

ELC WILDLIFE	SITE: 306 GSH 1049	
	POLYGON: (D)	
	DATE: Aug. 16/11	
	SURVEYORS: SAM	
	START TIME: 1342	END TIME: 1501

TEMP (°C): 26	CLOUD (10th): 1	WIND: 2	PRECIPITATION: nil
CONDITIONS: warm sunny, clear, light breeze - Beautiful day!			

POTENTIAL WILDLIFE HABITAT:

<input checked="" type="checkbox"/> VERNAL POOLS	<input checked="" type="checkbox"/> SNAGS
<input type="checkbox"/> HIBERNACULA	<input checked="" type="checkbox"/> FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	RTHA	SH	VO Pair (agitated)	2					
B	WITU	DP	(feathers)						
B	EAMP	SM		1					
B	WBNU	SM		1					

FAUNAL TYPE CODES (TY):

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

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

BREEDING BIRD - CONFIRMED:

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

OTHER WILDLIFE EVIDENCE:

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



Legend

- Turbine Location
 - Road Turn-Around
 - Collection Line Layout
 - Access Road Layout
 - Turbine Turn-Around Box
 - Collection Line 20m Buffer
 - Access Road 60m Buffer
 - Area of Disturbance 120m Buffer
 - Natural Feature
- Roads**
- Major Road
 - Local Road
- Water Features**
- Intermittent Stream
 - Permanent Stream



Recreated from Ontario Ministry of Natural Resources
Orthophotography



UTM Zone 17N, NAD 83
1:2,500

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NextEra Energy Canada, U.L.C.
Gothen Wind Energy Centre

Feature 346/349

December 2011
60150532



Figure 1

ELC
Community Description and Classification

Map #: 346/349 G5H 104 | Polygon: 1
 Surveyor(s): SGTs | Date: July 3, 2012 | Time start: 4:30pm, finish: 6:30pm
 UTMZ: | UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input type="checkbox"/> Terrestrial <input type="checkbox"/> Wetland <input type="checkbox"/> Aquatic	<input type="checkbox"/> Organic <input checked="" type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input checked="" type="checkbox"/> Tableland <input type="checkbox"/> Hill <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Alvar <input type="checkbox"/> Rockland <input type="checkbox"/> Beach / Bar <input type="checkbox"/> Sand Dune <input type="checkbox"/> Bluff	<input type="checkbox"/> Plankton <input type="checkbox"/> Submerged <input type="checkbox"/> Floating-LVD. <input type="checkbox"/> Graminoid <input type="checkbox"/> Forb <input type="checkbox"/> Lichen <input type="checkbox"/> Bryophyte <input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Mixed	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Marsh <input type="checkbox"/> Swamp <input type="checkbox"/> Fen <input type="checkbox"/> Bog <input type="checkbox"/> Barren <input type="checkbox"/> Meadow <input type="checkbox"/> Prairie <input type="checkbox"/> Thicket <input type="checkbox"/> Savannah <input type="checkbox"/> Woodland <input type="checkbox"/> Forest <input type="checkbox"/> Plantation

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	Fern + ULM + AML
2	2	2	Fern + ULM + AML
3	4	3	Lin + Ben + 2 + Blm + Gsb
4	6-5	4	gl + alen + 2 + Gsb + 2 + Blm + AML

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, 1 0% - 10%, 2 10 - 25%, 3 25 - 60%, 4 > 60%

Stand Composition: Size Class Analysis:

Standing Snags:	Deadfall / Logs:	N = None, R = Rare, O = Occasional, A = Abundant
A < 10, R < 10, R < 10	A < 10, R < 10, R < 10	
BA:		

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

Ecosite: Fresh-moist lowland deciduous for
Vegetation Type: Fresh-moist Ash lowland dec. for
Inclusion:
Complex:

Code: FODZ
Code: F007-2
Code:
Code:

Community Profile Diagram/Comments

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Prism Factor
Total						2
Basal Area (BA)						100
Dead						

Soils Ontario and ELC Soils Description

Site Metrics	Pit/Auger #	Summary
Zone	177	Moisture Regime
Easting	0447641	
Northing	4802252	Drainage
Position	table	
Aspect		Effective Texture (indicate below)
Percent		
Slope		
Length		

Soil Horizon Description

Depth to ...	Horizon	Depth from zero	Texture	% CF	% CF	% CF
1	Mottles	30	Spdy loam			
	Gley					
	Water Table					
	Carbonates					
	Bedrock					
	Depth from zero					
	Texture					
	Depth from zero					
	Texture					
	Depth from zero					
	Texture					
	Depth from zero					
	Texture					
	% Surface Stone/Rock					
	Moisture Regime		moist(5)			
	Drainage		FP			

ELC Community Classification

Map #: 346/349 GSH 1041 Polygon: 3

Surveyor(s): SPT Date: July 3, 2012 Time start: 4:30 pm finish: 6:30 pm

UTMZ: UTMZ: UTMZ: UTMZ:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial <input type="checkbox"/> Wetland <input type="checkbox"/> Aquatic <input type="checkbox"/> Open Water <input type="checkbox"/> Shallow Water <input checked="" type="checkbox"/> Surficial Dep. <input type="checkbox"/> Bedrock	<input type="checkbox"/> Organic <input checked="" type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input checked="" type="checkbox"/> R. Upland <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Alvar <input type="checkbox"/> Rockland <input type="checkbox"/> Beach / Bar <input type="checkbox"/> Sand Dune <input type="checkbox"/> Bluff	<input type="checkbox"/> Plankton <input type="checkbox"/> Submerged <input type="checkbox"/> Floating-LVD. <input checked="" type="checkbox"/> Graminoid <input type="checkbox"/> Forb <input type="checkbox"/> Lichen <input type="checkbox"/> Bryophyte <input type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Mixed	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Marsh <input type="checkbox"/> Swamp <input type="checkbox"/> Fen <input type="checkbox"/> Bog <input type="checkbox"/> Barfen <input type="checkbox"/> Meadow <input type="checkbox"/> Prairie <input type="checkbox"/> Thicket <input type="checkbox"/> Savannah <input type="checkbox"/> Woodland <input type="checkbox"/> Forest <input type="checkbox"/> Plantation

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than, > Greater Than, = About Equal To)
1	2-1		FR, PERK, S, JUS, MIG
2			
3			
4	5-4	4	pha arum

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 1 0% - 10% 2 10 - 25% 3 25 - 60% 4 >60%

Stand Composition: Size Class Analysis: R <10 M 10-24 N >25 M >50
 Standing Snags: <10 P 10-24 M 25-50 N >50
 Deadfall / Logs: N <10 H 10-24 L 25-50 A >50

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

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

Ecosite: Mineral cultural meadow Code: CUM1
Vegetation Type: Dry to fresh mineral cultural meadow CUM1-1
Inclusion: Code:
Complex: Code:

Community Profile Diagram/Comments

Notes:

Tree Tally by Species Prism Factor 2

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
Total						100
Basal Area (BA)						
Dead						

Soils Ontario and ELC Soils Description

Site Metrics		Soils Ontario and ELC Soils Description				Summary	
PI/Auger #	UTM	Zone	Easting	Northing	Position	Aspect	Slope
UTM							
Slope							
Percent							
Slope Length							
Mottles							
Gley							
Water Table							
Carbonates							
Bedrock							
Depth from zero		% CF	% CF	% CF	% CF	% CF	% CF
Texture							
Depth from zero		% CF	% CF	% CF	% CF	% CF	% CF
Texture							
Depth from zero		% CF	% CF	% CF	% CF	% CF	% CF
Texture							
Depth from zero		% CF	% CF	% CF	% CF	% CF	% CF
Texture							
Depth from zero		% CF	% CF	% CF	% CF	% CF	% CF
Texture							
% Surface Stone/Rock							
Moisture Regime							
Drainage							

Significant Wildlife Habitat Form

AECOM

Study Area: BLW JER <u>GSH</u>	Map #: <u>346/349 G&H 1041</u>
Date: <u>2012-07-03</u>	Time Started: <u>4:30 p.m.</u>
Field Staff: <u>Tom Stone, Sam Gildner</u>	Time Finished: <u>6:30 p.m.</u>
Weather Conditions: <u>Isolated T-Showers, 24°C</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: _____

Potential to hold water until at least July in most years: Yes / No

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

Species of Conservation Concern Habitat and Incidental Wildlife - Goshen



Map No: 346/349 GSH-1041
 Date (yyyy-mm-dd): 2012-07-03

Field Staff: Tom Skope
Steve Gubler

Time Started: 4:30 p.m.
 Time Finished: 6:30 p.m.

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
<u>Great Crested Flycatcher</u>		<u>Vo</u>					
<u>Blue Jay</u>		<u>Vo</u>					
<u>Song Sp.</u>		<u>Vo</u>					
<u>Chipping Sparrow</u>		<u>Ob</u>					
<u>Horvath's Warbler</u>		<u>Vo</u>					
<u>Pileated Woodpecker</u>		<u>Vo</u>					

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=Foos/Faecal sack, AE=Nest Entry, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/Young, TK=Tracks, FE=Feeding evidence, SC=Scat, SI=Other signs (specify)

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) * N/O -> Not observed

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present)
PLANTS			
FOD7	American Gromwell (Lithospermum latifolium) - S3 Bloom Time - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y (N) UTM
ALO, TPO	Muehlenberg's astomum moss (Astomum muehlenbergianum) - 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 (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y N UTM N/O
FOD, FOM, FOD	Burning Bush (Euonymus atropurpureus) - S3 Bloom Time - 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 (Conioselinum chinense) - S2 Bloom Time - 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
MAM, MAS	Crowned Beggarticks (Bidens trichosperma) - S2 Bloom Time - 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 (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	Y N UTM N/O
TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (Chenopodium foggii) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y (N) UTM:
TPO2, TPS2, TPW2	Giant Ironweed (Vernonia gigantea) - 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>Artemisia dracunculoides</i>) - SC/S3 Bloom Time - May and June	Species found in damp deciduous forests and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	Y N UTM: N/O
TP01, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June-August Hairy Bedstraw (<i>Galium pilosum</i>) - S3 Bloom Time - June-August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y N UTM:
FEO1, FET1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	Hairy Valerian (<i>Valeriana edulis</i>) - S1 Bloom Time - June to August	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens	Y N UTM
FOD6, FOD7, SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time - Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains	Y N UTM N/O
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Eriogonum bulbosum</i>) - S3 Bloom Time - early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	Y N UTM N/O
SAS1, SAM1, SAF1	Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/S2 Bloom Time - summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	Y N UTM
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>Pliatanthera macrophylla</i>) - S2 Bloom Time - 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	Lizard's Tail (<i>Saururus cernuus</i>) - S3 Bloom Time - 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	Pawpaw (<i>Asimina triloba</i>) - S3 Bloom Time - March-May	Occurs in moist deciduous woods and stream banks.	Y N UTM: N/O
FOM8, FOD6, FOD7, FOD9, CUM1	Pileose Evening Primrose (<i>Oenothera pilosella</i>) - S2 Bloom Time - Late Spring - Early Summer	Moist edges of woods and open, disturbed ground.	Y N UTM N/O
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Prostrate Tick-trefoil (<i>Desmodium rotundifolium</i>) - S2 Bloom Time - July - September	Dry, sandy or rocky woods	Y N UTM
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? Bloom Time - March - June	Swamps and floodplains	Y N UTM N/O
CUW1, ALO, FET1, SWC	Rain's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 Bloom Time - mid May to 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	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 Bloom Time - April - September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	Y N UTM:
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time - May - June	Found in moist woods	Y N UTM: N/O
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumaris</i>) - S3?	Species occurs in old fields, poorly managed pastures, fence lines and roadsides	Y N UTM: N/O
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 Bloom Time - May to October	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y N UTM: N/O
ALO, ALS, ALT, TPO, TPS, TPW	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	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	Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	Y N UTM
BLO1, BLS1, BLT1, TPO2, TPS1, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentiana quinquefolia</i>) - 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.	Y N UTM: N/O
TPS1, TPW1, CUW1, RBC, SBO	Sundial Lupine (<i>Lupinus perennis</i>) - S3 Bloom Time - 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 of Conservation Concern Habitat and Incidental Wildlife – Goshen



ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
TP01, TPS1, TPW1, CUM1	Tail Blazing Star (<i>Liatis aspera</i>) - S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y N UTM N/O
FO01, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amoglossum plantagineum</i>) - S3 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
FO01, 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
CUM1, 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>Seiurus 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.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets, nests above ground in bush, vines	Y N UTM:
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 brizo</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:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	Larvae only feed on milkweeds (<i>Asclepius</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 or on 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 clyton</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y N UTM:
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:

Path: D:\Projects\WECOM\60156032\2011\GIS\Special\umd\Goshen\Field Maps Dec 2011\GSH_Features\46_346.mxd



ELC Community Description and Classification

Site: 346 Polygon: 7.
 Surveyor(s): B. Miller Date: Dec. 12, 2011 Time start: 2:15 pm
 R. Atkeson UTMZ: 17 UTMZ: 447727 UTMN: 4802201
 UTMZ: 4802201

Polygon Description

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

Stand Description

Species in Order of Decreasing Dominance (up to 4 sp)
 (> Much Greater Than; > Greater Than; = About Equal To)

Layer	HT	CVR	Species
1	3		BETPAPQ = ULMAMER = FRAX SP.
2	4		BETPAPQ = ULMAMER = FRAX SP.
3	3		LEVICRIS = MALDINID = HAMVIRG
4	4.5		CELM SP. > PRUVIRG > RUB CF. ACLE

HT Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

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

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

Ecoster: Dry-Fresh Deciduous Forest Ecoster Code: F004

Vegetation Type: Code: F004

Inhibitor: Code: F004

Complex: Code: F004

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Tally 5	Tally 6	Tally 7	Tally 8	Tally 9	Tally 10
Total										100

Soils Ontario and ELC Soils Description

Ply/Auger #	Site Metrics				Summary
	Zone	Easting	Northing	Position	
Slope	Aspect	Percent	Slope	Length	Moisture Regime
	Drainage				
Mottles	Effective Texture (Indicate below)				
	Gley				
Water Table	Carbonates				
	Bedrock				
1	Depth from zero	% CF	% CF	% CF	% CF
	Texture				
2	Depth from zero	% CF	% CF	% CF	% CF
	Texture				
3	Depth from zero	% CF	% CF	% CF	% CF
	Texture				
4	Depth from zero	% CF	% CF	% CF	% CF
	Texture				
Moisture Regime					
Drainage					

Soil Horizon Description

Horizon	Depth from zero	% CF	% CF	% CF	% CF
1	Texture				
2	Depth from zero	% CF	% CF	% CF	% CF
3	Depth from zero	% CF	% CF	% CF	% CF
4	Depth from zero	% CF	% CF	% CF	% CF
Moisture Regime					
Drainage					

ELC Community Description and Classification

Site: 346 Polygon: 8

Surveyor(s): B. Miller Date: Dec. 12, 2011 Time start: 2:15 pm

R. Attkin UTMZ: 447601 UTMN: 4802165

Polygon Description

<input checked="" type="checkbox"/> Terrestrial	<input type="checkbox"/> Organic	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Plankton	<input type="checkbox"/> Lake
<input type="checkbox"/> Wetland	<input type="checkbox"/> Mineral Soil	<input type="checkbox"/> Riverine	<input type="checkbox"/> Submerged	<input type="checkbox"/> Pond
<input type="checkbox"/> Aquatic	<input type="checkbox"/> Parent Min.	<input type="checkbox"/> Bottomland	<input type="checkbox"/> Floating-L.V.D.	<input type="checkbox"/> River
<input type="checkbox"/> Site	<input type="checkbox"/> Acidic Bedrk	<input type="checkbox"/> Terrace	<input type="checkbox"/> Granitoid	<input type="checkbox"/> Stream
<input type="checkbox"/> Open Water	<input type="checkbox"/> Basic Bedrk	<input type="checkbox"/> Valley Slope	<input type="checkbox"/> Forb	<input type="checkbox"/> Marsh
<input type="checkbox"/> Shallow Water	<input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Tableland	<input type="checkbox"/> Soil, Upland	<input type="checkbox"/> Swamp
<input type="checkbox"/> Surficial Dep.		<input type="checkbox"/> Cliff	<input type="checkbox"/> Bryophyte	<input type="checkbox"/> Fen
<input type="checkbox"/> Bedrock		<input type="checkbox"/> Talus	<input type="checkbox"/> Deciduous	<input type="checkbox"/> Bog
<input type="checkbox"/> History		<input type="checkbox"/> Crevice/Cave	<input type="checkbox"/> Coniferous	<input type="checkbox"/> Barren
<input type="checkbox"/> Natural		<input type="checkbox"/> Alvar	<input type="checkbox"/> Mixed	<input type="checkbox"/> Meadow
<input type="checkbox"/> Cultural		<input type="checkbox"/> Beach / Bar		<input type="checkbox"/> Prairie
<input type="checkbox"/> Cover		<input type="checkbox"/> Sand Dune		<input type="checkbox"/> Thicket
<input type="checkbox"/> Open		<input type="checkbox"/> Bluff		<input type="checkbox"/> Savannah
<input type="checkbox"/> Shrub				<input type="checkbox"/> Woodland
<input type="checkbox"/> Tree				<input type="checkbox"/> Forest
				<input checked="" type="checkbox"/> Plantation

Stand Description

Species in Order of Decreasing Dominance (up to 4 sp)
 (> Much Greater Than; > Greater Than; = About Equal To)

Layer	HT	CVR	Species
1	0	0	PINUSTRO
2	2	4	FRAX SP.
3	3	2	FRAX SP.
4	4-7	1	FRAX SP.

HT Codes: 0 < 2m 2 > 2-4.5m 3 > 4.5-1.2m 4 > 1-2m 5 > 2-6m 6 > 6-25m 7 > 25m
 CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 50 - 60%

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

Strat	Composit	Size Class Analysis	R	O	A	N
		Standing Snags:	<10	10-24	25-50	>50
		Deadfall / Logs:	<10	10-24	25-50	>50

Com. Age: Pioneer Young Mid Age Mature Old Growth

Ecoclit: Coniferous Plantation Mixed Age Old Growth

Vegetation Type: White Pine Coniferous Plantation Code: CUP3

Inclusion: Code: CUP3-2

Complex: Code:

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Tally 5	Tally 6	Tally 7	Tally 8
Total								100
Basal Area (BA)								
Dead								

Soils Ontario and ELC Soils Description

Soil Horizon Description	Depth to...	Site Metrics				Moisture Regime	Drainage	Effective Texture (Indicate below)
		UTM	Slope	Position	Aspect			
1	Depth from zero	% CF	% CF	% CF	% CF			% CF
2	Depth from zero	% CF	% CF	% CF	% CF			% CF
3	Depth from zero	% CF	% CF	% CF	% CF			% CF
4	Depth from zero	% CF	% CF	% CF	% CF			% CF

VASCULAR PLANT LIST

PROJECT / LOCATION: FEATURE 346

POLYGON: 7. + 8.

SURVEYOR(S): R. Aitken, B. Miller

DATE(S): DEC. 12, 2011

VEGETATION TYPE:

NOTES: Crow, Cedar Waxwing,

Plant Species	ABUNDANCE / LAYER				Plant Species	Understory (U)	Ground Layer (GL)	Plant Species	Understory (U)	Ground Layer (GL)	
	Canopy (C)	Sub-canopy (SC)	Understory (U)	Ground Layer (GL)							
TREES				HERBACEOUS FLORA				HERBACEOUS FLORA			
PRU SERO	O	O	R		GEUM SP.		D				
BET PAPY	A	A			DRY CART		R				
BET ALLE	O				SYD LANC		R				
ULM AMER	A	O									
TEMA OCC		O									
FRA NIGR		R	R								
CAR CARO			R								
MAI PUMI			O								
POP TRCM		R	R								
FRAV SP.	A	O									
PRU CF. PENS		R									
RHA CATH		R									
ACE FREE		R									
POLYGON # 8											
PIN STRO		D									
FRAIXINUS SP.			D	D							
SHRUBS AND WOODY VINES											
HAM VIRG			O								
RHU HIRT				R							
VIT RIPA			O								
PRU VIRG				O							
ILL VERT			A								
RUB IDAG				R							
COP ALTE				R							
RUB CF. ALLE				O							

POLYGON 7. & 8.

VASCULAR PLANT CHECKSHEET

Location: FEATURE 346
Observer: B. Miller, R. Aitken

Date: DEC. 12, 2011

Job Number:

Dicot HERBS						MONOCOT HERBS																	
1	2	3	4	5	6	1	2	3	4	5	6												
<i>Achillea millefolium</i>						<i>Erigeron annuus</i>						<i>Polygonum persicaria</i>						<i>Allium tricoccum</i>					
<i>Achillea ptarmica</i>						<i>Erigeron philadelphicus</i>						<i>Polygonum majus</i>						<i>Allium</i>					
<i>Achillea rubra</i>						<i>Erigeron strigosus</i>						<i>Polygonum persicaria</i>						<i>Arisaema tripartitum</i>					
<i>Agalinis</i>						<i>Erysimum cheiranthoides</i>						<i>Polygonum</i>						<i>Asparagus officinalis</i>					
<i>Agrostis gryposepala</i>						<i>Eupatorium maculatum</i>						<i>Polygonum</i>						<i>Calla palustris</i>					
<i>Alliaria petiolata</i>						<i>Eupatorium perfoliatum</i>						<i>Polygonum</i>						<i>Cimicifuga racemosa</i>					
<i>Amanitium retrofractum</i>						<i>Eupatorium rugosum</i>						<i>Polygonum</i>						<i>Cimicifuga racemosa</i>					
<i>Ambrosia artemisiifolia</i>						<i>Euphorbia</i>						<i>Polygonum lapathifolium</i>						<i>Cypripedium calceolus</i>					
<i>Amphicarpaea baccata</i>						<i>Euthamia graminifolia</i>						<i>Polygonum punctatum</i>						<i>Elaeagnus canadensis</i>					
<i>Anaphalis margaritacea</i>						<i>Fragaria virginiana</i>						<i>Polygonum</i>						<i>Equisetum hyemale</i>					
<i>Arenaria</i>						<i>Fragaria vesca</i>						<i>Polygonum</i>						<i>Erythronium americanum</i>					
<i>Arenaria canadensis</i>						<i>Galinsoga tetralix</i>						<i>Polygonum</i>						<i>Femula officinarum</i>					
<i>Anemone virginiana</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Fritillaria</i>					
<i>Anthriscus neglecta</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Fritillaria</i>					
<i>Apocynum androsaemifolium</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Apocynum cannabinum</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Asclepias canadensis</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Asclepias tuberosa</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Asclepias syriaca</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster cordifolius</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster ericoides</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster lanceolatus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster lateriflorus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster macrophyllus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster novae-angliae</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Aster paniculatus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Barbarea vulgaris</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Bidens cernua</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Bidens frondosa</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Boehmeria cylindrica</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Calla palustris</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Caltha palustris</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Ceanothus americanus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Ceanothus americanus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					
<i>Ceanothus americanus</i>						<i>Galium</i>						<i>Polygonum</i>						<i>Gentiana</i>					

- 1: Polygon 7.
- 2: Polygon 8.
- 3: _____
- 4: _____
- 5: _____
- 6: _____

SITE LOCATIONS

ELC Community Description and Classification

Site: 349 Polygon: 9.
 Surveyor(s): B. Miller Date: Dec 12, 2011
 R. Attkin UTMZ: 17 UTMZ: 442611 UTMN: 4802217

Time start: 2:15 pm
 finish: 3:30 pm

Polygon Description

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

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp)
1	1	0	(?) Much Greater Than; > Greater Than; = About Equal To)
2	2	4	ERAPENN >> ULM ANEA >> VITRIPA
3	3	3	FRAPENN >> ALMADER >> LEVERT >> VITRIPA
4	4	2	GELM SP >> RUBROCY >> FRADENN

HT Codes: 0 <0.2m 1 0.2-0.5m 2 0.5-1m 3 1-2m 4 >2.5m 1 >25m
 CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

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

Stand Composition: Size Class Analysis:

Standing Snags:	A	D	O	Z	N
Deadfall / Logs:	R	A	R	Z	N
	<10	10-24	25-50	>50	
	<10	10-24	25-50	>50	

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

Ecoster: Fresh-Meist Lowland Deciduous Forest Code: FOD7
 Vegetation Type: Fresh-Meist Ash Lowland Deciduous Forest Type Code: FOD7-2

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Tally 5	Tally 6	Tally 7	Tally 8	Tally 9	Tally 10	Tally 11	Tally 12
Total												
Basal Area (BA)												
Dead												

Soils Ontario and ELC Soils Description

Soil Horizon Description	Depth to...			Site Metrics			Moisture Regime	Drainage	Effective Texture (Indicate below)
	1	2	3	Zone	UTM	Slope			
1	Depth from zero	% CF	% CF	Pl/Auger #	Easting	Aspect	Summary		
2	Texture	% CF	% CF	Zone	Northing	Slope			
3	Depth from zero	% CF	% CF	UTM	Position	Percent	Moisture Regime		
4	Texture	% CF	% CF	Slope	Aspect	Length			
Moisture Regime				Mottles			Drainage		
Stone/Rock				Gley					
Drainage				Water Table			Moisture Regime		
				Carbonates					
				Bedrock			Drainage		

VASCULAR PLANT LIST

PROJECT / LOCATION: FEATURE 349

POLYGON: 4.

SURVEYOR(S): B. Miller, R. Aitken

DATE(S): Dec. 12, 2011

VEGETATION TYPE:

NOTES:

Plant Species	ABUNDANCE / LAYER				Plant Species	Understory (U)	Ground Layer (GL)	Plant Species	Understory (U)	Ground Layer (GL)	
	Canopy (C)	Sub-canopy (SC)	Understory (U)	Ground Layer (GL)							
TREES				HERBACEOUS FLORA				HERBACEOUS FLORA			
FRAPENN	D	D	D	O	GER ROBE					R	
ULM AMER		O	O		GEUM SP.					D	
JUG NIGRA		R		R	SOL CF. CANA					O	
CAR CARO			R								
SHRUBS AND WOODY VINES											
RUBOCCI				A							
VIT RIPA		O	O								
PAR VITA		R									
ILE VERT			O								
RHA CATI			R								

Wetland Data Collection Sheet

Study area: <u>Goshen</u> Date (yyyy-mm-dd): <u>2012-07-03</u> Field Staff: <u>SG, TS</u>	Map No: <u>346/349 GSH 1041</u> Time Started: <u>4:30 pm</u> Time Finished: <u>6:30 pm</u>
---	--

Presence of Groundwater No Yes

bank seepage iron staining groundwater indicator

Site Type

Lacustrine (associated with lakes) Isolated

Riverine (associated with rivers)

Palustrine absent or intermittent inflow and either intermittent or permanent outflow

what are the water inputs and outputs? precipitation.

Soils refer to ELC card for soils information

30 cm = sandy loam, 30 cm = fine sand w faint mottles.

% 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 peripheral)

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)	ts (tall shrubs 1-6m)	f (aquatic with floating leaf)
c (coniferous trees)	be (broad leaved emergents)	ls (low shrubs up to 1m)	ff (free floating)
dh (dead deciduous trees)	gc (ground cover)	ds (dead shrubs)	su (all under water)
dc (dead coniferous trees)	m (mosses)	re (robust emergents)	u (unvegetated)

Map Code/ ELC Code	Community Description - list at least four dominant species for each form
<u>P04-1</u>	<u>h - Fra penn → Ulmamer</u>
<u>F07-2</u>	<u>ls - linbenz → Rhacath.</u>
	<u>gc - geu aller → lov ryo's → rub idae</u>

Wetland Data Collection Sheet



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

- Adjacent to small section of waterway, which is adjacent to a dug stream. F017-2 borders a F0174, which comprises the rest of the former feature.
- Little evidence of disturbances.

Completed Aug 16/11 North-Central
-SAP

352 - GSH 1040

Goshen Access Road / Collection Lines



- ELC to Evaluate
- Watercourse
- Access
- 120m Buffer





OK
Access

0 20 40 60 80 100
feet

Section ELS 0E14

Pkts 271-73
WY 058 } Part of
PAC-34
(PAC-34)

ELC
Community
Description and
Classification

342 WP 211
Site: GSH 1040 Polygon: 1
Surveyor(s): SAN Date: Aug. 16/11 Time start: 1309h finish: 1644h
UTMZ: 17 UTMZ: UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input type="checkbox"/> Terrestrial <input type="checkbox"/> Wetland <input type="checkbox"/> Aquatic <input type="checkbox"/> Open Water <input type="checkbox"/> Shallow Water <input type="checkbox"/> Surficial Dep. <input type="checkbox"/> Bedrock	<input type="checkbox"/> Organic <input checked="" type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input type="checkbox"/> Table-land <input checked="" type="checkbox"/> Roll Upland <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Alvar <input type="checkbox"/> Rockland <input type="checkbox"/> Beach / Bar <input type="checkbox"/> Sand Dune <input type="checkbox"/> Bluff	<input type="checkbox"/> Plankton <input type="checkbox"/> Submerged <input type="checkbox"/> Floating-LVD. <input type="checkbox"/> Graminoid <input type="checkbox"/> Forb <input type="checkbox"/> Lichen <input type="checkbox"/> Bryophyte <input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Mixed	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Marsh <input type="checkbox"/> Swamp <input type="checkbox"/> Fen <input type="checkbox"/> Bog <input type="checkbox"/> Barren <input type="checkbox"/> Meadow <input type="checkbox"/> Prairie <input type="checkbox"/> Thicket <input type="checkbox"/> Savannah <input type="checkbox"/> Woodland <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Plantation

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) P > Much Greater Than; G = Greater Than; = About Equal; T = Top
1	2	4	MA >> BE >> AW >> PD
2	2-3	3	MA >> AW >> PD >> DO
3	4-5	2	MA >> BE = AW >> CH = CK = CHERRY
4	6	2	AW >> MA >> BE >> BE >> BE >> ENCHANTED NIGHTSHADE

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%

Stand Composition: Size Class Analysis: A < 10 A 10-24 A > 50
 BA: MA BE AW BA Standing Snags: O < 10 O 10-24 O > 50
 Deadfall / Logs: A < 10 D 10-24 R > 50

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

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

Vegetation Type: Dry-Fresh Sugar or Maple Deciduous Forest Code: RDS
 Dry-Fresh Sugar Maple-Beech Deciduous Forest Type: F005-2
 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.
MA	8	8			16	53
BE	4	3			7	23
AW	0	3			3	10
PD	0	1			1	3
DO	0	1			1	3
CH	13	17			30	100
CK	26	34			60	30
CHERRY	2	2			4	13

Soils Ontario and ELC Soils Description

Site Metrics: P/Auger # WP211 ① Moisture Regime ②

UTM	Zone	Easting	Northing	Position	Aspect	Percent	Slope	Length	Drainage
					SE	4	5m	4m	
					NE	5	36	27	
					7	5	> 120	> 120	
							> 120	> 120	
							> 120	> 120	

Depth to	Mottles	Gley	Water Table	Carbonates	Bedrock	Depth from zero	Texture	Depth from zero	Texture	Depth from zero	Texture	Depth from zero	Texture	% Surface Stone/Rock	Moisture Regime	Drainage
1						0	vfscL	0	vfscL	0	vfscL	0	vfscL			
2						13	vfsc	5	vfsc	15	vfsc	15	vfsc			
3						28	vfsc	5	vfsc	21	vfsc	21	vfsc			
4						53	vfsc	5	vfsc	21	vfsc	21	vfsc			
						26										

ELC WILDLIFE	SITE: GSA 1040 / 1164
	POLYGON: D
	DATE: Aug. 16/11
	SURVEYORS: SAM
	START TIME: 1509h END TIME: 1644h

TEMP (°C): 26	CLOUD (10th): 1	WIND: 2-3	PRECIPITATION: nil
CONDITIONS: hot, light breeze, clear			

POTENTIAL WILDLIFE HABITAT:

<input checked="" type="checkbox"/>	VERNAL POOLS very shallow & few	<input checked="" type="checkbox"/>	SNAGS
	HIBERNACULA	<input checked="" type="checkbox"/>	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	GCFE	SH		2					
L	Monarch	OB	Milkweed feeding	5					
L	Red Spotted Kingfisher	OB		1					
B	CEWA	VO		2					
B	AMRO	VO		2					
B	EAWP	SH		1					

FAUNAL TYPE CODES (TY):

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT

SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY

D = DISPLAY

P = PAIR

A = ANXIETY BEHAVIOUR

N = NEST BUILDING

V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION

NU = USED NEST

FY = FLEDGED YOUNG

NE = EGGS

NY = YOUNG

FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED

VO = VOCALIZATION

CA = CARCASS

DP = DISTINCTIVE PARTS

HO = HOUSE/DEN

FY = EGGS/YOUNG

TK = TRACKS

FE = FEEDING EVIDENCE

SC = SCAT

SI = OTHER SIGNS (specify)

ELC WILDLIFE	SITE: 3416 SJ 1049	
	POLYGON: D	
	DATE: July 19/11	
	SURVEYORS: SM	
	START TIME:	END TIME:

TEMP (°C):	CLOUD (10h):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

VERNAL POOLS	SNAGS
HIBERNACULA	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	EAWP	SM		2					
B	PIWO	SM		1					
B	YTVI	SM		1					

FAUNAL TYPE CODES (TY):

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

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:

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

BREEDING BIRD - CONFIRMED:

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

OTHER WILDLIFE EVIDENCE:

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

Goshen Feature: 358 GSH1119/1166

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

Nov 9/2011
James Konstera



October 28, 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

ORIGINAL

12 GSH11008

Leased
(Accessible)
GSH1005

Forced into Survey



FAD5-2

Accessible

NO ACCESS

AOE=Yes

GSH1119

GSH1166

ROE=NO

GSH1120

-confirm timeline
of GSH1166

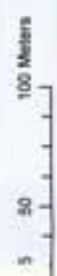
Goshen Feature: 358 GSH1119 / GSH1166

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

September 1, 2011

h

	Roads
	Access-Collection Line
	Collection Buffer (125m)
	Turbine Buffer (171.5m)
	Collection/Feature Interest
	Turbine Buffer/Feature Interest
	Property Fabric
	Waste-to-Energy Centres



Access = yes

access

feature



NO ACCESS

RoE = yes

GSH1166

RoE denied

ELC
Community Description and Classification

Site: 388_GSH1119 Polygon: A
 Surveyor(s): Kawusta Date: Sept 7/11 Time start: 15:40
 UTMZ: 17 UTMZ: 449140 UTMN: 4803200

Polygon Description

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

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp)
1	2	4	Fragran > Acer sac > Ostrya > Fraxin
2	3	3	Acer sac > Fraxin > Fragran
3	4	3	Fraxin - Ostrya - Rhus rad - Astro - Ailth
4	6	3	

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 1 0% - 10% 2 10 - 20% 3 25 - 50% 4 > 50%

Stand Composition: Size Class Analysis:

Standing Snags:	A < 10	A 10-24	0 25-50	0 > 50
Deadfall / Logs:	A < 10	B 10-24	B 25-50	B > 50

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

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

Ecosite: FOD5-2
Vegetation Type:
Inclusion:
Complex:

Community Profile Diagram/Comments
 Sugar Maple - Beech, but Beech 75.0%

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Prism Factor	2
Total							
Basal Area (BA)							100
Dead							

Soils Ontario and ELC Soils Description

Site Metrics		Pip/Auger #	Soils Ontario and ELC Soils Description				Summary	
Zone	Easting	Northing	Position	Aspect	Percent	Slope	Length	Moisture Regime
Mottles	Clay	Water Table	Carbonates	Bedrock	Depth from zero	Texture	Depth from zero	Texture
1					% CF	% CF	% CF	% CF
2					% CF	% CF	% CF	% CF
3					% CF	% CF	% CF	% CF
4					% CF	% CF	% CF	% CF
Moisture Regime		% Surface Stone/Rock						
Drainage								

Tim Over

Site 358 Polygon B

Sept 7

UTM. 449185 / 4803175

Meadow Marsh along intermittent flow channel through Woodlot

4-1 Samcaua

5/6-4 Impcape > Polylapa - Sol - Rum obtu

Foib Mixed Meadow Marsh MAM 2-10

VASCULAR PLANT CHECKSHEET

Location: Cosheu 358
 Observer: Kamstra

Date: _____
 Job Number: _____

DICOT HERBS													MONOCOT HERBS											
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6						
Achillea millefolium							Erigeron annuus						Plantago lanceolata						Ailena plantago-aquatica					
Actaea pachyoda	X						Erigeron philadelphicus						Plantago major						Allium tricoccum			X		
Actaea rubra							Erigeron strigosus						Plantago rugelii						Allium					
Agalinis							Erysimum cheiranthoides						Podophyllum peltatum						Artemisia trifyllum					
Agrostis gryposepala							Eupatorium maculatum						Polygonum						Aspenagus officinale					
Alliaria petiolata							Eupatorium perfoliatum						Polygonum						Calla palustris					
Amaranthus retrofractus							Eupatorium rugosum						Polygonum						Clinaria borealis					
Ambrosia artemisiifolia	X	X					Euphorbia						Polygonum lapathifolium	X					Conularia major					
Amphicarpum bracteatum							Euthamia graminifolia	X					Polygonum persicaria						Cypripedium calceolus					
Anaphalis margaritacea							Fragaria virginiana						Potentilla						Erodes canadensis					
Anemone							Fragaria vesca						Potentilla norvegica						Epipactis helleborine			X		
Anemone canadensis							Galeopsis tetrahit						Potentilla recta						Erythronium americanum					
Anemone virginiana							Galium						Prenanthes- ella <u>altiss</u>	X					Hemerocallis fulva					
Antennaria neglecta							Galium						Prunella vulgaris						Iris versicolor					
Apocynum androsaemifolium							Galium palustre						Pyrola elliptica						Lemna minor					
Apocynum cannabinum							Galium triflorum						Ranunculus						Lemna trisulca					
Aquilegia canadensis							Geranium maculatum						Ranunculus abortivus						Lilium					
Analis nudicaulis							Geranium robertianum	X					Ranunculus acris						Mianthemum canadense					
Arctium minus							Geum aleppicum						Rudbeckia hirta						Mianthemum racemosa			X		
Artemisia							Geum canadense						Rumex acetosella						Mianthemum stellata					
Astragalus canadensis							Geum <u>ulmifolium</u>	X					Rumex crispus						Patanthera					
Azorella inornata							Glechoma hederacea						Rumex <u>obtusifolius</u>	X					Portulaca cordata					
Azorella sylvatica							Hepatica scutifolia						Sanguinaria canadensis	X					Polygonatum pubescens					
Aster							Hesperis matronalis						Sanicula marilandica						Potamogeton crispus					
Aster cordifolius							Hieracium aurantiacum						Saponaria officinale						Potamogeton pectinatus					
Aster ericoides							Hieracium caespitosum						Satureja vulgaris						Potamogeton					
Aster lanceolatus	X	X					Hieracium						Scutellaria galericulata						Potamogeton					
Aster lateriflorus							Hydrophyllum virginianum						Silene vulgaris						Potamogeton					
Aster macrophyllus							Hypericum perforatum						Sium suave						Sagittaria latifolia					
Aster novae-angliae							Impatiens capensis	X					Solanum dulcamara						Sium montanum					
Aster puniceus							Inula helenium						Solidago						Sium herbaceum					
Barbarea vulgaris							Lactuca						Solidago elaeagnifolia	X					Spiranthes cernua					
Bidens cernua							Lappula canadensis						Solidago oesalis						Spirodela polyrrhiza					
Bidens frondosa							Lapsana communis						Solidago canadensis						Streptopus roseus					
Boehmeria cylindrica							Leonurus cardiaca						Solidago flexicaulis	X					Tritium aestivum					
Caltha palustris							Lepidium						Solidago gigantea						Tritium grandiflorum					
Calyptegia sepium							Linsaea vulgaris						Solidago nemoralis						Urtica grandiflora					
Cardamine diphylla							Lithospermum officinale						Solidago rugosa											
Cardamine							Lobelia						Sonchus arvensis											
Caulophyllum thalictroides							Lobelia inflata						Sonchus asper											
Centaurium fortanum							Lotus corniculatus						Stellaria											
Centropogon demersum							Lycopus americanus						Tanacetum vulgare											
Chelidonium majus							Lycopus						Taraxacum officinale											
Chenopodium album							Lysimachia ciliata						Thalictrum dioicum											
Chrysanthemum leucanthemum							Lythrum salicaria						Thalictrum pubescens											
Cichorium intybus							Medicago lupulina						Tiarella cordifolia											
Cicuta							Medicago sativum						Tragopogon pratensis											
Circaea lutetiana	X						Melilotus alba						Trientalis borealis											
Cirsium arvense							Mentha arvensis						Tritium											
Cirsium vulgare							Mimulus ringens						Tritium pratense											
Clematis virginiana							Mimulus ringens						Tritium repens											
Clinaria borealis							Mimulus ringens						Tussockia farfara											
Coryza canadensis							Mimulus ringens						Urtica dioica											
Coronilla varia							Miranda foliolosa						Urticaria vulgaris											
Cynanchum rossicum							Myosotis						Verbascum thapsus											
Cynoglossum officinale							Nasturtium officinale						Verbena hastata											
Daucus carota							Nepeta cataria						Verbena urticifolia											
Desmodium canadense							Nuphar variegatum						Veronica											
Dianthus armeria							Nymphaea odorata						Veronica officinalis											
Dipsacus fulorum							Oenothera biennis						Viola cretica											
Echinocystis lobata							Osmorhiza						Viola tetrasperma											
Echium vulgare							Oxalis stricta						Viola											
Epilobium							Phyma leptostachya						Viola pubescens											
Epilobium ciliatum							Physalis heterophylla						Viola sororia											
Epilobium hirsutum							<u>MAULSPOURIUM</u>	X																
Epilobium parviflorum																								
<u>Epitragus</u>																								
<u>Arbution f.oo</u>																								

- 1: FOD
 2: MAM
 3: _____
 4: _____
 5: _____
 6: _____

SITE LOCATIONS

CONIFERS						TREES and SHRUBS						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		X				Alopecurus					
Picea abies						Rubus occidentalis		X				Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex arctata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Thuja occidentalis						Salix bebbiana						Carex blanda				X	
Tsuga canadensis						+ Salix discolor						Carex gracillima				X	
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pensylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrorsa					
Acer negundo	X					Salix x rubens						Carex stipata					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis		X				Carex vulpinoidea					
Acer saccharum	X					Sambucus racemosa						Carex <i>perfluviatilis</i>				X	
Acer spicatum						Sorbus aucuparia						Carex <i>platyphylla</i>				X	
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana		X				Carex					
Betula alleghaniensis						Ulmus americana		X				Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago						Carex					
Celastrus scandens						Viburnum opulus						Cyperus					
Comus alternifolia						Viburnum						Cyperus					
Comus amomum						Vitis riparia		X				Dactylis glomerata					
Comus rugosa												Danthonia spicata					
Comus stolonifera												Echinochloa crus-galli					
Corylus cornuta												Eleocharis erythropoda					
Crataegus monogyna												Eleocharis					
Crataegus punctata												Elymus virginicus					
Crataegus sp.												Elymus					
Crataegus												Festuca arundinacea					
Diervilla lonicera												Glyceria striata					
Fagus grandifolia		X										Glyceria					
Fraxinus americana		X										Juncus dudleyi					
Fraxinus nigra						FERNS						Juncus effusus					
Fraxinus pennsylvanica						Adiantum pedatum						Juncus tenuis					
Ilex verticillata						Athyrium filix-femina						Juncus					
Juglans cinerea						Botrychium multifidum						Juncus					
Juglans nigra						Botrychium virginianum						Leersia oryzoides					
Lonicera morrowi						Cystopteris bulbifera						Muhlenbergia					
Lonicera tatarica						Dryopteris carthusiana						Oryzopsis asperifolia					
Lonicera						Dryopteris cristata						Panicum					
Malus pumila		X				Dryopteris marginalis						Panicum					
Ostrya virginiana		X				Dryopteris						Phalaris arundinacea				X	
Parthenocissus inserta						Equisetum arvense						Phleum pratense					
Populus balsamifera						Equisetum hyemale						Phragmites australis					
Populus grandidentata						Equisetum variegatum						Poa compressus					
Populus tremuloides						Equisetum						Poa pratensis					
Populus <i>deltoides</i>		X				Gymnocarpium dryopteris						Poa					
Prunus pennsylvanica		X				Lycopodium digitatum						Scirpus atrovirens					
Prunus serotina		X				Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana		X				Lycopodium						Scirpus validus					
Prunus <i>avium</i>		X				Lycopodium						Scirpus					
Quercus macrocarpa						Matteucia struthiopteris						Scirpus					
Quercus rubra						Osmoclea sensibilis						Setaria					
Quercus						Osmunda cinnamomum						Sparganium					
Rhamnus cathartica		X				Osmunda regalis						Typha angustifolia					
Rhus radicans						Polystichum acrostichoides						Typha latifolia					
Rhus typhina						Pteridium aquilinum						Typha Xglauca					
Ribes americana						Thelypteris palustris											
Ribes cynosbati		X															
Ribes x rubrum																	
Robinia pseudo-acacia																	

Goshen Feature: 358 GSH1119/1166

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

NOV 9/2011
JAMES KONSTRA

0 30 60 120 Meters

October 28, 2011



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

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

ORIGINAL

12 GSH1118

Leased
GSH11005
(Accessible)

Fencing Survey



F0D5-2

Accessible

353

NO ACCESS

Acc=Yes

GSH1119

GSH1166

RoE=NO

GSH1120



- Legend**
- Turbine Location
 - Road Turn-Around
 - Collection Line Layout
 - Access Road Layout
 - ▭ Turbine Turn-Around Box
 - ▭ Collection Line 20m Buffer
 - ▭ Access Road 60m Buffer
 - ▭ Area of Disturbance 120m Buffer
 - ▭ Natural Feature
- Roads**
- Major Road
 - Local Road
- Water Features**
- Intermittent Stream
 - Permanent Stream



Basemapping from Ontario Ministry of Natural Resources
Ortophotography

UTM Zone 17N, NAD 83
12,500

0 15 30 45 60 75 90 105 120
Metres

N
E
S
W

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NextEra Energy Canada, LLC
Goshen Wind Energy Centre

Feature 361

December 2011
80155622

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Figure 1

