B4. Site Investigation Addendum

AECOM
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Communication Record

Date	January 23rd, 2012	Time	2pm
Between	Ron Drabick, MNR	and	Jillian deMan, AECOM
Telephone #	519-773-4728	Project #	60155032
Project Name	Nextera Wind Energy		
Subject	Bluewater NHA Response to MNR Comments		

PLEASE NOTE: If this communication record does not agree with your records of the meeting, or if there are any omissions, please advise. Otherwise it will be assumed that the contents of this record are correct.

Comments

The following is a summary of the discussion held January 23rd, 2012 between Ron Drabick (MNR) and Jillian deMan (AECOM):

1) Feature 442: Looking at the plant species associations of red cedar, sugar maple, white cedar, lilac, green ash, willow, English hawthorn, trembling aspen, apple, white elm, yellow birch and pear. This community does not exhibit wetland species associations and is likely a result of regrowth from historical clearing due to farming practices. Considering the human interference and the tree cover of over 60%, this community will be re-classified as a CUW1 instead of FOD 7-3. The ELC card will reflect this change as well an explanation provided within the text. It was agreed that further soils information was not required for this designation, nor is this community considered wetland.

2) Feature 541: The FOD 7-1 community is to be carried forward as a wetland community considering the condition of the soils, tree and herb species associations. In particular, this community is wetland due to the following:

    a. Mottles start at 2 cm from the surface
    b. Presence of both white elm and green ash within the canopy
    c. Presence of wetland species such as joe pyeweed, boneset, northern willow herb, cattails and blue vervain within the groundcover.

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Communication Record

Date	January 31st, 2012	Time	2:00pm
Between	Ron Drabick, MNR	and	Jillian deMan, AECOM
Telephone #	519-773-4728	Project #	60155032
Project Name	Nextera Wind Energy		
Subject	Bluewater NHA Response to MNR Comments		

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Comments

The following is a summary of the discussion held January 31st, 2012 between Ron Drabick (MNR) and Jillian deMan (AECOM):

Overall:

1) The FOD 7-2 communities which are now being treated as wetland do not need to be redefined into different ELC communities. We are just treating them as wetlands for Appendix C.
2) The wetland communities are much easier to see in the 2010 orthos because they were taken in leaf-off conditions.
3) Discussions per feature 537 have resulted in the need to perform additional fieldwork to provide more detail of vernal pond/wetland inclusion areas. *Additional fieldwork was undertaken on February 1, 2012. Details of fieldwork are provided in the attached of this memo.*
4) Discussions per features 552, 555, 556, 561 and 562 resulted in additional information. *Additional information is provided in the attached of this memo.*

Comments per Feature (everything has also been marked on a map):

Feature 480
Mapping edits: i) refine the wetland boundary between the meadow marsh and the cultural woodland/plantation, ii) refine the boundaries where the crossing is by using the "in-stream" mode in GIS to make the boundaries less blocky, iii) the wetland at the bottom of the feature (north of Staffa Road) should end at the limits of the patch, not extend out into the field, iv) part of the SWD just south of Centennial Road is now field (check 2010 orthos).

Feature 483
Mapping edits: i) Extend the SWD boundary northward as per mark-ups.

Feature 493 and 496
Mapping edits: i) refine the MAM boundaries around the house, ii) CUM community is crossing over the drainage. Move CUM out of the area.

Feature 501
Mapping edits and clarification: i) Redesignate ELC community as CUP1-3/MAM 2-10 and treat as wetland. Community does exhibit wetland indicating species and hydric soils.

Feature 504
Mapping edits: i) reduce SWT community along drainage, ii) extend FOD community to the south.

Feature 510
Mapping edits: i) the extent of wetland vs. upland is apparent within the 2010 orthos. Refine boundaries using the most up-to-date aerial photography

Feature 514
Mapping edits: i) wetland does not extend over entire patch, reduce boundaries especially along the easterly limits north of Centennial Road.

Feature 518
Mapping edits: i) wetland is apparent beyond the 120 m setback. Refer to the 2010 orthos and refine boundaries.

Feature 520
Mapping edits i) the area just south of the pond is wetland. Refer to the 2010 orthos and refine boundaries.

Feature 534
Mapping edits: i) wetland boundaries near the turbine need to be increased. Ponding areas are also apparent within the FOD 5-1 community. This is easy to view at 1:2500 scale on the 2010 orthos.

Feature 537
Mapping edits/clarification i) what is the crossing method? ii) has this area been identified as amphibian habitat? iii) what are the canopy trees around the vernal pools? This requires clarification.

Feature 542
Mapping edits/clarification i) what is the species composition of the FOD 5-1 community?

Feature 551
No clarification/mapping edits required. Agreement on original designation.

Feature 552, 555, 556, 561 and 562
Additional information in terms of the trees is required to determine wetland vs. upland. AECOM to provide clarification in report.

ATTACHMENT A: Results of Fieldwork Performed on February 1, 2012 for Feature 537

ATTACHMENT B: Revision of Field Data Sheets for Features 552, 555, 556, 561 and 562

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Communication Record

Date	February 2nd, 2012	Time	2:20pm
Between	Ron Drabick, MNR	and	Jillian deMan, AECOM
Telephone #	519-773-4728	Project #	60155032
Project Name	Nextera Wind Energy		
Subject	Bluewater NHA Response to MNR Comments		

PLEASE NOTE: If this communication record does not agree with your records of the meeting, or if there are any omissions, please advise. Otherwise it will be assumed that the contents of this record are correct.

Comments

The following is a summary of the discussion held February 2nd, 2012 between Ron Drabick (MNR) and Jillian deMan (AECOM):

1) Provided details of fieldwork conducted on February 1st, 2012. Indicated that wetland inclusion within feature 537 consisted of predominantly swamp maple (*Acer freemani*) with some willow and white elm. This inclusion has been designated as SWD 3-3. Through direction with MNR, even though this inclusion is less than 0.5ha in size, it is to be evaluated as part of Appendix C.

2) Provided additional details in terms of features 552, 555, 556, 561 and 562.

ELC
Community Description and Classification

Site: Bluewater	Polygon: 537		
Surveyor(s): JdM, LB	Date: Feb. 1, 2012	Time start:	10:40am
		finish:	11:30am
UTMZ:	UTMZ:	UTMN:	

Polygon Description

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

Site	History	Cover
☐ Open Water ☐ Shallow Water ☒ Surficial Dep. ☐ Bedrock	☒ Natural ☐ Cultural	☐ Open ☐ Shrub ☒ Treed

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	Acer rub >> Salix sp > Ulmus amer
2			
3			
4			

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

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

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

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

Ecosite:	Maple mineral Deciduous Swamp	Code:	SWD3
Vegetation Type:	Swamp Maple Mineral Deciduous Swamp	Code:	SWD3-3
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes: - Standing water throughout entire swamp community
- no herbs or shrubs observed.
- trees avg dbh. 20cm

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

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

VASCULAR PLANT CHECKSHEET

Location: Texture 537
Observer: JJM
Date: Feb 1, 2012
Job Number:

DICOT HERBS	1	2	3	4	5	6
Achillea millefolia						
Actaea pachypoda						
Actaea rubra						
Agalinus						
Agrimonia gryposepala						
Alliaria petiolaris						
Amaranthus retroflexus						
Ambrosia artemisiifolia						
Amphicarpaea bracteata						
Anaphalis margaritacea						
Anemone						
Anemone canadensis						
Anemone virginiana						
Antennaria neglecta						
Apocynum androsaemifolium						
Apocynum cannabinum						
Aquilegia canadensis						
Aralia nudicaulis						
Arctium minus						
Artemisia						
Asarum canadense						
Asclepias incarnata						
Asclepias syriaca						
Aster						
Aster cordifolius						
Aster ericoides						
Aster lanceolatus						
Aster laterifloras						
Aster macrophyllus						
Aster novae-angliae						
Aster puniceus						
Barbarea vulgaris						
Bidens cernua						
Bidens frondosa						
Boehmeria cylindrica						
Caltha palustris						
Calystegia sepium						
Cardamine diphylla						
Cardamine						
Caulophyllum thalictroides						
Cerastium fontanum						
Ceratophyllum demersum						
Chelidonium majus						
Chenopodium album						
Chrysanth. leucanthemum						
Cichorium intybus						
Cicuta						
Circaea lutetiana						
Cirsium arvense						
Cirsium vulgare						
Clematis virginiana						
Clintonia borealis						
Conyza canadensis						
Coronilla varia						
Cynanchum rosticum						
Cynoglossum officinale						
Daucus carota						
Desmodium canadense						
Dianthus armeria						
Dipsacus fullonum						
Echinocystis lobata						
Echium vulgare						
Epilobium						
Epilobium ciliatum						
Epilobium hirsutum						
Epilobium parviflorum						

	1	2	3	4	5	6
Erigeron annuus						
Erigeron philadelphicus						
Erigeron strigosus						
Erysimum chierantholdes						
Eupatorium maculatum						
Eupatorium perfoliatum						
Eupatorium rugosum						
Euphorbia						
Euthamia graminifolia						
Fragaria virginiana						
Fragaria vesca						
Galeopsis tetrahit						
Galium						
Galium						
Galium palustre						
Galium triflorum						
Geranium maculatum						
Geranium robertianum						
Geum aleppicum						
Geum canadense						
Geum						
Glecoma hederacea						
Hepatica acutiloba						
Hesperis matronalis						
Hieracium aurantiacum						
Hieracium caespitosum						
Hieracium						
Hydrophyllum virginianum						
Hypericum perforatum						
Impatiens capensis						
Inula helenium						
Lactuca						
Laportea canadensis						
Lapsana communis						
Leonurus cardiaca						
Lepidium						
Linaria vulgaris						
Lithospermum officinale						
Lobelia						
Lobelia inflata						
Lotus corniculatus						
Lycopus americanus						
Lycopus						
Lysimachia ciliata						
Lythrum salicaria						
Medicago lupulina						
Medicago sativum						
Melilotus alba						
Mentha arvensis						
Mimulus ringens						
Mimulus ringens						
Mitella diphylla						
Monarda fistulosa						
Myosotis						
Nasturtium officinale						
Nepeta cataria						
Nuphar variegatum						
Nymphaea odorata						
Oenothera biennis						
Osmorhiza						
Oxalis stricta						
Phryma leptostachya						
Physalis heterophylla						

	1	2	3	4	5	6
Plantago lanceolata						
Plantago major						
Plantago rugelii						
Podophyllum peltatum						
Polygonum						
Polygonum						
Polygonum						
Polygonum lapathifolium						
Polygonum persicaria						
Potentilla						
Potentilla norvegica						
Potentilla recta						
Prenanthes alba						
Prunella vulgaris						
Pyrola elliptica						
Ranunculus						
Ranunculus abortivus						
Ranunculus acris						
Rudbeckia hirta						
Rumex acetosella						
Rumex crispus						
Rumex						
Sanguinaria canadensis						
Sanicula marilandica						
Saponaria officinalis						
Satureja vulgaris						
Scutellaria galericulata						
Silene vulgaris						
Sium suave						
Solanum dulcamara						
Solidago						
Solidago altissima						
Solidago caesia						
Solidago canadensis						
Solidago flexicaulis						
Solidago gigantea						
Solidago nemoralis						
Solidago rugosa						
Sonchus arvensis						
Sonchus asper						
Stellaria						
Tanacetum vulgare						
Taraxacum officinale						
Thalictrum dioicum						
Thalictrum pubescens						
Tiarella cordifolia						
Tragopogon pratensis						
Trientalis borealis						
Trifolium						
Trifolium pratense						
Trifolium repens						
Tussilago farfara						
Urtica dioica						
Utricularia vulgaris						
Verbascum thapsus						
Verbena hastata						
Verbena urticifolia						
Veronica						
Veronica officinalis						
Viola cracca						
Viola tetrasperma						
Viola						
Viola						
Viola pubescens						
Viola sororia						

MONOCOT HERBS	1	2	3	4	5	6
Alisma plantago-aquatica						
Allium tricoccum						
Allium						
Arisaema triphyllum						
Asparagus officinalis						
Calla palustris						
Clintonia borealis						
Convallaria majus						
Cypripedium calceolus						
Elodea canadensis						
Epipactis helleborine						
Erythronium americanum						
Hemerocallis fulva						
Iris versicolor						
Lemna minor						
Lemna trisulca						
Lilium						
Melanthemum canadense						
Melanthemum racemosa						
Melanthemum stellata						
Platanthera						
Pontederia cordata						
Polygonatum pubescens						
Potamageton crispus						
Potamageton pectinatus						
Potamageton						
Potamageton						
Potamageton						
Sagittaria latifolia						
Sisyrinchim montanum						
Smilax herbacea						
Spiranthes cernua						
Spirodela polyrhiza						
Streptopus roseus						
Trillium erectum						
Trillium grandiflorum						
Uvularia grandiflora						

SITE LOCATIONS

1: SWD 3-3
2:
3:
4:
5:
6:

I	CONIFERS	1	2	3	4	5	6
	Abies balsamea						
	Juniperus communis						
	Juniperus virginiana						
	Larix laricina						
	Picea abies						
	Picea glauca						
	Pinus resinosa						
	Pinus strobus						
	Pinus sylvestris						
	Thuja occidentalis						
	Tsuga canadensis						
	TREES and SHRUBS						
	Acer negundo						
	Acer rubrum						
	Acer saccharinum						
	Acer saccharum						
	Acer spicatum						
	Alnus rugosa						
	Amelanchier						
	Berberis thunbergii						
	Betula alleghaniensis						
	Betula papyrifera						
	Carpinus caroliniana						
	Carya cordiformis						
	Celastrus scandens						
	Cornus alternifolia						
	Cornus amomum						
	Cornus rugosa						
	Cornus stolonifera						
	Corylus cornuta						
	Crataegus monogyna						
	Crataegus punctata						
	Crataegus sp.						
	Crataegus						
	Diervilla lonicera						
	Fagus grandifolia						
	Fraxinus americana						
	Fraxinus nigra						
	Fraxinus pennsylvanica						
	Ilex verticillata						
	Juglans cinerea						
	Juglans nigra						
	Lonicera morrowi						
	Lonicera tatarica						
	Lonicera						
	Malus pumila						
	Ostrya virginiana						
	Parthenocissus inserta						
	Populus balsamifera						
	Populus grandidentata						
	Populus tremuloides						
	Populus						
	Prunus pensylvanica						
	Prunus serotina						
	Prunus virginiana						
	Prunus						
	Quercus macrocarpa						
	Quercus rubra						
	Quercus						
	Rhamnus cathartica						
	Rhus radicans						
	Rhus typhina						
	Ribes americana						
	Ribes cynosbati						
	Ribes x rubrum						
	Robinia pseudo-acacia						
	Acer freemanii	X					

I	TREES and SHRUBS	1	2	3	4	5	6
+	Rosa multiflora						
	Rosa						
	Rubus allegheniensis						
	Rubus idaeus						
	Rubus occidentalis						
	Rubus odoratus						
	Rubus pubescens						
	Salix alba						
	Salix amygdaloides						
	Salix bebbiana						
+	Salix discolor						
	Salix eriocephala						
	Salix exigua						
	Salix lucida						
	Salix petiolaris						
+	Salix purpurea						
	Salix x rubens						
+	Salix sp	X					
	Sambucus canadensis						
	Sambucus racemosa						
	Sorbus aucuparia						
	Spiraea alba						
	Syringa vulgaris						
+	Tilia americana						
	Ulmus americana	X					
	Ulmus						
	Vaccinium						
	Viburnum lentago						
	Viburnum opulus						
	Viburnum						
	Vitis riparia						
	FERNS						
	Adiantum pedatum						
	Athyrium filix-femina						
	Botrychium multifidum						
	Botrychium virginianum						
	Cystopteris bulbifera						
	Dryopteris carthusiana						
	Dryopteris cristata						
	Dryopteris marginalis						
	Dryopteris						
	Equisetum arvense						
	Equisetum hyemale						
	Equisetum variegatum						
	Equisetum						
	Gymnocarpium dryopteris						
	Lycopodium digitatum						
	Lycopodium obscurum						
	Lycopodium						
	Lycopodium						
	Matteucia struthiopteris						
	Onoclea sensiblis						
	Osmunda cinnamonia						
	Osmunda regalis						
	Polystichum acrostichoides						
	Pteridium aquilinum						
	Thelypteris palustris						

I	GRAMINOIDS	1	2	3	4	5	6
	Agrostis gigantea						
	Agrostis stolonifera						
	Agropyron repens						
	Alopecuris						
	Bromus inermis						
	Calamagrostis canadensis						
	Carex arctata						
	Carex aurea						
	Carex bebbii						
	Carex blanda						
	Carex gracillima						
	Carex granularis						
	Carex hystericina						
	Carex pensylvanica						
	Carex radiata						
	Carex retrorsa						
	Carex stipata						
	Carex stricta						
	Carex vulpinoidea						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Cyperus						
	Cyperus						
	Dactylis glomerata						
	Danthonia spicata						
	Echinochloa crus-galli						
	Eleocharis erythropoda						
	Eleocharis						
	Elymus virginicus						
	Elymus						
	Festuca arundinacea						
	Glyceria striata						
	Glyceria						
	Juncus dudleyi						
	Juncus effusus						
	Juncus tenuis						
	Juncus						
	Juncus						
	Leersia oryzoides						
	Muhlenbergia						
	Oryzopsis asperifolia						
	Panicum						
	Panicum						
	Phalaris arundinacea						
	Phleum pratense						
	Phragmites australis						
	Poa compressus						
	Poa pratensis						
	Poa						
	Scirpus atrovirens						
	Scirpus cyperinus						
	Scirpus validus						
	Scirpus						
	Scirpus						
	Setaria						
	Sparganium						
	Typha angustifolia						
	Typha latifolia						
	Typha Xglauca						

ELC
Community Description and Classification

Site: Bluewater	Polygon: BT4-552	
Surveyor(s): JD	Date: Feb 1, 2012	Time start: 11:00 AM finish: 11:30am
UTMZ:	UTMZ:	UTMN:

Polygon Description

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

Site: ☐ Open Water ☐ Shallow Water ☒ Surficial Dep. ☐ Bedrock

History: ☒ Natural ☐ Cultural

Cover: ☐ Open ☐ Shrub ☒ Treed

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	PINSYLV - FRAAMER - PINSTRO - JUGNIGR
2			
3			
4			

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

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

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

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

Ecosite:	Mineral Cultural Woodland Ecosite	Code:	CUW1
Vegetation Type:		Code:	CUW1
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

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

ELC Community Description and Classification

Site: Hwratin			Polygon: FS4-S5	
Surveyor(s): JD	Date: Feb 1, 2012	Time	start: 11:00am	finish: 11:35am
UTMZ:	UTMZ:	UTMN:		

Polygon Description

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

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	JUGNIGR > PINSTRO > PINSYLV > FRAPENN
2			
3			
4			

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

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

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

Com. Age:	[ ] Pioneer	[ ] Young	[X] Mid-Age	[X] Mature	[ ] Old Growth

Ecosite:	Dry-Fresh White Pine-Maple-Oak Mixed Forest Ecosite	Code:	FOM2
Vegetation Type:		Code:	FOM2
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Prism Factor	2

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

Soils Ontario and ELC Soils Description

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

VASCULAR PLANT CHECKSHEET

Location: Bluewater - 554-552/551 Date: February 1, 2012

Observer: Job Number:

DICOT HERBS	1	2	3	4	5	6
Achillea millefolium						
Actaea pachypoda						
Actaea rubra						
Agalinus						
Agrimonia gryposepala						
Alliaria petiolaris						
Amaranthus retroflexus						
Ambrosia artemisiifolia						
Amphicarpaea bracteata						
Anaphalis margaritacea						
Anemone						
Anemone canadensis						
Anemone virginiana						
Antennaria neglecta						
Apocynum androsaemifolium						
Apocynum cannabinum						
Aquilegia canadensis						
Aralia nudicaulis						
Arctium minus						
Artemisia						
Asarum canadense						
Asclepias incarnata						
Asclepias syriaca						
Aster						
Aster cordifolius						
Aster ericoides						
Aster lanceolatus						
Aster lateriflorus						
Aster macrophyllus						
Aster novae-angliae						
Aster puniceus						
Barbarea vulgaris						
Bidens cernua						
Bidens frondosa						
Boehmeria cylindrica						
Caltha palustris						
Calystegia sepium						
Dentaria diphylla						
Cardamine						
Caulophyllum thalictroides						
Cerastium fontanum						
Ceratophyllum demersum						
Chelidonium majus						
Chenopodium album						
Chrysanth. leucanthemum						
Cichorium intybus						
Cicuta						
Circaea lutetiana						
Cirsium arvense						
Cirsium vulgare						
Clematis virginiana						
Clintonia borealis						
Conyza canadensis						
Coronilla varia						
Cynanchum rossicum						
Cynoglossum officinale						
Daucus carota						
Desmodium canadense						
Dianthus armeria						
Dipsacus fullonum						
Echinocystis lobata						
Echium vulgare						
Epilobium						
Epilobium ciliatum						
Epilobium hirsutum						
Epilobium parviflorum						

	1	2	3	4	5	6
Erigeron annuus						
Erigeron philadelphicus						
Erigeron strigosus						
Erysimum cheiranthoides						
Eupatorium maculatum						
Eupatorium perfoliatum						
Eupatorium rugosum						
Euphorbia						
Euthamia graminifolia						
Fragaria virginiana						
Fragaria vesca						
Galeopsis tetrahit						
Galium						
Galium						
Galium palustre						
Galium triflorum						
Geranium maculatum						
Geranium robertianum						
Geum aleppicum						
Geum canadense						
Geum						
Glecoma hederacea						
Hepatica acutiloba						
Hesperis matronalis						
Hieracium aurantiacum						
Hieracium caespitosum						
Hieracium						
Hydrophyllum virginianum						
Hypericum perforatum						
Impatiens capensis						
Inula helenium						
Lactuca						
Laportea canadensis						
Lapsana communis						
Leonurus cardiaca						
Lepidium						
Linaria vulgaris						
Lithospermum officinale						
Lobelia						
Lobelia inflata						
Lotus corniculatus						
Lycopus americanus						
Lycopus						
Lysimachia ciliata						
Lythrum salicaria						
Medicago lupulina						
Medicago sativum						
Melilotus alba						
Mentha arvensis						
Mimulus ringens						
Mimulus ringens						
Mitella diphylla						
Monarda fistulosa						
Myosotis						
Nasturtium officinale						
Nepeta cataria						
Nuphar variegatum						
Nymphaea odorata						
Oenothera biennis						
Osmorhiza						
Oxalis stricta						
Phryma leptostachya						
Physalis heterophylla						

	1	2	3	4	5	6
Plantago lanceolata						
Plantago major						
Plantago rugelii						
Podophyllum peltatum						
Polygonum						
Polygonum						
Polygonum						
Polygonum lapathifolium						
Polygonum persicaria						
Potentilla						
Potentilla norvegica						
Potentilla recta						
Prenanthes alba						
Prunella vulgaris						
Pyrola elliptica						
Ranunculus						
Ranunculus abortivus						
Ranunculus acris						
Rudbeckia hirta						
Rumex acetosella						
Rumex crispus						
Rumex						
Sanguinaria canadensis						
Sanicula marilandica						
Saponaria officinalis						
Satureja vulgaris						
Scutellaria galericulata						
Silene vulgaris						
Sium suave						
Solanum dulcamara						
Solidago						
Solidago altissima						
Solidago caesia						
Solidago canadensis						
Solidago flexicaulis						
Solidago gigantea						
Solidago nemoralis						
Solidago rugosa						
Sonchus arvensis						
Sonchus asper						
Stellaria						
Tanacetum vulgare						
Taraxacum officinale						
Thalictrum dioicum						
Thalictrum pubescens						
Tiarella cordifolia						
Tragopogon pratensis						
Trientalis borealis						
Trifolium						
Trifolium pratense						
Trifolium repens						
Tussilago farfara						
Urtica dioica						
Utricularia vulgaris						
Verbascum thapsus						
Verbena hastata						
Verbena urticifolia						
Veronica						
Veronica officinalis						
Vicia cracca						
Vicia tetrasperma						
Viola						
Viola						
Viola pubescens						
Viola sororia						

MONOCOT HERBS	1	2	3	4	5	6
Alisma plantago-aquatica						
Allium tricoccum						
Allium						
Arisaema triphyllum						
Asparagus officinalis						
Calla palustris						
Clintonia borealis						
Convallaria majus						
Cypripedium calceolus						
Elodea canadensis						
Epipactis helleborine						
Erythronium americanum						
Hemerocallis fulva						
Iris versicolor						
Lemna minor						
Lemna trisulca						
Lilium						
Maianthemum canadense						
Maianthemum racemosa						
Maianthemum stellata						
Platanthera						
Pontederia cordata						
Polygonatum pubescens						
Potamogeton crispus						
Potamogeton pectinatus						
Potamogeton						
Potamogeton						
Potamogeton						
Sagittaria latifolia						
Sisyrinchium montanum						
Smilax herbacea						
Spiranthes cernua						
Spirodela polyrhiza						
Streptopus roseus						
Trillium erectum						
Trillium grandiflorum						
Uvularia grandiflora						

SITE LOCATIONS

1: FOM2
2: CUW1
3:
4:
5:
6:

I	CONIFERS	1	2	3	4	5	6
	Abies balsamea						
	Juniperus communis						
	Juniperus virginiana						
	Larix laricina	X					
	Picea abies						
	Picea glauca						
	Pinus resinosa						
	Pinus strobus	X	X				
	Pinus sylvestris	X	X				
	Thuja occidentalis						
	Tsuga canadensis						
	TREES and SHRUBS						
	Acer negundo		X				
	Acer rubrum						
	Acer saccharinum						
	Acer saccharum						
	Acer spicatum						
	Alnus rugosa						
	Amelanchier						
	Berberis thunbergii						
	Betula alleghaniensis						
	Betula papyrifera						
	Carpinus caroliniana						
	Carya cordiformis						
	Celastrus scandens						
	Cornus alternifolia						
	Cornus amomum						
	Cornus rugosa						
	Cornus stolonifera						
	Corylus cornuta						
	Crataegus monogyna						
	Crataegus punctata						
	Crataegus sp.						
	Crataegus						
	Diervilla lonicera						
	Fagus grandifolia						
	Fraxinus americana	X					
	Fraxinus nigra						
	Fraxinus pennsylvanica	X	X				
	Ilex verticillata						
	Juglans cinerea						
	Juglans nigra	X	X				
	Lonicera morrowi						
	Lonicera tatarica						
	Lonicera						
	Malus pumila						
	Ostrya virginiana						
	Parthenocissus inserta						
	Populus balsamifera						
	Populus grandidentata						
	Populus tremuloides		X				
	Populus deltoides		X				
	Prunus pensylvanica						
	Prunus serotina	X					
	Prunus virginiana						
	Prunus						
	Quercus macrocarpa						
	Quercus rubra						
	Quercus						
	Rhamnus cathartica						
	Rhus radicans						
	Rhus typhina						
	Ribes americana						
	Ribes cynosbati						
	Ribes x rubrum						
	Robinia pseudo-acacia						

I	TREES and SHRUBS	1	2	3	4	5	6
+	Rosa multiflora						
	Rosa						
	Rubus allegheniensis						
	Rubus idaeus						
	Rubus occidentalis						
	Rubus odoratus						
	Rubus pubescens						
	Salix alba						
	Salix amygdaloides						
	Salix bebbiana						
+	Salix discolor						
	Salix eriocephala						
	Salix exigua						
	Salix lucida						
	Salix petiolaris						
+	Salix purpurea						
	Salix x rubens						
+	Salix						
	Sambucus canadensis						
	Sambucus racemosa						
	Sorbus aucuparia						
	Spiraea alba						
	Syringa vulgaris						
+	Tilia americana	X					
	Ulmus americana						
	Ulmus						
	Vaccinium						
	Viburnum lentago						
	Viburnum opulus						
	Viburnum						
	Vitis riparia						
	FERNS						
	Adiantum pedatum						
	Athyrium filix-femina						
	Botrychium multifidum						
	Botrychium virginianum						
	Cystopteris bulbifera						
	Dryopteris carthusiana						
	Dryopteris cristata						
	Dryopteris marginalis						
	Dryopteris						
	Equisetum arvense						
	Equisetum hyemale						
	Equisetum variegatum						
	Equisetum						
	Gymnocarpium dryopteris						
	Lycopodium digitatum						
	Lycopodium obscurum						
	Lycopodium						
	Lycopodium						
	Matteucia struthiopteris						
	Onoclea sensibilis						
	Osmunda cinnamomea						
	Osmunda regalis						
	Polystichum acrostichoides						
	Pteridium aquilinum						
	Thelypteris palustris						

I	GRAMINOIDS	1	2	3	4	5	6
	Agrostis gigantea						
	Agrostis stolonifera						
	Agropyron repens						
	Alopecuris						
	Bromus inermis						
	Calamagrostis canadensis						
	Carex arctata						
	Carex aurea						
	Carex bebbii						
	Carex blanda						
	Carex gracillima						
	Carex granularis						
	Carex hystericina						
	Carex pensylvanica						
	Carex radiata						
	Carex retrorsa						
	Carex stipata						
	Carex stricta						
	Carex vulpinoidea						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Cyperus						
	Cyperus						
	Dactylis glomerata						
	Danthonia spicata						
	Echinochloa crus-galli						
	Eleocharis erythropoda						
	Eleocharis						
	Elymus virginicus						
	Elymus						
	Festuca arundinacea						
	Glyceria striata						
	Glyceria						
	Juncus dudleyi						
	Juncus effusus						
	Juncus tenuis						
	Juncus						
	Juncus						
	Leersia oryzoides						
	Muhlenbergia						
	Oryzopsis asperifolia						
	Panicum						
	Panicum						
	Phalaris arundinacea						
	Phleum pratense						
	Phragmites australis						
	Poa compressa						
	Poa pratensis						
	Poa						
	Scirpus atrovirens						
	Scirpus cyperinus						
	Scirpus validus						
	Scirpus						
	Scirpus						
	Setaria						
	Sparganium						
	Typha angustifolia						
	Typha latifolia						
	Typha Xglauca						

ELC
Community Description and Classification

Site: Bluewater		Polygon: BTS0556	
Surveyor(s): JD	Date: Feb 1, 2012	Time start: 9:00am	finish: 9:30am
UTMZ:	UTMZ:	UTMN:	

Polygon Description

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

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	CARCOR >> FRAPENN
2			
3			
4			

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

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

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

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

Ecosite:	Fresh-Moist OAC-Maple-Hickory deciduous Forest Ecosite	Code:	FOD9
Vegetation Type:	Fresh-Moist Bitternut Hickory Deciduous Forest Type	Code:	FOD9-5
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

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

ELC
Community Description and Classification

Site: Bluewater		Polygon: BTS-556	
Surveyor(s): JD	Date: Feb 1, 2012	Time start: 9:00am	finish: 9:30am
UTMZ:	UTMZ:	UTMN:	

Polygon Description

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

Site
☐ Open Water
☐ Shallow Water
☑ Surficial Dep.
☐ Bedrock

History
☑ Natural
☐ Cultural

Cover
☐ Open
☐ Shrub
☑ Treed

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	CARCORO - ACESACC - PRUSERO - OSTVIR
2			
3			
4			

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 - 50% 4 > 50%

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

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

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

Ecosite:	Dry-Fresh Sugar Maple Deciduous Forest Ecosite	Code:	FOD5
Vegetation Type:	Dry-Fresh Sugar Maple-Hickory Deciduous Forest Type	Code:	FOD5-5
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

large ash + elm in canopy
mix of all hardwoods

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

						Summary
Site Metrics	Pit/Auger #					
	UTM: Zone					Moisture Regime
	UTM: Easting					
	UTM: Northing					
	Slope: Position					
	Slope: Aspect					Drainage
	Slope: Percent					
	Slope: Slope Length					
Depth to...	Mottles					
	Gley					Effective Texture (indicate below)
	Water Table					
	Carbonates					
	Bedrock					

Soil Horizon Description									
	1	Depth from zero	% CF	% CF	% CF	% CF
		Texture				
	2	Depth from zero	% CF	% CF	% CF	% CF
		Texture				
	3	Depth from zero	% CF	% CF	% CF	% CF
		Texture				
	4	Depth from zero	% CF	% CF	% CF	% CF
		Texture				
		% Surface Stone/Rock				
	Moisture Regime					
	Drainage					

VASCULAR PLANT CHECKSHEET

Location: Bluewater BTS-506
Date: February 1, 2012
Observer: JD
Job Number:

COT HERBS	1	2	3	4	5	6
illea millefolia						
tsea pachypoda						
Actaea rubra						
Agelinus						
Agrimonia gryposepala						
Alliaria petiolaris						
Amaranthus retroflexus						
Ambrosia artemisiifolia						
Amphicarpaea bracteata						
Anaphalis margaritacea						
Anemone						
Anemone canadensis						
Anemone virginiana						
Antennaria neglecta						
Apocynum androsaemifolium						
Apocynum cannabinum						
Aquilegia canadensis						
Aralia nudicaulis						
Arctium minus						
Artemisia						
Asarum canadense						
Asclepias incarnata						
Asclepias syriaca						
Aster						
Aster cordifolius						
Aster ericoides						
Aster lanceolatus						
Aster lateriflorus						
Aster macrophyllus						
Aster novae-angliae						
Aster puniceus						
Barbarea vulgaris						
Bidens cernua						
Bidens frondosa						
Boehmeria cylindrica						
Caltha palustris						
Calystegia sepium						
Cardamine						
Caulophyllum thalictroides						
Cerastium fontanum						
Ceratophyllum demersum						
Chelidonium majus						
Chenopodium album						
Chrysanth. leucanthemum						
Cichorium intybus						
Cicuta						
Circaea lutetiana						
Cirsium arvense						
Cirsium vulgare						
Clematis virginiana						
Clintonia borealis						
Conyza canadensis						
Coronilla varia						
Cynanchum rostratum						
Cynoglossum officinale						
Dasucus carota						
Desmodium canadense						
Dianthus armeria						
Dipsacus fullonum						
Echinocystis lobata						
Echium vulgare						
Epilobium						
Epilobium ciliatum						
Epilobium hirsutum						
Epilobium parviflorum						

	1	2	3	4	5	6
Erigeron annuus						
Erigeron philadelphicus						
Erigeron strigosus						
Erysimum chieranthoides						
Eupatorium maculatum						
Eupatorium perfoliatum						
Eupatorium rugosum						
Euphorbia						
Euthamia graminifolia						
Fragaria virginiana						
Fragaria vesca						
Galeopsis tetrahit						
Galium						
Galium						
Galium palustre						
Galium triflorum						
Geranium maculatum						
Geranium robertianum						
Geum aleppicum						
Geum canadense						
Geum						
Glecoma hederacea						
Hepatica acutiloba						
Hesperis matronalis						
Hieracium aurantiacum						
Hieracium caespitosum						
Hieracium						
Hydrophyllum virginianum						
Hypericum perforatum						
Impatiens capensis						
Inula helenium						
Lactuca						
Laportea canadensis						
Lapsana communis						
Leonurus cardiaca						
Lepidium						
Linaria vulgaris						
Lithospermum officinale						
Lobelia						
Lobelia inflata						
Lotus corniculatus						
Lycopus americanus						
Lycopus						
Lysimachia ciliata						
Lythrum salicaria						
Medicago lupulina						
Medicago sativum						
Melilotus alba						
Mentha arvensis						
Mimulus ringens						
Mimulus ringens						
Mitella diphylla						
Monarda fistulosa						
Myosotis						
Nasturtium officinale						
Nepeta cataria						
Nuphar variegatum						
Nymphaea odorata						
Oenothera biennis						
Osmorhiza						
Oxalis stricta						
Physma leptostachya						
Physalis heterophylla						

	1	2	3	4	5	6
Plantago lanceolata						
Plantago major						
Plantago rugelii						
Podophyllum peltatum						
Polygonum						
Polygonum						
Polygonum						
Polygonum lapathifolium						
Polygonum persicaria						
Potentilla						
Potentilla norvegica						
Potentilla recta						
Prenanthes alba						
Prunella vulgaris						
Pyrola elliptica						
Ranunculus						
Ranunculus abortivus						
Ranunculus acris						
Rudbeckia hirta						
Rumex acetosella						
Rumex crispus						
Rumex						
Sanguinaria canadensis						
Sanicula marilandica						
Saponaria officinalis						
Satureja vulgaris						
Scutellaria galericulata						
Silene vulgaris						
Sium suave						
Solanum dulcamara						
Solidago						
Solidago altissima						
Solidago caesia						
Solidago canadensis						
Solidago flexicaulis						
Solidago gigantea						
Solidago nemoralis						
Solidago rugosa						
Sonchus arvensis						
Sonchus asper						
Stellaria						
Tarasacum vulgare						
Tarasacum officinale						
Thalictrum dioicum						
Thalictrum pubescens						
Tiarella cordifolia						
Tragopogon pratensis						
Trientalis borealis						
Trifolium						
Trifolium pratense						
Trifolium repens						
Tussilago farfara						
Urtica dioica						
Utricularia vulgaris						
Verbascum thapsus						
Verbena hastata						
Verbena urticifolia						
Veronica						
Veronica officinalis						
Viola cracca						
Viola tetrasperma						
Viola						
Viola						
Viola pubescens						
Viola sororia						

MONOCOT HERBS	1	2	3	4	5	6
Alisma plantago-aquatica						
Allium tricoccum						
Allium						
Arisaema triphyllum						
Asparagus officinalis						
Calla palustris						
Clintonia borealis						
Convallaria majus						
Cypripedium calceolus						
Elodea canadensis						
Epipactis helleborine						
Erythronium americanum						
Hemerocallis fulva						
Iris versicolor						
Lemna minor						
Lemna trisulca						
Lilium						
Maianthemum canadense						
Maianthemum racemosa						
Maianthemum stellata						
Pleanthera						
Pontederia cordata						
Polygonatum pubescens						
Potamageton crispus						
Potamageton pectinatus						
Potamageton						
Potamageton						
Potamageton						
Sagittaria latifolia						
Sisyrinhim mortarum						
Smilax herbacea						
Spiranthes cernua						
Spirodela polyrhiza						
Streptopus roseus						
Trillium erectum						
Trillium grandiflorum						
Uvularia grandiflora						

SITE LOCATIONS

1: EO09-5
2: EO05-5
3:
4:
5:
6:

I	CONIFERS	1	2	3	4	5	6
	Abies balsamea						
	Juniperus communis						
	Juniperus virginiana						
	Larix laricina						
	Picea abies						
	Picea glauca						
	Pinus resinosa						
	Pinus strobus						
	Pinus sylvestris						
	Thuja occidentalis						
	Tsuga canadensis						
	TREES and SHRUBS						
	Acer negundo	X					
	Acer rubrum						
	Acer saccharinum						
	Acer saccharum	X	X				
	Acer spicatum						
	Alnus rugosa						
	Amelanchier						
	Berberis thunbergii						
	Betula alleghaniensis						
	Betula papyrifera						
	Carpinus caroliniana						
	Carya cordiformis	X	X				
	Celastrus scandens						
	Cornus alternifolia						
	Cornus amomum						
	Cornus rugosa						
	Cornus stolonifera						
	Corylus cornuta						
	Crataegus monogyna						
	Crataegus punctata						
	Crataegus sp.						
	Crataegus						
	Diervilla lonicera						
	Fagus grandifolia	X	X				
	Fraxinus americana						
	Fraxinus nigra						
	Fraxinus pennsylvanica	X	X				
	Ilex verticillata						
	Juglans cinerea						
	Juglans nigra						
	Lonicera morrowi						
	Lonicera tatarica						
	Lonicera						
	Malus pumila						
	Ostrya virginiana	X					
	Parthenocissus inserta						
	Populus balsamifera						
	Populus grandidentata						
	Populus tremuloides						
	Populus						
	Prunus pensylvanica						
	Prunus serotina	X	X				
	Prunus virginiana						
	Prunus						
	Quercus macrocarpa		X				
	Quercus rubra						
	Quercus						
	Rhamnus cathartica						
	Rhus radicans						
	Rhus typhina						
	Ribes americana						
	Ribes cynosbati						
	Ribes x rubrum						
	Robinia pseudo-acacia						

I	TREES and SHRUBS	1	2	3	4	5	6
+	Rosa multiflora						
	Rosa						
	Rubus allegheniensis						
	Rubus idaeus						
	Rubus occidentalis						
	Rubus odoratus						
	Rubus pubescens						
	Salix alba						
	Salix amygdaloides						
	Salix bebbiana						
+	Salix discolor						
	Salix eriocephala						
	Salix exigua						
	Salix lucida						
	Salix petiolaris						
+	Salix purpurea						
	Salix x rubens						
+	Salix						
	Sambucus canadensis						
	Sambucus racemosa						
	Sorbus aucuparia						
	Spiraea alba						
	Syringa vulgaris						
+	Tilia americana	X	X				
	Ulmus americana	X					
	Ulmus						
	Vaccinium						
	Viburnum lentago						
	Viburnum opulus						
	Viburnum						
	Vitis riparia						
	FERNS						
	Adiantum pedatum						
	Athyrium filix-femina						
	Botrychium multifidum						
	Botrychium virginianum						
	Cystopteris bulbifera						
	Dryopteris carthusiana						
	Dryopteris cristata						
	Dryopteris marginalis						
	Dryopteris						
	Equisetum arvense						
	Equisetum hyemale						
	Equisetum variegatum						
	Equisetum						
	Gymnocarpium dryopteris						
	Lycopodium digitatum						
	Lycopodium obscurum						
	Lycopodium						
	Lycopodium						
	Matteuccia struthiopteris						
	Onoclea sensibilis						
	Osmunda cinnamonia						
	Osmunda regalis						
	Polystichum acrostichoides						
	Pteridium aquilinum						
	Thelypteris palustris						

I	GRAMINOIDS	1	2	3	4	5	6
	Agrostis gigantea						
	Agrostis stolonifera						
	Agropyron repens						
	Alopecuris						
	Bromus inermis						
	Calamagrostis canadensis						
	Carex arctata						
	Carex aurea						
	Carex bebbii						
	Carex blanda						
	Carex gracillima						
	Carex granularis						
	Carex hystericina						
	Carex pensylvanica						
	Carex radiata						
	Carex retrorsa						
	Carex stipata						
	Carex stricta						
	Carex vulpinoidea						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Cyperus						
	Cyperus						
	Dactylis glomerata						
	Danthonia spicata						
	Echinochloa crus-galli						
	Eleocharis erythropoda						
	Eleocharis						
	Elymus virginicus						
	Elymus						
	Festuca arundinacea						
	Glyceria striata						
	Glyceria						
	Juncus dudleyi						
	Juncus effusus						
	Juncus tenuis						
	Juncus						
	Juncus						
	Leersia oryzoides						
	Muhlenbergia						
	Oryzopsis asperifolia						
	Panicum						
	Panicum						
	Phalaris arundinacea						
	Phleum pratense						
	Phragmites australis						
	Poa compressa						
	Poa pratensis						
	Poa						
	Scirpus atrovirens						
	Scirpus cyperinus						
	Scirpus validus						
	Scirpus						
	Scirpus						
	Setaria						
	Sparganium						
	Typha angustifolia						
	Typha latifolia						
	Typha Xglauca						

ELC
Community Description and Classification

Site: Bluewater		Polygon: BT12-561
Surveyor(s): JD	Date: Feb 1, 2012	Time start: 9:35am finish: 10:55am
UTMZ:	UTMZ:	UTMN:

Polygon Description

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

Site: ☐ Open Water ☐ Shallow Water ☑ Surficial Dep. ☐ Bedrock

History: ☑ Natural ☐ Cultural

Cover: ☐ Open ☐ Shrub ☑ Treed

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	ACEFREE > FRAPENN - FRANIGR > TILAMER
2			
3			
4			

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

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

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

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

Ecosite:	MAPLE MINERAL DECIDUOUS SWAMP ECOSITE	Code:	SWO3
Vegetation Type:	SWAMP MAPLE MINERAL DECIDUOUS SWAMP	Code:	SWO3-3
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

edge community of both wetland + upland communities

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

						Summary
Site Metrics		Pit/Auger #				
	UTM	Zone				Moisture Regime
		Easting				
		Northing				
	Slope	Position				Drainage
		Aspect				
		Percent				
		Slope Length				
Depth to...		Mottles				Effective Texture (indicate below)
		Gley				
		Water Table				
		Carbonates				
		Bedrock				

Soil Horizon Description									
	1	Depth from zero		% CF		% CF		% CF	% CF
		Texture							
	2	Depth from zero		% CF		% CF		% CF	% CF
		Texture							
	3	Depth from zero		% CF		% CF		% CF	% CF
		Texture							
	4	Depth from zero		% CF		% CF		% CF	% CF
		Texture							
		% Surface Stone/Rock							
	Moisture Regime								
	Drainage								

ELC Community Description and Classification

Site: Bluewater		Polygon: BT12-S61	
Surveyor(s): JD	Date:	Time start:	finish:
UTMZ:	UTMZ:	UTMN:	

Polygon Description

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

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (>> *Much Greater Than;* > *Greater Than;* = *About Equal To*)
1	1	4	ACESACC > FAGGRAN > TILAMER > FRAPENN
2			
3			
4			

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

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

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

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

Ecosite:	Dry-Fresh Sugar Maple Deciduous Forest Ecosite	Code:	FOD5
Vegetation Type:	Dry-Fresh Sugar Maple-Beech Deciduous Forest Type	Code:	FOD5-2
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

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

VASCULAR PLANT CHECKSHEET

Location: Bluewater - BT12-561
Date: February 1, 2012
Observer: JD
Job Number:

DICOT HERBS	1	2	3	4	5	6
Achillea millefolia						
Actaea pachypoda						
Actaea rubra						
Agalinus						
Agrimonia gryposepala						
Alliaria petiolaris						
Amaranthus retroflexus						
Ambrosia artemisiifolia						
Amphicarpaea bracteata						
Anaphalis margaritacea						
Anemone						
Anemone canadensis						
Anemone virginiana						
Antennaria neglecta						
Apocynum androsaemifolium						
Apocynum cannabinum						
Aquilegia canadensis						
Aralia nudicaulis						
Arctium minus						
Artemisia						
Asarum canadense						
Asclepias incarnata						
Asclepias syriaca						
Aster						
Aster cordifolius						
Aster ericoides						
Aster lanceolatus						
Aster laterifforus						
Aster macrophyllus						
Aster novae-angliae						
Aster puniceus						
Barbarea vulgaris						
Bidens cernua						
Bidens frondosa						
Boehmeria cylindrica						
Caltha palustris						
Calystegia sepium						
Cardamine diphylla						
Cardamine						
Caulophyllum thalictroides						
Cerastium fontanum						
Ceratophyllum demersum						
Chelidonium majus						
Chenopodium album						
Chrysanth. leucanthemum						
Cichorium intybus						
Cicuta						
Circaea lutetiana						
Cirsium arvense						
Cirsium vulgare						
Clematis virginiana						
Clintonia borealis						
Conyza canadensis						
Cornilla varia						
Cynanchum rosulum						
Cynoglossum officinale						
Daucus carota						
Desmodium canadense						
Dianthus armeria						
Dipsacus fullonum						
Echinocystis lobata						
Echium vulgare						
Epilobium						
Epilobium ciliatum						
Epilobium hirsutum						
Epilobium parviflorum						

	1	2	3	4	5	6
Erigeron annuus						
Erigeron philadelphicus						
Erigeron strigosus						
Erysimum chierantholdes						
Eupatorium maculatum						
Eupatorium perfoliatum						
Eupatorium rugosum						
Euphorbia						
Euthamia graminifolia						
Fragaria virginiana						
Fragaria vesca						
Galeopsis tetrahit						
Galium						
Galium						
Galium palustre						
Galium triflorum						
Geranium maculatum						
Geranium robertianum						
Geum aleppicum						
Geum canadense						
Geum						
Glecoma hederacea						
Hepatica acutiloba						
Hesperis matronalis						
Hieracium aurantiacum						
Hieracium caespitosum						
Hieracium						
Hydrophyllum virginianum						
Hypericum perforatum						
Impatiens capensis						
Inula helenium						
Lactuca						
Laportea canadensis						
Lapsana communis						
Leonurus cardiaca						
Lepidium						
Linaria vulgaris						
Lithospermum officinale						
Lobelia						
Lobelia inflata						
Lotus corniculatus						
Lycopus americanus						
Lycopus						
Lysimachia ciliata						
Lythrum salicaria						
Medicago lupulina						
Medicago sativum						
Melilotus alba						
Mentha arvensis						
Mimulus ringens						
Mimulus ringens						
Mitella diphylla						
Monarda fistulosa						
Myosotis						
Nasturtium officinale						
Nepeta cataria						
Nuphar variegatum						
Nymphaea odorata						
Oenothera biennis						
Osmorhiza						
Oxalis stricta						
Physma leptostachya						
Physalis heterophylla						

	1	2	3	4	5	6
Plantago lanceolata						
Plantago major						
Plantago rugelii						
Podophyllum peltatum						
Polygonum						
Polygonum						
Polygonum						
Polygonum lapathifolium						
Polygonum persicaria						
Potentilla						
Potentilla norvegica						
Potentilla recta						
Prenanthes alba						
Prunella vulgaris						
Pyrola elliptica						
Ranunculus						
Ranunculus abortivus						
Ranunculus acris						
Rudbeckia hirta						
Rumex acetosella						
Rumex crispus						
Rumex						
Sanguinaria canadensis						
Sanicula marilandica						
Saponaria officinalis						
Satureja vulgaris						
Scutellaria galericulata						
Silene vulgaris						
Sium suave						
Solanum dulcamara						
Solidago						
Solidago altissima						
Solidago caesia						
Solidago canadensis						
Solidago flexicaulis						
Solidago gigantea						
Solidago nemoralis						
Solidago rugosa						
Sonchus arvensis						
Sonchus asper						
Stellaria						
Taraxacum vulgare						
Tarapacum officinale						
Thalictrum dioicum						
Thalictrum pubescens						
Tiarella cordifolia						
Tragopogon pratensis						
Triantalis borealis						
Trifolium						
Trifolium pratense						
Trifolium repens						
Tussilago farfara						
Urtica dioica						
Utricularia vulgaris						
Verbascum thapsus						
Verbena hastata						
Verbena urticifolia						
Veronica						
Veronica officinalis						
Viola cucca						
Viola tetrasperma						
Viola						
Viola						
Viola pubescens						
Viola sororia						

MONOCOT HERBS	1	2	3	4	5	6
Alisma plantago-aquatica						
Allium tricoccum						
Allium						
Arisaema triphyllum						
Asparagus officinalis						
Calla palustris						
Clintonia borealis						
Convallaria majus						
Cypripedium calceolus						
Elodea canadensis						
Epipactis helleborine						
Erythronium americanum						
Hemerocallis fulva						
Iris versicolor						
Lemna minor						
Lemna trisulca						
Lilium						
Maianthemum canadense						
Maianthemum racemosa						
Maianthemum stellata						
Platanthera						
Pontederia cordata						
Polygonatum pubescens						
Potamageton crispus						
Potamageton pectinatus						
Potamageton						
Potamageton						
Potamageton						
Sagittaria latifolia						
Stenychim mortanum						
Smilax herbacea						
Spiranthes cernua						
Spirodela polyrhiza						
Streptopus roseus						
Trillium erectum						
Trillium grandiflorum						
Uvularia grandiflora						

SITE LOCATIONS

1: SW03-3
2: FOP5-2
3:
4:
5:
6:

I	CONIFERS	1	2	3	4	5	6
	Abies balsamea						
	Juniperus communis						
	Juniperus virginiana						
	Larix laricina						
	Picea abies						
	Picea glauca						
	Pinus resinosa						
	Pinus strobus						
	Pinus sylvestris						
	Thuja occidentalis						
	Tsuga canadensis						
	TREES and SHRUBS						
	Acer negundo						
	Acer rubrum						
	Acer saccharinum						
	Acer saccharum		X				
	Acer spicatum						
	Alnus rugosa						
	Amelanchier						
	Berberis thunbergii						
	Betula alleghaniensis						
	Betula papyrifera						
	Carpinus caroliniana						
	Carya cordiformis						
	Celastrus scandens						
	Cornus alternifolia						
	Cornus amomum						
	Cornus rugosa						
	Cornus stolonifera						
	Corylus cornuta						
	Crataegus monogyna						
	Crataegus punctata						
	Crataegus sp.						
	Crataegus						
	Diervilla lonicera						
	Fagus grandifolia		X				
	Fraxinus americana						
	Fraxinus nigra	X					
	Fraxinus pennsylvanica	X	X				
	Ilex verticillata						
	Juglans cinerea						
	Juglans nigra						
	Lonicera morrowi						
	Lonicera tatarica						
	Lonicera						
	Malus pumila						
	Ostrya virginiana						
	Parthenocissus inserta						
	Populus balsamifera						
	Populus grandidentata						
	Populus tremuloides						
	Populus						
	Prunus pensylvanica						
	Prunus serotina						
	Prunus virginiana						
	Prunus						
	Quercus macrocarpa	X					
	Quercus rubra						
	Quercus						
	Rhamnus cathartica						
	Rhus radicans						
	Rhus typhina						
	Ribes americana						
	Ribes cynosbati						
	Ribes x rubrum						
	Robinia pseudo-acacia						
	ACETREE	X					

I	TREES and SHRUBS	1	2	3	4	5	6
+	Rosa multiflora						
	Rosa						
	Rubus allegheniensis						
	Rubus idaeus						
	Rubus occidentalis						
	Rubus odoratus						
	Rubus pubescens						
	Salix alba						
	Salix amygdaloides						
	Salix bebbiana						
+	Salix discolor						
	Salix eriocephala						
	Salix exigua						
	Salix lucida						
	Salix petiolaris						
+	Salix purpurea						
	Salix x rubens						
+	Salix						
	Sambucus canadensis						
	Sambucus racemosa						
	Sorbus aucuparia						
	Spiraea alba						
	Syringa vulgaris						
+	Tilia americana	X	X				
	Ulmus americana	X					
	Ulmus						
	Vaccinium						
	Viburnum lentago						
	Viburnum opulus						
	Viburnum						
	Vitis riparia						

I	FERNS	1	2	3	4	5	6
	Adiantum pedatum						
	Athyrium filix-femina						
	Botrychium multifidum						
	Botrychium virginianum						
	Cystopteris bulbifera						
	Dryopteris carthusiana						
	Dryopteris cristata						
	Dryopteris marginalis						
	Dryopteris						
	Equisetum arvense						
	Equisetum hyemale						
	Equisetum variegatum						
	Equisetum						
	Gymnocarpium dryoperis						
	Lycopodium digitatum						
	Lycopodium obscurum						
	Lycopodium						
	Lycopodium						
	Matteucia struthiopteris						
	Onoclea sensiblis						
	Osmunda cinnamomea						
	Osmunda regalis						
	Polystichum acrostichoides						
	Pteridium aquilinum						
	Thelypteris palustris						

I	GRAMINOIDS	1	2	3	4	5	6
	Agrostis gigantea						
	Agrostis stolonifera						
	Agropyron repens						
	Alopecuris						
	Bromus inermis						
	Calamagrostis canadensis						
	Carex arctata						
	Carex aurea						
	Carex bebbii						
	Carex blanda						
	Carex gracillima						
	Carex granularis						
	Carex hystericina						
	Carex pensylvanica						
	Carex radiata						
	Carex retrorsa						
	Carex stipata						
	Carex stricta						
	Carex vulpinoidea						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Cyperus						
	Cyperus						
	Dactylis glomerata						
	Danthonia spicata						
	Echinochloa crus-galli						
	Eleocharis erythropoda						
	Eleocharis						
	Elymus virginicus						
	Elymus						
	Festuca arundinacea						
	Glyceria striata						
	Glyceria						
	Juncus dudleyi						
	Juncus effusus						
	Juncus tenuis						
	Juncus						
	Juncus						
	Leersia oryzoides						
	Muhlenbergia						
	Oryzopsis asperifolia						
	Panicum						
	Panicum						
	Phalaris arundinacea						
	Phleum pratense						
	Phragmites australis						
	Poa compressa						
	Poa pratensis						
	Poa						
	Scirpus atrovirens						
	Scirpus cyperinus						
	Scirpus validus						
	Scirpus						
	Scirpus						
	Setaria						
	Sparganium						
	Typha angustifolia						
	Typha latifolia						
	Typha Xglauca						

ELC Community Description and Classification

Site: Bluewater	Polygon: BT13-562
Surveyor(s): JD	Date: Feb 1, 2012
Time start: 10:10am	finish: 10:40am
UTMZ:	UTMZ:	UTMN:

Polygon Description

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

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1			FRAPENN >> ACESACCH > JUGNIGR > SALIX SPECIES
2			
3			CORSERI
4			PHAARUN – ELYNUS

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

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

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

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

Ecosite:	Fresh-Moist Lowland Deciduous Forest Ecosite	Code:	FO07
Vegetation Type:	Fresh-Moist Ash Lowland Deciduous Forest Type	Code:	FO07-2
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Topography slopes northerly

Notes:

Tree Tally by Species

Prism Factor: 2

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

Soils Ontario and ELC Soils Description

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

VASCULAR PLANT CHECKSHEET

Location: Bluewater BT13-SC2
Date: February 1, 2012
Observer: JD
Job Number:

COT HERBS	1	2	3	4	5	6
illea millefolia						
tsea pachypoda						
Actaea rubra						
Agalinus						
Agrimonia gryposepala						
Alliaria petiolaris						
Amaranthus retroflexus						
Ambrosia artemisiifolia						
Amphicarpaea bracteata						
Anaphalis margaritacea						
Anemone						
Anemone canadensis						
Anemone virginiana						
Antennaria neglecta						
Apocynum androsaemifolium						
Apocynum cannabinum						
Aquilegia canadensis						
Aralia nudicaulis						
Arctium minus						
Artemisia						
Asarum canadense						
Asclepias incarnata						
Asclepias syriaca						
Aster						
Aster cordifolius						
Aster ericoides						
Aster lanceolatus						
Aster lateriflorus						
Aster macrophyllus						
Aster novae-angliae						
Aster puniceus						
Barbarea vulgaris						
Bidens cernua						
Bidens frondosa						
Boehmeria cylindrica						
Caltha palustris						
Calystegia sepium						
Cantamirra diphylla						
Cardamine						
Caulophyllum thalictroides						
Cerastium fontanum						
Ceratophyllum demersum						
Chelidonium majus						
Chenopodium album						
Chrysanth. leucanthemum						
Cichorium intybus						
Cicuta						
Circaea lutetiana						
Cirsium arvense						
Cirsium vulgare						
Clematis virginiana						
Clintonia borealis						
Corylus canadensis						
Cornutia varia						
Cynanchum rossicum						
Cynoglossum officinale						
Osmucus cassia						
Desmodium canadense						
Dianthus armeria						
Dipsacus fullonum						
Echinocystis lobata						
Echium vulgare						
Epilobium						
Epilobium ciliatum						
Epilobium hirsutum						
Epilobium parviflorum						

	1	2	3	4	5	6
Erigeron annuus						
Erigeron philadelphicus						
Erigeron strigosus						
Erysimum cheiranthoides						
Eupatorium maculatum						
Eupatorium perfoliatum						
Eupatorium rugosum						
Euphorbia						
Euthamia graminifolia						
Fragaria virginiana						
Fragaria vesca						
Galeopsis tetrahit						
Galium						
Galium						
Galium palustre						
Galium triflorum						
Geranium maculatum						
Geranium robertianum						
Geum aleppicum						
Geum canadense						
Geum						
Glecoma hederacea						
Hepatica acutiloba						
Hesperis matronalis						
Hieracium aurantiacum						
Hieracium caespitosum						
Hieracium						
Hydrophyllum virginianum						
Hypericum perforatum						
Impatiens capensis						
Inula helenium						
Lactuca						
Laportea canadensis						
Lapsana communis						
Leonurus cardiaca						
Lepidium						
Linaria vulgaris						
Lithospermum officinale						
Lobelia						
Lobelia inflata						
Lotus corniculatus						
Lycopus americanus						
Lycopus						
Lysimachia ciliata						
Lythrum salicaria						
Medicago lupulina						
Medicago sativum						
Melilotus alba						
Mentha arvensis						
Mimulus ringens						
Mimulus ringens						
Mitella diphylla						
Monarda fistulosa						
Myosotis						
Nasturtium officinale						
Nepeta cataria						
Nuphar variegatum						
Nymphaea odorata						
Oenothera biennis						
Osmorhiza						
Oxalis stricta						
Physma leptostachya						
Physalis heterophylla						

	1	2	3	4	5	6
Plantago lanceolata						
Plantago major						
Plantago rugelii						
Podophyllum peltatum						
Polygonum						
Polygonum						
Polygonum						
Polygonum lapathifolium						
Polygonum persicaria						
Potentilla						
Potentilla norvegica						
Potentilla recta						
Prenanthes alba						
Prunella vulgaris						
Pyrola elliptica						
Ranunculus						
Ranunculus abortivus						
Ranunculus acris						
Rudbeckia hirta						
Rumex acetosella						
Rumex crispus						
Rumex						
Sanguinaria canadensis						
Sanicula marilandica						
Saponaria officinalis						
Satureja vulgaris						
Scutellaria galericulata						
Silene vulgaris						
Sium suave						
Solanum dulcamara						
Solidago						
Solidago altissima						
Solidago caesia						
Solidago canadensis						
Solidago flexicaulis						
Solidago gigantea						
Solidago nemoralis						
Solidago rugosa						
Sonchus arvensis						
Sonchus asper						
Stellaria						
Tanacetum vulgare						
Taraxacum officinale						
Thalictrum dioicum						
Thalictrum pubescens						
Tiarella cordifolia						
Tragopogon pratensis						
Trientalis borealis						
Trifolium						
Trifolium pratense						
Trifolium repens						
Tussilago farfara						
Urtica dioica						
Utricularia vulgaris						
Verbascum thapsus						
Verbena hastata						
Verbena urticifolia						
Veronica						
Veronica officinalis						
Viola cucullata						
Viola lanceolata						
Viola						
Viola						
Viola pubescens						
Viola sororia						

MONOCOT HERBS	1	2	3	4	5	6
Alisma plantago-aquatica						
Allium tricoccum						
Allium						
Arisaema triphyllum						
Asparagus officinalis						
Calla palustris						
Clintonia borealis						
Convallaria majus						
Cypripedium calceolus						
Elodea canadensis						
Epipactis helleborine						
Erythronium americanum						
Hemerocallis fulva						
Iris versicolor						
Lemna minor						
Lemna trisulca						
Lilium						
Maianthemum canadense						
Maianthemum racemosa						
Maianthemum stellata						
Platanthera						
Pontederia cordata						
Polygonatum pubescens						
Potamogeton crispus						
Potamogeton pectinatus						
Potamogeton						
Potamogeton						
Potamogeton						
Sagittaria latifolia						
Sparganium montanum						
Smilax herbacea						
Spiranthes cernua						
Spirodela polyrhiza						
Streptopus roseus						
Trillium erectum						
Trillium grandiflorum						
Uvularia grandiflora						

SITE LOCATIONS

1: FSP 7-2
2:
3:
4:
5:
6:

1 CONIFERS	1	2	3	4	5	6
Abies balsamea						
Juniperus communis						
Juniperus virginiana						
Larix laricina						
Picea abies						
Picea glauca						
Pinus resinosa						
Pinus strobus						
Pinus sylvestris						
Thuja occidentalis						
Tsuga canadensis						
TREES and SHRUBS						
Acer negundo						
Acer rubrum						
Acer saccharinum	X					
Acer saccharum						
Acer spicatum						
Alnus rugosa						
Amelanchier						
Berberis thunbergii						
Betula alleghaniensis						
Betula papyrifera						
Carpinus caroliniana						
Carya cordiformis						
Celastrus scandens						
Cornus alternifolia						
Cornus amomum						
Cornus rugosa						
Cornus stolonifera	X					
Corylus cornuta						
Crataegus monogyna						
Crataegus punctata						
Crataegus sp.						
Crataegus						
Diervilla lonicera						
Fagus grandifolia						
Fraxinus americana						
Fraxinus nigra	X					
Fraxinus pennsylvanica	X					
Ilex verticillata						
Juglans cinerea						
Juglans nigra	X					
Lonicera morrowi						
Lonicera tatarica						
Lonicera						
Malus pumila						
Ostrya virginiana						
Parthenocissus inserta						
Populus balsamifera						
Populus grandidentata						
Populus tremuloides	X					
Populus						
Prunus pensylvanica						
Prunus serotina						
Prunus virginiana						
Prunus						
Quercus macrocarpa	X					
Quercus rubra						
Quercus						
Rhamnus cathartica						
Rhus radicans						
Rhus typhina						
Ribes americana						
Ribes cynosbati						
Ribes x rubrum						
Robinia pseudo-acacia						

1	TREES and SHRUBS	1	2	3	4	5	6
+	Rosa multiflora						
	Rosa						
	Rubus allegheniensis						
	Rubus idaeus						
	Rubus occidentalis						
	Rubus odoratus						
	Rubus pubescens						
	Salix alba						
	Salix amygdaloides						
	Salix bebbiana						
+	Salix discolor						
	Salix eriocephala						
	Salix exigua						
	Salix lucida						
	Salix petiolaris						
+	Salix purpurea						
	Salix x rubens						
+	Salix species	X					
	Sambucus canadensis						
	Sambucus racemosa						
	Sorbus aucuparia						
	Spiraea alba						
	Syringa vulgaris						
+	Tilia americana						
	Ulmus americana	X					
	Ulmus						
	Vaccinium						
	Viburnum lentago						
	Viburnum opulus						
	Viburnum						
	Vitis riparia						
	FERNS						
	Adiantum pedatum						
	Athyrium filix-femina						
	Botrychium multifidum						
	Botrychium virginianum						
	Cystopteris bulbifera						
	Dryopteris carthusiana						
	Dryopteris cristata						
	Dryopteris marginalis						
	Dryopteris						
	Equisetum arvense						
	Equisetum hyemale						
	Equisetum variegatum						
	Equisetum						
	Gymnocarpium dryopteris						
	Lycopodium digitatum						
	Lycopodium obscurum						
	Lycopodium						
	Lycopodium						
	Matteucia struthiopteris						
	Onoclea sensiblis						
	Osmunda cinnamonia						
	Osmunda regalis						
	Polystichum acrostichoides						
	Pteridium aquilinum						
	Thelypteris palustris						

1	GRAMINOIDS	1	2	3	4	5	6
	Agrostis gigantea						
	Agrostis stolonifera						
	Agropyron repens						
	Alopecuris						
	Bromus inermis						
	Calamagrostis canadensis						
	Carex arctata						
	Carex aurea						
	Carex bebbii						
	Carex blanda						
	Carex gracillima						
	Carex granularis						
	Carex hystericina						
	Carex pensylvanica						
	Carex radiata						
	Carex retrorsa						
	Carex stipata						
	Carex stricta						
	Carex vulpinoidea						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Carex						
	Cyperus						
	Cyperus						
	Dactylis glomerata						
	Danthonia spicata						
	Echinochloa crus-galli						
	Eleocharis erythropoda						
	Eleocharis						
	Elymus virginicus						
	Elymus sp	X					
	Festuca arundinacea						
	Glyceria striata						
	Glyceria						
	Juncus dudleyi						
	Juncus effusus						
	Juncus tenuis						
	Juncus						
	Juncus						
	Leersia oryzoides						
	Muhlenbergia						
	Oryzopsis asperifolia						
	Panicum						
	Panicum						
	Phalaris arundinacea	X					
	Phleum pratense						
	Phragmites australis						
	Poa compressa						
	Poa pratensis						
	Poa						
	Scirpus atrovirens						
	Scirpus cyperinus						
	Scirpus validus						
	Scirpus						
	Scirpus						
	Setaria						
	Sparganium						
	Typha angustifolia						
	Typha latifolia						
	Typha Xglauca						