

**VASCULAR PLANT LIST**

PROJECT / LOCATION: FEATURE 361

POLYGON: 6.

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

DATE(S): DEC. 12, 2011

VEGETATION TYPE:

NOTES: Vegetation composition is misleading Soils were not wet or moist.

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)						
Blue Jay										
Downy										
Goldfinch										
<b>TREES</b>										
ULM AMER		R	R		ALL PETI		O			
FRAXINUS SP.	D	D	A	O	SYM SP. CF. LATE		A			
TIL AMER	O		R		GEUM SP.		D			
FRA NIGR			O		SOL CF. CANA		O			
THU OCCI			O	R	SYM LANC		R			
ACE NEGU		R	R		DAUCARO		R			
TSU CANA				R						
ACE FREE	R		R							
CAR CARO			R							
SALIX SP.	R									
<b>SHRUBS AND WOODY VINES</b>										
VIBURNUM CF LENT				O						
VITRIPA				R						
RUB IDAE				O						
COR ALTE				A						
TOX RADI		A	A							
F ILEX VERT				D						
KHA CATH				R						
SAM CANA				O						
ROS MUET				R						
CORNUS OBLIQUA				R						

Relative Abundance: D = Dominant; A = Abundant; O = Occasional; R = Rare  
 Vegetation Height: C = > 20m; SC = 10 - 20m; U = 2 - 10m; GL = < 2m





<b>ELC</b>  <b>WILDLIFE</b>	SITE: 361	
	POLYGON: G.	
	DATE: DEC. 12, 2011	
	SURVEYORS: B. Miller, R. Aitken	
START TIME: 1:00pm	END TIME: 1:45pm	

TEMP (°C): 0	CLOUD (10th): 1	WIND: 1	PRECIPITATION: None
CONDITIONS:			

**POTENTIAL WILDLIFE HABITAT:**

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

**SPECIES LIST:**

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	Blue Jay	OB		1					
B	Downy W.P.	OB		1					
B	American Goldfinch	VO		-					

**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

*Chapin*

Project No.: 14540001  
 Date: 12/15/11  
 Scale: 1:2,000  
 North Arrow

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NorthWest Energy Canada, LLC  
 Golden Wind Energy Center  
**Feature 361**  
 December 2011  
 00100002

**AECOM**

Figure 1

ASA

**ELC**  
Community Description and Classification

Map #: 81 GSH 1310 Polygon: 1

Surveyor(s): SJS Date: July 3, 2012 Time start: 4:20 pm finish: 4:40 pm

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 checked="" type="checkbox"/> Natural <input type="checkbox"/> Cultural <input type="checkbox"/> Open <input type="checkbox"/> Shrub <input checked="" 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"/> 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"/> 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"/> 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 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	Fra penn > T. p. m. = Arefree
2	2	3	Fra penn > L. m. = Arefree
3	4	2	Fra penn
4			? Can't see

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%

BA:	Stand Composition:	Size Class Analysis:			
		<10	10-24	25-50	>50
	Standing Snags:	?	?	?	?
	Deadfall / Logs:	?	?	?	?

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

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

Ecosite: Fresh - moist lowland elev. for. Code: F0D7  
 Vegetation Type: Fresh - moist Ash lowland elev. Code: F007-2  
 Inclusion: Code:  
 Complex: Code:

**Community Profile Diagram/Comments**

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Notes:

**Tree Tally by Species**

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	PI/Auger #	Soils Ontario and ELC Soils Description				Summary
UTM	Zone					Moisture Regime
	Easting					
	Northing					
	Position					
Slope	Aspect					Drainage
	Percent					
	Slope Length					
Depth to...	Mottles					Effective Texture (indicate below)
	Gley					
	Water Table					
	Carbonates					
	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 Stoner/Rock					
	Moisture Regime					
	Drainage					









ASA from field

Map #: 3LZGJH1310 Polygon: F008-1  
 Surveyor(s): Date: Time start: 10:45 AM finish: 11:20 AM  
 UTMZ: UTMZ: UTMZ:

**Polygon Description**

System	Substrata	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 checked="" type="checkbox"/> ASA	<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 checked="" 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"/> 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.) (> Much Greater Than; > Greater Than; = About Equal To)
1	1	3	P
2	3	2	Fragran > PopTRE > LUMAMER
3	4	3	COGATE - rubicosa
4	6	3	alpeti > Salicoides > 2 subsp. trichur. of Zygosp.

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

Stand Composition Size Class Analysis  
 Standing Stock: 

A	<10	A	10-24	O	25-50	N	>50
O	<10	O	10-24	A	25-50	A	>50
	<10	O	10-24		25-50	N	>50

  
 Rootlet / Logs: re O = Occasional A = Abundant

Com. Age.  Young  Mid-Age  Mature  Old Growth

Species: Fresh-Moist Poplar-SASSIFRICES (Academy Fruit Comb) Code: F008-1  
 Vegetation Type: Fresh-Moist Poplar deciduous forest type Code: F008-1  
 Installation: Fresh-Moist Sugar maple deciduous forest stands Code: F006  
 Comments: Code:

**Community Profile Diagram/Comments**

Notes:

**Tree Tally by Species**

Species	July 1	July 2	July 3	July 4	Total	Est. Avg.
Total					100	
Basal Area (BA)						
Dens.						

**Soils Ontario and ELC Soils Description**

Site Metrics	PI/Auger #	Soils Ontario and ELC Soils Description				Summary
		Zone	Easting	Northing	Position	
UTM						
Slope						
Mottles						
Gley						
Water Table						
Carbonates						
Bedrock						
Soil Horizon Description	Depth to ...	1	Depth from zero	Texture	% CF	% CF
		2	Depth from zero	Texture	% CF	% CF
		3	Depth from zero	Texture	% CF	% CF
		4	Depth from zero	Texture	% CF	% CF
		% Surface Stone/Rock				
		Moisture Regime				
		Drainage				

Plant Species List  
2012

Trees & Shrubs						Tree & Shrubs						Graminoids					
1	2	3	4	5		1	2	3	4	5		1	2	3	4	5	
<b>Conifers</b>						<b>Deciduous</b>						<b>Grasses</b>					
Balsam Fir ( <i>Abies balsamea</i> )						White Oak ( <i>Quercus alba</i> )						Giant Redtop ( <i>Agrostis gigantea</i> )					
Common Juniper ( <i>Juniperus communis</i> )						Bur Oak ( <i>Quercus macrocarpa</i> )						Redtop ( <i>Agrostis stolonifera</i> )					
Eastern Red Cedar ( <i>Juniperus virginiana</i> )						Red Oak ( <i>Quercus rubra</i> )						Awnless Brome ( <i>Bromus inermis</i> )					
Tamarack ( <i>Larix laricina</i> )						Alder Buckthorn ( <i>Rhamnus alnifolia</i> )						Bromus					
Norway Spruce ( <i>Picea abies</i> )						Common Buckthorn ( <i>Rhamnus cathartica</i> )						Blue-joint Grass ( <i>Calamagrostis canadensis</i> )					
White Spruce ( <i>Picea glauca</i> )						Smooth Sumac ( <i>Rhus glabra</i> )						Orchard Grass ( <i>Dactylis glomerata</i> )					
Black Spruce ( <i>Picea mariana</i> )						Staghorn Sumac ( <i>Rhus hirta</i> )						Poverty Oat Grass ( <i>Danthonia spicata</i> )					
Jack Pine ( <i>Pinus banksiana</i> )						Wild Black Currant ( <i>Ribes americanum</i> )						Quack Grass ( <i>Elymus repens</i> )					
Red Pine ( <i>Pinus resinosa</i> )						Prickly Gooseberry ( <i>Ribes cynosbati</i> )						Virginia Wild Rye ( <i>Elymus virginicus</i> )					
Eastern White Pine ( <i>Pinus strobus</i> )						Swamp Black Currant ( <i>Ribes lacustre</i> )						Elymus					
Scotch Pine ( <i>Pinus sylvestris</i> )						Red Currant ( <i>Ribes rubrum</i> )											
Canada Yew ( <i>Taxus canadensis</i> )						Ribes						Fowl Manna Grass ( <i>Glyceria striata</i> )					
Eastern White Cedar ( <i>Thuja occidentalis</i> )						Black Locust ( <i>Robinia pseudo-acacia</i> )						Glyceria					
Eastern Hemlock ( <i>Tsuga canadensis</i> )						Prickly Rose ( <i>Rosa acicularis</i> )						Rice Cut Grass ( <i>Leersia oryzoides</i> )					
						Smooth Rose ( <i>Rosa blanda</i> )						Tall Fescue ( <i>Lolium arundinaceum</i> )					
						Multiflora Rose ( <i>Rosa multiflora</i> )						Muhlenbergia					
						Rosa						Witch-grass ( <i>Panicum capillare</i> )					
<b>Deciduous</b>																	
Manitoba Maple ( <i>Acer negundo</i> )						Com. Blackberry ( <i>Rubus allegheniensis</i> )						Panicum					
Black Maple ( <i>Acer nigrum</i> )						Wild Red Raspberry ( <i>Rubus idaeus</i> )						Reed Canary Grass ( <i>Phalaris arundinacea</i> )					
Norway Maple ( <i>Acer platanoides</i> )						Black Raspberry ( <i>Rubus occidentalis</i> )						Timothy ( <i>Phleum pratense</i> )					
Red Maple ( <i>Acer rubrum</i> )						Purple-fl. Raspberry ( <i>Rubus odoratus</i> )						Common Reed ( <i>Phragmites australis</i> )					
Silver Maple ( <i>Acer saccharinum</i> )						Dwarf Raspberry ( <i>Rubus pubescens</i> )						Canada Blue Grass ( <i>Poa compressa</i> )					
Freeman's Maple ( <i>Acer X freemanii</i> )						Rubus						Fowl Meadow Grass ( <i>Poa palustris</i> )					
Sugar Maple ( <i>Acer saccharum</i> )						Peach-leaved Willow ( <i>Salix amygdaloides</i> )						Kentucky Bluegrass ( <i>Poa pratensis</i> )					
Mountain Maple ( <i>Acer spicatum</i> )						Bebb's Willow ( <i>Salix bebbiana</i> )						Yellow Foxtail ( <i>Setaria pumila</i> )					
Speckled Alder ( <i>Alnus incana</i> )						Pussy Willow ( <i>Salix discolor</i> )						Green Foxtail ( <i>Setaria viridis</i> )					
Downy Serviceberry ( <i>Amelanchier arborea</i> )						Missouri Willow ( <i>Salix eriocephala</i> )											
Serviceberry ( <i>Amelanchier sanguinea</i> )						Sandbar Willow ( <i>Salix exigua</i> )						grass sp					
Yellow Birch ( <i>Betula alleghaniensis</i> )						Shining Willow ( <i>Salix lucida</i> )						R					
White Birch ( <i>Betula papyrifera</i> )						Black Willow ( <i>Salix nigra</i> )											
European Birch ( <i>Betula pendula</i> )						Slender Willow ( <i>Salix petiolaris</i> )											
Blue Beech ( <i>Carpinus caroliniana</i> )						Salix (?)						R					
Bitternut hickory ( <i>Carya cordiformis</i> )						Hybrid Crack Willow ( <i>Salix X rubens</i> )											
Shagbark Hickory ( <i>Carya ovata</i> )						Black-berried Elder ( <i>Sambucus nigra</i> )											
Climbing Bittersweet ( <i>Celastrus scandens</i> )						Red-berried Elder ( <i>Sambucus racemosa</i> )											
Common Hackberry ( <i>Celtis occidentalis</i> )						Buffaloberry ( <i>Shepherdia canadensis</i> )						<b>Sedges</b>					
Buttonbush ( <i>Cephalanthus occidentalis</i> )						Eur. Mountain Ash ( <i>Sorbus aucuparia</i> )						Drooping Wood Sedge ( <i>Carex arctata</i> )					
Alt.-leaved Dogwood ( <i>Cornus alternifolia</i> )						Narrow Meadow-sweet ( <i>Spiraea alba</i> )						Golden-fruited Sedge ( <i>Carex aurea</i> )					
Silky Dogwood ( <i>Cornus amomum</i> )						Common Lilac ( <i>Syringa vulgaris</i> )						Graceful Sedge ( <i>Carex gracillima</i> )					
Bunchberry ( <i>Cornus canadensis</i> )						Poison-ivy ( <i>Toxicodendron rydbergii</i> )						Inland Sedge ( <i>Carex interior</i> )					
Gray dogwood ( <i>Cornus racemosa</i> )						Climbing Poison-ivy ( <i>Toxicodendron radicans</i> )						Bladder Sedge ( <i>Carex intumescens</i> )					
Round-leaved Dogwood ( <i>Cornus rugosa</i> )						White Elm ( <i>Ulmus americana</i> )						Lake-bank Sedge ( <i>Carex lacustris</i> )					
Red-osier Dogwood ( <i>Cornus sericea</i> )						Siberian Elm ( <i>Ulmus pumila</i> )						Hop Sedge ( <i>Carex lupulina</i> )					
American Hazel ( <i>Corylus americana</i> )						Slippery Elm ( <i>Ulmus rubra</i> )						Pennsylvania Sedge ( <i>Carex pennsylvanica</i> )					
Beaked Hazel ( <i>Corylus cornuta</i> )						Low Blueberry ( <i>Vaccinium angustifolium</i> )						Awn-fruited Sedge ( <i>Carex stipitata</i> )					
Cockspur Thorn ( <i>Crataegus crus-galli</i> )						Maple-leaf Viburnum ( <i>Viburnum acerifolium</i> )						Fox Sedge ( <i>Carex vulpinoidea</i> )					
English Hawthorn ( <i>Crataegus monogyna</i> )						Hobblebush ( <i>Viburnum lantanoides</i> )						Carex					
Large-fruited Thorn ( <i>Crataegus punctata</i> )						Nannyberry ( <i>Viburnum lentago</i> )						Carex					
Crataegus						Guelder-Rose ( <i>Viburnum opulus</i> )						Carex					
Crataegus						Downy Arrow-wood ( <i>Vib. rafinesquianum</i> )						Carex					
Bush Honeysuckle ( <i>Dierilla lonicera</i> )						Riverbank Grape ( <i>Vitis riparia</i> )						Carex					
Russian Olive ( <i>Elaeagnus angustifolia</i> )						Am. Prickly-ash ( <i>Zanthoxylum americanum</i> )						Carex					
Autumn Olive ( <i>Elaeagnus umbellata</i> )												Carex					
Run. Strawberry-bush ( <i>Euonymus obovata</i> )						TILAMOI						Carex					
American Beech ( <i>Fagus grandifolia</i> )												Carex					
Glossy Buckthorn ( <i>Frangula alnus</i> )												Carex					
White Ash ( <i>Fraxinus americana</i> )												Carex					
Black Ash ( <i>Fraxinus nigra</i> )												Carex					
Green Ash ( <i>Fraxinus pennsylvanica</i> )												Cyperus					
Witch-hazel ( <i>Hamamelis virginiana</i> )												Redroot Spike-rush ( <i>Eleocharis erythropoda</i> )					
Winterberry ( <i>Ilex verticillata</i> )												Eleocharis					
Butternut ( <i>Juglans cinerea</i> )												Hard-stem Bulrush ( <i>Schoenoplectus acutus</i> )					
Black Walnut ( <i>Juglans nigra</i> )												Three-square Bulrush ( <i>Sch. pungens</i> )					
Common Privet ( <i>Ligustrum vulgare</i> )												Soft-stem Bulrush ( <i>Sch. tabernaemontani</i> )					
Spicebush ( <i>Lindera benzoin</i> )												Dark-green Bulrush ( <i>Scirpus atrovirens</i> )					
Fly Honeysuckle ( <i>Lonicera canadensis</i> )												Wool-grass ( <i>Scirpus cyperinus</i> )					
Glaucous Honeysuckle ( <i>Lonicera dioica</i> )																	
Morrow's Honeysuckle ( <i>Lonicera morrowii</i> )																	
Tartarian Honeysuckle ( <i>Lonicera tatarica</i> )																	
Common Apple ( <i>Malus pumila</i> )																	
White Mulberry ( <i>Morus alba</i> )																	
Sweet Gale ( <i>Myrica gale</i> )																	
Ironwood ( <i>Ostrya virginiana</i> )																	
Thicket-creeper ( <i>Parthenocissus inserta</i> )																	
Ninebark ( <i>Physocarpus opulifolius</i> )						Field Horsetail ( <i>Equisetum arvense</i> )						Broad Bur-reed ( <i>Sparganium eurycarpum</i> )					
Balsam Poplar ( <i>Populus balsamifera</i> )						Scouring-rush ( <i>Equisetum hyemale</i> )						Narrow-leaved Cattail ( <i>Typha angustifolia</i> )					
Eastern Cottonwood ( <i>Populus deltoides</i> )						Variegated Horsetail ( <i>Equisetum variegatum</i> )						Broad-leaved Cattail ( <i>Typha latifolia</i> )					
Large-tooth Aspen ( <i>Populus grandidentata</i> )						Equisetum						Broad-leaved Cattail ( <i>Typha X glauca</i> )					
Trembling Aspen ( <i>Populus tremuloides</i> )						Ground-cedar ( <i>Lycopodium digitatum</i> )						Articulated Rush ( <i>Juncus articulatus</i> )					
Sweet Cherry ( <i>Prunus avium</i> )						Shining Clubmoss ( <i>Lycopodium lucidulum</i> )						Soft Rush ( <i>Juncus effusus</i> )					
Pin Cherry ( <i>Prunus pennsylvanica</i> )						Ground-pine ( <i>Lycopodium obscurum</i> )						Path Rush ( <i>Juncus tenuis</i> )					
Black Cherry ( <i>Prunus serotina</i> )												Juncus					
Choke Cherry ( <i>Prunus virginiana</i> )												Juncus					
Prunus																	

D - Dominant: represented by large numbers; generally forming >10% ground cover or >25% vegetation cover in any one stratum

F - Fairly common (=Abundant in ELC): generally widespread represented by fairly large numbers of individual clumps; usually forming >10% ground cover

U - Uncommon (=Occasional in ELC): present as widespread scattered individuals or represented by one or more clumps of many individuals (most species will fall into this category)

R - Rare: represented in the polygon by less than about five individuals or small clumps

Map Number: 362 FSH 1310

Date: June 7, 2012

Surveyors: JPTS

F08-1

FV06 (Incluman)



\* ASA \*

# Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<u>GSH</u>	Map #:	<u>362-GSH 1310</u>
Date:	<u>2012-06-07</u>			Time Started:	<u>10:35 a.m.</u>
Field Staff:	<u>Tom Shorey Jess Pett</u>			Time Finished:	<u>11:20 a.m.</u>
Weather Conditions:	<u>Sunny, 21°C, 15km/h breeze</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, 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

ASFA\*

AECOM

# Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

Map No: 362-6SHB10  
 Date (yyyy-mm-dd): 2017-06-09

Field Staff: Jon Staley  
 Jess Hilde  
 Time Started: 10:35 a.m.  
 Time Finished: 11:30 a.m.

## Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
horned lark		VO					
Shorebird		VO					
Low-lying		VO					
House wren		VO					
VO for sika		VO					

**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  
 Breeding Bird (Probable) DD=Distracted, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Foos/Faecal sack, AE=Nest Entry  
 Breeding Bird (Confirmed) 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

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 (Astorum 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 (Coralorrhiza 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:
FOC, FOM, FOD	Burning Bush (Erythronium altopurpureum) - S3 Bloom Time - April - June	Species occurs in dry to moist deciduous thickets and woods	Y (N) UTM: N/A
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:
SWC, SWM, SWD, SWT, 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:
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) - S17 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	UTM description of habitat if present
CUM1, MAM, FOD6, FOD7, FOD9	June – August Green Dragon ( <i>Arisaema dracontium</i> ) - SC/S3 <i>Bloom Time – May and June</i>	species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	Y (N) UTM	
TP01, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June – August Hairy Bedstraw ( <i>Galium pilosum</i> ) - S3 <i>Bloom Time – June-August</i>	Occurs in dry, sandy woods and thickets, occasionally in dry sandy fields	Y (N) UTM	
FE01, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TFS, TPW	June to August Hairy Valerian ( <i>Valeriana edulis</i> ) - S1 <i>Bloom Time – June to August</i>	In habits 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 <i>Bloom Time – Summer</i>	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y (N) UTM	
FOD6, FOD7, FOD8, FOD9	Time – early to late April Harbinger-of-spring ( <i>Engenia bulbosa</i> ) - S3 <i>Bloom Time – early to late April</i>	Occurs in rich, moist deciduous woods, especially on floodplains.	Y (N) UTM	N/A
SAS1, SAM1, SAF1	Time – summer Hill's Pond Weed ( <i>Potamogeton hillii</i> ) - SC/S2 <i>Bloom Time – summer</i>	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters	Y (N) UTM	
FOM6, FOM7, FOM8	S2 <i>Bloom Time – June to August</i> Large Round-leaved Orchid ( <i>Pliatanthera macrophylla</i> ) - S2 <i>Bloom Time – June to August</i>	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 <i>Bloom Time – June – September</i>	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 <i>Bloom Time – March-May</i>	Occurs in moist deciduous woods and stream banks.	Y (N) UTM	
FOM8, FOD6, FOD7, FOD9, CUM1	S2 Pileose Evening Primrose ( <i>Oenothera pilosella</i> ) - S2 <i>Bloom Time – Late Spring – Early Summer</i>	Moist edges of woods and open, disturbed ground.	Y (N) UTM	
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Bloom Time – July-September Prostate Tick-trefoil ( <i>Desmodium rotundifolium</i> ) - S2 <i>Bloom Time – July-September</i>	Dry, sandy or rocky woods	Y (N) UTM	
FOD7, SWD	March - June Pumpkin Ash ( <i>Fraxinus profunda</i> ) - S2? <i>Bloom Time – March - June</i>	Swamps and floodplains	Y (N) UTM	
CUW1, ALO, FET1, SWC	S3 Ram's-head Lady's-slipper ( <i>Cypripedium arietinum</i> ) - S3 <i>Bloom Time – mid May to mid June</i>	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	S2 Rattlesnake Hawkweed ( <i>Hieracium venosum</i> ) - S2 <i>Bloom Time – April – September</i>	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	Y (N) UTM	
FOD6, FOD7, FOD9	S3 <i>Bloom Time – May - June</i> Round-leaved Groundsel ( <i>Packera obovata</i> ) - S3 <i>Bloom Time – May - June</i>	Found in moist woods	Y (N) UTM	
CUM1, CUT1, CUS1	S3? Round-leaved hawthorn ( <i>Crataegus lumaria</i> ) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y (N) UTM	
FOD6, FOD7, FOD9, FOD9, SWT2, SWT3	S3 Scarlet Beebalm ( <i>Monarda didyma</i> ) - S3 <i>Bloom Time – May to October</i>	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y (N) UTM	N/A
ALO, ALS, ALT, TPO, TFS, TPW	S3 Slender Blazing Star ( <i>Liatris cylindracea</i> ) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods, always and moist sandy meadows.	Y (N) UTM	
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	S2 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	S2 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, TPS2, TPW2, MAM2, FOD7	S2 <i>Bloom Time – late summer to mid fall</i> Stiff Gentian ( <i>Gentiana quinquefolia</i> ) - S2 <i>Bloom Time – late summer to mid fall</i>	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	Y (N) UTM	
TPS1, TPW1, CUW1, RBO, SBO	S3 <i>Bloom Time – mid-March to mid-June</i> Sundial Lupine ( <i>Lupinus perennis</i> ) - S3 <i>Bloom Time – mid-March to mid-June</i>	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	Tall Blazing Star ( <i>Liatris aspera</i> )-S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y (N) UTM:
FEO, FES, FET, MAM2, MAM3	Tuberous Indian Plantain ( <i>Arnoglossum plantagineum</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:
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:
<b>BIRDS</b>			
-	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:
<b>REPTILES</b>			
-	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.
<b>INSECTS</b>			
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:
CUM1, CUT1, CUW1	Monarch Butterfly ( <i>Danaus plexippus</i> ) - SC	Their larvae only feed on milkweeds ( <i>Asclepius</i> spp.). Habitat includes abandoned farmland, along roadsides, open spaces where these plants grow	Y (N) UTM:
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 clyten</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>Pteris virginiensis</i> ) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM:

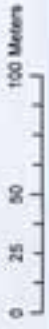
**Goshen Feature: 364 GSH1358**

(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/Features Interest
- Turbine Buffer/Features Interest
- Property Labels
- 1:10,000
- Bluescope Wind Energy Centre

**h**

September 1, 2011



**ELC** Community Description and Classification

Site: 364\_GSH1358 Polygon: Time start: 1:44 pm  
finish: 3:30 pm

Surveyor(s): JPCB Date: Sept 8, 2011 UTMZ: UTMN:

**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"/> 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"/> 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)
1	1	4	ACESAC >> FRPAMEK
2	3	2	FRAGBAN > FRPAMEK
3	4	3	FRAGBAN = FRPAMEK > EUCALARY
4	6	4	SOLFRX > CARPEN > <del>FRPAMEK</del> ACRA = 1-1-P = MAIRAE

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: **Shrub**  **Deciduous**  **Forest**

Species	< 10	10-24	25-50	> 50
Shrub	N	N	N	N
Deciduous	O	A	O	N
Forest	O	A	O	N

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

Canopy Age:  Pioneer  Young  Mid-Age  Mature  Old Growth

Vegetation Type	Shrub Deciduous Forest	Code:	FOOS
Indicator		Code:	FOOS-1
Complex		Code:	

**Community Profile Diagram/Comments**

PPPPPPPP  
 Evidence of logging - lots of stumps  
 15 of wood pieces x6  
 Notes:

**Tree Tally by Species**

Species	Tally	Total	Prism Factor
ACESAC	111-111-111		2
FRPAMEK			
FRAGBAN			
<b>Total</b>		15	100
<b>Total Area (BA)</b>		30	

**Soils Ontario and ELC Soils Description**

Site Metrics		PI/Auger #		Soil Horizon Description		Summary	
Zone	17						
Easting	450943						Moisture Regime
Northing	4803757						
Position	TOP MAX slope						Drainage
Aspect	South						
Percent	40%						
Slope	20m						
Length							
Mottles							
Gley							
Water Table							
Carbonates							
Bedrock							
1	Depth from zero	25	% CF	% CF	% CF	% CF	% CF
Texture	Sand dark in color						
2	Depth from zero		% CF	% CF	% CF	% CF	% CF
Texture	S light in color						
3	Depth from zero		% CF	% CF	% CF	% CF	% CF
Texture							
4	Depth from zero		% CF	% CF	% CF	% CF	% CF
Texture							
% Surface Stone/Rock							
Moisture Regime							
Drainage							

70 cm deep



# ELC

Community Description and Classification

Site: 364-GSH/358 Polygon: V2  
 Surveyor(s): Sgt & Ziel Date: 1:44  
8/20/2011 Time start: 3:30  
 UTMZ: 17 UTMZ: 450851 UTMN: 4803255

### Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input type="checkbox"/> Terrestrial <input checked="" 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 checked="" 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"/> 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 checked="" 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
Site	<input type="checkbox"/> Open Water <input type="checkbox"/> Shallow Water <input checked="" type="checkbox"/> Surficial Dep.			
Bedrock	<input type="checkbox"/> Bedrock			
History	<input checked="" type="checkbox"/> Natural <input type="checkbox"/> Cultural			
Cover	<input checked="" type="checkbox"/> Open <input type="checkbox"/> Shrub <input type="checkbox"/> Treed			

### Stand Description

Layer	HT	CVR
1	7 < 0.2m	8 > 0.2-0.5m
2	0 = none	1 0% - 10%
3		2 10 - 25%
4		3 25 - 60%
		4 > 60%

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

*Pharion >> surface > irregular*

Stand Composition:	Size Class Analysis:	Standing Snags:	Deadfall / Logs:
>50	<10	10-24	>50
>50	<10	10-24	>50
>50	<10	10-24	>50

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

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

Ecosite: MAMA Code: MAMA  
 Vegetation Type: Red Gumy Gas Mineral Marsh Code: MAMA-2  
 Inclusion: Code:   
 Complex: Code:

### Community Profile Diagram/Comments

*spiders: waterbase, striped in map*

Notes:

### Tree Tally by Species

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

### Soils Ontario and ELC Soils Description

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

<b>ELC</b>  <b>WILDLIFE</b>	SITE: <i>364-GSH1358</i>	
	POLYGON: <i>V1</i>	
	DATE: <i>Sept 8</i>	
	SURVEYORS: <i>J. C.B.</i>	
	START TIME:	END TIME:

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

**POTENTIAL WILDLIFE HABITAT:**

<input type="checkbox"/> O	VERNAL POOLS	<input type="checkbox"/> N	SNAGS
<input checked="" type="checkbox"/> R	HIBERNACULA	<input type="checkbox"/> A	FALLEN LOGS

**SPECIES LIST:**

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
	<i>WDFR x 6</i>	<i>OB</i>							
	<i>Wild Turkey</i>	<i>OB</i>							

**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)

VASCULAR PLANT CHECKSHEET

Location:

Date:

Observer:

Job Number:

DICOT HERBS							MONOCOT HERBS						
	1	2	3	4	5	6		1	2	3	4	5	6
<i>Achillea millefolium</i>							<i>Plantago lanceolata</i>						
<i>Achillea pachypoda</i>	X						<i>Plantago major</i>						
<i>Achillea rubra</i>							<i>Plantago rugelii</i>						
<i>Agalinus</i>							<i>Podophyllum peltatum</i>						
<i>Agrimonia gryposepala</i>	X						<i>Polygonum</i>						
<i>Alliaria petiolaris</i>	X						<i>Polygonum</i>						
<i>Amaranthus retrofractus</i>							<i>Polygonum</i>						
<i>Ambrosia artemisiifolia</i>							<i>Polygonum lapathifolium</i>						
<i>Anaphalcarpaea bracteata</i>							<i>Polygonum persicaria</i>						
<i>Anaphalis margaritacea</i>							<i>Potentilla</i>						
<i>Anemone</i>							<i>Potentilla norvegica</i>						
<i>Anemone canadensis</i>							<i>Potentilla recta</i>						
<i>Anemone virginiana</i>							<i>Prenanthes alba</i>						
<i>Ankeraria neglecta</i>							<i>Prunella vulgaris</i>						
<i>Apocynum androsaemifolium</i>							<i>Pyroly eliptica</i>						
<i>Apocynum cannabinum</i>							<i>Ranunculus</i>						
<i>Aquilegia canadensis</i>							<i>Ranunculus abortivus</i>						
<i>Aralia nudicaulis</i>							<i>Ranunculus acris</i>						
<i>Arcium minus</i>	X						<i>Rudbeckia hirta</i>		X				
<i>Artemisia</i>							<i>Rumex acetosella</i>						
<i>Asarum canadense</i>							<i>Rumex crispus</i>						
<i>Asclepias incarnata</i>							<i>Rumex</i>						
<i>Asclepias syriaca</i>							<i>Sanguinaria canadensis</i>		X				
<i>Aster</i>							<i>Sanicula marilandica</i>						
<i>Aster cordifolius</i>							<i>Saponaria officinalis</i>						
<i>Aster ericoides</i>							<i>Satureja vulgaris</i>						
<i>Aster lanceolatus</i>	X						<i>Scutellaria galericulata</i>						
<i>Aster lateriflorus</i>							<i>Silene vulgaris</i>						
<i>Aster macrophyllus</i>	X						<i>Sium suave</i>						
<i>Aster novae-angliae</i>	X						<i>Solanum dulcamara</i>						
<i>Aster puniceus</i>							<i>Solidago</i>						
<i>Barbarea vulgaris</i>							<i>Solidago altissima</i>		X				
<i>Bidens cernua</i>							<i>Solidago caesia</i>						
<i>Bidens frondosa</i>							<i>Solidago canadensis</i>		X				
<i>Boehmeria cylindrica</i>							<i>Solidago flexicaulis</i>		X				
<i>Callitha palustris</i>							<i>Solidago gigantea</i>						
<i>Calyptegia sepium</i>							<i>Solidago nemoralis</i>						
<i>Cardamine diphylla</i>							<i>Solidago rugosa</i>						
<i>Cardamine</i>							<i>Sonchus arvensis</i>						
<i>Caulophyllum thalictroides</i>	X						<i>Sonchus asper</i>						
<i>Cerastium fontanum</i>							<i>Stellaria</i>						
<i>Ceratophyllum demersum</i>							<i>Tanacetum vulgare</i>		no	X			
<i>Chelidonium majus</i>							<i>Taraxacum officinale</i>		X				
<i>Chenopodium album</i>							<i>Thalictrum dioicum</i>						
<i>Chrysanth. leucanthemum</i>							<i>Thalictrum pubescens</i>						
<i>Cichorium intybus</i>							<i>Tharrella cordifolia</i>						
<i>Cicuta</i>							<i>Tragopogon pratensis</i>						
<i>Circaea leucotiana</i>	X						<i>Trifolium borealis</i>						
<i>Cirsium arvense</i>							<i>Trifolium</i>						
<i>Cirsium vulgare</i>							<i>Trifolium pratense</i>						
<i>Clematis virginiana</i>							<i>Trifolium repens</i>						
<i>Clinortia borealis</i>							<i>Tussilago farfara</i>						
<i>Coryza canadensis</i>							<i>Urtica dioica</i>						
<i>Coronilla varia</i>							<i>Utricularia vulgaris</i>						
<i>Cynanchum rossicum</i>							<i>Verbascum thapsus</i>						
<i>Cynoglossum officinale</i>							<i>Verbena hastata</i>						
<i>Daucus carota</i>	X						<i>Verbena urticifolia</i>						
<i>Desmodium canadense</i>							<i>Veronica</i>						
<i>Dianthus aserota</i>							<i>Veronica officinalis</i>						
<i>Dipsacus fullorum</i>							<i>Vicia cracca</i>						
<i>Echinocystis lobata</i>							<i>Vicia tetrasperma</i>						
<i>Echium vulgare</i>							<i>Viola</i>						
<i>Epilobium</i>							<i>Viola</i>						
<i>Epilobium ciliatum</i>							<i>Viola pubescens</i>						
<i>Epilobium hirsutum</i>							<i>Viola sororia</i>						
<i>Epilobium parviflorum</i>													

1: V1-F0D

2: V2-MAM

3:

4:

5:

6:

SITE LOCATIONS



**GSH1038** 369

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



September 1, 2011



**Goshen Feature: GSH1038**

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



GSH1037

GSH1038

GSH1039

GSH1040

GSH1041

DIPPER RD

Roe=yles