

Significant Wildlife Habitat Form

AZCOM

Study Area:	BLW	JER	GSH	Map #:	209-GSH1066
Date:	2012-07-04			Time Started:	2:30 p.m.
Field Staff:	Tom Shorney, Jess Piette			Time Finished:	4:20 p.m.
Weather Conditions:	Sunny, 33°C				

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD)

Nest bowls present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Number of nests: _____

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____

Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1)

Standing water present: ☐ No ☒ Yes (if yes, photograph and complete the following)

UTMs: _____ Area of standing water delineated on field map: _____

Water depth (m): 40m % open water: 100 % emergent vegetation: _____

Description of standing water (permanent pool, evidence of annual spring flooding, etc): Permanent

Area and soil/substrate of shoreline habitat: gravel road / clay substrate

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: 60% cover → 70% pines, 10% grass cover.

Evidence of disturbance (e.g. cattle grazing): Forest management / Beavers / Low intensity

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: Evidence of nesting turtles within grass drainage along pond. → had we talked to the farmer who had mentioned seeing all of the turtles.

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

Fissured rock/foundation or rock/debris pile present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Likelihood to extend below frost line: _____

% canopy cover: _____ % slope: _____ Distance to open canopy (m): _____

Description of fissure or stone pile (composition/material, dimensions, etc): _____

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs (FOC, FOM, FOD, SWC, SWM, SWD)

Evidence of seep or spring: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

(CUM1, CUT1, CUS, BLS1, BLT1, CLO1, CLS1, CLT1)

Eroding bank, sandy hill, pits, steep slope or rock face present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Location (e.g. aggregate pit, bridge): _____

Evidence of use by bank or cliff swallows (provide number of nests): _____

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

(BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)

Shoreline of lake, large river or large wetland present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

Evidence of disturbance (e.g. cattle grazing): _____

Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover): _____

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat

CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW>15ha

Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:

Large open habitat present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Evidence of disturbance (e.g. cattle grazing): _____

Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation): _____

Old-growth or Mature Forests, Interior Forest Breeding Birds

(FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)

Mature forest present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Age of oldest trees: _____

Evidence of disturbance (e.g. selective cutting): _____

Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc): _____

Photo #	Location or Subject	Photo #	Location or Subject

Refer to previously completed Forms

Jericho

Time Started: 2:30
Time Finished: 4:20

209-65-1066
2012-07-04

Tom Shorney
Test field

Time Started:
Time Finished:



Note:		Evidence Codes (EV)		SH=Suitable Habitat, SM=Singing Male; T=Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest; A=Anxiety Behavior; DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Feeds/Faecal sack, AE=Nest Entry OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/young, TK=tracks, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)	
	Breeding Bird (Possible)				
	Breeding Bird (Probable)				
	Breeding Bird (Confirmed)				
Other Wildlife Evidence:					
PLANTS					

Stronger Evidence:

Scat=Scat, SI=Other signs (specify)

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Eastern Green-Violet (Hybanthus concolor) - S2 Bloom Time - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	ALT1, FOD7	Y N UTM:
Green Dragon (Arisaema dracontium) - SC/S3 Bloom Time - May and June	Species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	FOD6, FOD7, FOD9	Y N UTM:
Harbinger-of-spring (Erigenia bulbosa) - S3 Bloom Time - early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	FOD6, FOD7, FOD8, FOD9	Y N UTM:
Hazel Dodder (Cuscuta coroll) -SH	Occurs in open, moist tall-grass prairie and meadows - parasitic on Aster, Heliopsis, Monarda, Rubus, Solidago.	RBO, TPO2, CUM1	Y N UTM:
Leonard's Small Skullcap (Scutellaria parvula) -S3 Bloom Time - late Spring to early Summer	Occurs on open, rocky ground and prairies.	ALO, TPO	Y N UTM:
Mead's Sedge (Carex meadii) -S2 Bloom Time -late spring to early summer	Occurs in prairies and moist or dry open areas.	TPO, CUM1	Y N UTM:
Ovate Beak Grass -S1 Bloom Time- mid Summer	prefers riparian woodlands ¹⁴ ; floodplain swamps and river banks.	FOD6, FOD7, FOD8, SWD	Y N UTM:
Pawpaw (Asimina triloba) -S3 Bloom Time - March-May	Occurs in moist deciduous woods and stream banks.	FOD6, FOD7, FOD9	Y N UTM:
Perfoliate Tinker's-weed (Tricostemum perfoliatum) - S1 Bloom Time - May, June, July	Grows in rich, deciduous woods.		Y N UTM:
Pumpkin Ash (Fraxinus profunda) - S2?	This species is a wetland obligate and only grows in bottomland swamps and floodplains. Distinctive Feature: the base of the trunk swells outward, resembling a pumpkin in larger trees.		Y N UTM:
Riddell's Goldenrod (Oligoneuron riddellii)-SC	Riddell's Goldenrod grows in wet habitats such as wet marshes, moist prairies, fens, old fields and seepy banks.	ALO, TPO, CUM1	Y N UTM:
Sheilbark Hickory (Carya lachnosa) - S3	Typically found in wet or wet-mesic deciduous forests and along stream banks. Similar Species: Shagbark Hickory. Distinctive Feature: Larger leaves and leaflets of 7.		Y N UTM:
Shumard Oak (Quercus shumardii) -SC	Species inhabits mesic and mesic -hydric sites on clay and clay-loam soils with poor drainage.		Y N UTM:
Slim-flowered Muhly (Muhlenbergia tenuiflora) - S2	Found in rich deciduous forest dominated by either oak or beech-maple. It can also occur on rocky or sandy soils, wooded dunes, hillsides, and riverbanks.	SDT1, FOD5, FOD9	Y N UTM:
Southern Tickseed (Bidens coronata)-S2	Inhabits dry to moist sandy fields and sandy openings in prairies.	TPO, CUM1	Y N UTM:
Stiff Gentian (Gentianella quinquefolia) - S2 Bloom Time - late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Y N UTM:
Stiff Goldenrod (Solidago rigida) -S3 Bloom Time- early June to end of November	Occurs on dry open ground, particularly in prairie remnants; along roadsides and railway, and waste places.	TPO1, CUM1	Y N UTM:
Tail Tickseed (Coreopsis tripteris)-S2 Bloom Time-late summer to early fall.	Occurs in prairies and open woods, and thickets.	TPO, TPS, TPW, FOD1, FOD2, FOD3, FOD4, FOD5, CUT1	Y N UTM:
Winged -Loosestrife (Lythrum alatum)-S3 Bloom Time- mid to late summer	found in prairies, meadows, open woods, thickets and wet disturbed areas.	TPO, CUM1, FOM, FOD, CUM1, CUT1, MAM2	Y N UTM:
Woodland Bulrush (Scirpus expansus) - S1	Grows in seepage areas, stream banks, and marshes. It is predominately found in the Asuaque River.		Y N UTM:
MAMMALS			
Little Brown Bat (Myotis lucifugus)-SC	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
	This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.	FOD, SWD	Y N UTM:
Northern Long-eared Bat (Myotis septentrionalis)-SC	The Northern Long-eared Bat roosts and hibernates in mines, caves, and man-made structures but prefers hollow trees in wooded areas	FOD, SWD	Y N UTM:
Tri-colored Bat (Perimyotis subflavus)-SC	The Tricoloured Bat is one of the common bats in Ontario. It prefers to roost in trees, cliff crevices, and caves usually in open woodlands that are near water	FOD, SWD	Y N UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Woodland Voie (<i>Microtus phaeatorum</i>)-SC	The Woodland Voie inhabits mature deciduous forests where it can burrow into loose sandy soils and deep humus. Other habitats also include grasslands, meadows, and orchards	FOD	Y N UTM:
REPTILES			
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	MAM, MAS	not required.
Northern Map Turtle (<i>Graptemys geographica</i>) -SC	Large water bodies with soft bottoms & aquatic veg; basks on logs, rocks, beaches, grassy edges; may nest at some distance from water; aquatic corridors (e.g. stream) required for movement.	CUM, CUT	not required.
		OAD, SA	Y N UTM:
INSECTS			
Azure Bluet (<i>Enallagma aspersum</i>)- S3	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
	Found in fishless ponds and other small water bodies. Distinctive Features: Male - Large Blue eyespot and mostly black dorsal surface on abdomen with a blue tip; Females: Green eyespots and almost all black dorsal surface and black tip. Similar Species: Common Blue Damselfly - has more blue than black on abdomen. Found in streams and rivers of small to medium size and where there is dense herbaceous vegetation along the banks or shores. Inhabits small to medium, slow flowing sandy or rocky streams or large rivers in quite open areas or with wooded banks.	OAD	Y N UTM:
Blue-ringed Dancer (<i>Argia sedula</i>) - S2			Y N UTM:
Dusky Dancer (<i>Argia translata</i>) -S3		OAD, SA, SWM, SWD	Y N UTM:
BIRDS			
Bald Eagle (<i>Haliaeetus leucocephalus</i>)-SC	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Hooded Warbler (<i>Wilsonia Citrina</i>) - SC	Assessed as SWH. Record species if found. An area-sensitive species requiring large tracts of mature, closed canopy, deciduous forests. They generally nest above ground and prefer forests with tall trees that are along stream bottoms or at ravine edges. Mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration.	-	not required.
		-	Y N UTM:
Louisiana Waterthrush (<i>Seiurus motacilla</i>) -SC		FOD, FOM	Y N UTM:



(Sw) GE64 Turbine ELC Completed July 12/11 -JP

210- GSH 1022/1023/1024/1025

210- GSH 1022/1023/1024/1025

Goshen Access Road / Collection Lines



- Roads
- Access/Collection Line
- No Access (as of August 2011)
- Access
- ELC to Evaluate
- Waterbodies
- Goshen Wind Energy Centre
- 120m Buffer



Site: 65H 1075/1090/1022 Polygon: 1032
Surveyor(s): SAM Date: Aug. 11/11 Time start: 1730h finish: 1730h
UTMZ: 17T UTMZ: wp 193 2194

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
☒ Terrestrial ☐ Wetland ☐ Aquatic	☐ Organic ☒ Mineral Soil ☐ Parent Min. ☐ Acidic Bedrk ☐ Basic Bedrk ☐ Carb. Bedrk	☐ Lacustrine ☒ Riverine ☐ Bottomland ☐ Terrace ☐ Valley Slope ☐ Tableland ☐ Roli. Upland ☐ Cliff ☐ Talus ☐ Crevice/Cave ☐ Alvar ☐ Rockland ☐ Beach / Bar ☐ Sand Dune ☐ Bluff	☐ Plankton ☐ Submerged ☐ Floating-LVD. ☐ Graminoid ☐ Forb ☐ Lichen ☐ Bryophyte ☒ Deciduous ☐ Coniferous ☐ Mixed	☐ Lake ☐ Pond ☐ River ☐ Stream ☐ Marsh ☐ Swamp ☐ Fen ☐ Bog ☐ Barren ☐ Meadow ☐ Prairie ☐ Thicket ☐ Savannah ☐ Woodland ☒ Forest ☐ Plantation
Site	☐ Open Water ☐ Shallow Water ☒ Surficial Dep. ☐ Bedrock			
History	☒ Natural ☒ Cultural			
Cover	☐ Open ☐ Shrub ☒ Treed			

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	Aw > Ew > MH
2	3	3	Crateagus mollis > Aw > Choke Cherry
3	5	2	Yellow Awns > Red Currant > Hay Apple > Tall Bushy
4	7-6	4	Pison W > Virginian Creeper > Red Ash > Sw. obav.

HT Codes: 7 < 0.2m 6 > 0.2-0.5m 5 > 0.5-1m 4 > 1-2m 3 > 2-6m 2 > 6-25m 1 > 25m
CVR Codes: 0 = none 10% - 10% 2 10 - 25% 3 25 - 60% 4 > 60%

Stand Composition: Size Class Analysis: A < 10 0 10-24 0 25-50 A > 50
Aw48-Ew35-MH 17 Standing Snags: 0 < 10 R 10-24 N 25-50 N > 50
BA: 23 Deadfall / Logs: R < 10 R 10-24 R 25-50 N > 50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age: ☐ Pioneer ☐ Young ☒ Mid-Age ☐ Mature ☐ Old Growth

Ecosite:	Dry-fresh Deciduous forest Ecosite	Code:	F04-4
Vegetation Type:	Dry-fresh white Ash-white Elm Deciduous forest Type	Code:	F04-2
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel Avg.
MH	2	2			4	17
Aw	6	5			11	48
Ew	4	4			8	35
Total					23	100
Basal Area (BA)	12	11			23	
Dead	24	22			46	23

Soils Ontario and ELC Soils Description

Site Metrics				Soils Ontario and ELC Soils Description				Summary	
Pit/Auger #									
UTM				Zone				Moisture Regime	
				Easting					
				Northing					
Slope				Position				Drainage	
				Aspect					
				Percent					
				Slope					
				Length					
Depth to...				Mottles					
				Gley					
				Water Table					
				Carbonates				Effective Texture (indicate below)	
				Bedrock					
1				Depth from zero		% CF		% CF	
Texture									
2				Depth from zero		% CF		% CF	
Texture									
3				Depth from zero		% CF		% CF	
Texture									
4				Depth from zero		% CF		% CF	
Texture									
% Surface Stone/Rock									
Moisture Regime									
Drainage									

210-GSH 1075/1090/1022

ELC Plant Species List	SITE: GSN 1090 Transmission
	POLYGON: (2)
	DATE: Aug. 11/11
	SURVEYOR(S): SAM.

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

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

[illegible][illegible]

ELC

Plant Species List

SITE: ~~XXXXXXXXXX~~ Transmission

POLYGON:

DATE:

SURVEYOR(S):

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

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
Mn	0				
PI				D	
PI					
PI					
An	D				
Thimbleweed					
PI Bk Rasp					
Shagbark					
Field Horsetail					
Mn					
Tassel					
Tell Good					
Apple					
Walnut					
Ragwort					
Cor. Thistle					
Pan. Aster.					
Eu	D				
Garlic Mustg.					
Bur Oak					
Yell. Anem.					
Turn Buttercup					
Prickly Gooseberry					
Choke Cherry					
Strawb.					
Grey Dogwood					
C. Yucca (English)					
Arnica					

[illegible]

1807h

Goshen Feature: 210 GSH1022

Nov 7, 2011

(Properties that contain Features within 125m from Collection lines and 171.5m from Turbines)

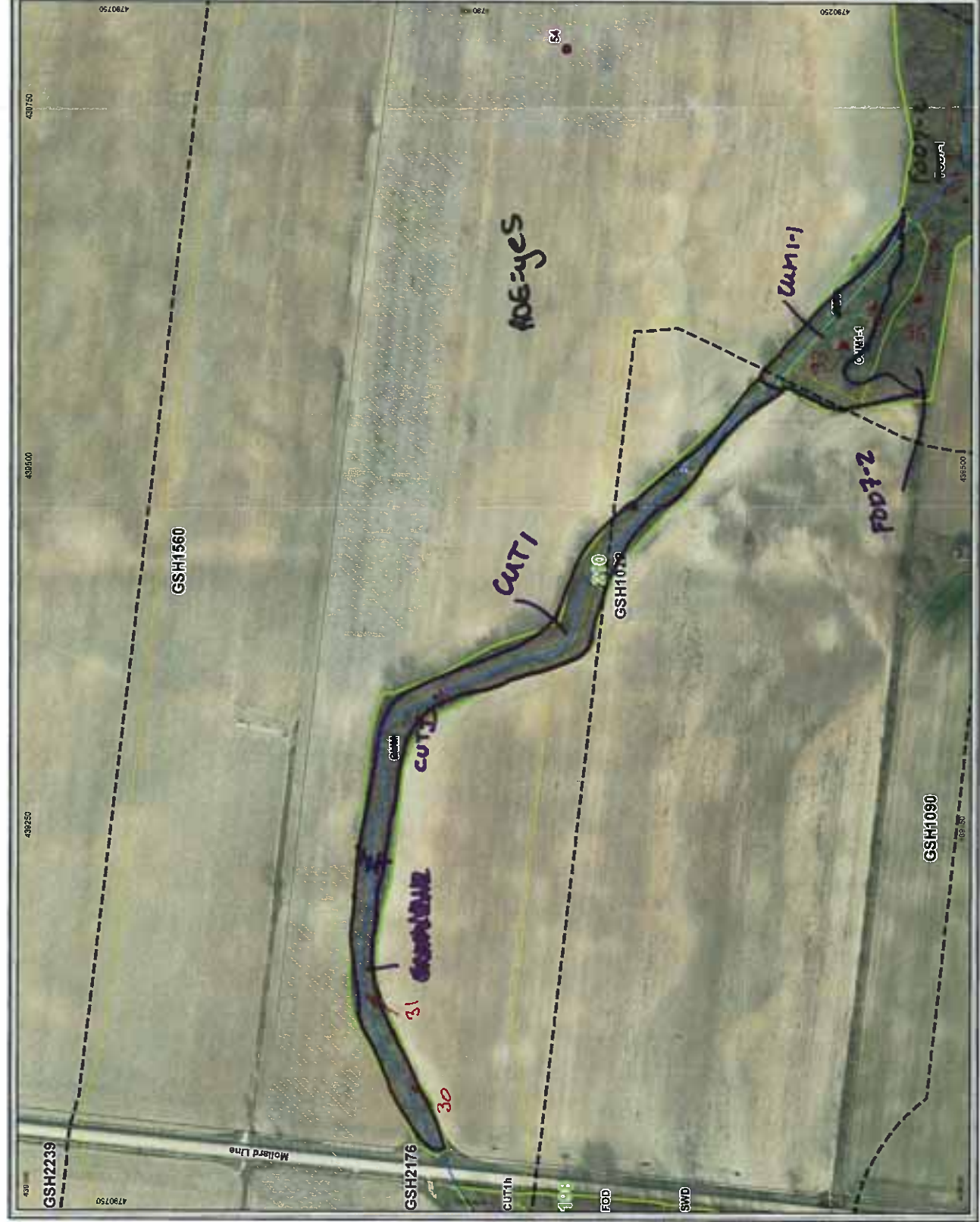
0 25 50 100 Meters

October 3, 2011



- Roads
- Access/Collection Line
- Survey to be Completed
- Turbine Buffer (171.5m)
- ELC Survey Completed
- Turbine Buffer/Feature Intersect
- Property Fabric
- Goshen Wind Energy Centre





- Legend**
- GE Turbine
 - Property Boundary
 - ELC Completed 2011
 - Natural Feature and ID
 - ELC Polygon Boundary
 - Disturbance Areas
 - Area of Disturbance, plus 10m
 - ANSI
 - Evaluated Wetlands - PSW
 - ABCA Watercourse



Base Mapping from Ontario Ministry of Natural Resources
Orthophotography 2010

UTM Zone 17N, NAD 83

0 25 50 100
Metres

1:2,000

This drawing has been prepared for the use of AECOM's client. It is not to be used for any other purpose without the written consent of AECOM. AECOM does not warrant the accuracy or completeness of the information provided herein, and it is the responsibility of the client to verify the accuracy and completeness of the information provided herein. AECOM accepts no liability for any loss or damage, whether direct or indirect, arising from the use of this drawing without AECOM's express written consent.

Goshan ELC Survey
210_GSH1022

April 2012
Project 80158032

AECOM

Figure 1

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<u>GSH</u>	Map #:	<u>210 6SH1022</u>
Date:	<u>2012-05-01</u>			Time Started:	<u>3:40 pm</u>
Field Staff:	<u>Tom Shorney Jess Piette</u>			Time Finished:	<u>5:40 pm</u>
Weather Conditions: <u>overcast 8°C, Light Wind</u>					

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD)

Nest bowls present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Number of nests: _____

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____

Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1)

Standing water present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Area of standing water delineated on field map: _____

Water depth (m): _____ % open water: _____ % emergent vegetation: _____

Description of standing water (permanent pool, evidence of annual spring flooding, etc): _____

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

Evidence of disturbance (e.g. cattle grazing): _____

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: _____

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

Fissured rock/foundation or rock/debris pile present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Likelihood to extend below frost line: _____

% canopy cover: _____ % slope: _____ Distance to open canopy (m): _____

Description of fissure or stone pile (composition/material, dimensions, etc): _____

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs (FOC, FOM, FOD, SWC, SWM, SWD)

Evidence of seep or spring: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

(CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)

Eroding bank, sandy hill, pits, steep slope or rock face present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs:

Location (e.g. aggregate pit, bridge):

Evidence of use by bank or cliff swallows (provide number of nests):

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

(BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)

Shoreline of lake, large river or large wetland present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs:

Rocky island or peninsula present:

Mudflat present:

Evidence of disturbance (e.g. cattle grazing):

Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover):

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat

CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW>15ha

Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:

Large open habitat present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs:

Evidence of disturbance (e.g. cattle grazing):

Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation):

Old-growth or Mature Forests, Interior Forest Breeding Birds

(FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)

Mature forest present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs:

Age of oldest trees:

Evidence of disturbance (e.g. selective cutting):

Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc):

Photo #	Location or Subject	Photo #	Location or Subject

A'CM

Field Staff:

21065H1072

1000

Time Started:

1

Date (vvvv-mm-dd):

2017-03-17

Dec 0.0

1

Time Finished:

14

Observed Species List

[illegible]

Note: Evidence Codes (EV) Breeding Bird (Possible) SH=Suitable Habitat SM=Singina Male:

Breeding Bird (Probable)

T-Territory D=Display P=Pair N=Nest Building V= Visiting Nest: A=Anxiety Behavior

Breeding Bird (Confirmed)
DD=Distraction MI=I lead ME=Elated Voice NF=Noise NVC=Non-Vocalization
 P=Perch, S=Song, T=Tail, N=Not Building, V=Visiting Nest, A=Altimely Behavior,
 = = = = =

Other Wildlife Evidence: OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/young, TK=tracks, FE=Feeding evidence, SC=Scat, SI=Other signs (specify)
Previous Bird Commitment: DD=Distracted, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Foodstuffs, AE=Nest Entry

11/11/11

ELC	PLANTS	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
	ALDZ	American Gromwell (<i>Lithospermum latifolium</i>) - S3 <u>Bloom Time</u> - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y N UTM: N/O
	ALO, TPO	Muehlenberg's astomum moss (<i>Astomum muehlenbergianum</i>) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y N UTM:
	FOM1, FOM2, CUP3	Autumn Coral-root (<i>Corallorhiza odontorhiza</i>) - S2 <u>Bloom Time</u> - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y N UTM:
	FOC, FOM, FOD	Burning Bush (<i>Euonymus atropurpureus</i>) - S3 Bloom <u>Time</u> - April - June	Species occurs in dry to moist deciduous thickets and woods	Y N UTM: N/O
	SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (<i>Corioselinum chinense</i>) - S2 <u>Bloom Time</u> - summer to fall	Swampy places with deciduous trees, white cedars, tamarack; springy river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes.	Y N UTM:
	SWC, SWM, SWD, SWT, MMAM, MAS	Crowned Beggarticks (<i>Bidens trichosperma</i>) - S2 <u>Bloom Time</u> - late summer	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian Bay. Bogs, fens, tamarack swamps.	Y N UTM:
	ALT1, FOD7	Eastern Green-violet (<i>Hybanthus concolor</i>) - S2 Bloom <u>Time</u> - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	Y N UTM: N/O
	TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (<i>Chenopodium foggi</i>) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y N UTM:
	TPD2, TPS2, TPW2,	Giant Ironweed (<i>Vernonia gigantea</i>) - S1? Bloom Time	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y N UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
CUM1, MAM, FOD6, FOD7, FOD9	June – August Green Dragon (<i>Arisaema dracontium</i>) - SC/S3 <u>Bloom Time</u> – May and June	Species found in <u>damp deciduous forest</u> and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	(Y) N UTM: N/O
TP01, TP51, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June-August Hairy Bedstraw (<i>Galium pilosum</i>) - S3 <u>Bloom Time</u> – June-August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	(Y) (N) UTM
FE01, FE51, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	June to August Hairy Valerian (<i>Valeriana edulis</i>) - S1 <u>Bloom Time</u> – June to August	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens.	(Y) (N) UTM
FOD6, FOD7, SWM, SWD	Summer Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 <u>Bloom Time</u> – Summer	<u>Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.</u>	(Y) N UTM: N/O
FOD6, FOD7, FOD8, FOD9	Time – early to late April Harbinger-of-spring (<i>Eriogonum bulbosum</i>) - S3 <u>Bloom Time</u> – early to late April	Occurs in rich, moist deciduous woods, especially on <u>floodplains.</u>	(Y) N UTM: N/O
SAS1, SAM1, SAF1	Time – summer Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/S2 <u>Bloom Time</u> – summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	(Y) (N) UTM
FOM6, FOM7, FOM8	June – August Large Round-leaved Orchid (<i>Platanthera macrophylla</i>) - S2 <u>Bloom Time</u> – June to August	Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands	(Y) (N) UTM
MAM2, MAM3, MAS2, MAS3, SWD	June – September Lizard's Tail (<i>Saururus cernuus</i>) - S3 <u>Bloom Time</u> – June – September	Species inhabits shores and streambanks along shallow water. As well as swamps, floodplains, shallow water and mudflats at the borders of streams and ponds	(Y) (N) UTM
FOD6, FOD7, FOD9	March-May Pawpaw (<i>Asimina triloba</i>) - S3 <u>Bloom Time</u> – March-May	Occurs in <u>moist, deciduous woods and stream banks</u>	(Y) N UTM: N/O
FOM8, FOD6, FOD7, FOD9, CUM1	Early Summer Pilos Evening Primrose (<i>Oenothera pilosella</i>) - S2 <u>Bloom Time</u> – Late Spring – Early Summer	<u>Moist edges of woods and open, disturbed ground</u>	(Y) N UTM: N/O
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	July-September Prostrate Tick-trefoil (<i>Desmodium rotundifolium</i>) - S2 <u>Bloom Time</u> – July-September	Dry, sandy or rocky woods	(Y) (N) UTM
FOD7, SWD	March – June Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? <u>Bloom Time</u> – March – June	<u>Swamps and floodplains</u>	(Y) N UTM: N/O
CUW1, ALO, FET1, SWC	June – mid June Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 <u>Bloom Time</u> – mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry-sandy woods, and limestone barren	(Y) (N) UTM
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	September Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 <u>Bloom Time</u> – April – September	Species inhabits open, dry sandy woods, Jack pine, oak, and aspen woodlands.	(Y) (N) UTM
FOD6, FOD7, FOD9	June – June Round-leaved Groundsel (<i>Packera obovata</i>) - S3 <u>Bloom Time</u> – May – June	<u>Found in moist woods</u>	(Y) N UTM: N/O
CUM1, CUT1, CUS1	June – June Round-leaved Hawthorn (<i>Crataegus lumarina</i>) - S3?	Species occurs in old fields, <u>poorly managed pastures</u> , fencelines and roadsides	(Y) N UTM: N/O
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	May to October Scarlet Beebalm (<i>Monarda didyma</i>) - S3 <u>Bloom Time</u> – May to October	Found in <u>moist, rich woods, thicket swamps, banks and floodplains.</u>	(Y) N UTM: N/O
ALO, ALS, ALT, TPO, TPS, TPW	June – late fall Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	(Y) (N) UTM
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	June – June Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows, at edges of sand pits	(Y) (N) UTM
SDT1, FOD5, FOD9	June – June Slim-flowered Mulberry (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks <u>whether in oak or beech-maple woods</u>	(Y) (N) UTM
BL01, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	June – late fall Stiff Gentian (<i>Gentiana quinquefolia</i>) - S2 <u>Bloom Time</u> – late summer to mid fall	Found in <u>moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides</u>	(Y) N UTM: N/O
TPS1, TPW1, CUW1, RBO, SBO	mid-March to mid-June Sundial Lupine (<i>Lupinus perennis</i>) - S3 <u>Bloom Time</u> – mid-March to mid-June	Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, Jack pine, and/or aspen	(Y) (N) UTM

Species Conservation Concern Habitat and Incidental Wildlife – Goshen

ADOM

ELC	Species	Description	Habitat Present (Y/N; UTM; description or habitat if present)
TP01, TPS1, TPW1, CUM1	Tall Blazing Star (<i>Liatris aspera</i>) - S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y (N) UTM:
FE0, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amoglossum plantaginifolium</i>) - S3 Bloom Time – mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y (N) UTM:
FOC1, FOC2, FOC3, FOC4	Woodland Pinedrops (<i>Pterospora andromedea</i>) - S2 Bloom Time – summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y (N) UTM:
(CUM4) CUT1, CUW1, RBO1, SBO1	Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time – August to November	Dry, open sites, usually on acidic sandy soil, dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y (N) UTM: N/O
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Selurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y (N) UTM:
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	Y (N) UTM:
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangled shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above-ground in bush, vines	Y (N) UTM: N/O
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) - S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM:
TPS, TPW	Sleepy Duskywing (<i>Erynnis brize</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles	Y (N) UTM:
(CUM) CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	Their larvae only feed on milkweeds (<i>Asclepias</i> spp.). Habitat includes abandoned farmland, along roadsides, open spaces where these plants grow	Y (N) UTM: N/O
TPS, CUW	Mottled Duskywing (<i>Erynnis martialis</i>) - S2	Usually seen nectaring on or wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present	Y (N) UTM:
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyten</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fence rows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM: N/O
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM:

Wetland Data Collection Sheet

AECOM

Study area: <u>Goshen</u> Date (yyyy-mm-dd): <u>May 1st, 2012</u> Field Staff: <u>Jess Pettk + Tom Shorley</u>	Map No: <u>210 GSH1022</u> Time Started: <u>3:40pm</u> Time Finished: <u>5:20pm</u>
--	---

Presence of Groundwater No ☒ Yes ☐ ☐ bank seepage ☐ iron staining ☐ groundwater indicator
--

Site Type Lacustrine ☐ (associated with lakes) Isolated ☐ Riverine ☒ (associated with rivers) <u>onsite watercourse</u> Palustrine ☐ absent or intermittent inflow and either intermittent or permanent outflow what are the water inputs and outputs? <u>surface water + watercourse</u>
--

Soils refer to ELC card for soils information
--

% open Water Type 1 - <5% ☒ Type 5 - 26-75% ☐ (water occurring in a small pattern) Type 2 - 5-25% ☐ (water occurring in one central location) Type 6 - 76-95% ☐ (occurring in a central location, vegetation is periphehal) Type 3 - 5-25% ☐ (water occurring in ponds of various sizes) Type 7 - 76-95% ☐ (vegetation occurs in patches or diffuse, open stands) Type 4 - 26-75% ☐ (water occurring in a central location) Type 8 - >95% ☐ (water occupies over 95% of the area)	
--	--

Community Descriptions	
Vegetation forms	
h (deciduous trees)	ne (narrow leaved emergents)
c (coniferous trees)	be (broad leaved emergents)
dh (dead deciduous trees)	gc (ground cover)
dc (dead coniferous trees)	m (mosses)
ts (tall shrubs 1-6m)	f (aquatic with floating leaf)
ls (low shrubs up to 1m)	ff (free floating)
ds (dead shrubs)	su (all under water)
re (robust emergents)	u (unvegetated)
Map Code/ ELC Code	Community Description - list at least four dominant species for each form
<u>F007-2</u> <u>SI</u>	<u>h*: Frapenn, ACENegh, Ulmamer</u> <u>ts: Frapenn, ACENegh, Crataegus sp</u> <u>9</u>

Wetland Data Collection Sheet

AECOM

Notes on Ecological Functions or features

should include notes on: furbearer, cranberries, wild rice, baitfish, bullfrogs, winter cover for wildlife, suitability for waterfowl breeding staging, moulting, evidence of recreational activities, disturbance, surrounding topography (flat, rolling, hilly, steep), and surrounding habitat diversity

- Community was not thought to be wetland as there was no evidence of pooling within community and was on a slope

Goshen Feature: 215 GSH1067/2018

(Properties that contain Features within 125m from Collection lines and 171.5m from Turbines)



October 3, 2011



Roads
Access/Collection Line
Survey to be Completed
Turbine Buffer (171.5m)

ELC Survey Completed
Turbine Buffer/Feature Intersect
Property Fabric
Goshen Wind Energy Centre

GSH1065

Access - yes

GSH1064

Access - yes

forming survey

CLM

GSH2018

NO ACCESS

Access - yes

GSH1067

ALT3

SH 72

GSH2016

ORIGINAL

Observer:

VASCULAR PLANT CHECKSHEET

Date: Oct-4/11

Job Number:

+ November 8/11 Kunst

[illegible]

COPY

SITE LOCATIONS

1: Polygon (1) 4:
2: 5:
3: Add hand on Nov 8 6:

4: _____
5: _____
6: _____

Goshen Feature: 215 GSH1067

(Properties that contain Features within 125m from Collection lines and 171.5m from Turbines)

- Roads
- Access/Collection Line
- Collection Buffer (125m)
- Turbine Buffer (171.5m)
- Collection/Feature Intersect
- Turbine Buffer/Feature Intersect
- Property Fabric
- Bladder Wind Energy Centre

September 1, 2011

0 25 50 100 Meters

h



ELC Community Description and Classification	Site: 215_GSH1067		Polygon: 0	
	Surveyor(s):	SAH	Date:	Oct. 4/11
	UTMZ:	17T	UTMZ:	450663
			UTMN:	470901
			Time start:	1328
			Time finish:	1440

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
☒ Terrestrial	☐ Organic	☐ Lacustrine	☐ Plankton	☐ Lake
☐ Wetland	☒ Mineral Soil	☐ Riverine	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Min.	☐ Bottomland	☐ Floating-LVD.	☐ River
	☐ Acidic Bedrk.	☐ Terrace	☐ Grasshoid	☐ Stream
☐ Open Water	☐ Basic Bedrk.	☐ Valley Slope	☐ Forb	☐ Marsh
☐ Shallow Water	☐ Carb. Bedrk.	☒ Tableland	☐ Lichen	☐ Swamp
☒ Surficial Dep.		☐ Roll. Upland	☐ Bryophyte	☐ Fen
☐ Bedrock		☐ Cliff	☒ Deciduous	☐ Bog
History		☐ Talus	☐ Coniferous	☐ Barren
☒ Natural		☐ Crevice/Cave	☐ Mixed	☐ Meadow
☐ Cultural		☐ Alvar		☐ Prairie
Cover		☐ Rockland		☐ Thicket
☐ Open		☐ Beach / Bar		☐ Savannnah
☐ Shrub		☐ Sand Dune		☐ Woodland
☒ Tree		☐ Bluff		☒ Forest
				☐ Plantation

Stand Description	Stand Number	Stand Age	Stand Type	Stand Size	Stand Location	Stand Status	Stand Notes
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31
32	32	32	32	32	32	32	32
33	33	33	33	33	33	33	33
34	34	34	34	34	34	34	34
35	35	35	35	35	35	35	35
36	36	36	36	36	36	36	36
37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39
40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55
56	56	56	56	56	56	56	56
57	57	57	57	57	57	57	57
58	58	58	58				

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	Bp > MH = Be = HS
2			Blue Beech > MH = Be > choke Cherry
3			White Birch > Prickly Gooseberry > Elk Raspberr
4			European Strawberry > Col. S. Salween & > Yellow

4T Codes:	7 < 0.2m	6 > 0.2-0.5m	5 > 0.5-1m	4 > 1.0m	3 > 2.5m	2 > 4.25m	1 > 7.0m
-----------	----------	--------------	------------	----------	----------	-----------	----------

CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 60% 4 > 60%								
Stand Composition:	Size Class Analysis:							
139- 100 -h17-BE15-HS15	1st Standing Area:							
BA: 19	Deadfall / Logs:							
	A	<10	A	10-24	A	25-50	0	>50
	A	<10	R	10-24	0	25-50	R	>50
	A	<10	R	10-24	0	25-50	R	>50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age:	☐ Pioneer	☐ Young	☐ Mid-Age	☒ Mature	☐ Old Growth
-----------	----------------------------------	--------------------------------	----------------------------------	--	-------------------------------------

Ecotope:	Fresh-Marst	Sugar Maple-Deciduous Forest	Code:	RDG
Vegetation Type:	Fresh-Marst	Sugar Maple-Hardwood Deciduous Forest	Code:	RDG-5
Inclusion:			Code:	/
Complex:			Code:	

Community Profile Diagram/Comments

[illegible]

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Tree Tally by Species

Tree Tally by Species					Prism Factor	2
Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
Bp	2	9	—	—	11	15
Bp	6	3	—	6	29	39
HA	4	0	12	4	13	17
HA	1	1	5	4	11	15
HA	—	—	2	1	3	4
HAN	—	—	5	1	6	8
hs	—	—	—	2	2	2
Total	13	15	24	23	75	100
Basal Area (BA)	26	30	48	46	150	19
Dead	1	—	2	2	5	—

Soils Ontario and ELC Soils Description

[illegible]

ELC

Community Description and Classification

Site: 215-GSH 067 Polygon: ②
 Surveyor(s): SAM Date: Oct. 4/11 Time start/finish: 13:42h / 14:20h
 UTMZ: 17T UTMZ: 450708 UTMN: 4790665

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
☐ Terrestrial ☒ Wetland ☐ Aquatic Site:	☐ Organic ☒ Mineral Soil ☐ Parent Min. ☐ Acidic Bedrk ☐ Basic Bedrk ☐ Carb. Bedrk	☐ Lacustrine ☐ Riverine ☐ Bottomland ☐ Terrace ☐ Valley Slope ☒ Tableland ☐ Roll Upland ☐ Cliff ☐ Talus ☐ Crevice/Cave ☐ Alvar ☐ Rockland ☐ Beach / Bar ☐ Sand Dune ☐ Bluff	☐ Plankton ☐ Submerged ☐ Floating-LVD ☐ Graminoid ☐ Forb ☐ Lichen ☐ Bryophyte ☒ Deciduous ☐ Coniferous ☐ Mixed	☐ Lake ☐ Pond ☐ River ☐ Stream ☐ Marsh ☒ Swamp ☐ Fen ☐ Bog ☐ Barren ☐ Meadow ☐ Prairie ☐ Thicket ☐ Savannah ☐ Woodland ☐ Forest ☐ Plantation
☐ Open Water ☐ Shallow Water ☒ Surficial Dep. ☐ Bedrock				
☒ Natural ☐ Cultural				
☐ Open ☐ Shrub ☒ Treed				

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	Ms >> Ms = AG
2	4-3	2	Ms >> AG > Black Birch
3	5	3	Sensitive fern > False Nettle > Lady Fern > Pearl Plantain
4	7-6	3	Woodland Strawberry > Kalm's berry > Carex in tufts

HT Codes: 7 < 0.2m 8 > 0.2-0.5m 9 > 0.5-1m 4 > 1-2m 3 > 2-5m 2 > 6-25m 1 > 25m
 CVR Codes: 0 = none 1 0% - 10% 2 10% - 25% 3 25% - 50% 4 50% - 60% 5 60% - 75% 6 75% - 90% 7 90% - 100%

Stand Composition:	Size Class Analysis:
BA: Ms 17-As 6	Standing Snags: BA: 0 < 10 A 10-24 A 25-50 Q > 50
18	Deadfall / Logs: BA: 0 < 10 A 10-24 A 25-50 Q > 50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age: ☐ Pioneer ☐ Young ☐ Mid-Age ☒ Mature ☐ Old Growth

Ecosite: Ingle Mineral Deciduous Swampy Forest Code: SWD3
 Vegetation Type: Swamp Maple Mineral Deciduous Code: SWD3-3
 Inclusion: Swamp Type
 Complex: /

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
Ms	1	2			3	17
MF	6	6			12	67
AG	2	1			3	16
Total					18	100
Basal Area (BA)					36	18
Dead						

Soils Ontario and ELC Soils Description

Site Metrics		Pit/Auger #	Soil Horizon Description		Summary
UTM	Zone	17T			
	Easting	450708			
	Northing	4790665			
	Position	5			
	Aspect	SW			
	Percent	-			
	Slope	-			
	Length	-			
	Mottles	13			
	Gley	53			
	Water Table	41			
	Carbonates	> 120			
	Bedrock	> 120			
1	Depth from zero	+ 27	% CF	% CF	% CF
	Texture	Oh			
2	Depth from zero	+ 13	% CF	% CF	% CF
	Texture	Of			
3	Depth from zero	0	% CF	% CF	% CF
	Texture	CL			(CL)
4	Depth from zero	43	% CF	% CF	% CF
	Texture	C			
	% Surface Stone/Rock				
	Moisture Regime	Very Moist (6)			Very Moist (6)
	Drainage	Imperfect (5)			Imperfect (5)

1 CONIFERS						2 TREES and SHRUBS						3 GRAMINOIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis						Agropyron repens					
Larix laricina						Rubus idaeus						Alopecurus					
Picea abies						Rubus occidentalis		X				Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens			X			Carex acutata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						+ Salix discolor						Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrofracta					
Acer negundo						Salix x rubens						Carex stipata					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharum	X					Sambucus racemosa						Carex <i>intumescens</i>				X	
Acer spicatum						Sorbus aucuparia						Carex <i>torreana</i>				X	
Alnus rugosa						Spiraea alba						Carex <i>tuckermanni</i>				X	
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana		X				Carex					
Betula alleghaniensis						Ulmus americana						Carex					
Betula papyrifera	X					Ulmus						Carex					
Carpinus caroliniana	X					Vaccinium						Carex					
Carya cordiformis	X					Viburnum lentago						Carex					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Cyperus					
Cornus amomum						Vitis riparia		X				Dactylis glomerata					
Cornus rugosa												Danthonia spicata					
Cornus stolonifera						<i>Acer x freemanii</i>		X				Echinochloa crus-galli					
Corylus cornuta												Eleocharis erythropoda					
Crataegus monogyna												Eleocharis					
Crataegus punctata												Elymus virginicus					
Crataegus sp.												Elymus					
Crataegus												Festuca arundinacea					
Diervilla lonicera												Glyceria striata				X	
Fagus grandifolia	X											Glyceria					
Fraxinus americana	X											Juncus dudleyi					
Fraxinus nigra						FERNS						Juncus effusus					
Fraxinus pennsylvanica	X					Adiantum pedatum						Juncus tenuis					
Ilex verticillata						Athyrium filix-femina			X			Juncus					
Juglans cinerea						Botrychium multifidum						Juncus					
Juglans nigra						Botrychium virginianum						Leersia oryzoides					
Lonicera morrowi						Cystopteris bulbifera						Muhlenbergia					
Lonicera tatarica						Dryopteris caudata						Oryzopsis asperifolia					
Lonicera						Dryopteris cristata						Panicum					
Malva pennsylvanica						Dryopteris marginalis						Panicum					
Ostrya virginiana	X					Dryopteris						Phalaris arundinacea					
Parthenocissus inserta	X					Equisetum arvense						Poa pratensis					
Populus balsamifera						Equisetum hyemale						Pitaguardes australis					
Populus grandidentata						Equisetum variegatum						Poa compressa					
Populus tremuloides	X					Equisetum						Poa pratensis					
Populus						Gymnocarpium dryopteris						Poa					
Prunus pennsylvanica						Lycopodium digitatum						Scirpus atrovirens				X	
Prunus serotina	X					Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana	X					Lycopodium						Scirpus validus					
Prunus						Lycopodium						Scirpus					
Quercus macrocarpa						Mattesia struthiopteris						Scirpus					
Quercus rubra						Osmunda sensibilis			X			Setaria					
Quercus						Osmunda cinnamomea						Spartanum					
Rhamnus cathartica						Osmunda regalis						Typha angustifolia					
Rhus radicans	X					Polystichum acrostichoides			X			Typha latifolia					
Rhus typhina						Peridium aquilinum						Typha Xglauca					
Ribes americana						Thelypteris palustris											
Ribes cynosbati	X					<i>Dryopteris intermedia</i>		X									
Ribes x rubrum																	
Robinia pseudo-acacia																	
<i>Carya ovata</i>	X																
<i>Ribes lacustre</i>	X																
<i>Quercus macrocarpa</i>	X																
<i>Quercus macrocarpa</i>	X																

Plant Species List

POLYGON: 1

DATE: Oct. 4/17

SURVEYOR(S): SAM

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

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
Pt					
Bw					
Mh					
Aw					
Bd					
BlueBeech					
HBN					
Pi					
Virg. waterleaf					
As					
grape					
Ag					
Ag					
Virg. Creeper					
Brig. Blk Currant					
Be					
Yell. Ans					
In					
Bs Nitshd					
Herb Rob +					
Euon. abov.					
Chokeberry					
Gray Dogwood					
CB					
wt. Blueberry					
LeafK					
Agromony					
Prickly Gooseberry					

~~mit~~ Picky Geesang
und Geranien
BIR Rasp.
fal se Sol Sel!

[illegible]

1 inclusion

np	9		
Ac	2		
As	2		
	<u>13</u>	26	= 51

Oh	14
Of	27
EL	43
C	

$g = 56$ (13 from mineral)
 $G = 94$
 $WT = 82$

