
Moose	<i>Alces alces</i>
Red Fox	<i>Vulpes vulpes</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>

Birds

American Black Duck	<i>Anas rubripes</i>
Sparrow spp.	

Fish

Cyprinid species	
Northern Redbelly Dace	<i>Phoxinus eos</i>
Salmonid species*	*Likely <i>Salvelinus fontinalis fontinalis</i>

Amphibians

Green Frog	<i>Rana clamitans melanota</i>
Wood Frog	<i>Rana sylvatica</i>

September 9, 2010

1186A

**Subject: Source Documentation for OWES Data and Scoring Record Section 2.8 -
Aboriginal and Cultural Values**

Natural Resource Solutions Inc. Biologist Derek Goertz held a meeting at 3pm on September 9, 2010 at the Batchewana First Nation Band Office located at 236 Frontenac Street, Sault Ste. Marie, Ontario, in order to discuss the aboriginal values attached to the subject wetland complex.

Discussion with Mr. Dan Sayers Jr., Batchewana First Nation Natural Resource Manager, indicated that the subject wetland complex holds significant value to the Batchewana First Nation community. Mr. Sayers explained that this wetland complex has been used by the Batchewana First Nation community for the purpose of hunting, trapping, and the collection of medicinal plants. The subject wetland complex has also historically acted as a ceremonial site.

As a result of this discussion with Mr. Sayers it has been determined that the subject wetland complex holds significant value to the Batchewana First Nation community from the perspective of Aboriginal Values (OWES Section 2.8.1).

Any questions regarding the significance held by Batchewana First Nation of the subject wetland complex can be addressed directly to:

Dan Sayers Jr.
Natural Resource Manager
Batchewana First Nation
236 Frontenac St.
Sault Ste. Marie, ON
P6A 5K9
(705)759-0914

Bullseye Wetland Complex			
Wetland Evaluation Edition		2002	
November 20, 2010			
Comments			
Attached Documents include:			
1) Summary of Wetland types, site types and dominant form areas			
2) Map of Bullseye Wetland Complex			
3) List of vegetation communities			
4) Map of Interspersion			
5) Map of Bullseye Wetland Complex Catchment Basin			
6) Vascular Plant List			
7) Fauna list			
8) Letter from Batchewana First Nation			
Additional Information			
Official Name: Bullseye Wetland Complex			
Evaluation Edition:	2002	Class:	Wetland ID.:
	Year/Month Last Evaluated	November 20, 2010	
	Year/Month Last Updated	March 2012	
Special Planning Considerations:		Scores	
		Biological:	97
		Social:	91
		Hydrological:	169
		Special Features:	224
		Overall:	582
Submitted by:	Natural Resources Solutions Inc.		
Date:	March 9, 2012		

WETLAND DATA AND SCORING RECORD

i)	WETLAND NAME: Bullseye Wetland Complex		
ii)	MNR ADMINISTRATIVE REGION: North East	DISTRICT: Sault Ste. Marie	
	AREA OFFICE (if different from District):		
iii)	CONSERVATION AUTHORITY JURISDICTION:		
	(If not within a designated CA, check here: <u> X </u>)		
iv)	COUNTY OR REGIONAL MUNICIPALITY: District of Algoma		
v)	TOWNSHIP: Peever Township		
vi)	LOTS & CONCESSIONS: None		
	(attach separate sheet if necessary)		
vii)	MAP AND AIR PHOTO REFERENCES		
a)	Latitude: <u> 47°14'09" </u>	Longitude: <u> 84°30'18" </u>	
b)	UTM grid reference:	Zone: <u> 16 </u> Grid:E 688843	Block: <u> T </u> N 5234421
c)	National Topographic Series:		
	map name(s)	<u> Mamainse Point </u>	
	map number(s)	<u> 41 N/2 </u>	edition <u> 3 </u>
	scale	<u> 1: 50,000 </u>	
d)	Aerial photographs: Date photo taken: _____ Scale: _____		
	Flight & plate numbers: <u> Google Earth Images 2004 </u>		
	(attach separate sheet if necessary)		
e)	Ontario Base Map numbers & scale <u> # 166805230 1:20,000 </u>		
	(attach separate sheets if necessary)		

a) Single contiguous wetland area: hectares

b) Wetland complex comprised of 7 individual wetlands:

Wetland Unit Number (for reference)		Size of each wetland unit			
		Isolated	Palustrine	Riverine	Lacustrine
Wetland Unit No.	1		2.78		
Wetland Unit No.	2		4.08		
Wetland Unit No.	3		0.72		
Wetland Unit No.	4	0.85			
Wetland Unit No.	5		0.56		
Wetland Unit No.	6		5.49		
Wetland Unit No.	7		0.71		
Wetland Unit No.					
Wetland Unit No.					
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Wetland Unit No.					
Wetland Unit No.					
Wetland Unit No.					
Wetland Unit Totals:		0.85	14.34	0.00	0.00

(Attach additional sheets if necessary)

TOTAL WETLAND SIZE	15.19	ha
--------------------	-------	----

c) Brief documentation of reasons for including any areas less than 2 ha in size:

At the time this evaluation was undertaken, MNR's recommendation with respect to wetlands assessed for the purpose of an evaluation of significance under a Natural Heritage Assessment was to include all wetland areas within the evaluation, regardless of size.

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS**

(check one)

- | | | |
|----|----------|-----------|
| 1) | _____ | <1600 |
| 2) | _____ | 1600-2000 |
| 3) | <u>X</u> | 2000-2400 |
| 4) | _____ | 2400-2800 |
| 5) | _____ | 2800-3000 |
| 6) | _____ | >3000 |

SOILS

Estimated Fractional Area

	clay/loam
0.13	silt/marl
	limestone
	sand
0.41	humic/mesic
0.14	fibric
0.32	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400	18	15	13	11	9	8	7
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score

	clay/loam	0.00
15	silt/marl	1.95
	limestone	0.00
	sand	0.00
9	humic/mesic	3.69
8	fibric	1.12
7	granite	2.24

Final Score Growing Degree-Days/Soils (maximum 30 points)**9**

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

Fractional Area		Score	
Bog		x 3	0.00
Fen	0.14	x 6	0.84
Swamp	0.77	x 8	6.16
Marsh	0.09	x 15	1.35

Wetland type score (maximum 15 points)**8****1.1.3 SITE TYPE** (Fractional Area = area of site type/total wetland area)

Fractional Area		Score	
Isolated	0.06	x 1 =	0.060
Palustrine (permanent or intermittent flow)	0.94	x 2 =	1.880
Riverine		x 4 =	0.000
Riverine (at rivermouth)		x 5 =	0.000
Lacustrine (at rivermouth)		x 5 =	0.000
Lacustrine (on enclosed bay, with barrier beach)		x 3 =	0.000
Lacustrine (exposed to lake)		x 2 =	0.000
		Sub Total:	1.940

Site Type Score (maximum 5 points)**2**

Note: Inflows and outflows are permanent.

1.2 BIODIVERSITY**1.2.1 NUMBER OF WETLAND TYPES**

(Check only one)		Score
1)		one 9 points
2)		two 13
3)	X	three 20
4)		four 30

Number of Wetland Types Score (maximum 30 points)**20**

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species.

Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities
with 1-3 forms = 40

1 = 1.5 points

2 = 2.5

3 = 3.5

4 = 4.5

5 = 5

6 = 5.5

7 = 6

8 = 6.5

9 = 7

10 = 7.5

11 = 8

+ .5 each additional
community =

5.5

Total # of communities
with 4 -5 forms = 23

1 = 2 points

2 = 3.5

3 = 5

4 = 6.5

5 = 7.5

6 = 8.5

7 = 9.5

8 = 10.5

9 = 11.5

10 = 12.5

11 = 13

+ .5 each additional
community =

6.5

Total # of communities
with 6 or more forms = 1

1 = 3 points

2 = 5

3 = 7

4 = 9

5 = 10.5

6 = 12

7 = 13.5

8 = 15

9 = 16.5

10 = 18

11 = 19

+ 1 each additional
community =

0.0

e.g., a wetland with 3 one form communities
8 six form communities would score:

4 two form communities

12 four form communities and

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points)

12

Wetland Name: Bullseye Wetland Complex

Wetland Size (ha): 15.19

Vegetation Form % area in which form is dominant

h

c 36.6

dh

dc

ts 10.3

ls 43.8

ds

gc

m

ne 9.3

be

re

ff

f

su

u (unvegetated)

Total = 100% 100.00

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input type="checkbox"/>	recent burn (< 5 yr)
<input type="checkbox"/>	abandoned agricultural land
<input checked="" type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input type="checkbox"/>	abandoned pits and quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input checked="" type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	creek flood plain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)**7****1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

- | | | | |
|----|--------------------------|---|----------|
| 1) | <u>8</u> | Hydrologically connected by surface water to other wetlands (different dominant wetland type) or open lake or river within 1.5 km | 8 points |
| 2) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km | 8 |
| 3) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away (Second Marsh Wetland) | 5 |
| 4) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away | 5 |
| 5) | <input type="checkbox"/> | Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water | 5 |
| 6) | <input type="checkbox"/> | Within 1 km of other wetlands, but not hydrologically connected by surface water | 2 |
| 7) | <input type="checkbox"/> | No wetland within 1 km | 0 |

Proximity to other Wetlands Score (Choose one only, maximum 8 points)**8**

1.2.5 INTERSPERSION

Number of Intersections
(Check one)

Score

1)	26 or less	<input type="checkbox"/>	3
2)	27 to 40	<input type="checkbox"/>	6
3)	41 to 60	<input checked="" type="checkbox"/>	9
4)	61 to 80	<input type="checkbox"/>	12
5)	81 to 100	<input type="checkbox"/>	15
6)	101 to 125	<input type="checkbox"/>	18
7)	126 to 150	<input type="checkbox"/>	21
8)	151 to 175	<input type="checkbox"/>	24
9)	176 to 200	<input type="checkbox"/>	27
10)	>200	<input type="checkbox"/>	30

Interspersion Score (Choose one only maximum 30 points)

9

1.2.6 OPEN WATER TYPES

Permanently flooded:
(Check one)

Score

1)	<input type="checkbox"/>	type 1	8
2)	<input type="checkbox"/>	type 2	8
3)	<input checked="" type="checkbox"/>	type 3	14
4)	<input type="checkbox"/>	type 4	20
5)	<input type="checkbox"/>	type 5	30
6)	<input type="checkbox"/>	type 6	8
7)	<input type="checkbox"/>	type 7	14
8)	<input type="checkbox"/>	type 8	3
9)	<input type="checkbox"/>	no open water	0

Open Water Type Score (Choose one only maximum 30 points)

14

1.3 SIZE15.19

hectares

70

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)**8**

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	9	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

			Score
1)		<5 ha	0
2)	5.57 ha	5 -25 ha	4
3)		26 -50 ha	6
4)		51- 100 ha	8
5)		101 -200 ha	11
6)		>200 ha	14

Source of information: Field Investigations (NRSI 2010)

Wood Products Score (Score one only, maximum 14 points)

4

2.1.2 Lowbush Cranberry

(Check one)

Present

1)

X

Score (Choose one)

2 points

Absent

2)

0

Source of information: Field Investigations (NRSI 2010)

Lowbush Cranberry Score (maximum 2 points)

2

2.1.3 Wild Rice

(Check one)

Present (at least 0.5 ha)

1)

Score (Choose one)

10 points

Absent

2)

X

0

Source of information:

Wild Rice Score (maximum 10 points)

0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

X

Absent

2)

Score (Choose one)

12 points

0

Source of information: No fish observed, however, fish habitat is present.**Commercial Fish Score (maximum 12 points)****12****2.1.5 FURBEARERS**

(Consult Appendix 9)

Name of furbearer

Source of information

1)	Beaver	3	Beaver dams observed (NRSI 2010)
2)	Red squirrel	3	Field observation (NRSI 2010)
3)			
4)			
5)			

Scoring: 3 points for each species. maximum 12

Furbearer Score (maximum 12 points)**6****2.2 RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use						
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing	
High	40 points		40 points		40 points	
Moderate	20		20		20	
Low	8	X	8		8	
Not possible/NotKnown	0		0	X	0	X
Totals	8		0		0	

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: No signs of hunting observed, however it is possible.Nature: Unlikely, due to remote location and access issues.Fishing: Unlikely due to remote location and access issues,
as well as very small waterbodies associated with wetlands.**Recreational Activities Score (maximum 80 points)****8**

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct

1)

Score (Choose one)

3 points

Indistinct

2)

0

Landscape Distinctness Score (maximum 3 points)**0****2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so

1)

Score (Choose one)

7 points

One or several localized disturbances

2)

4

Moderate disturbance; localized water pollution

3)

2

Wetland intact but impairment of ecosystem quality
intense in some areas

4)

1

Extreme ecological degradation, or water pollution
severe and widespread

5)

0

Source of information:

Field Observations (NRSI 2010)

Absence of Human Disturbance Score (maximum 7 points)**7****2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent

1)

Score (Choose one)

20 points

Infrequent

2)

12

No visits

3)

0

Source of information:

Educational Uses Score (maximum 20 points)**0****2.4.2 FACILITIES AND PROGRAMS**

(check one)

Staffed interpretation centre

1)

Score (Choose one)

8 points

No interpretation centre or staff but a system of
self-guiding trails or brochures available

2)

4

Facilities such as maintained paths (e.g., woodchips)
boardwalks, boat launches or observation towers

3)

2

but no brochures or other interpretation

4)

0

No facilities or programs

Source of information:

Field Observations (NRSI 2010)

Facilities and Programs Score (maximum 8 points)**0**

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

Score

12 points

Research papers published in refereed scientific journal or as a thesis

10

One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.

5

No research or reports

0

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points)**0****2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT**

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community
1) Within or adjoining settlement	40 points	26	16
2) 0.5 to 10 km from settlement	26	16	10
3) 10 to 60 km from settlement	12	8	4
4) >60 km from settlement	5	2	0
5) >100 km from settlement	0	0	0
	0	0	10

Name of settlement: Montreal River Harbour, ON (just under 10 km away)**Proximity to Human Settlement Score (maximum 40 points)****10****2.6 OWNERSHIP (FA= fraction Area)**

Score

FA of wetland in public or private ownership

held under contract or in trust for wetland protection

x 10 =

0.00

FA of wetland area in public ownership, not as above

1.00 x

8 =

8.00

FA of wetland area in private ownership, not as above

x 4 =

0.00

Source of information: Clergue Forest Management Inc. Algoma Forest Basemap2009-2010 (Feb 27, 2009) Basemap #166805230**Ownership Score (maximum 10 points)****8**

2.7 SIZE**15.19** hectares**42** Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)**4**

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant	X	=	30 points
2) Not Significant		=	0
3) Unknown		=	0
Total:	30		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant		=	0
3) Unknown	X	=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

30

Batchewana First Nation (BFN) was contacted on October 19, 2010 and asked about the significance of this wetland in terms of aboriginal values. A response was received on November 17, 2010 (letter appended), which states the wetlands are "very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities."
(Dave Sewell, BNR Field Technician)

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area. For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1: If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area: lake area is <0.1, or wetland is riverine on the St. Mary's River, go to Step 5

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2: Determination of Upstream Detention Factor (DF)

(a)	Wetland area (ha)		15.19
(b)	Total area (ha) of <u>upstream</u> detention areas (include the wetland itself)		30.92
(c)	Ratio of (a):(b)		0.49
(d)	Upstream detention factor: (c) x 2 =	0.98	0.98
	(maximum allowable factor = 1)		

Step 3: Determination of Peak Flow Attenuation Factor (AF)

(a)	Wetland area (ha)		15.19
(b)	Size of catchment basin (ha) <u>upstream</u> of wetland (include wetland itself in catchment area)		170.72
(c)	Ratio of (a):(b)		0.09
(d)	Wetland attenuation factor: (c) x 10 =	0.9	0.89
	(maximum allowable factor = 1)		

Step 4: Determination of Wetland Surface Form Factor (FF)

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	0.2
Flat (lawn) vegetation (typical of fens)	X 0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1
Surface Form Factor (FF)	0.5

(Maximum allowable factor = 1)

Step 5:

1. Wetland is entirely Isolated 100 points
2. Wetland is lacustrine and the ratio of wetland area: lake area is <0.1 0 points
3. Wetland is riverine along the St. Mary's River 0 points
4. For all other wetlands*, calculate as follows:

a) Upstream Detention Factor (DF) (Step 2)	0.98
b) Wetland Attenuation Factor (AF) (Step 3)	0.89
c) Surface Form Factor (FF) (Step 4)	0.50

$$[(DF + AF + FF)/3] \times 94.5^*$$

75

Isolated score: 5.5

*Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points)**81****3.2 GROUND WATER RECHARGE****3.2.1 SITE TYPE**

- (a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River
- (b) Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland)

Score = 0

1	FA of isolated or palustrine wetland	x 20 =	20.00
0	FA of riverine wetland	x 5 =	0.00
0	FA of lacustrine wetland (wetland <50% lacustrine)	x 0 =	0.00

Site Type Score: (maximum 20 points)**20****3.2.2 SOILS****EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till	Clay or bedrock	
Lacustrine or on St. Mary's River	0	0	
Isolated	10	5	
Palustrine	7	4	X
Riverine (not on St. Mary's River)	5	2	
Totals	0		4

Hydrological Soil Class Score (maximum 10 points)**4**

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland.

<u>Site Type</u>	<u>Improvement Factor (IF)</u>			
Isolated	FA	0.06	x	0.5 = 0.03
Riverine	FA		x	1 = 0.00
Palustrine with no inflow	FA	0.36	x	0.7 = 0.25
Palustrine with inflows	FA	0.58	x	1 = 0.58
Lacustrine on lake shoreline	FA		x	0.2 = 0.00
Lacustrine at lake inflow or outflow	FA		x	1 = 0.00

Watershed Improvement Score (IF x 30) (maximum = 30)

26

3.3.2 ADJACENT AND WATERSHED LAND USE**EVALUATION****Step 1: Determination of Maximum Initial Score**

- ☐ Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)
☒ All other wetlands (Go through steps 2, 3, 4 and 5b)

Step 2: Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
>50% of catchment basin	20
20-50% of catchment basin	14
<20% of catchment basin	4

Score for BLU **4**

Step 3: Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200m of the wetland boundary.

Choose the highest only	Score
Major corridor*	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

Score for LUU **3**

Major, secondary and tertiary roads are those that are indicated as such on the provincial highways maps. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4: Determination of Point-source Land Use (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0

Step 5: Calculation of total score for Adjacent and Watershed Land Use

- a) Wetland on the Great Lakes or St. Mary's River
b) All other wetlands, calculate as follows:

Final Score BLU+LUU+PS

7

3.3.3 VEGETATION FORM

Choose the category that best describes the vegetation of the wetland

		Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	X	8 points
Emergents, submergents (ne, re, be, f, ff, su)		10
Little or no vegetation (u)		0

Dominant Vegetation Form Score (maximum 10 points)

8

3.4 CARBON SINK

Choose the category that best describes the wetland

- | | | |
|----|---|-----------|
| 1) | Wetland a bog or fen with >50% organic soils | 15 points |
| 2) | Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type) | 6 |
| 3) | Marshes and swamps with >50% organic soil | 9 |
| 4) | Wetland with less than 10% of soils organic | 0 |

Carbon Sink Score (maximum 15 points)

9

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

Step 1:

Score

<input checked="" type="checkbox"/>	Wetland entirely isolated or palustrine	0
<input type="checkbox"/>	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)	<input type="checkbox"/>	Trees and shrubs	15
2)	<input type="checkbox"/>	Emergent vegetation	8
3)	<input type="checkbox"/>	Submergent vegetation	6
4)	<input type="checkbox"/>	Other shoreline vegetation	3
5)	<input type="checkbox"/>	No vegetation	0

Shoreline Erosion Control Score (maximum 15 points)

0

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores)

Category	Catchment Interaction					
Wetland type	Bog = 0	<input type="checkbox"/>	Swamp/Marsh = 2	<input checked="" type="checkbox"/>	Fen = 5	<input type="checkbox"/>
Basin topography	Flat/Rolling = 5	<input type="checkbox"/>	Hilly = 2	<input checked="" type="checkbox"/>	Major relief break = 5	<input type="checkbox"/>
Wetland area: Upslope catchment area	Large (>50%) = 0	<input type="checkbox"/>	Moderate (6-50%) = 2	<input checked="" type="checkbox"/>	Small (<5%) = 5	<input type="checkbox"/>
Lagg Development	None found = 0	<input checked="" type="checkbox"/>	Minor = 2	<input type="checkbox"/>	Extensive = 5	<input type="checkbox"/>
Seeps at wetland edge	None found = 0	<input checked="" type="checkbox"/>	1-3 seeps = 5	<input type="checkbox"/>	4 or more seeps = 10	<input type="checkbox"/>
Iron precipitates evident at edge	None = 0	<input checked="" type="checkbox"/>	1-3 deposits = 2	<input type="checkbox"/>	4 or more deposits = 5	<input type="checkbox"/>
Surface marl deposits	None = 0	<input checked="" type="checkbox"/>	1-3 deposits = 2	<input type="checkbox"/>	>3 = 5	<input type="checkbox"/>
Wetland pH	Low < 4.2 = 0	<input type="checkbox"/>	Moderate 4.2-5.7 = 5	<input checked="" type="checkbox"/>	High >5.7 = 10	<input type="checkbox"/>
Catchment soil coverage	Patchy = 0	<input type="checkbox"/>	Thin (<20cm) = 2	<input checked="" type="checkbox"/>	Thick = 5	<input type="checkbox"/>
Catchment soil permeability	Low = 0	<input type="checkbox"/>	Moderate = 2	<input checked="" type="checkbox"/>	High = 5	<input type="checkbox"/>
Totals		0		15		0

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

15

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**Hills Site Region and Site District (5E only): 5E-13

Wetland type (check one or more)

<input type="checkbox"/>	Bog
<input checked="" type="checkbox"/>	Fen
<input checked="" type="checkbox"/>	Swamp
<input checked="" type="checkbox"/>	Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	10	0	10	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

20

4.1.2 SPECIES**4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species		Source of information
1)		
2)		
3)		
4)		
5)		
Total:		0

Attach documentation.

Scoring:

For one species	250 points
For each additional species	250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered Species Score (no maximum)

0

4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species		Source of information
1)		
2)		
3)		
4)		
5)		
Total:		0

Attach documentation.

Scoring:

For one species	150 points
For each additional species	75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)

0

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) <u>Rusty Blackbird (<i>Euphagus carolinus</i>)*</u>	<u>Field Observation (NRSI 2010)</u>
2) <u>*Tracked by NHIC</u>	
3) _____	
4) _____	
5) _____	
6) _____	
7) _____	
8) _____	
9) _____	
10) _____	
11) _____	
12) _____	
13) _____	
14) _____	
15) _____	

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)**50**

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)	Oval-leaved bilberry	<i>Vaccinium ovalifolium</i>	Field work (NRSI 2010)
2)	Northern wild licorice	<i>Galium kamtschaticum</i>	Field work (NRSI 2010)
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	= 50 points	14 species	= 154
2 species	= 80	15 species	= 156
3 species	= 95	16 species	= 158
4 species	= 105	17 species	= 160
5 species	= 115	18 species	= 162
6 species	= 125	19 species	= 164
7 species	= 130	20 species	= 166
8 species	= 135	21 species	= 168
9 species	= 140	22 species	= 170
10 species	= 143	23 species	= 172
11 species	= 146	24 species	= 174
12 species	= 149	25 species	= 176
13 species	= 152		

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)**80**

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

** Score only if there is an approved list

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Significant Species (Site Region) Score (no maximum)

0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum)

0

4.1.2.7 SPECIES OF SPECIAL STATUS**Black Duck**

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40-80 Indicated Pairs/100 km sq	<input type="checkbox"/>	25 points
20-40 Indicated Pairs/100 km sq	<input type="checkbox"/>	20
10-20 Indicated Pairs/100 km sq	<input checked="" type="checkbox"/>	15
5-10 Indicated Pairs/100 km sq	<input type="checkbox"/>	10
1-5 Indicated Pairs/100 km sq	<input type="checkbox"/>	5
Habitat not suitable	<input type="checkbox"/>	0
Out of assessment range	<input type="checkbox"/>	0

Black Duck Score (maximum 25 points)**15****4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT****4.2.1 NESTING OF COLONIAL WATERBIRDS**

Status	Name of species	Source of Information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations etc., if known)

Colonial Waterbirds Score (maximum 50 points)**0****4.2.2. WINTER COVER FOR WILDLIFE**

(Check only highest level of significance)

Score (one only)

1)	<input type="checkbox"/>	Provincially significant	100
2)	<input type="checkbox"/>	Significant in Site Region	50
3)	<input type="checkbox"/>	Significant in Site District	25
3)	<input type="checkbox"/>	Locally significant	10
4)	<input checked="" type="checkbox"/>	Little or poor winter cover present	0

Source of information: Field Observations (NRSI 2010)**Winter Cover for Wildlife Score (maximum 100 points)****0**

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur		10		10
5) Not possible		0		0
6) Not known	X	0	X	0
Total:	0		0	

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

0

4.2.4 WATERFOWL BREEDING

	(Check only highest level of significance)	Score
1)	Provincially significant	100
2)	Regionally significant	50
3)	X Habitat suitable	10
4)	Habitat not suitable	0

Source of information:

Field Observations (NRSI 2010)

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

	(check highest applicable category)	Score
1)	Provincially significant	100
2)	Significant in Site Region	50
3)	Significant in Site District	10
4)	X Not significant	0

Source of information:

MNR Values Map (June 25, 2010)

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

4.2.6 UNGULATE HABITAT**EVALUATION**

Score (1) + (2) + one of (3) to (6)

(1)	<u> X </u>	Ungulate summer cover	Score 15 points
(2)	<u> </u>	Mineral licks	50
(3)	<u> </u>	Moose aquatic feeding area Class 1	0
(4)	<u> X </u>	Moose aquatic feeding area Class 2	10
(5)	<u> </u>	Moose aquatic feeding area Class 3	20
(6)	<u> </u>	Moose aquatic feeding area Class 4	35

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points)**25****4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1: Fish habitat is not present within the wetland (Score = 0) X Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

- 1) X Significance of the spawning and nursery habitat within the wetland is known
(Go to Step 3)
- 2) Significance of the spawning and nursery habitat within the wetland is not
known (Go through Steps 4, 5, 6 and 7)

Step 3: Select the highest appropriate category below attach documentation:

- 1) ☐ Significant in Site Region 100 points
- 2) ☐ Significant in Site District 50
- 3) ☐ Locally Significant Habitat (5.0+ ha) 25
- 4) ☒ Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points)

15

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

☒ Low marsh not present (Continue to Step 5)

☐ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Total Score (maximum 75 points)						0.0

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

High marsh not present (Continue to Step 6)

☒ High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge	X	0.85	0.2	11	2.2
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
Total Score (maximum 25 points)						2

Step 6: (**Swamp:** Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

Swamp containing fish habitat not present (Continue to Step 7)

☒ Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded	X	0.8	0.2	10	2.0
Permanently flooded				10	0.0
SCORE (maximum 20 points)					2.0

Step 7: Calculation of final score

Score for Spawning and Nursery Habitat (Low Marsh) (maximum 75)	=	<u>0.0</u>
Score for Spawning and Nursery Habitat (High Marsh) (maximum 25)	=	<u>2.0</u>
Score for Swamp Containing Fish Habitat (maximum 20)	=	<u>2.0</u>

Sum (maximum score 100 points) =

44.2.6.2 Migration and Staging Habitat**Step 1:**

- 1) X Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

	Score
1) <u> </u> Significant in Site Region	25 points
2) <u> </u> Significant in Site District	15
3) <u> </u> Locally Significant	10
4) <u> </u> Fish staging and/or migration habitat present, but not as above	5

Score for Fish Migration and Staging Habitat (maximum score 25 points)

0**Step 3:** Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). Note name of river for 2) and 3).

	Score
1) <u> </u> Wetland is riverine at rivermouth or lacustrine at rivermouth	25 points
2) <u> </u> Wetland is riverine, within 0.75 km of rivermouth	15
3) <u> </u> Wetland is lacustrine, within 0.75 km of rivermouth	10
4) <u> </u> Fish staging and/or migration habitat present, but not as above	5

Score for Staging and Migration Habitat (maximum score 25 points)

0

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland type/total area of wetland)

	Fractional Area			Scoring
Bog		x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl	0.14	x	20 =	2.8
Fen, on limestone rock		x	5 =	0.0
Swamp	0.77	x	3 =	2.3
Marsh	0.09	x	0 =	0.0
Sub Total:				5.1

Ecosystem Age Score (maximum 25 points)**5****4.4 GREAT LAKES COASTAL WETLANDS****Score for coastal (see text for definition) wetlands only**

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)**0**

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**☒ Absent/Not seen☐ Present(a) One location in wetland _____
Two to many locations _____

Abundance code

(b) (1 < 20 plants _____
(2 20-99 plants _____
(3 100-999 plants _____
(4 >1000 plants _____**5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

Check one or more

Ephemeral (less than 2 weeks) _____
Temporal (2 weeks to 1 month) _____
Seasonal (1 to 3 months) X
Semi-permanent (>3 months) X
No seasonal flooding _____**5.3 SPECIES OF SPECIAL SIGNIFICANCE****5.3.1 Osprey**Present and nesting (attach map showing nest site) _____
Known to have nested in last 5 yr _____
Feeding area for osprey _____
Not as above X**5.3.2 Common Loon**Nesting in wetland (attach map showing nest site) _____
Feeding at edge of wetland _____
Observed or heard on lake or _____
river adjoining the wetland _____
Not as above X

INVESTIGATORS**AFFILIATION**

Lisa Keable

Natural Resource Solutions Inc.

Derek Goertz

Natural Resource Solutions Inc.

DATES WETLAND VISITED

September 20, 2010

DATE THIS EVALUATION COMPLETED:**November 20, 2010****ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"**

12 hours (2 people between 1030 and 1630hrs)

WEATHER CONDITIONS

i) at time of field work

Temperature = 11 - 15°C, Light Rain with 100% cloud cover. Wind = 1-2 (NW) Beaufort Scale.

ii) summer conditions in general

Overall, summer months were hot and very dry. However, heavy rains fell during the first week of September.

OTHER POTENTIALLY USEFUL INFORMATION:

Rusty blackbird was observed foraging in community 1sS1.

CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:

Lists of all flora and fauna observed in the wetland.

WETLAND EVALUATION SCORING RECORD

WETLAND NAME

Bullseye Wetland Complex

1.0 BIOLOGICAL COMPONENT1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

9

1.1.2 Wetland Type

8

1.1.3 Site Type

2

Total for Productivity

19

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

20

1.2.2 Vegetation Communities (maximum 45)

12

1.2.3 Diversity of Surrounding Habitat (maximum 7)

7

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

9

1.2.6 Open Water Type

14

Total for Biodiversity

70

Sub Total for Biodiversity

70

1.3 SIZE (Biological Component)

8

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

97

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	4
2.1.2 Lowbush Cranberry	2
2.1.3 Wild Rice	0
2.1.4 Commercial Fish	12
2.1.6 Furbearers	6

Total for Economically Valuable Products **24**

2.2 RECREATIONAL ACTIVITIES (maximum 80) **8**2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	0
2.3.2 Absence of Human Disturbance	7

Total for Landscape Aesthetics **7**

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies (maximum 12)	0

Total for Education and Public Awareness **0**

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT **10**2.6 OWNERSHIP **8**

Subtotal for Social Component **42**

2.7 SIZE (Social Component) **4**2.8 ABORIGINAL AND CULTURAL VALUES (maximum 30) **30**

TOTAL FOR SOCIAL COMPONENT (not to exceed 250) **91**

3.0 HYDROLOGICAL COMPONENT3.1 FLOOD ATTENUATION

81

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

20

3.2.2 Soils

4

Total for Groundwater Recharge

24

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

26

3.3.2 Adjacent and Watershed Land Use

7

3.3.3 Vegetation Form

8

Total for Water Quality Improvement

41

3.4 CARBON SINK

9

3.5 SHORELINE EROSION CONTROL

0

3.6 GROUNDWATER DISCHARGE

15

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

169

4.0 SPECIAL FEATURES4.1 RARITY

4.1.1 Wetlands

20

4.1.2 Species

4.1.2.1 Endangered or Threatened Species Breeding

0

4.1.2.2 Traditional Use by Endangered or Threatened Species

0

4.1.2.3 Provincially Significant Animals

50

4.1.2.4 Provincially Significant Plants

80

4.1.2.5 Regionally Significant Species

0

4.1.2.6 Locally Significant Species

0

4.1.2.7 Species of Special Status

15

Total for Species Rarity

145

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds

0

4.2.2 Winter Cover for Wildlife

0

4.2.3 Waterfowl Staging and Moulting

0

4.2.4 Waterfowl Breeding

10

4.2.5 Migratory Passerine, Shorebird or Raptor Stopover

0

4.2.6 Ungulate Habitat

25

4.2.7 Fish Habitat

19

Total for Significant Features and Habitat

54

4.3 ECOSYSTEM AGE

5

4.4 GREAT LAKES COASTAL WETLANDS

0

TOTAL FOR SPECIAL FEATURES (maximum 250)

224

SUMMARY OF EVALUATION RESULT

Wetland	Bullseye Wetland Complex
TOTAL FOR 1.0 BIOLOGICAL COMPONENT	97
TOTAL FOR 2.0 SOCIAL COMPONENT	91
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT	169
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	224
	<u>WETLAND TOTAL</u>
	582

INVESTIGATORS

Lisa Keable
Derek Goertz
Katharina Walton (evaluation revision, March 2012)

AFFILIATION

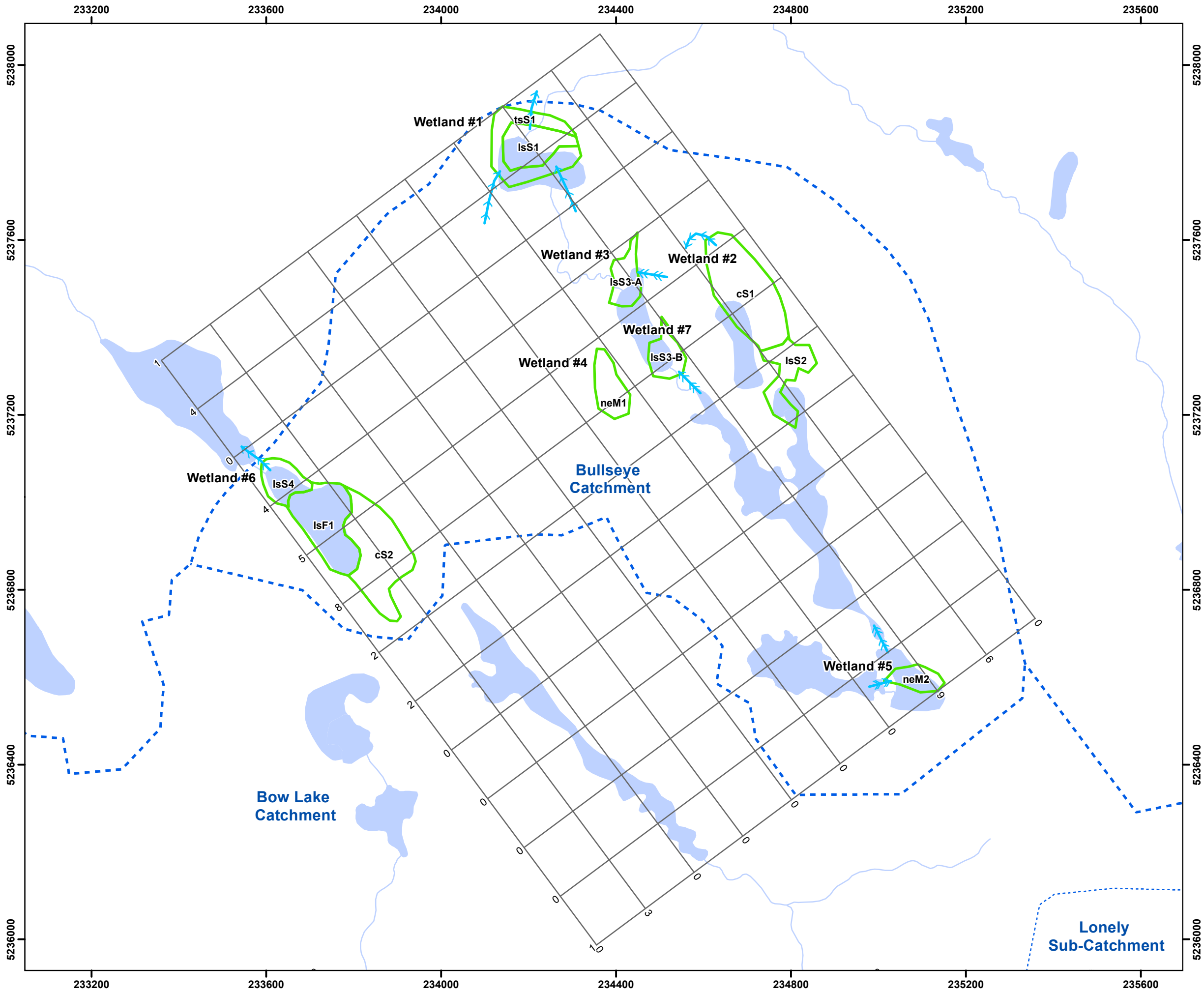
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DATE March 7, 2012

Data Summary Form

Wetland: Bullseye Wetland Complex

Wetland Type	Wetland Unit	Map Code	Field Code	# Forms	Dominant Form	Forms	% Open Water	Area (ha)	Open Water (ha)	Soils	Site Type	Fish Habitat
Swamp	1	lsS1	2	3	ls	ne, gc	20	1.21	0.24	Organic (H)	Palustrine	Yes
	2	lsS2	6	3	ls	ne, m	20	1.12	0.22	Silt	Palustrine	Yes
	3	lsS3-A	4	2	ls	m	30	0.72	0.22	Bedrock	Palustrine	No
	7	lsS3-B	4b	2	ls	m	30	0.71	0.21	Bedrock	Palustrine	No
	6	lsS4	1	2	ls	ne	35	0.80	0.28	Bedrock	Palustrine	High Marsh
	1	tsS1	3	3	ts	ne, gc	5	1.57	0.08	Organic (H)	Palustrine	No
	2	cS1	5	4	c	ls, gc, m	0	2.96	0.00	Organic (M)	Palustrine	No
	6	cS2	3	5	c	ts, ls, gc, m	0	2.61	0.00	Bedrock	Palustrine	N
Marsh	4	neM1	7	1	ne		30	0.85	0.26	Silt	Isolated	Yes
	5	neM2	19	4	ne	ls, gc, m	5	0.56	0.03	Organic (H)	Palustrine	No
Fen	6	lsF1	2	5	ls	c, ts, gc, m	5	2.09	0.10	Organic (F)	Palustrine	N



Bullseye Wetland Complex

Legend

- Highway
- Secondary Road
- Resource Road
- Waterbody
- Watercourse
- Catchment Area Boundary
- Sub-catchment Area Boundary
- Flow Direction
- Interspersion Grid
- Ecological Land Classification
- (cS) Conifer Swamp
- (IsF) Low Shrub Fen
- (IsS) Low Shrub Swamp
- (neM) Narrow-leaved Emergent Marsh
- (tsS) Tall Shrub Swamp

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

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Project: 1186 Date: March-09-12	NAD83 - UTM Zone 16 Size: 11x17" 1:8,500
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0 100 200 300 400 500 Meters

N

Map Legend

Map Code	Wetland Type	Wetland #	Forms	Dominant Species
lsS1	Swamp	1	ls, ne, gc	Sweetgale (<i>Myrica gale</i>), Leatherleaf (<i>Chamaedaphne calyculata</i>); <i>Juncus brevicaudatus</i> , Rattlesnake grass (<i>Glyceria canadensis</i>), Bottlesedge (<i>Carex utriculata</i>); Spotted St. John's-wort (<i>Hypericum perforatum</i>)
tsS1	Swamp	1	ts, ne, gc	Speckled alder (<i>Alnus incana</i> spp. <i>rugosa</i>); Canada blue joint (<i>Calamagrostis canadensis</i>), St. John's-wort (<i>Hypericum punctatum</i>)
lsS2	Swamp	2	ls, ne, m	Sweetgale (<i>M. gale</i>), Leatherleaf (<i>C. calyculata</i>); Bottlesedge (<i>C. utriculata</i>); <i>Sphagnum girgensohnii</i>
cS1	Swamp	2	c, ls, gc, m	Black spruce (<i>Picea mariana</i>); Black spruce (<i>P. mariana</i>); Creeping snowberry (<i>Gaultheria hispidula</i>), Small cranberry (<i>Vaccinium oxycoccus</i>); <i>S. magellanicum</i> , <i>S. girgensohnii</i>
lsS3-A	Swamp	3	ls, m	Sweetgale (<i>M. gale</i>), Leatherleaf (<i>C. calyculata</i>); <i>Sphagnum wolfianum</i> , <i>Sphagnum palustre</i> , <i>S. girgensohnii</i> , <i>Sphagnum magellanicum</i>
neM1	Marsh	4	ne	Bottle sedge (<i>C. utriculata</i>), <i>Glyceria</i> spp.
neM2	Marsh	5	ne, ls, gc, m	<i>Carex</i> spp.; Sweetgale (<i>M. gale</i>); St. John's wort (<i>H. punctatum</i>); <i>S. palustre</i> , <i>Sphagnum angustifolium</i> , <i>S. magellanicum</i>
lsF1	Fen	6	c, ts, ls, gc, m	Eastern white cedar (<i>Thuja occidentalis</i>), Black spruce (<i>Picea mariana</i>); Eastern white cedar (<i>T. occidentalis</i>), Black spruce (<i>P. mariana</i>); Leatherleaf (<i>C. calyculata</i>), Sweetgale (<i>M. gale</i>) Small cranberry (<i>Vaccinium oxycoccus</i>); <i>Sphagnum magellanicum</i> , <i>Sphagnum squarrosum</i> , <i>Sphagnum fuscum</i> , <i>Sphagnum rubellum</i> , <i>Sphagnum centrale</i>
cS2	Swamp	6	c, ts, ls, m	Black spruce (<i>P. mariana</i>), Eastern white cedar (<i>T. occidentalis</i>); Black spruce (<i>P. mariana</i>), Eastern white cedar (<i>T. occidentalis</i>); Labrador tea (<i>Ledum groenlandicum</i>), Creeping snowberry (<i>Gaultheria hispidula</i>); <i>Sphagnum girgensohnii</i> , <i>S. magellanicum</i>
lsS4	Swamp	6	ls, ne	Sweetgale (<i>Myrica gale</i>), Leatherleaf (<i>Chamaedaphne calyculata</i>); Canada blue joint (<i>Calamagrostis canadensis</i>), Bottle sedge (<i>Carex utriculata</i>)
lsS3-B	Swamp	7	ls, m	Sweetgale (<i>M. gale</i>), Leatherleaf (<i>C. calyculata</i>); <i>Sphagnum wolfianum</i> , <i>Sphagnum palustre</i> , <i>S. girgensohnii</i> , <i>Sphagnum magellanicum</i>

BOTANICAL NAME		COMMON NAME	S- Rank	COSSARO	COSEWIC	NRSI Observations 2010	Rare Plant Locations
<u>PTERIDOPHYTES</u>		<u>FERNS & ALLIES</u>					
Osmundaceae		Royal Fern Family					
<i>Osmunda</i>	<i>cinnamomea</i>	Cinnamon Fern	S5			X	
<u>GYMNOSPERMS</u>		<u>CONIFERS</u>					
Cupressaceae		Cedar Family					
<i>Thuja</i>	<i>occidentalis</i>	Eastern White Cedar	S5			X	
Pinaceae		Pine Family					
<i>Picea</i>	<i>mariana</i>	Black Spruce	S5			X	
<i>Pinus</i>	<i>strobus</i>	Eastern White Pine	S5			X	
<u>DICOTYLEDONS</u>		<u>DICOTS</u>					
Aceraceae		Maple Family					
<i>Acer</i>	<i>rubrum</i>	Red Maple	S5			X	
Asteraceae		Composite or Aster Family					
<i>Euthamia</i>	<i>graminifolia</i>	Flat-topped Bushy Goldenrod	S5			X	
Betulaceae		Birch Family					
<i>Alnus</i>	<i>incana</i> spp. <i>rugosa</i>	Speckled Alder	S5			X	
<i>Betula</i>	<i>papyrifera</i>	White Birch	S5			X	
Cornaceae		Dogwood Family					
<i>Cornus</i>	<i>canadensis</i>	Bunchberry	S5			X	
Droseraceae		Sundew Family					
<i>Drosera</i>	<i>intermedia</i>	Spatulate-leaved Sundew	S5			X	
<i>Drosera</i>	<i>rotundifolia</i>	Round-leaved Sundew	S5			X	
Ericaceae		Heath Family					
<i>Chamaedaphne</i>	<i>calyculata</i>	Leatherleaf	S5			X	
<i>Gaultheria</i>	<i>hispidula</i>	Creeping Snowberry	S5			X	
<i>Ledum</i>	<i>groenlandicum</i>	Labrador-tea	S5			X	
<i>Vaccinium</i>	<i>myrtilloides</i>	Velvet-leaf Blueberry	S5			X	
<i>Vaccinium</i>	<i>ovalifolium</i>	Tall Huckleberry	S3			X	16T 687996 5233865
<i>Vaccinium</i>	<i>oxycoccos</i>	Small Cranberry	S5			X	

Guttiferae		St. John's-wort Family					
<i>Hypericum</i>	<i>punctatum</i>	Corymbed St. John's-wort	S5			X	
<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	S5			X	
Lamiaceae		Mint Family					
<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	S5			X	
Myricaceae		Wax-myrtle Family					
<i>Myrica</i>	<i>gale</i>	Sweet Gale	S5			X	
Onagraceae		Evening-primrose Family					
<i>Epilobium</i>	<i>palustre</i>	Marsh Willow-herb	S5			X	
Primulaceae		Primrose Family					
<i>Trientalis</i>	<i>borealis ssp. borealis</i>	Star-flower	S5			X	
Ranunculaceae		Buttercup Family					
<i>Coptis</i>	<i>trifolia</i>	Goldthread	S5			X	
Rubiaceae		Madder Family					
<i>Galium</i>	<i>kamtschaticum</i>	Northern Wild Licorice	S2			X	16 T688027 5233767
Rosaceae		Rose Family					
<i>Rubus</i>	<i>allegheniensis</i>	Alleghany Blackberry	S5			X	
Cyperaceae		Sedge Family					
<i>Carex</i>	<i>species</i>	Sedge species				X	
<i>Carex</i>	<i>utriculata</i>	Beaked Sedge	S5			X	
<i>Dulichium</i>	<i>arundinaceum</i>	Reed-like Three-way Sedge	S5			X	
<i>Scirpus</i>	<i>cyperinus</i>	Wool-grass	S5			X	
Iridaceae		Iris Family					
<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	S5			X	
Juncaceae		Rush Family					
<i>Juncus</i>	<i>brevicaudatus</i>	Short-tailed Rush	S5			X	
<i>Juncus</i>	<i>effusus ssp. solutus</i>	Soft Rush	S5			X	

Orchidaceae		Orchid Family					
Cypripedium	<i>acaule</i>	Pink Lady's Slipper	S5			X	
Poaceae		Grass Family					
<i>Calamagrostis</i>	<i>canadensis</i>	Blue-joint Grass	S5			X	
<i>Glyceria</i>	<i>spp.</i>					X	
<i>Glyceria</i>	<i>borealis</i>	Northern Manna Grass	S5				
<i>Glyceria</i>	<i>canadensis</i>	Rattlesnake Grass	S4S5			X	
Potamogetonaceae		Pondweed Family					
<i>Potamogeton</i>	<i>gramineus</i>	Grass-like Pondweed	S5			X	
<i>Potamogeton</i>	<i>natans</i>	Common Floating Pondweed	S5			X	
Sparganiaceae		Bur-reed Family					
<i>Sparganium</i>	<i>fluctuans</i>	Floating Bur-reed	S4?			X	
BRYOPHYTES							
Sphagnaceae							
<i>Sphagnum</i>	<i>spp.</i>					X	
<i>Sphagnum</i>	<i>angustifolium</i>	Narrow-leaf Peat Moss	S5			X	
<i>Sphagnum</i>	<i>fuscum</i>		S5			X	
<i>Sphagnum</i>	<i>girgensohnii</i>	Common Green Peat Moss	S5			X	
<i>Sphagnum</i>	<i>magellanicum</i>	Midway Peat Moss	S5			X	
<i>Sphagnum</i>	<i>palustre</i>		S5			X	
<i>Sphagnum</i>	<i>wolfianum</i>	Wulfe's Peat Moss	S5			X	

Wildlife Observations

Includes tracks and/or signs observed in the field .

Common Name

Scientific Name

Birds

Black duck

Anas rubripes

Rusty blackbird

Euphagus carolinus

Song sparrow

Melospiza melodia

Mammals

Beaver

Castor canadensis

Deer mouse

Peromyscus maniculatus

Moose

Alces alces

Red squirrel

Tamiasciurus hudsonicus

Amphibians

Green frog

Rana clamitans melanota

Spring peeper

Pseudacris crucifer



Natural Resources Department
BNR

BATCHEWANA FIRST NATION OF OJIBWAYS

RANKIN RESERVE 15 D
GOULAIS BAY RESERVE 15 A
OBADJIWAN RESERVE 15 E
WHITEFISH ISLAND 15

Administration Office: 236 Frontenac Street
Rankin Reserve 15D
Batchewana Territory, ON P6A 5K9
Ph: (705) 759-0914 / Fax: (705) 759-9171
www.batchewana.ca

November 17, 2010

Derek Goertz
Natural Resource Solutions Inc.
111 Elgin Street
Sault Ste. Marie, ON
P6A 6L6

Dear Derek:

Re: Site Evaluation for the Wetlands of Bow Lakes Wetlands

As per your request, BNR Field Technician, David Sewell has completed a site evaluation for the Two Wetlands in the vicinity of the proposed Bow Lake Wind Farm within Batchewana First Nation.

I have attached Dave's report that we are hope is going to be helpful to you. We also request that you provide a copy to your employee and any other necessary agencies that are involved with this project.

Thank you very much for requesting BFN participation. If you have any questions or need more information please contact Dave Sewell or myself at 705-759-0914.

Miigwetch,


Danny Sayers, JR. (BNR Manager)

c.c. Chief and Council
Dave Sewell (BNR Field Technician)
Vortex



Natural Resources Department
BNR

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BNR Site Visit and Recommendations on Two Bow Lake Wetlands

On October 26, 2010 I visited the area of the Bow Lake Wind Farms to take a look at the wetlands in that area. There are two big pieces of wetland, one to the north of Bow Lake and, one to the south of Bow Lake. There are a few smaller pieces of wetland around Negick Lake which is within the Wind Farm area. From what I seen these wetlands play an important role to the surrounding area. These wetlands are nature's way of filtering the water which the animals drink (and sometimes humans). In this area there are a lot of animals such as the moose, deer, bear, wolves, foxes, beaver and a lot of other smaller animals. There is plenty of plant life around the wetlands that animals and aquatic life use as food and others use as their homes. There are also a lot of plants that we (BFN) use for medicines. The loss of these wetlands will have on huge burden on the BFN community and the surrounding area that may have irreversible damage.

Recommendations:

- I believe that these wetlands are very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities.
- The Bzhki Ziibi (Montreal River) has and continues to be valuable resources to BFN community members to access, for harvest and manage our Natural Resources that include but not limited to hunting, fishing, cultural sites.
- More BFN field work is needed to provide a complete evaluation and values of these wetlands.

It is my recommendation that Batchewana First Nation should be a part of any Environmental Evaluations from the beginning stages. It is very important to have BFN participation in order to understand and/or to receive appropriate data related to direct impacts and/or values. BNR field Technician is requesting that any future work in our Territory involves our participation which includes but not limited to; covering the cost associated with providing BFN involvement. It's essential for the government, Industry, and contractors to budget for First Nation participation because it becomes costly to our First Nation departments to complete these tasks in a manner that the community will accept. Without BFN reasonable participation in future Environmental Evaluations or Environmental Impacts studies, BFN will not endorse or except the final copies of those reports.

Dave Sewell
BNR Field Technician

Isosceles Wetland Complex				
Wetland Evaluation Edition		2002		
November 13, 2010				
Comments				
Attached Documents include:				
4) Summary of Wetland types, site types and dominant form areas				
1) Map of Isosceles Wetland Complex				
3) List of vegetation communities				
5) Map of Interspersion				
7) Map of Isosceles Wetland Complex Catchment Basin				
10) Vascular Plant List				
11) Fauna list				
Additional Information				
Official Name: Isosceles Wetland Complex				
Evaluation Edition:	2002	Class:	Wetland ID.:	
Not Provincially Significant	Year/Month Last Evaluated	November 13, 2010		
	Year/Month Last Updated	Mar-12		
Special Planning Considerations:		Scores		
		Biological:	96	
		Social:	79	
		Hydrological:	160	
		Special Features:	68	
		Overall:	403	
Submitted by:	Natural Resources Solutions Inc.			
Date:	March 9, 2012			

WETLAND DATA AND SCORING RECORD

i)	WETLAND NAME: <u>Isosceles Wetland Complex</u>		
ii)	MNR ADMINISTRATIVE REGION: <u>North East</u>	DISTRICT: <u>Sault Ste. Marie</u>	
	AREA OFFICE (if different from District): _____		
iii)	CONSERVATION AUTHORITY JURISDICTION: _____		
	(If not within a designated CA, check here: <u> X </u>)		
iv)	COUNTY OR REGIONAL MUNICIPALITY: <u>District of Algoma</u>		
v)	TOWNSHIP: <u>Smilsky Township</u>		
vi)	LOTS & CONCESSIONS: <u>None</u>		
	(attach separate sheet if necessary) _____		
vii)	MAP AND AIR PHOTO REFERENCES		
a)	Latitude: <u>47°10'43"</u> Longitude: <u>84°31'10"</u>		
b)	UTM grid reference:	Zone: <u>16</u> Grid:E 687948	Block: <u>T</u> N 5228022
c)	National Topographic Series:		
	map name(s)	<u>Mamainse Point</u>	
	map number(s)	<u>41 N/2</u>	edition <u>3</u>
	scale	<u>1: 50,000</u>	
d)	Aerial photographs: Date photo taken: _____ Scale: _____		
	Flight & plate numbers: <u>Google Earth Images 2004</u>		

	(attach separate sheet if necessary)		
e)	Ontario Base Map numbers & scale <u># 166805230 1:20,000</u>		

	(attach separate sheets if necessary)		

b) Wetland complex comprised of 3 individual wetlands:

(Attach additional sheets if necessary)

c) Brief documentation of reasons for including any areas less than 2 ha in size:

At the time this evaluation was undertaken, MNR's recommendation with respect to wetlands assessed for the purpose of an evaluation of significance under a Natural Heritage Assessment was to include all wetland areas within the evaluation, regardless of size.

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS**

(check one)

1)		<1600
2)		1600-2000
3)	X	2000-2400
4)		2400-2800
5)		2800-3000
6)		>3000

SOILS

Estimated Fractional Area

	clay/loam
0.74	silt/marl
	limestone
	sand
0.26	humic/mesic
	fibric
	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400	18	15	13	11	9	8	7
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

(maximum score 30; if wetland contains more than one soil type,

evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score

	clay/loam	0.00
15	silt/marl	11.10
	limestone	0.00
	sand	0.00
9	humic/mesic	2.34
	fibric	0.00
	granite	0.00

Final Score Growing Degree-Days/Soils (maximum 30 points)**13**

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

Fractional Area		Score	
Bog		x 3	0.00
Fen	0.27	x 6	1.60
Swamp	0.47	x 8	3.76
Marsh	0.26	x 15	3.90

Wetland type score (maximum 15 points)**9****1.1.3 SITE TYPE** (Fractional Area = area of site type/total wetland area)

	Fractional Area		Score
Isolated	0.26	x 1 =	0.263
Palustrine (permanent or intermittent flow)	0.74	x 2 =	1.474
Riverine		x 4 =	0.000
Riverine (at rivermouth)		x 5 =	0.000
Lacustrine (at rivermouth)		x 5 =	0.000
Lacustrine (on enclosed bay, with barrier beach)		x 3 =	0.000
Lacustrine (exposed to lake)		x 2 =	0.000
		Sub Total:	1.737

Site Type Score (maximum 5 points)**2****1.2 BIODIVERSITY****1.2.1 NUMBER OF WETLAND TYPES**

(Check only one)	Score
1) <input type="checkbox"/> one	9 points
2) <input type="checkbox"/> two	13
3) <input checked="" type="checkbox"/> three	20
4) <input type="checkbox"/> four	30

Number of Wetland Types Score (maximum 30 points)**20**

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species.

Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities
with 1-3 forms = 40

1 = 1.5 points

2 = 2.5

3 = 3.5

4 = 4.5

5 = 5

6 = 5.5

7 = 6

8 = 6.5

9 = 7

10 = 7.5

11 = 8

+ .5 each additional
community = 3.5

Total # of communities
with 4 -5 forms = 23

1 = 2 points

2 = 3.5

3 = 5

4 = 6.5

5 = 7.5

6 = 8.5

7 = 9.5

8 = 10.5

9 = 11.5

10 = 12.5

11 = 13

+ .5 each additional
community =

Total # of communities
with 6 or more forms = 1

1 = 3 points

2 = 5

3 = 7

4 = 9

5 = 10.5

6 = 12

7 = 13.5

8 = 15

9 = 16.5

10 = 18

11 = 19

+ 1 each additional
community =

e.g., a wetland with 3 one form communities
8 six form communities would score:

4 two form communities

12 four form communities and

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points)

3

Wetland Name: Isosceles Wetland Complex

Wetland Size (ha): 3.75

<u>Vegetation Form</u>	<u>% area in which form is dominant</u>
h	<u> </u>
c	<u> </u>
dh	<u> </u>
dc	<u> </u>
ts	<u> </u>
ls	<u>47.10</u>
ds	<u> </u>
gc	<u> </u>
m	<u> </u>
ne	<u>26.60</u>
be	<u> </u>
re	<u> </u>
ff	<u>26.30</u>
f	<u> </u>
su	<u> </u>
u (unvegetated)	<u> </u>
Total = 100%	<u>100.00</u>

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input type="checkbox"/>	recent burn (< 5 yr)
<input type="checkbox"/>	abandoned agricultural land
<input type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input checked="" type="checkbox"/>	abandoned pits and quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	creek flood plain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)**6****1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

- | | | | |
|----|-------------------------------------|---|----------|
| 1) | <input checked="" type="checkbox"/> | Hydrologically connected by surface water to other wetlands (different dominant wetland type) or open lake or river within 1.5 km | 8 points |
| 2) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km | 8 |
| 3) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away (Second Marsh Wetland) | 5 |
| 4) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away | 5 |
| 5) | <input type="checkbox"/> | Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water | 5 |
| 6) | <input type="checkbox"/> | Within 1 km of other wetlands, but not hydrologically connected by surface water | 2 |
| 7) | <input type="checkbox"/> | No wetland within 1 km | 0 |

Proximity to other Wetlands Score (Choose one only, maximum 8 points)**8**

1.2.5 INTERSPERSION

Number of Intersections
(Check one)

Score

1)	26 or less		3
2)	27 to 40	X	6
3)	41 to 60		9
4)	61 to 80		12
5)	81 to 100		15
6)	101 to 125		18
7)	126 to 150		21
8)	151 to 175		24
9)	176 to 200		27
10)	>200		30

Interspersion Score (Choose one only maximum 30 points)

6

1.2.6 OPEN WATER TYPES

Permanently flooded:
(Check one)

Score

1)		type 1	8
2)		type 2	8
3)		type 3	14
4)	X	type 4	20
5)		type 5	30
6)		type 6	8
7)		type 7	14
8)		type 8	3
9)		no open water	0

Open Water Type Score (Choose one only maximum 30 points)

20

1.3 SIZE3.75

hectares

63

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)**8**

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	9	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

			Score
1)	<input checked="" type="checkbox"/>	<5 ha	0
2)	<input type="checkbox"/>	5 -25 ha	4
3)	<input type="checkbox"/>	26 -50 ha	6
4)	<input type="checkbox"/>	51- 100 ha	8
5)	<input type="checkbox"/>	101 -200 ha	11
6)	<input type="checkbox"/>	>200 ha	14

Source of information: Field Investigations (NRSI 2010)

Wood Products Score (Score one only, maximum 14 points)

0

2.1.2 Lowbush Cranberry

(Check one)

Present

1)

Score (Choose one)

2 points

Absent

2)

☒

0

Source of information: Field Investigations (NRSI 2010)

Lowbush Cranberry Score (maximum 2 points)

0

2.1.3 Wild Rice

(Check one)

Present (at least 0.5 ha)

1)

Score (Choose one)

10 points

Absent

2)

☒

0

Source of information: Field Investigations (NRSI 2010)

Wild Rice Score (maximum 10 points)

0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

X

Score (Choose one)

12 points

Absent

2)

0

Source of information: No fish observed, however, fish habitat is present (Field Obs, NRSI 2010).

Commercial Fish Score (maximum 12 points)**12****2.1.5 FURBEARERS**

(Consult Appendix 9)

Name of furbearer

Source of information

1) Beaver (*Castor canadensis*)

3

Field Observations (NRSI 2010)

2)

3)

4)

5)

Scoring: 3 points for each species. maximum 12

Furbearer Score (maximum 12 points)**3****2.2 RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use						
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing	
High	40 points		40 points		40 points	
Moderate	20		20		20	
Low	8	8	8	8	8	
Not possible/NotKnown	0		0		0	0
Totals		8		8		0

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: No signs of hunting observed, however it is possible.

Nature: Possible due to easy road access, however no observations made.

Fishing: Likely not within the wetland itself - more likely within the waterbody that the wetland surrounds.

Recreational Activities Score (maximum 80 points)**16**

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct

1)

Score (Choose one)

3 points

Indistinct

2)

0

Landscape Distinctness Score (maximum 3 points)**0****2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so

1)

Score (Choose one)

7 points

One or several localized disturbances

2)

4

Moderate disturbance; localized water pollution

3)

2

Wetland intact but impairment of ecosystem quality
intense in some areas

4)

1

Extreme ecological degradation, or water pollution
severe and widespread

5)

0

Source of information:

Field Observations (NRSI 2010). Road in extremely close proximity
to wetland.**Absence of Human Disturbance Score (maximum 7 points)****4****2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent

1)

Score (Choose one)

20 points

Infrequent

2)

12

No visits

3)

0

Source of information:

Educational Uses Score (maximum 20 points)**0****2.4.2 FACILITIES AND PROGRAMS**

(check one)

Staffed interpretation centre

1)

Score (Choose one)

8 points

No interpretation centre or staff but a system of
self-guiding trails or brochures available

2)

4

Facilities such as maintained paths (e.g., woodchips)
boardwalks, boat launches or observation towers

3)

2

but no brochures or other interpretation

4)

0

No facilities or programs

Source of information:

Field Observations (NRSI 2010)**Facilities and Programs Score (maximum 8 points)****0**

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

Research papers published in refereed scientific journal or as a thesis

One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.

No research or reports

Score

12 points

10

5

0

X

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points)

0

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community
1) Within or adjoining settlement	40 points	26	16
2) 0.5 to 10 km from settlement	26	16	10
3) 10 to 60 km from settlement	12	8	4
4) >60 km from settlement	5	2	0
5) >100 km from settlement	0	0	0
	0	0	4

Name of settlement: Montreal River Harbour, ON

Proximity to Human Settlement Score (maximum 40 points)

4

2.6 OWNERSHIP (FA= fraction Area)

Score

FA of wetland in public or private ownership

held under contract or in trust for wetland protection

FA of wetland area in public ownership, not as above

FA of wetland area in private ownership, not as above

x 10 =

0.00

x 8 =

8.00

x 4 =

0.00

Source of information: MNR Values Mapping (June 25 - 2009)

Ownership Score (maximum 10 points)

8

2.7 SIZE**3.75** hectares**35** Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)**2**

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant	X	=	30 points
2) Not Significant		=	0
3) Unknown		=	0
Total:	30		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant	X	=	0
3) Unknown		=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

30

Batchewana First Nation (BFN) was contacted on October 19, 2010 and asked about the significance of this wetland in terms of aboriginal values. A response was received on November 17, 2010 (letter appended), which states the wetlands are "very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities."
(Dave Sewell, BNR Field Technician)

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area.

For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1:

If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area: lake area is <0.1, or wetland is riverine on the St. Mary's River, go to Step 5

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2:**Determination of Upstream Detention Factor (DF)**

(a)	Wetland area (ha)		3.75
(b)	Total area (ha) of <u>upstream</u> detention areas (include the wetland itself)		9.57
(c)	Ratio of (a):(b)		0.39
(d)	Upstream detention factor: (c) x 2 =	0.78	0.78
	(maximum allowable factor = 1)		

Step 3:**Determination of Peak Flow Attenuation Factor (AF)**

(a)	Wetland area (ha)		3.75
(b)	Size of catchment basin (ha) <u>upstream</u> of wetland (include wetland itself in catchment area)		115.97
(c)	Ratio of (a):(b)		0.03
(d)	Wetland attenuation factor: (c) x 10 =	0.32	0.32
	(maximum allowable factor = 1)		

Step 4:**Determination of Wetland Surface Form Factor (FF)**

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	X 0.2
Flat (lawn) vegetation (typical of fens)	0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1
Surface Form Factor (FF)	0.2

(Maximum allowable factor = 1)

Step 5:

1. Wetland is entirely Isolated 100 points
2. Wetland is lacustrine and the ratio of wetland area: lake area is <0.1 0 points
3. Wetland is riverine along the St. Mary's River 0 points
4. For all other wetlands*, calculate as follows:

a) Upstream Detention Factor (DF) (Step 2)	0.78
b) Wetland Attenuation Factor (AF) (Step 3)	0.32
c) Surface Form Factor (FF) (Step 4)	0.20

$$[(DF + AF + FF)/3] \times 73.6^* \quad 31.89 \quad \text{Isolated score: 26.4}$$

*Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points) **58**

3.2 GROUND WATER RECHARGE**3.2.1 SITE TYPE**

- (a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River Score = 0
- X (b) Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland)

1	FA of isolated or palustrine wetland	x 20 =	20.00
0	FA of riverine wetland	x 5 =	0.00
0	FA of lacustrine wetland (wetland <50% lacustrine)	x 0 =	0.00

Site Type Score: (maximum 20 points) **20**

3.2.2 SOILS**EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till	Clay or bedrock	
Lacustrine or on St. Mary's River	0	0	
Isolated	10	5	
Palustrine	7	4	X
Riverine (not on St. Mary's River)	5	2	
Totals	7		0

Hydrological Soil Class Score (maximum 10 points) **7**

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland.

<u>Site Type</u>	<u>Improvement Factor (IF)</u>			
Isolated	FA	0.26	x	0.5 = 0.13
Riverine	FA		x	1 = 0.00
Palustrine with no inflow	FA		x	0.7 = 0.00
Palustrine with inflows	FA	0.74	x	1 = 0.74
Lacustrine on lake shoreline	FA		x	0.2 = 0.00
Lacustrine at lake inflow or outflow	FA		x	1 = 0.00

Watershed Improvement Score (IF x 30) (maximum = 30)

26

3.3.2 ADJACENT AND WATERSHED LAND USE**EVALUATION****Step 1: Determination of Maximum Initial Score**

- ☐ Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)
- ☒ All other wetlands (Go through steps 2, 3, 4 and 5b)

Step 2: Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
>50% of catchment basin	20
20-50% of catchment basin	14
<20% of catchment basin	4

Score for BLU **14**

Step 3: Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200m of the wetland boundary.

Choose the highest only	Score
Major corridor*	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

Score for LUU **3**

Major, secondary and tertiary roads are those that are indicated as such on the provincial highways maps. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4: Determination of Point-source Land Use (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0

Step 5: Calculation of total score for Adjacent and Watershed Land Use

- a) Wetland on the Great Lakes or St. Mary's River
b) All other wetlands, calculate as follows:

Final Score BLU+LUU+PS 17

3.3.3 VEGETATION FORM

Choose the category that best describes the vegetation of the wetland

	Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	8 points
Emergents, submergents (ne, re, be, f, ff, su)	10
Little or no vegetation (u)	0

Dominant Vegetation Form Score (maximum 10 points)

10

3.4 CARBON SINK

Choose the category that best describes the wetland

1) Wetland a bog or fen with >50% organic soils		15 points
2) Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type)	X	6
3) Marshes and swamps with >50% organic soil		9
4) Wetland with less than 10% of soils organic		0

Carbon Sink Score (maximum 15 points)

6

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

Step 1:

Score

<input checked="" type="checkbox"/>	Wetland entirely isolated or palustrine	0
<input type="checkbox"/>	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)	<input type="checkbox"/>	Trees and shrubs	15
2)	<input type="checkbox"/>	Emergent vegetation	8
3)	<input type="checkbox"/>	Submergent vegetation	6
4)	<input type="checkbox"/>	Other shoreline vegetation	3
5)	<input type="checkbox"/>	No vegetation	0

Shoreline Erosion Control Score (maximum 15 points)

0

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores)

Category	Catchment Interaction					
Wetland type	Bog = 0		Swamp/Marsh = 2	2	Fen = 5	
Basin topography	Flat/Rolling = 5		Hilly = 2	2	Major relief break = 5	
Weland area: Upslope catchment area	Large (>50%) = 0		Moderate (6-50%) = 2		Small (<5%) = 5	5
Lagg Development	None found = 0	0	Minor = 2		Extensive = 5	
Seeps at wetland edge	None found = 0	0	1-3 seeps = 5		4 or more seeps = 10	
Iron precipitates evident at edge	None = 0	0	1-3 deposits = 2		4 or more deposits = 5	
Surface marl deposits	None = 0	0	1-3 deposits = 2		>3 = 5	
Wetland pH	Low < 4.2 = 0		Moderate 4.2-5.7 = 5	5	High >5.7 = 10	
Catchment soil coverage	Patchy = 0		Thin (<20cm) = 2	0	Thick = 5	
Catchment soil permeability	Low = 0		Moderate = 2	2	High = 5	
Totals		0		11		5

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

16

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**Hills Site Region and Site District (5E only): 5E-13

Wetland type (check one or more)

<input type="checkbox"/>	Bog
<input checked="" type="checkbox"/>	Fen
<input checked="" type="checkbox"/>	Swamp
<input checked="" type="checkbox"/>	Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	10	0	10	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

20

4.1.2 SPECIES**4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	<input type="text"/>
2) _____	<input type="text"/>
3) _____	<input type="text"/>
4) _____	<input type="text"/>
5) _____	<input type="text"/>
Total:	0

Attach documentation.

Scoring:

For one species	250 points
For each additional species	250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered Species Score (no maximum)**0****4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	<input type="text"/>
2) _____	<input type="text"/>
3) _____	<input type="text"/>
4) _____	<input type="text"/>
5) _____	<input type="text"/>
Total:	0

Attach documentation.

Scoring:

For one species	150 points
For each additional species	75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)**0**

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

0

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)**0**

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

** Score only if there is an approved list

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Significant Species (Site Region) Score (no maximum)

0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum)

0

4.1.2.7 SPECIES OF SPECIAL STATUS**Black Duck**

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40-80 Indicated Pairs/100 km sq	<input type="checkbox"/>	25 points
20-40 Indicated Pairs/100 km sq	<input type="checkbox"/>	20
10-20 Indicated Pairs/100 km sq	<input checked="" type="checkbox"/>	15
5-10 Indicated Pairs/100 km sq	<input type="checkbox"/>	10
1-5 Indicated Pairs/100 km sq	<input type="checkbox"/>	5
Habitat not suitable	<input type="checkbox"/>	0
Out of assessment range	<input type="checkbox"/>	0

Black Duck Score (maximum 25 points)**15****4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT****4.2.1 NESTING OF COLONIAL WATERBIRDS**

Status	Name of species	Source of Information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations etc., if known)

Colonial Waterbirds Score (maximum 50 points)**0****4.2.2. WINTER COVER FOR WILDLIFE**

(Check only highest level of significance)

Score (one only)

1)	<input type="checkbox"/>	Provincially significant	100
2)	<input type="checkbox"/>	Significant in Site Region	50
3)	<input type="checkbox"/>	Significant in Site District	25
3)	<input type="checkbox"/>	Locally significant	10
4)	<input checked="" type="checkbox"/>	Little or poor winter cover present	0

Source of information: No treed swamps occur within the subject wetlands - entire wetland only 3.75ha which is extremely small compared to the surrounding available habitat.**Winter Cover for Wildlife Score (maximum 100 points)****0**

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant	<input type="checkbox"/>	150	<input type="checkbox"/>	150
2) Provincially significant	<input type="checkbox"/>	100	<input type="checkbox"/>	100
3) Regionally significant	<input type="checkbox"/>	50	<input type="checkbox"/>	50
4) Known to occur	<input type="checkbox"/>	10	<input type="checkbox"/>	10
5) Not possible	<input type="checkbox"/>	0	<input type="checkbox"/>	0
6) Not known	<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>	0
Total:	<input type="checkbox"/>	0	<input type="checkbox"/>	0

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

0

4.2.4 WATERFOWL BREEDING

	(Check only highest level of significance)	Score
1) <input type="checkbox"/>	Provincially significant	100
2) <input type="checkbox"/>	Regionally significant	50
3) <input checked="" type="checkbox"/>	Habitat suitable	10
4) <input type="checkbox"/>	Habitat not suitable	0

Source of information:

Field Observations (NRSI 2010)

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

	(check highest applicable category)	Score
1) <input type="checkbox"/>	Provincially significant	100
2) <input type="checkbox"/>	Significant in Site Region	50
3) <input type="checkbox"/>	Significant in Site District	10
4) <input checked="" type="checkbox"/>	Not significant	0

Source of information:

MNR Values Map (June 25, 2010) and Field Observations

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

4.2.6 UNGULATE HABITAT**EVALUATION**

Score (1) + (2) + one of (3) to (6)

			Score
(1)	<u>0</u>	Ungulate summer cover	15 points
(2)	<u>0</u>	Mineral licks	50
(3)		Moose aquatic feeding area Class 1	0
(4)	<u>10</u>	Moose aquatic feeding area Class 2	10
(5)		Moose aquatic feeding area Class 3	20
(6)		Moose aquatic feeding area Class 4	35

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points)10**4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1: Fish habitat is not present within the wetland (Score = 0) X Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

1) Significance of the spawning and nursery habitat within the wetland is known
(Go to Step 3)2) X Significance of the spawning and nursery habitat within the wetland is not
known (Go through Steps 4, 5, 6 and 7)

Step 3: Select the highest appropriate category below attach documentation:

- 1) ☐ Significant in Site Region 100 points
- 2) ☐ Significant in Site District 50
- 3) ☐ Locally Significant Habitat (5.0+ ha) 25
- 4) ☐ Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points)

0

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

☐ Low marsh not present (Continue to Step 5)

☒ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus	X	0.99	0.2	11	2.2
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Total Score (maximum 75 points)						2

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

High marsh not present (Continue to Step 6)

☒ High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge	X	1	0.2	11	2.2
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
Total Score (maximum 25 points)						2.2

*High marsh consists of low shrub as the dominant form, which cannot be scored.

Step 6: (**Swamp:** Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

Swamp containing fish habitat not present (Continue to Step 7)

☒ Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded	X	1.77	0.2	10	2.0
Permanently flooded				10	0.0
SCORE (maximum 20 points)					2.0

Step 7: Calculation of final scoreScore for Spawning and Nursery Habitat (Low Marsh) (maximum 75) = 2.0Score for Spawning and Nursery Habitat (High Marsh) (maximum 25) = 2.2Score for Swamp Containing Fish Habitat (maximum 20) = 2.0**Sum (maximum score 100 points) =****6**4.2.6.2 Migration and Staging Habitat**Step 1:**

- 1) X Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

- | | Score |
|--|-----------|
| 1) <u> </u> Significant in Site Region | 25 points |
| 2) <u> </u> Significant in Site District | 15 |
| 3) <u> </u> Locally Significant | 10 |
| 4) <u> </u> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Fish Migration and Staging Habitat (maximum score 25 points)**0****Step 3:** Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). Note name of river for 2) and 3).

- | | Score |
|--|-----------|
| 1) <u> </u> Wetland is riverine at rivermouth or lacustrine at rivermouth | 25 points |
| 2) <u> </u> Wetland is riverine, within 0.75 km of rivermouth | 15 |
| 3) <u> </u> Wetland is lacustrine, within 0.75 km of rivermouth | 10 |
| 4) <u> </u> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Staging and Migration Habitat (maximum score 25 points)**0**

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland type/total area of wetland)

	Fractional Area			Scoring
Bog		x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl	0.27	x	20 =	5.4
Fen, on limestone rock		x	5 =	0.0
Swamp	0.47	x	3 =	1.4
Marsh	0.26	x	0 =	0.0
Sub Total:				6.8

Ecosystem Age Score (maximum 25 points)**7****4.4 GREAT LAKES COASTAL WETLANDS****Score for coastal (see text for definition) wetlands only**

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)**0**

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**X Absent/Not seen Present(a) One location in wetland
Two to many locations

Abundance code

(b) (1 < 20 plants
(2 20-99 plants
(3 100-999 plants
(4 >1000 plants **5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

Check one or more

Ephemeral (less than 2 weeks)
Temporal (2 weeks to 1 month)
Seasonal (1 to 3 months) X
Semi-permanent (>3 months) X
No seasonal flooding **5.3 SPECIES OF SPECIAL SIGNIFICANCE****5.3.1 Osprey**Present and nesting (attach map showing nest site)
Known to have nested in last 5 yr
Feeding area for osprey
Not as above X **5.3.2 Common Loon**Nesting in wetland (attach map showing nest site)
Feeding at edge of wetland
Observed or heard on lake or
river adjoining the wetland
Not as above X

INVESTIGATORS

Lisa Keable

Derek Goertz

AFFILIATION

Natural Resources Solutions Inc.

Natural Resources Solutions Inc.

DATES WETLAND VISITED

September 5, 2010

DATE THIS EVALUATION COMPLETED:

November 13, 2010

ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"

5 hours (2 people from 1200 to 1430hrs)

WEATHER CONDITIONS

i) at time of field work

15°C, 100% cloud cover, wind = 0 (Beaufort Scale)

ii) summer conditions in general

Very hot and dry summer however substantial rainfall occurred over the last few nights prior to the fieldwork conducted for this wetland.

OTHER POTENTIALLY USEFUL INFORMATION:**CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:**

A list of all flora and fauna observed in the wetland is appended.

WETLAND EVALUATION SCORING RECORD

WETLAND NAME

Isosceles Wetland Complex

1.0 BIOLOGICAL COMPONENT1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

13

1.1.2 Wetland Type

9

1.1.3 Site Type

2

Total for Productivity

25

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

20

1.2.2 Vegetation Communities (maximum 45)

3

1.2.3 Diversity of Surrounding Habitat (maximum 7)

6

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

6

1.2.6 Open Water Type

20

Total for Biodiversity

63

Sub Total for Biodiversity

63

1.3 SIZE (Biological Component)

8

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

96

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	0
2.1.2 Lowbush Cranberry	0
2.1.3 Wild Rice	0
2.1.4 Commercial Fish	12
2.1.6 Furbearers	3

Total for Economically Valuable Products **15**

2.2 RECREATIONAL ACTIVITIES (maximum 80) **16**2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	0
2.3.2 Absence of Human Disturbance	4

Total for Landscape Aesthetics **4**

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies (maximum 12)	0

Total for Education and Public Awareness **0**

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT **4**2.6 OWNERSHIP **8**

Subtotal for Social Component **35**

2.7 SIZE (Social Component) **2**2.8 ABORIGINAL AND CULTURAL VALUES (maximum 30) **30**

TOTAL FOR SOCIAL COMPONENT (not to exceed 250) **79**

3.0 HYDROLOGICAL COMPONENT3.1 FLOOD ATTENUATION

58

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

20

3.2.2 Soils

7

Total for Groundwater Recharge

27

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

26

3.3.2 Adjacent and Watershed Land Use

17

3.3.3 Vegetation Form

10

Total for Water Quality Improvement

53

3.4 CARBON SINK

6

3.5 SHORELINE EROSION CONTROL

0

3.6 GROUNDWATER DISCHARGE

16

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

160

4.0 SPECIAL FEATURES4.1 RARITY

4.1.1 Wetlands

20

4.1.2 Species

4.1.2.1 Endangered or Threatened Species Breeding

0

4.1.2.2 Traditional Use by Endangered or Threatened Species

0

4.1.2.3 Provincially Significant Animals

0

4.1.2.4 Provincially Significant Plants

0

4.1.2.5 Regionally Significant Species

0

4.1.2.6 Locally Significant Species

0

4.1.2.7 Species of Special Status

15

Total for Species Rarity

15

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds

0

4.2.2 Winter Cover for Wildlife

0

4.2.3 Waterfowl Staging and Moulting

0

4.2.4 Waterfowl Breeding

10

4.2.5 Migratory Passerine, Shorebird or Raptor Stopover

0

4.2.6 Ungulate Habitat

10

4.2.7 Fish Habitat

6

Total for Significant Features and Habitat

26

4.3 ECOSYSTEM AGE

7

4.4 GREAT LAKES COASTAL WETLANDS

0

TOTAL FOR SPECIAL FEATURES (maximum 250)

68

SUMMARY OF EVALUATION RESULT

Wetland	Isosceles Wetland Complex
TOTAL FOR 1.0 BIOLOGICAL COMPONENT	96
TOTAL FOR 2.0 SOCIAL COMPONENT	79
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT	160
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	68
	<u>WETLAND TOTAL</u>
	403

INVESTIGATORS

Lisa Keable
Derek Goertz
Katharina Walton (evaluation revision, March 2012)

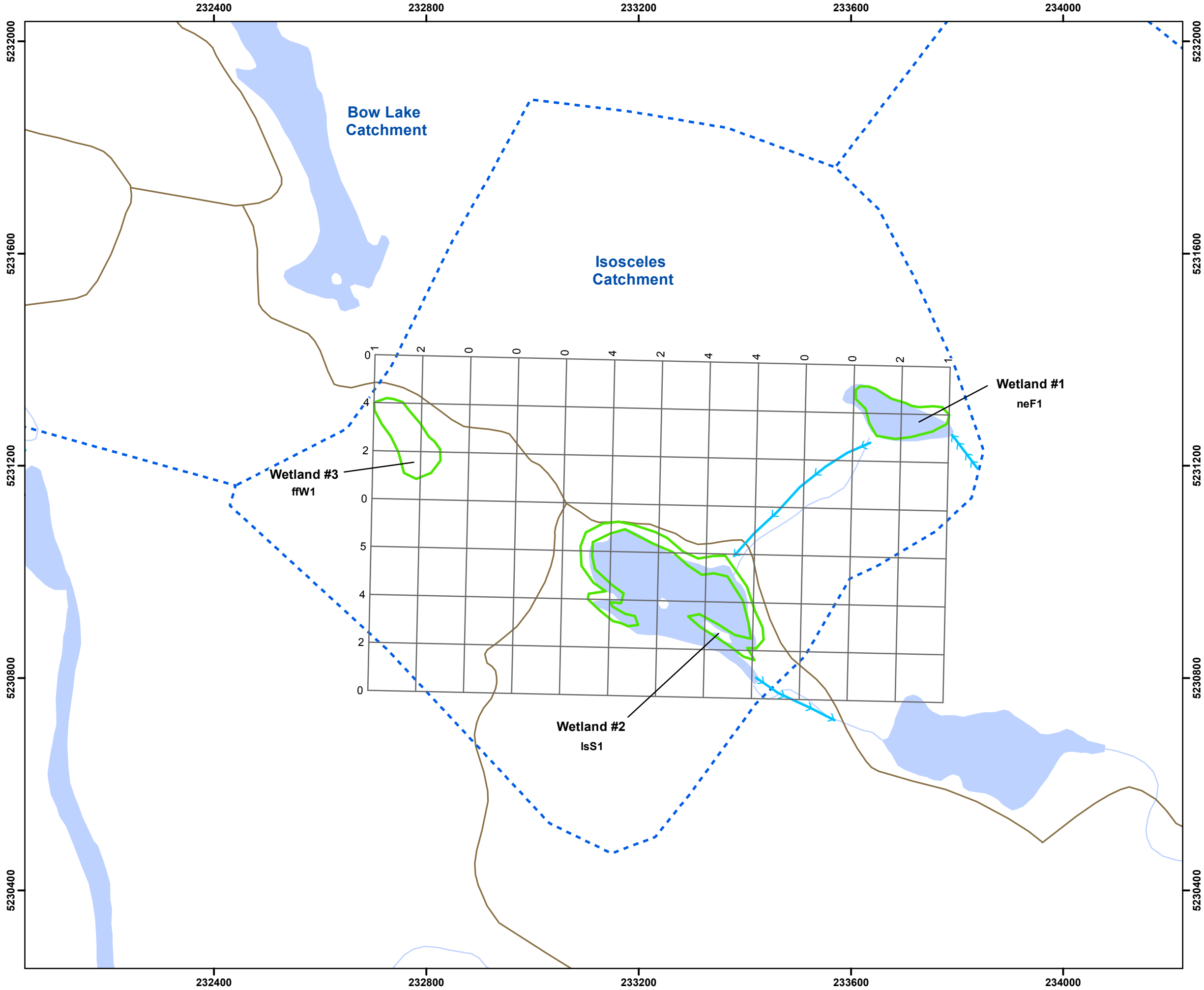
AFFILIATION

Natural Resources Solutions Inc.
Natural Resources Solutions Inc.
Natural Resources Solutions Inc.

DATE November 13, 2010

Data Summary Form Wetland: Isosceles Wetland Complex

Wetland Type	Wetland Unit	Map Code	Field Code	# Forms	Dominant Form	Forms	% Open Water	Area (ha)	Open Water (ha)	Soils	Site Type	Fish Habitat
Fen	1	neF1	7	3	ne	gc, m	10	1.00	0.10	Organic (H)	Palustrine	high marsh
Swamp	2	lsS1	5	2	ls	ne	20	1.77	0.35	Silt	Palustrine	Yes - swamp
Marsh	3	ffW1	3	1	ff		90	0.99	0.89	Silt	Isolated	low marsh



Isosceles Wetland Complex

Legend

- Highway
- Secondary Road
- Resource Road
- Waterbody
- Watercourse
- Catchment Area Boundary
- Sub-catchment Area Boundary
- Flow Direction
- Interspersion Grid
- Ecological Land Classification

(ffW) Floating Plant Marsh
(IsS) Low Shrub Swamp
(neF) Narrow-leaved Emergent Fen

Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Data provided by MNR© Copyright: Queen's Printer Ontario.

Project: 1186 Date: March-09-12	NAD83 - UTM Zone 16 Size: 11x17" 1:7,000
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0 100 200 300 400 Meters

Map Legend

Map Code	Wetland Type	Forms	Dominant Species
ffW1	Marsh	ff	Yellow lily (<i>Nuphar variegata</i>) , <i>Potamogeton</i> spp.; Bottle sedge (<i>Carex utriculata</i>); Wild mint (<i>Mentha arvensis ssp. borealis</i>)
lsS1	Swamp	ls, ne	Sweetgale (<i>Myrica gale</i>), Speckled alder (<i>Alnus incana spp. rugosa</i>); Canada blue joint (<i>Calamagrostis canadensis</i>)
neF1	Fen	ne, m	<i>Carex</i> spp., Cottongrass (<i>Eriophorum gracile</i>); <i>Sphagnum</i> spp.

BOTANICAL NAME		COMMON NAME	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	NRSI
	SOURCE		MNR RARE 4th Ed. 2009	SARO List	SARA Registry	Observations (2010)
<u>PTERIDOPHYTES</u>		<u>FERNS & ALLIES</u>				
Osmundaceae		Royal Fern Family				
<i>Osmunda</i>	<i>claytoniana</i>	Interrupted Fern	S5			X
<i>Osmunda</i>	<i>regalis var. spectabilis</i>	Royal Fern	S5			X
<u>GYMNOSPERMS</u>		<u>CONIFERS</u>				
Cupressaceae		Cedar Family				
<i>Thuja</i>	<i>occidentalis</i>	Eastern White Cedar	S5			X
Pinaceae		Pine Family				
<i>Abies</i>	<i>balsamea</i>	Balsam Fir	S5			X
<i>Picea</i>	<i>mariana</i>	Black Spruce	S5			X
<u>DICOTYLEDONS</u>		<u>DICOTS</u>				
Anacardiaceae		Sumac or Cashew Family				
<i>Toxicodendron</i>	<i>radicans ssp. negundo</i>	Poison-ivy	S5			X
Apiaceae		Carrot or Parsley Family				
<i>Sium</i>	<i>suave</i>	Hemlock Water-parsnip	S5			X
Asteraceae		Composite or Aster Family				
<i>Eupatorium</i>	<i>maculatum ssp. maculatum</i>	Spotted Joe-pye-weed	S5			X
<i>Solidago</i>	<i>uliginosa</i>	Marsh Goldenrod	S5			X
Caprifoliaceae		Honeysuckle Family				
<i>Symphoricarpos</i>	<i>albus</i>	Snowberry	S5			X
Cornaceae		Dogwood Family				
<i>Cornus</i>	<i>stolonifera</i>	Red-osier Dogwood	S5			X
Droseraceae		Sundew Family				
<i>Drosera</i>	<i>rotundifolia</i>	Round-leaved Sundew	S5			X
Ericaceae		Heath Family				
<i>Chamaedaphne</i>	<i>calyculata</i>	Leatherleaf	S5			X
Guttiferae		St. John's-wort Family				
<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	S5			X
Lamiaceae		Mint Family				
<i>Lycopus</i>	<i>americanus</i>	Cut-leaved Water-horehound	S5			X
<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	S5			X
<i>Mentha</i>	<i>arvensis ssp. borealis</i>	American Wild Mint	S5			X
Lentibulariaceae		Bladderwort Family				
<i>Utricularia</i>	<i>cornuta</i>	Horned Bladderwort	S5			X
Myricaceae		Wax-myrtle Family				

<i>Myrica</i>	<i>gale</i>	Sweet Gale	S5			X
Nymphaeaceae		Water-lily Family				
<i>Nuphar</i>	<i>variegata</i>	Bulhead Pond-lily	S5			X
Onagraceae		Evening-primrose Family				
<i>Epilobium</i>	<i>palustre</i>	Marsh Willow-herb	S5			X
Rosaceae		Rose Family				
<i>Comarum</i>	<i>palustre</i>	Marsh Cinquefoil	S5			X
<i>Rubus</i>	<i>idaeus ssp. melanolasius</i>	Wild Red Raspberry	S5			X
Violaceae		Violet Family				
<i>Viola</i>	<i>lanceolata</i>	Lance-leaved Violet	S4			X
Cyperaceae		Sedge Family				
<i>Carex</i>	<i>species</i>	Sedge species				X
<i>Eriophorum</i>	<i>gracile</i>	Slender Cotton-grass	S5			X
<i>Rhynchospora</i>	<i>alba</i>	White Beaked-rush	S5			X
<i>Scirpus</i>	<i>cyperinus</i>	Wool-grass	S5			X
Iridaceae		Iris Family				
<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	S5			X
Juncaceae		Rush Family				
<i>Juncus</i>	<i>spp.</i>					X
<i>Juncus</i>	<i>brevicaudatus</i>	Short-tailed Rush	S5			X
Poaceae		Grass Family				
<i>Calamagrostis</i>	<i>canadensis</i>	Blue-joint Grass	S5			X
<i>Glyceria</i>	<i>canadensis</i>	Rattlesnake Grass	S4S5			X
Potamogetonaceae		Pondweed Family				
<i>Potamogeton</i>	<i>spp.</i>					X
<u>BRYOPHYTES</u>						
Sphagnaceae						
<i>Sphagnum</i>	<i>spp.</i>					X
<i>Sphagnum</i>	<i>girgensohnii</i>	Common Green Peat Moss	S5			X
<i>Sphagnum</i>	<i>magellanicum</i>	Midway Peat Moss	S5			X

Wildlife Observations

Includes tracks and signs observed while in the field

Common Name

Scientific Name

Mammals

Beaver

Castor canadensis

Moose

Alces alces

Amphibians

Green frog

Rana clamitans melanota



Natural Resources Department
BNR

BATCHEWANA FIRST NATION OF OJIBWAYS

RANKIN RESERVE 15 D
GOULAIS BAY RESERVE 15 A
OBADJIWAN RESERVE 15 E
WHITEFISH ISLAND 15

Administration Office: 236 Frontenac Street
Rankin Reserve 15D
Batchewana Territory, ON P6A 5K9
Ph: (705) 759-0914 / Fax: (705) 759-9171
www.batchewana.ca

November 17, 2010

Derek Goertz
Natural Resource Solutions Inc.
111 Elgin Street
Sault Ste. Marie, ON
P6A 6L6

Dear Derek:

Re: Site Evaluation for the Wetlands of Bow Lakes Wetlands

As per your request, BNR Field Technician, David Sewell has completed a site evaluation for the Two Wetlands in the vicinity of the proposed Bow Lake Wind Farm within Batchewana First Nation.

I have attached Dave's report that we are hope is going to be helpful to you. We also request that you provide a copy to your employee and any other necessary agencies that are involved with this project.

Thank you very much for requesting BFN participation. If you have any questions or need more information please contact Dave Sewell or myself at 705-759-0914.

Miigwetch,


Danny Sayers, JR. (BNR Manager)

c.c. Chief and Council
Dave Sewell (BNR Field Technician)
Vortex



Natural Resources Department
BNR

BATCHEWANA FIRST NATION OF OJIBWAYS

**RANKIN RESERVE 15 D
GOULAIS BAY RESERVE 15 A
OBADJIWAN RESERVE 15 E
WHITEFISH ISLAND 15**

Administration Office: 236 Frontenac Street
Rankin Reserve 15D
Batchewana Traditional Territory, ON P6A 5K9
Ph: (705) 759-0914 / Fax: (705) 759-9171
www.batchewana.ca

BNR Site Visit and Recommendations on Two Bow Lake Wetlands

On October 26, 2010 I visited the area of the Bow Lake Wind Farms to take a look at the wetlands in that area. There are two big pieces of wetland, one to the north of Bow Lake and, one to the south of Bow Lake. There are a few smaller pieces of wetland around Negick Lake which is within the Wind Farm area. From what I seen these wetlands play an important role to the surrounding area. These wetlands are nature's way of filtering the water which the animals drink (and sometimes humans). In this area there are a lot of animals such as the moose, deer, bear, wolves, foxes, beaver and a lot of other smaller animals. There is plenty of plant life around the wetlands that animals and aquatic life use as food and others use as their homes. There are also a lot of plants that we (BFN) use for medicines. The loss of these wetlands will have on huge burden on the BFN community and the surrounding area that may have irreversible damage.

Recommendations:

- I believe that these wetlands are very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities.
- The Bzhki Ziibi (Montreal River) has and continues to be valuable resources to BFN community members to access, for harvest and manage our Natural Resources that include but not limited to hunting, fishing, cultural sites.
- More BFN field work is needed to provide a complete evaluation and values of these wetlands.

It is my recommendation that Batchewana First Nation should be a part of any Environmental Evaluations from the beginning stages. It is very important to have BFN participation in order to understand and/or to receive appropriate data related to direct impacts and/or values. BNR field Technician is requesting that any future work in our Territory involves our participation which includes but not limited to; covering the cost associated with providing BFN involvement. It's essential for the government, Industry, and contractors to budget for First Nation participation because it becomes costly to our First Nation departments to complete these tasks in a manner that the community will accept. Without BFN reasonable participation in future Environmental Evaluations or Environmental Impacts studies, BFN will not endorse or except the final copies of those reports.

Dave Sewell
BNR Field Technician

WETLAND DATA AND SCORING RECORD

- i) **WETLAND NAME:** Lonely Wetland
- ii) **MNR ADMINISTRATIVE REGION:** North East **DISTRICT:** Sault Ste. Marie
AREA OFFICE (if different from District): _____
- iii) **CONSERVATION AUTHORITY JURISDICTION:** _____
 (If not within a designated CA, check here: X)
- iv) **COUNTY OR REGIONAL MUNICIPALITY:** District of Algoma
- v) **TOWNSHIP:** Smilsky Township
- vi) **LOTS & CONCESSIONS:** None
 (attach separate sheet if necessary) _____
- vii) **MAP AND AIR PHOTO REFERENCES**
- a) Latitude: 47°13'21.4" Longitude: 84°29'36.0"
- b) UTM grid reference: Zone: 16 Block: T
 Grid:E 689774 N 5232951
- c) National Topographic Series:
 map name(s) Batchewana
 map number(s) 41 N/1 edition 3
 scale _____
- d) Aerial photographs: Date photo taken: _____ Scale: _____
 Flight & plate numbers: Google Earth Images 2004

 (attach separate sheet if necessary)
- e) Ontario Base Map numbers & scale 166805230 1:20,000

 (attach separate sheets if necessary)

viii) WETLAND SIZE AND BOUNDARIES

a) Single contiguous wetland area: hectares

b) Wetland complex comprised of 3 individual wetlands:

Wetland Unit Number (for reference)		Size of each wetland unit				
		Isolated	Palustrine	Riverine	Lacustrine	
Wetland Unit No.	<u>1</u>	<u> </u>	<u>0.20</u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u>2</u>	<u> </u>	<u>0.15</u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u>3</u>	<u> </u>	<u> </u>	<u>0.29</u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit No.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ha
Wetland Unit Totals:		0.00	0.35	0.29	0.00	

(Attach additional sheets if necessary)

TOTAL WETLAND SIZE	0.64	ha
--------------------	------	----

c) Brief documentation of reasons for including any areas less than 2 ha in size:

This wetland was evaluated based on comments received by OMNR, Sault Ste. Marie on September 1, 2010 stating that all wetlands within the study area had to be evaluated, regardless of their size. Only two communities were observed within this wetland, both of which were under 0.5ha. Communities less than 0.5ha do not have to be included in the OWES, however, NRSI biologists did observe brooktrout within the wetland and surrounding habitats that appeared to have been spawning. Young of the year brooktrout, and mature adults were observed as well as a possible redd. Based on these observations a complete wetland evaluation was conducted.

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS**

(check one)

- 1) _____ <1600
 2) _____ 1600-2000
 3) X 2000-2400
 4) _____ 2400-2800
 5) _____ 2800-3000
 6) _____ >3000

SOILS

Estimated Fractional Area

_____	clay/loam
<u>0.500</u>	silt/marl
_____	limestone
<u>0.500</u>	sand
_____	humic/mesic
_____	fibric
_____	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400	18	15	13	11	9	8	7
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score		
_____	clay/loam	<u>0.00</u>
<u>15</u>	silt/marl	<u>7.50</u>
_____	limestone	<u>0.00</u>
<u>11</u>	sand	<u>5.50</u>
_____	humic/mesic	<u>0.00</u>
_____	fibric	<u>0.00</u>
_____	granite	<u>0.00</u>

Final Score Growing Degree-Days/Soils (maximum 30 points)**13**

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

Fractional Area		Score	
Bog	<input type="text"/>	x 3	<input type="text" value="0.00"/>
Fen	<input type="text"/>	x 6	<input type="text" value="0.00"/>
Swamp	<input type="text"/>	x 8	<input type="text" value="0.00"/>
Marsh	<input type="text" value="1.00"/>	x 15	<input type="text" value="15.00"/>

Wetland type score (maximum 15 points)**15****1.1.3 SITE TYPE** (Fractional Area = area of site type/total wetland area)

Fractional Area		Score	
Isolated	<input type="text"/>	x 1 =	<input type="text" value="0.000"/>
Palustrine (permanent or intermittent flow)	<input type="text" value="0.550"/>	x 2 =	<input type="text" value="1.100"/>
Riverine	<input type="text" value="0.450"/>	x 4 =	<input type="text" value="1.800"/>
Riverine (at rivermouth)	<input type="text"/>	x 5 =	<input type="text" value="0.000"/>
Lacustrine (at rivermouth)	<input type="text"/>	x 5 =	<input type="text" value="0.000"/>
Lacustrine (on enclosed bay, with barrier beach)	<input type="text"/>	x 3 =	<input type="text" value="0.000"/>
Lacustrine (exposed to lake)	<input type="text"/>	x 2 =	<input type="text" value="0.000"/>
		Sub Total:	<input type="text" value="2.900"/>

Site Type Score (maximum 5 points)**3****1.2 BIODIVERSITY****1.2.1 NUMBER OF WETLAND TYPES**

(Check only one)		Score
1)	<input checked="" type="checkbox"/> X	one 9 points
2)	<input type="checkbox"/>	two 13
3)	<input type="checkbox"/>	three 20
4)	<input type="checkbox"/>	four 30

Number of Wetland Types Score (maximum 30 points)**9**

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species.

Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities
with 1-3 forms = 40

1 = 1.5 points

2 = 2.5

3 = 3.5

4 = 4.5

5 = 5

6 = 5.5

7 = 6

8 = 6.5

9 = 7

10 = 7.5

11 = 8

+ .5 each additional
community = 1.5

Total # of communities
with 4 -5 forms = 23

1 = 2 points

2 = 3.5

3 = 5

4 = 6.5

5 = 7.5

6 = 8.5

7 = 9.5

8 = 10.5

9 = 11.5

10 = 12.5

11 = 13

+ .5 each additional
community = 2.0

Total # of communities
with 6 or more forms = 1

1 = 3 points

2 = 5

3 = 7

4 = 9

5 = 10.5

6 = 12

7 = 13.5

8 = 15

9 = 16.5

10 = 18

11 = 19

+ 1 each additional
community = 3.0

e.g., a wetland with 3 one form communities 4 two form communities 12 four form communities and
8 six form communities would score:

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points)

3.0

Wetland Name: Lonely WetlandWetland Size (ha): 0.64

<u>Vegetation Form</u>	<u>% area in which form is dominant</u>
h	<u> </u>
c	<u> </u>
dh	<u> </u>
dc	<u> </u>
ts	<u> </u>
ls	<u> </u>
ds	<u> </u>
gc	<u> </u>
m	<u> </u>
ne	<u>100.00</u>
be	<u> </u>
re	<u> </u>
ff	<u> </u>
f	<u> </u>
su	<u> </u>
u (unvegetated)	<u> </u>
Total = 100%	<u>100.00</u>

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input type="checkbox"/>	recent burn (< 5 yr)
<input type="checkbox"/>	abandoned agricultural land
<input type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input type="checkbox"/>	abandoned pits and quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input checked="" type="checkbox"/>	open lake or deep river
<input type="checkbox"/>	creek flood plain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)**5****1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

1)	<input checked="" type="checkbox"/>	Hydrologically connected by surface water to other wetlands (different dominant wetland type) or open lake or river within 1.5 km	8 points
2)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km	8
3)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away (Second Marsh Wetland)	5
4)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away	5
5)	<input type="checkbox"/>	Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water	5
6)	<input type="checkbox"/>	Within 1 km of other wetlands, but not hydrologically connected by surface water	2
7)	<input type="checkbox"/>	No wetland within 1 km	0

Proximity to other Wetlands Score (Choose one only, maximum 8 points)**8**

1.2.5 INTERSPERSION

Number of Intersections
(Check one)

Score

1)	26 or less		3
2)	27 to 40	X	6
3)	41 to 60		9
4)	61 to 80		12
5)	81 to 100		15
6)	101 to 125		18
7)	126 to 150		21
8)	151 to 175		24
9)	176 to 200		27
10)	>200		30

Interspersion Score (Choose one only maximum 30 points)

6

1.2.6 OPEN WATER TYPES

Permanently flooded:
(Check one)

Score

1)		type 1	8
2)	X	type 2	8
3)		type 3	14
4)		type 4	20
5)		type 5	30
6)		type 6	8
7)		type 7	14
8)		type 8	3
9)		no open water	0

Open Water Type Score (Choose one only maximum 30 points)

8

1.3 SIZE

0.64

hectares

39

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)

5

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	9	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

		Score
1)	<input checked="" type="checkbox"/> <5 ha	0
2)	<input type="checkbox"/> 5 -25 ha	4
3)	<input type="checkbox"/> 26 -50 ha	6
4)	<input type="checkbox"/> 51- 100 ha	8
5)	<input type="checkbox"/> 101 -200 ha	11
6)	<input type="checkbox"/> >200 ha	14

Source of information: Field Observations (NRSI 2010)

Wood Products Score (Score one only, maximum 14 points)

0

2.1.2 Lowbush Cranberry

(Check one)

Present

1)

☐

Score (Choose one)

2 points

Absent

2)

☒

0

Source of information: Field Observations (NRSI 2010)

Lowbush Cranberry Score (maximum 2 points)

0

2.1.3 Wild Rice

(Check one)

Present (at least 0.5 ha)

1)

☐

Score (Choose one)

10 points

Absent

2)

☒

0

Source of information: Field Observations (NRSI 2010)

Wild Rice Score (maximum 10 points)

0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

X

Score (Choose one)

12 points

Absent

2)

0

Source of information:

Field Observations (NRSI 2010)

Commercial Fish Score (maximum 12 points)**12****2.1.5 FURBEARERS**

(Consult Appendix 9)

Name of furbearer

Source of information

1)	Beaver (<i>Castor canadensis</i>)	3	Field Investigations (NRSI Sept 21, 2010)
2)			
3)			
4)			
5)			

Scoring: 3 points for each species. maximum 12

Furbearer Score (maximum 12 points)**3****2.2 RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use						
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing	
High	40 points		40 points		40 points	
Moderate	20		20		20	
Low	8	8	8		8	
Not possible/NotKnown	0		0	0	0	0
Totals		8		0		0

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: No sign of hunting observed, however, it is a possibility.

Nature: Very unlikely due to remote location and poor accessibility.

Fishing: Very unlikely due to remote location and poor accessibility. Very small wetland/waterbody on mapping.

Recreational Activities Score (maximum 80 points)**8**

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct

1)

Indistinct

2)

X

Score (Choose one)

3 points

0

Landscape Distinctness Score (maximum 3 points)**0****2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so

1)

X

One or several localized disturbances

2)

Moderate disturbance; localized water pollution

3)

Wetland intact but impairment of ecosystem quality
intense in some areas

4)

Extreme ecological degradation, or water pollution
severe and widespread

5)

Score (Choose one)

7 points

4

2

1

0

Source of information:

Field Investigations (NRSI 2010)

Absence of Human Disturbance Score (maximum 7 points)**7****2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent

1)

Infrequent

2)

No visits

3)

X

Score (Choose one)

20 points

12

0

Source of information:

Field Observation - Very remote location and
poor accessibility.**Educational Uses Score (maximum 20 points)****0****2.4.2 FACILITIES AND PROGRAMS**

(check one)

Staffed interpretation centre

1)

No interpretation centre or staff but a system of
self-guiding trails or brochures available

2)

Facilities such as maintained paths (e.g., woodchips)
boardwalks, boat launches or observation towers

3)

but no brochures or other interpretation

4)

No facilities or programs

X

Score (Choose one)

8 points

4

2

0

Source of information:

Field Observations (NRSI 2010)

Facilities and Programs Score (maximum 8 points)**0**

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

Score

12 points

Research papers published in refereed scientific journal or as a thesis

10

One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.

5

No research or reports

0

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points)**0****2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT**

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community
1) Within or adjoining settlement	40 points	26	16
2) 0.5 to 10 km from settlement	26	16	10
3) 10 to 60 km from settlement	12	8	4
4) >60 km from settlement	5	2	0
5) >100 km from settlement	0	0	0
	0	0	4

Name of settlement:

Montreal River Harbour, ON

Proximity to Human Settlement Score (maximum 40 points)**4****2.6 OWNERSHIP (FA= fraction Area)**

Score

FA of wetland in public or private ownership

held under contract or in trust for wetland protection

x 10 =

0.00

FA of wetland area in public ownership, not as above

1.00 x

8 =

8.00

FA of wetland area in private ownership, not as above

x 4 =

0.00

Source of information:

Clergue Forest Management Inc. Mapping (Basemap # 166805230) Algoma Forests (Feb 27, 2009)

Ownership Score (maximum 10 points)**8**

2.7 SIZE**0.64**

hectares

27

Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)**1**

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant	X	=	30 points
2) Not Significant		=	0
3) Unknown		=	0
Total:	30		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant	X	=	0
3) Unknown		=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

30

Batchewana First Nation (BFN) was contacted on October 19, 2010 and asked about the significance of this wetland in terms of aboriginal values. A response was received on November 17, 2010 (letter appended), which states the wetlands are "very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities."
(Dave Sewell, BNR Field Technician)

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area.

For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1:

If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area: lake area is <0.1, or wetland is riverine on the St. Mary's River, go to Step 5

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2:

Determination of Upstream Detention Factor (DF)

(a)	Wetland area (ha)		0.64
(b)	Total area (ha) of <u>upstream</u> detention areas (include the wetland itself)		2.06
(c)	Ratio of (a):(b)		0.31
(d)	Upstream detention factor: (c) x 2 =	0.62	0.62
	(maximum allowable factor = 1)		

Step 3:

Determination of Peak Flow Attenuation Factor (AF)

(a)	Wetland area (ha)		0.64
(b)	Size of catchment basin (ha) <u>upstream</u> of wetland (include wetland itself in catchment area)		30.63
(c)	Ratio of (a):(b)		0.02
(d)	Wetland attenuation factor: (c) x 10 =	0.21	0.21
	(maximum allowable factor = 1)		

Step 4:

Determination of Wetland Surface Form Factor (FF)

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	0.2
Flat (lawn) vegetation (typical of fens)	X 0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1
Surface Form Factor (FF)	0.5

(Maximum allowable factor = 1)

Step 5:

1. Wetland is entirely Isolated 100 points
2. Wetland is lacustrine and the ratio of wetland area: lake area is <0.1 0 points
3. Wetland is riverine along the St. Mary's River 0 points
4. For all other wetlands*, calculate as follows:
- | | |
|---|------|
| a) Upstream Detention Factor (DF) (Step 2) | 0.62 |
| b) Wetland Attenuation Factor (AF) (Step 3) | 0.21 |
| c) Surface Form Factor (FF) (Step 4) | 0.50 |

$$[(DF + AF + FF)/3] \times 100^*$$

44.22

*Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points)**44****3.2 GROUND WATER RECHARGE****3.2.1 SITE TYPE**

- (a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River
- (b) Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland)

Score = 0

0.55	FA of isolated or palustrine wetland	x 20 =	11.00
0.45	FA of riverine wetland	x 5 =	2.25
0	FA of lacustrine wetland (wetland <50% lacustrine)	x 0 =	0.00

Site Type Score: (maximum 20 points)**13****3.2.2 SOILS****EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till	Clay or bedrock	
Lacustrine or on St. Mary's River	0	0	
Isolated	10	5	
Palustrine	7	4	
Riverine (not on St. Mary's River)	5	2	
Totals	7		0

Hydrological Soil Class Score (maximum 10 points)**7**

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland.

<u>Site Type</u>	<u>Improvement Factor (IF)</u>				
Isolated	FA		x	0.5 =	0.00
Riverine	FA	0.45	x	1 =	0.45
Palustrine with no inflow	FA		x	0.7 =	0.00
Palustrine with inflows	FA	0.55	x	1 =	0.55
Lacustrine on lake shoreline	FA		x	0.2 =	0.00
Lacustrine at lake inflow or outflow	FA		x	1 =	0.00

Watershed Improvement Score (IF x 30) (maximum = 30)

30

3.3.2 ADJACENT AND WATERSHED LAND USE EVALUATION**Step 1: Determination of Maximum Initial Score**

	Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)
X	All other wetlands (Go through steps 2, 3, 4 and 5b)

Step 2: Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
>50% of catchment basin	20
20-50% of catchment basin	14
<20% of catchment basin	4

Score for BLU

4

Step 3: Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200m of the wetland boundary.

Choose the highest only	Score
Major corridor*	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

Score for LUU

0

Major, secondary and tertiary roads are those that are indicated as such on the provincial highways maps. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4: Determination of Point-source Land Use (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0

Step 5: Calculation of total score for Adjacent and Watershed Land Use

- a) Wetland on the Great Lakes or St. Mary's River
b) All other wetlands, calculate as follows:

Final Score BLU+LUU+PS 4

3.3.3 VEGETATION FORM

Choose the category that best describes the vegetation of the wetland

	Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	8 points
Emergents, submergents (ne, re, be, f, ff, su)	10
Little or no vegetation (u)	0

Dominant Vegetation Form Score (maximum 10 points)

10

3.4 CARBON SINK

Choose the category that best describes the wetland

1) Wetland a bog or fen with >50% organic soils	15 points
2) Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type)	6
3) Marshes and swamps with >50% organic soil	9
4) Wetland with less than 10% of soils organic	X 0

Carbon Sink Score (maximum 15 points)

0

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

Step 1:

Score

	Wetland entirely isolated or palustrine	0
X	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)		Trees and shrubs	15
2)	X	Emergent vegetation	8
3)		Submergent vegetation	6
4)		Other shoreline vegetation	3
5)		No vegetation	0

Shoreline Erosion Control Score (maximum 15 points)

8

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores)

Category	Catchment Interaction					
Wetland type	Bog = 0		Swamp/Marsh = 2	2	Fen = 5	
Basin topography	Flat/Rolling = 5		Hilly = 2	2	Major relief break = 5	
Wetland area: Upslope catchment area	Large (>50%) = 0		Moderate (6-50%) = 2		Small (<5%) = 5	5
Lagg Development	None found = 0	0	Minor = 2		Extensive = 5	
Seeps at wetland edge	None found = 0	0	1-3 seeps = 5		4 or more seeps = 10	
Iron precipitates evident at edge	None = 0	0	1-3 deposits = 2		4 or more deposits = 5	
Surface marl deposits	None = 0	0	1-3 deposits = 2		>3 = 5	
Wetland pH	Low < 4.2 = 0		Moderate 4.2-5.7 = 5	5	High >5.7 = 10	
Catchment soil coverage	Patchy = 0		Thin (<20cm) = 2	2	Thick = 5	
Catchment soil permeability	Low = 0	0	Moderate = 2		High = 5	
Totals		0		11		5

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

16

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**Hills Site Region and Site District (5E only): 5E-13

Wetland type (check one or more)

☐ Bog
☐ Fen
☐ Swamp
☒ Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	10	0	10	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

10

4.1.2 SPECIES**4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species		Source of information
1)		
2)		
3)		
4)		
5)		
Total:		0

Attach documentation.

Scoring:

For one species	250 points
For each additional species	250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered Species Score (no maximum)

0

4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES

Name of species		Source of information
1)		
2)		
3)		
4)		
5)		
Total:		0

Attach documentation.

Scoring:

For one species	150 points
For each additional species	75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)

0

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

0

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)**0**

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

** Score only if there is an approved list

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Significant Species (Site Region) Score (no maximum)

0

4.1.2.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum)

0

4.1.2.7 SPECIES OF SPECIAL STATUS**Black Duck**

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40-80 Indicated Pairs/100 km sq	<input type="checkbox"/>	25 points
20-40 Indicated Pairs/100 km sq	<input type="checkbox"/>	20
10-20 Indicated Pairs/100 km sq	<input type="checkbox"/>	15
5-10 Indicated Pairs/100 km sq	<input type="checkbox"/>	10
1-5 Indicated Pairs/100 km sq	<input type="checkbox"/>	5
Habitat not suitable	<input checked="" type="checkbox"/>	0
Out of assessment range	<input type="checkbox"/>	0
Black Duck Score (maximum 25 points)		0

* Less than 0.5ha of suitable habitat exists.

4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT**4.2.1 NESTING OF COLONIAL WATERBIRDS**

Status	Name of species	Source of Information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations etc., if known)

Colonial Waterbirds Score (maximum 50 points)**0****4.2.2. WINTER COVER FOR WILDLIFE**

(Check only highest level of significance)

Score (one only)

- | | | | |
|----|-------------------------------------|-------------------------------------|-----|
| 1) | <input type="checkbox"/> | Provincially significant | 100 |
| 2) | <input type="checkbox"/> | Significant in Site Region | 50 |
| 3) | <input type="checkbox"/> | Significant in Site District | 25 |
| 3) | <input type="checkbox"/> | Locally significant | 10 |
| 4) | <input checked="" type="checkbox"/> | Little or poor winter cover present | 0 |

Source of information: Field Observations (NRSI 2010)**Winter Cover for Wildlife Score (maximum 100 points)****0**

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur		10		10
5) Not possible		0		0
6) Not known	X	0	X	0
Total:	0		0	

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

0

4.2.4 WATERFOWL BREEDING

	(Check only highest level of significance)	Score
1)	Provincially significant	100
2)	Regionally significant	50
3)	10 Habitat suitable	10
4)	Habitat not suitable	0

Source of information:

Field Observations (NRSI 2010)

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

	(check highest applicable category)	Score
1)	Provincially significant	100
2)	Significant in Site Region	50
3)	Significant in Site District	10
4)	X Not significant	0

Source of information:

MNR Values Map (June 25, 2010) and Field Observations

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

4.2.6 UNGULATE HABITAT**EVALUATION**

Score (1) + (2) + one of (3) to (6)

			Score
(1)	<u>0</u>	Ungulate summer cover	15 points
(2)	<u>0</u>	Mineral licks	50
(3)	<u>0</u>	Moose aquatic feeding area Class 1	0
(4)		Moose aquatic feeding area Class 2	10
(5)		Moose aquatic feeding area Class 3	20
(6)		Moose aquatic feeding area Class 4	35

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points)0**4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1: Fish habitat is not present within the wetland (Score = 0) X Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

- 1) X Significance of the spawning and nursery habitat within the wetland is known
(Go to Step 3)
- 2) Significance of the spawning and nursery habitat within the wetland is not
known (Go through Steps 4, 5, 6 and 7)

Step 3: Select the highest appropriate category below attach documentation:

- 1) Significant in Site Region 100 points
- 2) Significant in Site District 50
- 3) Locally Significant Habitat (5.0+ ha) 25
- 4) Locally Significant Habitat (<5.0 ha) 15 *Please see appended explanation.

Score for Spawning and Nursery Habitat (maximum score 100 points)

15

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

Low marsh not present (Continue to Step 5)

Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Total Score (maximum 75 points)						0.0

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

High marsh not present (Continue to Step 6)

High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
Total Score (maximum 25 points)						0.0

Step 6: (**Swamp:** Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

Swamp containing fish habitat not present (Continue to Step 7)

Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded				10	0.0
Permanently flooded				10	0.0
SCORE (maximum 20 points)					

Step 7: Calculation of final score

Score for Spawning and Nursery Habitat (Low Marsh) (maximum 75) = 0.0

Score for Spawning and Nursery Habitat (High Marsh) (maximum 25) = 0.0

Score for Swamp Containing Fish Habitat (maximum 20) = 0.0

Sum (maximum score 100 points) =

0

4.2.6.2 Migration and Staging Habitat**Step 1:**

- 1) X Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) _____ Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) _____ Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

- | | Score |
|--|-----------|
| 1) <u> </u> Significant in Site Region | 25 points |
| 2) <u> </u> Significant in Site District | 15 |
| 3) <u> </u> Locally Significant | 10 |
| 4) <u> </u> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Fish Migration and Staging Habitat (maximum score 25 points)

0

Step 3: Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). Note name of river for 2) and 3).

- | | Score |
|--|-----------|
| 1) <u> </u> Wetland is riverine at rivermouth or lacustrine at rivermouth | 25 points |
| 2) <u> </u> Wetland is riverine, within 0.75 km of rivermouth | 15 |
| 3) <u> </u> Wetland is lacustrine, within 0.75 km of rivermouth | 10 |
| 4) <u> </u> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Staging and Migration Habitat (maximum score 25 points)

0

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland type/total area of wetland)

	Fractional Area			Scoring
Bog		x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl		x	20 =	0.0
Fen, on limestone rock		x	5 =	0.0
Swamp		x	3 =	0.0
Marsh	1.00	x	0 =	0.0
Sub Total:				0.0

Ecosystem Age Score (maximum 25 points)**0****4.4 GREAT LAKES COASTAL WETLANDS****Score for coastal (see text for definition) wetlands only**

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)**0**

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**X Absent/Not seen Present(a) One location in wetland
Two to many locations

Abundance code

(b) (1 < 20 plants
(2 20-99 plants
(3 100-999 plants
(4 >1000 plants **5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

Check one or more

Ephemeral

(less than 2 weeks)

Temporal

(2 weeks to 1 month)

Seasonal

(1 to 3 months) X

Semi-permanent

(>3 months) X No seasonal flooding **5.3 SPECIES OF SPECIAL SIGNIFICANCE****5.3.1 Osprey**Present and nesting (attach map showing nest site) Known to have nested in last 5 yr Feeding area for osprey Not as above X **5.3.2 Common Loon**Nesting in wetland (attach map showing nest site) Feeding at edge of wetland

Observed or heard on lake or

river adjoining the wetland Not as above X

INVESTIGATORS**AFFILIATION**

Lisa Keable

Natural Resource Solutions Inc

Derek Goertz

Natural Resource Solutions Inc

DATES WETLAND VISITED

September 21, 2010

DATE THIS EVALUATION COMPLETED:

November 3, 2010

ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"

6 hours (2 people)

This wetland was surveyed by two people between 1530 hrs and 1830hrs on September 21, 2010.

WEATHER CONDITIONS

i) at time of field work Sunny, 0% cloud cover, Temperature 16°C, Wind 3 (SW)

ii) summer conditions in general: Overall summer conditions were fairly hot and dry, with very little rain.

However, there was some substantial rainfall occurring throughout the first week of September.

OTHER POTENTIALLY USEFUL INFORMATION:

Approximately 50 young of the year brook trout observed within the wetland boundaries.

Approximately 6 mature brook trout were observed within the wetland boundaries.

1 redd was observed approximately 2m outside of wetland boundary (within stream).

Pictures of these observations have been appended.

CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:

Lists of all flora and fauna observed in the wetland is appended.

WETLAND EVALUATION SCORING RECORD

WETLAND NAME

Lonely Wetland

1.0 BIOLOGICAL COMPONENT1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

13

1.1.2 Wetland Type

15

1.1.3 Site Type

3

Total for Productivity

31

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

9

1.2.2 Vegetation Communities (maximum 45)

3

1.2.3 Diversity of Surrounding Habitat (maximum 7)

5

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

6

1.2.6 Open Water Type

8

Total for Biodiversity

39

Sub Total for Biodiversity

39

1.3 SIZE (Biological Component)

5

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

75

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	0
2.1.2 Lowbush Cranberry	0
2.1.3 Wild Rice	0
2.1.4 Commercial Fish	12
2.1.6 Furbearers	3

Total for Economically Valuable Products **15**

2.2 RECREATIONAL ACTIVITIES (maximum 80) **8**

2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	0
2.3.2 Absence of Human Disturbance	7

Total for Landscape Aesthetics **7**

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies (maximum 12)	0

Total for Education and Public Awareness **0**

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT **4**

2.6 OWNERSHIP **8**

Subtotal for Social Component **27**

2.7 SIZE (Social Component) **1**

2.8 ABORIGINAL AND CULTURAL VALUES (maximum 30) **30**

TOTAL FOR SOCIAL COMPONENT (not to exceed 250) **73**

3.0 HYDROLOGICAL COMPONENT3.1 FLOOD ATTENUATION

44

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

13

3.2.2 Soils

7

Total for Groundwater Recharge

20

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

30

3.3.2 Adjacent and Watershed Land Use

4

3.3.3 Vegetation Form

10

Total for Water Quality Improvement

44

3.4 CARBON SINK

0

3.5 SHORELINE EROSION CONTROL

8

3.6 GROUNDWATER DISCHARGE

16

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

132

4.0 SPECIAL FEATURES4.1 RARITY

4.1.1 Wetlands

10

4.1.2 Species

4.1.2.1 Endangered or Threatened Species Breeding

0

4.1.2.2 Traditional Use by Endangered or Threatened Species

0

4.1.2.3 Provincially Significant Animals

0

4.1.2.4 Provincially Significant Plants

0

4.1.2.5 Regionally Significant Species

0

4.1.2.6 Locally Significant Species

0

4.1.2.7 Species of Special Status

0

Total for Species Rarity

0

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds

0

4.2.2 Winter Cover for Wildlife

0

4.2.3 Waterfowl Staging and Moulting

0

4.2.4 Waterfowl Breeding

10

4.2.5 Migratory Passerine, Shorebird or Raptor Stopover

0

4.2.6 Ungulate Habitat

0

4.2.7 Fish Habitat

15

Total for Significant Features and Habitat

25

4.3 ECOSYSTEM AGE

0

4.4 GREAT LAKES COASTAL WETLANDS

0

TOTAL FOR SPECIAL FEATURES (maximum 250)

35

SUMMARY OF EVALUATION RESULT

Wetland	Lonely Wetland
TOTAL FOR 1.0 BIOLOGICAL COMPONENT	75
TOTAL FOR 2.0 SOCIAL COMPONENT	73
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT	132
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	35
	<u>WETLAND TOTAL</u>
	315

INVESTIGATORS

Lisa Keable

Derek Goertz

Katharina Walton (evaluation revision, March 2012)

AFFILIATION

Natural Resource Solutions Inc.

Natural Resource Solutions Inc.

Natural Resource Solutions Inc.

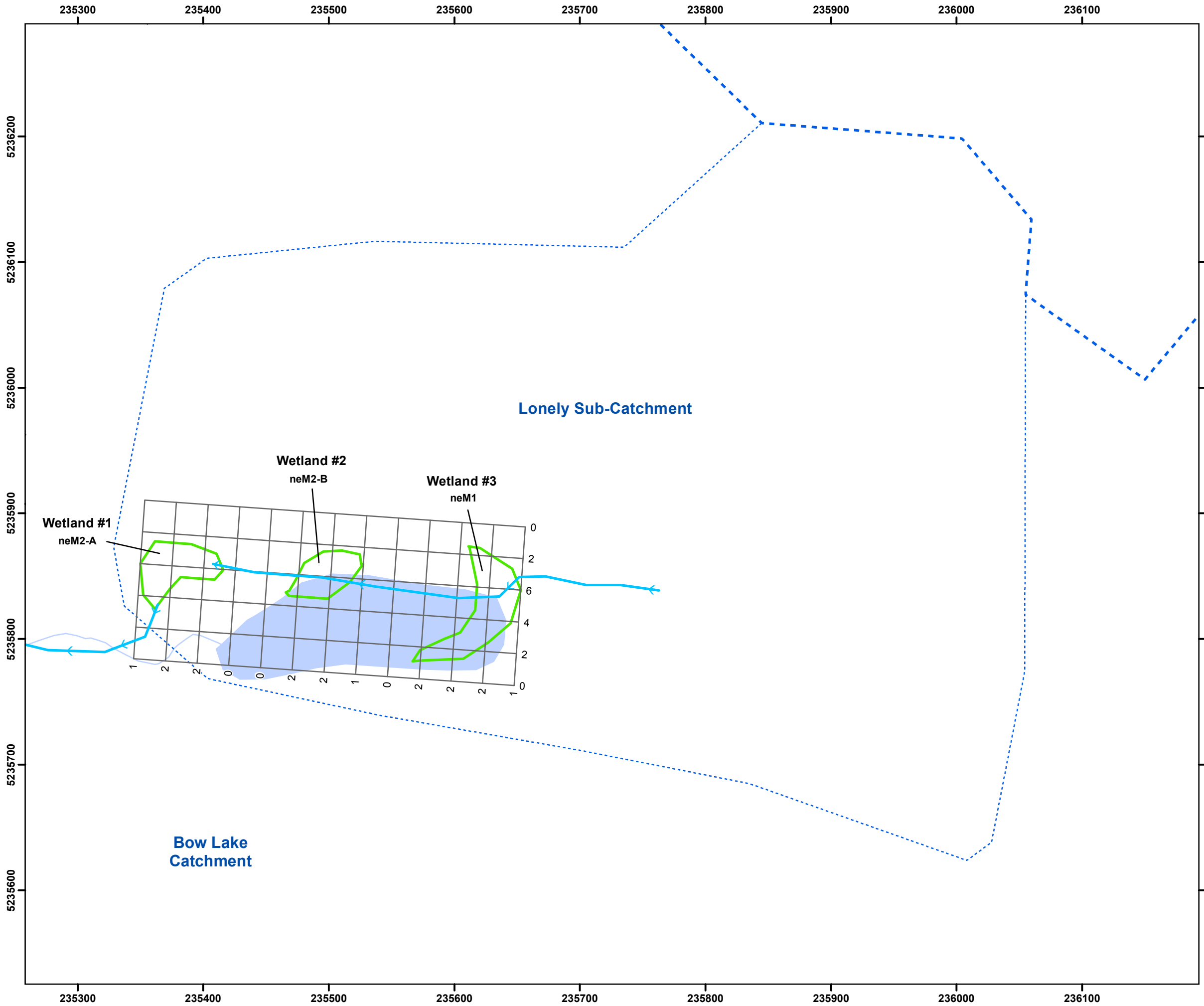
DATE

November 19, 2010

Data Summary Form

Wetland: Lonley Wetland

	Map Code	Field Code	# Forms	Dominant Form	Forms	% Open Water	Area (ha)	Open Water (ha)	Soils	Site Type	Fish Habitat
Marsh	neM1	17	5	ne	ls, gc, m, ff	40	0.29	0.11	silt/sand	Riverine	LM
	neM2-A	18	2	ne	gc	10	0.20	0.02	silt/sand	Palustrine	HM
	neM2-B	18	2	ne	gc	10	0.15	0.01	silt/sand	Palustrine	HM



Lonely Wetland Complex

Legend

- Highway
- Secondary Road
- Resource Road
- Waterbody
- Watercourse
- Catchment Area Boundary
- Sub-catchment Area Boundary
- Flow Direction
- Interspersion Grid
- Ecological Land Classification
- (neM) Narrow-leaved Emergent Marsh

Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Data provided by MNR© Copyright: Queen's Printer Ontario.

Project: 1186 Date: March-09-12	NAD83 - UTM Zone 16 Size: 11x17" 1:3,000
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0 50 100 150 200 Meters

Map Code	Wetland Type	Forms	Dominant Species
neM1	Marsh	ne, ls, gc, ff, m	Bottlesedge (<i>Carex utriculata</i>), Canada blue joint (<i>Calamagrostis canadensis</i>); Sweetgale (<i>Myrica gale</i>); <i>Viola</i> spp., St. John's-wort (<i>Hypericum punctatum</i>); <i>Potamogeton natans</i> ; <i>Sphagnum palustre</i> , <i>Sphagnum angustifolium</i> , <i>Sphagnum girgensohnii</i>
neM2-A	Marsh	ne, gc	Canada blue joint (<i>C. canadensis</i>); Joe-pye weed (<i>Eupatorium maculatum</i> ssp. <i>maculatum</i>), Bugleweed (<i>Lycopus uniflorus</i>)
neM2-B	Marsh	ne, gc	Canada blue joint (<i>C. canadensis</i>); Joe-pye weed (<i>Eupatorium maculatum</i> ssp. <i>maculatum</i>), Bugleweed (<i>Lycopus uniflorus</i>)

4.2.7 FISH HABITAT

4.2.7.1 Spawning and Nursery Habitat

NRSI biologists observed approximately 50 young of the year brook trout, as well as 6 mature brook trout within the subject wetland. A potential redd was also observed approximately 2 meters outside of the wetland boundary, within the stream that runs into the wetland. Based on these observations, Option 4 in Step 3 - Locally Significant Habitat (<5ha) was selected.



Figure 1. Mature brook trout observed in the stream which flows into community neM1.

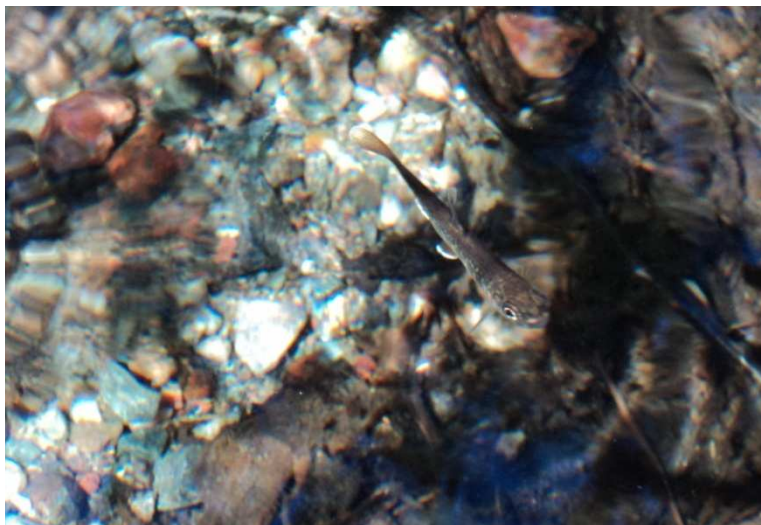


Figure 2. Young of the year brook trout observed in the stream which flows into community neM2.

BOTANICAL NAME		COMMON NAME	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	OBSERVATIONS
SOURCE			MNR RARE 4th Ed. 2009	SARO List	SARA Registry	NRSI (2010)
<u>DICOTYLEDONS</u>		<u>DICOTS</u>				
Asteraceae		Composite or Aster Family				
<i>Anaphalis</i>	<i>margaritacea</i>	Pearly Everlasting	S5			X
<i>Eupatorium</i>	<i>maculatum ssp. maculatum</i>	Spotted Joe-pye-weed	S5			X
Droseraceae		Sundew Family				
<i>Drosera</i>	<i>rotundifolia</i>	Round-leaved Sundew	S5			X
Guttiferae		St. John's-wort Family				
<i>Hypericum</i>	<i>punctatum</i>	Corymbed St. John's-wort	S5			X
<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	S5			X
Lamiaceae		Mint Family				
<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	S5			X
Myricaceae		Wax-myrtle Family				
<i>Myrica</i>	<i>gale</i>	Sweet Gale	S5			X
Violaceae		Violet Family				
<i>Hybanthus</i>	<i>concolor</i>	Green Violet	S2			
<i>Viola</i>	spp.					X
<u>MONOCOTYLEDONS</u>		<u>MONOCOTS</u>				
Cyperaceae		Sedge Family				
<i>Carex</i>	<i>gynandra</i>	Nodding Sedge	S5			X
<i>Carex</i>	<i>utriculata</i>	Beaked Sedge	S5			X
Iridaceae		Iris Family				
<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	S5			X
Juncaceae		Rush Family				
<i>Juncus</i>	<i>brevicaudatus</i>	Short-tailed Rush	S5			X
<i>Juncus</i>	<i>effusus ssp. solutus</i>	Soft Rush	S5			X
Poaceae		Grass Family				
<i>Calamagrostis</i>	<i>canadensis</i>	Blue-joint Grass	S5			X
Potamogetonaceae		Pondweed Family				
<i>Potamogeton</i>	<i>natans</i>	Common Floating Pondweed	S5			X
<u>BRYOPHYTES</u>						
Sphagnaceae						
<i>Sphagnum</i>	<i>angustifolium</i>	Narrow-leaf Peat Moss	S5			X
<i>Sphagnum</i>	<i>girgensohnii</i>	Common Green Peat Moss	S5			X
<i>Sphagnum</i>	<i>palustre</i>		S5			X
<i>Sphagnum</i>	<i>squarrosum</i>	Shaggy Peat Moss	S5			X

Wildlife Observations

**Includes tracks and signs*

Common Name	Scientific Name	Description
Brook trout	<i>Salvelinus fontinalis fontinalis</i>	Approximately 50 young of the year brook trout observed within wetland. Approximately 6 mature brook trout observed within wetland. 1 redd was observed within 2m of wetland boundary.
Beaver	<i>Castor canadensis</i>	



Natural Resources Department
BNR

BATCHEWANA FIRST NATION OF OJIBWAYS

RANKIN RESERVE 15 D
GOULAIS BAY RESERVE 15 A
OBADJIWAN RESERVE 15 E
WHITEFISH ISLAND 15

Administration Office: 236 Frontenac Street
Rankin Reserve 15D
Batchewana Territory, ON P6A 5K9
Ph: (705) 759-0914 / Fax: (705) 759-9171
www.batchewana.ca

November 17, 2010

Derek Goertz
Natural Resource Solutions Inc.
111 Elgin Street
Sault Ste. Marie, ON
P6A 6L6

Dear Derek:

Re: Site Evaluation for the Wetlands of Bow Lakes Wetlands

As per your request, BNR Field Technician, David Sewell has completed a site evaluation for the Two Wetlands in the vicinity of the proposed Bow Lake Wind Farm within Batchewana First Nation.

I have attached Dave's report that we are hope is going to be helpful to you. We also request that you provide a copy to your employee and any other necessary agencies that are involved with this project.

Thank you very much for requesting BFN participation. If you have any questions or need more information please contact Dave Sewell or myself at 705-759-0914.

Miigwetch,


Danny Sayers, JR. (BNR Manager)

c.c. Chief and Council
Dave Sewell (BNR Field Technician)
Vortex



Natural Resources Department
BNR

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BNR Site Visit and Recommendations on Two Bow Lake Wetlands

On October 26, 2010 I visited the area of the Bow Lake Wind Farms to take a look at the wetlands in that area. There are two big pieces of wetland, one to the north of Bow Lake and, one to the south of Bow Lake. There are a few smaller pieces of wetland around Negick Lake which is within the Wind Farm area. From what I seen these wetlands play an important role to the surrounding area. These wetlands are nature's way of filtering the water which the animals drink (and sometimes humans). In this area there are a lot of animals such as the moose, deer, bear, wolves, foxes, beaver and a lot of other smaller animals. There is plenty of plant life around the wetlands that animals and aquatic life use as food and others use as their homes. There are also a lot of plants that we (BFN) use for medicines. The loss of these wetlands will have on huge burden on the BFN community and the surrounding area that may have irreversible damage.

Recommendations:

- I believe that these wetlands are very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities.
- The Bzhki Ziibi (Montreal River) has and continues to be valuable resources to BFN community members to access, for harvest and manage our Natural Resources that include but not limited to hunting, fishing, cultural sites.
- More BFN field work is needed to provide a complete evaluation and values of these wetlands.

It is my recommendation that Batchewana First Nation should be a part of any Environmental Evaluations from the beginning stages. It is very important to have BFN participation in order to understand and/or to receive appropriate data related to direct impacts and/or values. BNR field Technician is requesting that any future work in our Territory involves our participation which includes but not limited to; covering the cost associated with providing BFN involvement. It's essential for the government, Industry, and contractors to budget for First Nation participation because it becomes costly to our First Nation departments to complete these tasks in a manner that the community will accept. Without BFN reasonable participation in future Environmental Evaluations or Environmental Impacts studies, BFN will not endorse or except the final copies of those reports.

Dave Sewell
BNR Field Technician

Moose Antler Wetland Complex				
Wetland Evaluation Edition		2002		
November 20, 2010				
Comments				
Attached Documents include:				
1) Summary of Wetland types, site types and dominant form areas				
2) Map of Moose Antler Wetland Complex				
3) List of vegetation communities				
4) Map of Interspersion				
5) Map of Moose Antler Wetland Complex Catchment Basin				
6) Vascular Plant List				
7) Fauna list				
8) Letter from Batchewana First Nation				
Additional Information				
Official Name: Moose Antler Wetland Complex				
Evaluation Edition:	2002	Class:	Wetland ID.:	
	Year/Month Last Evaluated	November 20, 2010		
	Year/Month Last Updated	March 2012		
Special Planning Considerations:		Scores		
		Biological:	104	
		Social:	71	
		Hydrological:	153	
		Special Features:	42	
		Overall:	370	
Submitted by:	Natural Resources Solutions Inc.			
Date:	March 9, 2012			

WETLAND DATA AND SCORING RECORD

i)	WETLAND NAME: Moose Antler Wetland Complex		
ii)	MNR ADMINISTRATIVE REGION: North East	DISTRICT: Sault Ste. Marie	
	AREA OFFICE (if different from District):		
iii)	CONSERVATION AUTHORITY JURISDICTION:		
	(If not within a designated CA, check here: <u> X </u>)		
iv)	COUNTY OR REGIONAL MUNICIPALITY: District of Algoma		
v)	TOWNSHIP: Smilsky Township		
vi)	LOTS & CONCESSIONS: None		
	(attach separate sheet if necessary)		
vii)	MAP AND AIR PHOTO REFERENCES		
a)	Latitude: <u> 47°10'49" </u> Longitude: <u> 84°29'41" </u>		
b)	UTM grid reference:	Zone: <u> 16 </u> Grid:E <u> 689814 </u>	Block: <u> T </u> N <u> 5228258 </u>
c)	National Topographic Series:		
	map name(s)	<u> Batchewana </u>	
	map number(s)	<u> 41 N/1 </u>	edition <u> 3 </u>
	scale	<u> 1:50,000 </u>	
d)	Aerial photographs: Date photo taken: _____ Scale: _____		
	Flight & plate numbers: <u> Google Earth Images 2004 </u>		
	(attach separate sheet if necessary)		
e)	Ontario Base Map numbers & scale _____		
	(attach separate sheets if necessary)		

a) Single contiguous wetland area: hectares

b) Wetland complex comprised of 2 individual wetlands:

Wetland Unit Number (for reference)					Size of each wetland unit	
		Isolated	Palustrine	Riverine	Lacustrine	
Wetland Unit No.	1		5.53			ha
Wetland Unit No.	2		0.99			ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit No.						ha
Wetland Unit Totals:		0.00	6.52	0.00	0.00	

(Attach additional sheets if necessary)

TOTAL WETLAND SIZE	6.52	ha
--------------------	------	----

c) Brief documentation of reasons for including any areas less than 2 ha in size:

At the time this evaluation was undertaken, MNR's recommendation with respect to wetlands assessed for the purpose of an evaluation of significance under a Natural Heritage Assessment was to include all wetland areas within the evaluation, regardless of size.

(Attach separate sheets if necessary .)

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS**

(check one)

- | | | |
|----|-------|-----------|
| 1) | _____ | <1600 |
| 2) | _____ | 1600-2000 |
| 3) | X | 2000-2400 |
| 4) | _____ | 2400-2800 |
| 5) | _____ | 2800-3000 |
| 6) | _____ | >3000 |

SOILS

Estimated Fractional Area

0.38	clay/loam
	silt/marl
	limestone
	sand
	humic/mesic
	fibric
0.62	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400	18	15	13	11	9	8	7
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score		
18	clay/loam	6.84
	silt/marl	0.00
	limestone	0.00
	sand	0.00
	humic/mesic	0.00
	fibric	0.00
7	granite	4.34

Final Score Growing Degree-Days/Soils (maximum 30 points)**11**

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

Fractional Area		Score	
Bog		x 3	0.00
Fen		x 6	0.00
Swamp	0.62	x 8	4.96
Marsh	0.38	x 15	5.70

Wetland type score (maximum 15 points)**11****1.1.3 SITE TYPE** (Fractional Area = area of site type/total wetland area)

Fractional Area		Score	
Isolated		x 1 =	0.000
Palustrine (permanent or intermittent flow)	1.000	x 2 =	2.000
Riverine		x 4 =	0.000
Riverine (at rivermouth)		x 5 =	0.000
Lacustrine (at rivermouth)		x 5 =	0.000
Lacustrine (on enclosed bay, with barrier beach)		x 3 =	0.000
Lacustrine (exposed to lake)		x 2 =	0.000
		Sub Total:	2.000

Site Type Score (maximum 5 points)**2****1.2 BIODIVERSITY****1.2.1 NUMBER OF WETLAND TYPES**

(Check only one)		Score
1)		one 9 points
2)	X	two 13
3)		three 20
4)		four 30

Number of Wetland Types Score (maximum 30 points)**13**

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species.

Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities
with 1-3 forms = 40

1 = 1.5 points

2 = 2.5

3 = 3.5

4 = 4.5

5 = 5

6 = 5.5

7 = 6

8 = 6.5

9 = 7

10 = 7.5

11 = 8

+ .5 each additional
community =

3.5

Total # of communities
with 4 -5 forms = 23

1 = 2 points

2 = 3.5

3 = 5

4 = 6.5

5 = 7.5

6 = 8.5

7 = 9.5

8 = 10.5

9 = 11.5

10 = 12.5

11 = 13

+ .5 each additional
community =

0.0

Total # of communities
with 6 or more forms = 1

1 = 3 points

2 = 5

3 = 7

4 = 9

5 = 10.5

6 = 12

7 = 13.5

8 = 15

9 = 16.5

10 = 18

11 = 19

+ 1 each additional
community =

0.0

e.g., a wetland with 3 one form communities
8 six form communities would score:

4 two form communities

12 four form communities and

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points)

3

Wetland Name: Moose Antler Wetland ComplexWetland Size (ha): 6.52

<u>Vegetation Form</u>	<u>% area in which form is dominant</u>
h	<u> </u>
c	<u> </u>
dh	<u> </u>
dc	<u> </u>
ts	<u> </u>
ls	<u>61.66</u>
ds	<u> </u>
gc	<u> </u>
m	<u> </u>
ne	<u>38.34</u>
be	<u> </u>
re	<u> </u>
ff	<u> </u>
f	<u> </u>
su	<u> </u>
u (unvegetated)	<u> </u>
Total = 100%	<u>100.00</u>

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input type="checkbox"/>	recent burn (< 5 yr)
<input type="checkbox"/>	abandoned agricultural land
<input type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input type="checkbox"/>	abandoned pits and quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input checked="" type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	creek flood plain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)**6****1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

- | | | | |
|----|--------------------------|---|----------|
| 1) | <u>8</u> | Hydrologically connected by surface water to other wetlands (different dominant wetland type) or open lake or river within 1.5 km | 8 points |
| 2) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km | 8 |
| 3) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away (Second Marsh Wetland) | 5 |
| 4) | <input type="checkbox"/> | Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away | 5 |
| 5) | <input type="checkbox"/> | Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water | 5 |
| 6) | <input type="checkbox"/> | Within 1 km of other wetlands, but not hydrologically connected by surface water | 2 |
| 7) | <input type="checkbox"/> | No wetland within 1 km | 0 |

Proximity to other Wetlands Score (Choose one only, maximum 8 points)**8**

1.2.5 INTERSPERSION

Number of Intersections
(Check one)

Score

1)	26 or less	<input type="checkbox"/>	3
2)	27 to 40	<input type="checkbox"/>	6
3)	41 to 60	<input type="checkbox"/>	9
4)	61 to 80	<input checked="" type="checkbox"/>	12
5)	81 to 100	<input type="checkbox"/>	15
6)	101 to 125	<input type="checkbox"/>	18
7)	126 to 150	<input type="checkbox"/>	21
8)	151 to 175	<input type="checkbox"/>	24
9)	176 to 200	<input type="checkbox"/>	27
10)	>200	<input type="checkbox"/>	30

Interspersion Score (Choose one only maximum 30 points)

12

1.2.6 OPEN WATER TYPES

Permanently flooded:
(Check one)

Score

1)	<input type="checkbox"/>	type 1	8
2)	<input type="checkbox"/>	type 2	8
3)	<input type="checkbox"/>	type 3	14
4)	<input type="checkbox"/>	type 4	20
5)	<input checked="" type="checkbox"/>	type 5	30
6)	<input type="checkbox"/>	type 6	8
7)	<input type="checkbox"/>	type 7	14
8)	<input type="checkbox"/>	type 8	3
9)	<input type="checkbox"/>	no open water	0

Open Water Type Score (Choose one only maximum 30 points)

30

1.3 SIZE6.52

hectares

72

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)**8**

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	9	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

		Score
1)	<input type="text" value="0"/> <5 ha	0
2)	<input type="text"/> 5 -25 ha	4
3)	<input type="text"/> 26 -50 ha	6
4)	<input type="text"/> 51- 100 ha	8
5)	<input type="text"/> 101 -200 ha	11
6)	<input type="text"/> >200 ha	14

Source of information: Field Observations (NRSI 2010)

Wood Products Score (Score one only, maximum 14 points)

0

2.1.2 Lowbush Cranberry

(Check one)

Present

1)

Score (Choose one)

2 points

Absent

2)

0

Source of information: Field Observations (NRSI 2010)

Lowbush Cranberry Score (maximum 2 points)

0

2.1.3 Wild Rice

(Check one)

Present (at least 0.5 ha)

1)

Score (Choose one)

10 points

Absent

2)

0

Source of information: Field Observations (NRSI 2010)

Wild Rice Score (maximum 10 points)

0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

X

Absent

2)

Score (Choose one)

12 points

0

Source of information: Fish observed in Wetland #1**Commercial Fish Score (maximum 12 points)****12****2.1.5 FURBEARERS**

(Consult Appendix 9)

Name of furbearer

Source of information

1)	Muskrat	3	Field Observations (NRSI 2010)
2)			
3)			
4)			
5)			

Scoring: 3 points for each species. maximum 12

Furbearer Score (maximum 12 points)**3****2.2 RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use						
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing	
High	40 points		40 points		40 points	
Moderate	20		20		20	
Low	8	X	8		8	
Not possible/NotKnown	0		0	0	0	0
Totals	8		0		0	

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: Possible, however no signs observed.Nature: Unlikely due to remote location.Fishing: Unlikely due to small waterbodies.**Recreational Activities Score (maximum 80 points)****8**

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct

1)

Score (Choose one)

3 points

Indistinct

2)

 X

0

Landscape Distinctness Score (maximum 3 points)**0****2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so

1)

Score (Choose one)

7 points

One or several localized disturbances

2)

 X

4

Moderate disturbance; localized water pollution

3)

2

Wetland intact but impairment of ecosystem quality
intense in some areas

4)

1

Extreme ecological degradation, or water pollution
severe and widespread

5)

0

Source of information:

Road is very close to wetland boundary - at one point the road
leads right into wetland.**Absence of Human Disturbance Score (maximum 7 points)****4****2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent

1)

Score (Choose one)

20 points

Infrequent

2)

12

No visits

3)

 X

0

Source of information:

Educational Uses Score (maximum 20 points)**0****2.4.2 FACILITIES AND PROGRAMS**

(check one)

Staffed interpretation centre

1)

Score (Choose one)

8 points

No interpretation centre or staff but a system of
self-guiding trails or brochures available

2)

4

Facilities such as maintained paths (e.g., woodchips)
boardwalks, boat launches or observation towers

3)

2

but no brochures or other interpretation

4)

 X

0

No facilities or programs

Source of information:

Field Surveys (NRSI 2010)**Facilities and Programs Score (maximum 8 points)****0**

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

Research papers published in refereed scientific journal or as a thesis

One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.

No research or reports

Score

12 points

10

5

0

X

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points)

0

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community
1) Within or adjoining settlement	40 points	26	16
2) 0.5 to 10 km from settlement	26	16	10
3) 10 to 60 km from settlement	12	8	4
4) >60 km from settlement	5	2	0
5) >100 km from settlement	0	0	0
	0	0	4

Name of settlement:

Montreal River Harbour, ON

Proximity to Human Settlement Score (maximum 40 points)

4

2.6 OWNERSHIP (FA= fraction Area)

Score

FA of wetland in public or private ownership

held under contract or in trust for wetland protection

FA of wetland area in public ownership, not as above

FA of wetland area in private ownership, not as above

x 10 =

0.00

x 8 =

8.00

x 4 =

0.00

Source of information:

OMNR Critical Values Map (December 21, 2009)

Ownership Score (maximum 10 points)

8

2.7 SIZE**6.52** hectares**27** Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)**2**

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant	X	=	30 points
2) Not Significant		=	0
3) Unknown		=	0
Total:	30		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant	X	=	0
3) Unknown		=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

30

Batchewana First Nation (BFN) was contacted on October 19, 2010 and asked about the significance of this wetland in terms of aboriginal values. A response was received on November 17, 2010 (letter appended), which states the wetlands are "very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities."
(Dave Sewell, BNR Field Technician)

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area. For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1: If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area: lake area is <0.1, or wetland is riverine on the St. Mary's River, go to Step 5

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2: Determination of Upstream Detention Factor (DF)

(a)	Wetland area (ha)		6.52
(b)	Total area (ha) of <u>upstream</u> detention areas (include the wetland itself)		13.58
(c)	Ratio of (a):(b)		0.48
(d)	Upstream detention factor: (c) x 2 =	0.96	0.96
	(maximum allowable factor = 1)		

Step 3: Determination of Peak Flow Attenuation Factor (AF)

(a)	Wetland area (ha)		6.52
(b)	Size of catchment basin (ha) <u>upstream</u> of wetland (include wetland itself in catchment area)		214.39
(c)	Ratio of (a):(b)		0.03
(d)	Wetland attenuation factor: (c) x 10 =	0.30	0.30
	(maximum allowable factor = 1)		

Step 4: Determination of Wetland Surface Form Factor (FF)

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	0.2
Flat (lawn) vegetation (typical of fens)	X 0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1
Surface Form Factor (FF)	0.5

(Maximum allowable factor = 1)

Step 5:

1. Wetland is entirely Isolated 100 points
2. Wetland is lacustrine and the ratio of wetland area: lake area is <0.1 0 points
3. Wetland is riverine along the St. Mary's River 0 points
4. For all other wetlands*, calculate as follows:
- | | |
|---|------|
| a) Upstream Detention Factor (DF) (Step 2) | 0.96 |
| b) Wetland Attenuation Factor (AF) (Step 3) | 0.30 |
| c) Surface Form Factor (FF) (Step 4) | 0.50 |

$$[(DF + AF + FF)/3] \times 100^*$$

58.67

*Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points)

59

3.2 GROUND WATER RECHARGE**3.2.1 SITE TYPE**

- (a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River
- (b) Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland)

Score = 0

1	FA of isolated or palustrine wetland	x 20 =	20.00
0	FA of riverine wetland	x 5 =	0.00
0	FA of lacustrine wetland (wetland <50% lacustrine)	x 0 =	0.00

Site Type Score: (maximum 20 points)

20

3.2.2 SOILS**EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till	Clay or bedrock	
Lacustrine or on St. Mary's River	0	0	
Isolated	10	5	
Palustrine	7	4	X
Riverine (not on St. Mary's River)	5	2	
Totals	0		4

Hydrological Soil Class Score (maximum 10 points)

4

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland.

<u>Site Type</u>	<u>Improvement Factor (IF)</u>			
Isolated	FA	x	0.5 =	0.00
Riverine	FA	x	1 =	0.00
Palustrine with no inflow	FA	x	0.7 =	0.00
Palustrine with inflows	FA	1	x 1 =	1.00
Lacustrine on lake shoreline	FA	x	0.2 =	0.00
Lacustrine at lake inflow or outflow	FA	x	1 =	0.00

Watershed Improvement Score (IF x 30) (maximum = 30)

30

3.3.2 ADJACENT AND WATERSHED LAND USE**EVALUATION****Step 1: Determination of Maximum Initial Score**

- ☐ Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)
☒ All other wetlands (Go through steps 2, 3, 4 and 5b)

Step 2: Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
>50% of catchment basin	20
20-50% of catchment basin	14
<20% of catchment basin	4

X

Score for BLU

4

Step 3: Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200m of the wetland boundary.

Choose the highest only	Score
Major corridor*	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

X

Score for LUU

3

Major, secondary and tertiary roads are those that are indicated as such on the provincial highways maps. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4: Determination of Point-source Land Use (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0

Step 5: Calculation of total score for Adjacent and Watershed Land Use

- a) Wetland on the Great Lakes or St. Mary's River
 b) All other wetlands, calculate as follows:

Final Score BLU+LUU+PS 17

3.3.3 VEGETATION FORM

Choose the category that best describes the vegetation of the wetland

		Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	X	8 points
Emergents, submergents (ne, re, be, f, ff, su)		10
Little or no vegetation (u)		0

Dominant Vegetation Form Score (maximum 10 points)

8

3.4 CARBON SINK

Choose the category that best describes the wetland

- | | | |
|----|---|-----------|
| 1) | Wetland a bog or fen with >50% organic soils | 15 points |
| 2) | Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type) | 6 |
| 3) | Marshes and swamps with >50% organic soil | 9 |
| 4) | Wetland with less than 10% of soils organic | X 0 |

Carbon Sink Score (maximum 15 points)

0

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

Step 1:

Score

<input checked="" type="checkbox"/>	Wetland entirely isolated or palustrine	0
<input type="checkbox"/>	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)	<input type="checkbox"/>	Trees and shrubs	15
2)	<input type="checkbox"/>	Emergent vegetation	8
3)	<input type="checkbox"/>	Submergent vegetation	6
4)	<input type="checkbox"/>	Other shoreline vegetation	3
5)	<input type="checkbox"/>	No vegetation	0

Shoreline Erosion Control Score (maximum 15 points)

0

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores)

Category	Catchment Interaction					
Wetland type	Bog = 0	<input type="checkbox"/>	Swamp/Marsh = 2	<input checked="" type="checkbox"/>	Fen = 5	<input type="checkbox"/>
Basin topography	Flat/Rolling = 5	<input type="checkbox"/>	Hilly = 2	<input checked="" type="checkbox"/>	Major relief break = 5	<input type="checkbox"/>
Wetland area: Upslope catchment area	Large (>50%) = 0	<input type="checkbox"/>	Moderate (6-50%) = 2	<input checked="" type="checkbox"/>	Small (<5%) = 5	<input type="checkbox"/>
Lagg Development	None found = 0	<input checked="" type="checkbox"/>	Minor = 2	<input type="checkbox"/>	Extensive = 5	<input type="checkbox"/>
Seeps at wetland edge	None found = 0	<input checked="" type="checkbox"/>	1-3 seeps = 5	<input type="checkbox"/>	4 or more seeps = 10	<input type="checkbox"/>
Iron precipitates evident at edge	None = 0	<input checked="" type="checkbox"/>	1-3 deposits = 2	<input type="checkbox"/>	4 or more deposits = 5	<input type="checkbox"/>
Surface marl deposits	None = 0	<input checked="" type="checkbox"/>	1-3 deposits = 2	<input type="checkbox"/>	>3 = 5	<input type="checkbox"/>
Wetland pH	Low < 4.2 = 0	<input type="checkbox"/>	Moderate 4.2-5.7 = 5	<input checked="" type="checkbox"/>	High >5.7 = 10	<input type="checkbox"/>
Catchment soil coverage	Patchy = 0	<input type="checkbox"/>	Thin (<20cm) = 2	<input checked="" type="checkbox"/>	Thick = 5	<input type="checkbox"/>
Catchment soil permeability	Low = 0	<input type="checkbox"/>	Moderate = 2	<input checked="" type="checkbox"/>	High = 5	<input type="checkbox"/>
Totals		0		15		0

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

15

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**Hills Site Region and Site District (5E only): 5E-13

Wetland type (check one or more)

<input type="checkbox"/>	Bog
<input type="checkbox"/>	Fen
<input checked="" type="checkbox"/>	Swamp
<input checked="" type="checkbox"/>	Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	10	0	10	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

10

4.1.2 SPECIES**4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	<input type="text"/>
2) _____	<input type="text"/>
3) _____	<input type="text"/>
4) _____	<input type="text"/>
5) _____	<input type="text"/>
Total:	0

Attach documentation.

Scoring:

For one species	250 points
For each additional species	250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered Species Score (no maximum)**0****4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	<input type="text"/>
2) _____	<input type="text"/>
3) _____	<input type="text"/>
4) _____	<input type="text"/>
5) _____	<input type="text"/>
Total:	0

Attach documentation.

Scoring:

For one species	150 points
For each additional species	75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)**0**

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

0

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)**0**

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

** Score only if there is an approved list

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Significant Species (Site Region) Score (no maximum)

0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum)

0

4.1.2.7 SPECIES OF SPECIAL STATUS**Black Duck**

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40-80 Indicated Pairs/100 km sq	<input type="checkbox"/>	25 points
20-40 Indicated Pairs/100 km sq	<input type="checkbox"/>	20
10-20 Indicated Pairs/100 km sq	<input checked="" type="checkbox"/>	15
5-10 Indicated Pairs/100 km sq	<input type="checkbox"/>	10
1-5 Indicated Pairs/100 km sq	<input type="checkbox"/>	5
Habitat not suitable	<input type="checkbox"/>	0
Out of assessment range	<input type="checkbox"/>	0

Black Duck Score (maximum 25 points)**15****4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT****4.2.1 NESTING OF COLONIAL WATERBIRDS**

Status	Name of species	Source of Information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations etc., if known)

Colonial Waterbirds Score (maximum 50 points)**0****4.2.2. WINTER COVER FOR WILDLIFE**

(Check only highest level of significance)

Score (one only)

1)	<input type="checkbox"/>	Provincially significant	100
2)	<input type="checkbox"/>	Significant in Site Region	50
3)	<input type="checkbox"/>	Significant in Site District	25
3)	<input type="checkbox"/>	Locally significant	10
4)	<input checked="" type="checkbox"/>	Little or poor winter cover present	0

Source of information: Field Observations - Very little treed/tall shrub habitat within wetland compared to surrounding landscape.**Winter Cover for Wildlife Score (maximum 100 points)****0**

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur		10		10
5) Not possible		0		0
6) Not known	X	0	X	0
Total:	0		0	

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

0

4.2.4 WATERFOWL BREEDING

	(Check only highest level of significance)	Score
1)	Provincially significant	100
2)	Regionally significant	50
3)	X Habitat suitable	10
4)	Habitat not suitable	0

Source of information:

Field Observations (NRSI 2010)

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

	(check highest applicable category)	Score
1)	Provincially significant	100
2)	Significant in Site Region	50
3)	Significant in Site District	10
4)	X Not significant	0

Source of information:

OMNR Values Map (Junen 25, 2010)

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

4.2.6 UNGULATE HABITAT**EVALUATION**

Score (1) + (2) + one of (3) to (6)

			Score
(1)	<input type="text"/>	Ungulate summer cover	15 points
(2)	<input type="text"/>	Mineral licks	50
(3)	<input checked="" type="text"/>	Moose aquatic feeding area Class 1	0
(4)	<input type="text"/>	Moose aquatic feeding area Class 2	10
(5)	<input type="text"/>	Moose aquatic feeding area Class 3	20
(6)	<input type="text"/>	Moose aquatic feeding area Class 4	35

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points)**0****4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1: Fish habitat is not present within the wetland (Score = 0) Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

- 1) Significance of the spawning and nursery habitat within the wetland is known (Go to Step 3)
- 2) Significance of the spawning and nursery habitat within the wetland is not known (Go through Steps 4, 5, 6 and 7)

Step 3: Select the highest appropriate category below attach documentation:

- 1) ☐ Significant in Site Region 100 points
- 2) ☐ Significant in Site District 50
- 3) ☐ Locally Significant Habitat (5.0+ ha) 25
- 4) ☐ Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points)

0

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

☐ Low marsh not present (Continue to Step 5)

☒ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass	X	0.99	0.2	6 pts	1.2
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Total Score (maximum 75 points)						1.0

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

High marsh not present (Continue to Step 6)

☒ High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge	X	1.51	0.2	11	2.2
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
Total Score (maximum 25 points)						2.0

Step 6: (**Swamp:** Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

Swamp containing fish habitat not present (Continue to Step 7)

☒ Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded	X	4.02	0.2	10	2.0
Permanently flooded				10	0.0
SCORE (maximum 20 points)					2.0

Step 7: Calculation of final score

Score for Spawning and Nursery Habitat (Low Marsh) (maximum 75)	=	<u>1.0</u>
Score for Spawning and Nursery Habitat (High Marsh) (maximum 25)	=	<u>2.0</u>
Score for Swamp Containing Fish Habitat (maximum 20)	=	<u>2.0</u>

Sum (maximum score 100 points) =

54.2.6.2 Migration and Staging Habitat**Step 1:**

- 1) X Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

	Score
1) <u> </u> Significant in Site Region	25 points
2) <u> </u> Significant in Site District	15
3) <u> </u> Locally Significant	10
4) <u> </u> Fish staging and/or migration habitat present, but not as above	5

Score for Fish Migration and Staging Habitat (maximum score 25 points)

0**Step 3:** Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). Note name of river for 2) and 3).

	Score
1) <u> </u> Wetland is riverine at rivermouth or lacustrine at rivermouth	25 points
2) <u> </u> Wetland is riverine, within 0.75 km of rivermouth	15
3) <u> </u> Wetland is lacustrine, within 0.75 km of rivermouth	10
4) <u> </u> Fish staging and/or migration habitat present, but not as above	5

Score for Staging and Migration Habitat (maximum score 25 points)

0

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland type/total area of wetland)

	Fractional Area			Scoring
Bog		x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl		x	20 =	0.0
Fen, on limestone rock		x	5 =	0.0
Swamp	0.62	x	3 =	1.9
Marsh	0.38	x	0 =	0.0
Sub Total:				1.9

Ecosystem Age Score (maximum 25 points)**2****4.4 GREAT LAKES COASTAL WETLANDS****Score for coastal (see text for definition) wetlands only**

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)**0**

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**X Absent/Not seen Present(a) One location in wetland
Two to many locations

Abundance code

(b) (1 < 20 plants
(2 20-99 plants
(3 100-999 plants
(4 >1000 plants **5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

Check one or more

Ephemeral

(less than 2 weeks)

Temporal

(2 weeks to 1 month)

Seasonal

(1 to 3 months) X

Semi-permanent

(>3 months) X No seasonal flooding **5.3 SPECIES OF SPECIAL SIGNIFICANCE****5.3.1 Osprey**Present and nesting (attach map showing nest site) Known to have nested in last 5 yr Feeding area for osprey Not as above X **5.3.2 Common Loon**Nesting in wetland (attach map showing nest site) Feeding at edge of wetland

Observed or heard on lake or

river adjoining the wetland Not as above X

INVESTIGATORS**AFFILIATION**

Lisa Keable

Natural Resource Solutions Inc.

Derek Goertz

Natural Resource Solutions Inc.

DATES WETLAND VISITED

September 6, 2010

DATE THIS EVALUATION COMPLETED:**ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"**

16 hours (2 people between 0800 and 1600hrs)

WEATHER CONDITIONS

i) at time of field work

14°C, 90% Cloud cover, no precipitation, wind = 4 (E) (Beaufort Scale)

ii) summer conditions in general

Summer conditions were dry and hot, however substantial rainfall over last few days prior to site visits.

OTHER POTENTIALLY USEFUL INFORMATION:**CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:**

Lists of all flora and fauna observed in the wetland.

WETLAND EVALUATION SCORING RECORD

WETLAND NAME

Moose Antler Wetland Complex

1.0 BIOLOGICAL COMPONENT1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

11

1.1.2 Wetland Type

11

1.1.3 Site Type

2

Total for Productivity

24

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

13

1.2.2 Vegetation Communities (maximum 45)

3

1.2.3 Diversity of Surrounding Habitat (maximum 7)

6

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

12

1.2.6 Open Water Type

30

Total for Biodiversity

72

Sub Total for Biodiversity

72

1.3 SIZE (Biological Component)

8

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

104

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	0
2.1.2 Lowbush Cranberry	0
2.1.3 Wild Rice	0
2.1.4 Commercial Fish	12
2.1.6 Furbearers	3

Total for Economically Valuable Products 15

2.2 RECREATIONAL ACTIVITIES (maximum 80) 8

2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	0
2.3.2 Absence of Human Disturbance	4

Total for Landscape Aesthetics 4

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies (maximum 12)	0

Total for Education and Public Awareness 0

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT 4

2.6 OWNERSHIP 8

Subtotal for Social Component 27

2.7 SIZE (Social Component) 2

2.8 ABORIGINAL AND CULTURAL VALUES (maximum 30) 30

TOTAL FOR SOCIAL COMPONENT (not to exceed 250) 71

3.0 HYDROLOGICAL COMPONENT3.1 FLOOD ATTENUATION

59

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

20

3.2.2 Soils

4

Total for Groundwater Recharge

24

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

30

3.3.2 Adjacent and Watershed Land Use

17

3.3.3 Vegetation Form

8

Total for Water Quality Improvement

55

3.4 CARBON SINK

0

3.5 SHORELINE EROSION CONTROL

0

3.6 GROUNDWATER DISCHARGE

15

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

153

4.0 SPECIAL FEATURES4.1 RARITY

4.1.1 Wetlands		10
4.1.2 Species		
4.1.2.1 Endangered or Threatened Species Breeding	0	
4.1.2.2 Traditional Use by Endangered or Threatened Species	0	
4.1.2.3 Provincially Significant Animals	0	
4.1.2.4 Provincially Significant Plants	0	
4.1.2.5 Regionally Significant Species	0	
4.1.2.6 Locally Significant Species	0	
4.1.2.7 Species of Special Status	15	
Total for Species Rarity		15

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds	0	
4.2.2 Winter Cover for Wildlife	0	
4.2.3 Waterfowl Staging and Moulting	0	
4.2.4 Waterfowl Breeding	10	
4.2.5 Migratory Passerine, Shorebird or Raptor Stopover	0	
4.2.6 Ungulate Habitat	0	
4.2.7 Fish Habitat	5	
Total for Significant Features and Habitat		15

4.3 ECOSYSTEM AGE

2

4.4 GREAT LAKES COASTAL WETLANDS

0

TOTAL FOR SPECIAL FEATURES (maximum 250)

42

SUMMARY OF EVALUATION RESULT

Wetland	Moose Antler Wetland Complex
TOTAL FOR 1.0 BIOLOGICAL COMPONENT	104
TOTAL FOR 2.0 SOCIAL COMPONENT	71
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT	153
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	42
	<u>WETLAND TOTAL</u>
	370

INVESTIGATORS

Lisa Keable
Derek Goertz
Katharina Walton (evaluation revision, March 2012)

AFFILIATION

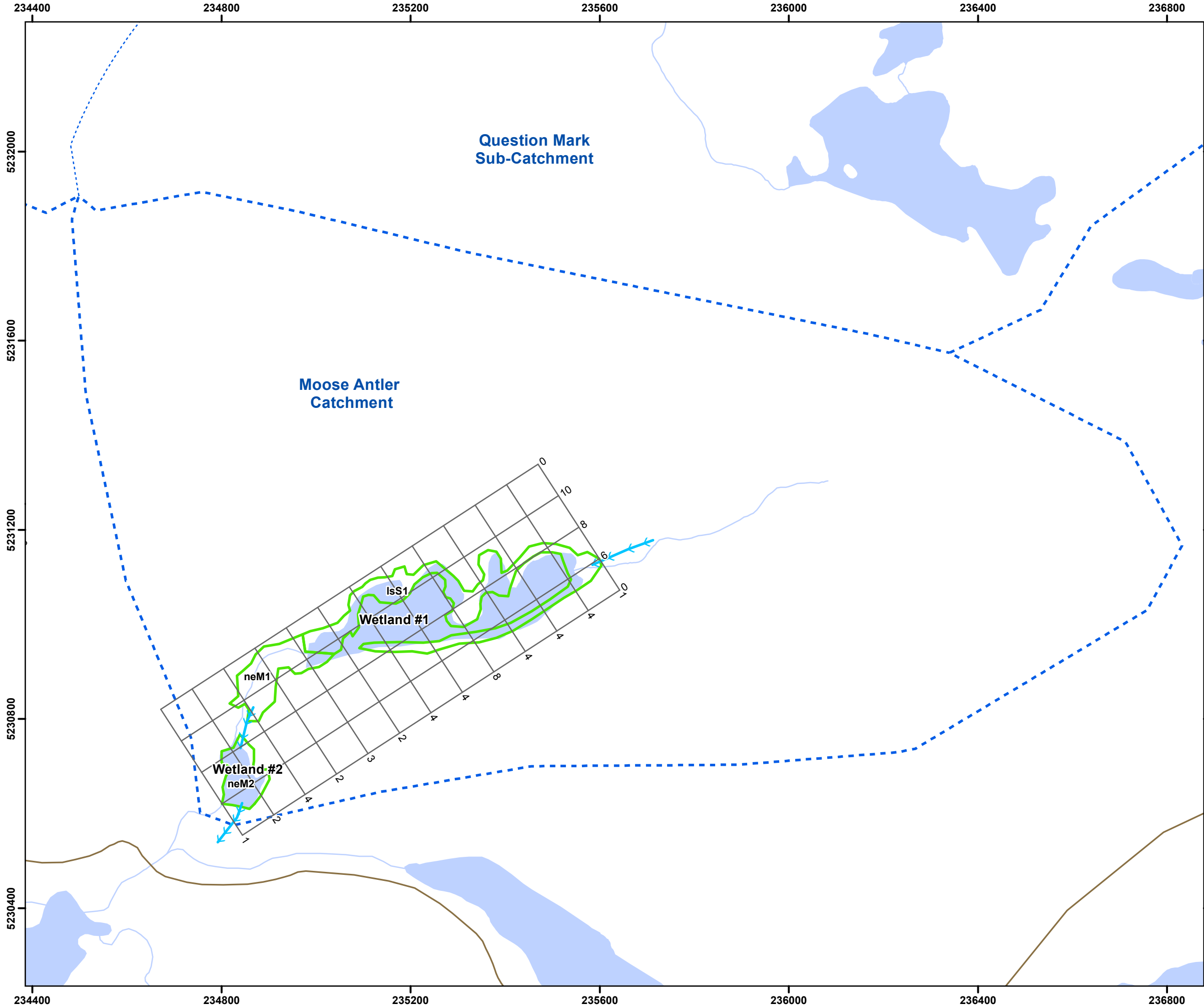
Natural Resource Solutions Inc.
Natural Resource Solutions Inc.
Natural Resource Solutions Inc.

DATE November 20, 2010

Data Summary Form

Wetland: Moose Antler Wetland Complex

Wetland Type	Wetland Unit	Map Code	Field Code	# Forms	Dominant Form	Forms	% Open Water	Area (ha)	Open Water (ha)	Soils	Site Type	Fish Habitat
Swamp	1	IsS1	11	2	Is	ne	40	4.02	1.61	Bedrock	Palustrine	Yes
Marsh	1	neM1	14	3	ne	Is, gc	30	1.51	0.45	Clay/loam	Palustrine	HM
	2	neM2	15	2	ne	gc	25	0.98	0.25	Clay/loam	Palustrine	LM



Path: X:\0868_BowLakesWindFarm\NRSI_0868_CatchmentArea_wooseAntler_9K_2012_03_06_ELF.mxd

Moose Antler Wetland Complex

Legend

- Highway
- Secondary Road
- Resource Road
- Waterbody
- Watercourse
- Catchment Area Boundary
- Sub-catchment Area Boundary
- Flow Direction
- Interspersion Grid
- Ecological Land Classification
- (IsM) Low Shrub Marsh
- (neM) Narrow-leaved Emergent Marsh



Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Data provided by MNR© Copyright: Queen's Printer Ontario.

Project: 1186
Date: March-09-12

NAD83 - UTM Zone 16
Size: 11x17"
1:8,000

0 100 200 300 400 Meters



Map Legend

Map Code	Wetland Type	Forms	Dominant Species
lsS1	Marsh	ls, ne	Sweetgale (<i>Myrica gale</i>), Leatherleaf (<i>Chamaedaphne calyculata</i>); Canada blue joint (<i>Calamagrostis canadensis</i>)
neM1	Marsh	ne, ls, gc	Bottlesedge (<i>Carex utriculata</i>), Canada blue joint (<i>C. canadensis</i>); Sweetgale (<i>M. gale</i>); Joe-pye weed (<i>E. maculatum ssp. maculatum</i>), Marsh st. johns-wort (<i>Triadenum fraseri</i>)
neM2	Marsh	ne, gc	Canada blue joint (<i>C. canadensis</i>), <i>Juncus effusus</i> , Three-way sedge (<i>Dulichium arundinaceum</i>), Bottlesedge (<i>C. utriculata</i>); Joe-pye weed (<i>E. maculatum ssp. maculatum</i>), St. John's-wort spp.

BOTANICAL NAME		COMMON NAME	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	Observations
	SOURCE		MNR RARE 4th Ed. 2009	SARO List	SARA Registry	NRSI (2010)
<u>PTERIDOPHYTES</u>		<u>FERNS & ALLIES</u>				
Dryopteridaceae		Wood Fern Family				
<i>Dryopteris</i>	<i>intermedia</i>	Evergreen Wood Fern	S5			X
<i>Onoclea</i>	<i>sensibilis</i>	Sensitive Fern	S5			X
Lycopodiaceae		Clubmoss Family				
<i>Lycopodiella</i>	<i>inundata</i>	Nothern Bog Club-moss	S5			X
<u>GYMNOSPERMS</u>		<u>CONIFERS</u>				
Cupressaceae		Cedar Family				
<i>Thuja</i>	<i>occidentalis</i>	Eastern White Cedar	S5			X
Pinaceae		Pine Family				
<i>Abies</i>	<i>balsamea</i>	Balsam Fir	S5			X
<i>Larix</i>	<i>laricina</i>	Tamarack	S5			X
<i>Picea</i>	<i>mariana</i>	Black Spruce	S5			X
<u>DICOTYLEDONS</u>		<u>DICOTS</u>				
Asteraceae		Composite or Aster Family				
<i>Eupatorium</i>	<i>maculatum ssp. maculatum</i>	Spotted Joe-pye-weed	S5			X
<i>Euthamia</i>	<i>graminifolia</i>	Flat-topped Bushy Goldenrod	S5			X
<i>Symphyotrichum</i>	<i>puniceum var. puniceum</i>	Purple-stemmed Aster	S5			X
Balsaminaceae		Touch-me-not Family				
<i>Impatiens</i>	<i>capensis</i>	Spotted Touch-me-not	S5			X
Betulaceae		Birch Family				
<i>Alnus</i>	<i>incana spp. rugosa</i>	Speckled Alder	S5			X
Caprifoliaceae		Honeysuckle Family				
<i>Symphoricarpos</i>	<i>albus</i>	Snowberry	S5			X
Droseraceae		Sundew Family				
<i>Drosera</i>	<i>rotundifolia</i>	Round-leaved Sundew	S5			X

Ericaceae		Heath Family				
<i>Andromeda</i>	<i>polifolia ssp. glaucophylla</i>	Bog Rosemary	S5			X
<i>Chamaedaphne</i>	<i>calyculata</i>	Leatherleaf	S5			X
<i>Kalmia</i>	<i>polifolia</i>	Bog Laurel	S5			X
<i>Ledum</i>	<i>groenlandicum</i>	Labrador-tea	S5			X
<i>Vaccinium</i>	<i>oxycoccos</i>	Small Cranberry	S5			X
Guttiferae		St. John's-wort Family				
<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	S5			X
Hippuridaceae		Mare's-tail Family				
<i>Hippuris</i>	<i>vulgaris</i>	Common Mare's-tail	S5			X
Lamiaceae		Mint Family				
<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	S5			X
<i>Scutellaria</i>	<i>galericulata</i>	Hooded Skullcap	S5			X
Lentibulariaceae		Bladderwort Family				
<i>Utricularia</i>	<i>intermedia</i>	Flat-leaved Bladderwort	S5			X
Myricaceae		Wax-myrtle Family				
<i>Myrica</i>	<i>gale</i>	Sweet Gale	S5			X
Nymphaeaceae		Water-lily Family				
<i>Nuphar</i>	<i>variegata</i>	Bulhead Pond-lily	S5			X
<i>Nymphaea</i>	<i>odorata</i>	Fragrant Water-lily	S5			X
Rosaceae		Rose Family				
<i>Rubus</i>	<i>idaeus ssp. melanolasius</i>	Wild Red Raspberry	S5			X
Violaceae		Violet Family				
<i>Viola</i>	spp.					X
MONOCOTYLEDONS		MONOCOTS				
Cyperaceae		Sedge Family				
<i>Carex</i>	<i>gynandra</i>	Nodding Sedge	S5			X
<i>Carex</i>	<i>utriculata</i>	Beaked Sedge	S5			X
<i>Dulichium</i>	<i>arundinaceum</i>	Reed-like Three-way Sedge	S5			X

<i>Eleocharis</i>	<i>spp.</i>					X
<i>Eriophorum</i>	<i>virginicum</i>	Virginia Cotton-grass	S5			X
<i>Scirpus</i>	<i>spp.</i>					X
<i>Scirpus</i>	<i>cyperinus</i>	Wool-grass	S5			X
Eriocaulaceae		Pipewort Family				
<i>Eriocaulon</i>	<i>aquaticum</i>	Seven-angled Pipewort	S5			X
Iridaceae		Iris Family				
<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	S5			X
Juncaceae		Rush Family				
<i>Juncus</i>	<i>brevicaudatus</i>	Short-tailed Rush	S5			X
<i>Juncus</i>	<i>effusus ssp. solutus</i>	Soft Rush	S5			X
Poaceae		Grass Family				
<i>Agrostis</i>	<i>spp.</i>					X
<i>Calamagrostis</i>	<i>canadensis</i>	Blue-joint Grass	S5			X
<i>Glyceria</i>	<i>canadensis</i>	Rattlesnake Grass	S4S5			X
Sparganiaceae		Bur-reed Family				
<i>Sparganium</i>	<i>americanum</i>	Nuttall's Bur-reed	S4?			X
<i>Sparganium</i>	<i>fluctuans</i>	Floating Bur-reed	S4?			X
<u>BRYOPHYTES</u>						
Sphagnaceae						
<i>Sphagnum</i>	<i>spp.</i>					X
<i>Sphagnum</i>	<i>girgensohnii</i>	Common Green Peat Moss	S5			X
<i>Sphagnum</i>	<i>magellanicum</i>	Midway Peat Moss	S5			X

Wildlife Observations

Includes tracks and signs

Common Name	Scientific Name
Mammals	
Moose	<i>Alces alces</i>
Muskrat	<i>Ondatra zibethicus</i>
Amphibians	
Wood frog	<i>Rana sylvatica</i>



Natural Resources Department
BNR

BATCHEWANA FIRST NATION OF OJIBWAYS

RANKIN RESERVE 15 D
GOULAIS BAY RESERVE 15 A
OBADJIWAN RESERVE 15 E
WHITEFISH ISLAND 15

Administration Office: 236 Frontenac Street
Rankin Reserve 15D
Batchewana Territory, ON P6A 5K9
Ph: (705) 759-0914 / Fax: (705) 759-9171
www.batchewana.ca

November 17, 2010

Derek Goertz
Natural Resource Solutions Inc.
111 Elgin Street
Sault Ste. Marie, ON
P6A 6L6

Dear Derek:

Re: Site Evaluation for the Wetlands of Bow Lakes Wetlands

As per your request, BNR Field Technician, David Sewell has completed a site evaluation for the Two Wetlands in the vicinity of the proposed Bow Lake Wind Farm within Batchewana First Nation.

I have attached Dave's report that we are hope is going to be helpful to you. We also request that you provide a copy to your employee and any other necessary agencies that are involved with this project.

Thank you very much for requesting BFN participation. If you have any questions or need more information please contact Dave Sewell or myself at 705-759-0914.

Miigwetch,


Danny Sayers, JR. (BNR Manager)

c.c. Chief and Council
Dave Sewell (BNR Field Technician)
Vortex



Natural Resources Department
BNR

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BNR Site Visit and Recommendations on Two Bow Lake Wetlands

On October 26, 2010 I visited the area of the Bow Lake Wind Farms to take a look at the wetlands in that area. There are two big pieces of wetland, one to the north of Bow Lake and, one to the south of Bow Lake. There are a few smaller pieces of wetland around Negick Lake which is within the Wind Farm area. From what I seen these wetlands play an important role to the surrounding area. These wetlands are nature's way of filtering the water which the animals drink (and sometimes humans). In this area there are a lot of animals such as the moose, deer, bear, wolves, foxes, beaver and a lot of other smaller animals. There is plenty of plant life around the wetlands that animals and aquatic life use as food and others use as their homes. There are also a lot of plants that we (BFN) use for medicines. The loss of these wetlands will have on huge burden on the BFN community and the surrounding area that may have irreversible damage.

Recommendations:

- I believe that these wetlands are very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities.
- The Bzhki Ziibi (Montreal River) has and continues to be valuable resources to BFN community members to access, for harvest and manage our Natural Resources that include but not limited to hunting, fishing, cultural sites.
- More BFN field work is needed to provide a complete evaluation and values of these wetlands.

It is my recommendation that Batchewana First Nation should be a part of any Environmental Evaluations from the beginning stages. It is very important to have BFN participation in order to understand and/or to receive appropriate data related to direct impacts and/or values. BNR field Technician is requesting that any future work in our Territory involves our participation which includes but not limited to; covering the cost associated with providing BFN involvement. It's essential for the government, Industry, and contractors to budget for First Nation participation because it becomes costly to our First Nation departments to complete these tasks in a manner that the community will accept. Without BFN reasonable participation in future Environmental Evaluations or Environmental Impacts studies, BFN will not endorse or except the final copies of those reports.

Dave Sewell
BNR Field Technician

Question Mark Wetland Complex				
Wetland Evaluation Edition		2002		
November 20, 2010				
Comments				
Attached Documents include:				
1) Summary of Wetland types, site types and dominant form areas				
2) Map of Moose Antler Wetland Complex				
3) List of vegetation communities				
4) Map of Interspersion				
5) Map of Moose Antler Wetland Complex Catchment Basin				
6) Vascular Plant List				
7) Fauna list				
8) Letter from Batchewana First Nation				
Additional Information				
Official Name: Question Mark Wetland Complex				
Evaluation Edition:	2002	Class:	Wetland ID.:	
	Year/Month Last Evaluated	November 20, 2010		
	Year/Month Last Updated	Mar-12		
Special Planning Considerations:		Scores		
		Biological:	111	
		Social:	73	
		Hydrological:	148	
		Special Features:	113	
		Overall:	444	
Submitted by:	Natural Resources Solutions Inc.			
Date:	March 9, 2012			

i) WETLAND NAME:

Question Mark Wetland Complex

ii) MNR ADMINISTRATIVE REGION:

North East

DISTRICT:

Sault Ste. Marie

AREA OFFICE (if different from District):

iii) CONSERVATION AUTHORITY JURISDICTION:

(If not within a designated CA, check here: X)

iv) COUNTY OR REGIONAL MUNICIPALITY:

District of Algoma

v) TOWNSHIP:

Smilsky Township

vi) LOTS & CONCESSIONS:

None

(attach separate sheet if necessary)

vii) MAP AND AIR PHOTO REFERENCES

a) Latitude: 47°10'49"

Longitude: 84°29'41"

b) UTM grid reference:

Zone: 16

Block: T

Grid:E 689814

N 5228258

c) National Topographic Series:

map name(s)

Batchewana

map number(s)

41 N/1

edition

3

scale

1:50,000

d) Aerial photographs: Date photo taken:

Scale:

Flight & plate numbers:

Google Earth Images

(attach separate sheet if necessary)

e) Ontario Base Map numbers & scale

(attach separate sheets if necessary)

b) Wetland complex comprised of 2 individual wetlands:

(Attach additional sheets if necessary)

c) Brief documentation of reasons for including any areas less than 2 ha in size:

(Attach separate sheets if necessary .)

1.0 BIOLOGICAL COMPONENT**1.1 PRODUCTIVITY****1.1.1 GROWING DEGREE-DAYS/SOILS****GROWING DEGREE DAYS**

(check one)

- | | | |
|----|-------|-----------|
| 1) | _____ | <1600 |
| 2) | _____ | 1600-2000 |
| 3) | X | 2000-2400 |
| 4) | _____ | 2400-2800 |
| 5) | _____ | 2800-3000 |
| 6) | _____ | >3000 |

SOILS

Estimated Fractional Area

0.100	clay/loam
0.210	silt/marl
	limestone
	sand
0.110	humic/mesic
0.590	fibric
	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<1600	12	11	9	7	7	6	4
1600-2000	15	13	11	9	8	7	5
2000-2400	18	15	13	11	9	8	7
2400-2800	22	18	15	13	11	9	7
2800-3000	26	21	18	15	13	10	8
>3000	30	25	20	18	15	12	9

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score		
18	clay/loam	1.80
15	silt/marl	3.15
	limestone	0.00
	sand	0.00
9	humic/mesic	0.99
8	fibric	4.72
	granite	0.00

Final Score Growing Degree-Days/Soils (maximum 30 points)**11**

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

Fractional Area		Score	
Bog		x 3	0.00
Fen	0.59	x 6	3.54
Swamp	0.11	x 8	0.88
Marsh	0.30	x 15	4.50

Wetland type score (maximum 15 points)**9****1.1.3 SITE TYPE** (Fractional Area = area of site type/total wetland area)

Fractional Area		Score	
Isolated		x 1 =	0.000
Palustrine (permanent or intermittent flow)	1.000	x 2 =	2.000
Riverine		x 4 =	0.000
Riverine (at rivermouth)		x 5 =	0.000
Lacustrine (at rivermouth)		x 5 =	0.000
Lacustrine (on enclosed bay, with barrier beach)		x 3 =	0.000
Lacustrine (exposed to lake)		x 2 =	0.000
Sub Total:			2.000

Site Type Score (maximum 5 points)**2****1.2 BIODIVERSITY****1.2.1 NUMBER OF WETLAND TYPES**

(Check only one)		Score
1)		one 9 points
2)		two 13
3)	X	three 20
4)		four 30

Number of Wetland Types Score (maximum 30 points)**20**

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species.

Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities
with 1-3 forms = 40

1 = 1.5 points

2 = 2.5

3 = 3.5

4 = 4.5

5 = 5

6 = 5.5

7 = 6

8 = 6.5

9 = 7

10 = 7.5

11 = 8

+ .5 each additional
community =

4.5

Total # of communities
with 4 -5 forms = 23

1 = 2 points

2 = 3.5

3 = 5

4 = 6.5

5 = 7.5

6 = 8.5

7 = 9.5

8 = 10.5

9 = 11.5

10 = 12.5

11 = 13

+ .5 each additional
community =

2.0

Total # of communities
with 6 or more forms = 1

1 = 3 points

2 = 5

3 = 7

4 = 9

5 = 10.5

6 = 12

7 = 13.5

8 = 15

9 = 16.5

10 = 18

11 = 19

+ 1 each additional
community =

e.g., a wetland with 3 one form communities
8 six form communities would score:

4 two form communities

12 four form communities and

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points)

7

Wetland Name: Question Mark Wetland Complex

Wetland Size (ha): 6.36

Vegetation Form % area in which form is dominant

h

c 58.96

dh

dc

ts

ls 10.69

ds

gc

m

ne 22.80

be

re

ff

f

su 7.55

u (unvegetated)

Total = 100% 100.00

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input type="checkbox"/>	recent burn (< 5 yr)
<input type="checkbox"/>	abandoned agricultural land
<input type="checkbox"/>	utility corridor
<input checked="" type="checkbox"/>	deciduous forest
<input type="checkbox"/>	recent cutover or clearcut (<5 yr)
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	crops
<input type="checkbox"/>	abandoned pits and quarries
<input type="checkbox"/>	pasture
<input type="checkbox"/>	ravine
<input type="checkbox"/>	fence rows
<input checked="" type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	creek flood plain
<input checked="" type="checkbox"/>	rock outcrop

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)**6****1.2.4 PROXIMITY TO OTHER WETLANDS**

(Check first appropriate category only)

Scoring

- | | | | | |
|----|-------------------------------------|---|---|----------|
| 1) | <input checked="" type="checkbox"/> | 8 | Hydrologically connected by surface water to other wetlands (different dominant wetland type) or open lake or river within 1.5 km | 8 points |
| 2) | <input type="checkbox"/> | | Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km | 8 |
| 3) | <input type="checkbox"/> | | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from 1.5 to 4 km away (Second Marsh Wetland) | 5 |
| 4) | <input type="checkbox"/> | | Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away | 5 |
| 5) | <input type="checkbox"/> | | Within 0.75 km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water | 5 |
| 6) | <input type="checkbox"/> | | Within 1 km of other wetlands, but not hydrologically connected by surface water | 2 |
| 7) | <input type="checkbox"/> | | No wetland within 1 km | 0 |

Proximity to other Wetlands Score (Choose one only, maximum 8 points)**8**

1.2.5 INTERSPERSION

Number of Intersections
(Check one)

Score

1)	26 or less	<input type="checkbox"/>	3
2)	27 to 40	<input type="checkbox"/>	6
3)	41 to 60	<input checked="" type="checkbox"/>	9
4)	61 to 80	<input type="checkbox"/>	12
5)	81 to 100	<input type="checkbox"/>	15
6)	101 to 125	<input type="checkbox"/>	18
7)	126 to 150	<input type="checkbox"/>	21
8)	151 to 175	<input type="checkbox"/>	24
9)	176 to 200	<input type="checkbox"/>	27
10)	>200	<input type="checkbox"/>	30

Interspersion Score (Choose one only maximum 30 points)

9

1.2.6 OPEN WATER TYPES

Permanently flooded:
(Check one)

Score

1)	<input type="checkbox"/>	type 1	8
2)	<input type="checkbox"/>	type 2	8
3)	<input type="checkbox"/>	type 3	14
4)	<input type="checkbox"/>	type 4	20
5)	<input checked="" type="checkbox"/>	type 5	30
6)	<input type="checkbox"/>	type 6	8
7)	<input type="checkbox"/>	type 7	14
8)	<input type="checkbox"/>	type 8	3
9)	<input type="checkbox"/>	no open water	0

Open Water Type Score (Choose one only maximum 30 points)

30

1.3 SIZE6.36

hectares

80

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)**9**

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-47	48-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<20 ha	1	5	7	8	9	17	25	34	43	50
20-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT**2.1 ECONOMICALLY VALUABLE PRODUCTS****2.1.1 WOOD PRODUCTS**

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

		Score
1)	<input checked="" type="checkbox"/> X	<5 ha
2)	<input type="checkbox"/>	5 -25 ha
3)	<input type="checkbox"/>	26 -50 ha
4)	<input type="checkbox"/>	51- 100 ha
5)	<input type="checkbox"/>	101 -200 ha
6)	<input type="checkbox"/>	>200 ha

Source of information: Field Observations (NRSI 2010)

Wood Products Score (Score one only, maximum 14 points)

0

2.1.2 Lowbush Cranberry

(Check one)

Present

1)

☒ X

Score (Choose one)

2 points

Absent

2)

☐

0

Source of information: Field Observations (NRSI 2010)

Lowbush Cranberry Score (maximum 2 points)

2

2.1.3 Wild Rice

(Check one)

Present (at least 0.5 ha)

1)

☐

Score (Choose one)

10 points

Absent

2)

☒ X

0

Source of information: Field Observations (NRSI 2010)

Wild Rice Score (maximum 10 points)

0

2.1.4 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)

Present

1)

X

Absent

2)

Score (Choose one)

12 points

0

Source of information: No fish observed, however, fish habitat is present.**Commercial Fish Score (maximum 12 points)****12****2.1.5 FURBEARERS**

(Consult Appendix 9)

Name of furbearer

Source of information

1)	Muskrat	3	Field Observations (NRSI 2010)
2)			
3)			
4)			
5)			

Scoring: 3 points for each species. maximum 12

Furbearer Score (maximum 12 points)**3****2.2 RECREATIONAL ACTIVITIES**

Type of Wetland-Associated Use						
Intensity of Use	Hunting		Nature Enjoyment/ Ecosystem Study		Fishing	
High	40 points		40 points		40 points	
Moderate	20		20		20	
Low	8	8	8		8	
Not possible/NotKnown	0		0	0	0	0
Totals	8		0		0	

(score one level for each of the three wetland uses; scores are cumulative; maximum score 80 points)

Sources of information:

Hunting: Possible, however no signs observed.Nature: Unlikely due to remote location.Fishing: Unlikely due to small waterbodies.**Recreational Activities Score (maximum 80 points)****8**

2.3 LANDSCAPE AESTHETICS**2.3.1 DISTINCTNESS**

(Check one)

Clearly distinct

1)

Score (Choose one)

3 points

Indistinct

2)

0

Landscape Distinctness Score (maximum 3 points)**0****2.3.2 ABSENCE OF HUMAN DISTURBANCE**

(Check one)

Human disturbances absent or nearly so

1)

Score (Choose one)

7 points

One or several localized disturbances

2)

4

Moderate disturbance; localized water pollution

3)

2

Wetland intact but impairment of ecosystem quality
intense in some areas

4)

1

Extreme ecological degradation, or water pollution
severe and widespread

5)

0

Source of information:

Road is very close to wetland boundary - at one point the road
leads right into wetland.**Absence of Human Disturbance Score (maximum 7 points)****4****2.4 EDUCATION AND PUBLIC AWARENESS****2.4.1 EDUCATIONAL USES**

(Check one)

Frequent

1)

Score (Choose one)

20 points

Infrequent

2)

12

No visits

3)

0

Source of information:

Educational Uses Score (maximum 20 points)**0****2.4.2 FACILITIES AND PROGRAMS**

(check one)

Staffed interpretation centre

1)

Score (Choose one)

8 points

No interpretation centre or staff but a system of
self-guiding trails or brochures available

2)

4

Facilities such as maintained paths (e.g., woodchips)
boardwalks, boat launches or observation towers

3)

2

but no brochures or other interpretation

4)

0

No facilities or programs

Source of information:

Field Surveys (NRSI 2010)**Facilities and Programs Score (maximum 8 points)****0**

2.4.3 RESEARCH AND STUDIES

(check appropriate spaces)

Long term research has been done

Research papers published in refereed scientific journal or as a thesis

One or more (non-research) reports have been written on some aspect of the wetland 's flora fauna hydrology etc.

No research or reports

Score

12 points

10

5

0

X

Attach list of known reports by above categories

Research and Studies Score (Score is cumulative, maximum 12 points)

0

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

Circle the highest applicable score

Distance of wetland from settlement	1) population > 10,000	2) population 2,500 -10,000	3) population <2,500 or cottage community
1) Within or adjoining settlement	40 points	26	16
2) 0.5 to 10 km from settlement	26	16	10
3) 10 to 60 km from settlement	12	8	4
4) >60 km from settlement	5	2	0
5) >100 km from settlement	0	0	0
	0	0	4

Name of settlement:

Montreal River Harbour, ON

Proximity to Human Settlement Score (maximum 40 points)

4

2.6 OWNERSHIP (FA= fraction Area)

Score

FA of wetland in public or private ownership

held under contract or in trust for wetland protection

FA of wetland area in public ownership, not as above

FA of wetland area in private ownership, not as above

x 10 =

0.00

x 8 =

8.00

x 4 =

0.00

Source of information:

OMNR Critical Values Map (December 21, 2009)

Ownership Score (maximum 10 points)

8

2.7 SIZE**6.36** hectares**29** Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)**2**

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant	X	=	30 points
2) Not Significant		=	0
3) Unknown		=	0
Total:	30		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant	X	=	0
3) Unknown		=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

30

Batchewana First Nation (BFN) was contacted on October 19, 2010 and asked about the significance of this wetland in terms of aboriginal values. A response was received on November 17, 2010 (letter appended), which states the wetlands are "very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities."
(Dave Sewell, BNR Field Technician)

3.0 HYDROLOGICAL COMPONENT**3.1 FLOOD ATTENUATION**

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area. For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1:

If wetland is entirely Isolated, go directly to Step 5.

If wetland is lacustrine and the ratio of wetland area: lake area is <0.1, or wetland is riverine on the St. Mary's River, go to Step 5

All other wetlands, go through steps 2, 3, 4 and 5.

Step 2:**Determination of Upstream Detention Factor (DF)**

(a)	Wetland area (ha)	6.36
(b)	Total area (ha) of <u>upstream</u> detention areas (include the wetland itself)	20.50
(c)	Ratio of (a):(b)	0.31
(d)	Upstream detention factor: (c) x 2 = (maximum allowable factor = 1)	0.62

Step 3:**Determination of Peak Flow Attenuation Factor (AF)**

(a)	Wetland area (ha)	6.36
(b)	Size of catchment basin (ha) <u>upstream</u> of wetland (include wetland itself in catchment area)	241.08
(c)	Ratio of (a):(b)	0.03
(d)	Wetland attenuation factor: (c) x 10 = (maximum allowable factor = 1)	0.26

Step 4:**Determination of Wetland Surface Form Factor (FF)**

From the list below, select the surface form which best describes the wetland.

	Factor
Flooded with little or no aquatic vegetation	0
Flooded but with submergent, emergent or floating vegetation	0.2
Flat (lawn) vegetation (typical of fens)	X 0.5
Hummock-depression microtopography	0.7
Patterned (e.g., string bog, ribbed fen)	1
Surface Form Factor (FF)	0.5

(Maximum allowable factor = 1)

Step 5:

1. Wetland is entirely Isolated 100 points
2. Wetland is lacustrine and the ratio of wetland area: lake area is <0.1 0 points
3. Wetland is riverine along the St. Mary's River 0 points
4. For all other wetlands*, calculate as follows:
- | | |
|---|------|
| a) Upstream Detention Factor (DF) (Step 2) | 0.62 |
| b) Wetland Attenuation Factor (AF) (Step 3) | 0.26 |
| c) Surface Form Factor (FF) (Step 4) | 0.50 |

$$[(DF + AF + FF)/3] \times 100^* \quad 46$$

*Unless wetland is a complex including isolated portions -- see above

Total Flood Attenuation Score (maximum 100 points) **46**

3.2 GROUND WATER RECHARGE**3.2.1 SITE TYPE**

- (a) Wetland > 50% lacustrine (by area) or located on the St. Mary's River Score = 0
- (b) Wetland not as above. Calculate final score as follows:
(FA= area of site type/total area of wetland)
- | | | | |
|---|--|--------|-------|
| 1 | FA of isolated or palustrine wetland | x 20 = | 20.00 |
| 0 | FA of riverine wetland | x 5 = | 0.00 |
| 0 | FA of lacustrine wetland (wetland <50% lacustrine) | x 0 = | 0.00 |

Site Type Score: (maximum 20 points) **20**

3.2.2 SOILS**EVALUATION:**

Dominant Wetland Type	Sand, loam, gravel, till	Clay or bedrock	
Lacustrine or on St. Mary's River	0	0	
Isolated	10	5	
Palustrine	7	4	X
Riverine (not on St. Mary's River)	5	2	
Totals	0		4

Hydrological Soil Class Score (maximum 10 points) **4**

3.3 DOWNSTREAM WATER QUALITY IMPROVEMENT**3.3.1 WATERSHED IMPROVEMENT FACTOR**

Calculation of Watershed Improvement Score is based upon the fractional area (FA) of each site type within the wetland. FA = area of site type/total area of the wetland.

<u>Site Type</u>	<u>Improvement Factor (IF)</u>			
Isolated	FA	x	0.5 =	0.00
Riverine	FA	x	1 =	0.00
Palustrine with no inflow	FA	0.13	x 0.7 =	0.09
Palustrine with inflows	FA	0.87	x 1 =	0.87
Lacustrine on lake shoreline	FA	x	0.2 =	0.00
Lacustrine at lake inflow or outflow	FA	x	1 =	0.00

Watershed Improvement Score (IF x 30) (maximum = 30)

29

3.3.2 ADJACENT AND WATERSHED LAND USE**EVALUATION****Step 1: Determination of Maximum Initial Score**

- ☐ Wetland on the Great Lakes or St. Mary's River (Go to Step 5a)
☒ All other wetlands (Go through steps 2, 3, 4 and 5b)

Step 2: Determination of Broad Upslope Land Use (BLU)

Assess broad upslope land uses within the previous 5 years, agriculture, or other activities which alter the natural vegetation cover in an extensive manner.

Choose one	Score
>50% of catchment basin	20
20-50% of catchment basin	14
<20% of catchment basin	4

X

Score for BLU

4

Step 3: Determination of Linear Upslope Land Uses (LUU)

Assess linear upslope uses (LUU) e.g., roads, railways, hydro corridors, pipelines, etc., crossing the upslope catchment within 200m of the wetland boundary.

Choose the highest only	Score
Major corridor*	15
Secondary corridor	11
Tertiary corridor	6
Temporary or abandoned	3
None	0

X

Score for LUU

3

Major, secondary and tertiary roads are those that are indicated as such on the provincial highways maps. Major hydro corridors are trunk lines coming directly from a generating station. Major pipelines are trans-continental lines. Secondary corridors are regional distribution lines (i.e. multi-cable hydro corridors not emanating directly from a generating station or regional gas distribution lines). Tertiary corridors are single hydro lines or local gas distribution lines (i.e. to domestic users).

Step 4: Determination of Point-source Land Use (PS)

Assess point source (PS) land uses producing industrial effluents such as heavy industry, pulp and paper plants, major aggregate operations (but not small pits use for local road construction), etc. Score as 'present' only if a point source land use is located less than 1km upstream from the wetland.

	Score
Present	15
Not present	0

Score for PS 0

Step 5: Calculation of total score for Adjacent and Watershed Land Use

- a) Wetland on the Great Lakes or St. Mary's River
b) All other wetlands, calculate as follows:

Final Score BLU+LUU+PS 17

3.3.3 VEGETATION FORM

Choose the category that best describes the vegetation of the wetland

		Score
Trees, shrubs or herbs (h, c, ts, ls, gc)	X	8 points
Emergents, submergents (ne, re, be, f, ff, su)		10
Little or no vegetation (u)		0

Dominant Vegetation Form Score (maximum 10 points)

8

3.4 CARBON SINK

Choose the category that best describes the wetland

- | | | |
|--|---|-----------|
| 1) Wetland a bog or fen with >50% organic soils | | 15 points |
| 2) Wetland has organic soils occupying 10 to 50% of the area (i.e. mainly mineral or undesignated soils, any wetland type) | | 6 |
| 3) Marshes and swamps with >50% organic soil | X | 9 |
| 4) Wetland with less than 10% of soils organic | | 0 |

Carbon Sink Score (maximum 15 points)

9

3.5 SHORELINE EROSION CONTROL

From the wetland vegetation map determine the dominant vegetation type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.

Step 1:

Score

<input checked="" type="checkbox"/>	Wetland entirely isolated or palustrine	0
<input type="checkbox"/>	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)	<input type="checkbox"/>	Trees and shrubs	15
2)	<input type="checkbox"/>	Emergent vegetation	8
3)	<input type="checkbox"/>	Submergent vegetation	6
4)	<input type="checkbox"/>	Other shoreline vegetation	3
5)	<input type="checkbox"/>	No vegetation	0

Shoreline Erosion Control Score (maximum 15 points)

0

3.6 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores)

Category	Catchment Interaction					
Wetland type	Bog = 0	<input type="checkbox"/>	Swamp/Marsh = 2	<input checked="" type="checkbox"/>	Fen = 5	<input type="checkbox"/>
Basin topography	Flat/Rolling = 5	<input type="checkbox"/>	Hilly = 2	<input checked="" type="checkbox"/>	Major relief break = 5	<input type="checkbox"/>
Wetland area: Upslope catchment area	Large (>50%) = 0	<input type="checkbox"/>	Moderate (6-50%) = 2	<input checked="" type="checkbox"/>	Small (<5%) = 5	<input type="checkbox"/>
Lagg Development	None found = 0	<input checked="" type="checkbox"/>	Minor = 2	<input type="checkbox"/>	Extensive = 5	<input type="checkbox"/>
Seeps at wetland edge	None found = 0	<input checked="" type="checkbox"/>	1-3 seeps = 5	<input type="checkbox"/>	4 or more seeps = 10	<input type="checkbox"/>
Iron precipitates evident at edge	None = 0	<input checked="" type="checkbox"/>	1-3 deposits = 2	<input type="checkbox"/>	4 or more deposits = 5	<input type="checkbox"/>
Surface marl deposits	None = 0	<input checked="" type="checkbox"/>	1-3 deposits = 2	<input type="checkbox"/>	>3 = 5	<input type="checkbox"/>
Wetland pH	Low < 4.2 = 0	<input type="checkbox"/>	Moderate 4.2-5.7 = 5	<input checked="" type="checkbox"/>	High >5.7 = 10	<input type="checkbox"/>
Catchment soil coverage	Patchy = 0	<input type="checkbox"/>	Thin (<20cm) = 2	<input checked="" type="checkbox"/>	Thick = 5	<input type="checkbox"/>
Catchment soil permeability	Low = 0	<input type="checkbox"/>	Moderate = 2	<input checked="" type="checkbox"/>	High = 5	<input type="checkbox"/>
Totals		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

15

4.0 SPECIAL FEATURES COMPONENT**4.1 RARITY****4.1.1 WETLANDS**Hills Site Region and Site District (5E only): 5E-13

Wetland type (check one or more)

<input type="checkbox"/>	Bog
<input checked="" type="checkbox"/>	Fen
<input checked="" type="checkbox"/>	Swamp
<input checked="" type="checkbox"/>	Marsh

Evaluation Table for Scoring Rarity of Wetland Type.

Unit Number	Site Region & District	Marsh	Swamp	Fen	Bog
2E	James Bay	20	20	0	20
2W	Big Trout Lake	20	20	0	10
3E	Lake Abitibi	20	20	10	0
3W	Lake Nipigon	20	20	10	0
3S	Lake St. Joseph	20	20	10	0
4E	Lake Temagami	20	20	10	0
4W	Pigeon River	20	10	20	0
4S	Wabigoon Lake	20	10	20	0
5E-1	Thessalon	10	0	30	20
5E-2	Gore Bay	20	0	20	20
5E-3	La Cloche	20	0	30	20
5E-4	Sudbury	10	0	30	10
5E-5	North Bay	10	0	20	0
5E-6	Tomiko	10	0	20	0
5E-7	Parry Sound	20	0	30	20
5E-8	Huntsville	20	0	30	20
5E-9	Algonquin Park	10	0	30	0
5E-10	Brent	20	0	30	0
5E-11	Bancroft	0	10	30	10
5E-12	Renfrew	0	0	30	10
5E-13	Batchewana	10	0	10	30
5-S	Lake of the Woods	10	10	20	10

Rarity of Wetland Type Score (maximum 70 points)

20

4.1.2 SPECIES**4.1.2.1 BREEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	<input type="text"/>
2) _____	<input type="text"/>
3) _____	<input type="text"/>
4) _____	<input type="text"/>
5) _____	<input type="text"/>
Total:	0

Attach documentation.

Scoring:

For one species	250 points
For each additional species	250 points

(score is cumulative, no maximum score)

Breeding Habitat for Endangered Species Score (no maximum)**0****4.1.2.2 TRADITIONAL MIGRATION OR FEEDING HABITAT FOR AN ENDANGERED OR THREATENED SPECIES**

Name of species	Source of information
1) _____	<input type="text"/>
2) _____	<input type="text"/>
3) _____	<input type="text"/>
4) _____	<input type="text"/>
5) _____	<input type="text"/>
Total:	0

Attach documentation.

Scoring:

For one species	150 points
For each additional species	75

(score is cumulative, no maximum score)

Traditional Habitat for Endangered Species Score (no maximum)**0**

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species	=	50 points	14 species	=	154
2 species	=	80	15 species	=	156
3 species	=	95	16 species	=	158
4 species	=	105	17 species	=	160
5 species	=	115	18 species	=	162
6 species	=	125	19 species	=	164
7 species	=	130	20 species	=	166
8 species	=	135	21 species	=	168
9 species	=	140	22 species	=	170
10 species	=	143	23 species	=	172
11 species	=	146	24 species	=	174
12 species	=	149	25 species	=	176
13 species	=	152			

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

0

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)	Oval-leaved bilberry	<i>Vaccinium ovalifolium</i>	Field work (NRSI 2010)
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	= 50 points	14 species	= 154
2 species	= 80	15 species	= 156
3 species	= 95	16 species	= 158
4 species	= 105	17 species	= 160
5 species	= 115	18 species	= 162
6 species	= 125	19 species	= 164
7 species	= 130	20 species	= 166
8 species	= 135	21 species	= 168
9 species	= 140	22 species	= 170
10 species	= 143	23 species	= 172
11 species	= 146	24 species	= 174
12 species	= 149	25 species	= 176
13 species	= 152		

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)**50**

4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

** Score only if there is an approved list

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Significant Species (Site Region) Score (no maximum)

0

4.2.1.6 LOCALLY SIGNIFICANT SPECIES (SITE DISTRICT)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

	Common Name	Scientific Name	Source of information
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site District

1 species	=	10	6 species	=	41
2 species	=	17	7 species	=	43
3 species	=	24	8 species	=	45
4 species	=	31	9 species	=	47
5 species	=	38	10 species	=	49

For each significant species over 10 in the wetland, add 1 point.

Locally Significant Species (Site District) Score (no maximum)

0

4.1.2.7 SPECIES OF SPECIAL STATUS**Black Duck**

Suitable breeding habitat present and within assessment range (Figure 17)

Assessment Category	Check one	Score
40-80 Indicated Pairs/100 km sq	<input type="checkbox"/>	25 points
20-40 Indicated Pairs/100 km sq	<input type="checkbox"/>	20
10-20 Indicated Pairs/100 km sq	<input checked="" type="checkbox"/>	15
5-10 Indicated Pairs/100 km sq	<input type="checkbox"/>	10
1-5 Indicated Pairs/100 km sq	<input type="checkbox"/>	5
Habitat not suitable	<input type="checkbox"/>	0
Out of assessment range	<input type="checkbox"/>	0

Black Duck Score (maximum 25 points)**15****4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT****4.2.1 NESTING OF COLONIAL WATERBIRDS**

Status	Name of species	Source of Information	Score
Currently nesting			50 points
Known to have nested within past 5 years			25
Active feeding area (great blue heron excluded)			15
None known			0

Attach documentation (nest locations etc., if known)

Colonial Waterbirds Score (maximum 50 points)**0****4.2.2. WINTER COVER FOR WILDLIFE**

(Check only highest level of significance)

Score (one only)

1)	<input type="checkbox"/>	Provincially significant	100
2)	<input type="checkbox"/>	Significant in Site Region	50
3)	<input type="checkbox"/>	Significant in Site District	25
3)	<input type="checkbox"/>	Locally significant	10
4)	<input checked="" type="checkbox"/>	Little or poor winter cover present	0

Source of information: Field Observations - Very little treed/tall shrub habitat within wetland compared to surrounding landscape.**Winter Cover for Wildlife Score (maximum 100 points)****0**

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur		10		10
5) Not possible		0		0
6) Not known	X	0	X	0
Total:	0		0	

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

0

4.2.4 WATERFOWL BREEDING

	(Check only highest level of significance)	Score
1)	Provincially significant	100
2)	Regionally significant	50
3)	X Habitat suitable	10
4)	Habitat not suitable	0

Source of information:

Field Observations (NRSI 2010)

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

	(check highest applicable category)	Score
1)	Provincially significant	100
2)	Significant in Site Region	50
3)	Significant in Site District	10
4)	X Not significant	0

Source of information:

OMNR Values Map (Junen 25, 2010)

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

4.2.6 UNGULATE HABITAT**EVALUATION**

Score (1) + (2) + one of (3) to (6)

			Score
(1)	<input type="text"/>	Ungulate summer cover	15 points
(2)	<input type="text"/>	Mineral licks	50
(3)	<input checked="" type="text"/>	Moose aquatic feeding area Class 1	0
(4)	<input type="text"/>	Moose aquatic feeding area Class 2	10
(5)	<input type="text"/>	Moose aquatic feeding area Class 3	20
(6)	<input type="text"/>	Moose aquatic feeding area Class 4	35

(Score is cumulative for a maximum possible score of 100)

Ungulate Habitat Score (maximum 100 points)**0****4.2.7 FISH HABITAT****4.2.7.1 Spawning and Nursery Habitat****Table 5. Area Factors for Low Marsh, High Marsh, and Swamp Communities.**

No. of ha of Fish Habitat	Area Factor
< 0.5 ha	0.1
0.5- 4.9	0.2
5.0- 9.9	0.4
10.0- 14.9	0.6
15.0 -19.9	0.8
20.0+ ha	1.0

Step 1: Fish habitat is not present within the wetland (Score = 0) Fish habitat is present within the wetland (Go to Step 2)**Step 2:**

Choose only one option

- 1) Significance of the spawning and nursery habitat within the wetland is known (Go to Step 3)
- 2) Significance of the spawning and nursery habitat within the wetland is not known (Go through Steps 4, 5, 6 and 7)

Step 3: Select the highest appropriate category below attach documentation:

- 1) ☐ Significant in Site Region 100 points
- 2) ☐ Significant in Site District 50
- 3) ☐ Locally Significant Habitat (5.0+ ha) 25
- 4) ☐ Locally Significant Habitat (<5.0 ha) 15

Score for Spawning and Nursery Habitat (maximum score 100 points)

0

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

☐ Low marsh not present (Continue to Step 5)

☒ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass	X	1.45	0.2	6 pts	1.2
2	Shortgrass-Sedge	X	3.75	0.2	11	2.2
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Total Score (maximum 75 points)						3.4

Step 5: (**High Marsh:** area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

High marsh not present (Continue to Step 6)

X High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community. Check the appropriate Vegetation Group for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed	X	0.48	0.1	5	0.5
Total Score (maximum 25 points)						0.5

Step 6: (**Swamp:** Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

Swamp containing fish habitat not present (Continue to Step 7)

Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded	X	0.68	0.2	10	2.0
Permanently flooded				10	0.0
SCORE (maximum 20 points)					2.0

Step 7: Calculation of final scoreScore for Spawning and Nursery Habitat (Low Marsh) (maximum 75) = 3.4Score for Spawning and Nursery Habitat (High Marsh) (maximum 25) = 0.5Score for Swamp Containing Fish Habitat (maximum 20) = 2.0**Sum (maximum score 100 points) =****6**4.2.6.2 Migration and Staging Habitat**Step 1:**

- 1) X Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.**Step 2:** Select the highest appropriate category below, attach documentation:

- | | Score |
|--|-----------|
| 1) <u> </u> Significant in Site Region | 25 points |
| 2) <u> </u> Significant in Site District | 15 |
| 3) <u> </u> Locally Significant | 10 |
| 4) <u> </u> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Fish Migration and Staging Habitat (maximum score 25 points)**0****Step 3:** Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). Note name of river for 2) and 3).

- | | Score |
|--|-----------|
| 1) <u> </u> Wetland is riverine at rivermouth or lacustrine at rivermouth | 25 points |
| 2) <u> </u> Wetland is riverine, within 0.75 km of rivermouth | 15 |
| 3) <u> </u> Wetland is lacustrine, within 0.75 km of rivermouth | 10 |
| 4) <u> </u> Fish staging and/or migration habitat present, but not as above | 5 |

Score for Staging and Migration Habitat (maximum score 25 points)**0**

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland type/total area of wetland)

	Fractional Area			Scoring
Bog		x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl	0.59	x	20 =	11.8
Fen, on limestone rock		x	5 =	0.0
Swamp	0.11	x	3 =	0.3
Marsh	0.30	x	0 =	0.0
Sub Total:				12.1

Ecosystem Age Score (maximum 25 points)**12****4.4 GREAT LAKES COASTAL WETLANDS****Score for coastal (see text for definition) wetlands only**

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)**0**

5.0 EXTRA INFORMATION**5.1 PURPLE LOOSESTRIFE**X Absent/Not seen Present(a) One location in wetland
Two to many locations

Abundance code

(b) (1 < 20 plants
(2 20-99 plants
(3 100-999 plants
(4 >1000 plants **5.2 SEASONALLY FLOODED AREAS**

Indicate length of seasonal flooding

Check one or more

Ephemeral

(less than 2 weeks)

Temporal

(2 weeks to 1 month)

Seasonal

(1 to 3 months) X

Semi-permanent

(>3 months) X No seasonal flooding **5.3 SPECIES OF SPECIAL SIGNIFICANCE****5.3.1 Osprey**Present and nesting (attach map showing nest site) Known to have nested in last 5 yr Feeding area for osprey Not as above X **5.3.2 Common Loon**Nesting in wetland (attach map showing nest site) Feeding at edge of wetland

Observed or heard on lake or

river adjoining the wetland Not as above X

INVESTIGATORS**AFFILIATION**

Lisa Keable

Natural Resource Solutions Inc.

Derek Goertz

Natural Resource Solutions Inc.

DATES WETLAND VISITED

September 6, 2010

DATE THIS EVALUATION COMPLETED:**ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"**

16 hours (2 people between 0800 and 1600hrs)

WEATHER CONDITIONS

i) at time of field work

14°C, 90% Cloud cover, no precipitation, wind = 4 (E) (Beaufort Scale)

ii) summer conditions in general

Summer conditions were dry and hot, however substantial rainfall over last few days prior to site visits.

OTHER POTENTIALLY USEFUL INFORMATION:**CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:**

Lists of all flora and fauna observed in the wetland.

WETLAND EVALUATION SCORING RECORD

WETLAND NAME

Question Mark Wetland Complex

1.0 BIOLOGICAL COMPONENT1.1 PRODUCTIVITY

1.1.1 Growing Degree-Days/Soils

11

1.1.2 Wetland Type

9

1.1.3 Site Type

2

Total for Productivity

22

1.2 BIODIVERSITY

1.2.1 Number of Wetland Types

20

1.2.2 Vegetation Communities (maximum 45)

7

1.2.3 Diversity of Surrounding Habitat (maximum 7)

6

1.2.4 Proximity to Other Wetlands

8

1.2.5 Interspersion

9

1.2.6 Open Water Type

30

Total for Biodiversity

80

Sub Total for Biodiversity

80

1.3 SIZE (Biological Component)

9

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)

111

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	0
2.1.2 Lowbush Cranberry	2
2.1.3 Wild Rice	0
2.1.4 Commercial Fish	12
2.1.6 Furbearers	3

Total for Economically Valuable Products **17**

2.2 RECREATIONAL ACTIVITIES (maximum 80) **8**

2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	0
2.3.2 Absence of Human Disturbance	4

Total for Landscape Aesthetics **4**

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies (maximum 12)	0

Total for Education and Public Awareness **0**

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT **4**

2.6 OWNERSHIP **8**

Subtotal for Social Component **29**

2.7 SIZE (Social Component) **2**

2.8 ABORIGINAL AND CULTURAL VALUES (maximum 30) **30**

TOTAL FOR SOCIAL COMPONENT (not to exceed 250) **73**

3.0 HYDROLOGICAL COMPONENT3.1 FLOOD ATTENUATION

46

3.2 GROUNDWATER RECHARGE

3.2.1 Site Type

20

3.2.2 Soils

4

Total for Groundwater Recharge

24

3.3 WATER QUALITY IMPROVEMENT

3.3.1 Watershed Improvement Factor

29

3.3.2 Adjacent and Watershed Land Use

17

3.3.3 Vegetation Form

8

Total for Water Quality Improvement

54

3.4 CARBON SINK

9

3.5 SHORELINE EROSION CONTROL

0

3.6 GROUNDWATER DISCHARGE

15

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)

148

4.0 SPECIAL FEATURES4.1 RARITY

4.1.1 Wetlands		20
4.1.2 Species		
4.1.2.1 Endangered or Threatened Species Breeding	0	
4.1.2.2 Traditional Use by Endangered or Threatened Species	0	
4.1.2.3 Provincially Significant Animals	0	
4.1.2.4 Provincially Significant Plants	50	
4.1.2.5 Regionally Significant Species	0	
4.1.2.6 Locally Significant Species	0	
4.1.2.7 Species of Special Status	15	
Total for Species Rarity		65

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds	0	
4.2.2 Winter Cover for Wildlife	0	
4.2.3 Waterfowl Staging and Moulting	0	
4.2.4 Waterfowl Breeding	10	
4.2.5 Migratory Passerine, Shorebird or Raptor Stopover	0	
4.2.6 Ungulate Habitat	0	
4.2.7 Fish Habitat	6	
Total for Significant Features and Habitat		16

4.3 ECOSYSTEM AGE 124.4 GREAT LAKES COASTAL WETLANDS 0

<u>TOTAL FOR SPECIAL FEATURES (maximum 250)</u>	<u>113</u>
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SUMMARY OF EVALUATION RESULT

Wetland	Question Mark Wetland Complex
TOTAL FOR 1.0 BIOLOGICAL COMPONENT	111
TOTAL FOR 2.0 SOCIAL COMPONENT	73
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT	148
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	113
	<u>WETLAND TOTAL</u>
	444

INVESTIGATORS

Lisa Keable
Derek Goertz
Katharina Walton (evaluation revision, March 2012)

AFFILIATION

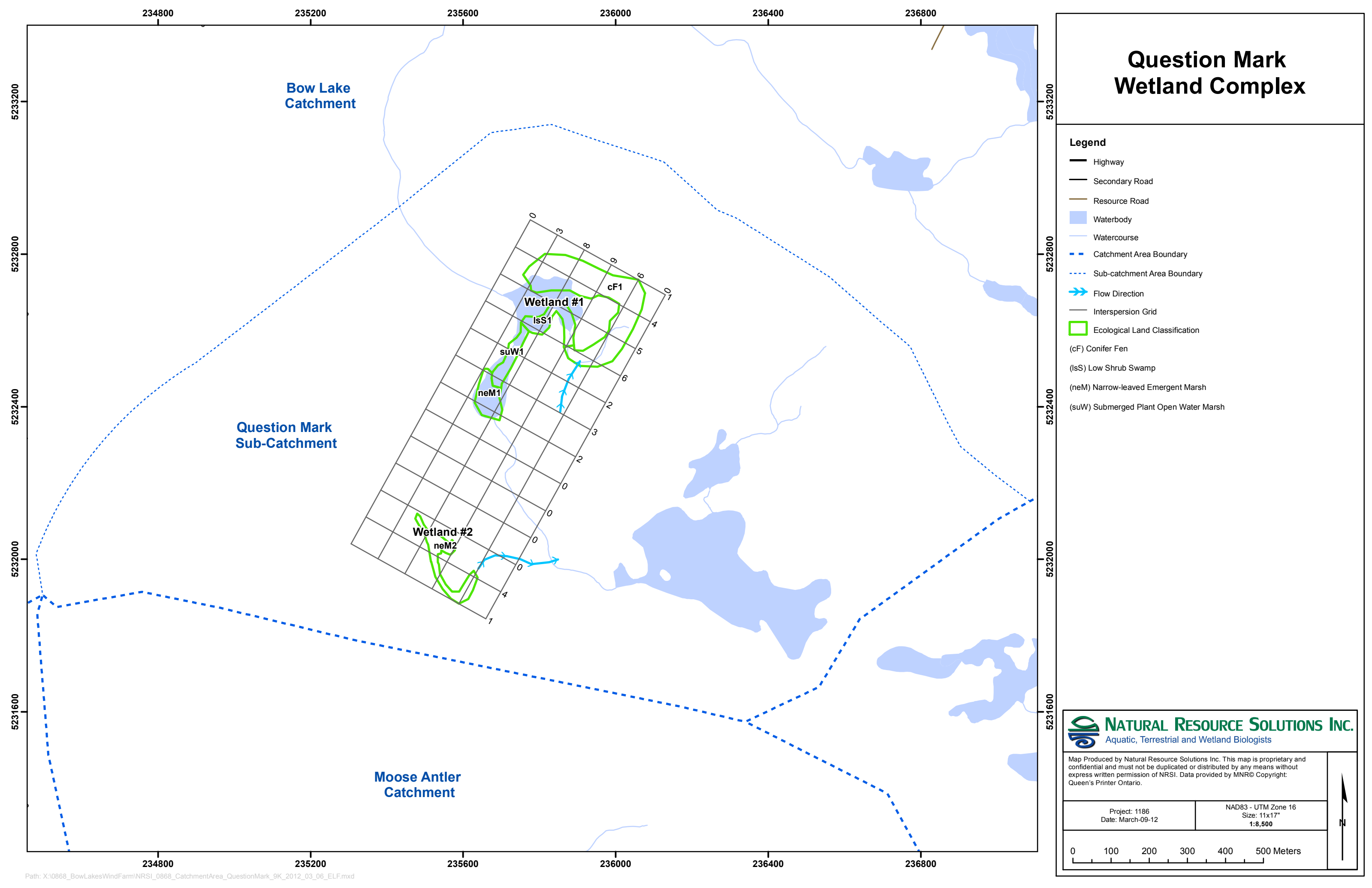
Natural Resource Solutions Inc.
Natural Resource Solutions Inc.
Natural Resource Solutions Inc.

DATE November 20, 2010

Data Summary Form

Wetland: Question Mark Wetland Complex

Wetland Type	Wetland Unit	Map Code	Field Code	# Forms	Dominant Form	Forms	% Open Water	Area (ha)	Open Water (ha)	Soils	Site Type	Fish Habitat
Swamp	1	neM1	Wet-009	5	ne	dc, gc, m, su	35	0.62	0.22	Clay/loam	Palustrine	LM
	1	lsS1	lsm	3	ls	ne, m	10	0.68	0.07	Organic (M)	Palustrine	Yes - swamp
Fen	1	cF1	Cedar S	3	c	ls, ne, m	25	3.75	0.94	Organic (F)	Palustrine	LM
Marsh	1	suW1	suW	1	su		90	0.48	0.43	Silt	Palustrine	HM
	2	neM2	17	2	ne	gc	30	0.83	0.25	Silt/Sand	Palustrine	LM



Map Legend

Map Code	Wetland Type	Forms	Dominant Species
neM1	Marsh	ne, gc	<i>Scirpus</i> spp. , <i>Agrostis</i> spp.; St. John's-wort spp.
neM2	Marsh	dc, ne, gc, m, su	Dead black spruce (<i>P. mariana</i>); Canada blue joint (<i>C. canadensis</i>), Bottlesedge (<i>C. utriculata</i>); Marsh st. john's-wort (<i>T. fraseri</i>); <i>S. girgensohnii</i>
cF1	Fen	c, ls, ne, m	Eastern white cedar (<i>Thuja occidentalis</i>); Sweetgale (<i>M. gale</i>); <i>Carex</i> spp., Bog rosemary (<i>Andromeda polifolia</i> ssp. <i>glaucophylla</i>); <i>Sphagnum magellanicum</i> , <i>S. girgensohnii</i> , <i>Sphagnum</i> spp.
lsS1	Swamp	ls, ne, m	Sweetgale (<i>M. gale</i>); Canada blue joint (<i>C. canadensis</i>), Bottlesedge (<i>C. utriculata</i>); <i>S. girgensohnii</i>
suW1	Marsh	su	Bladderwort (<i>Utricularia intermedia</i>)

BOTANICAL NAME		COMMON NAME	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	Observations
	SOURCE		MNR RARE 4th Ed. 2009	SARO List	SARA Registry	NRSI (2010)
<u>PTERIDOPHYTES</u>		<u>FERNS & ALLIES</u>				
Dryopteridaceae		Wood Fern Family				
<i>Dryopteris</i>	<i>intermedia</i>	Evergreen Wood Fern	S5			X
<i>Onoclea</i>	<i>sensibilis</i>	Sensitive Fern	S5			X
Lycopodiaceae		Clubmoss Family				
<i>Lycopodiella</i>	<i>inundata</i>	Nothern Bog Club-moss	S5			X
<u>GYMNOSPERMS</u>		<u>CONIFERS</u>				
Cupressaceae		Cedar Family				
<i>Thuja</i>	<i>occidentalis</i>	Eastern White Cedar	S5			X
Pinaceae		Pine Family				
<i>Abies</i>	<i>balsamea</i>	Balsam Fir	S5			X
<i>Larix</i>	<i>laricina</i>	Tamarack	S5			X
<i>Picea</i>	<i>mariana</i>	Black Spruce	S5			X
<u>DICOTYLEDONS</u>		<u>DICOTS</u>				
Asteraceae		Composite or Aster Family				
<i>Eupatorium</i>	<i>maculatum ssp. maculatum</i>	Spotted Joe-pye-weed	S5			X
<i>Euthamia</i>	<i>graminifolia</i>	Flat-topped Bushy Goldenrod	S5			X
<i>Symphyotrichum</i>	<i>puniceum var. puniceum</i>	Purple-stemmed Aster	S5			X
Balsaminaceae		Touch-me-not Family				
<i>Impatiens</i>	<i>capensis</i>	Spotted Touch-me-not	S5			X
Betulaceae		Birch Family				
<i>Alnus</i>	<i>incana spp. rugosa</i>	Speckled Alder	S5			X
Caprifoliaceae		Honeysuckle Family				
<i>Symphoricarpos</i>	<i>albus</i>	Snowberry	S5			X
Droseraceae		Sundew Family				
<i>Drosera</i>	<i>rotundifolia</i>	Round-leaved Sundew	S5			X

Ericaceae		Heath Family				
<i>Andromeda</i>	<i>polifolia ssp. glaucophylla</i>	Bog Rosemary	S5			X
<i>Chamaedaphne</i>	<i>calyculata</i>	Leatherleaf	S5			X
<i>Kalmia</i>	<i>polifolia</i>	Bog Laurel	S5			X
<i>Ledum</i>	<i>groenlandicum</i>	Labrador-tea	S5			X
<i>Vaccinium</i>	<i>oxycoccos</i>	Small Cranberry	S5			X
Guttiferae		St. John's-wort Family				
<i>Triadenum</i>	<i>fraseri</i>	Fraser's St. John's-wort	S5			X
Hippuridaceae		Mare's-tail Family				
<i>Hippuris</i>	<i>vulgaris</i>	Common Mare's-tail	S5			X
Lamiaceae		Mint Family				
<i>Lycopus</i>	<i>uniflorus</i>	Northern Water-horehound	S5			X
<i>Scutellaria</i>	<i>galericulata</i>	Hooded Skullcap	S5			X
Lentibulariaceae		Bladderwort Family				
<i>Utricularia</i>	<i>intermedia</i>	Flat-leaved Bladderwort	S5			X
Myricaceae		Wax-myrtle Family				
<i>Myrica</i>	<i>gale</i>	Sweet Gale	S5			X
Nymphaeaceae		Water-lily Family				
<i>Nuphar</i>	<i>variegata</i>	Bulhead Pond-lily	S5			X
<i>Nymphaea</i>	<i>odorata</i>	Fragrant Water-lily	S5			X
Rosaceae		Rose Family				
<i>Rubus</i>	<i>idaeus ssp. melanolasius</i>	Wild Red Raspberry	S5			X
Violaceae		Violet Family				
<i>Viola</i>	spp.					X
MONOCOTYLEDONS		MONOCOTS				
Cyperaceae		Sedge Family				
<i>Carex</i>	<i>gynandra</i>	Nodding Sedge	S5			X
<i>Carex</i>	<i>utriculata</i>	Beaked Sedge	S5			X
<i>Dulichium</i>	<i>arundinaceum</i>	Reed-like Three-way Sedge	S5			X

<i>Eleocharis</i>	<i>spp.</i>					X
<i>Eriophorum</i>	<i>virginicum</i>	Virginia Cotton-grass	S5			X
<i>Scirpus</i>	<i>spp.</i>					X
<i>Scirpus</i>	<i>cyperinus</i>	Wool-grass	S5			X
Eriocaulaceae		Pipewort Family				
<i>Eriocaulon</i>	<i>aquaticum</i>	Seven-angled Pipewort	S5			X
Iridaceae		Iris Family				
<i>Iris</i>	<i>versicolor</i>	Multi-coloured Blue-flag	S5			X
Juncaceae		Rush Family				
<i>Juncus</i>	<i>brevicaudatus</i>	Short-tailed Rush	S5			X
<i>Juncus</i>	<i>effusus ssp. solutus</i>	Soft Rush	S5			X
Poaceae		Grass Family				
<i>Agrostis</i>	<i>spp.</i>					X
<i>Calamagrostis</i>	<i>canadensis</i>	Blue-joint Grass	S5			X
<i>Glyceria</i>	<i>canadensis</i>	Rattlesnake Grass	S4S5			X
Sparganiaceae		Bur-reed Family				
<i>Sparganium</i>	<i>americanum</i>	Nuttall's Bur-reed	S4?			X
<i>Sparganium</i>	<i>fluctuans</i>	Floating Bur-reed	S4?			X
<u>BRYOPHYTES</u>						
Sphagnaceae						
<i>Sphagnum</i>	<i>spp.</i>					X
<i>Sphagnum</i>	<i>girgensohnii</i>	Common Green Peat Moss	S5			X
<i>Sphagnum</i>	<i>magellanicum</i>	Midway Peat Moss	S5			X

Wildlife Observations

Includes tracks and signs

Common Name

Scientific Name

Mammals

Muskrat

Ondatra zibethicus

Amphibians

Wood frog

Rana sylvatica



Natural Resources Department
BNR

BATCHEWANA FIRST NATION OF OJIBWAYS

RANKIN RESERVE 15 D
GOULAIS BAY RESERVE 15 A
OBADJIWAN RESERVE 15 E
WHITEFISH ISLAND 15

Administration Office: 236 Frontenac Street
Rankin Reserve 15D
Batchewana Territory, ON P6A 5K9
Ph: (705) 759-0914 / Fax: (705) 759-9171
www.batchewana.ca

November 17, 2010

Derek Goertz
Natural Resource Solutions Inc.
111 Elgin Street
Sault Ste. Marie, ON
P6A 6L6

Dear Derek:

Re: Site Evaluation for the Wetlands of Bow Lakes Wetlands

As per your request, BNR Field Technician, David Sewell has completed a site evaluation for the Two Wetlands in the vicinity of the proposed Bow Lake Wind Farm within Batchewana First Nation.

I have attached Dave's report that we are hope is going to be helpful to you. We also request that you provide a copy to your employee and any other necessary agencies that are involved with this project.

Thank you very much for requesting BFN participation. If you have any questions or need more information please contact Dave Sewell or myself at 705-759-0914.

Miigwetch,


Danny Sayers, JR. (BNR Manager)

c.c. Chief and Council
Dave Sewell (BNR Field Technician)
Vortex



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BNR Site Visit and Recommendations on Two Bow Lake Wetlands

On October 26, 2010 I visited the area of the Bow Lake Wind Farms to take a look at the wetlands in that area. There are two big pieces of wetland, one to the north of Bow Lake and, one to the south of Bow Lake. There are a few smaller pieces of wetland around Negick Lake which is within the Wind Farm area. From what I seen these wetlands play an important role to the surrounding area. These wetlands are nature's way of filtering the water which the animals drink (and sometimes humans). In this area there are a lot of animals such as the moose, deer, bear, wolves, foxes, beaver and a lot of other smaller animals. There is plenty of plant life around the wetlands that animals and aquatic life use as food and others use as their homes. There are also a lot of plants that we (BFN) use for medicines. The loss of these wetlands will have on huge burden on the BFN community and the surrounding area that may have irreversible damage.

Recommendations:

- I believe that these wetlands are very valuable to the surrounding area, environment, wild life and BFN reliance on the land and resources to sustain our cultural activities.
- The Bzhki Ziibi (Montreal River) has and continues to be valuable resources to BFN community members to access, for harvest and manage our Natural Resources that include but not limited to hunting, fishing, cultural sites.
- More BFN field work is needed to provide a complete evaluation and values of these wetlands.

It is my recommendation that Batchewana First Nation should be a part of any Environmental Evaluations from the beginning stages. It is very important to have BFN participation in order to understand and/or to receive appropriate data related to direct impacts and/or values. BNR field Technician is requesting that any future work in our Territory involves our participation which includes but not limited to; covering the cost associated with providing BFN involvement. It's essential for the government, Industry, and contractors to budget for First Nation participation because it becomes costly to our First Nation departments to complete these tasks in a manner that the community will accept. Without BFN reasonable participation in future Environmental Evaluations or Environmental Impacts studies, BFN will not endorse or except the final copies of those reports.

Dave Sewell
BNR Field Technician