

ASA

# Significant Wildlife Habitat Form

AECOM

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

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

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

UTMs: \_\_\_\_\_ Number of nests: \_\_\_\_\_

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

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

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

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

UTMs: \_\_\_\_\_ Area of standing water delineated on field map: \_\_\_\_\_

Water depth (m): \_\_\_\_\_ % open water: \_\_\_\_\_ % emergent vegetation: \_\_\_\_\_

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

Area and soil/substrate of shoreline habitat: \_\_\_\_\_

Type and abundance of cover in open water habitat: \_\_\_\_\_

Type and abundance of cover in surrounding habitat: \_\_\_\_\_

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

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

\*\*\*Complete Vernal Pool Habitat Description Form\*\*\*

**Snake Hibernacula**

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

UTMs: \_\_\_\_\_ Likelihood to extend below frost line: \_\_\_\_\_

% canopy cover: \_\_\_\_\_ % slope: \_\_\_\_\_ Distance to open canopy (m): \_\_\_\_\_

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

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

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

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

UTMs: \_\_\_\_\_ Description (indicator species, etc): \_\_\_\_\_

# NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

## Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

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

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

☒ No

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

UTMs: \_\_\_\_\_

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

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

## Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

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

Shoreline of lake, large river or large wetland present:

☒ No

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

UTMs: \_\_\_\_\_

Rocky island or peninsula present: \_\_\_\_\_

Mudflat present: \_\_\_\_\_

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

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

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

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

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

Large open habitat present: ☒ No

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

UTMs: \_\_\_\_\_

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

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

## Old-growth or Mature Forests, Interior Forest Breeding Birds

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

Mature forest present: ☒ No

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

UTMs: \_\_\_\_\_

Age of oldest trees: \_\_\_\_\_

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

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

| Photo # | Location or Subject | Photo # | Location or Subject |
|---------|---------------------|---------|---------------------|
|         |                     |         |                     |
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|         |                     |         |                     |

# A=CM

**Field Staff:**

Time Started: 2:25pm  
Time Finished: 3:55

## Observed Species List

[illegible]

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

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

Breeding Bird (Confirmed)

Breeding Bird (Confirmed)

Breeding Bird (Confirmed)

**Other Wildlife Evidence:** OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FE=Feeding evidence, SC=Scat, SI=Other signs (specify)

| ELC                                            | Species                                                                                             | Habitat Description                                                                                                                                            | Habitat Present (Y/N); UTM; description of habitat if present |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| PLANTS                                         |                                                                                                     |                                                                                                                                                                |                                                               |
| FOD7                                           | American Gromwell ( <i>Lithospermum latifolium</i> ) - S3<br><i>Bloom Time - Spring</i>             | Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.                                                                           | Y (N) UTM                                                     |
| ALO, TPO                                       | Muehlenberg's astomum moss ( <i>Astomum muehlenbergianum</i> ) - S2 <i>Bloom Time - Spring</i>      | Thin soil over level outcrop ledges and on soil under grasses in open prairie                                                                                  | Y (N) UTM                                                     |
| FOM1, FOM2, CUP3                               | Autumn Coral-root ( <i>Coralorhiza odontorhiza</i> ) - S2<br><i>Bloom Time - summer to fall</i>     | Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.                                                                  | Y (N) UTM                                                     |
| FOC, FOM, FOD                                  | Burning Bush ( <i>Euonymus atropurpureus</i> ) - S3 <i>Bloom Time - April - June</i>                | Species occurs in dry to moist deciduous thickets and woods                                                                                                    | Y (N) UTM                                                     |
| SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6 | Chinese Hemlock Parsley ( <i>Conioselinum chinense</i> ) - S2<br><i>Bloom Time - summer to fall</i> | Swampy places with deciduous trees, white cedars, tamarack; springy river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes | Y (N) UTM                                                     |
| SWC, SWM, SWD, SWT, MAM, MAS                   | Crowned Beggarticks ( <i>Bidens trichosperma</i> ) - S2<br><i>Bloom Time - late summer</i>          | Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southern Georgian bay. Boggs, fens, tamarack swamps             | Y (N) UTM                                                     |
| ALT1, FOD7                                     | Eastern Green-violet ( <i>Hybanthus concolor</i> ) - S2 <i>Bloom Time - mid March to August</i>     | Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone includes floodplains and river banks.                                     | Y (N) UTM                                                     |
| TPS, TPW, FOM1, FOM2                           | Fogg's Goosefoot ( <i>Chenopodium foggii</i> ) - S2                                                 | Species occurs in sandy areas on limestone under oak or pine-oak forests                                                                                       | Y (N) UTM                                                     |
| TPO2, TPS2, TPW2,                              | Giant Ironweed ( <i>Vernonia gigantea</i> ) - S1? <i>Bloom Time-</i>                                | Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows                                                                                   | Y (N) UTM                                                     |

# Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

AECOM

| 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 <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                                                     |
| 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, swamp forests, 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 Hilli</i> ) - S3/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, MAS3, 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                                                 |
| CUM1, ALO, FET1, SWC                                | 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                                                     |
| 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 Muehlenbergia ( <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

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| 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:                                                    |
| <b>BIRDS</b>                               |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                           |                                                               |
| -                                          | Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) - SC                                                 | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| CUW, SDO, RBO, TPS                         | Common Nighthawk ( <i>Chordeiles minor</i> ) - SC                                                   | Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, coarse or vegetation-free habitats.                                                                                                                                                                                        | Y (N) UTM:                                                    |
| FOD, FOM                                   | Louisiana Waterthrush ( <i>Seiurus motacilla</i> ) - SC                                             | Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration.                                                                                                                  | Y (N) UTM:                                                    |
| FOD, CUW, CUT                              | Red-headed Woodpecker ( <i>Melanerpes erythrocephalus</i> ) - SC                                    | Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory. | Y (N) UTM:                                                    |
| -                                          | Short Eared Owl ( <i>Asio flammeus</i> ) - SC                                                       | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| CUT1                                       | Yellow-breasted Chat ( <i>Icteria virens</i> ) - SC                                                 | Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines                                                                                                                                                                                                  | Y (N) UTM:                                                    |
| <b>REPTILES</b>                            |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                           |                                                               |
| -                                          | Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ) - SC                                             | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| -                                          | Milksnake ( <i>Lampropeltis triangulum</i> ) - SC                                                   | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| -                                          | Snapping Turtle ( <i>Chelydra serpentina</i> ) - SC                                                 | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| <b>INSECTS</b>                             |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                           |                                                               |
| QAO, 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 on or wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present                                                                                                                                                                                                                      | Y (N) UTM:                                                    |
| SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1 | Tawny Emperor ( <i>Asterocampa clytem</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

**AECOM**

|                                              |                              |
|----------------------------------------------|------------------------------|
| 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 + Tim Shorney</u> | Time Finished: <u>2:55pm</u> |

|                                        |                                                                                       |
|----------------------------------------|---------------------------------------------------------------------------------------|
| <b>Presence of Groundwater</b>         |                                                                                       |
| No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/>                                                          |
| <input type="checkbox"/> bank seepage  | <input type="checkbox"/> iron staining <input type="checkbox"/> groundwater indicator |

|                  |                                                                                                                |                                              |  |
|------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------|--|
| <b>Site Type</b> | Lacustrine <input type="checkbox"/> (associated with lakes)                                                    | Isolated <input checked="" type="checkbox"/> |  |
|                  | Riverine <input type="checkbox"/> (associated with rivers)                                                     |                                              |  |
|                  | Palustrine <input type="checkbox"/> absent or intermittent inflow and either intermittent or permanent outflow |                                              |  |
|                  | what are the water inputs and outputs? <u>surface water</u>                                                    |                                              |  |

|              |                                         |
|--------------|-----------------------------------------|
| <b>Soils</b> | refer to ELC card for soils information |
|--------------|-----------------------------------------|

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

|                               |                              |                          |                                |
|-------------------------------|------------------------------|--------------------------|--------------------------------|
| <b>Community Descriptions</b> |                              |                          |                                |
| <b>Vegetation forms</b>       |                              |                          |                                |
| 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/<br>ELC Code | Community Description - list at least four dominant species for each form |
|-----------------------|---------------------------------------------------------------------------|
| SW06-3/<br>S1         | h*: Ace free, Fraxin, Ulmamer, Acer negu                                  |
| MAM3-2/<br>M1         | Ac*: pharun<br>ts: Salix                                                  |
|                       |                                                                           |
|                       |                                                                           |

# Wetland Data Collection Sheet

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## 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 Watencourse



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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Goshen ELC Survey  
275\_GSH1495/GSH2046  
AECOM  
Figure 1

April 2012  
Project 80150032

|              |                        |       |             |                      |
|--------------|------------------------|-------|-------------|----------------------|
| Map #:       | 275GS11495             | 2046  | Polygon:    | FD06-5               |
| Surveyor(s): | Jess Potter Tim Shoney | Date: | May 8, 2012 | Time start: 11:24 AM |
| UTMZ:        | 554243                 | UTMZ: | 4           | UTMN:                |
| UTMZ:        | 554243                 | UTMZ: | 4           | 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             |
| <b>Site</b>                                        | <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               |
| <b>History</b>                                     |                                                  | <input type="checkbox"/> Talus                | <input type="checkbox"/> Coniferous           | <input type="checkbox"/> Barren            |
| <input checked="" 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           |
| <b>Cover</b>                                       |                                                  | <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 type="checkbox"/> Woodland          |
| <input type="checkbox"/> Treed                     |                                                  | <input type="checkbox"/> Bluff                |                                               | <input checked="" type="checkbox"/> Forest |
|                                                    |                                                  |                                               |                                               | <input type="checkbox"/> Plantation        |

### Stand Description

| Layer | HT | CVR | Species In Order of Decreasing Dominance (up to 4 sp)<br>(>> Much Greater Than; > Greater Than; = About Equal To) |
|-------|----|-----|-------------------------------------------------------------------------------------------------------------------|
| 1     | 1  | 4   | ACESACC > tilamex - Fagaycan - FRAMER                                                                             |
| 2     | 3  | 3   | ACESACC > Tilamer - Fagayda - FRAMER                                                                              |
| 3     | 3  | 3   | Caccaro > Vvuvira - Catova - FRAMER                                                                               |
| 4     | 6  | 3   | germoden > envamer > fcan10 > miasace                                                                             |

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:      |           |       |           |       |   |
| BA:                |  | Deadfall / Logs:     |           |       |           |       |   |
|                    |  | $\bar{Q}$            | A         | 10-24 | A         | 25-50 | K |
|                    |  | N                    | $\bar{Q}$ | 10-24 | $\bar{Q}$ | 25-50 | K |
|                    |  | A                    | A         | 10-24 | $\bar{Q}$ | 25-50 | N |
|                    |  |                      |           |       |           |       |   |

**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 |
|-----------|----------------------------------|--------------------------------|---------------------------------------------|---------------------------------|-------------------------------------|
|           |                                  |                                | X                                           |                                 |                                     |

|            |                                                       |       |       |
|------------|-------------------------------------------------------|-------|-------|
| Ecosite:   | FRESH-MOIST SUGAR MAPLE DECIDUOUS FLORA ESTABLISHMENT | Code: | FDD6  |
| Vegetation | FRESH-MOIST SUGAR MAPLE-FLORIDA OAK DECIDUOUS FOREST  | Code: | FDD6S |
| Type:      | FLORA                                                 | Code: |       |
| Inclusion: |                                                       | Code: |       |
| Complex:   |                                                       | Code: |       |

## Community Profile Diagram/Comments

→ Very understating great impression. Hardest.

**Notes:**

## Tree Tally by Species

[illegible]

## Soils Ontario and ELC Soils Description

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



## Page 1 of 2

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: 275 GSH 1495/2046 | 1 | F006-5  | 4 |
| Date: May 8, 2012             | 2 | SHD 3-3 | 5 |
| Surveyors: JIP & TS           | 3 |         |   |

## Page 2 of 2

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: 2756SHI495/2046

Date: May 8, 2012

Surveyors: R + TS

|     |        |   |
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| 1   | FODG-5 | 4 |
| 2   | SNOB-3 | 6 |
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# 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: Shoring 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): 5 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         |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
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|         |                     |         |                     |

## A: CM

**Field Staff:**

Tom Stoney

Time Started: 9/17 a.m.

Date (yyyy-mm-dd): 2022-05-08

2012-05-08

Test Period

Time Finished: 11:45 a.

Notes

---

her signs (specific)

[illegible]

# 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<br>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<br>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, 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                                                       |
| FOD8, 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                                                  |
| FOD8, FOD7, FOD8, FOD9                              | Harbinger-of-spring ( <i>Engenia bulbosa</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                                                       |
| FOD8, 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                  | Prostrate Tick-trefoil ( <i>Desmodium rotundifolium</i> ) - S2 Bloom Time – July–September          | Dry, sandy or rocky woods                                                                                                                                   | Y N UTM                                                       |
| FOD7, SWD                                           | Pumpkin Ash ( <i>Fraxinus profunda</i> ) - S2? Bloom Time – March – June                            | Swamps and floodplains                                                                                                                                      | Y N UTM: N/O                                                  |
| CUW1, ALO, FET1, SWC                                | 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, EAM1, 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                                                       |
| FOD8, 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                                                       |
| FOD8, FOD7, FOD8, FOD8, 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                                                       |
| SOT1, FOD5, FOD8                                    | 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>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

ALOM

| ELC                                        | Species                                                                                            | Habitat Description                                                                                                                                                                                                                                                                                                                                      | Habitat Present (Y/N); UTM; description of habitat if present |
|--------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| TPO1, TPS1, TPW1, CUM1                     | Tail 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:                                                    |
| <b>BIRDS</b>                               |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
| -                                          | Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) - SC                                                | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required                                                  |
| CUW, SDQ, 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:                                                    |
| <b>REPTILES</b>                            |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
| -                                          | Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ) - SC                                            | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required                                                  |
| -                                          | Milksnake ( <i>Lampropeltis triangulum</i> ) -SC                                                   | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required                                                  |
| -                                          | Snapping Turtle ( <i>Chelydra serpentina</i> ) - SC                                                | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required                                                  |
| <b>INSECTS</b>                             |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
| OAO, SA, SWM, SWD                          | Azure Bluet ( <i>Enallagma aspersum</i> ) -S3                                                      | Species inhabits fishless ponds, lakes and boggy swamps                                                                                                                                                                                                                                                                                                  | Y (N) UTM:                                                    |
| TPS, TPW                                   | Sleepy Duskywing ( <i>Erynnis 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

**AECOM**

|                                        |                         |
|----------------------------------------|-------------------------|
| Study area: Galtier                    | Map No: 275 GSH495/2016 |
| Date (yyyy-mm-dd): May 8, 2012         | Time Started: 9:20 AM   |
| Field Staff: Jess Rette + Tami Shurkey | Time Finished: 1:45 PM  |

|                                                                  |                                                                                                                                                         |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Presence of Groundwater<br><input type="checkbox"/> bank seepage | No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Proximal of some groundwater + sensitive flora but not enough to require mitigation |
| <input type="checkbox"/> iron staining                           | <input type="checkbox"/> groundwater indicator                                                                                                          |

|                                                                                                                                                                                                                                                          |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Site Type<br>Lacustrine <input type="checkbox"/> (associated with lakes)<br>Riverine <input type="checkbox"/> (associated with rivers)<br>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? surface water + runoff                                                                                                                                                                                            |                                              |

|       |                                         |
|-------|-----------------------------------------|
| Soils | refer to ELC card for soils information |
|-------|-----------------------------------------|

|                                                                                     |                                                                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| % open Water                                                                        |                                                                                                            |
| Type 1 - <5% <input type="checkbox"/>                                               | Type 5 - 26-75% <input type="checkbox"/> (water occurring in a small pattern)                              |
| Type 2 - 5-25% <input type="checkbox"/> (water occurring in one central location)   | Type 6 - 76-95% <input type="checkbox"/> (occurring in a central location, vegetation is peripheral)       |
| Type 3 - 5-25% <input type="checkbox"/> (water occurring in ponds of various sizes) | Type 7 - 76-95% <input checked="" type="checkbox"/> (vegetation occurs in patches or diffuse, open stands) |
| Type 4 - 26-75% <input type="checkbox"/> (water occurring in a central location)    | 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/<br>ELC Code | Community Description - list at least four dominant species for each form      |
|-----------------------|--------------------------------------------------------------------------------|
| SW03-3/<br>S1         | h*: Acetree, Fraxinus, Ulmus<br>gc: Lysichiton, Impatiens<br>ne: Calamagrostis |
|                       |                                                                                |
|                       |                                                                                |
|                       |                                                                                |

# Wetland Data Collection Sheet

|  |  |
|--|--|
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|  |  |
|  |  |
|  |  |

## 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 suitable for waterfowl  
mallards were observed.









**Plant Species List  
2012**

Page 1 of 2

| Trees & Shrubs                                     | 1 | 2 | 3 | 4 | 5 | Tree & Shrubs                                         | 1 | 2 | 3 | 4 | 5 | Graminoids                                           | 1 | 2 | 3 | 4 | 5 |
|----------------------------------------------------|---|---|---|---|---|-------------------------------------------------------|---|---|---|---|---|------------------------------------------------------|---|---|---|---|---|
| <b>Conifers</b>                                    |   |   |   |   |   | <b>Deciduous</b>                                      |   |   |   |   |   | <b>Grasses</b>                                       |   |   |   |   |   |
| Balsam Fir ( <i>Abies balsamea</i> )               |   |   |   |   |   | White Oak ( <i>Quercus alba</i> )                     |   |   |   |   |   | Giant Redtop ( <i>Agrostis gigantea</i> )            |   |   |   |   |   |
| Common Juniper ( <i>Juniperus communis</i> )       |   |   |   |   |   | Bur Oak ( <i>Quercus macrocarpa</i> )                 |   |   |   |   |   | Redtop ( <i>Agrostis stolonifera</i> )               |   |   |   |   |   |
| Eastern Red Cedar ( <i>Juniperus virginiana</i> )  |   |   |   |   |   | Red Oak ( <i>Quercus rubra</i> )                      |   |   |   |   |   | Awnless Brome ( <i>Bromus inermis</i> )              |   |   |   |   |   |
| Tamarack ( <i>Larix laricina</i> )                 |   |   |   |   |   | Alder Buckthorn ( <i>Rhamnus alnifolia</i> )          |   |   |   |   |   | <i>Bromus</i>                                        |   |   |   |   |   |
| Norway Spruce ( <i>Picea abies</i> )               |   |   |   |   |   | Common Buckthorn ( <i>Rhamnus cathartica</i> )        |   |   |   |   |   | Blue-joint Grass ( <i>Calamagrostis canadensis</i> ) |   |   |   |   |   |
| White Spruce ( <i>Picea glauca</i> )               |   |   |   |   |   | Smooth Sumac ( <i>Rhus glabra</i> )                   |   |   |   |   |   | Orchard Grass ( <i>Dactylis glomerata</i> )          |   |   |   |   |   |
| Black Spruce ( <i>Picea mariana</i> )              |   |   |   |   |   | Staghorn Sumac ( <i>Rhus hirta</i> )                  |   |   |   |   |   | Poverty Oat Grass ( <i>Danthonia spicata</i> )       |   |   |   |   |   |
| Jack Pine ( <i>Pinus banksiana</i> )               |   |   |   |   |   | Wild Black Currant ( <i>Ribes americanum</i> )        |   |   |   |   |   | Quack Grass ( <i>Elymus repens</i> ) <sup>c</sup>    |   |   |   |   |   |
| Red Pine ( <i>Pinus resinosa</i> )                 |   |   |   |   |   | Prickly Gooseberry ( <i>Ribes cynosbati</i> )         |   |   |   |   |   | Virginia Wild Rye ( <i>Elymus virginicus</i> )       |   |   |   |   |   |
| Eastern White Pine ( <i>Pinus strobus</i> )        |   |   |   |   |   | Swamp Black Currant ( <i>Ribes lacustre</i> )         |   |   |   |   |   | <i>Elymus</i>                                        |   |   |   |   |   |
| Scotch Pine ( <i>Pinus sylvestris</i> )            |   |   |   |   |   | Red Currant ( <i>Ribes rubrum</i> )                   |   |   |   |   |   |                                                      |   |   |   |   |   |
| Canada Yew ( <i>Taxus canadensis</i> )             |   |   |   |   |   | <i>Ribes</i>                                          |   |   |   |   |   | Fowl Manna Grass ( <i>Glyceria striata</i> )         |   |   |   |   |   |
| Eastern White Cedar ( <i>Thuja occidentalis</i> )  |   |   |   |   |   | Black Locust ( <i>Robinia pseudo-acacia</i> )         |   |   |   |   |   | <i>Glyceria</i>                                      |   |   |   |   |   |
| Eastern Hemlock ( <i>Tsuga canadensis</i> )        |   |   |   |   |   | Prickly Rose ( <i>Rosa acicularis</i> )               |   |   |   |   |   | Rice Cut Grass ( <i>Leersia oryzoides</i> )          |   |   |   |   |   |
|                                                    |   |   |   |   |   | Smooth Rose ( <i>Rosa blanda</i> )                    |   |   |   |   |   | Tall Fescue ( <i>Lolium arundinaceum</i> )           |   |   |   |   |   |
|                                                    |   |   |   |   |   | Multiflora Rose ( <i>Rosa multiflora</i> )            |   |   |   |   |   | <i>Muhlenbergia</i>                                  |   |   |   |   |   |
|                                                    |   |   |   |   |   | <i>Rosa</i>                                           |   |   |   |   |   | Witch-grass ( <i>Panicum capillare</i> )             |   |   |   |   |   |
| <b>Deciduous</b>                                   |   |   |   |   |   | Com. Blackberry ( <i>Rubus allegheniensis</i> )       |   |   |   |   |   | <i>Panicum</i>                                       |   |   |   |   |   |
| Manitoba Maple ( <i>Acer negundo</i> )             |   |   |   |   |   | Wild Red Raspberry ( <i>Rubus idaeus</i> )            |   |   |   |   |   | Reed Canary Grass ( <i>Phalaris arundinacea</i> )    |   |   |   |   |   |
| Black Maple ( <i>Acer nigrum</i> )                 |   |   |   |   |   | Black Raspberry ( <i>Rubus occidentalis</i> )         |   |   |   |   |   | Timothy ( <i>Phleum pratense</i> )                   |   |   |   |   |   |
| Norway Maple ( <i>Acer platanoides</i> )           |   |   |   |   |   | Purple-fl. Raspberry ( <i>Rubus odoratus</i> )        |   |   |   |   |   | Common Reed ( <i>Phragmites australis</i> )          |   |   |   |   |   |
| Red Maple ( <i>Acer rubrum</i> )                   |   |   |   |   |   | Dwarf Raspberry ( <i>Rubus pubescens</i> )            |   |   |   |   |   | Canada Blue Grass ( <i>Poa compressa</i> )           |   |   |   |   |   |
| Silver Maple ( <i>Acer saccharinum</i> )           |   |   |   |   |   | <i>Rubus</i>                                          |   |   |   |   |   | Fowl Meadow Grass ( <i>Poa palustris</i> )           |   |   |   |   |   |
| Freeman's Maple ( <i>Acer X freemanii</i> )        |   |   |   |   |   | Peach-leaved Willow ( <i>Salix amygdaloides</i> )     |   |   |   |   |   | Kentucky Bluegrass ( <i>Poa pratensis</i> )          |   |   |   |   |   |
| Sugar Maple ( <i>Acer saccharum</i> )              |   |   |   |   |   | Bebb's Willow ( <i>Salix bebbiana</i> )               |   |   |   |   |   | Yellow Foxtail ( <i>Setaria pumila</i> )             |   |   |   |   |   |
| Mountain Maple ( <i>Acer spicatum</i> )            |   |   |   |   |   | Pussy Willow ( <i>Salix discolor</i> )                |   |   |   |   |   | Green Foxtail ( <i>Setaria viridis</i> )             |   |   |   |   |   |
| Speckled Alder ( <i>Alnus incana</i> )             |   |   |   |   |   | Missouri Willow ( <i>Salix eriocephala</i> )          |   |   |   |   |   |                                                      |   |   |   |   |   |
| Downy Serviceberry ( <i>Amelanchier arborea</i> )  |   |   |   |   |   | Sandbar Willow ( <i>Salix exigua</i> )                |   |   |   |   |   |                                                      |   |   |   |   |   |
| Serviceberry ( <i>Amelanchier sanguinea</i> )      |   |   |   |   |   | Shining Willow ( <i>Salix lucida</i> )                |   |   |   |   |   |                                                      |   |   |   |   |   |
| Yellow Birch ( <i>Betula alleghaniensis</i> )      |   |   |   |   |   | Black Willow ( <i>Salix nigra</i> )                   |   |   |   |   |   |                                                      |   |   |   |   |   |
| White Birch ( <i>Betula papyrifera</i> )           |   |   |   |   |   | Slender Willow ( <i>Salix petiolaris</i> )            |   |   |   |   |   |                                                      |   |   |   |   |   |
| European Birch ( <i>Betula pendula</i> )           |   |   |   |   |   | <i>Salix</i>                                          |   |   |   |   |   |                                                      |   |   |   |   |   |
| Blue Beech ( <i>Carpinus caroliniana</i> )         |   |   |   |   |   | Hybrid Crack Willow ( <i>Salix X rubens</i> )         |   |   |   |   |   |                                                      |   |   |   |   |   |
| Bitternut hickory ( <i>Carya cordiformis</i> )     |   |   |   |   |   | Black-berried Elder ( <i>Sambucus nigra</i> )         |   |   |   |   |   |                                                      |   |   |   |   |   |
| Shagbark Hickory ( <i>Carya ovata</i> )            |   |   |   |   |   | Red-berried Elder ( <i>Sambucus racemosa</i> )        |   |   |   |   |   |                                                      |   |   |   |   |   |
| Climbing Bittersweet ( <i>Celastrus scandens</i> ) |   |   |   |   |   | Buffaloberry ( <i>Shepherdia canadensis</i> )         |   |   |   |   |   |                                                      |   |   |   |   |   |
| Common Hackberry ( <i>Celtis occidentalis</i> )    |   |   |   |   |   | Eur. Mountain Ash ( <i>Sorbus aucuparia</i> )         |   |   |   |   |   |                                                      |   |   |   |   |   |
| Buttonbush ( <i>Cephalanthus occidentalis</i> )    |   |   |   |   |   | Narrow Meadow-sweet ( <i>Spiraea alba</i> )           |   |   |   |   |   |                                                      |   |   |   |   |   |
| Alt.-leaved Dogwood ( <i>Cornus alternifolia</i> ) |   |   |   |   |   | Common Lilac ( <i>Syringa vulgaris</i> )              |   |   |   |   |   |                                                      |   |   |   |   |   |
| Silky Dogwood ( <i>Cornus amomum</i> )             |   |   |   |   |   | Poison-ivy ( <i>Toxicodendron rydbergii</i> )         |   |   |   |   |   |                                                      |   |   |   |   |   |
| Bunchberry ( <i>Cornus canadensis</i> )            |   |   |   |   |   | Climbing Poison-ivy ( <i>Toxicodendron radicans</i> ) |   |   |   |   |   |                                                      |   |   |   |   |   |
| Gray dogwood ( <i>Cornus racemosa</i> )            |   |   |   |   |   | White Elm ( <i>Ulmus americana</i> )                  |   |   |   |   |   |                                                      |   |   |   |   |   |
| Round-leaved Dogwood ( <i>Cornus rugosa</i> )      |   |   |   |   |   | Siberian Elm ( <i>Ulmus pumila</i> )                  |   |   |   |   |   |                                                      |   |   |   |   |   |
| Red-osier Dogwood ( <i>Cornus sericea</i> )        |   |   |   |   |   | Slippery Elm ( <i>Ulmus rubra</i> )                   |   |   |   |   |   |                                                      |   |   |   |   |   |
| American Hazel ( <i>Corylus americana</i> )        |   |   |   |   |   | Low Blueberry ( <i>Vaccinium angustifolium</i> )      |   |   |   |   |   |                                                      |   |   |   |   |   |
| Beaked Hazel ( <i>Corylus cornuta</i> )            |   |   |   |   |   | Maple-leaf Viburnum ( <i>Viburnum acerifolium</i> )   |   |   |   |   |   |                                                      |   |   |   |   |   |
| Cockspur Thorn ( <i>Crataegus crus-galli</i> )     |   |   |   |   |   | Hobblebush ( <i>Viburnum lentanoides</i> )            |   |   |   |   |   |                                                      |   |   |   |   |   |
| English Hawthorn ( <i>Crataegus monogyna</i> )     |   |   |   |   |   | Nannyberry ( <i>Viburnum lentago</i> )                |   |   |   |   |   |                                                      |   |   |   |   |   |
| Large-fruited Thorn ( <i>Crataegus punctata</i> )  |   |   |   |   |   | Gelder-Rose ( <i>Viburnum opulus</i> )                |   |   |   |   |   |                                                      |   |   |   |   |   |
| <i>Crataegus</i>                                   |   |   |   |   |   | Downy Arrow-wood ( <i>Vib. rafinesquianum</i> )       |   |   |   |   |   |                                                      |   |   |   |   |   |
| <i>Crataegus</i>                                   |   |   |   |   |   | Riverbank Grape ( <i>Vitis riparia</i> )              |   |   |   |   |   |                                                      |   |   |   |   |   |
| Bush Honeysuckle ( <i>Lonicera tatarica</i> )      |   |   |   |   |   | Am. Prickly-ash ( <i>Zanthoxylum americanum</i> )     |   |   |   |   |   |                                                      |   |   |   |   |   |
| Russian Olive ( <i>Elaeagnus angustifolia</i> )    |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Autumn Olive ( <i>Elaeagnus umbellata</i> )        |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Run. Strawberry-bush ( <i>Evonymus obovata</i> )   |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| American Beech ( <i>Fagus grandifolia</i> )        |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Glossy Buckthorn ( <i>Frangula alnus</i> )         |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| White Ash ( <i>Fraxinus americana</i> )            |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Black Ash ( <i>Fraxinus nigra</i> )                |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Green Ash ( <i>Fraxinus pennsylvanica</i> )        |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Witch-hazel ( <i>Hamelis virginiana</i> )          |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Winterberry ( <i>Ilex verticillata</i> )           |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Butternut ( <i>Juglans cinerea</i> )               |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Black Walnut ( <i>Juglans nigra</i> )              |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Common Privet ( <i>Ligustrum vulgare</i> )         |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Spicebush ( <i>Lindera benzoin</i> )               |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Fly Honeysuckle ( <i>Lonicera canadensis</i> )     |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Glaucous Honeysuckle ( <i>Lonicera dioica</i> )    |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Morrow's Honeysuckle ( <i>Lonicera morrowii</i> )  |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Tartarian Honeysuckle ( <i>Lonicera tatarica</i> ) |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Common Apple ( <i>Malus pumila</i> )               |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| White Mulberry ( <i>Morus alba</i> )               |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Sweet Gale ( <i>Myrica gale</i> )                  |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Ironwood ( <i>Ostrya virginiana</i> )              |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Thicket-creeper ( <i>Parthenocissus inserta</i> )  |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Ninebark ( <i>Physocarpus opulifolius</i> )        |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Balsam Poplar ( <i>Populus balsamifera</i> )       |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Eastern Cottonwood ( <i>Populus deltoides</i> )    |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Large-tooth Aspen ( <i>Populus grandidentata</i> ) |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Trembling Aspen ( <i>Populus tremuloides</i> )     |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Sweet Cherry ( <i>Prunus avium</i> )               |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Pin Cherry ( <i>Prunus pensylvanica</i> )          |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Black Cherry ( <i>Prunus serotina</i> )            |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| Choke Cherry ( <i>Prunus virginiana</i> )          |   |   |   |   |   |                                                       |   |   |   |   |   |                                                      |   |   |   |   |   |
| <i>Prunus</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: 279654 2119  
Date: May 2, 2012  
Surveyors: JP+TS

SWT2  
SWD6-3  
MAM 3-2

**Plant Species List  
2012**

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| Dicot Herbs - Asteraceae                               |   |   |   |   | Dicot Herbs                                             |   |   |   |   | Dicot Herbs                                              |   |   |   |   |
|--------------------------------------------------------|---|---|---|---|---------------------------------------------------------|---|---|---|---|----------------------------------------------------------|---|---|---|---|
| 1                                                      | 2 | 3 | 4 | 5 | 1                                                       | 2 | 3 | 4 | 5 | 1                                                        | 2 | 3 | 4 | 5 |
| Common Yarrow ( <i>Achillea millefolium</i> )          |   |   |   |   | Shepherd's Purse ( <i>Capsella bursa-pastoris</i> )     |   |   |   |   | Kidney-leaf Buttercup ( <i>Ranunculus abortivus</i> )    |   |   |   |   |
| White Snakeroot ( <i>Ageratina altissima</i> )         |   |   |   |   | Cutleaf Toothwort ( <i>Cardamine concatenata</i> )      |   |   |   |   | Tall Buttercup ( <i>Ranunculus acris</i> )               |   |   |   |   |
| Com. Ragweed ( <i>Ambrosia artemisiifolia</i> )        |   |   |   |   | Toothwort ( <i>Cardamine diphylla</i> )                 |   |   |   |   | Hooked Buttercup ( <i>Ranunculus recurvatus</i> )        |   |   |   |   |
| Giant Ragweed ( <i>Ambrosia trifida</i> )              |   |   |   |   | Penn. Bitter-cress ( <i>Cardamine pensylvanica</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> )       |   |   |   | U | Curly-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> )          |   |   |   |   | Turtlehead ( <i>Chelone glabra</i> )                    |   |   |   |   | Bloodroot ( <i>Sanguinaria canadense</i> )               |   |   |   |   |
| Devil's Beggar-ticks ( <i>Bidens frondosa</i> )        |   |   |   |   | Spotted Water-hemlock ( <i>Cicuta maculata</i> )        |   |   |   |   | Black Snakeroot ( <i>Sanicula marilandica</i> )          |   |   |   |   |
| Spotted Knapweed ( <i>Centaurea biebersteinii</i> )    |   |   |   |   | Water-hemlock ( <i>Cicuta virosa</i> )                  |   |   |   |   | Bouncing Bet ( <i>Saponaria officinalis</i> )            |   |   |   |   |
| Brown Knapweed ( <i>Centaurea jacea</i> )              |   |   |   |   | Enchanter's Nightshade ( <i>Circaea lutetiana</i> )     |   |   |   |   | Marsh Skullcap ( <i>Scutellaria galericulata</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 Camion ( <i>Silene latifolia</i> )                 |   |   |   |   |
| Bull Thistle ( <i>Cirsium vulgare</i> )                |   |   |   |   | Virgin's-bower ( <i>Clematis virginiana</i> )           |   |   |   |   | Bladder Camion ( <i>Silene vulgaris</i> )                |   |   |   |   |
| Horseweed ( <i>Conyza canadensis</i> )                 |   |   |   |   | Field Bindweed ( <i>Convolvulus arvensis</i> )          |   |   |   |   | Hemlock Water-parsnip ( <i>Sium suave</i> )              |   |   |   |   |
| Daisy Fleabane ( <i>Erigeron annuus</i> )              |   |   |   |   | Dog-strangling Vine ( <i>Cynanchum rossicum</i> )       |   |   |   |   | Bitter Nightshade ( <i>Solanum dulcamara</i> )           |   |   |   |   |
| Philadelphia Fleabane ( <i>Erig. philadelphicus</i> )  |   |   |   |   | Wild Carrot ( <i>Daucus carota</i> )                    |   |   |   |   | Black Nightshade ( <i>Solanum ptychanthum</i> )          |   |   |   |   |
| <i>Erigeron</i>                                        |   |   |   |   | Deptford Pink ( <i>Dianthus armeria</i> )               |   |   |   |   | Grassleaf Stitchwort ( <i>Stellaria graminea</i> )       |   |   |   |   |
| Joe-pye-weed ( <i>Eupatorium maculatum</i> )           |   |   |   |   | Squirrel-corn ( <i>Dicentra canadensis</i> )            |   |   |   |   | Common Chickweed ( <i>Stellaria media</i> )              |   |   |   |   |
| Boneset ( <i>Eupatorium perforatum</i> )               |   |   |   |   | Dutchman's-breeches ( <i>Dicentra cucullaria</i> )      |   |   |   |   | Early Meadow-rue ( <i>Thalictrum dioicum</i> )           |   |   |   |   |
| Large-leaved Aster ( <i>Eurybia macrophylla</i> )      |   |   |   |   | Wild Teasel ( <i>Dipsacus fullonum</i> )                |   |   |   |   | Tall Meadow-rue ( <i>Thalictrum pubescens</i> )          |   |   |   |   |
| Flat-top Goldenrod ( <i>Euthamia graminifolia</i> )    |   |   |   |   | Wild Cucumber ( <i>Echinocystis lobata</i> )            |   |   |   |   | Field Penny-cress ( <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>Epilobium ciliatum</i> )      |   |   |   |   | Star-flower ( <i>Trientalis borealis</i> )               |   |   |   |   |
| <i>Hieracium</i>                                       |   |   |   |   | Hairy Willow-herb ( <i>Epilobium hirsutum</i> )         |   |   |   |   | Red Clover ( <i>Trifolium pratense</i> )                 |   |   |   |   |
| Elecampane ( <i>Inula helenium</i> )                   |   |   |   |   | Small-fl. Willow-herb ( <i>Epilobium parviflorum</i> )  |   |   |   |   | White Clover ( <i>Trifolium repens</i> )                 |   |   |   |   |
| Prickly Lettuce ( <i>Lactuca serriola</i> )            |   |   |   |   | <i>Epilobium</i>                                        |   |   |   |   | <i>Trifolium</i>                                         |   |   |   |   |
| <i>Lactuca</i>                                         |   |   |   |   | Worm Mustard ( <i>Erysimum cheiranthoides</i> )         |   |   |   |   | Stinging Nettle ( <i>Urtica dioica</i> )                 |   |   |   | U |
| Ox-eye Daisy ( <i>Leucanthemum vulgare</i> )           |   |   |   |   | <i>Euphorbia</i>                                        |   |   |   |   | Greater Bladderwort ( <i>Utricularia vulgaris</i> )      |   |   |   |   |
| Pineapple-weed ( <i>Matricaria discoidea</i> )         |   |   |   |   | Hemp Nettle ( <i>Galeopsis tetrahit</i> )               |   |   |   |   | Common Mullein ( <i>Verbascum thapsus</i> )              |   |   |   |   |
| Tall White Lettuce ( <i>Prenanthes altissima</i> )     |   |   |   |   | Wild Madder ( <i>Galium mollugo</i> )                   |   |   |   |   | Blue Vervain ( <i>Verbena hastata</i> )                  |   |   |   |   |
| Black-eyed Susan ( <i>Rudbeckia hirta</i> )            |   |   |   |   | Marsh Bedstraw ( <i>Galium palustre</i> )               |   |   |   |   | White Vervain ( <i>Verbena urticifolia</i> )             |   |   |   |   |
| Tall Goldenrod ( <i>Solidago altissima</i> )           |   |   |   |   | Sweet-scented Bedstraw ( <i>Galium triflorum</i> )      |   |   |   |   | Water Speedwell ( <i>Veron. anagallis-aquatica</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> )          |   |   |   | R | <i>Veronica</i>                                          |   |   |   |   |
| Zig-zag 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 aleppicum</i> )                  |   |   |   |   | <i>Vicia</i>                                             |   |   |   |   |
| Early Goldenrod ( <i>Solidago juncea</i> )             |   |   |   |   | White Avens ( <i>Geum canadense</i> )                   |   |   |   | U | Periwinkle ( <i>Vinca minor</i> )                        |   |   |   |   |
| Gray Goldenrod ( <i>Solidago nemoralis</i> )           |   |   |   |   | Urban Avens ( <i>Geum urbanum</i> )                     |   |   |   |   | Dog Violet ( <i>Viola conspersa</i> )                    |   |   |   |   |
| <i>Solidago sp.</i>                                    |   |   |   |   | Dame's Rocket ( <i>Hesperis matronalis</i> )            |   |   |   |   | Yellow Violet ( <i>Viola pubescens</i> )                 |   |   |   | R |
| Field Sow-thistle ( <i>Sonchus arvensis</i> )          |   |   |   |   | Virg. 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 sp.</i>                                         |   |   |   | U |
| Heart-leaf Aster ( <i>Symph. cordifolium</i> )         |   |   |   |   | Spotted Jewelweed ( <i>Impatiens capensis</i> )         |   |   |   | F |                                                          |   |   |   |   |
| Heath Aster ( <i>Symphotrichum ericoides</i> )         |   |   |   |   | Wood Nettle ( <i>Laportea canadensis</i> )              |   |   |   |   | <i>Ranunculus sp.</i>                                    |   |   |   | U |
| Tall White Aster ( <i>Symph. lanceolatum</i> )         |   |   |   |   | Motherwort ( <i>Leonurus cardiaca</i> )                 |   |   |   |   |                                                          |   |   |   |   |
| Calico Aster ( <i>Symphotrichum lateriflorum</i> )     |   |   |   |   | Field Peppergrass ( <i>Lepidium campestre</i> )         |   |   |   |   |                                                          |   |   |   |   |
| New England Aster ( <i>Symph. novae-angliae</i> )      |   |   |   |   | Eur. Gromwell ( <i>Lithospermum officinale</i> )        |   |   |   |   |                                                          |   |   |   |   |
| Purple-stem Aster ( <i>Symph. puniceus</i> )           |   |   |   |   | Butter & Eggs ( <i>Linaria vulgaris</i> )               |   |   |   |   |                                                          |   |   |   |   |
| Common Tansy ( <i>Tanacetum vulgare</i> )              |   |   |   |   | Great Lobelia ( <i>Lobelia siphilitica</i> )            |   |   |   |   |                                                          |   |   |   |   |
| Common Dandelion ( <i>Taraxacum officinale</i> )       | F |   |   | U | <i>Lobelia</i>                                          |   |   |   |   | <b>Monocot Herbs</b>                                     |   |   |   |   |
| Com. Goatsbeard ( <i>Tragopogon pratensis</i> )        |   |   |   |   | Cut-leaf Bugleweed ( <i>Lycopus americanus</i> )        |   |   |   |   | Water-plantain ( <i>Alisma plantago-aquatica</i> )       |   |   |   |   |
| Coltsfoot ( <i>Tussilago farfara</i> )                 |   |   |   |   | Northern Bugleweed ( <i>Lycopus uniflorus</i> )         |   |   |   |   | Wild Leek ( <i>Allium tricoccum</i> )                    |   |   |   |   |
| <i>Symphotrichum sp.</i>                               |   |   |   | F | Fringed Loosestrife ( <i>Lysimachia ciliata</i> )       |   |   |   |   | Jack-in-the-pulpit ( <i>Arisaema triphyllum</i> )        |   |   |   | R |
|                                                        |   |   |   |   | Moneywort ( <i>Lysimachia nummularia</i> )              |   |   |   |   | Asparagus ( <i>Asparagus officinalis</i> )               |   |   |   |   |
|                                                        |   |   |   |   | <i>Lysimachia</i>                                       |   |   |   |   | Wild Calla ( <i>Calla palustris</i> )                    |   |   |   |   |
|                                                        |   |   |   |   | Purple Loosestrife ( <i>Lythrum salicaria</i> )         |   |   |   |   | Bluebead-lily ( <i>Clintonia borealis</i> )              |   |   |   |   |
|                                                        |   |   |   |   | Black Medick ( <i>Medicago lupulina</i> )               |   |   |   |   | Garden Lily-of-the-valley ( <i>Convallaria majalis</i> ) |   |   |   |   |
|                                                        |   |   |   |   | Alfalfa ( <i>Medicago sativa</i> )                      |   |   |   |   | Yel. Lady's Slipper ( <i>Cypripedium parviflorum</i> )   |   |   |   |   |
|                                                        |   |   |   |   | White Sweet-clover ( <i>Melilotus alba</i> )            |   |   |   |   | Canada Waterweed ( <i>Elodea canadensis</i> )            |   |   |   |   |
|                                                        |   |   |   |   | Yellow Sweet-clover ( <i>Melilotus officinalis</i> )    |   |   |   |   | Helleborine ( <i>Epipactis helleborine</i> )             |   |   |   |   |
|                                                        |   |   |   |   | Wild Mint ( <i>Mentha arvensis</i> )                    |   |   |   |   | Yellow Trout Lily ( <i>Erythronium americanum</i> )      |   |   |   |   |
| <b>Other Dicot Herbs</b>                               |   |   |   |   | Wild Bergamot ( <i>Monarda fistulosa</i> )              |   |   |   |   | Blue-flag Iris ( <i>Iris versicolor</i> )                |   |   |   |   |
| White Baneberry ( <i>Actaea pachypoda</i> )            |   |   |   |   | Small Forget-me-not ( <i>Myosotis laxa</i> )            |   |   |   |   | Orange Day Lily ( <i>Heimerocallis fulva</i> )           |   |   |   |   |
| Red Baneberry ( <i>Actaea rubra</i> )                  |   |   |   |   | Forget-me-not ( <i>Myosotis scorpioides</i> )           |   |   |   |   | Lesser Duckweed ( <i>Lemna minor</i> )                   |   |   |   |   |
| Tall Agrimony ( <i>Agrimonia gryposepala</i> )         |   |   |   |   | Water-cress ( <i>Nasturtium officinale</i> )            |   |   |   |   | Starry Duckweed ( <i>Lemna trisulca</i> )                |   |   |   |   |
| Garlic Mustard ( <i>Alliaria petiolata</i> )           |   |   |   | F | Com. Evening-primrose ( <i>Oenothera biennis</i> )      |   |   |   |   | Wild Lily-of-the-valley ( <i>Maianthemum canadense</i> ) |   |   |   |   |
| Green Amaranth ( <i>Amaranthus retroflexus</i> )       |   |   |   |   | Sweet-cicely ( <i>Osmorhiza berterii</i> )              |   |   |   |   | False Solom Seal ( <i>Maianthemum racemosum</i> )        |   |   |   | U |
| Hog-peanut ( <i>Amphicarpa bracteata</i> )             |   |   |   |   | Yellow Wood-sorrel ( <i>Oxalis stricta</i> )            |   |   |   |   | Star False Solomon ( <i>Maianthemum stellatum</i> )      |   |   |   |   |
| Pearly Everlasting ( <i>Anaphalis margaritacea</i> )   |   |   |   |   | Wild Parsnip ( <i>Pastinaca sativa</i> )                |   |   |   |   | True Solomon Seal ( <i>Polygonatum pubescens</i> )       |   |   |   |   |
| Canada Anemone ( <i>Anemone canadensis</i> )           |   |   |   |   | English Plantain ( <i>Plantago lanceolata</i> )         |   |   |   |   | Pickeral-weed ( <i>Pontederia cordata</i> )              |   |   |   |   |
| Ivy Hepatica ( <i>Anemone acutiloba</i> )              |   |   |   |   | Common Plantain ( <i>Plantago major</i> )               |   |   |   |   | Curly-leaf Pondweed ( <i>Potamogeton crispus</i> )       |   |   |   |   |
| Thimbleweed ( <i>Anemone virginiana</i> )              |   |   |   |   | Rugel's Plantain ( <i>Plantago rugelii</i> )            |   |   |   |   | Sago Pondweed ( <i>Potamogeton pectinatus</i> )          |   |   |   |   |
| Purple Angelica ( <i>Angelica atropurpurea</i> )       |   |   |   |   | May-apple ( <i>Podophyllum peltatum</i> )               |   |   |   |   | <i>Potamogeton</i>                                       |   |   |   |   |
| Indian Hemp ( <i>Apocynum cannabinum</i> )             |   |   |   |   | Pale Smartweed ( <i>Polygonum lapathifolium</i> )       |   |   |   |   | <i>Potamogeton</i>                                       |   |   |   |   |
| Wild Sarsaparilla ( <i>Aralia nudicaulis</i> )         |   |   |   |   | Lady's-thumb ( <i>Polygonum persicaria</i> )            |   |   |   |   | Broad-leaved Arrowhead ( <i>Sagittaria latifolia</i> )   |   |   |   |   |
| Spikenard ( <i>Aralia racemosa</i> )                   |   |   |   |   | Virginia Knotweed ( <i>Polygonum virginianum</i> )      |   |   |   |   | Blue-eyed-grass ( <i>Sisyrinchium montanum</i> )         |   |   |   |   |
| Wild Ginger ( <i>Asarum canadense</i> )                |   |   |   |   | <i>Polygonum</i>                                        |   |   |   |   | Herb. Carrion Flower ( <i>Smilax herbacea</i> )          |   |   |   |   |
| Swamp Milkweed ( <i>Asclepias incarnata</i> )          |   |   |   |   | <i>Polygonum</i>                                        |   |   |   |   | Bristly Greenbrier ( <i>Smilax hispida</i> )             |   |   |   |   |
| Common Milkweed ( <i>Asclepias syriaca</i> )           |   |   |   | R | Rough Cinquefoil ( <i>Potentilla norvegica</i> )        |   |   |   |   | Nodding Ladies' Tresses ( <i>Spiranthes cernua</i> )     |   |   |   |   |
| Yellow Rocket ( <i>Barbarea vulgaris</i> )             |   |   |   |   | Rough-fruited Cinquefoil ( <i>Potentilla racta</i> )    |   |   |   |   | Rose Twisted-stalk ( <i>Streptopus lanceolatus</i> )     |   |   |   |   |
| False Nettle ( <i>Boehmeria cylindrica</i> )           |   |   |   |   | Common Cinquefoil ( <i>Potentilla simplex</i> )         |   |   |   |   | Skunk-cabbage ( <i>Symplocarpus foetidus</i> )           |   |   |   |   |
| Black Mustard ( <i>Brassica nigra</i> )                |   |   |   |   | <i>Potentilla</i>                                       |   |   |   |   | Purple Trillium ( <i>Trillium erectum</i> )              |   |   |   |   |
| Marsh-marigold ( <i>Caltha palustris</i> )             |   |   |   |   | Heal-all ( <i>Prunella vulgaris</i> )                   |   |   |   |   | White Trillium ( <i>Trillium grandiflorum</i> )          |   |   |   |   |
| Creeping Bellflower ( <i>Campanula rapunculoides</i> ) |   |   |   |   | Shinleaf ( <i>Pyrola elliptica</i> )                    |   |   |   |   | Large-flowered Bellwort ( <i>Uvularia grandiflora</i> )  |   |   |   |   |
|                                                        |   |   |   |   |                                                         |   |   |   |   | <i>Uvularia sp.</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: 279GSH219 | 1 | RND     | 4 |
| Date: May 2, 2012     | 2 | SWD6-3  | 5 |
| Surveyors: JP + TS    | 3 | MAM 3-2 |   |

# Significant Wildlife Habitat Form

AECOM

|                                                         |                               |     |            |                |                     |
|---------------------------------------------------------|-------------------------------|-----|------------|----------------|---------------------|
| Study Area:                                             | BLW                           | JER | <u>GSH</u> | Map #:         | <u>279-GSH 2119</u> |
| Date:                                                   | <u>2012-05-02</u>             |     |            | Time Started:  | <u>10:20 a.m.</u>   |
| Field Staff:                                            | <u>Tom Shoney Jess Piette</u> |     |            | Time Finished: | <u>12:30 P.m.</u>   |
| Weather Conditions: <u>overcast, 15°C, 20 km/h wind</u> |                               |     |            |                |                     |

|                                                                                                                                                |                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat</b><br>(FET1, FOC, FOM, FOD, SWC, SWM, SWD) |                                                                                                                     |
| Nest bowls present:                                                                                                                            | <input checked="" type="checkbox"/> No <input type="checkbox"/> 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):                                                              |                                                                                                                     |

|                                                                                                                                                                                                                     |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds</b><br>(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1) |                                                                                                                     |
| Standing water present:                                                                                                                                                                                             | <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (if yes, photograph and complete the following) |
| UTMs:                                                                                                                                                                                                               | <u>452461 4796182</u> <input checked="" type="checkbox"/> Area of standing water delineated on field map            |
| Water depth (m): <u>+2m</u>                                                                                                                                                                                         | % open water: <u>290</u> % emergent vegetation: <u>5%</u>                                                           |
| Description of standing water (permanent pool, evidence of annual spring flooding, etc): <u>Permanent</u>                                                                                                           |                                                                                                                     |
| Area and soil/substrate of shoreline habitat: <u>Shoreline habitat is heavily vegetated with Willow, dogwood, some sedge sp. → mineral soils</u>                                                                    |                                                                                                                     |
| Type and abundance of cover in open water habitat: <u>5% cover overall Sedge sp 60% Willow 40%</u>                                                                                                                  |                                                                                                                     |
| Type and abundance of cover in surrounding habitat: <u>Surrounding habitat Swamp thicket gray/red oaks dogwood, Willow, green Ash, Cottonwood</u>                                                                   |                                                                                                                     |
| Evidence of disturbance (e.g. cattle grazing): <u>Forest management</u>                                                                                                                                             |                                                                                                                     |
| Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: <u>during vegetation survey heard Spring peepers calling → 2</u>                                                        |                                                                                                                     |
| ***Complete Vernal Pool Habitat Description Form***                                                                                                                                                                 |                                                                                                                     |

|                                                                                                                     |                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <b>Snake Hibernacula</b>                                                                                            |                                        |
| Fissured rock/foundation or rock/debris pile present:                                                               |                                        |
| <input checked="" type="checkbox"/> No <input type="checkbox"/> 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):                       |                                        |

|                                                            |                                                                                                                     |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Seeps and Springs</b><br>(FOC, FOM, FOD, SWC, SWM, SWD) |                                                                                                                     |
| Evidence of seep or spring:                                | <input checked="" type="checkbox"/> No <input type="checkbox"/> 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:



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:



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:



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:



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

## Observed Species List

| Species Code   | UTM | Notes | Species Code | UTM | Notes |
|----------------|-----|-------|--------------|-----|-------|
| Song SP        |     |       |              |     |       |
| Billdeer       |     |       |              |     |       |
| Red-winged     |     |       |              |     |       |
| Blue Jay       |     |       |              |     |       |
| Red-shouldered |     |       |              |     |       |
| Flicker        |     |       |              |     |       |
| Deer           |     |       |              |     |       |
| Rose breasted  |     |       |              |     |       |
| Leopards       |     |       |              |     |       |

Note: Evidence Codes (EV) SH=Suitable Habitat, SM=Singling 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<br>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 odorifera) - S2<br>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 (Conioselinum chinense) - S2<br>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<br>Bloom Time - late summer          | Found in wetlands in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian Bay. 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 includes 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                           | Glant 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

AECOM

| ELC                                            | Species                                                                                                    | Habitat Description                                                                                                                                                         | Habitat Present (Y/N; UTM; description of habitat if present) |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| CUM1, MAM,                                     | June – August                                                                                              |                                                                                                                                                                             |                                                               |
| FOD6, FOD7, FOD9                               | Green Dragon ( <i>Artemisia dracunculifolia</i> ) - SC/S3 <u>Bloom Time</u> - 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 <u>Bloom Time</u> - June-August                              | Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields                                                                                                   | Y (N) UTM:                                                    |
| FE01, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPW | Hairy Valerian ( <i>Valeriana edulis</i> ) - S1 <u>Bloom Time</u> - June to August                         | Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens.                                                                               | Y (N) UTM:                                                    |
| FOD6, FOD7, SWM, SWD                           | Hairy Wood Mint ( <i>Blephilia hirsuta</i> ) - S1 <u>Bloom Time</u> - Summer                               | 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</u> - 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 <u>Bloom Time</u> - summer                          | Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.                                                                 | Y (N) UTM:                                                    |
| FOM6, FOM7, FOM8                               | Large Round-leaved Orchid ( <i>Platanthera macrophylla</i> ) - S2 <u>Bloom Time</u> - June to August       | Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands.                                                             | Y (N) UTM:                                                    |
| MAM2, MAM3, MAS2, MAS3, SWD                    | Lizard's Tail ( <i>Saururus cernuus</i> ) - S3 <u>Bloom Time</u> - June - September                        | Species inhabits shores and streambanks along shallow water. As well as <u>swamps</u> , floodplains, shallow water and mudflats at the <u>borders</u> of streams and ponds. | Y (N) UTM: N/O                                                |
| FOD5, FOD7, FOD9                               | Pawpaw ( <i>Asimina triloba</i> ) - S3 <u>Bloom Time</u> - 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 <u>Bloom Time</u> - 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 <u>Bloom Time</u> - July-September          | Dry, sandy or rocky woods                                                                                                                                                   | Y (N) UTM:                                                    |
| FOD7, SWD                                      | Pumpkin Ash ( <i>Fraxinus profunda</i> ) - S2? <u>Bloom Time</u> - March - June                            | <u>Swamps</u> and floodplains                                                                                                                                               | Y (N) UTM: N/O                                                |
| CUM1, ALO, FET1, SWC                           | Ram's-head Lady's-slipper ( <i>Cypripedium arietinum</i> ) - S3 <u>Bloom Time</u> - 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 <u>Bloom Time</u> - 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 <u>Bloom Time</u> - 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, fencelines and roadsides                                                                                             | Y (N) UTM:                                                    |
| FOD6, FOD7, FOD8, FOD9, SWT2, SWT3             | Scarlet Beebalm ( <i>Monarda didyma</i> ) - S3 <u>Bloom Time</u> - May to October                          | Found in moist, rich woods, <u>thicket swamps</u> , 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, TP02, TPS2, TPW2, MAM2, FOD7 | Stiff Gentian ( <i>Gentiana quinquefolia</i> ) - S2 <u>Bloom Time</u> - 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 <u>Bloom Time</u> - mid-March to mid-June                  | Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.                                                        | Y (N) UTM:                                                    |

# Species Conservation Concern Habitat and Incidental Wildlife – Goshen

AIOM

| ELC                                        | Species                                                                                               | Habitat Description                                                                                                                                                                                                                                                                                                                                       | Habitat Present (Y/N): UTM: description of habitat if present |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| TP01, TPS1, TPW1, CUM1                     | Tail Blazing Star ( <i>Liatis aspera</i> ) - S3/SC                                                    | Occurs in open, sandy woods, dry roadsides and sandy prairies                                                                                                                                                                                                                                                                                             | Y (N) UTM:                                                    |
| FE0, FES, FET, MAM2, MAM3                  | Tuberous Indian Plantain ( <i>Amoroglossum plantagineum</i> ) - S3 Bloom Time – mid-March to mid-June | Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.                                                                                                                                                                                                                                                 | Y (N) UTM:                                                    |
| FOC1, FOC2, FOC3, FOC4                     | Woodland Pinedrops ( <i>Pterospora andromedea</i> ) - S2 Bloom Time – summer                          | Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.                                                                                                                                                                                        | Y (N) UTM:                                                    |
| CUM1, CUT1, CUW1, RBO1, SBO1               | Yellow Ladies'-tresses ( <i>Spiranthes ochroleuca</i> ) - S2 Bloom Time – August to November          | Dry, open sites, usually on acidic sandy soil, dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.                                                                                                                                                                                                 | Y (N) UTM:                                                    |
| <b>BIRDS</b>                               |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                           |                                                               |
| -                                          | Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) - SC                                                   | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| CUW, SDO, RBO, TPS                         | Common Nighthawk ( <i>Chordeiles minor</i> ) - SC                                                     | Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.                                                                                                                                                                                        | Y (N) UTM:                                                    |
| FOD, FOM                                   | Louisiana Waterthrush ( <i>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:                                                    |
| <b>REPTILES</b>                            |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                           |                                                               |
| -                                          | Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ) - SC                                               | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| -                                          | Milksnake ( <i>Lampropeltis triangulum</i> ) - SC                                                     | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| -                                          | Snapping Turtle ( <i>Chelydra serpentina</i> ) - SC                                                   | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                 | not required.                                                 |
| <b>INSECTS</b>                             |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                           |                                                               |
| OAO, SA, SWM, SWD                          | Azure Bluet ( <i>Enallagma aspersum</i> ) - S3                                                        | Species inhabits 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 virginianensis</i> ) - SC                                             | This species is restricted to rich, moist, deciduous woods, where its foodplant toothwort occur.                                                                                                                                                                                                                                                          | Y (N) UTM:                                                    |

# Wetland Data Collection Sheet

**AECOM**

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

|                                        |                                                                                       |
|----------------------------------------|---------------------------------------------------------------------------------------|
| Presence of Groundwater                |                                                                                       |
| No <input checked="" type="checkbox"/> | Yes <input type="checkbox"/>                                                          |
| <input type="checkbox"/> bank seepage  | <input type="checkbox"/> iron staining <input type="checkbox"/> groundwater indicator |

|                                                             |                                                                                                                |                                              |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Site Type                                                   | Lacustrine <input type="checkbox"/> (associated with lakes)                                                    | Isolated <input checked="" type="checkbox"/> |
|                                                             | Riverine <input type="checkbox"/> (associated with rivers)                                                     |                                              |
|                                                             | Palustrine <input type="checkbox"/> absent or intermittent inflow and either intermittent or permanent outflow |                                              |
| what are the water inputs and outputs? <u>Surface water</u> |                                                                                                                |                                              |

|       |                                         |
|-------|-----------------------------------------|
| Soils | refer to ELC card for soils information |
|-------|-----------------------------------------|

|                                                                                     |                                                                                                      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| % open Water <u>dry this year, however in wetter years would be all water</u>       |                                                                                                      |
| Type 1 - <5% <input type="checkbox"/>                                               | Type 5 - 26-75% <input checked="" type="checkbox"/> (water occurring in a small pattern)             |
| Type 2 - 5-25% <input type="checkbox"/> (water occurring in one central location)   | Type 6 - 76-95% <input type="checkbox"/> (occurring in a central location, vegetation is peripheral) |
| Type 3 - 5-25% <input type="checkbox"/> (water occurring in ponds of various sizes) | Type 7 - 76-95% <input type="checkbox"/> (vegetation occurs in patches or diffuse, open stands)      |
| Type 4 - 26-75% <input type="checkbox"/> (water occurring in a central location)    | Type 8 - >95% <input type="checkbox"/> (water occupies over 95% of the area)                         |

| Community Descriptions     |                                                                           |
|----------------------------|---------------------------------------------------------------------------|
| Vegetation forms           |                                                                           |
| h (deciduous trees)        | ne (narrow leaved emergents)                                              |
| c (coniferous trees)       | be (broad leaved emergents)                                               |
| dh (dead deciduous trees)  | gc (ground cover)                                                         |
| dc (dead coniferous trees) | m (mosses)                                                                |
| ts (tall shrubs 1-6m)      | f (aquatic with floating leaf)                                            |
| ls (low shrubs up to 1m)   | ff (free floating)                                                        |
| ds (dead shrubs)           | su (all under water)                                                      |
| re (robust emergents)      | u (unvegetated)                                                           |
| Map Code/<br>ELC Code      | Community Description - list at least four dominant species for each form |
| SWD6-3/<br>S1              | h*: <u>Acefree, Frapenn, Ulmamer, ACENEGUN</u>                            |
| MAM3-2<br>M1               | ne*: <u>phaarun</u><br>ts: <u>Salexig</u>                                 |
| SWT2                       | h: <u>Popdelt, Frapenn</u><br>+S: <u>corface, corseri, Salexig</u>        |
|                            |                                                                           |

# Wetland Data Collection Sheet

AECOM

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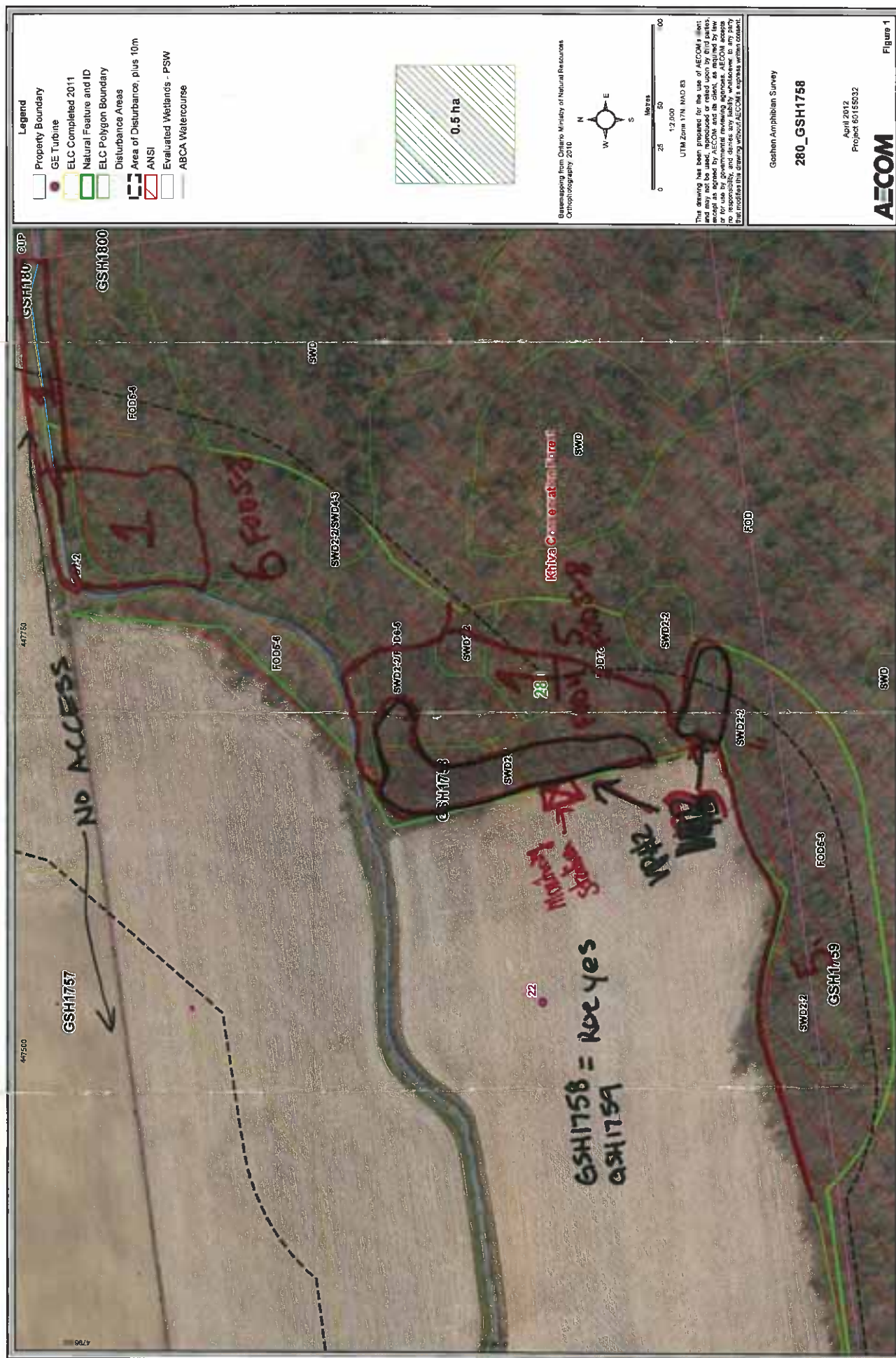
## Notes on Ecological Functions or features

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 muskrats, raccoons
- surrounding area is a little higher but relatively flat

★ Organic Soils ★









## Page 1 of 2

## 561

## 561

## 56

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

[illegible]

# Significant Wildlife Habitat Form

AECOM

|                     |                                       |                |             |
|---------------------|---------------------------------------|----------------|-------------|
| Study Area:         | BLW JER <b>GSD</b>                    | 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 |
|---------|---------------------|---------|---------------------|
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |
|         |                     |         |                     |



Time Started: 11:00 am

Time Finished: 3:00:00

## Observed Species List

[illegible]

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

Breeding Bird (Probable)

Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Faeces/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)

| ELC                                            | Species                                                                                             | Habitat Description                                                                                                                                            | Habitat Present (Y/N; UTM; description of habitat if present) |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>PLANTS</b>                                  |                                                                                                     |                                                                                                                                                                |                                                               |
| FOD7                                           | American Gromwell ( <i>Lithospermum latifolium</i> ) - S3<br><i>Bloom Time - Spring</i>             | Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.                                                                           | Y (N) UTM: NO                                                 |
| ALO, TPO                                       | Muehlenberg's astomum moss ( <i>Astorum muehlenbergianum</i> ) - S2 <i>Bloom Time - Spring</i>      | Thin soil over level outcrop ledges and on soil under grasses in open prairie                                                                                  | Y (N) UTM: NO                                                 |
| FOM1, FOM2, CUP3                               | Autumn Coral-root ( <i>Coralorrhiza odontorhiza</i> ) - S2<br><i>Bloom Time - summer to fall</i>    | Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.                                                                  | Y (N) UTM: NO                                                 |
| FOC, FOM, FOD                                  | Burning Bush ( <i>Euonymus atropurpureus</i> ) - S3 <i>Bloom Time - April - June</i>                | Species occurs in dry to moist-deciduous thickets and woods                                                                                                    | Y (N) UTM: NO                                                 |
| SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6 | Chinese Hemlock Parsley ( <i>Conioselinum chinense</i> ) - S2<br><i>Bloom Time - summer to fall</i> | Swampy places with deciduous trees, white cedars, tamarack; springy river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes | Y (N) UTM: NO                                                 |
| SWC, SWM, SWD, SWT, MAM, MAS                   | Crowned Beggarticks ( <i>Bidens trichosperma</i> ) - S2<br><i>Bloom Time - late summer</i>          | Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian bay Bogs, fens, tamarack swamps           | Y (N) UTM: NO                                                 |
| ALT1, FOD7                                     | Eastern Green-violet ( <i>Hybanthus concolor</i> ) - S2 <i>Bloom Time - mid March to August</i>     | Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.                                    | Y (N) UTM: NO                                                 |
| TPS, TPW, FOM1, FOM2                           | Fogg's Goosefoot ( <i>Chenopodium foggii</i> ) - S2                                                 | Species occurs in sandy areas on limestone under oak or pine-oak forests                                                                                       | Y (N) UTM: NO                                                 |
| TPO2, TPS2, TPW2,                              | Giant Ironweed ( <i>Vernonia gigantea</i> ) - S1? <i>Bloom Time -</i>                               | Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows                                                                                   | Y (N) UTM: NO                                                 |

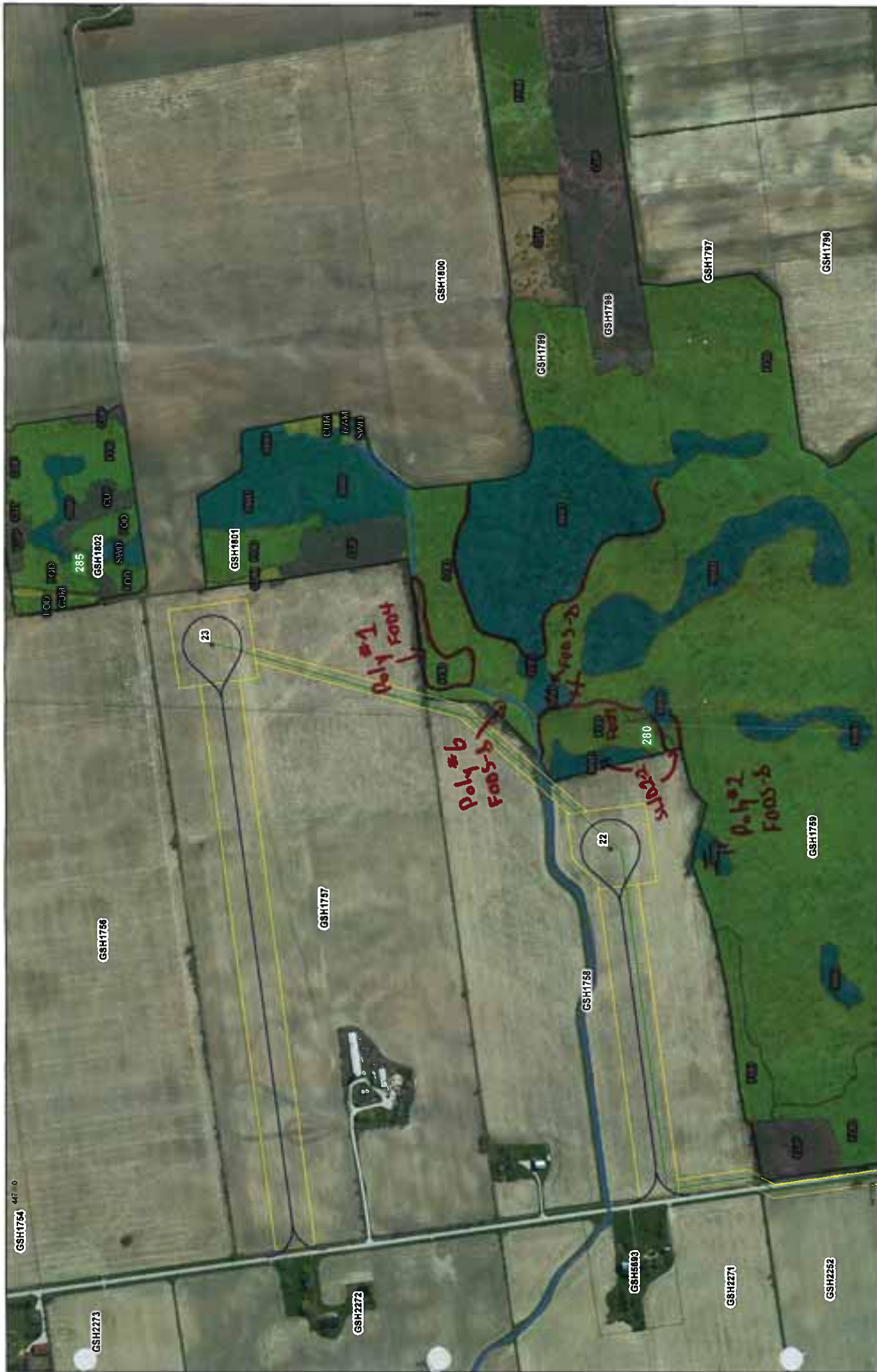
# Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

| ELC                                                 | Species                                                                                                    | Habitat Description                                                                                                                                         | Habitat Present (Y/N; UTM; description of habitat if present) |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| CUM1, MAM, FOD6, FOD7, FOD9                         | June – August<br>Green Dragon ( <i>Arisaema dracontium</i> ) - SC/S3 <u>Bloom Time</u> – 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: NO                                                 |
| TP01, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3      | Halcyon Bedstraw ( <i>Galium pilosum</i> ) - S3 <u>Bloom Time</u> – June – August                          | Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields                                                                                   | Y (N) UTM: NO                                                 |
| FE01, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW | Halcyon Valerian ( <i>Valeriana edulis</i> ) - S1 <u>Bloom Time</u> – June to August                       | Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens                                                                | Y (N) UTM: NO                                                 |
| FOD6, FOD7, SWM, SWD                                | Halcyon Wood Mint ( <i>Blephilia hirsuta</i> ) - S1 <u>Bloom Time</u> – Summer                             | Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.                                                                          | Y (N) UTM: NO                                                 |
| FOD6, FOD7, FOD8, FOD9                              | Harbinger-of-spring ( <i>Eriogonum bulbosum</i> ) - S3 <u>Bloom Time</u> – early to late April             | Occurs in rich, moist deciduous woods, especially on floodplains                                                                                            | Y (N) UTM: NO                                                 |
| SAS1, SAM1, SAF1                                    | Hill's Pond Weed ( <i>Potamogeton hillii</i> ) - SC/S2 <u>Bloom Time</u> – summer                          | Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.                                                 | Y (N) UTM: NO                                                 |
| FOM6, FOM7, FOM8                                    | Large Round-leaved Orchid ( <i>Platanthera macrophylla</i> ) - S2 <u>Bloom Time</u> – June to August       | Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands                                              | Y (N) UTM: NO                                                 |
| MAM2, MAM3, MAS2, MAS3, SWD                         | Lizard's Tail ( <i>Saururus cernuus</i> ) - S3 <u>Bloom Time</u> – June – September                        | Species inhabits shores and streambanks along shallow water. As well as swamps, floodplains, shallow water and mudflats at the borders of streams and ponds | Y (N) UTM: NO                                                 |
| FOD6, FOD7, FOD9                                    | Pawpaw ( <i>Asimina triloba</i> ) - S3 <u>Bloom Time</u> – March-May                                       | Occurs in moist deciduous woods and stream banks                                                                                                            | Y (N) UTM: NO                                                 |
| FOM8, FOD6, FOD7, FOD9, CUM1                        | Pilose Evening Primrose ( <i>Oenothera pilosella</i> ) - S2 <u>Bloom Time</u> – Late Spring – Early Summer | Moist edges of woods and open, disturbed ground                                                                                                             | Y (N) UTM: NO                                                 |
| TPW1, FOM1, FOM2, FOD1, FOD2, FOD3                  | Prostrate Tick-trefoil ( <i>Desmodium rotundifolium</i> ) - S2 <u>Bloom Time</u> – July-September          | Dry, sandy or rocky woods                                                                                                                                   | Y (N) UTM: NO                                                 |
| FOD7, SWD                                           | Pumpkin Ash ( <i>Fraxinus profunda</i> ) - S2? <u>Bloom Time</u> – March - June                            | Swamps and floodplains                                                                                                                                      | Y (N) UTM: NO                                                 |
| CUW1, ALO, FET1, SWC                                | Ram's-head Lady's-slipper ( <i>Cypripedium arietinum</i> ) - S3 <u>Bloom Time</u> – mid May to mid June    | Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry-sandy woods, and limestone barren                                  | Y (N) UTM: NO                                                 |
| FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5      | Rattlesnake Hawkweed ( <i>Hieracium venosum</i> ) - S2 <u>Bloom Time</u> – April – September               | Species inhabits open, dry sandy woods, Jack pine, oak, and aspen woodlands.                                                                                | Y (N) UTM: NO                                                 |
| FOD6, FOD7, FOD9                                    | Round-leaved Groundsel ( <i>Packera obovata</i> ) - S3 <u>Bloom Time</u> – May - June                      | Found in moist woods                                                                                                                                        | Y (N) UTM: NO                                                 |
| CUM1, CUT1, CUS1                                    | Round-leaved hawthorn ( <i>Crataegus lumaria</i> ) - S3?                                                   | Species occurs in old fields, poorly managed pastures, fencelines and roadsides                                                                             | Y (N) UTM: NO                                                 |
| FOD6, FOD7, FOD8, FOD9, SWT2, SWT3                  | Scarlet Beebalm ( <i>Monarda didyma</i> ) - S3 <u>Bloom Time</u> – May to October                          | Found in moist, rich woods, thicket swamps, banks and floodplains.                                                                                          | Y (N) UTM: NO                                                 |
| ALO, ALS, ALT, TPO, TPS, TPW                        | Slender Blazing Star ( <i>Liatris cylindracea</i> ) - S3                                                   | Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.                                                   | Y (N) UTM: NO                                                 |
| SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2         | Slender Knotweed ( <i>Polygonum tenue</i> ) - S2                                                           | Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows, at edges of sand pits                                                      | Y (N) UTM: NO                                                 |
| SDT1, FOD5, FOD9                                    | Slim-flowered Muhly ( <i>Muhlenbergia tenuiflora</i> ) - S2                                                | Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods                  | Y (N) UTM: NO                                                 |
| BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7      | Stiff Gentian ( <i>Gentiana quinquefolia</i> ) - S2 <u>Bloom Time</u> – late summer to mid fall            | Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.                                             | Y (N) UTM: NO                                                 |
| TPS1, TPW1, CUW1, RBO, SBO                          | Sundial Lupine ( <i>Lupinus perennis</i> ) - S3 <u>Bloom Time</u> – mid-March to mid-June                  | Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.                                        | Y (N) UTM: NO                                                 |

# Species Conservation Concern Habitat and Incidental Wildlife – Goshen

ACOM

| 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>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: NO                                                 |
| FOC1, FOC2, FOC3, FOC4                     | Woodland Pinetops ( <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                                                 |
| <b>BIRDS</b>                               |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
| -                                          | Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) - SC                                                 | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required.                                                 |
| CUW, SDO, RBO, TPS                         | Common Nighthawk ( <i>Chordeiles minor</i> ) - SC                                                   | Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.                                                                                                                                                                                       | Y (N) UTM: NO                                                 |
| 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: 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                                                 |
| <b>REPTILES</b>                            |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
| -                                          | Eastern Ribbonsnake ( <i>Thamnophis sauritus</i> ) - SC                                             | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required.                                                 |
| -                                          | Milksnake ( <i>Lampropeltis triangulum</i> ) - SC                                                   | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required.                                                 |
| -                                          | Snapping Turtle ( <i>Chelydra serpentina</i> ) - SC                                                 | Assessed as SWH. Record species if found.                                                                                                                                                                                                                                                                                                                | not required.                                                 |
| <b>INSECTS</b>                             |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
| OAO, SA, SWM, SWD                          | Azure Bluet ( <i>Enallagma aspersum</i> ) - S3                                                      | Species inhabits fishless ponds, lakes and boggy swamps                                                                                                                                                                                                                                                                                                  | Y (N) UTM: NO                                                 |
| TPS, TPW                                   | Sleepy Duskywing ( <i>Erynnis brizeo</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 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                                                 | Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant                                                                                                                                                                                                          | Y (N) UTM: NO                                                 |
| SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1 | Tawny Emperor ( <i>Asterocampa clyten</i> ) - S3                                                    | This species is restricted to rich, moist, deciduous woods where its foodplant toothwort occur                                                                                                                                                                                                                                                           | Y (N) UTM: NO                                                 |
| FOD5                                       | West Virginia White ( <i>Pieris virginianensis</i> ) - SC                                           |                                                                                                                                                                                                                                                                                                                                                          | Y (N) UTM: NO                                                 |



PRE-SURVEY COMMENT:

|                                                              |                      |                    |
|--------------------------------------------------------------|----------------------|--------------------|
| <b>ELC</b><br>Community<br>Description and<br>Classification | Site: 280_GSH1758    | Polygon: A         |
|                                                              | Surveyor(s): Kowstra | Date: Sept 21 / 11 |
| UTMZ: 17T                                                    | UTMZ: 447750         | UTMN: 4745870      |

Polygon Description

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

Stand Description

| Layer | HT | CVR | Species In Order of Decreasing Dominance (up to 4 sp)<br>(> Much Greater Than, > Greater Than, = About Equal To) |
|-------|----|-----|------------------------------------------------------------------------------------------------------------------|
| 1     | 4  | 4   | Acesac -> Tamar -> Frax -> Betula                                                                                |
| 2     | 3  | 3   | Acesac -> Prun -> Carag                                                                                          |
| 3     | 3  | 3   | Prun -> Prun -> Prun                                                                                             |
| 4     | 3  | 3   | Prun -> Prun -> Prun                                                                                             |

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

|                    |                                               |
|--------------------|-----------------------------------------------|
| Stand Composition: | Size Class Analysis:                          |
| BAI:               | Standing Snags:<br>Deadfall / Logs:           |
|                    | <10 10-24 25-50 >50                           |
| Abundance Codes:   | N = None R = Rare O = Occasional A = Abundant |

|           |                                                                                                                                                                                 |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Com. Age: | <input type="checkbox"/> Pioneer <input type="checkbox"/> Young <input type="checkbox"/> Mid-Age <input checked="" type="checkbox"/> Mature <input type="checkbox"/> Old Growth |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                  |       |
|------------------|-------|
| Ecoete:          | Code: |
| 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 | Rel. Avg. |
|-----------------|---------|---------|---------|---------|-------|-----------|
| Total           |         |         |         |         |       | 100       |
| Basal Area (BA) |         |         |         |         |       |           |
| Dead            |         |         |         |         |       |           |

Soils Ontario and ELC Soils Description

| Site Metrics             |  |  |  |  |  |  |  |  |  | Summary                            |  |
|--------------------------|--|--|--|--|--|--|--|--|--|------------------------------------|--|
| Pit/Auger #              |  |  |  |  |  |  |  |  |  | Moisture Regime                    |  |
| Slope                    |  |  |  |  |  |  |  |  |  | Drainage                           |  |
| UTM                      |  |  |  |  |  |  |  |  |  |                                    |  |
| Position                 |  |  |  |  |  |  |  |  |  |                                    |  |
| Aspect                   |  |  |  |  |  |  |  |  |  |                                    |  |
| Percent                  |  |  |  |  |  |  |  |  |  |                                    |  |
| Slope Length             |  |  |  |  |  |  |  |  |  |                                    |  |
| Mottles                  |  |  |  |  |  |  |  |  |  |                                    |  |
| Gley                     |  |  |  |  |  |  |  |  |  |                                    |  |
| Water Table              |  |  |  |  |  |  |  |  |  |                                    |  |
| Carbonates               |  |  |  |  |  |  |  |  |  |                                    |  |
| Bedrock                  |  |  |  |  |  |  |  |  |  |                                    |  |
| Depth to...              |  |  |  |  |  |  |  |  |  | Effective Texture (indicate below) |  |
| 1                        |  |  |  |  |  |  |  |  |  |                                    |  |
| 2                        |  |  |  |  |  |  |  |  |  |                                    |  |
| 3                        |  |  |  |  |  |  |  |  |  |                                    |  |
| 4                        |  |  |  |  |  |  |  |  |  |                                    |  |
| Soil Horizon Description |  |  |  |  |  |  |  |  |  |                                    |  |
| Drainage                 |  |  |  |  |  |  |  |  |  |                                    |  |

⑤ Cultural Thicket at UTM. 447775 / 4795905  
- disturbed vegetation along ditch that was cleared through forest  
prob ~ 20 years ago.

3-4 Rhutyp > Fra pen - Ace sacu

4-4 Rubidae >> Rhutyp - Fra pen

5-4 Solcan. - Ast late Equearve

Veg Type: CUT1

⑥ Deinduss Forest - mixed canopy without Dlen Pomat  
UTM 447810 / 4795915

2-4 Ace sacu - Popgran - Betpapy - Fraamer

3-4 Hamving > Ace sacu > Ahuame -

4-2 Lin benz - Vibacer - Pru ving -

5/6-4 Pyrelli - Mitrepe - Parihse

Veg Type: Sugar Maple - Hardwood FOD6-5