

*ASA

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER GSH	Map #:	274-GSH 2114
Date:	2012-05-02	Time Started:	2:25 PM
Field Staff:	Tom Sharney Jess Piette	Time Finished:	2:55 PM
Weather Conditions:	overcast, 15°C, 20km/h winds		

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

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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

Species Conservation Concern Habitat and Incidental Wildlife - Goshen



Time Started: 2:25 PM
Time Finished: 2:55

Field Staff: Tom Showney
JESS PETER

Map No: 274-6SH 204
Date (yyyy-mm-dd): 2017-05-02

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
White-crowned		OB					
Starling		OB					
Robin		VO					
Blue Jay		OB					

Note: Evidence Codes (EV) Breeding Bird (Possible), Breeding Bird (Probable), Breeding Bird (Confirmed)
 SH=Suitable Habitat, SM=Singing Male; T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest; A=Anxiety Behavior, FS=Foods/Faecal sack, AE=Nest Entry
 DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)

Other Wildlife Evidence: OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/Young, TK=tracks, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)
 A No observed → N/A

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
PLANTS			
FOD7	American Gromwell (Lithospermum latifolium) - S3 Bloom Time - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y N UTM
ALO, TPO	Muehlenberg's astomum moss (Astomum muehlenbergianum) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y N UTM
FOM1, FOM2, CUP3	Autumn Coral-root (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y N UTM
FOC, FOM, FOD	Burning Bush (Euonymus atropurpureus) - S3 Bloom Time - April - June	Species occurs in dry to moist deciduous thickets and woods	Y N UTM
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (Conoselinum 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 swampy marshes along shores & wet fields within the Carolinian zone and southern Appalachian bay. Boggs, 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 foggi) -S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y N UTM
TPO2, TPS2, TPW2,	Giant Ironweed (Vernonia gigantea)-S1? Bloom Time-	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y N UTM

Species of Conservation Concern Habitat and Incidental Wildlife - Goshen

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ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
CUM1, MAM,	June - August		
FOD6, FOD7, FOD9	Green Dragon (<i>Arisaema dracontium</i>) - S1/S3 <u>Bloom Time - May and June</u>	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
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Hairy Bedstraw (<i>Galium pilosum</i>) - S3 <u>Bloom Time - June-August</u>	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y (N) UTM
FEO1, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	Hairy Valerian (<i>Valeriana edulis</i>) - S1 <u>Bloom Time - June to August</u>	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 <u>Bloom Time - Summer</u>	Woodlands, often rocky, especially rivers. Rich woods, <u>swamp forests</u> , floodplains.	Y (N) UTM N/O
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Erigenia bulbosa</i>) - S3 <u>Bloom Time - early to late April</u>	Occurs in rich, moist deciduous woods, especially on floodplains	Y (N) UTM
SAS1, SAM1, SAF1	Hill's Pond Weed (<i>Potamogeton Hillii</i>) - S1/S2 <u>Bloom Time - summer</u>	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 <u>Bloom Time - June to August</u>	Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands.	Y (N) UTM
MAM2, MAM3, MAS2, MAS, SWD	Lizard's Tail (<i>Saururus cernuus</i>) - S3 <u>Bloom Time - June - September</u>	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 N/O
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) - S3 <u>Bloom Time - March-May</u>	Occurs in moist deciduous woods and stream banks	Y (N) UTM
FOM8, FOD6, FOD7, FOD9, CUM1	Pilose Evening Primrose (<i>Oenothera pilosella</i>) - S2 <u>Bloom Time - Late Spring - Early Summer</u>	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 <u>Bloom Time - July-September</u>	Dry, sandy or rocky woods	Y (N) UTM
FOD7 SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? <u>Bloom Time - March - June</u>	Swamps and floodplains	Y (N) UTM N/O
CUW1, ALO, FET1, SWC	Rain's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 <u>Bloom Time - mid May to mid June</u>	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 <u>Bloom Time - April - September</u>	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	Y (N) UTM
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 <u>Bloom Time - May - June</u>	Found in moist woods	Y (N) UTM
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumarie</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 <u>Bloom Time - May to October</u>	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y (N) UTM
ALO, ALS, ALT, TPO, TPS, TPW	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	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 Mulhy (<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
BL01, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentiana quinquefolia</i>) - S2 <u>Bloom Time - late summer to mid fall</u>	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 <u>Bloom Time - mid-March to mid-June</u>	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



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>Amoglossum 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	Nests on a wide variety of habitats, in particular open or semi-open areas on ground in a wide range of open, sparse or vegetation-free habitats	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Sialurus 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 understorey; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	Y (N) UTM:
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines	Y (N) UTM:
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) - S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM:
TPS, TPW	Sleepy Duskywing (<i>Erynnis brizo</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles	Y (N) UTM:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	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 clyteus</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM:
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM:

Wetland Data Collection Sheet



Study area: <u>GOSHEN</u>	Map No: <u>274 GSH2124</u>
Date (yyyy-mm-dd): <u>2012-05-02</u>	Time Started: <u>2:25pm</u>
Field Staff: <u>Jess Petre + Tom Shorley</u>	Time Finished: <u>2:55pm</u>

Presence of Groundwater No Yes

bank seepage iron staining groundwater indicator

Site Type Lacustrine (associated with lakes) Isolated

 Riverine (associated with rivers)

 Palustrine absent or intermittent inflow and either intermittent or permanent outflow

what are the water inputs and outputs? surface water

Soils refer to ELC card for soils information

% open Water

Type 1 - <5% Type 5 - 26-75% (water occurring in a small pattern)

Type 2 - 5-25% (water occurring in one central location) Type 6 - 76-95% (occurring in a central location, vegetation is peripheral)

Type 3 - 5-25% (water occurring in ponds of various sizes) Type 7 - 76-95% (vegetation occurs in patches or diffuse, open stands)

Type 4 - 26-75% (water occurring in a central location) Type 8 - >95% (water occupies over 95% of the area)

Community Descriptions

Vegetation forms

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

Map Code/ ELC Code	Community Description - list at least four dominant species for each form
<u>SW06-3/ S1</u>	<u>h*: Ace free, Fragaria, Urtica, Acenega</u>
<u>MAM3-2/ M1</u>	<u>re*: pharun ts: Salix</u>

Wetland Data Collection Sheet



Notes on Ecological Functions or features

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

slightly undulating topography around but relatively flat

Organic soils

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

0.5 ha

Basemapping from Ontario Ministry of Natural Resources
Orthophotography 2010

Metres
0 25 50 100
1:2,000
TM Zone 17N, NAD 83

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Gothen ELC Survey
275_GSH1495/GSH2046
April 2012
Project 160165032

AECOM
Figure 1



ASA @ 1495

ELC
Community Description and Classification

Map #: 27565 H1495 2046 Polygon: F006-5
 Surveyor(s): Jess Robert Tomshenky Date: May 8, 2012 Time start: 9:12AM
 UTMZ: 454243 UTMN: 5586 finish: 11:46AM

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"/> Site <input type="checkbox"/> Open/Water <input type="checkbox"/> Shallow Water <input checked="" type="checkbox"/> Surficial Dep. <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Cultural <input type="checkbox"/> Cover <input type="checkbox"/> Open <input type="checkbox"/> Shrub <input type="checkbox"/> Tree	<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	4		>>> Much Greater Than; > Greater Than; = About Equal To)
2	3		ALESACC > TILAMEX - FAYG CAN - FRAMER
3	3		ACESACC > TILAMEX - FAYG CAN - FRAMER
4	6		QERMACO > RWVING - CARVAT - FRAMER

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

Stand Composition: Size Class Analysis:

<10	A	10-24	A	25-50	K	>50
<10	N	10-24	O	25-50	R	>50
<10	A	10-24	A	25-50	N	>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 MIST SWAMP Maple Deciduous Forest	Code: F0D6
Vegetation Type: FRESH MIST Sugar Maple-Hardwood Deciduous Forest	Code: F0G6S
Inclusion:	Code:
Complex:	Code:

Community Profile Diagram/Comments

Very undulating forest on a steep bank

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	PIVAuger #		Soils Ontario and ELC Soils Description				Summary
	Zone	Easting	Northing	Position	Aspect	Percent	Moisture Regime
Depth to ...	UTM		/				Drainage
	Slope		/				Effective Texture (indicate below)
Soil Horizon Description	Mottles						% CF
	Gley						% CF
	Water Table						% CF
	Carbonates						% CF
Soil Horizon Description	Bedrock	Depth from zero				% CF	
		Texture				% CF	
	2	Depth from zero				% CF	
		Texture				% CF	
3	Depth from zero				% CF		
	Texture				% CF		
4	Depth from zero				% CF		
	Texture				% CF		
Moisture Regime						% CF	
Drainage						% CF	

Notes:

ELC Community Description and Classification

Map #: 2756SH14AS / 2016 Polygon: SWD33

Surveyor(s): Jess Peterson, Sherry May 8, 2012 Time start: 9:12 AM finish: 11:56 AM

UTMZ: 454213 UTMZ: 1995516 UTMN:

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 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"/> Aivar <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 checked="" 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	ACEFLEE >> FLAKENN > LUMAMEA
2	2	3	LUMAMEA > ACEFLEE > FLAKENN
3	3	2	FLAKENN > LUMAMEA > ACEFLEE
4	6	2	CEVINTU - LVS LUMAMEA - GEFMAMA - TORCADI

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

Stand Composition: Size Class Analysis:

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

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

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

Ecosite: Maple Hardwood Deadwood Swamp Ecosite Code: SWD3

Vegetation Type: SWAMP MAPLE DEADWOOD SWAMP Type Code: SWD3-3

Inclusion: Code:

Complex: Code:

Community Profile Diagram/Comments

Notes: s. D. ...

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Prism Factor
Could not complete from center of pond						2
Total						
Basal Area (BA)						100
Dead						

Soils Ontario and ELC Soils Description

Site Metrics	PI/Auger #	Soils Description				Summary
Zone	17					
Easting	454243					
Northing	4795586					
Position	Cardinal pt. 100					
Aspect						
Percent						
Slope						
Length						
Mottles	23cm					
Gley	23cm					
Water Table	31cm					
Carbonates						
Bedrock						
1	Depth from zero	23cm	% CF		% CF	% CF
2	Texture	SIC				
3	Depth from zero	35cm	% CF		% CF	% CF
4	Texture	C				
	Depth from zero		% CF		% CF	% CF
	Texture					
	Depth from zero		% CF		% CF	% CF
	Texture					
	% Surface Stone/Rock					
	Moisture Regime	b				
	Drainage	P/I				

**Plant Species List
2012**

Dicot Herbs - Asteraceae					Dicot Herbs					Dicot Herbs				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
					Shepherd's Purse (<i>Capsella bursa-pastoris</i>)					Kidney-leaf Buttercup (<i>Ranunculus abortivus</i>)	1			
					Cutleaf Toothwort (<i>Cardamine concatenata</i>)					Tall Buttercup (<i>Ranunculus acris</i>)				
					Toothwort (<i>Cardamine diphylla</i>)	R				Hooked Buttercup (<i>Ranunculus recurvatus</i>)				
					Penn. Bitter-creas (<i>Cardamine pensylvanica</i>)					<i>Ranunculus</i>				
					<i>Cardamine</i>					Sheep Sorrel (<i>Rumex acetosella</i>)				
					Blue Cohosh (<i>Caulophyllum thalictroides</i>)					Curly-leaf Dock (<i>Rumex crispus</i>)				
					Mouse-ear Chickweed (<i>Cerastium fontanum</i>)					Bitter Dock (<i>Rumex obtusifolius</i>)				
					Turtlehead (<i>Chelone glabra</i>)					Bloodroot (<i>Sanguinaria canadense</i>)	R			
					Spotted Water-hemlock (<i>Cicuta maculata</i>)					Black Snakeroot (<i>Sanicula marilandica</i>)				
					Water-hemlock (<i>Cicuta virosa</i>)					Bouncing Bet (<i>Saponaria officinalis</i>)				
					Enchanter's Nightshade (<i>Circaea lutetiana</i>)					Marsh Skullcap (<i>Scutellaria galericulata</i>)				
					Carolina Spring Beauty (<i>Claytonia caroliniana</i>)					Mad Dog Skullcap (<i>Scutellaria lateriflora</i>)				
					Virginia Spring Beauty (<i>Claytonia virginica</i>)	R				White Campion (<i>Silene latifolia</i>)				
					Virgin's-bower (<i>Clematis virginiana</i>)					Bladder Campion (<i>Silene vulgaris</i>)				
					Field Bindweed (<i>Convolvulus arvensis</i>)					Hemlock Water-parsnip (<i>Slum suave</i>)				
					Dog-strangling Vine (<i>Cynanchum rossicum</i>)					Bitter Nightshade (<i>Solanum dulcamara</i>)	R			
					Wild Carrot (<i>Daucus carota</i>)					Black Nightshade (<i>Solanum pycnanthum</i>)				
					Deptford Pink (<i>Dianthus armeria</i>)					Grassleaf Stitchwort (<i>Stellaria graminea</i>)				
					Squirrel-corn (<i>Dicentra canadensis</i>)					Common Chickweed (<i>Stellaria media</i>)				
					Dutchman's-breeches (<i>Dicentra cucullaria</i>)					Early Meadow-rue (<i>Thalictrum dioicum</i>)				
					Wild Teasel (<i>Dipsacus fullonum</i>)					Tall Meadow-rue (<i>Thalictrum pubescens</i>)				
					Wild Cucumber (<i>Echinocystis lobata</i>)					Field Penny-cress (<i>Thlaspi arvense</i>)				
					Viper's Bugloss (<i>Echium vulgare</i>)					Foamflower (<i>Tiaralla cordifolia</i>)				
					Northern Willow-herb (<i>Epilobium ciliatum</i>)					Star-flower (<i>Trientalis borealis</i>)				
					Hairy Willow-herb (<i>Epilobium hirsutum</i>)					Red Clover (<i>Trifolium pratense</i>)				
					Small-fl. Willow-herb (<i>Epilobium parviflorum</i>)					White Clover (<i>Trifolium repens</i>)				
					<i>Epilobium</i>					<i>Trifolium</i>				
					Worm Mustard (<i>Erysimum cheiranthoides</i>)					Stinging Nettle (<i>Urtica dioica</i>)				
					<i>Euphorbia</i>					Greater Bladderwort (<i>Utricularia vulgaris</i>)				
					Hemp Nettle (<i>Galeopsis tetrahit</i>)					Common Mullein (<i>Verbascum thapsus</i>)				
					Wild Madder (<i>Galium mollugo</i>)					Blue Vervain (<i>Verbena hastata</i>)				
					Marsh Bedstraw (<i>Galium palustre</i>)					White Vervain (<i>Verbena urticifolia</i>)				
					Sweet-scented Bedstraw (<i>Galium triflorum</i>)					Water Speedwell (<i>Veron. anagallis-aquatica</i>)				
					<i>Galium glaberrimum</i>	U				Common Speedwell (<i>Veronica officinalis</i>)				
					Spotted Geranium (<i>Geranium maculatum</i>)					Veronica				
					Herb-robert (<i>Geranium robertianum</i>)	U				Cow Vetch (<i>Vicia cracca</i>)				
					Yellow Avens (<i>Geum aleppicum</i>)					Vicia				
					White Avens (<i>Geum canadense</i>)					Periwinkle (<i>Vinca minor</i>)				
					Urban Avens (<i>Geum urbanum</i>)					Dog Violet (<i>Viola conspersa</i>)				
					Dame's Rocket (<i>Hesperis matronalis</i>)					Yellow Violet (<i>Viola pubescens</i>)	R			
					Virg. Water-leaf (<i>Hydrophyllum virginianum</i>)	U				Corn. Blue Violet (<i>Viola sororia</i>)	U			
					Corn. St. John's-wort (<i>Hypericum perforatum</i>)					<i>Viola</i>				
					Spotted Jewelweed (<i>Impatiens capensis</i>)									
					Wood Nettle (<i>Laportea canadensis</i>)									
					Motherwort (<i>Leonurus cardiaca</i>)									
					Field Peppergrass (<i>Lepidium campestre</i>)									
					Eur. Gromwell (<i>Lithospermum officinale</i>)									
					Butter & Eggs (<i>Lineria vulgaris</i>)									
					Great Lobelia (<i>Lobelia siphilitica</i>)									
					<i>Lobelia</i>									
					Cut-leaf Bugleweed (<i>Lycopus americanus</i>)									
					Northern Bugleweed (<i>Lycopus uniflorus</i>)					Water-piantain (<i>Alisma plantago-aquatica</i>)				
					Fringed Loosetrife (<i>Lysimachia ciliata</i>)					Wild Leek (<i>Allium tricoccum</i>)	R			
					Moneywort (<i>Lysimachia nummularia</i>)					Jack-in-the-pulpit (<i>Arisaema triphyllum</i>)	U			
					<i>Lysimachia</i>					Asparagus (<i>Asparagus officinalis</i>)				
					Purple Loosetrife (<i>Lythrum salicaria</i>)					Wild Calla (<i>Calla palustris</i>)				
					Black Medick (<i>Medicago lupulina</i>)					Bluebead-lily (<i>Clintonia borealis</i>)				
					Alfalfa (<i>Medicago sativa</i>)					Garden Lily-of-valley (<i>Convallaria majalis</i>)				
					White Sweet-clover (<i>Melilotus alba</i>)					Yel. Lady's Slipper (<i>Cypripedium parviflorum</i>)				
					Yellow Sweet-clover (<i>Melilotus officinalis</i>)					Canada Waterweed (<i>Elodea canadensis</i>)				
					Wild Mint (<i>Mentha arvensis</i>)					Helleborine (<i>Epipactis helleborine</i>)	R			
					Wild Bergamot (<i>Monarda fistulosa</i>)					Yellow Trout Lily (<i>Erythronium americanum</i>)	F			
					Small Forget-me-not (<i>Myosotis laxa</i>)					Blue-flag Iris (<i>Iris versicolor</i>)				
					Forget-me-not (<i>Myosotis scorpioides</i>)					Orange Day Lily (<i>Heimerocallis fulva</i>)				
					Water-creas (<i>Nasturtium officinale</i>)					Lesser Duckweed (<i>Lemna minor</i>)				
					Com. Evening-primrose (<i>Oenothera biennis</i>)					Starry Duckweed (<i>Lemna trisulca</i>)				
					Sweet-cicely (<i>Osmorhiza berterii</i>)					Wild Lily-of-valley (<i>Maianthemum canadense</i>)	U			
					Yellow Wood-sorrel (<i>Oxalis stricta</i>)					False Solom Seal (<i>Maianthemum racemosum</i>)	F			
					Wild Parsnip (<i>Pastinaca sativa</i>)					Star False Solomon (<i>Maianthemum stellatum</i>)				
					English Plantain (<i>Plantago lanceolata</i>)					True Solomon Seal (<i>Polygonatum pubescens</i>)				
					Common Plantain (<i>Plantago major</i>)					Pickering-weed (<i>Pontederia cordata</i>)				
					Rugel's Plantain (<i>Plantago rugelii</i>)					Curly-leaf Pondweed (<i>Potamogeton crispus</i>)				
					May-apple (<i>Podophyllum peltatum</i>)	U				Sago Pondweed (<i>Potamogeton pectinatus</i>)				
					Pale Smartweed (<i>Polygonum lapathifolium</i>)					<i>Potamogeton</i>				
					Lady's-thumb (<i>Polygonum persicaria</i>)					<i>Potamogeton</i>				
					Virginia Knotweed (<i>Polygonum virginianum</i>)					Broad-leaved Arrowhead (<i>Sagittaria latifolia</i>)				
					<i>Polygonum</i>					Blue-eyed-grass (<i>Sisyrinchium montanum</i>)				
					<i>Polygonum</i>					Herb. Carrion Flower (<i>Smilax herbacea</i>)				
					Rough Cinquefoil (<i>Potentilla norvegica</i>)					Bristly Greenbrier (<i>Smilax hispida</i>)				
					Rough-fruited Cinquefoil (<i>Potentilla recta</i>)					Nodding Ladies' Tresses (<i>Spiranthes cernua</i>)				
					Common Cinquefoil (<i>Potentilla simplex</i>)					Rose Twisted-stalk (<i>Streptopus lanceolatus</i>)				
					<i>Potentilla</i>					Skunk-cabbage (<i>Symplocarpus foetidus</i>)				
					Heal-all (<i>Prunella vulgaris</i>)					Purple Trillium (<i>Trillium erectum</i>)	R			
					Shinleaf (<i>Pyrola elliptica</i>)					White Trillium (<i>Trillium grandiflorum</i>)	U			
										Large-flowered Bellwort (<i>Uvularia grandiflora</i>)	U			

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: 27563H1495/2046 1 F0D6-5 4
 Date: May 8 2012 2 SWD8-3 8
 Surveyors: JP + TS 3

Significant Wildlife Habitat Form

AECOM

Study Area: BLW JER GSH Map #: 275-GSH1495/2046
 Date: 2012-05-08 Time Started: 9:12 a.m.
 Field Staff: Tom Shomey Jess Piette Time Finished: 11:45 a.m.
 Weather Conditions: Cloudy, 12°C, Light breeze

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: 454233 4795597 Area of standing water delineated on field map

Water depth (m): 30-40cm % open water: 60% % emergent vegetation: 25

Description of standing water (permanent pool, evidence of annual spring flooding, etc): Possibility to dry up near end of season.

Area and soil/substrate of shoreline habitat: Shoaling Substrate exposed in areas mineral soil → partially exposed

Type and abundance of cover in open water habitat: 25% cover → Acer Freemanii 45%
Fraxinus Penn 45% → Ulm Amer 10%

Type and abundance of cover in surrounding habitat: Swamp feature surrounded by mid aged / mature Deciduous Forest

Evidence of disturbance (e.g. cattle grazing): Soil Forest Management

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: Flushed Mallards from feature, geese nearby

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: 454168 4795400 Likelihood to extend below frost line: 60%

% canopy cover: 0 % slope: / Distance to open canopy (m): 0

Description of fissure or stone pile (composition/material, dimensions, etc): Picked stones from field 4m long by 1m wide

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): Stones in ditch, near swamp feature

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
R2	Rock Pile		
2.8	Vernal Pool		

Species Conservation Concern Habitat and Incidental Wildlife - Goshen

Map No: 275-GSH1495/2046
 Date (yyyy-mm-dd): 2012-05-08

Field Staff: Tom Sawyer
 Jess Poole

Time Started: 9:12 a.m.
 Time Finished: 11:45 a.m.



Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
Song Sparrow		V0					
Savannah Sparrow		V0					
Black-throated Green		V0					
Blue Jay		V0	off in distance				
Blue Jay		V0					
Yellow Warbler		V0					

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, FY=Fledged Young, NE=Eggs, NY=Young, FS=Foos/Faecal 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, S/=Other signs (Specify)
 * Not observed N/O

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 astorum 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 (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y (N) UTM:
FOD, FOM, FOD	Burning Bush (Euonymus atropurpureus) - S3 Bloom Time - April - June	Species occurs in dry to moist deciduous thickets and woods	Y (N) UTM: N/O
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (Cottoselinum 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, SWM, SWT, MAM, MAS	Crowned Beggaricks (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: N/O
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 (Vermonia gigantea)-S1? Bloom Time-	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y (N) UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen



ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
CUM1, MAM, FOD8, FOD7, FOD9	June–August 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: N/O
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June–August Hairy Bedstraw (<i>Galium pilosum</i>) - S3 Bloom Time – June–August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y N UTM:
FEO1, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TRS, 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
FOD9, FOD7, SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time – Summer	Woodlands – often rocky, especially rivers' Rich woods (swamp forests) floodplains	Y N UTM: N/O
FOD9, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Eriogonum bulbosum</i>) - S3 Bloom Time – early to late April	Occurs in rich (moist deciduous woods) especially on floodplains	Y N UTM: N/O
SAS1, SAM1, SAF1	Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/S2 Bloom Time – summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	Y N UTM
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>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: N/O
FOM8, FOD8, 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: N/O
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Prostate Tick-trefoil (<i>Desmodium rotundifolium</i>) - S2 Bloom Time – July–September	Dry, sandy or rocky woods	Y N UTM
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? Bloom Time – March - June	Swamps and floodplains	Y N UTM: N/O
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
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 Bloom Time – April – September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands	Y N UTM
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time – May - June	Found in moist woods	Y N UTM: N/O
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumarina</i>) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y N UTM
FOD9, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 Bloom Time – May to October	Found in moist, rich woods thicket swamps, banks and floodplains	Y N UTM: N/O
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	Y N UTM
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows; at edges of sand pits	Y N UTM
SDT1, FOD5, FOD9	Slim-flowered Muihly (<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	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

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
TPO1, 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:
FEQ, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amoglossum 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, dense or vegetation-free habitats	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Selurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y (N) UTM:
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory, fields or pasture lands with scattered large trees, wooded swamps, orchards, small woodlots or forest edges, groves of dead or dying trees: requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory	Y (N) UTM:
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds, overgrown bushy clearings with deciduous thickets, nests above ground in bush, vines	Y (N) UTM:
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required
-	Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	not required
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) -S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM:
TPS, TPW	Sleepy Duskywing (<i>Erynnis brizo</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles	Y (N) UTM:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	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 clyton</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM:
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant toothwort occur	Y (N) UTM:

Wetland Data Collection Sheet



Study area: <u>GOSHEN</u> Date (yyyy-mm-dd): <u>May 8, 2012</u> Field Staff: <u>Jess Rette + Tom Shorney</u>	Map No: <u>275 GSH495/2016</u> Time Started: <u>9:12 AM</u> Time Finished: <u>1:45 PM</u>
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Presence of Groundwater <input type="checkbox"/> bank seepage	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	presence of some groundwater sensitive fern but not enough to be representative <input type="checkbox"/> iron staining <input type="checkbox"/> groundwater indicator
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Site Type	Lacustrine <input type="checkbox"/> (associated with lakes) Riverine <input type="checkbox"/> (associated with rivers) Palustrine <input type="checkbox"/> absent or intermittent inflow and either intermittent or permanent outflow	Isolated <input checked="" type="checkbox"/> what are the water inputs and outputs? <u>Surface water runoff</u>
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Soils	refer to ELC card for soils information
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% open Water	
Type 1 - <5% <input type="checkbox"/> Type 2 - 5-25% <input type="checkbox"/> (water occurring in one central location) Type 3 - 5-25% <input type="checkbox"/> (water occurring in ponds of various sizes) Type 4 - 26-75% <input type="checkbox"/> (water occurring in a central location)	Type 5 - 26-75% <input type="checkbox"/> (water occurring in a small pattern) Type 6 - 76-95% <input type="checkbox"/> (occurring in a central location, vegetation is peripheral) Type 7 - 76-95% <input checked="" type="checkbox"/> (vegetation occurs in patches or diffuse, open stands) Type 8 - >95% <input type="checkbox"/> (water occupies over 95% of the area)

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

Map Code/ ELC Code	Community Description - list at least four dominant species for each form
SWD3-3/ S1	h*: Acer, Fraxinus, Alnus gc: Lysichiton, Impatiens ne: Carex

Wetland Data Collection Sheet



Notes on Ecological Functions or features

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

→ open water areas would be available for waterfowl
marshes were observed.

ELC
Community Description and Classification

Site: 27965 NZ 119 Polygon: SWTR
 Surveyor(s): Date: Time start: 10:20 am
 J. S. Pitt + Jim Shorley May 2, 2012 finish: 12:30 pm
 UTMZ: 45246 UTMZ: 4796182 UTMN:

Polygon Description

System	Substrate	Topographic Features	Plant Form	Community
<input type="checkbox"/> Terrestrial <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Aquatic Site <input type="checkbox"/> Open Water <input type="checkbox"/> Shallow Water <input checked="" type="checkbox"/> Surficial Dep. <input type="checkbox"/> Bedrock History <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Cultural Cover <input type="checkbox"/> Open <input type="checkbox"/> Shrub <input checked="" type="checkbox"/> Tree	<input type="checkbox"/> Organic <input checked="" type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input type="checkbox"/> Tableland <input checked="" type="checkbox"/> Roll, Upland <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Alvar <input type="checkbox"/> Rockland <input type="checkbox"/> Beach / Bar <input type="checkbox"/> Sand Dune <input type="checkbox"/> Bluff	<input type="checkbox"/> Plankton <input type="checkbox"/> Submerged <input type="checkbox"/> Floating-LVD. <input type="checkbox"/> Graminoid <input type="checkbox"/> Forb <input type="checkbox"/> Lichen <input type="checkbox"/> Bryophyte <input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Mixed	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Marsh <input type="checkbox"/> Swamp <input type="checkbox"/> Fen <input type="checkbox"/> Bog <input type="checkbox"/> Barren <input type="checkbox"/> Meadow <input type="checkbox"/> Prairie <input type="checkbox"/> Thicket <input type="checkbox"/> Savannah <input type="checkbox"/> Woodland <input 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	1	Populus >>> FRAVENN
2	-	-	
3	3	3	Carex - Corsetti >>> SILEX19
4	6	2	Taraxac - allpet - geum sp - fravig

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

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

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

Com. Age:	<input type="checkbox"/> Pioneer	<input type="checkbox"/> Young	<input checked="" type="checkbox"/> Mid-Age	<input type="checkbox"/> Mature	<input type="checkbox"/> Old Growth
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Ecotope:	Mineral Thicket Swamp Ecotope	Code:	SWTZ
Vegetation Type:		Code:	
Inclusion:	Wetland Mineral Deciduous Swamp Typ	Code:	SWD41
Complex:		Code:	

Community Profile Diagram/Comments

* Community is dominated by Populus >>> FRAVENN
 Saw a number of plants followed by SWT community

Notes:

Tree Tally by Species

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

Soils Ontario and ELC Soils Description

Site Metrics		Pit/Auger #	Soil Horizon Description				Summary
Zone		1					Moisture Regime
Easting		17					
Northing		452461					
Position		4796182					
Aspect		Middle					
Percent		South					
Slope		2%					
Slope Length		5 m					
Mottles		18cm					
Gley							
Water Table							
Carbonates							
Bedrock							
Depth from zero		8cm	% CF	% CF	% CF	% CF	
Texture		SIL					
Depth from zero		33cm	% CF	% CF	% CF	% CF	
Texture		SIC					
Depth from zero			% CF	% CF	% CF	% CF	
Texture							
Depth from zero			% CF	% CF	% CF	% CF	
Texture		SIC					
% Surface Stone/Rock							
Moisture Regime		6					
Drainage		P1					

ELC
Community Description and Classification

Site: 279GSH219 Polygon: SW06-3

Surveyor(s): Date: Time start: finish: 10:20 AM 12:30 PM
 400 Patton + Jim Spore, May 2, 2012

UTMZ: 452710 UTMZ: 475810 UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input type="checkbox"/> Terrestrial <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Aquatic Site <input type="checkbox"/> Open Water <input checked="" type="checkbox"/> Shallow Water <input type="checkbox"/> Surficial Dep. <input type="checkbox"/> Bedrock History <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Cultural Cover <input type="checkbox"/> Open <input type="checkbox"/> Shrub <input checked="" type="checkbox"/> Tree	<input checked="" type="checkbox"/> Organic <input type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input 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 checked="" 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	OVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1	7-0.2m	6	ACTIFR >> FRAPENN >> UTMAMEC > PpdelT
2	>0.2-0.5m	5	ACTIFR = ACERFR
3	0% - 10%	2	PRAMING - ACERFR
4	>0.5-1m	4	FRAPENN = IMPSCAPE = FRAPENN
	1-2m	3	FRAPENN = IMPSCAPE = FRAPENN
	2-5m	2	FRAPENN = IMPSCAPE = FRAPENN
	5-10m	1	FRAPENN = IMPSCAPE = FRAPENN
	10-25m	1	FRAPENN = IMPSCAPE = FRAPENN
	>25m	1	FRAPENN = IMPSCAPE = FRAPENN

HT Codes: 7 < 0.2m 6 > 0.2-0.5m 5 > 0.5-1m 4 > 1-2m 3 > 2-5m 2 > 5-10m 1 > 10-25m
 OVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

Stand Composition: Size Class Analysis:

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

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

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

Ecocode: SW06
Vegetation Type: SW06-3
Inclusion:
Complex:

Community Profile Diagram/Comments

→ ground cover layer very sparse for SW06-3 N. W. 100' x 100'

Tree Tally by Species

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

Soils Ontario and ELC Soils Description

Site Metrics	PI/Auger #	Zone	Summary	
Slope	Easting	452390	Moisture Regime	
	Northing	475810		
	Position	Flkt	Drainage	
	Aspect			
Slope	Percent		Effective Texture (indicate below)	
	Slope Length			
Depth to ...	Mottles		% CF	
	Gley			
	Water Table		% CF	
	Carbonates			
Soil Horizon Description	Bedrock		% CF	
	1	Depth from zero		54cm
	2	Texture	OM	% CF
	3	Depth from zero		% CF
Soil Horizon Description	4	Texture		% CF
		Depth from zero		% CF
		% Surface Stone/Rock		% CF
		Moisture Regime	7	% CF
	Drainage	VP		

ELC
Community Description and Classification

Map #: 279_GSH219 Polygon: MAM 3-2
 Surveyor(s): J.P. Date: 2012-05-02 Time start: 10:00 AM finish: 12:30 PM
 UTMZ: 1522 10 UTMZ: 479 5789 UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input type="checkbox"/> Terrestrial <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Aquatic	<input checked="" type="checkbox"/> Organic <input type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input checked="" type="checkbox"/> Tableland <input type="checkbox"/> Roll. Upland <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Aivar <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

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			
3			
4	6.4		Phragmites >>> Sol sp >>> Syn sp

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

Stand Composition: Size Class Analysis:

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

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

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

EcoSite: Organic Meadow Marsh Code: MAM
Vegetation Type: Redcedar-less Organic Marsh Code: MAM 3-2
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
Total						2
Basal Area (BA)						
Dead						

Soils Ontario and ELC Soils Description

Site Metrics	Pit/Auger #	Soils Ontario and ELC Soils Description				Summary
Zone	2					
Easting	17					
Northing	452210					
Position	4795789					
Aspect	Flat					
Percent						
Slope						
Length						
Mottles						
Gley						
Water Table	40cm					
Carbonates						
Bedrock						
Depth from zero	46cm	% CF	% CF	% CF	% CF	% CF
Texture	OM					
Depth from zero		% CF	% CF	% CF	% CF	% CF
Texture						
Depth from zero		% CF	% CF	% CF	% CF	% CF
Texture						
Depth from zero		% CF	% CF	% CF	% CF	% CF
Texture						
% Surface Stone/Rock						
Moisture Regime	VP					
Drainage	VP					

Plant Species List
2012

Table with columns for plant groups (Conifers, Deciduous, Tree & Shrubs, Graminoids, Grasses) and species lists. Includes entries like Balsam Fir, Common Juniper, Eastern Red Cedar, White Oak, Bur Oak, Red Oak, Alder Buckthorn, Common Buckthorn, Smooth Sumac, etc.

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: 279654 2119 Date: May 2, 2012 Surveyors: JP, TS

Significant Wildlife Habitat Form

AECOM

Study Area: BLW JER **GSH** Map #: 279-GSH2119
 Date: 2012-05-02 Time Started: 10:20 a.m.
 Field Staff: Tom Shoney Jess Piette Time Finished: 12:30 P.m.
 Weather Conditions: overcast, 15°C, 20 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)
 UTM: _____ 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): _____

Waterfowl 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)
 UTM: 452461 4796182 Area of standing water delineated on field map
 Water depth (m): +2m % open water: 290 % emergent vegetation: 5%
 Description of standing water (permanent pool, evidence of annual spring flooding, etc): Permanent
pool, in middle of farmers field. Possibly dug.
 Area and soil/substrate of shoreline habitat: Shoreline habitat is heavily vegetated
with Willow, dogwood, some sedge sp. → mineral soils
 Type and abundance of cover in open water habitat: 5% cover overall Sedge sp 60%
Willow 40%
 Type and abundance of cover in surrounding habitat: Surrounding habitat Swamp thicket
gray/red oak, dogwood, Willow, Green Ash, Cottonwood
 Evidence of disturbance (e.g. cattle grazing): Forest management
 Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: During
vegetation survey heard Spring peepers calling. → 2

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)
 UTM: _____ 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)
 UTM: _____ 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)
 UTM: _____ 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)
 UTM: _____ 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)
 UTM: _____ 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)
 UTM: _____ 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
11, 12	Pond → SWD41/SWT2		

Species Conservation Concern Habitat and Incidental Wildlife - Goshen



Map No: 279-65H2119
Date (yyyy-mm-dd): 2012-05-02

Field Staff: Tom Skorney
Jesse Kettle

Time Started: 10:20 a.m.
Time Finished: 12:30 p.m.

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
Song SP		VO					
P. L. Deer		VO					
Red. Sided		VO					
Blue Jay		VO					
Red shouldered		OB					
Flicker		VO					
Deer		1KS					
Rose breasted		OB					
Leopard Finch							

Note: Evidence Codes (EV) SH=Suitable Habitat, SM= Singing Male; T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest; A=Anxiety Behavior, DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Feeds/Faecal sack, AE=Nest Entry

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)
 Not observed → N/O

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
PLANTS			
FOD7	American Gromwell (Lithospermum latifolium) - S3 Bloom Time - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y N UTM:
ALO, TPO	Muehlenberg's astomum moss (Astomum muehlenbergianum) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y N UTM:
FOM1, FOM2, CUP3	Autumn Coral-root (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Dak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y N UTM:
FOC, FOM, FOD	Burning Bush (Elyonimus atropurpureus) - S3 Bloom Time - April - June	Species occurs in dry to moist deciduous thickets and woods	Y N UTM:
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, SWT, SWT	Crowned Beggarticks (Bidens trichosperma) - S2 Bloom Time - late summer	Found in openings in swamps, marshes along shores of wet fields within the Carolinian zone and southeastern Georgian bay bays, fens, tamarack swamps	Y N UTM: N/O
MAM, MAS	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 floodplains and river banks.	Y N UTM:
ALT1, FOD7	Fogg's Goosefoot (Chenopodium foggii) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y N UTM:
TPS, TPW, FOM1, FOM2	GIANT IRONWEED (Vernonia gigantea) - S1? Bloom Time -	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y N UTM:
TPO2, TPS2, TPW2,			

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, FOD9	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, SWM1, 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, SWM1, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time - Summer	Woodlands, often rocky, especially rivers. Rich woods, (swamp forests) floodplains	Y (N) UTM: N/O
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Erigenia bulbosa</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: N/O
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: N/O
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:
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 Bloom Time - April - September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	Y (N) UTM:
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time - May - June	Found in moist woods	Y (N) UTM:
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumaria</i>) - S3?	Species occurs in old fields, poorly managed pastures, fence lines 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: N/O
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods; alvars and moist sandy meadows	Y (N) UTM:
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows; at edges of sand pits	Y (N) UTM:
SDT1, FOD5, FOD9	Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	Y (N) UTM:
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentiana quinquefolia</i>) - S2 Bloom Time - late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	Y (N) UTM:
TPS1, TPW1, CUW1, RBO, SBO	Sundial Lupine (<i>Lupinus perennis</i>) - S3 Bloom Time - mid-March to mid-June	Inhabits dry, sandy oak savannas, 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



ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
TP01, TPS1, TPW1, CUM1	Tail Blazing Star (<i>Liatrix 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:
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Seiurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration.	Y (N) UTM:
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/edges (oak savannahs and riparian forest), open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges, groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	Y (N) UTM:
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets, nests above ground in bush, vines	Y (N) UTM:
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) - S3	Species inhabits shallow ponds, lakes and boggy swamps	Y (N) UTM: N/A
TPS, TPW	Sleepy Duskywing (<i>Erynnis brizo</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils.	Y (N) UTM:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	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:
TPS, CUW	Mottled Duskywing (<i>Erynnis martialis</i>) - S2	Usually seen nectaring or on wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present	Y (N) UTM:
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyton</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM: N/A
FOD5	West Virginia White (<i>Pieris virginiensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant toothwort occur	Y (N) UTM:

Wetland Data Collection Sheet



Study area: <u>GOSHEN</u> Date (yyyy-mm-dd): <u>May 2nd, 2012</u> Field Staff: <u>Jess Pette + Tom Shorney</u>	Map No: <u>279654 2119</u> Time Started: <u>10:20am</u> Time Finished: <u>12:30pm</u>
--	---

Presence of Groundwater No Yes

bank seepage iron staining groundwater indicator

Site Type Lacustrine (associated with lakes) Isolated

Riverine (associated with rivers)
 Palustrine absent or intermittent inflow and either intermittent or permanent outflow

what are the water inputs and outputs? Surface water

Soils refer to ELC card for soils information

% open Water dry this year, however in wetter years would be all water

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

Community Descriptions

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

Map Code/ ELC Code	Community Description - list at least four dominant species for each form
<u>SWDG-3/ S1</u>	<u>h*: Acefrie, Frapenn, Ulmamer, ACENEGUN</u>
<u>MAM3-2 M1</u>	<u>ne*: phaargun ts: Salexig</u>
<u>SWT2</u>	<u>h: Popdelt, Frapenn +S: cortace, corseri, Salexig</u>

Wetland Data Collection Sheet

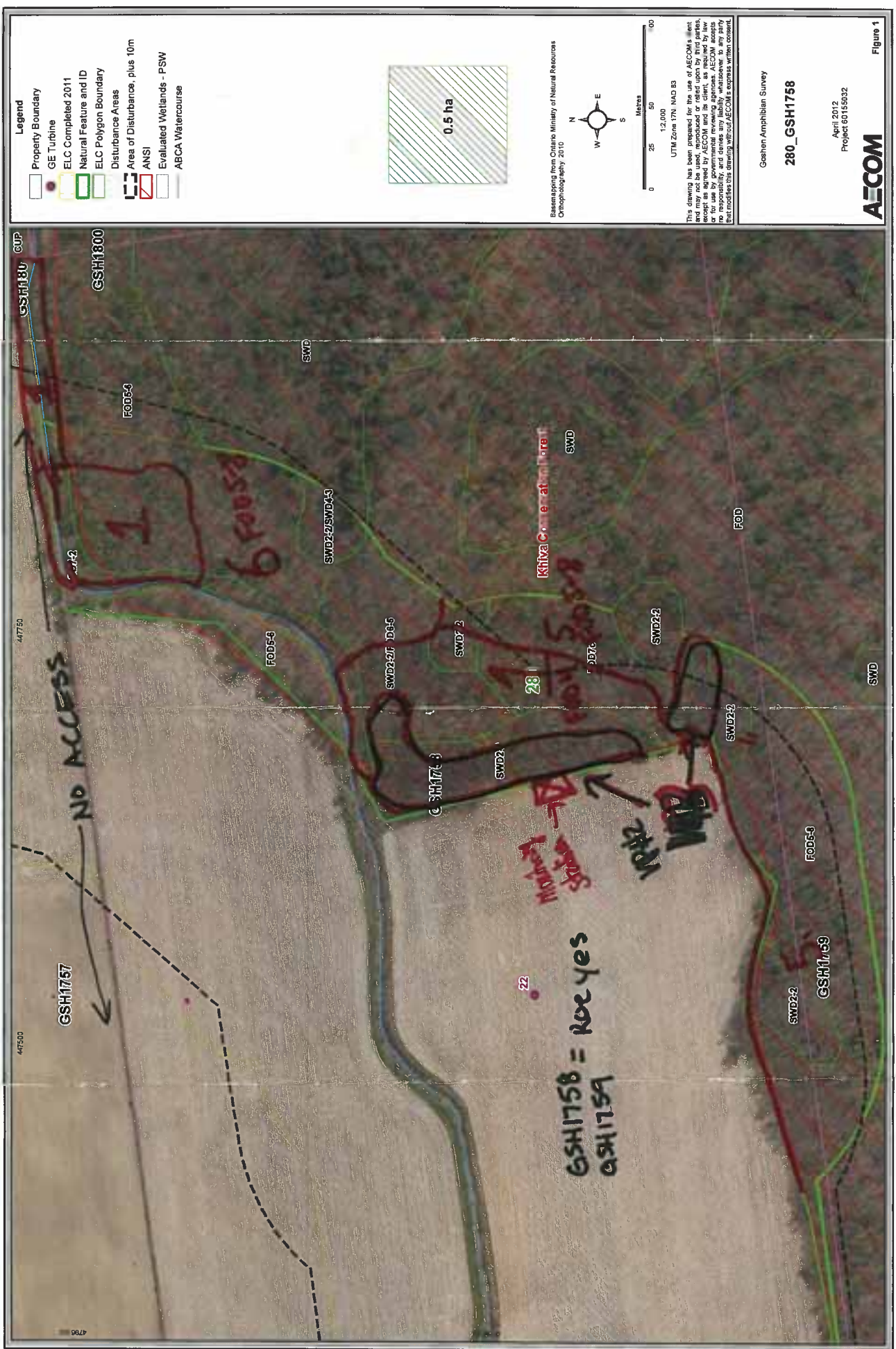
Notes on Ecological Functions or features

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

Further N within site gc and ls become more prominent and would occupy >25% however within portion of patch that falls within our study area nothing other than h occupies >25% cover

- area is adjacent to hydro line
- potential for musk, racoon
- surrounding area is a little higher but relatively flat

★ Organic Soils ★



- 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
Orthography: 2010

N
W — E
S

Metres
0 25 50 100

UTM Zone 17N, NAD 83

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Goshen Amphibian Survey

280_GSH1758

April 2012
Project 60145032

AECOM

Figure 1

ELC
Community Description and Classification

Map #: 280-65H1758 Polygon: /

Surveyor(s): BA, SG Date: April 24, 2012 Time start: 11:00am finish: 2:00pm

UTMZ: UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial	<input type="checkbox"/> Organic	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Plankton	<input type="checkbox"/> Lake
<input type="checkbox"/> Wetland	<input checked="" type="checkbox"/> Mineral Soil	<input type="checkbox"/> Riverine	<input type="checkbox"/> Submerged	<input type="checkbox"/> Pond
<input type="checkbox"/> Aquatic	<input type="checkbox"/> Parent Min.	<input type="checkbox"/> Bottomland	<input type="checkbox"/> Floating-LVD.	<input type="checkbox"/> River
	<input type="checkbox"/> Acidic Bedrk	<input type="checkbox"/> Terrace	<input type="checkbox"/> Graminoid	<input type="checkbox"/> Stream
<input type="checkbox"/> Open Water	<input type="checkbox"/> Basic Bedrk	<input type="checkbox"/> Valley Slope	<input type="checkbox"/> Forb	<input type="checkbox"/> Marsh
<input type="checkbox"/> Shallow Water	<input type="checkbox"/> Carb. Bedrk	<input checked="" type="checkbox"/> Tableland	<input type="checkbox"/> Lichen	<input type="checkbox"/> Swamp
<input checked="" type="checkbox"/> Surficial Dep.		<input type="checkbox"/> Roll. Upland	<input type="checkbox"/> Bryophyte	<input type="checkbox"/> Fen
<input type="checkbox"/> Bedrock		<input type="checkbox"/> Cliff	<input checked="" type="checkbox"/> Deciduous	<input type="checkbox"/> Bog
History		<input type="checkbox"/> Talus	<input type="checkbox"/> Coniferous	<input type="checkbox"/> Barren
<input type="checkbox"/> Natural		<input type="checkbox"/> Crevice/Cave	<input type="checkbox"/> Mixed	<input type="checkbox"/> Meadow
<input type="checkbox"/> Cultural		<input type="checkbox"/> Alvar		<input type="checkbox"/> Prairie
Cover		<input type="checkbox"/> Rockland		<input type="checkbox"/> Thicket
<input type="checkbox"/> Open		<input type="checkbox"/> Beach / Bar		<input type="checkbox"/> Savannah
<input type="checkbox"/> Shrub		<input type="checkbox"/> Sand Dune		<input checked="" type="checkbox"/> Woodland
<input checked="" type="checkbox"/> Tree		<input type="checkbox"/> Bluff		<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	POPERAN > FRAPENN > BETPAP > TSUCANA
2	2	2	FRAPENN > BPTREM
3	4	2	WLMACER > VIBLENM > LINBENZ
4	7	3	ERYAMER > RIBANER > FRAVIRG

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

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

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

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

Ecosite: Dry-Fresh Deciduous Forest Code: F004

Vegetation Type: Code: --

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
Total						2
Basal Area (BA)						100
Dead						

Soils Ontario and ELC Soils Description

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

Soil Horizon Description

ELC
Community Description and Classification

Map #: 280-65H1758 Polygon: 5
 Surveyor(s): RA, SG Date: April 24, 2012 Time start: 11:00 a.m. finish: 2:00 p.m.
 UTMZ: UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial	<input type="checkbox"/> Organic	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Plankton	<input type="checkbox"/> Lake
<input type="checkbox"/> Wetland	<input checked="" type="checkbox"/> Mineral Soil	<input type="checkbox"/> Riverine	<input type="checkbox"/> Submerged	<input type="checkbox"/> Pond
<input type="checkbox"/> Aquatic	<input type="checkbox"/> Parent Min.	<input type="checkbox"/> Bottomland	<input type="checkbox"/> Floating-LVD.	<input type="checkbox"/> River
	<input type="checkbox"/> Acidic Bedrk	<input type="checkbox"/> Terrace	<input type="checkbox"/> Graminoid	<input type="checkbox"/> Stream
<input type="checkbox"/> Open Water	<input type="checkbox"/> Basic Bedrk	<input type="checkbox"/> Valley Slope	<input type="checkbox"/> Forb	<input type="checkbox"/> Marsh
<input type="checkbox"/> Shallow Water	<input type="checkbox"/> Carb. Bedrk	<input checked="" type="checkbox"/> Tableland	<input type="checkbox"/> Lichen	<input type="checkbox"/> Swamp
<input type="checkbox"/> Surficial Dep.		<input type="checkbox"/> Cliff	<input type="checkbox"/> Bryophyte	<input type="checkbox"/> Fen
<input type="checkbox"/> Bedrock		<input type="checkbox"/> Talus	<input checked="" type="checkbox"/> Deciduous	<input type="checkbox"/> Bog
History		<input type="checkbox"/> Crevice/Cave	<input type="checkbox"/> Coniferous	<input type="checkbox"/> Barren
<input checked="" type="checkbox"/> Natural		<input type="checkbox"/> Alvar	<input type="checkbox"/> Mixed	<input type="checkbox"/> Meadow
<input type="checkbox"/> Cultural		<input type="checkbox"/> Rockland		<input type="checkbox"/> Prairie
Cover		<input type="checkbox"/> Beach / Bar		<input type="checkbox"/> Thicket
<input type="checkbox"/> Open		<input type="checkbox"/> Sand Dune		<input type="checkbox"/> Savannah
<input type="checkbox"/> Shrub		<input type="checkbox"/> Bluff		<input type="checkbox"/> Woodland
<input checked="" type="checkbox"/> Tree				<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	1	4	ACE5ACC > FRAANER = TILANER
2	2	2	ACE5ACC > FRAANER
3	4	3	PRIMVIRG >> LINRENZ
4	7	3	ERYANER > TRILGRAN

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

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

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

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

Ecosite: Dry-Fresh Sugar Maple Deciduous Forest Code: FOD5
 Vegetation Type: Dry-Fresh Sugar Maple - White Ash Code: FOD5-8
 Inclusion: Deciduous Forest 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
Total							100
Basal Area (BA)							
Dead							

Soils Ontario and ELC Soils Description

Site Metrics	Plt/Auger #	NR	Summary
STM	Zone		Moisture Regime
	Easting		
	Nothing		
Slope	Position		Drainage
	Aspect		
	Percent		
	Slope		
	Length		
Depth to...	Mottles		Effective Texture (indicate below)
	Gley		
	Water Table		% CF
	Carbonates		% CF
	Bedrock		% CF
1	Depth from zero		% CF
	Texture		% CF
2	Depth from zero		% CF
	Texture		% CF
3	Depth from zero		% CF
	Texture		% CF
4	Depth from zero		% CF
	Texture		% CF
	% Surface Stone/Rock		
	Moisture Regime		
	Drainage		

ELC Community Description and Classification

Map #: 280-GSH1758 Polygon: 6

Surveyor(s): RA, SG Date: April 24, 2012 Time start: 11:00 am finish: 2:00 pm

UTMZ: UTMZ: UTMZ:

Polygon Description

System	Substrata	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Aquatic Site <input type="checkbox"/> Open Water <input checked="" 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) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	ACESACC > FRAXMEX > AGGRAN
2	2	2	ACESACC > FRAXMEX
3	4	3	ULNAMER > PRUVIRG > LINBENZ
4	7	3	ERYAMER > MAISTEL

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

Stand Composition:	Size Class Analysis:
Standing Snags: <input type="checkbox"/> <10 <input type="checkbox"/> 10-24 <input type="checkbox"/> 25-50 <input type="checkbox"/> >50	<input type="checkbox"/> <10 <input type="checkbox"/> 10-24 <input type="checkbox"/> 25-50 <input type="checkbox"/> >50
Deadfall / Logs: <input type="checkbox"/> <10 <input type="checkbox"/> 10-24 <input type="checkbox"/> 25-50 <input type="checkbox"/> >50	<input type="checkbox"/> <10 <input type="checkbox"/> 10-24 <input type="checkbox"/> 25-50 <input type="checkbox"/> >50

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

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

Ecosite: Dry-Fresh Sugar Maple Deciduous Forest Code: FODS
 Vegetation Type: Dry-Fresh Sugar Maple - White Ash Code: FODS-8
 Inclusion: Deciduous Forest Code: -
 Complex: - Code: -

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

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

Soils Ontario and ELC Soils Description

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

Plant Species List
2012

561

561

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Dicot Herbs - Asteraceae	Dicot Herbs	Dicot Herbs
Common Yarrow <i>Achillea millefolium</i>	Shepherd's Purse <i>Capsella bursa-pastoris</i>	Kidney-leaf Buttercup <i>Ranunculus abortivus</i>
White Snakeroot <i>A. serotina altissima</i>	Cutleaf Toothwort <i>Cardamine concanata</i>	Tall Buttercup <i>Ranunculus acris</i>
Com Ragwort <i>Ambrosia artemisiifolia</i>	Toothwort <i>Cardamine diandra</i>	Hooked Buttercup <i>Ranunculus recurvatus</i>
Giant Ragweed <i>Ambrosia trifida</i>	Penn. Bitter-cress <i>Cardamine pennsylvanica</i>	<i>Ranunculus</i>
Field Pussytoes <i>Antennaria neglecta</i>	<i>Cardamine</i>	Sheep Sorrel <i>Rumex acetosella</i>
<i>Artemisia</i>	Blue Cohosh <i>Caulophyllum thalictroides</i>	Curl-leaf Dock <i>Rumex crispus</i>
Common Burdock <i>Arctium minus</i>	Mouse-ear Chickweed <i>Cerastium fontanum</i>	Bitter Dock <i>Rumex obtusifolius</i>
Nodding Beggar-ticks <i>Bidens cernua</i>	Turtleneck <i>Chelone glabra</i>	Bloodroot <i>Sanguinaria canadensis</i>
Devil's Beggar-ticks <i>Bidens frondosa</i>	Spotted Water-hemlock <i>Cicuta maculata</i>	Black Snakeroot <i>Sanicula marilandica</i>
Spotted Knave-weed <i>Centaurea biebersteinii</i>	Water-hemlock <i>Cicuta virosa</i>	Bouncing Bet <i>Sanguinaria officinalis</i>
Brown Knave-weed <i>Centaurea jacea</i>	Enchanter's Nightshade <i>Circaea lutea</i>	Marsh Skullcap <i>Scutellaria aliculata</i>
Chicory <i>Cichorium intybus</i>	Carolina Spring Beauty <i>Claytonia caroliniana</i>	Mad Dog Skullcap <i>Scutellaria lateriflora</i>
Canada Thistle <i>Cirsium arvense</i>	Virginia Spring Beauty <i>Claytonia virginica</i>	White Camphor <i>Silene latifolia</i>
Bull Thistle <i>Cirsium vulgare</i>	Virgin's-bower <i>Clematis virginiana</i>	Bladder Camphor <i>Silene vulgaris</i>
Horseweed <i>Conyza canadensis</i>	Field Bindweed <i>Convolvulus arvensis</i>	Hemlock Water-hemlock <i>Sium suave</i>
Daisy Fleabane <i>Erythron annuus</i>	Dog-strangling Vine <i>Cynanchum rossicum</i>	Bitter Nightshade <i>Solanum dulcamara</i>
Philadelphia Fleabane <i>Erythronium philadelphicum</i>	Wild Carrot <i>Daucus carota</i>	Black Nightshade <i>Solanum elaeagnifolium</i>
<i>Erythron</i>	Deerfoot Pink <i>Dianthus armeria</i>	Grassleaf Stitchwort <i>Stellaria graminea</i>
Joe-pye-weed <i>Eupatorium maculatum</i>	Swine-corn <i>Dicentra canadensis</i>	Common Chickweed <i>Stellaria media</i>
Boneset <i>Eupatorium perfoliatum</i>	Dutchman's-breeches <i>Dicentra cucullaria</i>	Earl Meadow-rue <i>Thalictrum dioicum</i>
Large-leaved Aster <i>Eurybia macrophylla</i>	Wild Teasel <i>Dipsacus fulvonum</i>	Tall Meadow-rue <i>Thalictrum pubescens</i>
Flat-top Goldenrod <i>Euthamia graminifolia</i>	Wild Cucumber <i>Echinocystis lobata</i>	Field Pennycress <i>Thlaspi arvense</i>
Orange Hawkweed <i>Hieracium aurantiacum</i>	Viper's Bugloss <i>Echium vulgare</i>	Foamflower <i>Tiarella cordifolia</i>
Field Hawkweed <i>Hieracium caespitosum</i>	Northern Willow-herb <i>Eliobium ciliatum</i>	Star-flower <i>Trientalis borealis</i>
<i>Hieracium</i>	Hairy Willow-herb <i>Eliobium hirsutum</i>	Red Clover <i>Trifolium pratense</i>
Elecampane <i>Inula helenium</i>	Small-fl. Willow-herb <i>Eliobium parviflorum</i>	White Clover <i>Trifolium repens</i>
Prickly Lettuce <i>Lactuca serriola</i>	<i>Elyobium</i>	<i>Trifolium</i>
<i>Lactuca</i>	Worm Mustard <i>Erigeron cheiranthoides</i>	Stinging Nettle <i>Urtica dioica</i>
Oxeye Daisy <i>Leucanthemum vulgare</i>	<i>Euryhorbia</i>	Greater Bladderwort <i>Utricularia vulgaris</i>
Pineapple-weed <i>Matricaria discoidea</i>	Hairy Nettle <i>Galeopsis tetrahit</i>	Common Mullein <i>Verbascum thapsus</i>
Tall White Lettuce <i>Prenanthes altissima</i>	Wild Madder <i>Galium mollis</i>	Blue Vervain <i>Verbena hastata</i>
Black-eyed Susan <i>Rudbeckia hirta</i>	Marsh Bedstraw <i>Galium palustre</i>	White Vervain <i>Verbena officinalis</i>
Tall Goldenrod <i>Solidago altissima</i>	Sweet-scented Bedstraw <i>Galium triflorum</i>	Water Speedwell <i>Veronica angustifolia</i>
Blue-stem Goldenrod <i>Solidago caesia</i>	<i>Galium</i>	Common Speedwell <i>Veronica officinalis</i>
Canada Goldenrod <i>Solidago canadensis</i>	Spotted Geranium <i>Geranium maculatum</i>	<i>Veronica</i>
Zizyga Goldenrod <i>Solidago flexicaulis</i>	Herb-robert <i>Geranium robertianum</i>	Cow Vetch <i>Vicia cracca</i>
Giant Goldenrod <i>Solidago gigantea</i>	Yellow Avens <i>Geum aleaicum</i>	<i>Vicia</i>
Early Goldenrod <i>Solidago juncea</i>	White Avens <i>Geum canadense</i>	Periwinkle <i>Viola minor</i>
Gray Goldenrod <i>Solidago nemoralis</i>	Urban Avens <i>Geum urbanum</i>	Blue Violet <i>Viola conspersa</i>
<i>Solidago</i>	Dame's Rocket <i>Hesperis matronalis</i>	Yellow Violet <i>Viola pubescens</i>
Field Sow-thistle <i>Sonchus arvensis</i>	Water-leaf <i>Hydrophyllum virginianum</i>	Com. Blue Violet <i>Viola sororia</i>
<i>Sonchus</i>	Com. St. John's-wort <i>Hypericum perforatum</i>	<i>Viola</i>
Hearth-leaved Aster <i>Symphoricarpos cordifolium</i>	Spotted Jewelweed <i>Impatiens capensis</i>	<i>Viola</i>
Heath Aster <i>Symphoricarpos ericoides</i>	Wood Nettle <i>Lamium canadense</i>	<i>Viola</i>
Tall White Aster <i>Symphoricarpos lanceolatum</i>	Motherwort <i>Leonurus cardiaca</i>	<i>Viola</i>
Calico Aster <i>Symphoricarpos lateriflorum</i>	Field Peppergrass <i>Lepidium campestre</i>	<i>Viola</i>
New England Aster <i>Symphoricarpos novae-angliae</i>	Eur. Gromwell <i>Lithospermum officinale</i>	<i>Viola</i>
Purple-stem Aster <i>Symphoricarpos purpureus</i>	Butter & Eggs <i>Linaris vulgaris</i>	<i>Viola</i>
Common Tansy <i>Tanacetum vulgare</i>	Great Lobelia <i>Lobelia siphilitica</i>	<i>Viola</i>
Common Dandelion <i>Taraxacum officinale</i>	<i>Lobelia</i>	<i>Viola</i>
Com. Goatbeard <i>Thymophyton pratensis</i>	Cut-leaf Bugleweed <i>Lythos americanus</i>	<i>Viola</i>
Coltsfoot <i>Tussilago farfara</i>	Northern Bugleweed <i>Lythos uniflorus</i>	<i>Viola</i>
	Fringed Loosestrife <i>Lythos ciliata</i>	<i>Viola</i>
	Monardella <i>Lythos nummularia</i>	<i>Viola</i>
	<i>Lythos</i>	<i>Viola</i>
	Purple Loosestrife <i>Lythos salicaria</i>	<i>Viola</i>
	Black Medick <i>Medicago lupulina</i>	<i>Viola</i>
	Alfalfa <i>Medicago sativa</i>	<i>Viola</i>
	White Sweet-clover <i>Melilotus alba</i>	<i>Viola</i>
	Yellow Sweet-clover <i>Melilotus officinalis</i>	<i>Viola</i>
	Wild Mint <i>Mentha arvensis</i>	<i>Viola</i>
	Wild Yam <i>Monarda fistulosa</i>	<i>Viola</i>
	Small Forget-me-not <i>Myosotis laxa</i>	<i>Viola</i>
	Forget-me-not <i>Myosotis scorpioides</i>	<i>Viola</i>
	Water-cress <i>Nasturtium officinale</i>	<i>Viola</i>
	Com. Evening-primrose <i>Oenothera biennis</i>	<i>Viola</i>
	Sweet-cicely <i>Osmorhiza berterii</i>	<i>Viola</i>
	Yellow Wood-sorrel <i>Oxalis stricta</i>	<i>Viola</i>
	Wild Parsnip <i>Pastinaca sativa</i>	<i>Viola</i>
	English Plantain <i>Plantago lanceolata</i>	<i>Viola</i>
	Common Plantain <i>Plantago major</i>	<i>Viola</i>
	Rugel's Plantain <i>Plantago rugelii</i>	<i>Viola</i>
	May-apple <i>Podophyllum peltatum</i>	<i>Viola</i>
	Pale Smartweed <i>Polygonum lapathifolium</i>	<i>Viola</i>
	Lady's-thumb <i>Polygonum persicaria</i>	<i>Viola</i>
	Virginia Knotweed <i>Polygonum virginianum</i>	<i>Viola</i>
	<i>Polygonum</i>	<i>Viola</i>
	<i>Polygonum</i>	<i>Viola</i>
	Rough Cinquefoil <i>Potentilla norvegica</i>	<i>Viola</i>
	Rough-fruited Cinquefoil <i>Potentilla recta</i>	<i>Viola</i>
	Common Cinquefoil <i>Potentilla simplex</i>	<i>Viola</i>
	<i>Potentilla</i>	<i>Viola</i>
	Heal-all <i>Prunella vulgaris</i>	<i>Viola</i>
	Shinleaf <i>Pyrola elliptica</i>	<i>Viola</i>

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:	1	4
Date:	2	6
Surveyors:	3	

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER GSD	Map #:	280-GSH1758
Date:	April 24, 2012	Time Started:	11:00am
Field Staff:	RA, SG	Time Finished:	2:00pm
Weather Conditions:	~50% cloud cover, ~5-10°C; Very Windy		

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 Form. No suitable waterfowl, turtle or Marsh Breeding Bird 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: _____ Likelihood to extend below frost line: _____

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

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

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

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

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

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

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

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

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

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

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

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

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

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

Shoreline of lake, large river or large wetland present:

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

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

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

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

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

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

Large open habitat present:

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

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

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

Old-growth or Mature Forests, Interior Forest Breeding Birds

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

Mature forest present:

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

Age of oldest trees: _____

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

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

Photo #	Location or Subject	Photo #	Location or Subject

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen



ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat, if present)
CUM1, MAM, FOD6, FOD7, FOD9	June–August Green Dragon (<i>Arisaema dracontium</i>) - SCIS3 <u>Bloom Time – May and June</u>	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: NO
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June–August Hairy Bedstraw (<i>Galium pilosum</i>) -S3 <u>Bloom Time – June–August</u>	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y (N) UTM: NO
FEO1, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	June to August Hairy Valerian (<i>Valeriana edulis</i>) -S1 <u>Bloom Time – June to August</u>	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens	Y (N) UTM: NO
FOD6, FOD7, SWM, SWD	Summer Hairy Wood Mint (<i>Blephilia hirsuta</i>) -S1 <u>Bloom Time– Summer</u>	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y (N) UTM: NO
FOD6, FOD7, FOD8, FOD9	Time – early to late April Hartinger-of-spring (<i>Erigenia bulbosa</i>) - S3 <u>Bloom Time – early to late April</u>	Occurs in rich, moist deciduous woods, especially on floodplains	Y (N) UTM: NO
SAS1, SAM1, SAF1	Time – summer Hill's Pond Weed (<i>Potamogeton hillii</i>) - SCIS2 <u>Bloom Time – summer</u>	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	Y (N) UTM: NO
FOM6, FOM7, FOM8	S2 <u>Bloom Time – June to August</u> Large Round-leaved Orchid (<i>Platanthera macrophylla</i>) - S2	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	June – September Lizard's Tail (<i>Saururus cernuus</i>) - S3 <u>Bloom Time – June – September</u>	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, FOD9	–S3 <u>Bloom Time – March–May</u> Pawpaw (<i>Asimina triloba</i>)	Occurs in moist deciduous woods and stream banks	Y (N) UTM: NO
FOM8, FOD6, FOD7, FOD9, CUM1	–Late Spring – Early Summer Pilose Evening Primrose (<i>Oenothera pilosella</i>) -S2 <u>Bloom Time – Late Spring – Early Summer</u>	Moist edges of woods and open, disturbed ground	Y (N) UTM: NO
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	–S2 Prostate Tick-trefoil (<i>Desmodium rotundifolium</i>) -S2 <u>Bloom Time – July–September</u>	Dry, sandy or rocky woods	Y (N) UTM: NO
FOD7, SWD	–S2? <u>Bloom Time – March - June</u> Pumpkin Ash (<i>Fraxinus profunda</i>)	Swamps and floodplains	Y (N) UTM: NO
CUW1, ALO, FET1, SWC	–S3 Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 <u>Bloom Time –mid May to mid June</u>	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	- S2 Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 <u>Bloom Time – April – September</u>	Species inhabits open, dry sandy woods; Jack pine, oak, and aspen woodlands.	Y (N) UTM: NO
FOD6, FOD7, FOD9	–S3 <u>Bloom Time– May - June</u> Round-leaved Groundsel (<i>Packera obovata</i>)	Found in moist woods	Y (N) UTM: NO
CUM1, CUT1, CUS1	–S3? Round-leaved hawthorn (<i>Crataegus lumaria</i>)	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y (N) UTM: NO
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	– S3 <u>Bloom Time – May to October</u> Scarlet Beebalm (<i>Monarda didyma</i>)	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y (N) UTM: NO
ALO, ALS, ALT, TPO, TPS, TPW	–S3 Slender Blazing Star (<i>Liatris cylindracea</i>)	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	Y (N) UTM: NO
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	–S2 Slender Knotweed (<i>Polygonum tenue</i>)	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows, at edges of sand pits	Y (N) UTM: NO
SOT1, FOD5, FOD9	- S2 Slim-flowered Mully (<i>Muhlenbergia tenuiflora</i>)	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	– S2 <u>Bloom Time – late summer to mid fall</u> Stiff Gentian (<i>Gentiana quinquefolia</i>)	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	– S3 <u>Bloom Time – mid–March to mid–June</u> Sundial Lupine (<i>Lupinus perennis</i>)	Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.	Y (N) UTM: NO

Species Conservation Concern Habitat and Incidental Wildlife – Goshen

AOM

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: NO
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: NO
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: NO
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: NO
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: NO
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: NO
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: NO
-		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: NO
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: NO
TPS, TPW		Sleepy Duskywing (<i>Erynnis brizo</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles. 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: NO
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: NO
TPS, CUW		Mottled Duskywing (<i>Erynnis martialis</i>) -S2		Y (N) UTM: NO
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUW1		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: NO
FOD5		West Virginia White (<i>Pieris virginianensis</i>) - SC	This species is restricted to rich, moist, deciduous woods where its foodplant (foothwort) occur	Y (N) UTM: NO

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