

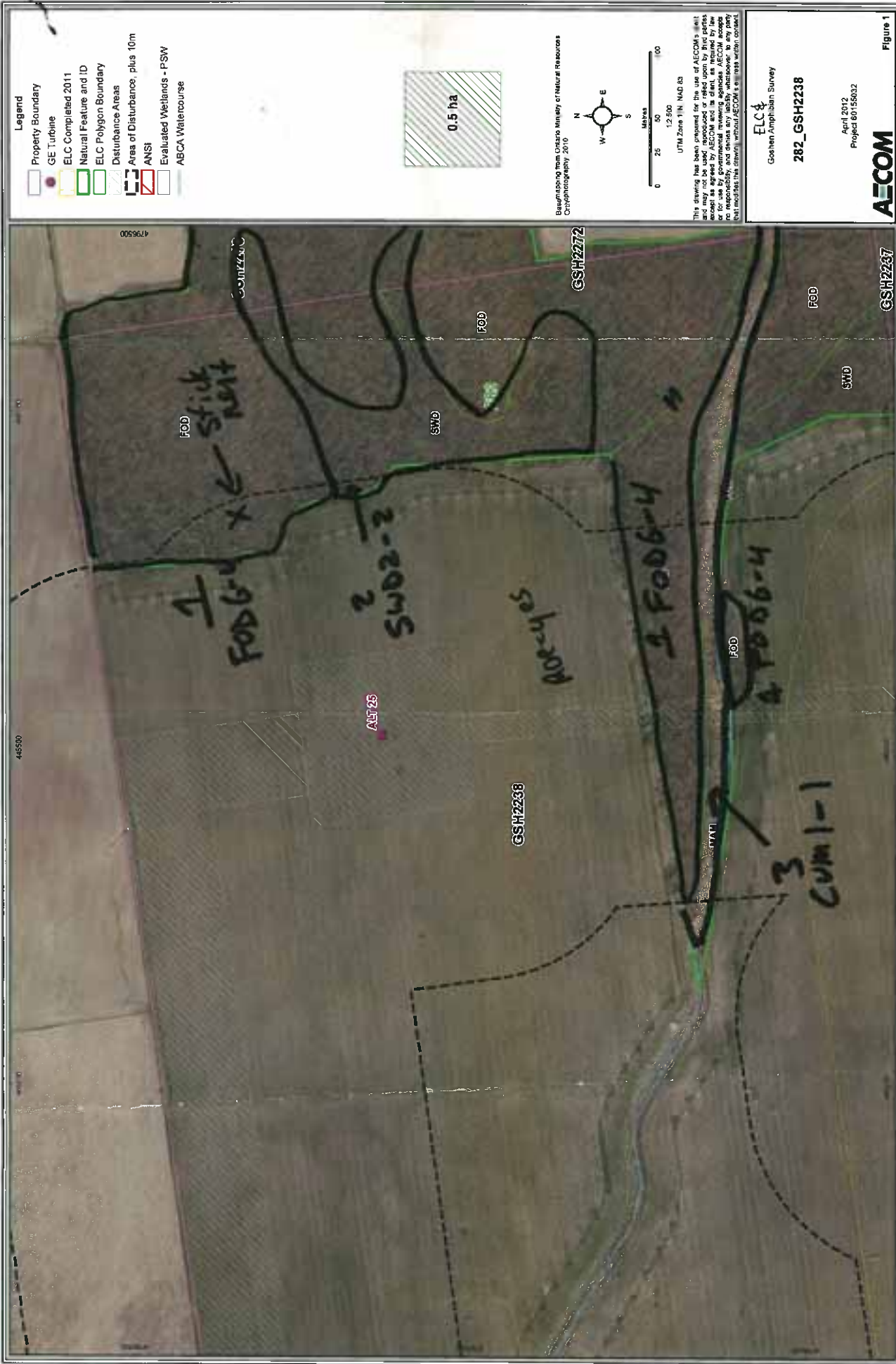
Location: 280 GSH 1802
Observer: JAM TS

Job Number:

1: WD2-1 4: _____
2: MAM2-10 5: _____
3: CUM2-2 6: _____

SITE LOCATIONS

CONIFERS						TREES and SHRUBS						GRAMINOIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis						Agropyron repens					
Larix laricina						Rubus idaeus				✓		Alopecurus					
Picea abies						Rubus occidentalis						Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex arctata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Tsuga occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						+ Salix discolor						Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix exiguus						Carex hystericus					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrosa					
Acer negundo						Salix x rubens						Carex stipata					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharum						Sambucus racemosa						Carex sp.					✓
Acer spicatum						Sorbus aucuparia						Carex					
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana				✓		Carex					
Betula alleghaniensis						Ulmus americana				✓		Carex					
Betula papyrifera	✓					Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago						Cyperus					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Dactylis glomerata					
Cornus amomum						Vitis riparia						Danthonia spicata					
Cornus rugosa												Echinochloa crus-galli					
Cornus stolonifera												Eleocharis erythropoda					
Corylus cornuta												Eleocharis					
Crataegus monogyna												Elymus virginicus					
Crataegus punctata												Elymus					
Crataegus sp.												Festuca arundinacea					
Crataegus												Glyceria striata					
Diervilla lonicera												Glyceria					
Fagus grandifolia	✓											Juncus dialleyi					
Fraxinus americana						FERNS											



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Trees & Shrubs					Tree & Shrubs					Graminoids				
Conifers					Deciduous					Grasses				
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>)				
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>)				
					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>)									
Ail.-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>)					Hopbush (<i>Viburnum lantanoides</i>)									
Cockspur Thorn (<i>Crataegus crus-galli</i>)					Nannyberry (<i>Viburnum lentago</i>)									
English Hawthorn (<i>Crataegus monogyna</i>)					Guelder-Rose (<i>Viburnum opulus</i>)									
Large-fruited Thorn (<i>Crataegus punctata</i>)					Downy Arrow-wood (<i>Vib. rafinesquianum</i>)									
<i>Crataegus sp.</i>					Riverbank Grape (<i>Vitis riparia</i>)									
<i>Crataegus</i>					Am. Prickly-ash (<i>Zanthoxylum americanum</i>)									
Bush Honeysuckle (<i>Lonicera linearis</i>)					TILANER									
Russian Olive (<i>Elaeagnus angustifolia</i>)					Speckled Alder									
Autumn Olive (<i>Elaeagnus umbellata</i>)					Vine sp.									
Run. Strawberry-bush (<i>Evonymus obovata</i>)					Malus pumila									
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>Hamamelis 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>														

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<i>D - Dominant: represented by large numbers, generally forming >10% ground cover or >25% vegetation cover in any one stratum</i> <i>F - Fairly common (=Abundant in ELC) : generally widespread represented by fairly large numbers of individual clumps; usually forming >10% ground cover</i> <i>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)</i> <i>R - Rare: represented in the polygon by less than about five individuals or small clumps</i>									
Map Number:	1						4		
Date:	2						5		
Surveyors:	3								

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER <u>GSH</u>	Map #:	<u>282-GSH 2238</u>
Date:	<u>April 25, 2012</u>	Time Started:	<u>10:00 am</u>
Field Staff:	<u>SG, RA</u>	Time Finished:	<u>1:00 pm</u>
Weather Conditions:	<u>Sunny, 10°C.</u>		

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

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

UTMs: 0445658, 4796449 Number of nests: 1

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
photos 16, 17 located @ top of large tree in open.

Description of habitat (note riparian areas if present, evidence of disturbance): sugar maple forest, next to field (30m)

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

Species Conservation Concern Habitat and Incidental Wildlife - Goshen

Map No: 282-GS12238
Date (yyyy-mm-dd): 2012-04-25

Field Staff: RA, SG



Time Started: 10:30 am
Time Finished: 1:00 pm

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
Song Sparrow		VO					
White-collared Woodpecker		OB					
White-collared Woodpecker		VO					
White-collared Woodpecker		OB					
Downy Woodpecker		VO					
Red-crested Flycatcher		OB					
Yellow-bellied Sapsucker		VO					
Yellow-bellied Sapsucker		VO					
Yellow-crowned Cuckoo		VO					
Robin		VO					
Robin		VO					
Geococcyx		OB					
Bumblebee		OB					
White-throated sparrow		VO					
American Robin		VO					
Grackle		VO					

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

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

Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Feeding evidence, SC= Scat, SI=Other signs (specify)

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

NO=Not observed

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
PLANTS			
FOD7	American Gromwell (Lithospermum latifolium) - S3 Bloom Time - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y (N) UTM: NO
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: NO
FOM1, FOM2, CUP3	Autumn Coral-root (Corallorhiza odontorhiza) - S2 Bloom Time - Summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y (N) UTM: NO
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: NO
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (Coriandrum chinense) - S2 Bloom Time - Summer to fall	Swampy places with deciduous trees, white cedars, tamarack; springy river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes.	Y (N) UTM: NO
SWC, SWM, SWD, SWT, MAM, MAS	Crowned Beggaricks (Bidens trichosperma) - S2 Bloom Time - late summer	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian Bay. Bogs, fens, tamarack swamps	Y (N) UTM: NO
ALT1, FOD7	Eastern Green-violet (Hybanthus concolor) - S2 Bloom Time - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	Y (N) UTM: NO
TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (Chenopodium foggii) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y (N) UTM: NO
TPO2, TPS2, TPW2	Giant Ironweed (Vernonia gigantea) - S1? Bloom Time -	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	Green Dragon (<i>Arisaema dracontium</i>) - S1/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: NO
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Hairy Bedstraw (<i>Galium pilosum</i>) - S3 Bloom Time - June-August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y N UTM:
FEOT1, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	Hairy Valerian (<i>Valeriana edulis</i>) - S1 Bloom Time - June to August	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens.	Y N UTM: NO
FOD6, FOD7, SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time - Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y N UTM: NO
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Eriogon bulbosa</i>) - S3 Bloom Time - early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	Y N UTM: NO
SAS1, SAM1, SAF1	Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/S2 Bloom Time - summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	Y N UTM: NO
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>Platanthera macrophylla</i>) - S2 Bloom Time - June to August	Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands.	Y N UTM: NO
MAM2, MAM3, MAS2, MAS3, SWD	Lizard's Tail (<i>Saururus cernuus</i>) - S3 Bloom Time - June - September	Species inhabits shores and streambanks along shallow water. As well as swamps, floodplains, shallow water and mudflats at the borders of streams and ponds.	Y N UTM: NO
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) - S3 Bloom Time - 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 Bloom Time - 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 Bloom Time - July-September	Dry, sandy or rocky woods	Y N UTM: NO
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? Bloom Time - March - June	Swamps and floodplains	Y N UTM: NO
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: NO
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 Bloom Time - April - September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	Y N UTM: NO
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time - May - June	Found in moist woods	Y N UTM: NO
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: NO
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 Bloom Time - May to October	Found in moist rich woods, thicket swamps, banks and floodplains.	Y N UTM: 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>Gentianella quinquefolia</i>) - S2 Bloom Time - late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	Y N UTM: NO
TPS1, TPW1, CUW1, RBO, SBO	Sundial Lupine (<i>Lupinus perennis</i>) - S3 Bloom Time - mid-March to mid-June	Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.	Y N UTM: NO

Species Conservation Concern Habitat and Incidental Wildlife – Goshen

ALCOM

Species		Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
TP01, 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: NO
FEO, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amorhossium plantagineum</i>) - S3 Bloom Time –mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y (N) UTM: NO
FOC1, FOC2, FOC3, FOC4	Woodland Pinedrops (<i>Pterospora andromedea</i>) - S2 Bloom Time – summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y (N) UTM: NO
CUM1, CUT1, CUW1, RBO1, SBO1	Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time – August to November	Dry, open sites, usually on acidic sandy soil. Dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y (N) UTM: NO
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM: NO
FOD, FOM	Louisiana Waterthrush (<i>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
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) –S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM: NO
TPS, TPW	Sleepy Duskywing (<i>Erynnis brize</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles	Y (N) UTM: NO
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: NO
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: NO
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyten</i>) – S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM: NO
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: NO

Wetland Data Collection Sheet

AECOM

Study area: <u>6SH</u>	Map No: <u>282-6SH2238</u>
Date (yyyy-mm-dd): <u>2012-04-25</u>	Time Started: <u>10:30 am</u>
Field Staff: <u>BA, SG</u>	Time Finished: <u>1:00 pm</u>

Presence of Groundwater	
No ☒	Yes ☐
☐ bank seepage	☐ iron staining
☐ groundwater indicator	

Site Type	Lacustrine ☐ (associated with lakes)	Isolated ☒
	Riverine ☐ (associated with rivers)	
	Palustrine ☐ absent or intermittent inflow and either intermittent or permanent outflow	
	what are the water inputs and outputs? _____	

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

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

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

Map Code/ ELC Code	Community Description - list at least four dominant species for each form
SWD2-2	h - FRAP AN > ACEFREE

Wetland Data Collection Sheet

Notes on Ecological Functions or features

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

mineral swamp surrounded by Sugar Maple Forest and agricultural land, potential for swamp to hold more water in wetter year.

Significant Wildlife Habitat Form

Re-visit Stick Nests. AECOM

Study Area:	BLW JER <u>GSH</u>	Map #:	<u>282-GSH-2238</u>
Date:	<u>17-May-2012</u>	Time Started:	<u>6:15 PM</u>
Field Staff:	<u>J. Kamstra & A. Datt</u>	Time Finished:	<u>6:30 PM</u>
Weather Conditions:	<u>Sunny, 18°C</u>		

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

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

UTMs: 0445688, 4796449 Number of nests: 1

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
Nest broken, old nest from last year.

Description of habitat (note riparian areas if present, evidence of disturbance):
medium age Tr Aspen - Sugar Maple

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): _____

★ Additional Bird calls heard are noted on back sheet

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
YTVI	Smiley		
REVI			
SOSP			



Page 1 of 2

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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:	1					4			
Date:	2					5			
Surveyors:	3								

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER GSH	Map #:	285 GSH 1802
Date:	June 28, 2017	Time Started:	1:15 pm
Field Staff:	Sam Goldner	Time Finished:	4:00 pm
Weather Conditions:	31°C, 0% clouds, 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: _____ Area of standing water delineated on field map: _____

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

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

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

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

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

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

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

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

UTMs: _____ Likelihood to extend below frost line: _____

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

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

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

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

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

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

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

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

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

☒ No

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

UTMs: _____

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

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

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

(BBO1, BBO2, BBS1, BB52, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)

Shoreline of lake, large river or large wetland present:

☒ No

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

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

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

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

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

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

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

Large open habitat present: ☒ No

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

UTMs: _____

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

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

Old-growth or Mature Forests, Interior Forest Breeding Birds

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

Mature forest present: ☒ No

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

UTMs: _____

Age of oldest trees: _____

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

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

Photo #	Location or Subject	Photo #	Location or Subject

A=COM

Time Started:

Time Finished: 4:13pm

Observed Species List

[illegible]

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

Breeding Bird (Probable)

Breeding Bird (Confirmed)

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=O

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

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 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	Hairy Bedstraw (<i>Galium pilosum</i>) - S3 Bloom Time – June–August	Occurs in dry, sandy woods and meadows, occasionally in dry sandy fields	Y N UTM:
FE01, FES1, FET1, SWC, FOM1, FOM2, FOD1, FOD2, FOD3	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:
FE01, FES1, FET1, SWC, FOM1, FOM2, FOD1, FOD2, FOD3	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time – Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y N UTM: n/o.
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Erigenia bulbosa</i>) - S3 Bloom Time – early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	Y N UTM: 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: n/o.
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>Platanthera macrophylla</i>) - S2 Bloom Time – June to August	Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands.	Y N UTM:
MAM2, MAM3, MAS2, MAS3, SWD	Lizard's Tail (<i>Saururus cernuus</i>) - S3 Bloom Time – June – September	Species inhabits shores and streambanks along shallow water. As well as swamps, floodplains, shallow water and mudflats at the borders of streams and ponds.	Y N UTM:
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) - S3 Bloom Time – March-May	Occurs in moist deciduous woods and stream banks.	Y N UTM: n/o.
FOM8, FOD6, FOD7, FOD9, CUM1	Pilose Evening Primrose (<i>Oenothera pilosella</i>) - S2 Bloom Time – Late Spring – Early Summer	Moist edges of woods and open, disturbed ground	Y N UTM: 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.
CUM1, ALO, FET1, SWC	Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 Bloom Time – mid May to mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry-sandy woods, and limestone barrens.	Y N UTM:
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 Bloom Time – April – September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands	Y N UTM:
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time – May – June	Found in moist woods	Y N UTM: n/o.
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus 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 Bloom Time – May to October	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y N UTM: n/o.
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	Y N UTM:
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows; at edges of sand pits	Y N UTM:
SDT1, FOD5, FOD9	Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	Y N UTM:
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>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: n/o.
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 of Conservation Concern Habitat and Incidental Wildlife – Goshen

AECOM

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>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 Phedrops (<i>Pteropora 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, edges, outcrops, banks and roadsides, old fields.	Y (N) UTM
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM
FOD, FOM	Louisiana Waterthrush (<i>Selurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y (N) UTM
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory, fields or pasture lands with scattered large trees, wooded swamps, orchards, small woodlots or forest edges; groves of dead or dying trees, requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory	Y (N) UTM
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets, nests above ground in bush, vines	Y (N) UTM
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OA0, 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, FOD-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



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



Basemap from Chilean Ministry of Natural Resources
Orthophotography 2010



UTM Zone 17N MAG 83
1:2,000
0 25 50 100
Meters

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Gothen Amphibian Survey
290_GSH2089/GSH2043
April 2012
Project 80165032

AECOM

Figure 1

Page 1 of 2

Trees & Shrubs	1	2	3	4	5	Trees & Shrubs	1	2	3	4	5	Graminoids	1	2	3	4	5
Conifers						Deciduous						Grasses					
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>)						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>)						Slimy Sumac (<i>Rhus hirta</i>)						Poor Oat Grass (<i>Danthonia spicata</i>)					
Jack Pine (<i>Pinus banksiana</i>)						Wild Black Currant (<i>Ribes americanum</i>)						Quack Grass (<i>Elymus repens</i>)					
Red Pine (<i>Pinus resinosa</i>)						Prickly Gooseberry (<i>Ribes coccineum</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 vestris</i>)						Red Currant (<i>Ribes rubrum</i>)						Fowl Manna Grass (<i>Glyceria striata</i>)					
Canada Yew (<i>Taxus canadensis</i>)						<i>Ribes</i>						<i>Glyceria</i>					
Eastern White Cedar (<i>Thuja occidentalis</i>)						Black Locust (<i>Robinia pseudo-acacia</i>)						Rice Cut Grass (<i>Leersia oryzoides</i>)					
Eastern Hemlock (<i>Tsuga canadensis</i>)						Prickly Rose (<i>Rosa acicularis</i>)						Tall Fescue (<i>Lolium arundinaceum</i>)					
						Smooth Rose (<i>Rosa blanda</i>)						Muhlenbergia					
						Multiflora Rose (<i>Rosa multiflora</i>)						Witchgrass (<i>Panicum capillare</i>)					
						<i>Rosa</i>						<i>Panicum</i>					
Deciduous						Com. Blackberry (<i>Rubus alchenisiensis</i>)						Reed Canary Grass (<i>Phalaris arundinacea</i>)					
Manitoba Maple (<i>Acer nigrundo</i>)						Wild Red Raspberry (<i>Rubus idaeus</i>)						Timothy (<i>Phleum pratense</i>)					
Black Maple (<i>Acer nigrum</i>)						Black Raspberry (<i>Rubus occidentalis</i>)						Common Reed (<i>Phragmites australis</i>)					
Norway Maple (<i>Acer platanoides</i>)						Purple-fl. Raspberry (<i>Rubus odoratus</i>)						Canada Blue Grass (<i>Poa compressa</i>)					
Red Maple (<i>Acer rubrum</i>)						Dwarf Raspberry (<i>Rubus pubescens</i>)						Fowl Meadow Grass (<i>Poa pilustris</i>)					
Silver Maple (<i>Acer saccharinum</i>)						<i>Rubus</i>						Kentucky Bluegrass (<i>Poa pratensis</i>)					
Freeman's Maple (<i>Acer X freemanii</i>)						Peach-leaved Willow (<i>Salix amygdaloides</i>)						Yellow Foxtail (<i>Setaria viridis</i>)					
Sugar Maple (<i>Acer saccharum</i>)						Bebb's Willow (<i>Salix bebbiana</i>)											
Mountain Maple (<i>Acer spicatum</i>)						Pussy Willow (<i>Salix discolor</i>)											
Spotted Alder (<i>Alnus incana</i>)						Missouri Willow (<i>Salix eriocephala</i>)											
Downy Serviceberry (<i>Amelanchier arborea</i>)						Sandbar Willow (<i>Salix eximia</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>Caryocarpus 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 Highberry (<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 radicans</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 lentago</i>)											
English Hawthorn (<i>Crataegus monogyna</i>)						Nannyberry (<i>Viburnum lentago</i>)											
Large-fruited Thorn (<i>Crataegus punctata</i>)						Guelder-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>Diervilla lonicera</i>)						Am. Prickly-ash (<i>Zanthoxylum americanum</i>)											
Russian Olive (<i>Elaeagnus angustifolia</i>)						<i>Tilia</i>											
Autumn Olive (<i>Elaeagnus umbellata</i>)																	
Run, Strawberry-bush (<i>Euonymus 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>Hamamelis virginiana</i>)																	
Winterberry (<i>Illex verticillata</i>)																	
Butternut (<i>Juglans cinerea</i>)																	
Black Walnut (<i>Juglans nigra</i>)																	
Common Privet (<i>Ligustrum vulgare</i>)																	
Spicebush (<i>Lindera benzoin</i>)																	
Fl. 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>																	
Deciduous						Ferns & Allies						Sedges					
						Lady Fern (<i>Athyrium filix-femina</i>)											
						Rattlesnake Fern (<i>Botrychium virginianum</i>)											
						Bulbifer Bladder Fern (<i>Cystopteris bulbifera</i>)											
						Son. Wood Fern (<i>Dryopteris carthusiana</i>)											
						Crested Wood Fern (<i>Dryopteris cristata</i>)											
						Marginal Wood Fern (<i>Dryopteris marginalis</i>)											
						<i>Dryopteris</i>											
						Ostrich Fern (<i>Matteuccia struthiopteris</i>)											
						Sensitive Fern (<i>Onclea sensibilis</i>)											
						Cinnamon Fern (<i>Osmunda cinnamomea</i>)											
						Interrupted Fern (<i>Osmunda claytoniana</i>)											
						Royal Fern (<i>Osmunda regalis</i>)											
						Christmas Fern (<i>Polystichum acrostichoides</i>)											
						Eastern Bracken-fern (<i>Pteridium aquilinum</i>)											
						Marsh Fern (<i>Thelypteris palustris</i>)											
						Field Horsetail (<i>Equisetum arvense</i>)											
						Scouring-rush (<i>Equisetum hyemale</i>)											
						Variegated Horsetail (<i>Equisetum variegatum</i>)											
						<i>Equisetum</i>											
						Ground-cedar (<i>Lycopodium obscurum</i>)											
						Shining Clubmoss (<i>Lycopodium lucidulum</i>)											
						Ground-pine (<i>Lycopodium obscurum</i>)											

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:	20 CHLON / 2013	1	FD 5-6
Date:	25/2012	2	
Surveyors:	IRTS	3	

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<u>(SSH)</u>	Map #:	<u>290-GST-2089/2043</u>
Date:	<u>2012-04-25</u>			Time Started:	<u>12:30</u>
Field Staff:	<u>Tom Stoney Jess Pette</u>			Time Finished:	<u>2:30</u>
Weather Conditions: <u>Sunny, 86c, Light Breeze</u>					

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

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

UTMs: 454264 4796841 Number of nests: 1

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
medium sized stick nest in crotch of beach tree - approx 20m

Description of habitat (note riparian areas if present, evidence of disturbance): FODS-6
Pic # 124

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, FE01)

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):
Potential habitat for breeding amphibians during wetter years

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: See Hibernacula Form 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
22.23	Rock Pile		
24	Stick nest		

A=CM

Tom Shorten

1230

500

20

[illegible]

Building, V= Visiting Nest: A=Anxiety Behavior:

daed Young. NE=Eggs NY=Young ES=Eggs/

Den. FY=Eggs/young. TK-tracks. FE=Feeding

44

Deactivation

[illegible]

River floodplains woods and edges of

: RIVER HODDGRASS, WOODS AND EDGES OF

	Y	N
in soil under grasses in open prairie		

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red pine or white pine plantations.	Dry	Y
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1. The first part of the document is a title page. It contains the title of the document, the author's name, and the date of the document. The title is "The first part of the document is a title page." The author's name is "The author's name is the author of the document." The date of the document is "The date of the document is the date of the document."

thickets and woods

white cedars, tamarack; springy river banks.

found among calcareous seepage slopes.

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along shores & wet fields within the
ian bay Boas fence tamarack swamps

	rests as well as mesic forests over limestone
	mainly: boys, reeds, tall black swamps.

Y

one under oak or pine-

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	Y	N
woods, roadsides and grassy meadows		

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
CUM1, MAM, FOD6, FOD7, FOD9	June – August Green Dragon (<i>Arisaema dracontium</i>) - 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
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June-August 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, TPS, 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, swamp forests, floodplains	Y (N) UTM
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Engenia 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 swamps, floodplains, shallow water and mudflats at the borders of streams and ponds.	Y (N) UTM
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) - S3 <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	Swamps and floodplains	Y (N) UTM
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
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 lumarina</i>) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y (N) UTM
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 <u>Bloom Time</u> – May to October	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y (N) UTM
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	Y (N) UTM
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows, at edges of sand pits	Y (N) UTM
SDT1, FOD5, FOD9	Slim-flowered Muihly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	Y (N) UTM
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentianella quinquefolia</i>) - S2 <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



ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
TP01, TPS1, TPW1, CUM1	Tall Blazing Star (<i>Liatris aspera</i>) - S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y (N) UTM:
FEO, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amoglossum plantagineum</i>) - S3 Bloom Time - mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y (N) UTM:
FOC1, FOC2, FOC3, FOC4	Woodland Pinedrops (<i>Pterospora andromedea</i>) - S2 Bloom Time - summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y (N) UTM:
CUM1, CUT1, CUW1, RBO1, SBO1	Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time - August to November	Dry, open sites, usually on acidic sandy soil, dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y (N) UTM:
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Seiurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y (N) UTM:
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/edges (oak savannahs and riparian forest) open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	Y (N) UTM: N/O
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines	Y (N) UTM:
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) - S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM:
TPS, TPW	Sleepy Duskywing (<i>Erynnis brize</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles. Their larvae only feed on milkweeds (<i>Asclepius</i> spp.). Habitat includes abandoned farmland, along roadsides, open spaces where these plants grow	Y (N) UTM:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	Usually seen nectaring on or on wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present	Y (N) UTM:
TPS, CUW	Mottled Duskywing (<i>Erynnis martialis</i>) - S2	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM:
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyton</i>) - S3	This species is restricted to rich, moist deciduous woods, where its foodplant Toothwort occur	Y (N) UTM: N/O
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC		Y (N) UTM: N/O

290-GSH2089 / 2043

- h
- September 1, 2011
- 0 25 50 100 Meters
- Legend:
- Access/Collection Line
 - Collection Buffer (125m)
 - Turbine Buffer (171.5m)
 - Collection Feature Interest
 - Turbine Buffer/Feature Interest
 - Property Value
 - Goshen Wind Energy Corridor

Goshen Feature: 290 GSH2089 / GESB

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



ELC Community Description and Classification	Site: 290_GSH2089		Polygon: 0	
	Surveyor(s): SAH	Date: Sept. 21/11	Time start: 0932 h finish: 1137 h	
	UTMZ: 17T	UTMZ: 454314	UTMN: 4796740	

Polygon Description

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

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (x= Much Greater Than; > Greater Than; = About Equal To)
1	2	4	$HH > HD > AW > BE$
2	3	3	$HH > BE$
3	5-4	3	$CHERRY > BE > HH > AW$
4	7-6	3	$BE \approx LV > ASTER \approx HT > EUNYM. OBUS > WT. LUN. S$

HT Codes:		7 <0.2m	8 >0.2-0.5m	9 >0.5-1m	4 >1-2m	3 >2-6m	2 >6-25m	1 >25m
CVR Codes:		0 = none	1 0% - 10%	2 10 - 25%	3 25 - 60%	4 > 60%		
Stand Composition:		Size Class Analysis:						
BA: 25		Standing Snags:						
DA: 25		Deadfall / Log:						
						<10	10-24	>50
						<10	10-24	>50
						<10	10-24	>50

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

Ecdysis:	Code:
Dry-Fresh Sugar Maple-Beachwood Forest	F0D5
Dry-Fresh Sugar Maple-Basswood Beachwood Forest Type	F0D5-G
Inclusion:	Code:
Complex:	Code:

Community Profile Diagram/Comments

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陈四十二	女	44	程序员	贵阳市南明区	10009876543	chenshi@126.com	
林四十三	男	37	销售	贵阳市南明区	09998765432	linshi@126.com	
周四十四	女	31	设计师	贵阳市南明区	09887654321	zhoushi@126.com	
吴四十五	男	45	记者	贵阳市南明区	09776543210	wushi@126.com	
郑四十六	女	38	教师	贵阳市南明区	09665432109	zhengshi@126.com	
冯四十七	男	43	医生	贵阳市南明区	09554321098	foneshi@126.com	
陈四十八	女	27	学生	贵阳市南明区	09443210987	chenshi@126.com	
林四十九	男	40	公务员	贵阳市南明区	09332109876	linshi@126.com	
周五十	女	34	经理	贵阳市南明区	09221098765	zhoushi@126.com	
吴五十一	男	29	护士	贵阳市南明区	09110987654	wushi@126.com	

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
H ¹⁴	3	1	1	7	14	38
B ¹²	6	2	2		10	27
B ¹²	5		1		6	16
B ¹²	1		3		4	11
HBN	1				1	3
WB		1			1	3
LD			1		1	3
Total	15	3	14		37	100
Basal Area (BA)	30	16	28		74	85
Dead	1		3		3	

Soils Ontario and ELC Soils Description

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

290-GSH 2089/2043/GE35
SAM

Job Number:

[illegible]

1: poly (1) _____ 4: _____
2: _____ 5: _____
3: _____ 6: _____

SITE LOCATIONS

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

Plant Species List

POLYGON: (1)

DATE: Sept. 21/11

SURVEYOR(S): SAM

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

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
Bd	D				
Eu					
Crataegus sp.					
P1				D	
NE Aster					
Hs					
Ms					
Bur Oak					
Sour Cherry					
Grape					
chokeberry			D		
Jack					
Calico Ast.				D	
Red Rasp Blk.					
Ench Ntshd					
Ip					
Tall Buttercup					
Wt Avens			A	A	
Carex acutata				A	
BS Ntshd					
Bkly Gooseberry					
MA	D	D	A		
Blue Beech			O		
Be	O	O	A		
Erigeron sp. abnd.				D	
mas Red Fern				O	
Zig Zag				O	
Ribes inside.					

[illegible]