

VASCULAR PLANT CHECKSHEET

Location: 190 GSH 1515
 Observer: Kamsra

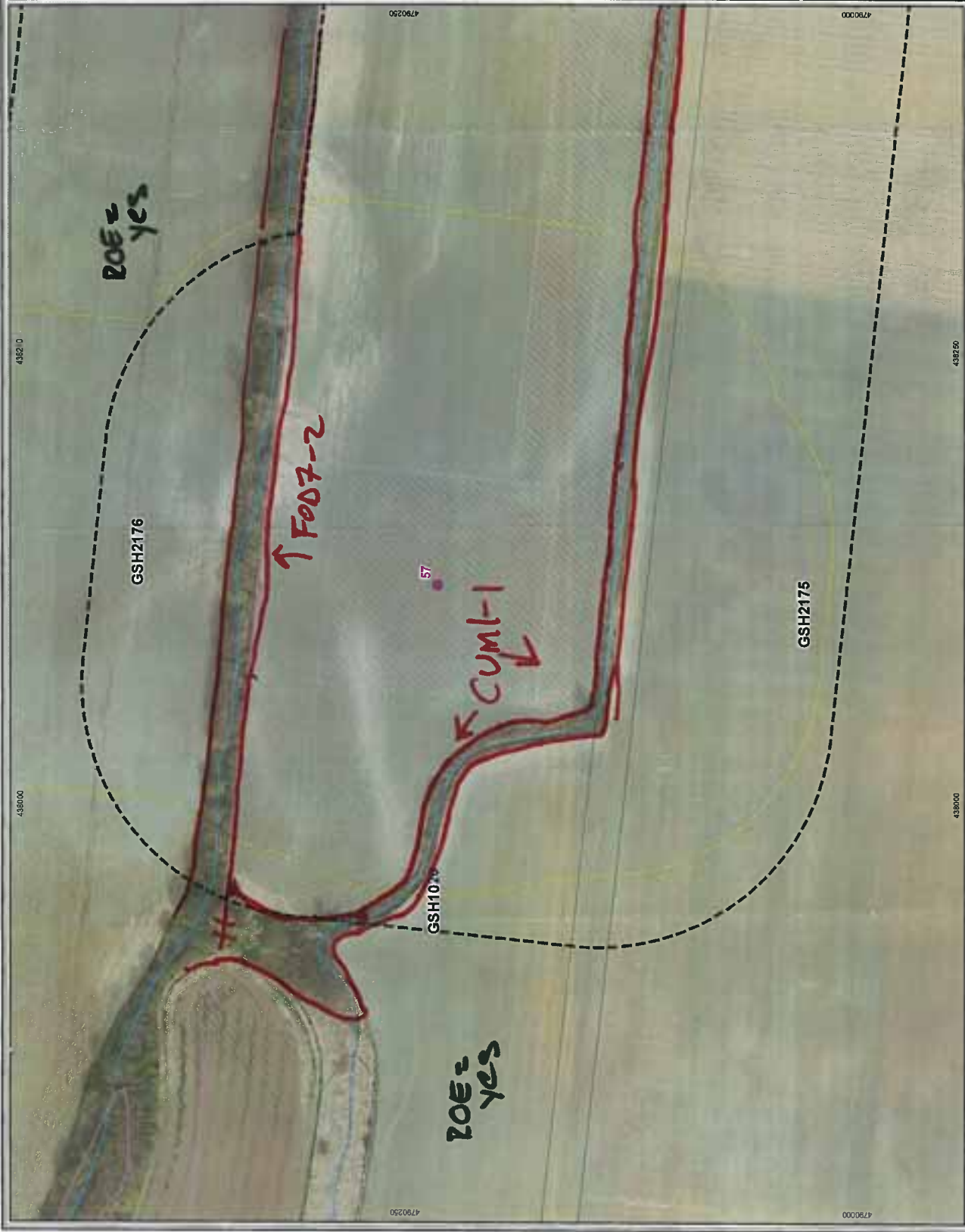
Date: October 14 2011
 Job Number:

DICOT HERBS												MONOCOT HERBS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Achillea millefolia						Erigeron annuus						Plantago lanceolata					Alisma plantago-aquatica
Actaea pachypoda						Erigeron philadelphicus						Plantago major					Allium tricoccum
Actaea rubra						Erigeron strigosus						Plantago rugelii					Allium
Agalinus						Eryaimum chieranthoides						Podophyllum peltatum					Arisaema triphyllum
Agrimonia gryposepala						Eupatorium maculatum						Polygonum					Asparagus officinalis
Althaea petiolaris		X				Eupatorium perfoliatum						Polygonum					Cella palustris
Amaranthus retrofractus						Eupatorium rugosum						Polygonum					Clintonia borealis
Ambrosia artemisiifolia						Euphorbia						Polygonum lapathifolium					Conwallaria majus
Amphicarpaea bracteata						Euthamia graminifolia		X				Polygonum persicaria					Cypripedium calceolus
Anaphalis margaritacea						Fragaria virginiana		X				Potentilla					Eriodora canadensis
Anemone						Fragaria vesca						Potentilla norvegica					Epipactis helleborine
Anemone canadensis						Galeopsis tetrahit						Potentilla recta					Erythronium americanum
Anemone virginiana						Galium						Prunella alba					Hemerocallis fulva
Antennaria neglecta						Galium						Prunella vulgaris					Iris versicolor
Apocynum androsaemifolium						Galium palustre						Pyrola elliptica					Lemna minor
Apocynum cannabinum						Galium triflorum						Ranunculus					Lemna trisulca
Aquilegia canadensis						Geranium maculatum						Ranunculus abortivus					Lilium
Aralia nudicaulis						Geranium robertianum		X				Ranunculus acris					Maianthemum canadense
Arctium minus						Geum aleppicum						Rudbeckia hirta					Maianthemum racemosum
Artemisia						Geum canadense						Rumex acetosella					Maianthemum stellata
Asarum canadense						Geum						Rumex crispus					Pedicularis
Asclepias incarnata						Glechoma hederacea						Rumex					Pedicularis cordata
Asclepias syriaca						Hepatica acutiloba						Sanguinaria canadensis					Polygonatum pubescens
Aster						Hesperis matronalis						Sanicula marilandica					Potamogeton crispus
Aster cordifolius		X				Hieracium aurantiacum						Saponaria officinalis					Potamogeton pectinatus
Aster ericoides						Hieracium caespitosum						Satureja vulgaris					Potamogeton
Aster lanceolatus		X				Hieracium						Scutellaria galericulata					Potamogeton
Aster lateriflorus						Hydrophyllum virginianum						Silene vulgaris					Potamogeton
Aster macrophyllus						Hypericum perforatum						Slum suave					Sagittaria latifolia
Aster novae-angliae		X				Impatiens capensis						Solanum dulcamara					Silybium montanum
Aster puniceus						Inula helenium						Solidago					Smilax herbacea
Barbarea vulgaris						Lactuca						Solidago altissima		X			Spiranthes cernua
Bidens cernua						Laportea canadensis						Solidago caesia					Spirodela polyrrhiza
Bidens frondosa						Lapsana communis						Solidago canadensis		X			Streptopus roseus
Boehmeria cylindrica						Leonurus cardiaca						Solidago flexicaulis					Trillium erectum
Caltha palustris						Lepidium						Solidago gigantea					Trillium grandiflorum
Calyptegia sepium						Linaria vulgaris						Solidago nemoralis					Uvularia grandiflora
Cardamine diphylla						Lithospermum officinale						Solidago rugosa					
Cardamine						Lobelia						Sonchus arvensis					
Caulophyllum thalictroides						Lobelia inflata						Sonchus asper					
Cerastium fontanum						Lotus corniculatus		X				Stellaria					
Ceratophyllum demersum						Lycopus americanus						Tanacetum vulgare					
Chelidonium majus						Lycopus						Tanacetum officinale		X			
Chenopodium album						Lysimachia ciliata						Thalictrum dioicum					
Chrysanth. leucanthemum						Lythrum salicaria						Thalictrum pubescens					
Cichorium intybus						Medicago lupulina						Tiarelia cordifolia					
Cicuta						Medicago sativum						Tragopogon pratensis					
Circaea leuttiana						Melilotus alba						Trientalis borealis					
Cirsium arvense		X				Mentha arvensis						Trifolium					
Cirsium vulgare						Mimulus ringens						Trifolium pratense					
Clematis virginiana						Mimulus ringens						Trifolium repens					
Clintonia borealis						Mitella diphylla						Tussilago farfara					
Conyza canadensis						Morone fistulosa						Urtica dioica					
Coronilla varia						Myosotis						Utricularia vulgaris					
Cynanchum rossicum						Nasturtium officinale						Verbascum thapsus					
Cynoglossum officinale						Nepeta cataria						Verbena hastata					
Daucus carota						Nuphar variegatum						Verbena urticifolia					
Desmodium canadense						Nymphaea odorata						Veronica					
Dianthus armeria						Oenothera biennis						Veronica officinalis					
Dipsacus fulorum						Osmorhiza						Viola cracca					
Echinocystis lobata						Oxalis stricta		X				Viola tetrasperma					
Echium vulgare						Phytolacca americana						Viola					
Epilobium						Physalis heterophylla						Viola					
Epilobium ciliatum						Lysimachia hum		X				Viola pubescens					
Epilobium hirsutum												Viola sororia					
Epilobium parviflorum																	

- 1: _____ 4: _____
 2: _____ 5: _____
 3: _____ 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	X					Rubus allegheniensis						Agropyron repens					
Larix laricina						Rubus idaeus	X					Alopecurus					
Picea abies						Rubus occidentalis						Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex arctata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						+ Salix discolor	X					Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pensylvanica					
						Salix petiolaris						Carex radiata					
						+ Salix purpurea						Carex retrosa					
TREES and SHRUBS						Salix x rubens						Carex stipata					
Acer negundo	X					+ Salix nigra	X					Carex stricta					
Acer rubrum						Sambucus canadensis						Carex vulpinoidea					
Acer saccharinum						Sambucus racemosa						Carex					
Acer saccharum	X					Sorbus aucuparia						Carex					
Acer spicatum						Spiraea alba						Carex					
Alnus rugosa						Syringa vulgaris						Carex					
Amelanchier						+ Tilia americana						Carex					
Berberis thunbergii						Ulmus americana	X					Carex					
Betula alleghaniensis						Ulmus						Carex					
Betula papyrifera						Vaccinium						Carex					
Carpinus caroliniana						Viburnum lentago	X					Carex					
Carya cordiformis						Viburnum opulus						Cyperus					
Celastrus scandens						Viburnum						Cyperus					
Cornus alternifolia						Vitis riparia	X					Dactylis glomerata					
Cornus amomum												Danthonia spicata					
Cornus rugosa toemika	X											Echinochloa crus-galli					
Cornus stolonifera												Eleocharis erythropoda					
Corylus cornuta												Eleocharis					
Crataegus monogyna	X											Elymus virginicus					
Crataegus punctata												Elymus					
Crataegus sp.	X											Festuca arundinacea					
Crataegus												Glyceria striata					
Diervilla lonicera												Glyceria					
Fagus grandifolia												Juncus dudleyi					
Fraxinus americana	X											Juncus effusus					
Fraxinus nigra						FERNS						Juncus tenuis					
Fraxinus pennsylvanica	X					Adiantum pedatum						Juncus					
Ilex verticillata						Athyrium filix-femina						Juncus					
Juglans cinerea						Botrychium multifidum						Leersia oryzoides					
Juglans nigra						Botrychium virginianum						Muhlenbergia					
Lonicera morrowi						Cystopteris bulbifera						Oryzopsis asperifolia					
Lonicera tatarica						Dryopteris carthusiana						Panicum					
Lonicera						Dryopteris cristata						Panicum					
Malus pumila	X					Dryopteris marginalis						Panicum					
Ostrya virginiana						Dryopteris						Phalaris arundinacea					
Parthenocissus inserta						Equisetum arvense						Phleum pratense				X	
Populus balsamifera alba	X					Equisetum hyemale						Phragmites australis					
Populus grandidentata						Equisetum variegatum						Poa compressus					
Populus tremuloides	X					Equisetum						Poa pratensis				X	
Populus deltoides	X					Gymnocarpium dryoperis						Poa					
Prunus pennsylvanica						Lycopodium digitatum						Scirpus atrovirens					
Prunus serotina						Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana	X					Lycopodium						Scirpus validus					
Prunus						Lycopodium						Scirpus					
Quercus macrocarpa	X					Matteucia struthiopteris						Scirpus					
Quercus rubra						Onoclea sensibilis						Setaria					
Quercus						Osmunda cinnamonia						Sparganium					
Rhamnus cathartica						Osmunda regalis						Typha angustifolia					
Rhus radicans	X					Polystichum acrostichoides						Typha latifolia					
Rhus typhina						Pteridium aquilinum						Typha X glauca					
Ribes americana	X					Thelypteris palustris											
Ribes cynosbati																	
Ribes x rubrum																	
Robinia pseudo-acacia																	
Rhus COMM	X																



- 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 Ontario Ministry of Natural Resources
Cartography 2010



UTM Zone 17N, UAD 53
12,000

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, without the prior written consent of AECOM. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

Gothen Amphibian Survey
198_GSH1020/GSH2176

April 2012
Project 60156032

AECOM

Figure 1

ELC
Community Description and Classification

Map #: 198-GSH1020/2026 Polygon: RA, SL

Surveyor(s): BA, SL

Date: Nov 17, 2012

Time start: 5:30 PM

Time finish: 7:10 PM

UTMZ: UTMZ:

Polygon Description

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

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater, Than; > Greater Than; = About Equal To)
1	2	3	Frax. penn 77 Ace tree
2	3	3	Ace tree
3	4	9	Corylus sp > c. oseri > Salix sp
4	6	4	Betula sp > Alnus sp > Quercus sp

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

BA:	Stand Composition:		Size Class Analysis:		Standing Snags:		Deadfall / Logs:	
	N	R	< 10	10-24	< 10	10-24	< 10	10-24
			A	A	R	R	R	R

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

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

Ecotope: Fresh Moist lowland deciduous fr. Code: F0D7

Vegetation Type: Fresh moist Ash lowland dec. fr. Code: F0D7-2

Inclusion: Code: Code:

Complex: Code: Code:

Community Profile Diagram/Comments

— Riparian to delta, boundary with the natural area

— Not a wetland but Ash species

— Tracing on steep bank adjacent to stream

— Steep banks are dry culturally and are field soil.

Tree Tally by Species

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

Soils Ontario and ELC Soils Description

Site Metrics	PI/Auger #	Soil Horizon Description	Summary
Zone	banks		
Easting	too steep		
Northing	to dig adequate		
Position	Sail pit		
Aspect			
Percent			
Slope			
Length			
Mottles			
Gley			
Water Table			
Carbonates			
Bedrock			
1	Depth from zero	% CF	% CF
	Texture		
2	Depth from zero	% CF	% CF
	Texture		
3	Depth from zero	% CF	% CF
	Texture		
4	Depth from zero	% CF	% CF
	Texture		
	% Surface Stone/Rock		
	Moisture Regime		
	Drainage		

ELC Community Description and Classification

Map #: 198 GSH 020/276 Polygon: 2

Surveyor(s): S, RA Date: May 17, 2012 Time start: 5:30 PM finish: 7:10 PM

UTMZ: UTMZ: UTMZ:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial <input type="checkbox"/> Wetland <input type="checkbox"/> Aquatic	<input type="checkbox"/> Organic <input checked="" type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input checked="" type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input type="checkbox"/> Tableland <input type="checkbox"/> Roli. Upland <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Alvar <input type="checkbox"/> Rockland <input type="checkbox"/> Beach / Bar <input type="checkbox"/> Sand Dune <input type="checkbox"/> Bluff	<input type="checkbox"/> Plankton <input type="checkbox"/> Submerged <input type="checkbox"/> Floating-LVD. <input checked="" type="checkbox"/> Graminoid <input type="checkbox"/> Forb <input type="checkbox"/> Lichen <input type="checkbox"/> Bryophyte <input type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Mixed	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Marsh <input type="checkbox"/> Swamp <input type="checkbox"/> Fen <input type="checkbox"/> Bog <input type="checkbox"/> Barren <input type="checkbox"/> Meadow <input type="checkbox"/> Prairie <input type="checkbox"/> Thicket <input type="checkbox"/> Savannah <input type="checkbox"/> Woodland <input type="checkbox"/> Forest <input type="checkbox"/> Plantation

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1			
2	6	1	UTM Amer
3	3	2	CO2 sec
4	6	4	poe-peten > DOC costry

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

BA:	Stand Composition:		Size Class Analysis:		Standing Snags:		Deadfall / Logs:	
	Natural	Deadfall	< 10	10-24	< 10	10-24	< 10	10-24
			R	R	R	R	R	R

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

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

Ecosite: *riverine estuarine meadow.* Code: *CUM 1-1*

Vegetation Type: *Dry-moist old field meadow* Code: *CUM 1-1*

Inclusion: Code: *CUM 1-1*

Complex: Code:

Community Profile Diagram / Comments

Dog stream ditch through riverine field.

Very sparse shrubs and tree cover

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
Total						
Basal Area (BA)						100
Dead						

Soils Ontario and ELC Soils Description

Pit/Auger #	UTM	Zone	Easting	Northing	Position	Aspect	Percent	Slope	Length	Site Metrics	Summary
Soils Ontario and ELC Soils Description											
Depth to...											
Soil Horizon Description											
1										% CF	% CF
										Depth from zero	% CF
										Texture	% CF
2										% CF	% CF
										Depth from zero	% CF
										Texture	% CF
3										% CF	% CF
										Depth from zero	% CF
										Texture	% CF
4										% CF	% CF
										Depth from zero	% CF
										Texture	% CF
										% Surface Stone/Rock	% CF
										Moisture Regime	% CF
										Drainage	% CF

Plant Species List
2012

Dicot Herbs - Asteraceae					Dicot Herbs					Dicot Herbs				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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 pennsylvanica</i>)					<i>Ranunculus</i>				
Field Pussytoes (<i>Antennaria neglecta</i>)					<i>Cardamine</i>					Sheep Sorrel (<i>Rumex acetosella</i>)				
<i>Artemisia</i>					Blue Cohosh (<i>Caulophyllum thalictroides</i>)					Curly-leaf Dock (<i>Rumex crispus</i>)				
Common Burdock (<i>Arctium minus</i>)	F	F			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 Campion (<i>Silene latifolia</i>)				
Bull Thistle (<i>Cirsium vulgare</i>)					Virgin's-bower (<i>Clematis virginiana</i>)					Bladder Campion (<i>Silene vulgaris</i>)				
Horseweed (<i>Coryza canadensis</i>)					Field Bindweed (<i>Convolvulus arvensis</i>)					Hemlock Water-parnsnip (<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>)		U			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 perfoliatum</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>)			U	U
Elecampane (<i>Inula helenium</i>)					Small-fl. Willow-herb (<i>Epilobium parviflorum</i>)					White Clover (<i>Trifolium repens</i>)				
Prickly Lettuce (<i>Lactuca scariola</i>)					<i>Epilobium</i>					<i>Trifolium</i>				
<i>Lactuca</i>					Worm Mustard (<i>Erysimum cheiranthoides</i>)					Stinging Nettle (<i>Urtica dioica</i>)				R
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>Preanthes altissima</i>)					Wild Madder (<i>Galium mollugo</i>)				F	Blue Vervain (<i>Verbena hastata</i>)				
Black-eyed Susan (<i>Rudbeckia hirta</i>)					Marsh Bedstraw (<i>Galium palustre</i>)				F	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>)	F	F			<i>Galium</i>					Common Speedwell (<i>Veronica officinalis</i>)				
Canada Goldenrod (<i>Solidago canadensis</i>)					Spotted Geranium (<i>Geranium maculatum</i>)					<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>)					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</i>					Dame's Rocket (<i>Hesperis matronalis</i>)					Yellow Violet (<i>Viola pubescens</i>)				
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</i>				
Heart-leaf Aster (<i>Symph. cordifolium</i>)					Spotted Jewelweed (<i>Impatiens capensis</i>)					<i>Viola</i>				
Heath Aster (<i>Symphotrichum ericoides</i>)					Wood Nettle (<i>Laportea canadensis</i>)					nutweed sp				R
Tall White Aster (<i>Symph. lanceolatum</i>)					Motherwort (<i>Leonurus cardiaca</i>)					milkwed				R
Calico Aster (<i>Symphotrichum lateriflorum</i>)					Field Peppergrass (<i>Lepidium campestre</i>)					<i>Galium aparine</i>				U
New England Aster (<i>Symph. novae-angliae</i>)					Eur. Gromwell (<i>Lithospermum officinale</i>)					<i>Ambrosia trifida</i>				R
Purple-stem Aster (<i>Symph. puniceus</i>)					Butter & Eggs (<i>Linaria vulgaris</i>)					<i>Fragaria virginiana</i>				R
Common Tansy (<i>Tanacetum vulgare</i>)					Great Lobelia (<i>Lobelia siphilitica</i>)					<i>Crataegus baccata</i>				R
Common Dandelion (<i>Taraxacum officinale</i>)	F	F			<i>Lobelia</i>					<i>Solanum dulcamara</i>				F
Com. Goatsbeard (<i>Tragopogon pratensis</i>)					Cut-leaf Bugleweed (<i>Lycopus americanus</i>)					Monocot Herbs				
Coltsfoot (<i>Tussilago farfara</i>)					Northern Bugleweed (<i>Lycopus uniflorus</i>)					Water-plantain (<i>Alisma plantago-aquatica</i>)				
					Fringed Loosestrife (<i>Lysimachia ciliata</i>)					Wild Leek (<i>Allium tricoccum</i>)				
					Moneywort (<i>Lysimachia nummularia</i>)					Jack-in-the-pulpit (<i>Arisaema triphyllum</i>)				
					<i>Lysimachia</i>					Asparagus (<i>Asparagus officinalis</i>)				
					Purple Loosestrife (<i>Lythrum salicaria</i>)					Wild Calla (<i>Calla palustris</i>)				
					Black Medick (<i>Medicago lupulina</i>)					Bluebead-lily (<i>Clintonia borealis</i>)				
					Alfalfa (<i>Medicago sativa</i>)					Garden Lily-of-valley (<i>Convallaria majalis</i>)				
					White Sweet-clover (<i>Melilotus alba</i>)					Yel. Lady's Slipper (<i>Cypripedium parviflorum</i>)				
					Yellow Sweet-clover (<i>Melilotus officinalis</i>)					Canada Waterweed (<i>Elodea canadensis</i>)				
					Wild Mint (<i>Mentha arvensis</i>)					Helleborine (<i>Epipactis helleborine</i>)				
					Wild Bergamot (<i>Monarda fistulosa</i>)					Yellow Trout Lily (<i>Erythronium americanum</i>)				
					Small Forget-me-not (<i>Myosotis laxa</i>)					Blue-flag Iris (<i>Iris versicolor</i>)				
					Forget-me-not (<i>Myosotis scorpioides</i>)					Orange Day Lily (<i>Hemerocallis fulva</i>)				
					Water-cress (<i>Nasturtium officinale</i>)					Lesser Duckweed (<i>Lemna minor</i>)				
					Com. Evening-primrose (<i>Oenothera biennis</i>)					Starry Duckweed (<i>Lemna trisulca</i>)				
					Sweet-cicely (<i>Osmorhiza berterii</i>)					Wild Lily-of-valley (<i>Maianthemum canadense</i>)				
					Yellow Wood-sorrel (<i>Oxalis stricta</i>)					False Solom Seal (<i>Maianthemum racemosum</i>)				
					Wild Parsnip (<i>Pastinaca sativa</i>)					Star False Solomon (<i>Maianthemum stellatum</i>)				
					English Plantain (<i>Plantago lanceolata</i>)					True Solomon Seal (<i>Polygonatum pubescens</i>)				
					Common Plantain (<i>Plantago major</i>)					Pickering-weed (<i>Pontederia cordata</i>)				
					Rugel's Plantain (<i>Plantago rugelii</i>)					Curly-leaf Pondweed (<i>Potamogeton crispus</i>)				
					May-apple (<i>Podophyllum peltatum</i>)					Sago Pondweed (<i>Potamogeton pectinatus</i>)				
					Pale Smartweed (<i>Polygonum lapathifolium</i>)					<i>Potamogeton</i>				
					Lady's-thumb (<i>Polygonum persicaria</i>)					<i>Potamogeton</i>				
					Virginia Knotweed (<i>Polygonum virginianum</i>)					Broad-leaved Arrowhead (<i>Sagittaria latifolia</i>)				
					<i>Polygonum</i>					Blue-eyed-grass (<i>Sisyrinchium montanum</i>)				
					<i>Polygonum</i>					Herb. Carrion Flower (<i>Smilax herbacea</i>)				
					Rough Cinquefoil (<i>Potentilla norvegica</i>)					Bristly Greenbrier (<i>Smilax hispida</i>)				
					Rough-fruited Cinquefoil (<i>Potentilla recta</i>)					Nodding Ladies' Tresses (<i>Spiranthes cernua</i>)				
					Common Cinquefoil (<i>Potentilla simplex</i>)					Rose Twisted-stalk (<i>Streptopus lanceolatus</i>)				
					<i>Potentilla</i>					Skunk-cabbage (<i>Symplocarpus foetidus</i>)				
					Heal-all (<i>Prunella vulgaris</i>)					Purple Trillium (<i>Trillium erectum</i>)				
					Shinleaf (<i>Pyrola elliptica</i>)					White Trillium (<i>Trillium grandiflorum</i>)				
										Large-flowered Bellwort (<i>Uvularia grandiflora</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:	1865H 102012170	1	102012	4
Date:	May 17, 2012	2	Cum-1	5
Surveyors:	SB, RA	3		

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<input checked="" type="checkbox"/> GSH	Map #:	198 GSH 1020/2176
Date:	May 17, 2012			Time Started:	5:30 pm
Field Staff:	SG, RA			Time Finished:	7:10 pm
Weather Conditions:	0% clouds, 13°C, no wind.				

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

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

UTMs: _____ Number of nests: _____

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

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

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

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

UTMs: _____ Area of standing water delineated on field map

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

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

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

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

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

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

Snake Hibernacula

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

UTMs: _____ Likelihood to extend below frost line: _____

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

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

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

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

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

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

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)
 (CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)

Eroding bank, sandy hill, pits, steep slope or rock face present:
 No Yes (if yes, photograph and complete the following)

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

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

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas
 (BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)

Shoreline of lake, large river or large wetland present:
 No Yes (if yes, photograph and complete the following)

UTMs: _____ Rocky island or peninsula present: _____
 Mudflat present: _____ Evidence of disturbance (e.g. cattle grazing): _____

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

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat
 CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW > 15ha

Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUW) present:
 No Yes (if yes, photograph and complete the following)

Large open habitat present: _____ Evidence of disturbance (e.g. cattle grazing): _____
 UTM: _____

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

Old-growth or Mature Forests, Interior Forest Breeding Birds
 (FOD, FOC, FOM, SWC, SWM, SWD. Mature forest < 60 years) present

Mature forest present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Age of oldest trees: _____

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

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

Photo #	Location or Subject	Photo #	Location or Subject

Species of Conservation Concern Habitat and Incidental Wildlife - Goshen



Time Started: 5:30 pm
Time Finished: 7:10 pm

Field Staff: BA, SG

Map No: 198-GS-11020/2176
Date (yyyy-mm-dd): 2012-05-17

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
Turkey Vulture		OB		Red-winged Black Bird		OB	
Song Sparrow		VO		American Robin		VO	
American Crow		VO					
House Wren		VO					
American Goldfinch		VO					
Yellow Warbler		VO					
Downy Woodpecker		VO					
Vireo		OB					
Monarch		OB					
White-Tailed Deer		TK					
Harold Lark		VO					
Savanna Sparrow		VO					
Killdeer		OB					
B&R		OB	0430h88, 4768888A				

Note: Evidence Codes (EV) SH=Suitable Habitat, SM=Singing Male, T=Territory, D=Display, P=Pair, N=Nest Building, V=Visiting Nest, A=Anxiety Behavior, V=Visiting Nest, NE=Eggs, NY=Young, FS=Feeds/Faecal sack, AE=Nest Entry, DD=Distraction, NU=Used Nest, FY=Fledged Young, TK=Tracks, FE=Eggs/Young, HO=House/Den, FY=Eggs/Young, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/Young, SC=Scat, SI=Other signs (specify)

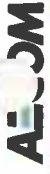
Other Wildlife Evidence: OB=Observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/Young, SC=Scat, SI=Other signs (specify)

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	Not included
ALO, TPO	Muehlenberg's astorum moss (Astorum muehlenbergianum) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y	(N) UTM	
FOM1, FOM2, CUP3	Autumn Coral-root (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y	(N) UTM	
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 Bloom Time - summer to fall	Swampy places with deciduous trees, white cedars, tamarack; spring river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes.	Y	(N) UTM	
SWC, SWM, SWD, SWT, MAM, MAS	Crowned Beggarticks (Bidens trichosperma) - S2 Bloom Time - late summer	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian Bay, Bogs, fens, tamarack swamps.	Y	(N) UTM	
ALT1, FOD7	Eastern Green-violet (Hybanthus concolor) - S2 Bloom Time - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	Y	(N) UTM	Not moist
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	
TP02, TPS2, TPW2	Giant Ironweed (Vernonia gigantea) - S1? Bloom Time -	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y	(N) UTM	

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC		Species		Habitat Description		Habitat Present (Y/N; UTM; description of habitat if present)	
CUM1, MAM, FOD6, FOD7, FOD9	June – August	Green Dragon (Arisaema dracontium) - SC/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:		
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June-August	Hairy Bedstraw (Galium pilosum) - S3 Bloom Time – June-August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y	(N) UTM:		
FE01, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	June to August	Hairy Valerian (Valeriana edulis) - S1 Bloom Time – June to August	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens.	Y	(N) UTM:		
FOD6, FOD7, SWM, SWD	Summer	Hairy Wood Mint (Blephilia hirsuta) - S1 Bloom Time – Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y	(N) UTM:		
FOD6, FOD7, FOD8, FOD9	Time – early to late April	Harbinger-of-spring (Erigenia bulbosa) - S3 Bloom Time – early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	Y	(N) UTM:	Not rich site	
SAS1, SAM1, SAF1	Time – summer	Hill's Pond Weed (Potamogeton hillii) - 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	S2 Bloom Time – June to August	Large Round-leaved Orchid (Platanthera macrophylla) - 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	June – September	Lizard's Tail (Saururus cernuus) - 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	March-May	Pawpaw (Asimina triloba) - S3 Bloom Time – March-May	Occurs in moist, deciduous woods and stream banks.	Y	(N) UTM:	Not moist	
FOM8, FOD6, FOD7, FOD9, CUM1	Bloom Time – Late Spring – Early Summer	Pilose Evening Primrose (Oenothera pilosella) - 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	Bloom Time – July-September	Prostrate Tick-trefoil (Desmodium rotundifolium) - S2 Bloom Time – July-September	Dry, sandy or rocky woods	Y	(N) UTM:		
FOD7, SWD	March - June	Pumpkin Ash (Fraxinus profunda) - S2? Bloom Time – March - June	Swamps and floodplains	Y	(N) UTM:	Not Floodplain	
CUW1, ALO, FET1, SWC	Bloom Time – mid May to mid June	Ram's-head Lady's-slipper (Cypripedium arietinum) - S3 Bloom Time – mid May to mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry-sandy woods, and limestone barren.	Y	(N) UTM:		
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Bloom Time – April – September	Rattlesnake Hawkweed (Hieracium venosum) - S2 Bloom Time – April – September	Species inhabits open, dry sandy woods, Jack pine, oak, and aspen woodlands.	Y	(N) UTM:		
FOD6, FOD7, FOD9	Time – May - June	Round-leaved Groundsel (Packera obovata) - S3 Bloom Time – May - June	Found in moist woods	Y	(N) UTM:	Not moist	
CUM1, CUT1, CUS1		Round-leaved hawthorn (Crataegus lumaria) - S3?	Species occurs in old fields, poorly managed pastures, fence-lines and roadsides	Y	(N) UTM:	NO	
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	May to October	Scarlet Beebalm (Monarda didyma) - 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 (Liatris cylindracea) - 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 (Polygonum tenue) - 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 Muly (Muhlenbergia tenuiflora) - 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	Time – late summer to mid fall	Stiff Gentian (Gentiana quinquefolia) - 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	mid-March to mid-June	Sundial Lupine (Lupinus perennis) - 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:		

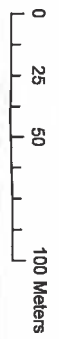
Species of Conservation Concern Habitat and Incidental Wildlife – Goshen



ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
TPW1, TPW1, CUM1	Tail Blazing Star (<i>Liatris 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>Arnoglossum plantagineum</i>) - S3 Bloom Time – mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows and carex 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
CUW1, CUV1, CUB1, 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, barrens and roadsides, old fields.	Y (N) UTM <i>n/b.</i>
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	Units 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 sites. 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 forests), open deciduous forest with little understory; fields or pasture lands with standing 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: <i>no swags not 4ha.</i>
-	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			
OAD, 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
FUM, 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: <i>low milkweed</i>
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 virginiana</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM

Goshen Feature: 198 GSH2176

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



October 3, 2011



- ELC Survey Completed
- Turbine Buffer/Feature Intersect
- Property Fabric
- Goshen Wind Energy Centre
- Roads
- Access/Collection Line
- Survey to be Completed
- Turbine Buffer (171.5m)

NEW SITE
(1st Survey)

GSH2339

GSH1560

Access = yes

Leased

GSH2176

GSH1022

MOLLARD LINE

192



Site: 198 GSH
 Date: Nov 7/11
 Time start: 17:00
 finish:
 UTMZ: 439000
 UTMN: 4790480

Community Description and Classification
 Polygon Description

Hydro	Terrestrial	Aquatic	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial <input type="checkbox"/> Wetland <input type="checkbox"/> Aquatic	<input type="checkbox"/> Organic <input checked="" type="checkbox"/> Mineral Soil <input type="checkbox"/> Parent Min. <input type="checkbox"/> Acidic Bedrk <input type="checkbox"/> Basic Bedrk <input type="checkbox"/> Carb. Bedrk	<input type="checkbox"/> Lacustrine <input type="checkbox"/> Riverine <input type="checkbox"/> Bottomland <input type="checkbox"/> Terrace <input type="checkbox"/> Valley Slope <input checked="" type="checkbox"/> Tableland <input type="checkbox"/> Roll. Upland <input type="checkbox"/> Cliff <input type="checkbox"/> Talus <input type="checkbox"/> Crevice/Cave <input type="checkbox"/> Alvar <input type="checkbox"/> Rockland <input type="checkbox"/> Beach / Bar <input type="checkbox"/> Sand Dune <input type="checkbox"/> Bluff	<input type="checkbox"/> Plankton <input type="checkbox"/> Submerged <input type="checkbox"/> Floating-LVD <input type="checkbox"/> Graminoid <input type="checkbox"/> Forb <input type="checkbox"/> Lichen <input type="checkbox"/> Bryophyte <input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Mixed	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> River <input type="checkbox"/> Stream <input type="checkbox"/> Marsh <input type="checkbox"/> Swamp <input type="checkbox"/> Fen <input type="checkbox"/> Bog <input type="checkbox"/> Barren <input type="checkbox"/> Meadow <input type="checkbox"/> Prairie <input checked="" type="checkbox"/> Thicket <input type="checkbox"/> Savannah <input type="checkbox"/> Woodland <input type="checkbox"/> Forest <input type="checkbox"/> Plantation

Soils Ontario and ELC Soils Description

Site Metrics	PIV/Auger #		Soil Horizon Description				Summary
	Zone	Easting	Depth from zero	% CF	Texture	% CF	
Moisture Regime	Easting	Northing	Depth from zero	% CF	Texture	% CF	Moisture Regime
	Position	Aspect	Depth from zero	% CF	Texture	% CF	
Drainage	Percent	Slope	Depth from zero	% CF	Texture	% CF	Drainage
	Slope Length	Moisties	Depth from zero	% CF	Texture	% CF	
Effective Texture (Indicate below)	Gley	Water Table	Depth from zero	% CF	Texture	% CF	Effective Texture (Indicate below)
	Carbonates	Bedrock	Depth from zero	% CF	Texture	% CF	

Stand Description

Layer	HT	CVR	Abundance Codes
1	1.3	3	A
2	3	3	R
3			
4	6		

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

Community Profile Diagram/Comments

Community Type	Abundance
Aspen Thicket	Occasional
Aspen	Occasional
Maple	Occasional
Oak	Occasional

Community Profile Diagram/Comments
 Small patch of Thicket succeeding to Green Ash - foot roads drainage ditch - out wash - none

Notes:

* No Wildlife Observed

Cut 1-h

Community Profile Diagram/Comments

Small patch of Thicket succeeding to Green Ash - foot roads drainage ditch - out wash - none

VASCULAR PLANT CHECKSHEET

Location: GSH 198
 Observer: JK

Date: Nov. 7, 2011
 Job Number:

HERBS						MONOCOT HERBS					
1	2	3	4	5	6	1	2	3	4	5	6
					<i>Erigeron annuus</i>						<i>Alisma plantago-aquatica</i>
					<i>Erigeron philadelphicus</i>						<i>Allium tricoccum</i>
					<i>Erigeron strigosus</i>						<i>Allium</i>
					<i>Erythronium chlorandrium</i>						<i>Achillea millefolium</i>
					<i>Eupatorium maculatum</i>						<i>Amaranthus retrofractus</i>
					<i>Eupatorium perfoliatum</i>						<i>Calla palustris</i>
					<i>Eupatorium rugosum</i>						<i>Cirsium boreale</i>
					<i>Euphorbia</i>						<i>Conoclinium rugosum</i>
					<i>Euthamia graminifolia</i>						<i>Cyanus latifolius</i>
					<i>Fragaria virginiana</i>						<i>Eleocharis acicularis</i>
					<i>Fragaria vesca</i>						<i>Eleocharis palustris</i>
					<i>Galeopsis tetrahit</i>						<i>Elymus americanum</i>
					<i>Galium</i>						<i>Elymus sp. 1</i>
					<i>Galium aparine</i>						<i>Elymus sp. 2</i>
					<i>Galium palustre</i>						<i>Elymus sp. 3</i>
					<i>Galium triflorum</i>						<i>Elymus sp. 4</i>
					<i>Geranium maculatum</i>						<i>Elymus sp. 5</i>
					<i>Geranium robertianum</i>						<i>Elymus sp. 6</i>
					<i>Geum alepicum</i>						<i>Elymus sp. 7</i>
					<i>Geum canadense</i>						<i>Elymus sp. 8</i>
					<i>Geum</i>						<i>Elymus sp. 9</i>
					<i>Geum triflorum</i>						<i>Elymus sp. 10</i>
					<i>Hepatica americana</i>						<i>Elymus sp. 11</i>
					<i>Hesperis matronalis</i>						<i>Elymus sp. 12</i>
					<i>Hieracium aurantiacum</i>						<i>Elymus sp. 13</i>
					<i>Hieracium cespitosum</i>						<i>Elymus sp. 14</i>
					<i>Hieracium</i>						<i>Elymus sp. 15</i>
					<i>Hydrophyllum virginianum</i>						<i>Elymus sp. 16</i>
					<i>Hypericum perforatum</i>						<i>Elymus sp. 17</i>
					<i>Impatiens capensis</i>						<i>Elymus sp. 18</i>
					<i>Inula helenium</i>						<i>Elymus sp. 19</i>
					<i>Lesqueris</i>						<i>Elymus sp. 20</i>
					<i>Lesqueris canadensis</i>						<i>Elymus sp. 21</i>
					<i>Lesqueris virginiana</i>						<i>Elymus sp. 22</i>
					<i>Lesqueris</i>						<i>Elymus sp. 23</i>
					<i>Linaria vulgaris</i>						<i>Elymus sp. 24</i>
					<i>Limonium carolinianum</i>						<i>Elymus sp. 25</i>
					<i>Lobelia</i>						<i>Elymus sp. 26</i>
					<i>Lobelia sp. 1</i>						<i>Elymus sp. 27</i>
					<i>Lobelia sp. 2</i>						<i>Elymus sp. 28</i>
					<i>Lycopus americanus</i>						<i>Elymus sp. 29</i>
					<i>Lycopus</i>						<i>Elymus sp. 30</i>
					<i>Lysichiton ciliata</i>						<i>Elymus sp. 31</i>
					<i>Lysichiton</i>						<i>Elymus sp. 32</i>
					<i>Malvastrum coccineum</i>						<i>Elymus sp. 33</i>
					<i>Malvastrum</i>						<i>Elymus sp. 34</i>
					<i>Melilotus alba</i>						<i>Elymus sp. 35</i>
					<i>Mirabilis arvensis</i>						<i>Elymus sp. 36</i>
					<i>Mirabilis rigida</i>						<i>Elymus sp. 37</i>
					<i>Mirabilis</i>						<i>Elymus sp. 38</i>
					<i>Mitella diphylla</i>						<i>Elymus sp. 39</i>
					<i>Morone latifolia</i>						<i>Elymus sp. 40</i>
					<i>Morone</i>						<i>Elymus sp. 41</i>
					<i>Monarda citrifolia</i>						<i>Elymus sp. 42</i>
					<i>Nepeta cataractae</i>						<i>Elymus sp. 43</i>
					<i>Nepeta</i>						<i>Elymus sp. 44</i>
					<i>Nymphopeltis odorata</i>						<i>Elymus sp. 45</i>
					<i>Nymphopeltis</i>						<i>Elymus sp. 46</i>
					<i>Oenothera biennis</i>						<i>Elymus sp. 47</i>
					<i>Oenothera</i>						<i>Elymus sp. 48</i>
					<i>Osmorhiza</i>						<i>Elymus sp. 49</i>
					<i>Oxalis stricta</i>						<i>Elymus sp. 50</i>
					<i>Oxalis</i>						<i>Elymus sp. 51</i>
					<i>Phytolacca heterophylla</i>						<i>Elymus sp. 52</i>
					<i>Phytolacca</i>						<i>Elymus sp. 53</i>
					<i>Physalis heterophylla</i>						<i>Elymus sp. 54</i>
					<i>Physalis</i>						<i>Elymus sp. 55</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 56</i>
					<i>Rumex</i>						<i>Elymus sp. 57</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 58</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 59</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 60</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 61</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 62</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 63</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 64</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 65</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 66</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 67</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 68</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 69</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 70</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 71</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 72</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 73</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 74</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 75</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 76</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 77</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 78</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 79</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 80</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 81</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 82</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 83</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 84</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 85</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 86</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 87</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 88</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 89</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 90</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 91</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 92</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 93</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 94</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 95</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 96</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 97</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 98</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 99</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 100</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 101</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 102</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 103</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 104</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 105</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 106</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 107</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 108</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 109</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 110</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 111</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 112</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 113</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 114</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 115</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 116</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 117</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 118</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 119</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 120</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 121</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 122</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 123</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 124</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 125</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 126</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 127</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 128</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 129</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 130</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 131</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 132</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 133</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 134</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 135</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 136</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 137</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 138</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 139</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 140</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 141</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 142</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 143</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 144</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 145</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 146</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 147</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 148</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 149</i>
					<i>Rumex crispus</i>						<i>Elymus sp. 150</i>
					<i>Rumex crispus</i> </						

Map Document: N:\Projects\182\182_198\182_198_GSH1020_198_GSH2176.mxd
4/12/2012 8:18:27 PM

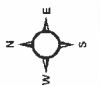


Legend

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



Basemapping from Ontario Ministry of Natural Resources
Orthophotography 2010



UTM Zone 17N, MAD 83
1:2,000

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties except as agreed by AECOM and its client, as approved by law. AECOM and its client accept no liability whatsoever to any party that modifies this drawing without AECOM's express written consent.

Gashen Amphibian Survey
198_GSH2176

April 2012
Project 80155032

AECOM

Figure 1

Plant Species List
2012

Trees & Shrubs					Tree & Shrubs					Graminoids				
1	2	3	4	5	1	2	3	4	5	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>)					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 strobus</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>)					Muhlenbergia				
					<i>Rosa</i>					Witch Grass (<i>Panicum capillare</i>)				
					Com. Blackberry (<i>Rubus alleghaniensis</i>)					<i>Panicum</i>				
Deciduous					Wild Red Raspberry (<i>Rubus idaeus</i>)					Reed Canary Grass (<i>Phalaris arundinacea</i>)				
Manitoba Maple (<i>Acer negundo</i>)					Black Raspberry (<i>Rubus occidentalis</i>)					Timothy (<i>Phleum pratense</i>)				
Black Maple (<i>Acer nigrum</i>)					Purple-fl. Raspberry (<i>Rubus odoratus</i>)					Common Reed (<i>Phragmites australis</i>)				
Norway Maple (<i>Acer platanoides</i>)					Dwarf Raspberry (<i>Rubus rubescens</i>)					Canada Blue Grass (<i>Poa compressa</i>)				
Red Maple (<i>Acer rubrum</i>)					<i>Rubus</i>					Fowl Meadow Grass (<i>Poa pratensis</i>)				
Silver Maple (<i>Acer saccharinum</i>)					Peach-leaved Willow (<i>Salix amygdaloides</i>)					Kentucky Bluegrass (<i>Poa pratensis</i>)				
Freeman's Maple (<i>Acer X freemanii</i>)					Bebb's Willow (<i>Salix bebbiana</i>)					Yellow Foxtail (<i>Setaria pumila</i>)				
Sugar Maple (<i>Acer saccharum</i>)					Pussy Willow (<i>Salix discolor</i>)					Green Foxtail (<i>Setaria viridis</i>)				
Mountain Maple (<i>Acer spicatum</i>)					Missouri Willow (<i>Salix eriocephala</i>)									
Spotted Alder (<i>Alnus incana</i>)					Sandbar Willow (<i>Salix eximia</i>)									
Downy Serviceberry (<i>Amelanchier arborea</i>)					Shining Willow (<i>Salix lucida</i>)									
Serviceberry (<i>Amelanchier sanguinea</i>)					Black Willow (<i>Salix nigra</i>)									
Yellow Birch (<i>Betula alleghaniensis</i>)					Slender Willow (<i>Salix petiolaris</i>)									
White Birch (<i>Betula papyrifera</i>)					<i>Salix</i>									
European Birch (<i>Betula pendula</i>)					Hybrid Crack Willow (<i>Salix X rubens</i>)									
Blue Beech (<i>Carpinus caroliniana</i>)					Black-berned Elder (<i>Sambucus nigra</i>)									
Bitternut hickory (<i>Carya cordiformis</i>)					Red-berned Elder (<i>Sambucus racemosa</i>)									
Shagbark Hickory (<i>Carya ovata</i>)					Buffaloberry (<i>Shepherdia canadensis</i>)									
Climbing Bittersweet (<i>Celastrus scandens</i>)					Eur. Mountain Ash (<i>Sorbus aucuparia</i>)									
Common Hackberry (<i>Celtis occidentalis</i>)					Narrow Meadow-sweet (<i>Spiraea alba</i>)									
Buttonbush (<i>Celtis occidentalis</i>)					Common Lilac (<i>Syringa vulgaris</i>)									
Alt-leaved Dogwood (<i>Cornus alternifolia</i>)					Poison-ivy (<i>Toxicodendron radicans</i>)									
Silky Dogwood (<i>Cornus amomum</i>)					Climbing Poison-ivy (<i>Toxicodendron radicans</i>)									
Bunchberry (<i>Cornus canadensis</i>)					White Elm (<i>Ulmus americana</i>)									
Gray dogwood (<i>Cornus racemosa</i>)					Siberian Elm (<i>Ulmus pumila</i>)									
Round-leaved Dogwood (<i>Cornus rugosa</i>)					Slippery Elm (<i>Ulmus rubra</i>)									
Red-osier Dogwood (<i>Cornus sericea</i>)					Low Blueberry (<i>Vaccinium angustifolium</i>)									
American Hazel (<i>Corylus americana</i>)					Male-leaf Viburnum (<i>Viburnum acerifolium</i>)									
Beaked Hazel (<i>Corylus cornuta</i>)					Hobblebush (<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</i>					Riverbank Grape (<i>Vitis riparia</i>)									
<i>Crataegus</i>					Am. Prickly-ash (<i>Zanthoxylum americanum</i>)									
Bush Honeysuckle (<i>Diervilla lonicera</i>)														
Russian Olive (<i>Elaeagnus angustifolia</i>)														
Autumn Olive (<i>Elaeagnus umbellata</i>)														
Run Strawberry-bush (<i>Euonymus obovata</i>)														
American Beech (<i>Fagus grandifolia</i>)														
Glossy Buckthorn (<i>Fraxinus 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>)														
Fl. Honeysuckle (<i>Lonicera canadensis</i>)														
Glaucous Honeysuckle (<i>Lonicera dioica</i>)														
Morrow's Honeysuckle (<i>Lonicera morrowi</i>)														
Tartarian Honeysuckle (<i>Lonicera tatarica</i>)														
Common Apple (<i>Malus umila</i>)														
White Mulberry (<i>Morus alba</i>)														
Sweet Gale (<i>Myrica gale</i>)														
Ironwood (<i>Ostrya virginiana</i>)														
Thicket-creepier (<i>Parthenocissus inserta</i>)														
Ninebark (<i>Phloxarbus 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 pennsylvanica</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 portion by less than about five individuals or small clumps

Map Number: 946 SH 206	1	UTL (HAWTHORN)	4
Date: 1-17-2012	2	F007-2	8
Surveyors: ESTERDA	3	SHOZ (ASH/EM)	

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>)				
Common Ragwort (<i>Ambrosia artemisiifolia</i>)					Toothwort (<i>Cardamine diaphylla</i>)					Hooked Buttercup (<i>Ranunculus recurvatus</i>)				
Giant Ragwort (<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>)				
Artemisia					Blue Cohosh (<i>Caulophyllum thalictroides</i>)					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 Broomrape (<i>Bidens cernua</i>)					Turtlehead (<i>Chelone glabra</i>)					Bloodroot (<i>Sanguinaria canadense</i>)				
Devil's Broomrape (<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>Saxifraga officinalis</i>)				
Brown Knapweed (<i>Centaurea jacea</i>)					Enchanter's Nightshade (<i>Circaea lutetiana</i>)					Marsh Skullcap (<i>Scutellaria palericulata</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 Campion (<i>Silene latifolia</i>)				
Bull Thistle (<i>Cirsium vulgare</i>)					Virginia's-bower (<i>Clematis virginiana</i>)					Bladder Campion (<i>Silene vulgaris</i>)				
Horseweed (<i>Conyza canadensis</i>)					Field Bindweed (<i>Convolvulus arvensis</i>)					Hemlock Water-hemlock (<i>Sium suave</i>)				
Daisy Fleabane (<i>Eryngon annuus</i>)					Dog-strangling Vine (<i>Cynanchum rossicum</i>)					Bitter Nightshade (<i>Solanum dulcamara</i>)				
Philadelphia Fleabane (<i>Eriophyllum philadelphicum</i>)					Wild Carrot (<i>Daucus carota</i>)					Black Nightshade (<i>Solanum elaeagnifolium</i>)				
Elychium					Delft Pink (<i>Dianthus armeria</i>)					Grass-leaf Stachwort (<i>Stellaria graminea</i>)				
Joe-pye-weed (<i>Eupatorium maculatum</i>)					Sour-worm (<i>Dicentra canadensis</i>)					Common Chickweed (<i>Stellaria media</i>)				
Boneset (<i>Eupatorium perforatum</i>)					Dutchman's-breeches (<i>Dicentra cucullaria</i>)					Ear-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>)					Victor's Bugloss (<i>Echium vulgare</i>)					Foamflower (<i>Tiarella cordifolia</i>)				
Field Hawkweed (<i>Hieracium caespitosum</i>)					Northern Willow-herb (<i>Eliobium ciliatum</i>)					Star-flower (<i>Trientalis borealis</i>)				
<i>Hieracium</i>					Hairy Willow-herb (<i>Eliobium hirsutum</i>)					Red Clover (<i>Trifolium pratense</i>)				
Elecampane (<i>Inula helenium</i>)					Small-fl. Willow-herb (<i>Eliobium parviflorum</i>)					White Clover (<i>Trifolium repens</i>)				
Prickly Lettuce (<i>Lactuca serriola</i>)					<i>Eliobium</i>					<i>Trifolium</i>				
Lactuca					Worm Mustard (<i>Erysimum cheiranthoides</i>)					Stinging Nettle (<i>Urtica dioica</i>)				
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>Veronicaallis-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>)					<i>Veronica</i>				
Zinnia Goldenrod (<i>Solidago flexicaulis</i>)					Herb-robert (<i>Geranium robertianum</i>)					Cow Vetch (<i>Vicia cracca</i>)				
Giant Goldenrod (<i>Solidago gigantea</i>)					Yellow Avens (<i>Geum aleaicum</i>)					<i>Vicia</i>				
Early Goldenrod (<i>Solidago uncea</i>)					White Avens (<i>Geum canadense</i>)					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</i>					Dame's Rocket (<i>Hesperis matronalis</i>)					Yellow Violet (<i>Viola pubescens</i>)				
Field Sow-thistle (<i>Sonchus arvensis</i>)					Virginia Water-leaf (<i>Hydrophyllum virginianum</i>)					Com. Blue Violet (<i>Viola sororia</i>)				
<i>Sonchus</i>					Com. St. John's-wort (<i>Hypericum perforatum</i>)					<i>Viola</i>				
Heart-leaf Aster (<i>Symphoricarpos cordifolium</i>)					Spotted Jewelweed (<i>Impatiens capensis</i>)									
Heath Aster (<i>Symphoricarpos ericoides</i>)					Wood Nettle (<i>Laportea canadensis</i>)									
Tall White Aster (<i>Symphoricarpos lanceolatum</i>)					Motherwort (<i>Leonurus cardiaca</i>)									
Calico Aster (<i>Symphoricarpos lateriflorum</i>)					Field Peppergrass (<i>Lepidium campestre</i>)									
New England Aster (<i>Symphoricarpos novae-angliae</i>)					Eur. Gromwell (<i>Lithospermum officinale</i>)									
Purple-stem Aster (<i>Symphoricarpos purpureus</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>)					<i>Lobelia</i>									
Com. Goatsbeard (<i>Trigononotis 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>)				
					Fringed Loosestrife (<i>Lysimachia ciliata</i>)					Jack-in-the-pulpit (<i>Arisaema triphyllum</i>)				
					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>)				
					Wild Bergamot (<i>Monarda fistulosa</i>)					Blue-fl. Iris (<i>Iris versicolor</i>)				
					Small Forget-me-not (<i>Myosotis laxa</i>)					Orange Day Lily (<i>Hemerocallis fulva</i>)				
					Forget-me-not (<i>Myosotis scorpioides</i>)					Lesser Duckweed (<i>Lemna minor</i>)				
					Water-cress (<i>Nasturtium officinale</i>)					Starry Duckweed (<i>Lemna trisulca</i>)				
					Com. Evening-primrose (<i>Oenothera biennis</i>)					Wild Lily-of-the-valley (<i>Maianthemum canadense</i>)				
					Sweet-cicely (<i>Osmorhiza berterii</i>)					False Solomon Seal (<i>Maianthemum racemosum</i>)				
					Yellow Wood-sorrel (<i>Oxalis stricta</i>)					Star False Solomon (<i>Maianthemum stellatum</i>)				
					Wild Parsnip (<i>Pastinaca sativa</i>)					True Solomon Seal (<i>Polygonatum pubescens</i>)				
					English Plantain (<i>Plantago lanceolata</i>)					Pickers-weed (<i>Pontederia cordata</i>)				
					Common Plantain (<i>Plantago major</i>)					Curly-leaf Pondweed (<i>Potamogeton crispus</i>)				
					Rue's Plantain (<i>Plantago rugelii</i>)					Sago Pondweed (<i>Potamogeton pectinatus</i>)				
					Mad-apple (<i>Podophyllum peltatum</i>)					<i>Potamogeton</i>				
					Pale Smartweed (<i>PolYGONUM lapathifolium</i>)					<i>Potamogeton</i>				
					Lady's-thumb (<i>Polygonum persicaria</i>)					Broad-leaved Arrowhead (<i>Sagittaria latifolia</i>)				
					Virginia Knotweed (<i>Polygonum virginianum</i>)					Blue-eyed Grass (<i>Sisynchium montanum</i>)				
					<i>Polygonum</i>					Herb Carnion Flower (<i>Smilax herbacea</i>)				
					<i>Polygonum</i>					Bristly Greenbrier (<i>Smilax hispida</i>)				
					Rough Cinquefoil (<i>Potentilla norvegica</i>)					Nodding Ladies' Tresses (<i>Spiranthes cernua</i>)				
					Rough-fruited Cinquefoil (<i>Potentilla recta</i>)					Rose Twisted-stalk (<i>Streptopus lanceolatus</i>)				
					Common Cinquefoil (<i>Potentilla simplex</i>)					Skunk-cabbage (<i>Symplocos foetidus</i>)				
					<i>Potentilla</i>					Purple Trillium (<i>Trillium erectum</i>)				
					Heal-all (<i>Prunella vulgaris</i>)					White Trillium (<i>Trillium grandiflorum</i>)				
					Shinleaf (<i>Pyrola elliptica</i>)					Large-flowered Bellwort (<i>Uvularia grandiflora</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 at 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: 198 CSH 2176
 Date: 5/11/12
 Surveyors: FOD 3-2, S 2012

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<u>GSH</u>	Map #:	198-GSHZ176
Date:	2012-04-17			Time Started:	8:29
Field Staff:	Tom Sharney Jess Piette			Time Finished:	10:30
Weather Conditions:	cloudy, 5°C 5 km/h wind				

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

Nest bowls present: No Yes (if yes, photograph and complete the following) #1

UTMs: 17T 438848 4790297 Number of nests: 2

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
stick nest in crotch of tree, no birds present

Description of habitat (note riparian areas if present, evidence of disturbance): within FOD along small watercourse, in green ash

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: 438920 4790336 Area of standing water delineated on field map

Water depth (m): 17cm % open water: 80% % emergent vegetation: 10%

Description of standing water (permanent pool, evidence of annual spring flooding, etc):
Vernal pool - potentially dry by end of July

Area and soil/substrate of shoreline habitat: Immature Ash / Freeman's some exposed soil - water low

Type and abundance of cover in open water habitat: Tree cover - mature trees incl. green ash Freeman's, Elm

Type and abundance of cover in surrounding habitat: Tree cover - Deciduous Forest

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

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: waterfowl flying out of pool as we approached

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
#4.5	Sticknest #1		

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<u>GSH</u>	Map #:	198-054 2196
Date:	2012-04-17			Time Started:	8:29
Field Staff:	Tom Storey, Jess Piate			Time Finished:	10:30
Weather Conditions:	Cloudy, 50c 5 km/h winds				

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD) #2

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

UTMs: 438833 470333 Number of nests: 1

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
Smaller stick nest in crotch of tree → 20m in height. - No birds present

Description of habitat (note riparian areas if present, evidence of disturbance): Deciduous forest, in green Ash.

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): _____

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

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

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

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

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

UTMs: _____ Likelihood to extend below frost line: _____

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

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

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

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

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

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

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

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

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

No

Yes (if yes, photograph and complete the following)

UTMs: _____

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

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

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

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

Shoreline of lake, large river or large wetland present:

No

Yes (if yes, photograph and complete the following)

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

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

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

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

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

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

Large open habitat present: No

Yes (if yes, photograph and complete the following)

UTMs: _____

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

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

Old-growth or Mature Forests, Interior Forest Breeding Birds

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

Mature forest present: No

Yes (if yes, photograph and complete the following)

UTMs: _____

Age of oldest trees: _____

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

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

Photo #	Location or Subject	Photo #	Location or Subject
#6	Sticknest #2		

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER <u>GSH</u>	Map #:	<u>198-GSH2176</u>
Date:	<u>2012-04-17</u>	Time Started:	<u>8:29</u>
Field Staff:	<u>Tom Stoney Jess Piette</u>	Time Finished:	<u>10:30</u>
Weather Conditions:	<u>cloudy, 5°C 5km/h</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) # 3

UTMs: 438767 4790298 Number of nests: 1

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
Stick nest in crotch of tree → 15-20m high. - No birds present

Description of habitat (note riparian areas if present, evidence of disturbance): within deciduous forest → in a green Ash → smaller in size (possible sharp-shinned hawk)

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): _____

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
#9	stick nest #3		

Species Conservation Concern Habitat and Incidental Wildlife - Goshen



Map No: 198-65H2176
Date (yyyy-mm-dd): 2012-04-17

Field Staff: Tom Stoney, Jess Piele

Time Started: 8:29
Time Finished: 10:30

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
Black-capped Chickadee		Vo	within feature				
Song Sparrow		Vo	within feature				
Robin		Vo	within feature				
Cardinal		Ob	along thickened boundary				
Crow		Vo	in feature				
Warbler		Ob	Flying over feature				
Wood Duck		Ob	Flying/calling - (Flock) out of wetland				
Deer Squirrel		Ob	on Ash tree				
White-breasted Nuthatch		Vo	calling within feature				
Turkey Vulture		Ob	Flying over wooded				

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

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

Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Foods/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)
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 sparse not observed
ALO, TPO	Muehlenberg's astomum moss (Astomum muehlenbergianum) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y N UTM
FOM1, FOM2, CUP3	Autumn Coral-root (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y N UTM
FOC, FOM, FOD	Burning Bush (Euonymus atropurpureus) - S3 Bloom Time - April - June	Species occurs in dry to moist deciduous thickets and woods	Y N UTM sparse not observed
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (Conioselinum chinense) - S2 Bloom Time - summer to fall	Swampy places with deciduous trees, white cedars, tamarack, springy river banks wet borders of streams and rivers. Also found among calcareous seepage slopes	Y N UTM
SWC, SWM, SWD, SWT, MAM, MAS	Crowned Beggarticks (Bidens trichosperma) - S2 Bloom Time - late summer	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian Bay Bogs, fens, tamarack swamps	Y N UTM sparse not observed
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 sparse not observed
TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (Chenopodium foggii) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y N UTM
TPO2, TPS2, TPW2,	Giant Ironweed (Vernonia gigantea) - S1? Bloom Time -	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y N UTM

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen



ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
CUM1, MAM, FOD6, FOD7, FOD9	June - August Green Dragon (<i>Arisaema dracontium</i>) - S3/S3 Bloom Time - May and June	Species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	(Y) N UTM: Species not observed
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	June-August Hairy Bedstraw (<i>Galium pilosum</i>) - S3 Bloom Time - June-August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	(Y) N UTM:
FEO1, FES1, FET1, SWC, SWM, SWD, SWT, TPO, 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: Species not observed
FOD6, FOD7, SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time - Summer	Woodlands, often rocky, especially rivers, swamp forests, floodplains.	(Y) N UTM: species not observed
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: species not observed
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: Species not observed
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) - S3 Bloom Time - March-May	Occurs in moist deciduous woods and stream banks.	(Y) N UTM: Species not observed
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: Species not observed
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Prostate Tick-trefoil (<i>Desmodium rotundifolium</i>) - S2 Bloom Time - July-September	Dry, sandy or rocky woods	(Y) N UTM:
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? Bloom Time - March - June	Swamps and floodplains	(Y) N UTM: Species not observed
CUW1, ALO, FET1, SWC	Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 Bloom Time - mid May to mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry-sandy woods, and limestone barren.	(Y) N UTM:
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 Bloom Time - April - September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	(Y) N UTM:
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time - May - June	Found in moist woods	(Y) N UTM: species not observed
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: N/A
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/A
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolomite pavement, prairies, open woods, alvars and moist sandy meadows.	(Y) N UTM:
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 Muhlly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	(Y) N UTM: N/A
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentiana quinquefolia</i>) - S2 Bloom Time - late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides	(Y) N UTM:
TPS1, TPW1, CUW1, RBO, SBO	Sundial Lupine (<i>Lupinus perennis</i>) - S3 Bloom Time - mid-March to mid-June	Inhabits dry, sandy oak 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

ALDOM

ELC		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:
FEO, FES, FET, MAM2, MAM3		Tuberous Indian Plantain (<i>Arnoglossum plantagineum</i>) - S3 Bloom Time - mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y (N) UTM:
FOC1, FOC2, FOC3, FOC4		Woodland Pinedrops (<i>Pterospora andromedea</i>) - S2 Bloom Time - summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y (N) UTM:
CUM1, CUT1, CUW1, RBO1, SBO1		Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time - August to November	Dry, open sites, usually on acidic sandy soil. Dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y (N) UTM: N/A
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: N/A
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/A
-		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: N/A
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: N/A
TPS, TPW		Sleepy Duskywing (<i>Erynnis brize</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles	Y (N) UTM:
CUM1, CUT1, CUW1		Monarch Butterfly (<i>Danaus plexippus</i>) - SC	Their larvae only feed on milkweeds (<i>Asclepius</i> spp.). Habitat includes abandoned farmland, along roadsides, open spaces where these plants grow	Y (N) UTM: N/A
TPS, CUW		Mottled Duskywing (<i>Erynnis martialis</i>) - S2	Usually seen nectaring or on wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present	Y (N) UTM:
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1		Tawny Emperor (<i>Asterocampa clyten</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM:
FOD5		West Virginia White (<i>Pieris virginensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM:

Significant Wildlife Habitat Form

Re-visit Stick Nest

AECOM

Study Area:	BLW JER <u>GSPD</u>	Map #:	<u>198-GSH 2176</u>
Date:	<u>17-May-2012</u>	Time Started:	<u>6:52 pm</u>
Field Staff:	<u>J. Kamstra & A. Datt</u>	Time Finished:	<u>7:19 pm</u>
Weather Conditions:	<u>SUNNY, 16°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: 438848, 4190297 Number of nests: 1

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
Crow nest likely, No bird observed, 15m high in Green Ash. on sticks within nest

Description of habitat (note riparian areas if present, evidence of disturbance):
Most Green Ash forest

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): _____

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 noted on back of 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
AURO	cliff		
HOWR	"		
PBGR	"		
SOSP	"		

Significant Wildlife Habitat Form

Re-visit Stick Nest AECOM

Study Area: BLW JER (GSH) Map #: 198-GSH2176
 Date: 17-May-2012 Time Started: 6:52 pm
 Field Staff: J. Kamstra & A. Datt Time Finished: 7:19 pm
 Weather Conditions: Sunny, 16C

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
 (FET1, FOC, FOM, FOD, SWC, SWM, SWD)
 Nest bowls present: No Yes (if yes, photograph and complete the following)
 UTM: 438833, 4790333 Number of nests: 1
 Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
15m in Green Ash - medium stick nest. Appears to be Crow's nest w green sprigs present on nest ~ 1 week old. Nest in good shape
 Description of habitat (note riparian areas if present, evidence of disturbance):
Moist Green Ash forest

Waterfowl Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
 (CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1)
 Standing water present: No Yes (if yes, photograph and complete the following)
 UTM: _____ 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)
 UTM: _____ Likelihood to extend below frost line: _____
 % canopy cover: _____ % slope: _____ Distance to open canopy (m): _____
 Description of fissure or stone pile (composition/material, dimensions, etc): _____
 Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs (FOC, FOM, FOD, SWC, SWM, SWD)
 Evidence of seep or spring: No Yes (if yes, photograph and complete the following)
 UTM: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

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

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

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

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

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

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

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

Shoreline of lake, large river or large wetland present:

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

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

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

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

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

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

Large open habitat present:

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

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

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

Old-growth or Mature Forests, Interior Forest Breeding Birds

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

Mature forest present:

 No

 Yes (if yes, photograph and complete the following)

UTMs: _____

Age of oldest trees: _____

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

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

Photo #	Location or Subject	Photo #	Location or Subject

Significant Wildlife Habitat Form

Re-visit Stick Nest

AECOM

Study Area: BLW JER **GSH** Map #: 198-GSH2176
 Date: 17-May-2012 Time Started: 6:52 pm
 Field Staff: A. Dart + J. Kamstra Time Finished: 7:19 pm
 Weather Conditions: Sunny, 16C

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

Nest bowls present: No Yes (if yes, photograph and complete the following)
 UTM's: 438767, 4790248 Number of nests: 1
 Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present):
Stick nest ~ 15m in Green Ash. Appears to be Grows nest in good form, but no apparent fresh sprigs. West end of woodlot
 Description of habitat (note riparian areas if present, evidence of disturbance):
Moist Green Ash Forest

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)
 UTM's: _____ 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)
 UTM's: _____ Likelihood to extend below frost line: _____
 % canopy cover: _____ % slope: _____ Distance to open canopy (m): _____
 Description of fissure or stone pile (composition/material, dimensions, etc): _____
 Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

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

Evidence of seep or spring: No Yes (if yes, photograph and complete the following)
 UTM's: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)
 (CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)
 Eroding bank, sandy hill, pits, steep slope or rock face present:
 No Yes (if yes, photograph and complete the following)
 UTM: _____ Location (e.g. aggregate pit, bridge): _____
 Evidence of use by bank or cliff swallows (provide number of nests): _____

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas
 (BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)
 Shoreline of lake, large river or large wetland present:
 No Yes (if yes, photograph and complete the following)
 UTM: _____ Rocky island or peninsula present: _____
 Mudflat present: _____ Evidence of disturbance (e.g. cattle grazing): _____
 Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover): _____

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat
 CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW > 15ha
 Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:
 Large open habitat present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Evidence of disturbance (e.g. cattle grazing): _____
 Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation): _____

Old-growth or Mature Forests, Interior Forest Breeding Birds
 (FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)
 Mature forest present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Age of oldest trees: _____
 Evidence of disturbance (e.g. selective cutting): _____
 Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc): _____

Photo #	Location or Subject	Photo #	Location or Subject

ELC
Community Description and Classification

Map #: 2036SH 1510 Polygon: F009-3

Surveyor(s): Jen Bette & Tom Swamy Date: Apr 30, 2012 Time start: 3:58 PM finish: 5:00 PM

UTMZ: 44660 UTMZ: 4790596 UTMN:

Polygon Description

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

Stand Description

Species In Order of Decreasing Dominance (up to 4 sp)
P > Much Greater Than, > Greater Than, = About Equal To

Layer	HT	CVR
1	4	QUEMACE > CACONAT > FRAPENN - LIMAMER
2	3	LIMAMER > FRAPENN > OST VIG
3	4	CASCORO > PRUVIRE
4	3	QEMACH > EURONEL > VIOLK SP > CORYXOP

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

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

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

Ecosite: Fresh Must Oak Maple - Heavy Deciduous Forest Code: F009
 Vegetation Type: Fresh Must Low oak Deciduous Forest type Code: F009-3
 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	PI/Auger #	Summary
Zone	1	
Easting	17	
Northing	44660	
Position	4790596	
Aspect	Flat	
Percent		
Slope		
Length		
Mottles	15cm	
Gley		
Water Table		
Carbonates		
Bedrock		
Depth from zero	12cm	% CF
Texture	SIL	% CF
Depth from zero	30cm	% CF
Texture	SC	% CF
Depth from zero		% CF
Texture		% CF
Depth from zero		% CF
Texture		% CF
% Surface Stone/Rock		
Moisture Regime	6	
Drainage	P/1	

Soil Horizon Description

Horizon	Depth from zero	Texture	% CF
1	12cm	SIL	% CF
2	30cm	SC	% CF
3			% CF
4			% CF

Plant Species List
2012

Dicot Herbs - Asteraceae					Dicot Herbs					Dicot Herbs					
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Common Yarrow (<i>Achillea millefolium</i>)					Shepherd's Purse (<i>Capsella bursa-pastoris</i>)					Kidney-leaf Buttercup (<i>Ranunculus abortivus</i>)	R				
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 pennsylvanica</i>)					<i>Ranunculus</i>					
Field Pussycot (<i>Antennaria neglecta</i>)					<i>Cardamine</i>					Sheep Sorrel (<i>Rumex acetosella</i>)					
<i>Artemisia</i>					Blue Cohosh (<i>Caulophyllum thalictroides</i>)					Curly-leaf Dock (<i>Rumex crispus</i>)					
Common Burdock (<i>Arctium minus</i>)	R				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 canadensis</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 vrosa</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>)	R				White Campion (<i>Silene latifolia</i>)					
Bull Thistle (<i>Cirsium vulgare</i>)					Virgin's-bower (<i>Clematis virginiana</i>)					Bladder Campion (<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>)	R				Black Nightshade (<i>Solanum ptychanthum</i>)					
<i>Erigeron</i>					Depfodder 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 perfoliatum</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>)	R				Tall Meadow-rue (<i>Thalictrum pubescens</i>)					
Fiat-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 scariola</i>)					<i>Epilobium</i>					<i>Trifolium</i>					
<i>Lactuca</i>					Worm Mustard (<i>Erysimum cheiranthoides</i>)					Stinging Nettle (<i>Urtica dioica</i>)					
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>	R				Common Speedwell (<i>Veronica officinalis</i>)					
Canada Goldenrod (<i>Solidago canadensis</i>)					Spotted Geranium (<i>Geranium maculatum</i>)	U				<i>Veronica</i>					
Zig-zag Goldenrod (<i>Solidago flexicaulis</i>)					Herb-robert (<i>Geranium robertianum</i>)	U				Cow Vetch (<i>Vicia cracca</i>)					
Giant Goldenrod (<i>Solidago gigantea</i>)					Yellow Avens (<i>Geum alepiticum</i>)					<i>Vicia</i>					
Early Goldenrod (<i>Solidago juncea</i>)					White Avens (<i>Geum canadense</i>)	R				Periwinkle (<i>Viola minor</i>)					
Gray Goldenrod (<i>Solidago nemoralis</i>)					Urban Avens (<i>Geum urbanum</i>)					Dog Violet (<i>Viola conspersa</i>)					
<i>Solidago</i>	U				Dame's Rocket (<i>Hesperis matronalis</i>)					Yellow Violet (<i>Viola pubescens</i>)					
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</i>	ppp				F
Heart-leaf Aster (<i>Symph. cordifolium</i>)					Spotted Jewelweed (<i>Impatiens capensis</i>)										
Heath Aster (<i>Symphotrichum ericoides</i>)					Wood Nettle (<i>Laportea canadensis</i>)										
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>)	U				<i>Lobelia</i>										
Com. Goatsbeard (<i>Tragopogon pratensis</i>)					Cut-leaf Bugleweed (<i>Lycopus americanus</i>)										
Coltsfoot (<i>Tussilago farfara</i>)					Northern Bugleweed (<i>Lycopus uniflorus</i>)										
					Fringed Loosetrife (<i>Lysimachia ciliata</i>)										
					Moneywort (<i>Lysimachia nummularia</i>)										
					<i>Lysimachia</i>										
					Purple Loosetrife (<i>Lythrum salicaria</i>)										
					Black Medick (<i>Medicago lupulina</i>)										
					Alfalfa (<i>Medicago sativa</i>)										
					White Sweet-clover (<i>Melilotus alba</i>)										
					Yellow Sweet-clover (<i>Melilotus officinalis</i>)										
					Wild Mint (<i>Mentha arvensis</i>)										
					Wild Bergamot (<i>Monarda fistulosa</i>)										
					Small Forget-me-not (<i>Myosotis laxa</i>)										
					Forget-me-not (<i>Myosotis scorpioides</i>)										
					Water-cress (<i>Nasturtium officinale</i>)										
					Com. Evening-primrose (<i>Oenothera biennis</i>)										
					Sweet-cicely (<i>Osmorhiza berterii</i>)										
					Yellow Wood-sorrel (<i>Oxalis stricta</i>)										
					Wild Parsnip (<i>Pastinaca sativa</i>)										
					English Plantain (<i>Plantago lanceolata</i>)										
					Common Plantain (<i>Plantago major</i>)										
					Rugel's Plantain (<i>Plantago rugelii</i>)										
					May-apple (<i>Podophyllum peltatum</i>)	U									
					Pale Smartweed (<i>Polygonum lapathifolium</i>)										
					Lady's-thumb (<i>Polygonum persicaria</i>)										
					Virginia Knotweed (<i>Polygonum virginianum</i>)										
					<i>Polygonum</i>										
					<i>Polygonum</i>										
					Rough Cinquefoil (<i>Potentilla norvegica</i>)										
					Rough-fruited Cinquefoil (<i>Potentilla recta</i>)										
					Common Cinquefoil (<i>Potentilla simplex</i>)										
					<i>Potentilla</i>										
					Heal-all (<i>Prunella vulgaris</i>)				R						
					Shinleaf (<i>Pyrola elliptica</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: 207 55H150	1	F09 9-3	4
Date: Apr 20, 2012	2		5
Surveyors: JAT	3		

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW JER GSH	Map #:	203-6541510
Date:	2012-04-30	Time Started:	3:58 P.M.
Field Staff:	Tom Stoney Jess Pfeiffer	Time Finished:	5:00 P.M.
Weather Conditions:	overcast Rain, 6°C		

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, 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): _____

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 of Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM: description of habitat if present
JM1, MAM, OD6, FOD7, FOD9	June - August 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: N/A
PO1, TPS1, TPW1, JM1, FOM2, FOD1, DD2, FOD3	June-August Hairy Bedstraw (<i>Galium pilosum</i>) - S3 Bloom Time - June-August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y (N) UTM:
EO1, FES1, FET1, SWC, WM, SWD, SWT, TPO, PS, TPW	June to August 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:
OD6, FOD7, SWM, SWD	Summer Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 Bloom Time - Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y (N) UTM:
OD6, FOD7, FOD8, OD9	early to late April 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/A
AS1, SAM1, SAF1	SC/IS2 Bloom Time - summer Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/IS2 Bloom Time - summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	Y (N) UTM:
OM6, FOM7, FOM8	June - August 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	June - September 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:
OD6, FOD7, FOD9	March-May Pawpaw (<i>Asimina triloba</i>) - S3 Bloom Time - March-May	Occurs in moist deciduous woods and stream banks.	Y (N) UTM: N/A
OM8, FOD6, FOD7, FOD9, CUM1	Late Spring - Early Summer 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/A
PW1, FOM1, FOM2, OD1, FOD2, FOD3	July-September Prostrate Tick-trefoil (<i>Desmodium rotundifolium</i>) - S2 Bloom Time - July-September	Dry, sandy or rocky woods	Y (N) UTM:
FOD7, SWD	June Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? Bloom Time - March - June	Swamps and floodplains	Y (N) UTM:
JUW1, ALO, FET1, SWC	mid May to mid June Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 Bloom Time - mid May to mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry-sandy woods, and limestone barren.	Y (N) UTM:
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5, FOD6, FOD7, FOD9	April - September 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:
CUM1, CUT1, CUS1	May - June Round-leaved Groundsel (<i>Packera obovata</i>) - S3 Bloom Time - May - June	Found in moist woods	Y (N) UTM: N/A
FOD6, FOD7, FOD8, FOD9, TW2, SWT3, ALO, ALS, ALT, TPO, TPS, TPW	S3? Round-leaved hawthorn (<i>Crataegus lumaria</i>) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y (N) UTM:
FOD6, FOD7, FOD8, FOD9, TW2, SWT3, ALO, ALS, ALT, TPO, TPS, TPW	S3 Bloom Time - May to October 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/A
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	S3 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:
SDT1, FOD5, FOD9	S2 Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows; at edges of sand-pits	Y (N) UTM:
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	S2 Bloom Time - late summer to mid fall Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	Y (N) UTM: N/A
TPS1, TPW1, CUW1, RBO, SBO	S3 Bloom Time - mid-March to mid-June 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:
	S3 Bloom Time - mid-March to mid-June Sundial Lupine (<i>Lupinus perennis</i>) - S3 Bloom Time - mid-March to mid-June	Inhabits dry, sandy oak savannas, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.	Y (N) UTM:

Species Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
TPO1, TPS1, TPW1, CUM1	Tall Blazing Star (<i>Liatris aspera</i>)-S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y (N) UTM:
FEO, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Arnoglossum plantagineum</i>) - S3 Bloom Time –mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y (N) UTM:
FOC1, FOC2, FOC3, FOC4	Woodland Pinedrops (<i>Pterospora andromedea</i>) - S2 Bloom Time – summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y (N) UTM:
CUM1, CUT1, CUW1, RBO1, SBO1	Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time – August to November	Dry, open sites, usually on acidic sandy soil, dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y (N) UTM:
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Seiurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y (N) UTM:
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	Y (N) UTM:
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines	Y (N) UTM:
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) –S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM:
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	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 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>Pteris virginiensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM: