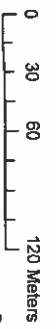


1 CONIFERS						2 TREES and SHRUBS						3 GRAMINIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis						Agropyron repens					
Larix laricina						Rubus idaeus						Alopecurus					
Picea abies						Rubus occidentalis						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					
Tsuga canadensis						+ Salix discolor						Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix eximia						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrorsa					
Acer negundo						Salix x rubens						Carex striata					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharum						Sambucus racemosa						Carex					
Acer spicatum						Sorbus aucuparia						Carex					
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana						Carex					
Betula alleghaniensis						Ulmus americana						Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago						Carex					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Cyperus					
Cornus amomum						Vitis riparia						Dactylis glomerata					
Cornus rugosa foemina												Danthonia spicata					
Cornus 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												Glyceria					
Fraxinus americana												Juncus					
Fraxinus nigra						FERNS						Juncus dudleyi					
Fraxinus pennsylvanica						Adiantum pedatum						Juncus effusus					
Ilex verticillata						Athyrium filix-femina						Juncus tenuis					
Juglans cinerea						Botrychium multifidum						Juncus					
Juglans nigra						Botrychium virginicum						Juncus					
Lonicera morrowi						Cystopteris bulbifera						Leersia oryzoides					
Lonicera tatarica						Dryopteris carthusiana						Muhlenbergia					
Lonicera						Dryopteris cristata						Oryzopsis asperifolia					
Malus pumila						Dryopteris marginalis						Panicum didact					
Ostrya virginiana						Dryopteris						Panicum					
Parthenocissus inserta						Equisetum arvense						Phalaris arundinacea					
Populus balsamifera						Equisetum hyemale						Phleum pratense					
Populus grandidentata						Equisetum variegatum						Phragmites australis					
Populus tremuloides						Equisetum						Poa compressus					
Populus						Gymnocarpium diopetris						Poa pratensis					
Prunus pennsylvanica						Lycopodium digitatum						Poa					
Prunus serotina						Lycopodium obscurum						Scirpus atrovirens					
Prunus virginiana						Lycopodium						Scirpus cyperinus					
Prunus						Lycopodium						Scirpus validus					
Quercus macrocarpa						Lycopodium						Scirpus					
Quercus rubra						Mattucia struthiopteris						Scirpus					
Quercus						Onoclea sensibilis						Setaria glauca					
Rhamnus cathartica						Osmunda cinnamomina						Sparganium					
Rhus radicans						Osmunda regalis						Typha angustifolia					
Rhus typhina						Polystichum acrostichoides						Typha latifolia					
Ribes americana						Pteridium aquilinum						Typha x glauca					
Ribes cynosbati						Thelypteris palustris											
Ribes x rubrum																	
Robinia pseudo-acacia																	

Goshen Feature: 229 GSH1975/1976/1740

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

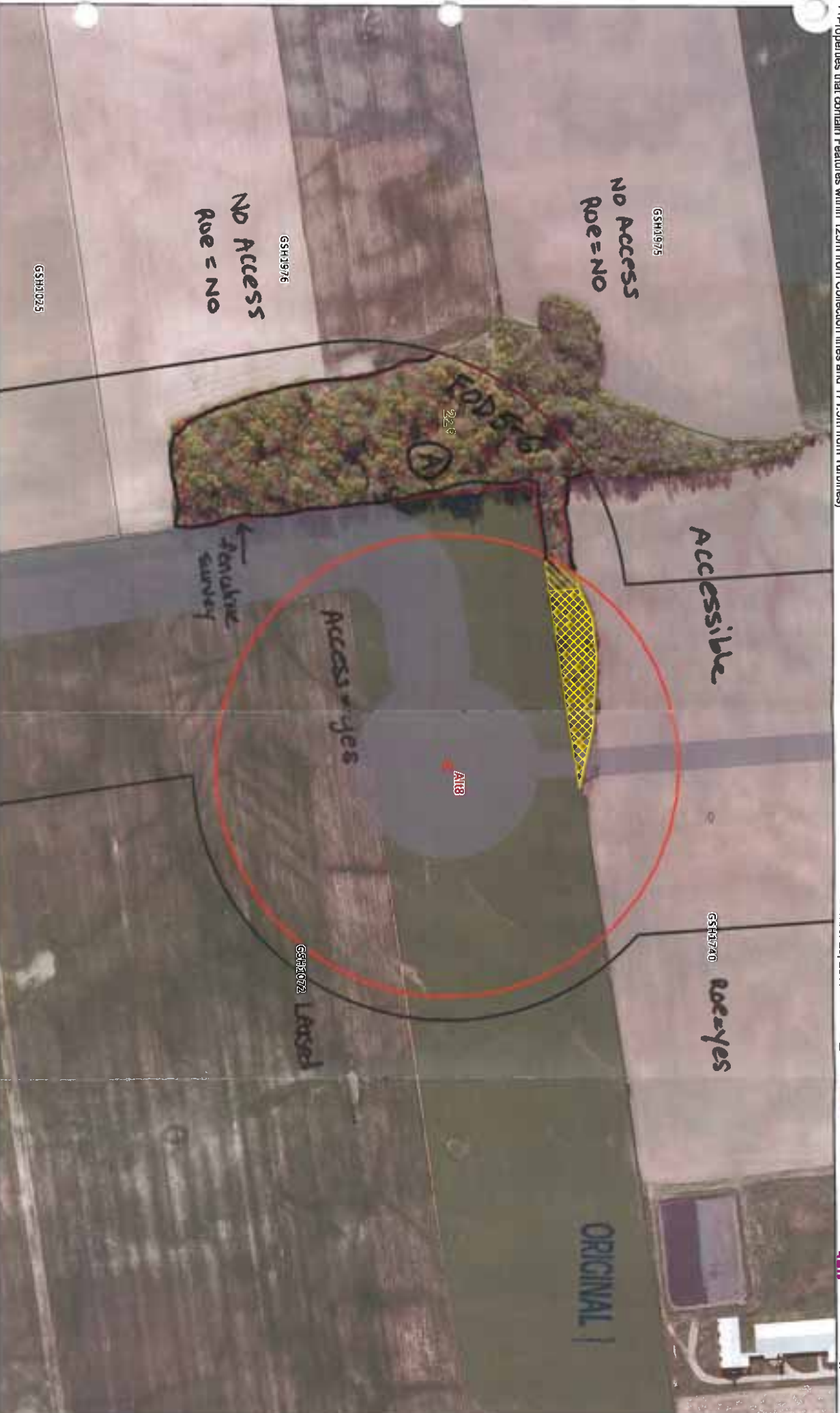


October 28, 2011



- 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



, Nov 9, 2011

Date: July 22, 2011

Job Number:

Copy

1: _____
2: _____
3: 29 GSH 1976
4: _____
5: _____
6: _____

1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
CONIFERS						TREES and SHRUBS						GRAMINOIDS					
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis						Agropyron repens					
Larix laricina						Rubus idaeus						Alopecurus					
Picea abies						Rubus occidentalis						Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus ptibescens						Carex arctata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						+ Salix discolor						Carex gracillima					
						Salix eriocephala						Carex graminifolia					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
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TREES and SHRUBS						+ Salix purpurea						Carex retrorsa					
Acer negundo						Salix x rubens						Carex stricta					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharum	X		X			Sambucus racemosa						Carex					
Acer spicatum						Sorbus aucuparia						Carex					
Alnus rugosa						Sorbus alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana	X		X			Carex					
Betula alleghaniensis						Ulmus americana	X		X			Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis			X			Viburnum lentago						Carex					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia	X					Viburnum						Cyperus					
Cornus amomum			X			Vitis riparia	X		X			Dactylis glomerata				X	
Cornus rugosa												Danthonia spicata					
Cornus stolonifera			X									Echinochloa crus-galli					
Corylus cornuta												Eleocharis erythropoda					
Crataegus monogyna												Eleocharis					
Crataegus punctata												Elymus virginicus					
Crataegus sp.	X											Elymus					
Crataegus												Festuca arundinacea					
Diervilla lonicera												Glyceria striata					
Fagus grandifolia			X									Glyceria					
Fraxinus americana	X		X									Juncus dudleyi					
Fraxinus nigra						FERNS						Juncus effusus					
Fraxinus pennsylvanica						Adiantum pedatum						Juncus tenuis					
Ilex verticillata						Athyrium filix-femina						Juncus					
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Lonicera tatarica						Dryopteris carthusiana						Oryzopsis asperifolia					
Lonicera						Dryopteris cristata						Panicum					
Malus pomila	X					Dryopteris marginalis						Panicum					
Ostrya virginiana			X			Dryopteris						Phalaris arundinacea					
Parthenocissus inserta						Equisetum arvense						Phleum pratense					
Populus balsamifera						Equisetum hyemale						Phragmites australis					
Populus grandidentata						Equisetum variegatum						Poa compressa					
Populus tremuloides	X					Equisetum						Poa pratensis					
Populus						Gymnocarpium dioprepes						Poa					
Prunus pennsylvanica						Lycopodium digitatum						Scirpus atrovirens					
Prunus serotina						Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana						Lycopodium						Scirpus validus					
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Ribes cynosbati																	
Ribes x rubrum																	
Robinia pseudo-acacia																	
G.M.N.C. Fuciformis	X		X														
Euph. obov				X													

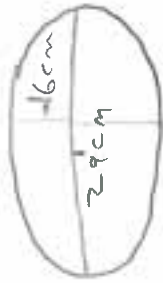
COPY

with
Addition



Den Skape
 - oval (possible Bidge Den)
 - in Sand

#29



Coord 450602
 4791983

0.0 m

0.0 m

0.0 m

0.0 m

0.0 m

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:	29 CSH 75/19	1740	1	FD 056	4
Date:	4, 2012		2		6
Surveyors:	16-75		3		

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	(GSH)	Map #:	229-GSH1975/1976/1974
Date:	2012-04-24			Time Started:	3:18
Field Staff:	Tom Shorey, Jess Pielle			Time Finished:	5:00
Weather Conditions: Cloudy, 5°C, 45 km/h Wind					

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

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

UTMs: _____ Number of nests: _____

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

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

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

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

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

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

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

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

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

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

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

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

UTMs: _____ Likelihood to extend below frost line: _____

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

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

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

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

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

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

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

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

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

☒ No

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

UTMs: _____

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

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

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

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

Shoreline of lake, large river or large wetland present:

☒ No

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

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

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

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

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

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

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

Large open habitat present: ☒ No

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

UTMs: _____

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

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

Old-growth or Mature Forests, Interior Forest Breeding Birds

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

Mature forest present: ☒ No

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

UTMs: _____

Age of oldest trees: _____

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

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

Photo #	Location or Subject	Photo #	Location or Subject

A-CM

Time Started:

Time Finished: 3:00

[illegible]

SH=Suitable Habitat. SM=Sinaina Male:

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

DD=Distraction. NU=Used Nest. EY=Fledged Young. NF=Eggs. NY=Young. ES=Eggs.

process. DP=Distinctive Parts. HO=House/Den. EY=Eggs/young. TK=tracks. EF=Feeding evidence. SC=Scat. SI=Other

At least 31 signs (specifying evidence, 30-300)

PLANTS	ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
FOD7		American Gromwell (<i>Lithospermum latifolium</i>) - S3 <u>Bloom Time - Spring</u>	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y (N) UTM:
ALO, TPO		Muehlenberg's astomum moss (<i>Astorum muehlenbergianum</i>) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y (N) UTM:
FOM1, FOM2, CUP3		Autumn Coral-root (<i>Coralorrhiza odontorhiza</i>) - S2 <u>Bloom Time - summer to fall</u>	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y (N) UTM:
FOC, FOM, FOD		Burning Bush (<i>Euonymus atropurpureus</i>) - S3 Bloom <u>Time- April - June</u>	Species occurs in dry <u>moist deciduous thickets and woods</u>	Y (N) UTM: N/O
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6		Chinese Hemlock Parsley (<i>Conioselinum chinense</i>) - S2 <u>Bloom Time - summer to fall</u>	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 (<i>Bidens trichosperma</i>) -S2 <u>Bloom Time - late summer</u>	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian bay. Bogs, fens, tamarack swamps.	Y (N) UTM:
ALT1, FOD7		Eastern Green-violet (<i>Hybanthus concolor</i>) - S2 Bloom <u>Time -mid March to August</u>	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 (<i>Chenopodium foggii</i>) -S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y (N) UTM:
TPO2, TPS2, TPW2,		Giant Ironweed (<i>Vernonia gigantea</i>) -S1? Bloom Time-	found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y (N) UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
CUM1, MAM,	June – August		
FOD6, FOD7, FOD8	Green Dragon (<i>Arisaema dracontium</i>) - S3/S3 Bloom Time – May and June	Species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	Y (N) UTM:
TP01, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	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:
FE01, FES1, 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:
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:
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>Platanthera 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:
FOM8, FOD6, FOD7, FOD9, CUM1	Pilose Evening Primrose (<i>Oenothera pilosella</i>) - S2 Bloom Time – Late Spring – Early Summer	Moist edges of woods and open, disturbed ground.	Y (N) UTM:
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:
CUW1, ALO, FET1, SWC	Ram'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: N/A
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time – May – June	Found in moist woods	Y (N) UTM:
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumarina</i>) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y (N) UTM:
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:
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatis 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: N/A
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentianella 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:
TPS1, TPW1, CUW1, RBO, 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 Conservation Concern Habitat and Incidental Wildlife – Goshen

ADOM

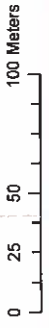
ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
TP01, TPS1, TPW1, CUM1	Tall Blazing Star (<i>Liatris aspera</i>) - S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y (N) UTM:
FEO, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amorhossium 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:
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: N/O
-	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 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. 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:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	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:
TPS, CUW	Mottled Duskywing (<i>Erynnis martialis</i>) - S2	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM:
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyten</i>) - S3	This species is restricted to rich, moist, deciduous woods where its foodplant Toothwort occur	Y (N) UTM: N/O
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC		Y (N) UTM: N/O

Saf. Creation/Ent. Contd (Gow)

Goshen Feature: 232 GSH1619

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

September 1, 2011



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



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

Layer	HT	OVR	Species In Order Of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	Fragm ² Bet ³ pop ⁴ > Aesc ⁵ > Tilen ⁶
2	3		Tilen ² > Aesc ³
3	2		Aesc ² - Lin ³ > - Rub ⁴
4	3		Eucob ² > Viola ³ spp

HT Codes: 7 < 0.2m 8 > 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%

Standard Compaction:	Size Class Analysis:		
	Standing Shags:		
BA:	Deadfall / Log:		
	N = None R = Rare O = Occasional A = Abundant	<10	A
		<10	R
		<10	A
		10-24	O
		10-24	R
		25-50	O
		25-50	R

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

Ecoalte:		Code:	
Vegetation		Code:	
Type:	Wash - P. Birch	Code:	F0D4C
Inclusion:		Code:	
Complex:		Code:	

Notes:

[illegible]

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

Monzi

② ~~Bra~~ Ash Forest

FOD 7-2

UTM 444300
4792450

2-4 Fraamen >> Tilamen > Ulmauer

3-3 Acesacu > Carcato

4-3 Rosmult - Corfoen - Acesacu - Rubidae

6-4 Geucuen - Gerrobe - Gixgrac - Enoobor - Fraving.

irreg canopy w gaps

Disturbed somewhat, selective logging but not recent

③ Ditch through woodlot, w flowing UTM - could not get reading

2 50cm culverts on ~~at~~ edge of woodlot

under canopy of forest 2m wide, 1.5m deep

currently with abundant flowing muddy water >50cm deep.

④ W. Pine Plantation (mature) w some dec regen.

UTM 444300
4792350
(not accurate)

2-4 Pinstro >> Fraamer

3-2 Ulmauer

6-3 Rhuradi - Fraamer - Gerrobe

veg type CUP3-2

⑤ Sugar Maple - Ash

FOD 5-8

UTM 444260
4792300
(not accurate)

2-4 Fraamer > Acesacu >> Betpapy

3-3 Acesacu

4-3 Linbenz Pruseru Acesacu

6-3 Enoobor > Mitrepe

very gently rolling terrain, mid-age.

Stand	A	<10	A	<25	O	<50
Shag	R		R			
Deadfall	A		A			

VASCULAR PLANT CHECKSHEET

Location: 232 GSH 1619

Date: Oct 14 / 2011

Observer: Kamstra

Job Number:

DICOT HERBS	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	MONOCOT HERBS	1	2	3	4	5	6
Achillea millefolium													Plantago lanceolata						Alisma plantago-aquatica						
Actaea pachypoda													Plantago major						Allium tricoccum						
Actaea rubra													Plantago rugelii						Allium						
Agallnus													Podophyllum peltatum						Arisaema triphyllum						
Agrimonia gryposepala													Polygonum						Asparagus officinalis						
Alliaria petiolata													Polygonum						Calla palustris						
Amaranthus retrofractus													Polygonum						Clintonia borealis						
Ambrosia artemisiifolia													Polygonum						Convallaria majus						
Amphicarpaea bracteata													Polygonum lapathifolium						Cypripedium calceolus						
Anaphalis margaritacea													Polygonum persicaria						Elodea canadensis						
Anemone													Potentilla						Epipactis helleborine						
Anemone canadensis													Potentilla norvegica						Erythronium americanum						
Anemone virginiana													Potentilla recta						Hamorcallis fulva						
Antennaria neglecta													Prenanthes alba						Iris versicolor						
Apocynum androsaemifolium													Prunella vulgaris						Lemna minor						
Apocynum cannabinum													Pyrola elliptica						Lemna trisulca						
Aquilegia canadensis													Ranunculus abortivus						Lilium						
Aralia nudicaulis													Ranunculus acris						Matantherum canadense						
Arctium minus													Rudbeckia hirta						Matantherum racemosa						
Artemisia													Rumex acetosella						Matantherum stellata						
Asarum canadense													Rumex crispus						Platanthera						
Asclepias incarnata													Rumex						Pontederia cordata						
Asclepias syriaca													Sanguinaria canadensis						Polygonatum pubescens						
Aster													Sanicula marilandica						Potamogeton crispus						
Aster cordifolius													Saponaria officinalis						Potamogeton pectinatus						
Aster ericoides													Satureja vulgaris						Potamogeton						
Aster lanceolatus													Scutellaria galericulata						Potamogeton						
Aster lateriflorus													Silene vulgaris						Potamogeton						
Aster macrophyllus													Sium suave						Sagittaria latifolia						
Aster novae-angliae													Solanum dulcamara						Sisyrinchium montanum						
Aster puniceus													Solidago						Smilax herbacea						
Barbarea vulgaris													Solidago altissima						Spiranthes cernua						
Bidens cernua													Solidago caesia						Spirodela polyrrhiza						
Bidens frondosa													Solidago canadensis						Streptopus roseus						
Boehmeria cylindrica													Solidago flexicaulis						Trillium erectum						
Calla palustris													Solidago gigantea						Trillium grandiflorum						
Calystegia sepium													Solidago nemoralis						Uvularia grandiflora						
Cardamine diphylla													Solidago rugosa												
Cardamine													Sonchus arvensis												
Caulophyllum thalictroides													Sonchus asper												
Cerastium fontanum													Stellaria												
Ceratophyllum demersum													Tanacetum vulgare												
Chelidonium majus													Taraxacum officinale												
Chenopodium album													Thalictrum dioicum												
Chrysanth. leucanthemum													Thalictrum pubescens												
Cichorium intybus													Tiarella cordifolia												
Cicuta													Tragopogon pratensis												
Circaea leutetiana													Trifolium borealis												
Cirsium arvense													Trifolium												
Cirsium vulgare													Trifolium pratense												
Clematis virginiana													Trifolium repens												
Clintonia borealis													Tussilago farfara												
Coryza canadensis													Urtica dioica												
Coronilla varia													Utricularia vulgaris												
Cynanchum rossicum													Verbascum thapsus												
Cynoglossum officinale													Verbena hastata												
Daucus carota													Verbena urticifolia												
Desmodium canadense													Veronica												
Dianthus armeria													Veronica officinalis												
Dipsacus fulorum													Vicia cracca												
Echinopsyllis lobata													Vicia tetrasperma												
Echium vulgare													Viola												
Epilobium													Viola conspersa												
Epilobium ciliatum													Viola pubescens												
Epilobium hirsutum													Viola sororia												
Epilobium parviflorum													Vina minor												

1: _____ 4: _____
2: _____ 5: _____
3: _____ 6: _____

SITE LOCATIONS

1 CONIFERS						2 TREES and SHRUBS						3 GRAMINOIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis						Agropyron repens					
Larix laricina						Rubus idaeus						Alopecurus					
Picea abies						Rubus occidentalis						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					
Tsuga canadensis						+ Salix discolor						Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrorsa					
Acer negundo						Salix x rubens						Carex stipitata					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharum						Sambucus racemosa						Carex					
Acer spicatum						Sorbus aucuparia						Carex					
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana						Carex					
Betula alleghaniensis						Ulmus americana						Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago						Carex					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Cyperus					
Cornus amomum						Vitis riparia						Dactylis glomerata					
Cornus rugosa						Hamamelis						Danthonia spicata					
Cornus stolonifera						Vib. acerifolium						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												Glyceria					
Fraxinus americana												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						Dryopteris marginalis						Panicum					
Ostrya virginiana						Dryopteris						Phalaris arundinacea					
Parthenocissus inserta						Equisetum arvense						Phleum pratense					
Populus balsamifera						Equisetum hyemale						Phragmites australis					
Populus grandidentata						Equisetum variegatum						Poa compressus					
Populus tremuloides						Equisetum						Poa pratensis					
Populus						Gymnocarpium dryopteris						Poa					
Prunus pennsylvanica						Lycopodium digitatum						Scirpus atrovirens					
Prunus serotina						Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana						Lycopodium						Scirpus validus					
Prunus						Lycopodium						Scirpus					
Quercus macrocarpa						Matteucia struthiopteris						Scirpus					
Quercus rubra						Onoclea sensibilis						Setaria					
Quercus						Osmunda cinnamomina						Sparganium					
Rhamnus cathartica						Osmunda regalis						Typha angustifolia					
Rhus radicans						Polystichum acrostichoides						Typha latifolia					
Rhus typhina						Pteridium aquilinum						Typha X glauca					
Ribes americana						Thelypteris palustris											
Ribes cynosbati																	
Ribes x rubrum																	
Robinia pseudo-acacia																	
Elaeagnus																	
Lindera benz																	
Carya ovata																	

ELC WILDLIFE	SITE: 232 GSM	
	POLYGON:	
	DATE: Oct 14 / 2011	
	SURVEYORS: JK	
	START TIME: 9:45	END TIME: 11:15

TEMP (°C): 15	CLOUD (10th): 10	WIND: 0	PRECIPITATION: drizzle
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

VERNAL POOLS	SNAGS
HIBERNACULA	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	RTHA	OB							
	AMCR								
	WTSP		dozens						
	WCSP		several						
	BLJA								
	HAWD			1					
	SOSP								
	WBNU	VO							
	MODO	OB							
M	chipmunk	OB							
	Raccoon	FE							

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

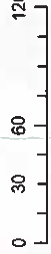
FE = FEEDING EVIDENCE

SC = SCAT

SI = OTHER SIGNS (specify)

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

120 Meters



- Roads

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

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

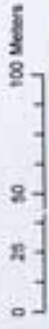


232 - GSH 1640/1639/1621

- Access/Collection Line
- Collection Buffer (125m)
- Turbine Buffer (171.5m)
- Collection of future interest
- Turbine Buffer/feature interest
- Property fabric
- Goshen West Energy Centre

h

September 2011



Goshen Feature: 232 GSH1620/1621 / GSH16

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



232
Location: GSA 232 1620/1621/16E18
Observer: SAM

VASCULAR PLANT CHECKSHEET

Date: Sept. 15/11

Job Number:

[illegible]

- 1: polygon #1
- 2: polygon #2
- 3: polygon #3

4: _____
5: _____
6: _____

SITE LOCATIONS

1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
CONIFERS						TREES and SHRUBS						GRAMINOID					
Abies balsamea						Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus alleghoniensis						Agropyron repens					
Larix laricina						Rubus idaeus			X			Alopecurus					
Picea abies						Rubus occidentalis						Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex acutata					
Pinus strobus	X					Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						Salix discolor						Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
						Salix purpurea						Carex retrofracta					
TREES and SHRUBS						Salix x rubens						Carex stipitata					
Acer negundo						Salix						Carex stricta					
Acer rubrum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharinum			X			Sambucus racemosa						Carex lupulina					
Acer saccharum	X	X	X			Sorbus aucuparia						Carex grayii					
Acer spicatum						Spiraea alba						Carex demissa					
Alnus incana						Syringa vulgaris						Carex inflata					
Amelanchier						Tilia americana			X	X		Carex					
Berberis thunbergii	X					Ulmus americana			X	X		Carex					
Betula alleghaniensis						Ulmus						Carex					
Betula papyrifera			X	X		Vaccinium						Carex					
Carpinus caroliniana			X	X		Viburnum lentago						Carex					
Carya cordiformis			X			Viburnum opulus						Cyperus					
Celastrus scandens						Viburnum						Cyperus					
Cornus alternifolia						Vitis riparia			X	X		Dactylis glomerata					
Cornus amomum						Rhithella repens			X			Danthonia spicata					
Cornus rugosa						Echinococcus obovatus			X	X		Echinochloa crus-galli					
Cornus stolonifera						Hammellia virginiana			X			Eleocharis erythropoda					
Corylus cornuta						Viburnum						Eleocharis					
Crataegus monogyna						Rafinesquina			X			Elymus virginicus					
Crataegus punctata						Lindera benzoin			X			Elymus					
Crataegus sp.			X	X								Festuca arundinacea					
Crataegus												Glyceria striata			X	X	
Diervilla lonicera												Glyceria					
Fagus grandifolia			X									Juncus dudleyi					</

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

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (p > Much Greater Than; > Greater Than; = About Equal; To)
1	8000	4	$Pw \gg Aw \gg MH$
2	8000	3	$Pw \gg Aw \gg MH$
3	3000	3	$Aw \gg MH \gg Calceolaria$
4	3000	3	$Polsem LW \gg Herb \& Robert \gg Garlic Mustard$

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

Com. Age:	☐ Pioneer	☐ Young	☒ Mid-Age	☐ Mature	☐ Old Growth
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Ecoteal:	Coniferous Plantation	Code:	Cup 3
Vegetation Type:	White Pine Coniferous Plantation	Code:	Cup 3-2
Inclusion:	—	Code:	—
Complex:	—	Code:	—

Public community description form

Tree Tally by Species						Prism Factor		2
Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.		
N/A								
Total								100
Basal Area (BA)								
Dead								

[illegible]

Plant Species List

POLYGON: ① Cup (P_w)

DATE: Sept. 15/11

SURVEYOR(S): SAM

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

[illegible][illegible]

PRE-SURVEY COMMENT: 232 GSH 1639/1640/1620/1620 (Baseline) *lots of Hawthorn is sign of previous clearing/grazing

ELC

Community Description and Classification

Site: 232-GSH

Surveyor: SAH

UTMZ: 17T

Polygon: 2

Date: Sept 15/11

UTMZ: 17T

Time start: 15:50

Time finish: 15:50

Polygon Description

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

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp)
1	2	4	Aw > Py > Cottonwood > Pn
2	3	3	Crataegus sp > Aw > Witch Hazel > Blue Birch
3	5	3	Blueberry > Ribes leucostemum > Amelanchier > 285Nish &
4	7-6	3	Sumach > Can. Mayflower > Jack-in-the-pulpit

HT Codes: 7 < 0.2m 8 > 0.2-0.5m 9 > 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% - 50% 4 > 50%

Stand Composition:	Size Class Analysis:
Aw 35-40-30-Cottonwood	Standing Snags: <10 <10 <10
BA: 30	Deadfall / Logs: <10 <10 <10

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

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

Ecosite:	Dry-fresh poplar-white Birch Deciduous Forest	Code: F003
Vegetation Type:	Dry-fresh poplar Deciduous Forest-type (Poplar-white Birch)	Code: F003-1
Inclusion:		Code:
Complex:		Code:

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Prism Factor	2
PT	1	2	4		6		30
Cottonwood	1	2	2		5		25
Aw	1	4	3		7		35
PH	1	1	1		3		10
Total	10	10	20		20		100
Basal Area (BA)	20	20			40		30
Dead					1		

Soils Ontario and ELC Soils Description

Site Metrics	Pro/Auger #	Soils Description	Summary
Zone			
Easting			
Northings			
Position	3	3	
Aspect	NE	SW	
Percent	5%	5	
Slope	6m	4m	
Length	10.2	7.3	
Mottles	>130	>120	
Gley	>130	>120	
Water Table	>130	>120	
Carbonates	>120	>120	
Bedrock	>120	>120	
Depth to...	0	0	% CF
Texture	vfSL	vfSL	% CF
Depth from zero	13	18	% CF
Texture	vfSCL	vfSCL	% CF
Depth from zero	32	29	% CF
Texture	CvFS	CvFS	% CF
Depth from zero	56	71	% CF
Texture	vfS	vfS	% CF
% Surface Stone/Rock	94 - Clay/12 Clay		% CF
Moisture Regime			% CF
Drainage			% CF

ELC WILDLIFE	SITE: 232-GSH 1621			
	POLYGON: (2)			
	DATE: Sept. 15/11			
	SURVEYORS: SAM			
	START TIME: 1530h		END TIME: 1630h	

TEMP (°C): 13	CLOUD (10th): 6	WIND: 3	PRECIPITATION: < 1mm short spray
CONDITIONS: cold, windy, short rain			

POTENTIAL WILDLIFE HABITAT:

☒ VERNAL POOLS	☒ SNAGS
☐ HIBERNACULA	☒ FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	WBNH	SM		1					
B	BCCH	SM		2					
B	HOLA	SH		2					

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)

Plant Species List

POLYGON:

DATE:

SURVEYOR(S):

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

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
MH	AD				
CB					
BlueBeech					
Aw	P				
Rm. straub. bush				D	
Calico Aster					
As	A		D		
Bw					
P.J.					
Sons. Fern					
Black Currant					
Black Dogwood Grey					
Lady Fern					
Choke Cherry					
Jack In The Pulpit					
Bp					
False Sol. Sam!					
Com. Speedwell					
BS Ntshd					
Dovey's Sedge					
Viny. Creeper					
Stony false Sol. Sam!					
Blue Beech.					
Id					
Crataegus sp.					
Eu					
Pottlebrass Grass					
Grape.					

[illegible]

Cphotos
102-278 to 283 to 286



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



Basemapping from Ontario Ministry of Natural Resources
Orthophotography 2010



UTM Zone 17N, NAD 83
0 25 50 100
Meters

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Gothen Amphibian Survey
232_GSH1639

April 2012
Project 60155032

AECOM
Figure 1

Page 1 of 2

Map Number: 232-GSH-1637
Date: April 25, 2012
Surveyors: RA, SG

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER <u>GSH</u>	Map #:	<u>232-GSH 1639</u>
Date:	<u>Sept April 25, 2012</u>	Time Started:	<u>2:00 pm</u>
Field Staff:	<u>SG, RA.</u>	Time Finished:	<u>4:00 pm</u>
Weather Conditions:	<u>Sunny, Warm.</u>		

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

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

UTMs: _____ Number of nests: _____

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

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

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

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

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

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

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

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

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

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds:
See vernal pool sheet, no waterfowl, marsh birds, or turtle habitat.

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: - See map. Likelihood to extend below frost line: ☒

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

Description of fissure or stone pile (composition/material, dimensions, etc): See hibernacula sheet.

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

Time Started: 2:00 am

Time Finished: 4:00

Observed Species List

[illegible]

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

Breeding Bird (Probable) T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest: A=Anxiety Behavior:

Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FV=Fledged Young, NE=Eggs, NY=Young, FS=Eggs/Faecal sack, AF=Nest Entry

Other Wildlife Evidence: OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, FE=Eggs/young, TK=tracks, FE=Feeding evidence SC= Scat, SI=Other signs (specify)

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
PLANTS			
FOD7	American Gromwell (<i>Lithospermum latifolium</i>) - S3 <i>Bloom Time - Spring</i>	Shaded river banks, wooded floodplains. River floodplains, woods and edges of <u>woodland</u> .	Y (N) UTM: NO
ALO, TPO	Muehlenberg's astomum moss (<i>Astomum muehlenbergianum</i>) - S2 <i>Bloom Time - Spring</i>	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y (N) UTM: NO
FOM1, FOM2, CUP3	Autumn Coral-root (<i>Coralorhiza odontorhiza</i>) - S2 <i>Bloom Time - summer to fall</i>	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y (N) UTM: NO
FOC, FOM, FOD	Burning Bush (<i>Euonymus atropurpureus</i>) - S3 <i>Bloom Time - April - June</i>	Species occurs in dry to moist <u>deciduous thickets and woods</u> .	Y (N) UTM: NO
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (<i>Conioselinum chinense</i>) - S2 <i>Bloom Time -summer to fall</i>	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: NO
SWC, SWM, SWD, SWT, MAM, MAS	Crowned Beggarticks (<i>Bidens trichosperma</i>) -S2 <i>Bloom Time - late summer</i>	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: NO
ALT1, FOD7	Eastern Green-violet (<i>Hybanthus concolor</i>) - S2 <i>Bloom Time -mid March to August</i>	Occurs in <u>rich</u> , wet-mesic floodplain <u>forests</u> as well as mesic forests over limestone. Includes floodplains and river banks.	Y (N) UTM: NO
TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (<i>Chenopodium foggii</i>) -S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y (N) UTM: NO
TPO2, TPS2, TPW2,	Giant Ironweed (<i>Vernonia gigantea</i>) -S1? <i>Bloom Time-</i>	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y (N) UTM: NO

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, FOD8	June – August Green Dragon (<i>Arisaema dracontium</i>) - S3/S3 Bloom Time – May and June	Species found in <u>open deciduous forest</u> and along river streams. Particularly <u>Maple forest</u> and forest dominated by <u>Red Ash</u> and <u>White Elm</u> .	Y N UTM: NO
TP01, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June – August Hairy Bedstraw (<i>Gallium pilosum</i>) - S3 Bloom Time – June – August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y N UTM: NO
FE01, FES1, 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: NO
FOD6, FOD7, SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time – Summer	<u>Woodlands</u> , often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y N UTM: NO
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Eriogon bulbosa</i>) - S3 Bloom Time – early to late April	Occurs in <u>rich, moist deciduous woods</u> , especially on floodplains.	Y N UTM: NO
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: NO
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>Platanthera 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: NO
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: NO
FOD6, FOD7, FOD8	Pawpaw (<i>Asimina triloba</i>) - S3 Bloom Time – March-May	Occurs in <u>moist deciduous woods</u> and stream banks.	Y N UTM: NO
FOM8, FOD6, FOD7, FOD8, CUM1	Pilose Evening Primrose (<i>Oenothera pilosella</i>) - S2 Bloom Time – Late Spring – Early Summer	<u>Moist edges of woods</u> and open, disturbed ground.	Y N UTM: NO
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: NO
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? Bloom Time – March – June	Swamps and floodplains	Y N UTM: NO
CUM1, ALO, FET1, SWC	Ram'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: NO
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: NO
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time – May – June	Found in <u>moist woods</u>	Y N UTM: NO
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumaria</i>) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y N UTM: NO
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 Bloom Time – May to October	Found in <u>moist rich woods</u> , thicket swamps, banks and floodplains.	Y N UTM: NO
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolomite pavement, prairies, open woods, alvars and moist sandy meadows.	Y N UTM: NO
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: NO
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: NO
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentianella 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: NO
TPS1, TPW1, CUW1, RBO, 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: NO