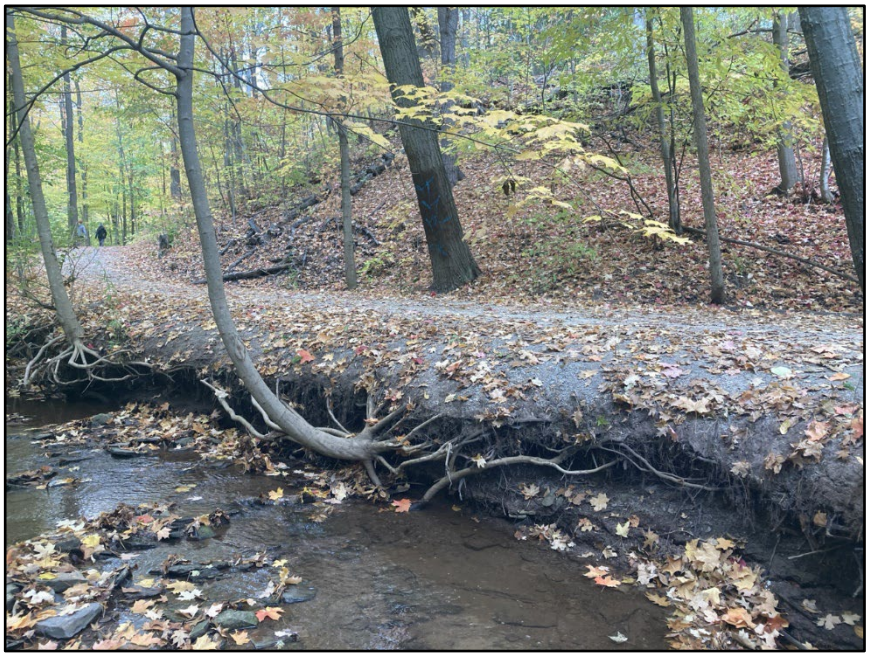
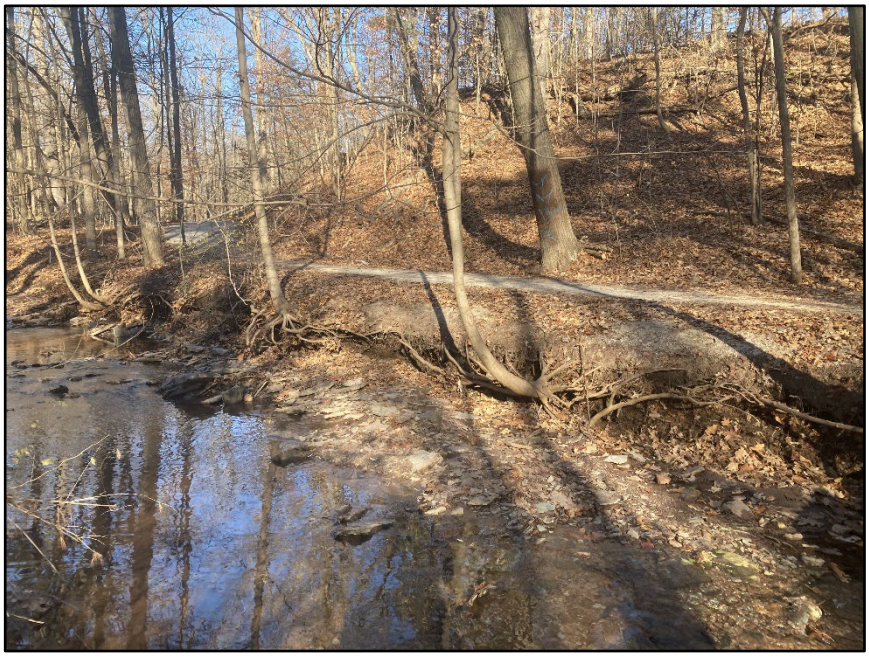
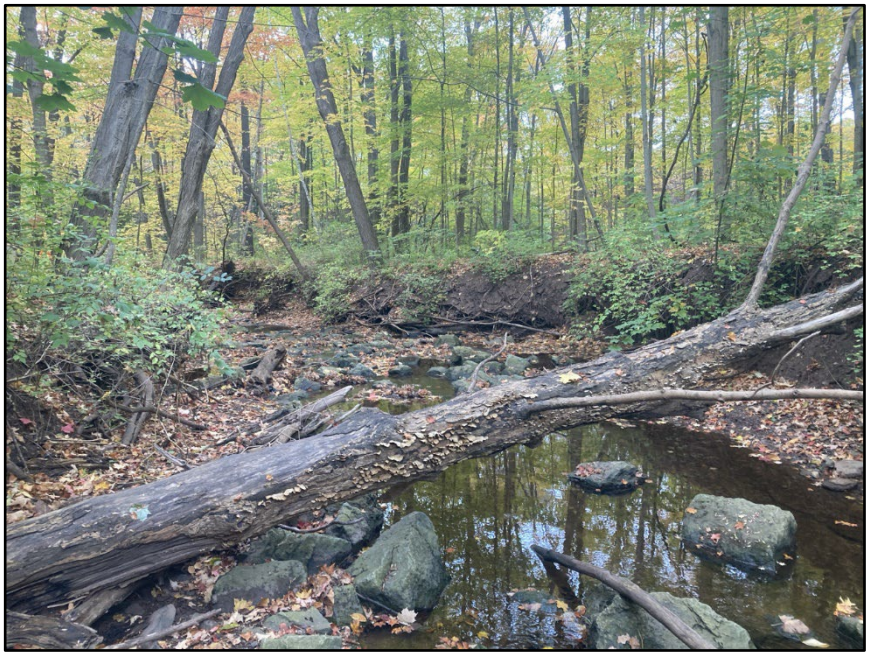
APPENDIX F
Site Photographs



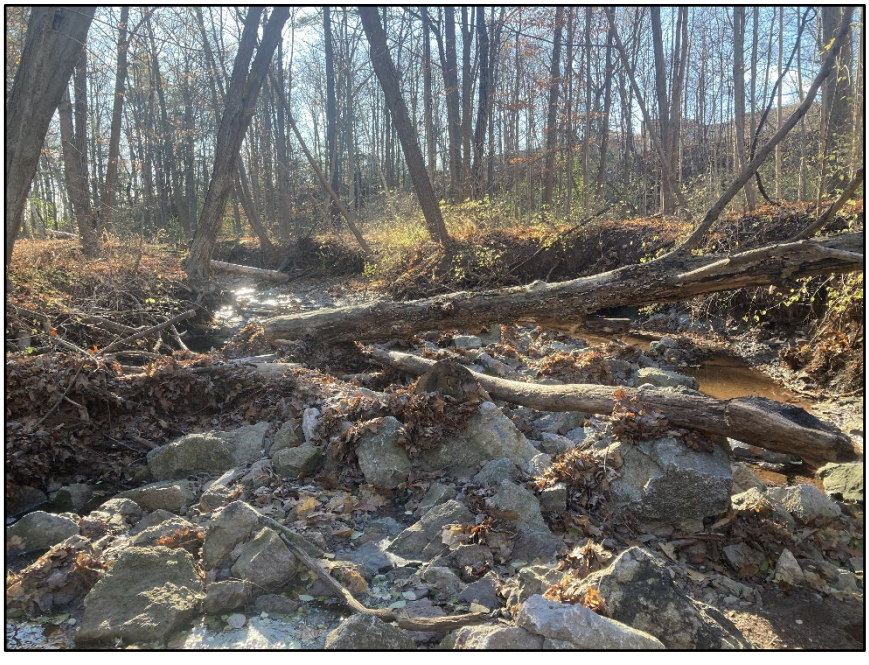
1. E1 – October 19, 2023 – Bank erosion in proximity to trail on left bank.



2. E1 – Dec 2, 2024 – Bank erosion and roots appear similar. Lower water level and more depositional material visible at toe of bank.

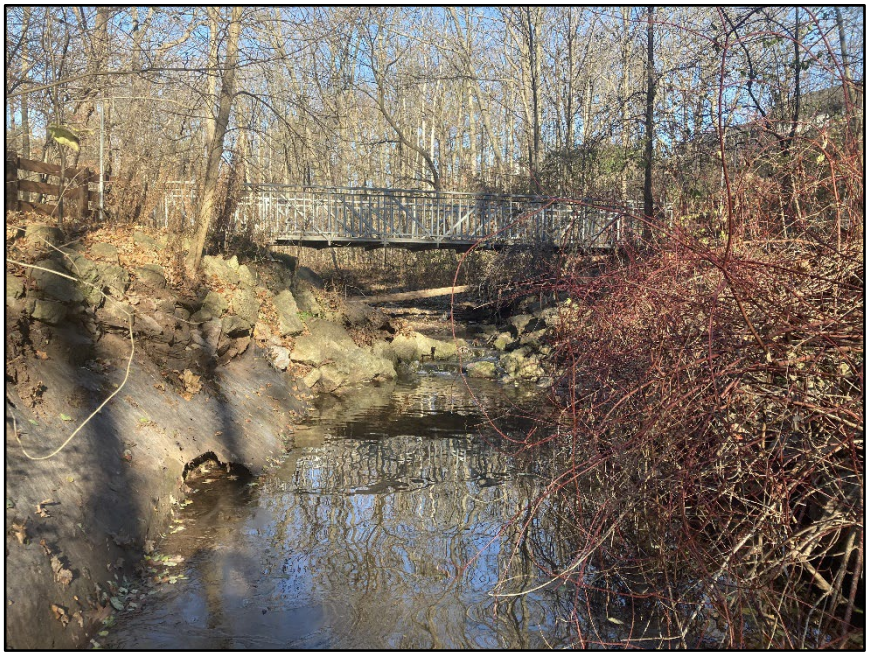


1. E2 – October 19, 2023 – Erosion of both banks downstream of washed out riprap protection. Pedestrian bridge upstream.

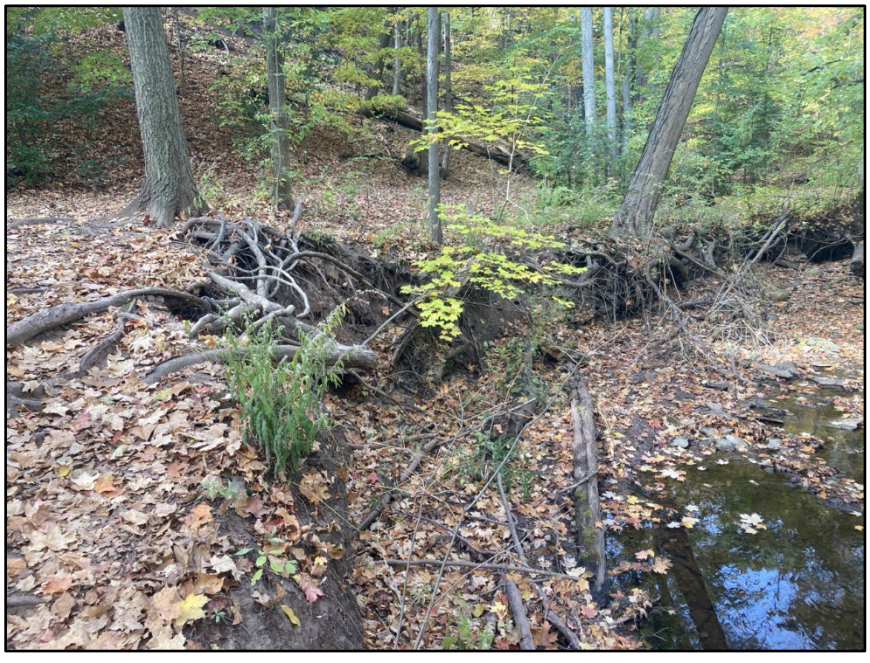


2. E2 – December 2, 2024 – Banks appear similar. Fallen tree moved downstream. More riprap in channel washed out from upstream bank protection.

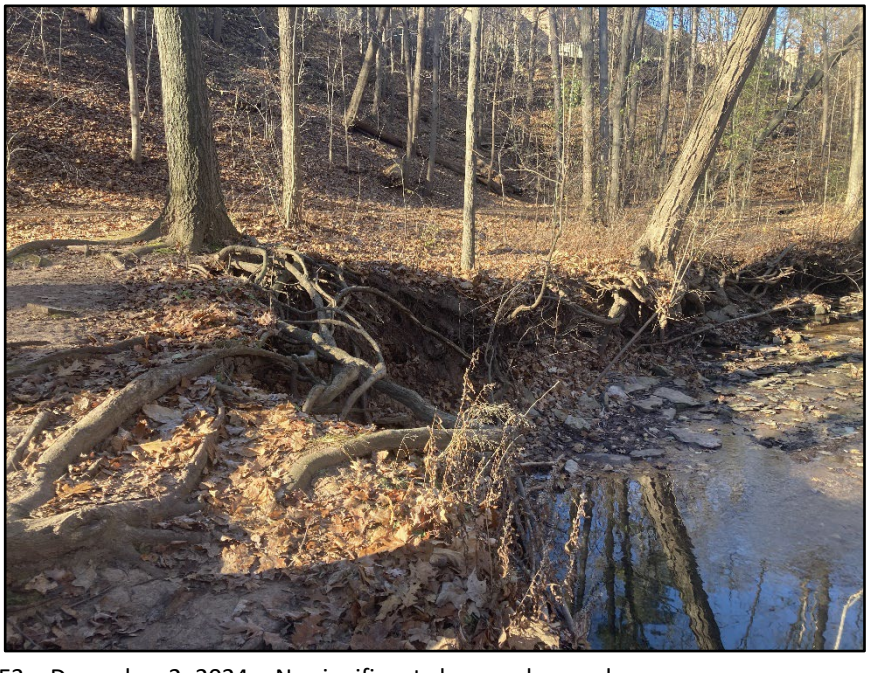
1. Upstream of E2 – October 19, 2023 – Downstream extent of riprap along right bank washed away, exposed geotextile.



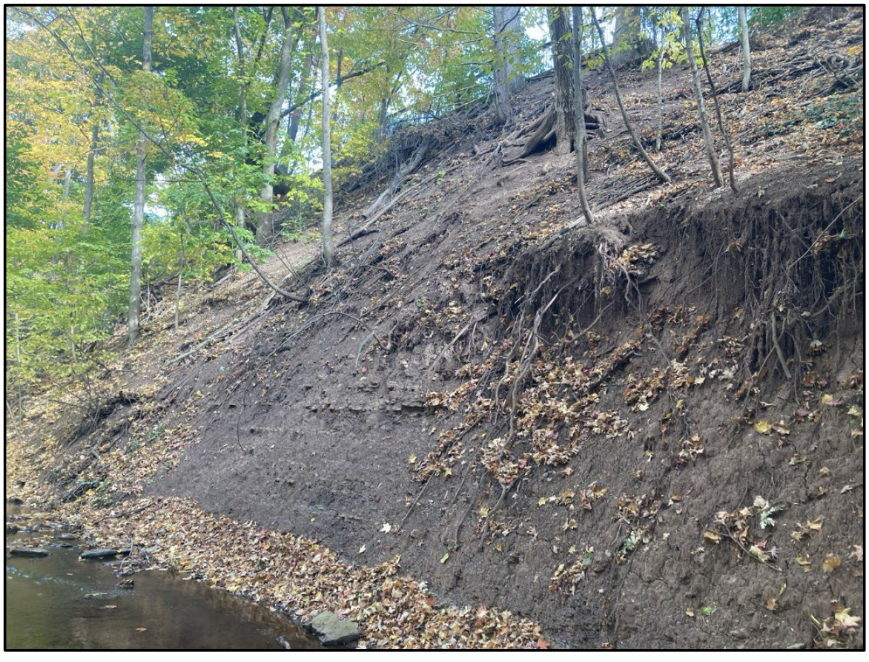
2. Upstream of E2 – December 2, 2024 – Additional riprap missing from right bank and more exposed geotextile.



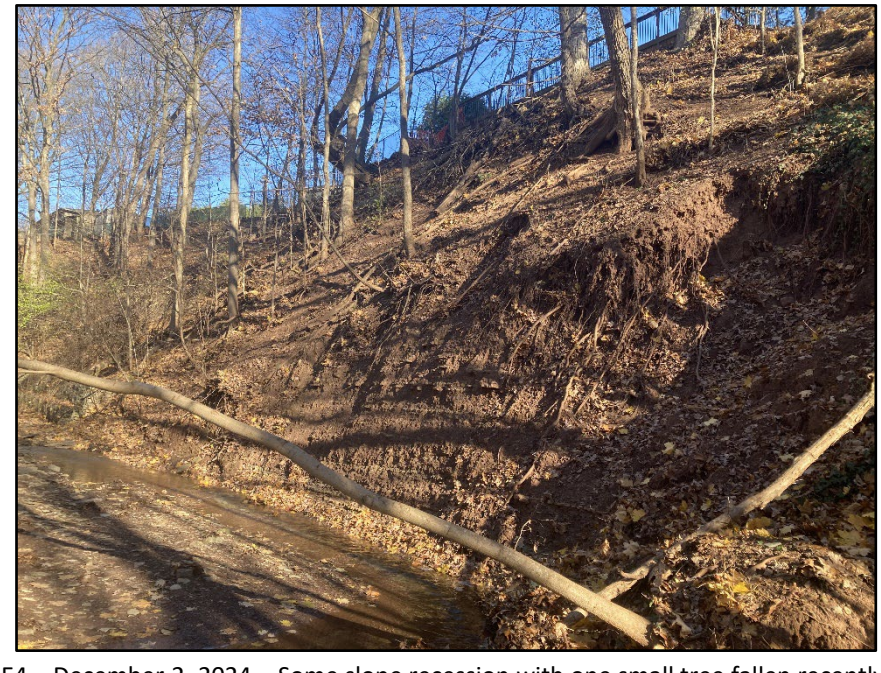
3. E3 – October 19, 2023 – Bank erosion in proximity to trail on right bank.



4. E3 – December 2, 2024 – No significant change observed.

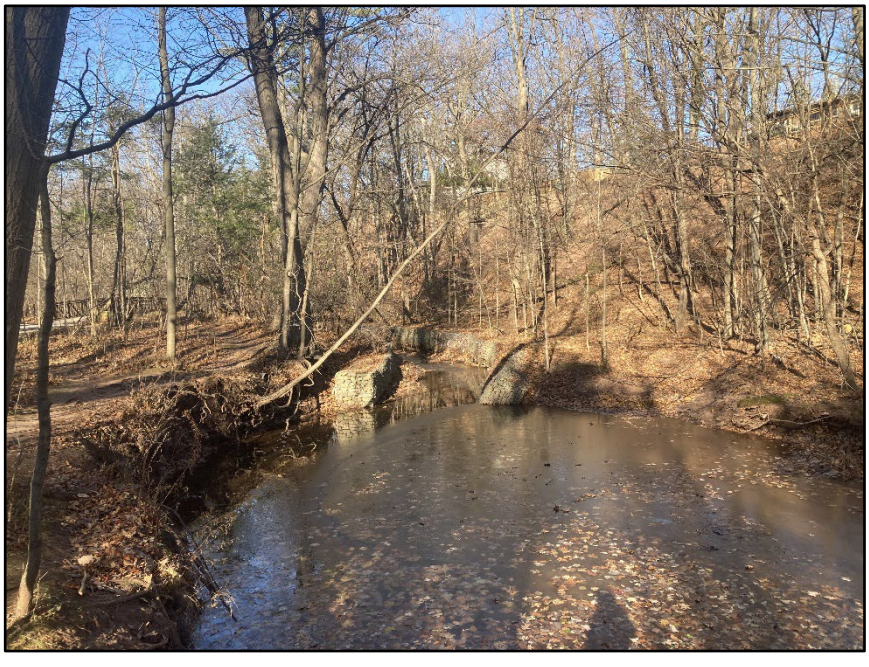


5. E4 – October 19, 2023 – Valley wall contact with residential properties at top of slope. Slope processes affecting upper slope. Gabion basket toe protection buried/toe failing. Toe erosion where slope toe is unprotected.



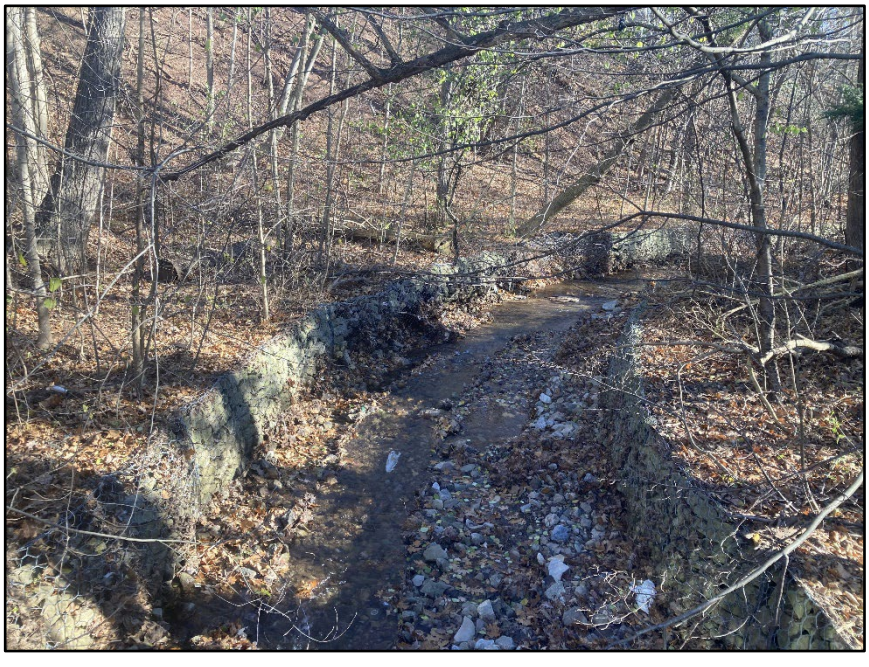
6. E4 – December 2, 2024 – Some slope recession with one small tree fallen recently. Other trees remain along slope. Exposed shale visible along thalweg at toe of slope.

7. E5 – October 19, 2023 – Narrow gabion basket lined channel. Pedestrian crossing upstream. Gabion baskets undermined and outflanked at downstream end. Large scour pool and bank erosion downstream of gabion baskets.



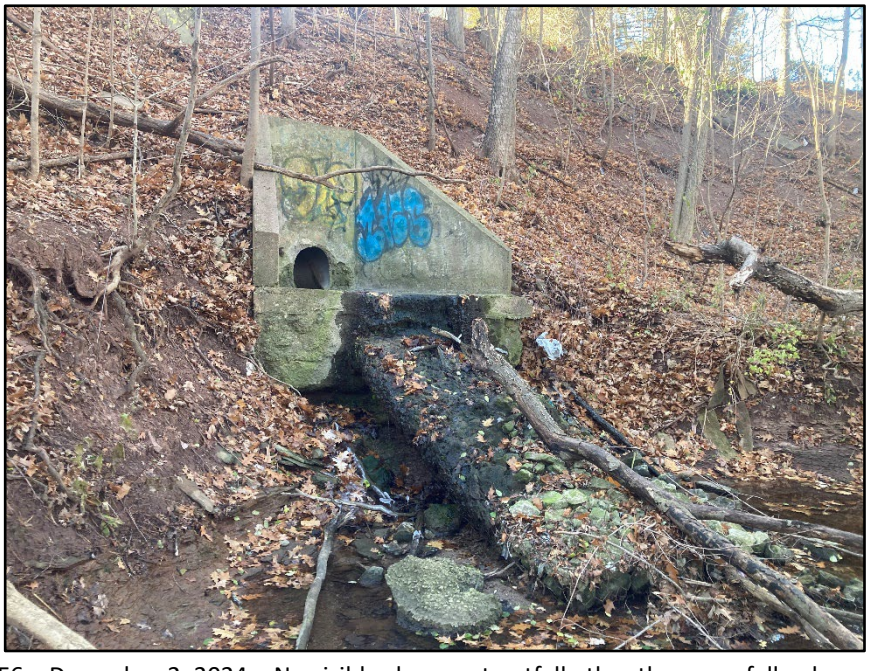
8. E5 – December 2, 2024 – No visible change along right bank. Left bank gabion basket may be leaning more. Stone loss in upstream gabion baskets.

9. Upstream of E5 – October 19, 2023 – Minor stone loss from toe of gabion baskets along outer bend.



10. Upstream of E5 – December 2, 2024 – Additional stone loss from gabion baskets along outer bend.

11. E6 – October 19, 2023 – Perched stormwater outfall and gabion basket spillway on west (left) valley slope. Scour pool downstream. Concrete pipe exposed in upper slope. Private parking lot in proximity to top of slope.

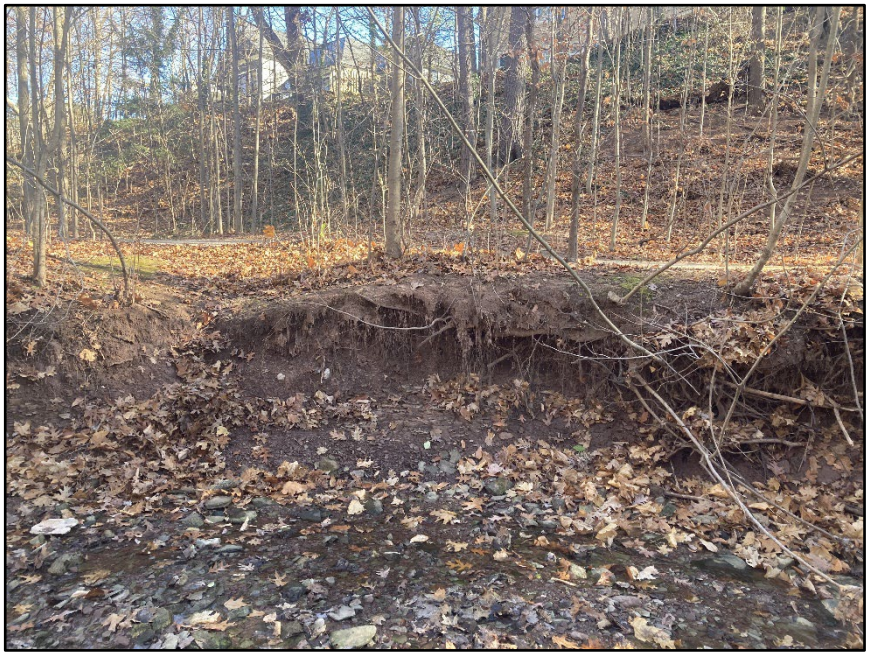


12. E6 – December 2, 2024 – No visible change at outfall other than new fallen branches/woody debris.

13. E7 – October 19, 2023 – Valley wall contact with toe erosion. Private parking lot in proximity to top of slope.

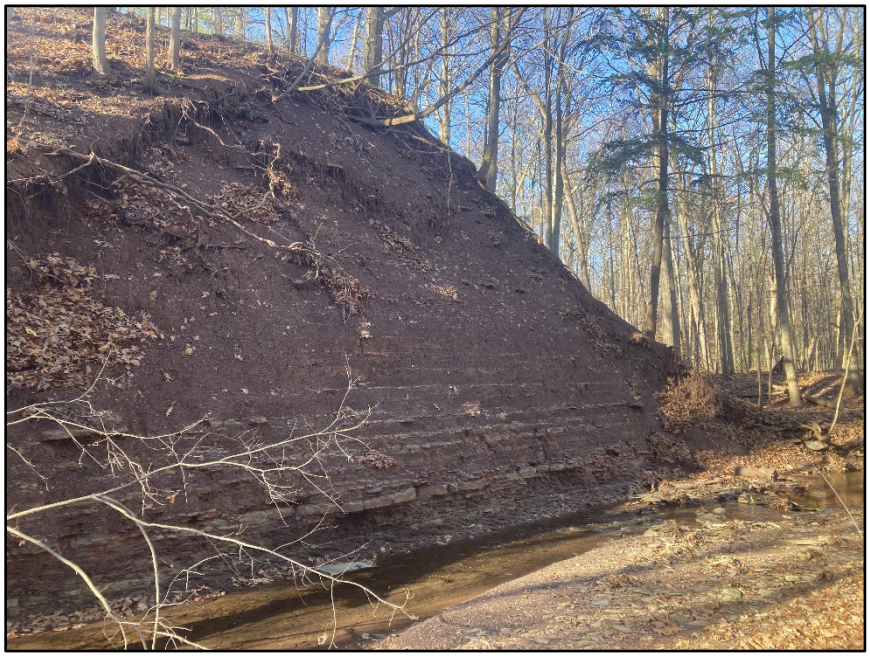
14. E7 – December 2, 2024 – No visible change other than small woody debris trapped in exposed tree roots.

15. E8 – October 19, 2023 – Bank erosion in proximity to trail on left bank. Erosion upstream of boulder bank protection.



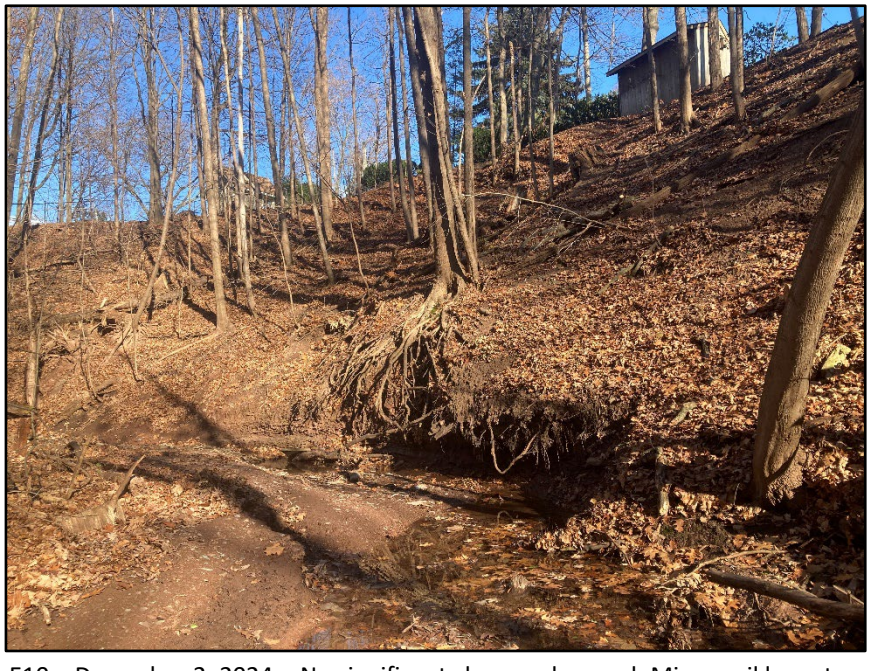
16. E8 – December 2, 2024 – No change observed in vegetation or bank erosion.

17. E9 – October 19, 2023 – Valley contact with toe erosion. Private properties beyond top of slope.

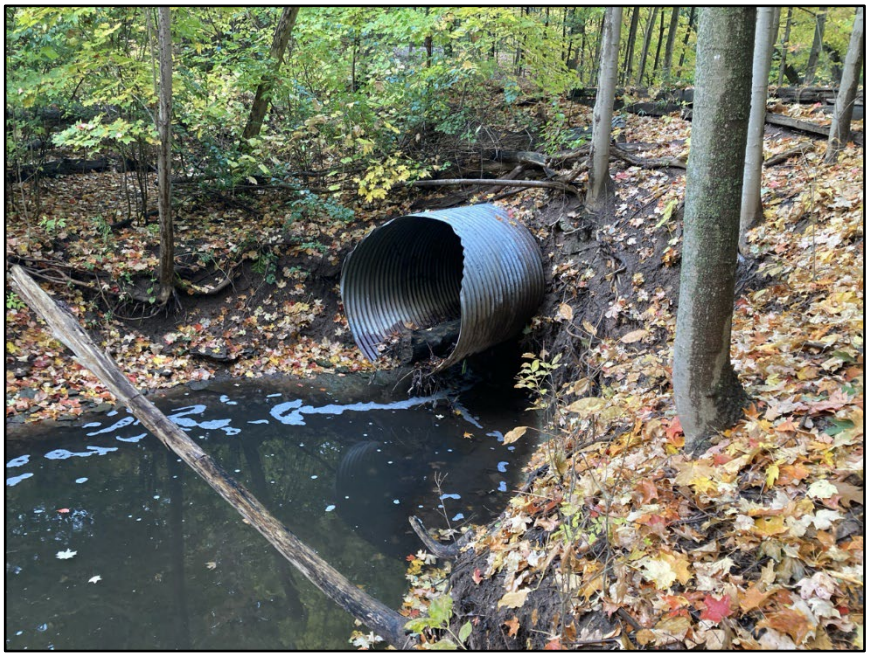


18. E9 – December 2, 2024 – No significant change observed.

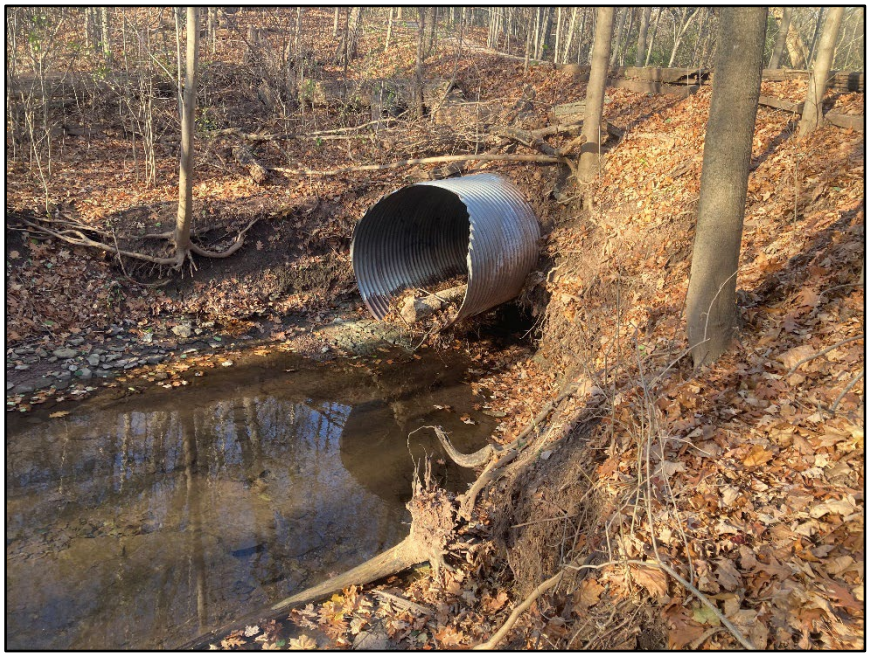
19. E10 – October 19, 2023 – Toe erosion of valley slope in tributary. Private properties at top of slope.



20. E10 – December 2, 2024 - No significant change observed. Minor soil loss at roots.

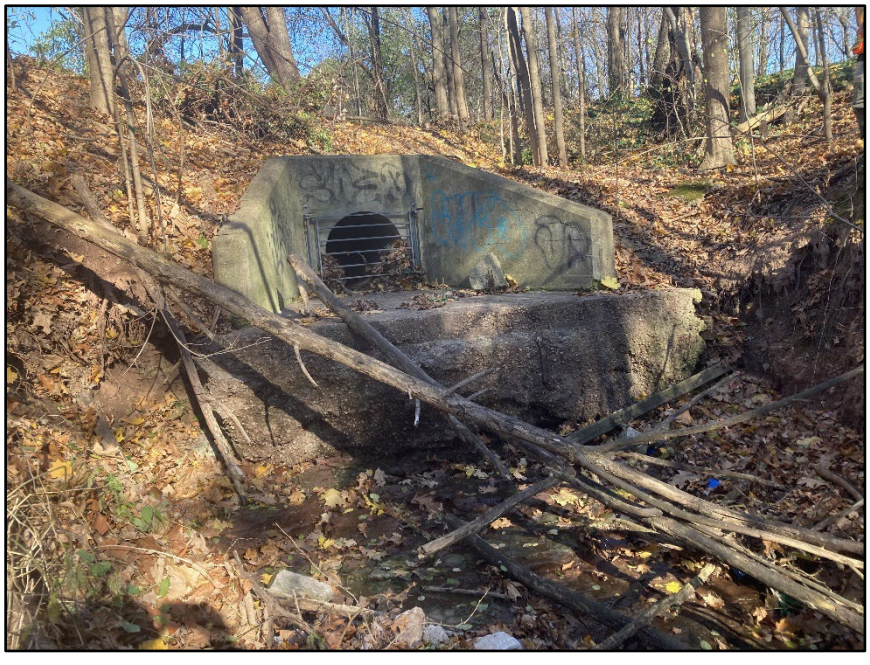


21. E11 – October 19, 2023 – CSP under pedestrian trail crossing perched and undermined at outlet. Bottom of pipe corroded. Downstream scour pool and bank erosion. Buried sanitary sewer pipe above CSP.

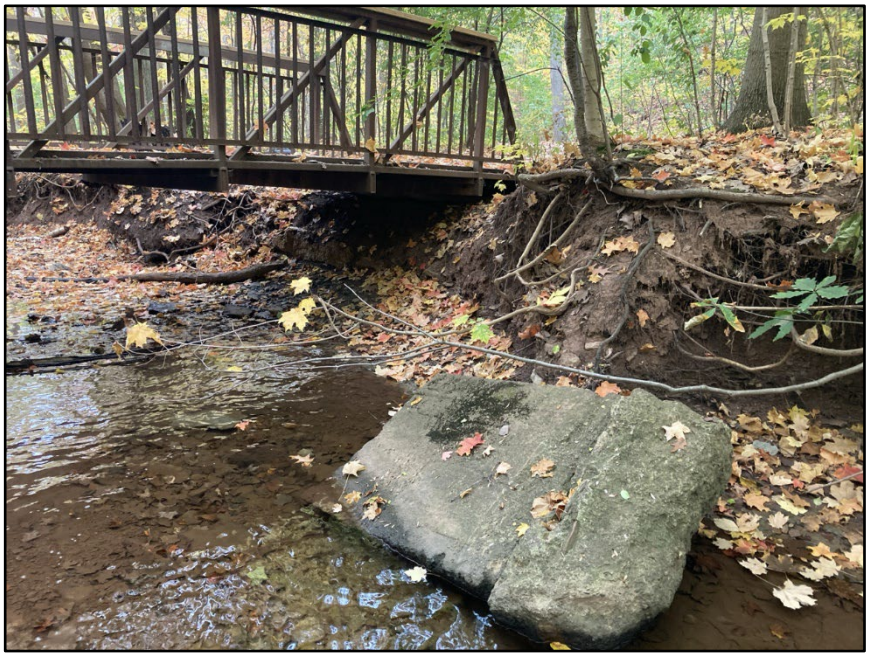


22. 11 – December 2, 2024 – No significant change observed. Large log still in CSP. Flow under culvert more visible due to lower water levels. Small dead tree fell on downstream left bank.

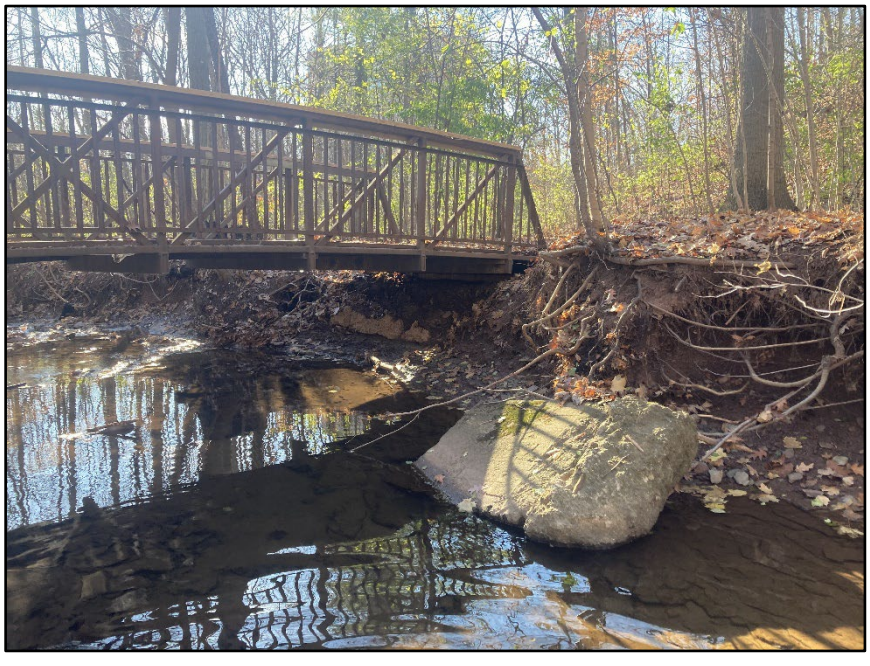
23. E12 – October 19, 2023 – Stormwater outfall perched with failed gabion baskets downstream. Outfall channel deeply incised into valley slope. Steep gully with exposed bedrock and multiple knickpoints.



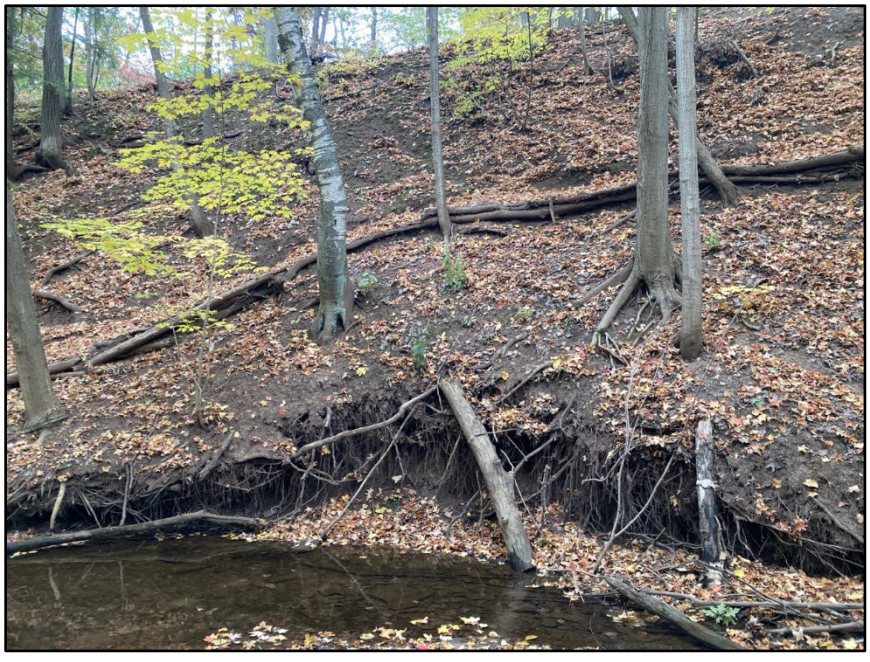
24. E12 – December 2, 2024 – Difficult to detect visible changes due to vegetation in previous photo.



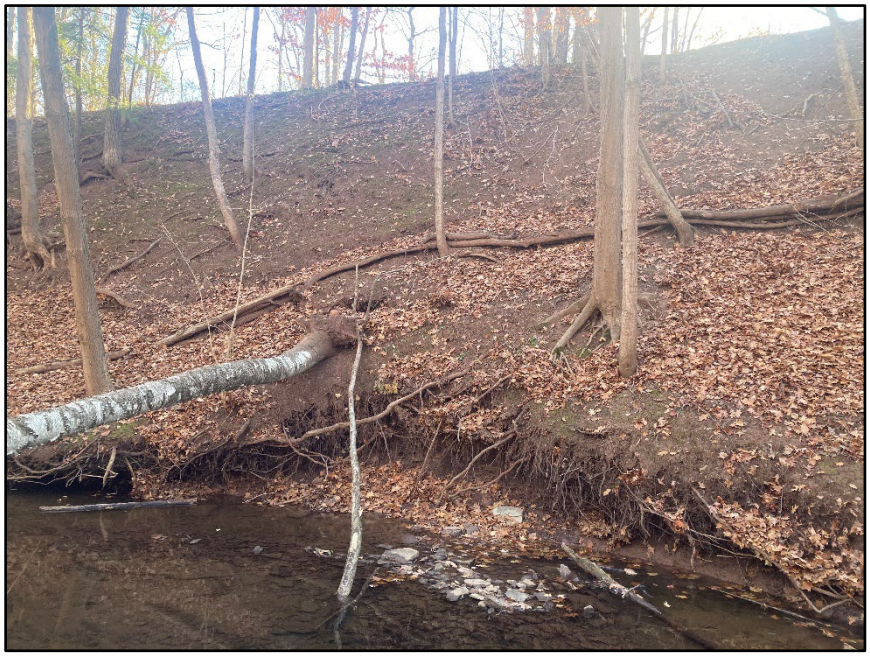
25. E13 – October 19, 2023 – Pedestrian bridge footing exposed on right bank outer meander bend. Concrete debris in channel. Evidence of old failed bank protection (filter fabric, old wire).



26. E13 – December 2, 2024 – No visible change.

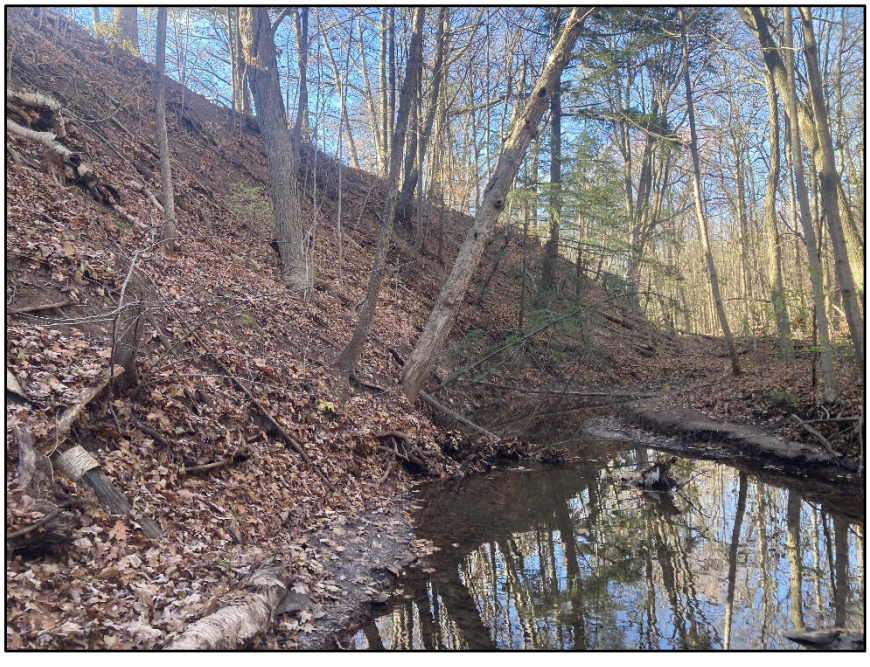


27. E14 – October 19, 2023 – Toe erosion at valley wall contact. Pedestrian trail near top of slope. Private property behind trail.

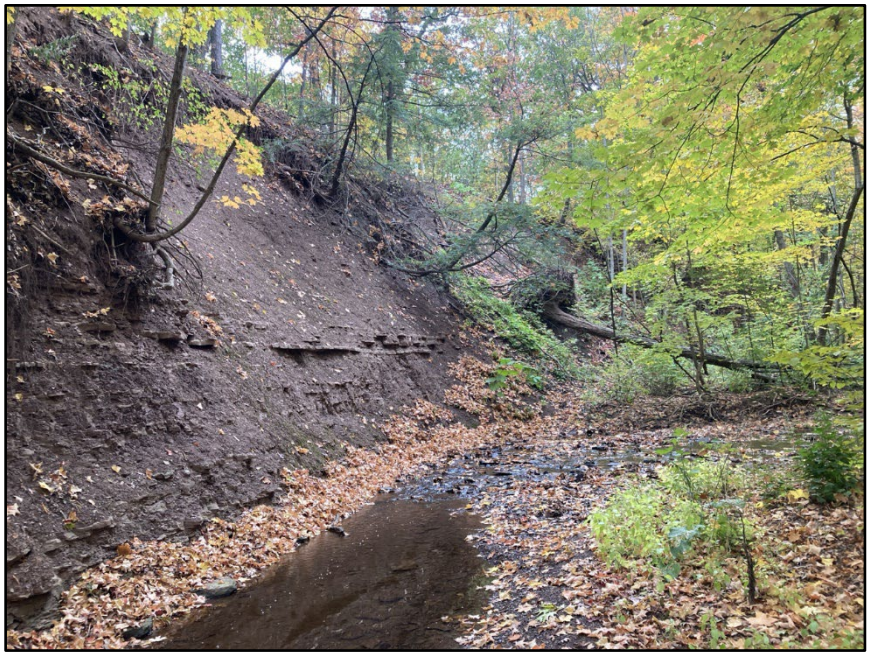


28. E14 – December 2, 2024 – Birch tree fell (likely dead). No significant changes visible to slope or other trees.

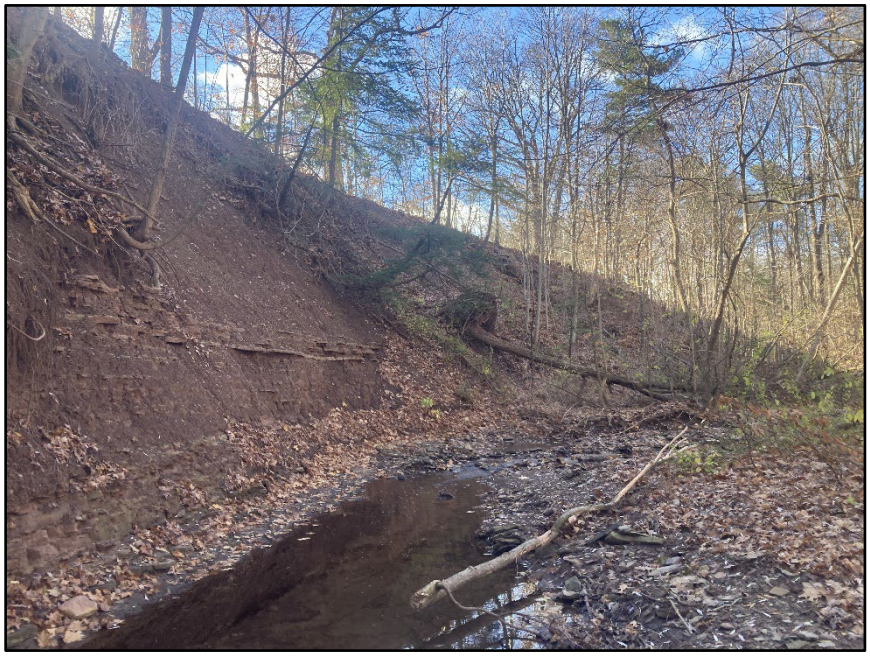
29. E15 – October 19, 2023 – Toe erosion at valley wall contact. Pedestrian trail near top of slope. Private property behind trail.



30. E15 – December 2, 2024 – No visible change.

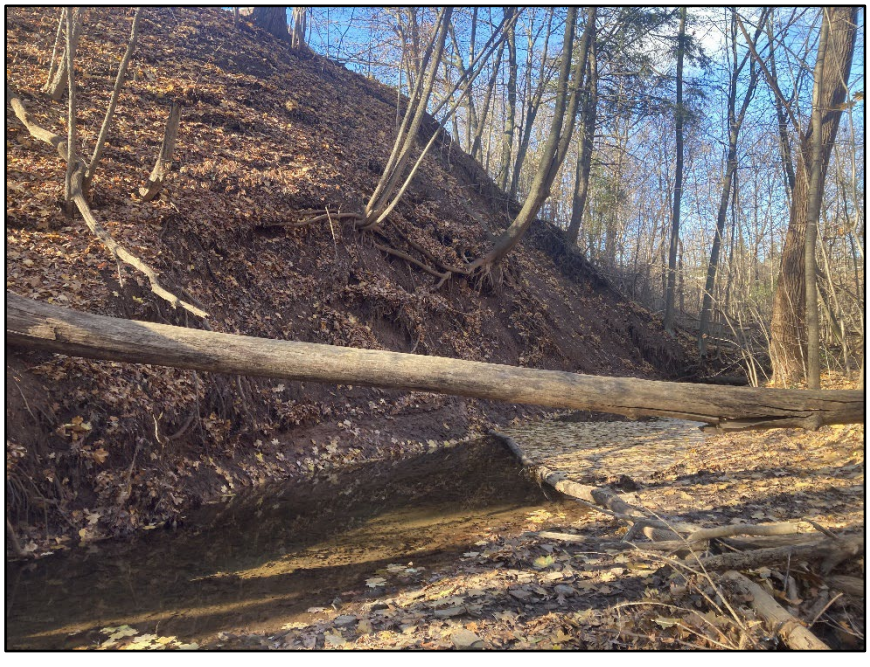


31. E16 – October 19, 2023 – Toe erosion at valley wall contact. Pedestrian trail near top of slope. Private property behind trail.



32. E16 – December 2, 2024 - No significant change observed. Small fallen tree/branch in channel.

33. E17 - October 19, 2023 – Toe erosion at valley wall contact. Private property near top of slope.

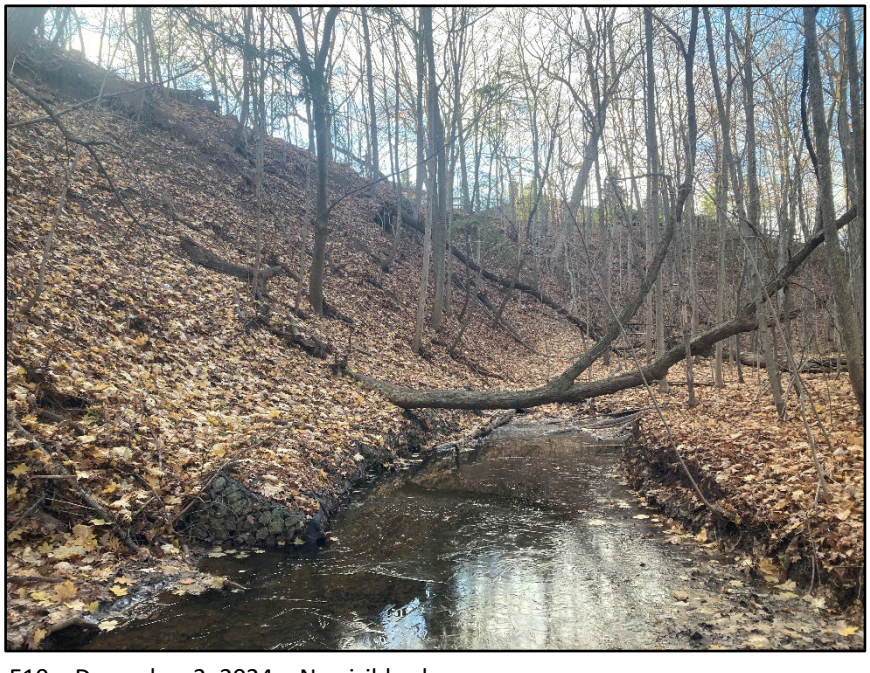


34. E17 - December 2, 2024 – No visible change at toe. No scarp recession visible or change to trees. Minor soil loss at exposed roots.

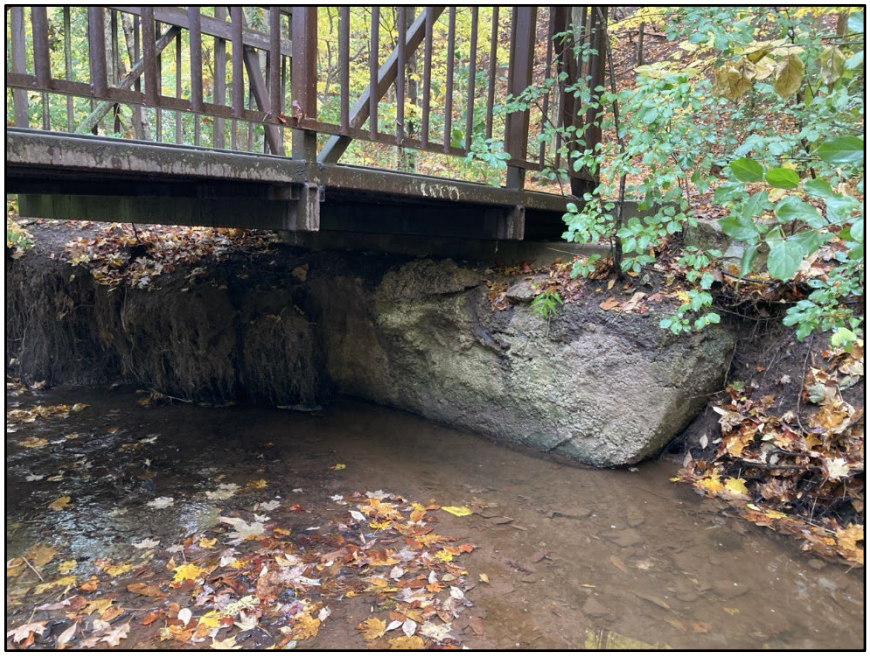
35. E18 – October 20, 2023 – Toe erosion at valley wall contact. Pedestrian trail near top of slope.

36. E18 - December 2, 2024 - No visible change, all trees near scarp still standing. Woody debris and leaves washed out from along toe of slope. Possible loss of material at toe. Woody debris accumulation on rock downstream.

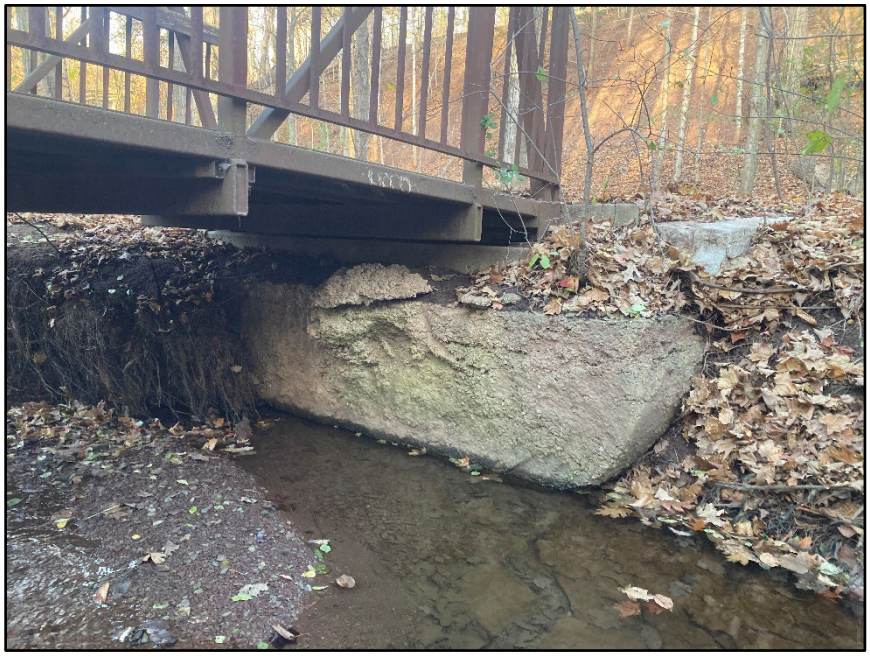
37. E19 – October 20, 2023 – Valley contact with failing gabion basket toe protection. Creek bends 90-degrees at valley contact. Pedestrian trail at top of slope.



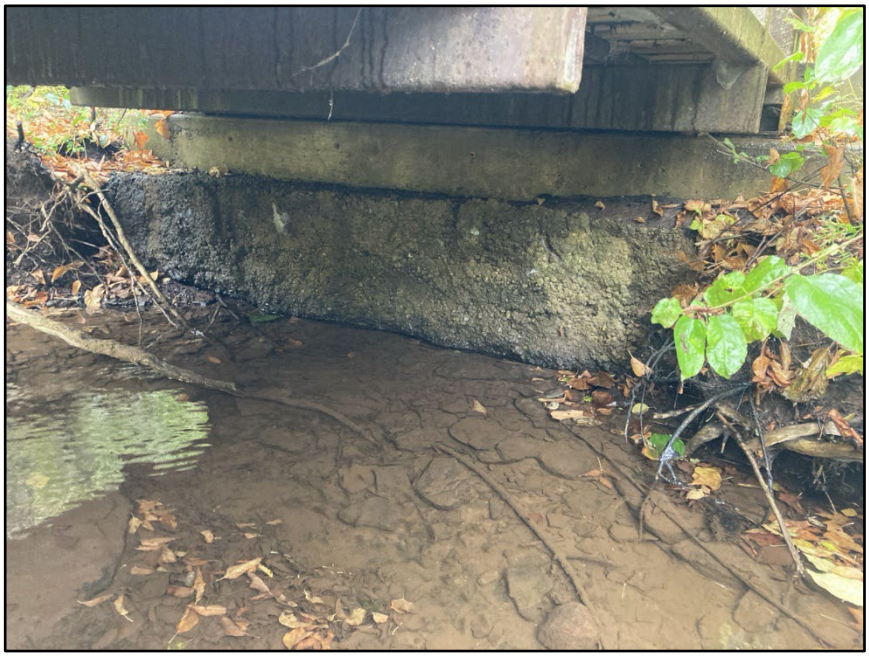
38. E19 – December 2, 2024 – No visible change.



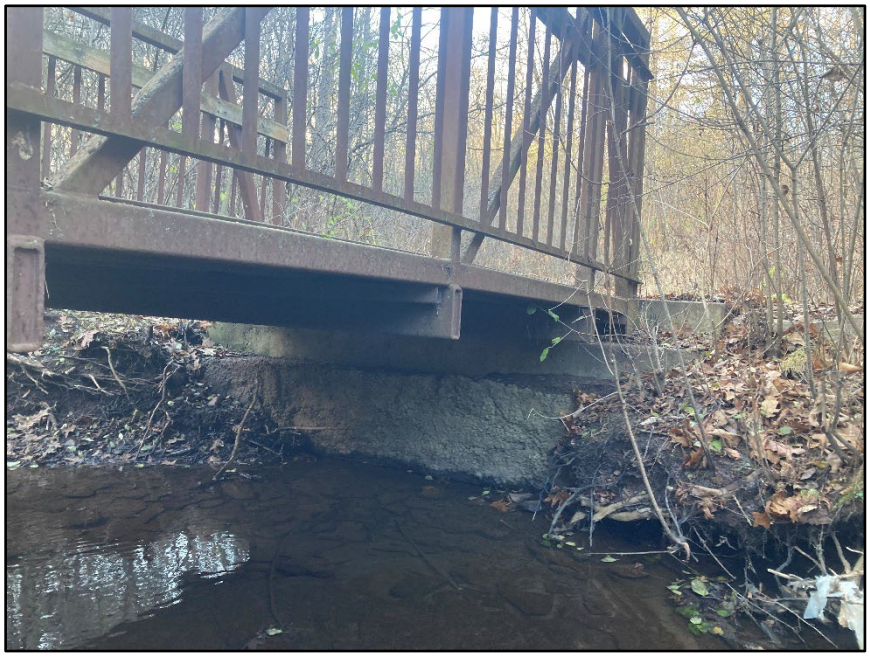
39. E20 – October 20, 2023 – Exposed pedestrian bridge footing on outer left bank of meander bend.



40. E20 – December 2, 2024 – No significant change observed.



41. E21 - October 20, 2023 – Exposed pedestrian bridge footing in eroding left bank.



42. E21 – December 2, 2024 – No significant change observed.

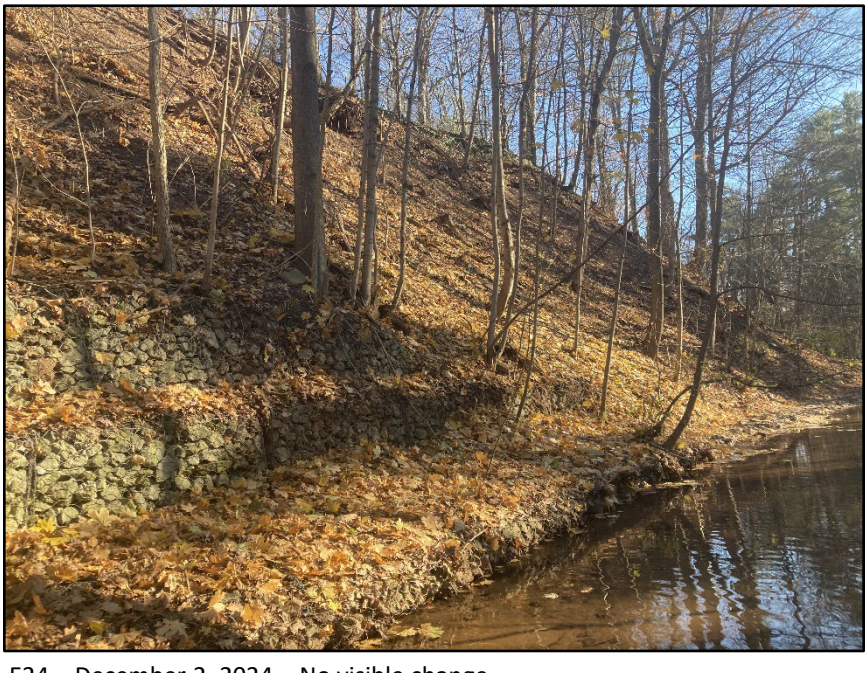
43. E22 – October 20, 2023 – Eroding valley contact. Pedestrian trail near top of slope. Private properties behind trail.

44. E22 – December 2, 2024 – No significant change observed. Fallen tree washed away.

45. E23 – October 20, 2023 – Eroding valley contact. Pedestrian trail near top of slope. Private properties behind trail.

46. E23 - December 2, 2024 – No visible change.

47. E24 (new erosion site) – October 19, 2023 – Valley wall contact with private properties at top of slope. Just upstream of erosion site E4. Gabion basket toe protection functioning but some wire failure at toe



48. E24 – December 2, 2024 – No visible change.

APPENDIX G
Ecological Assessment Tables

Vegetation Species

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
FERNS & ALLIES	**PTERIDOPHYTES**												x		o	o	x	o	o	o	o	o	o
Wood Fern Family	**Dryopteridaceae**												x		o	o	x	o	o	o	o	o	o
Northeastern Lady Fern	*Athyrium filix-femina var. angustum*	4	0			S5				G5T5	C	C	x			x							
Spinulose Wood Fern	*Dryopteris carthusiana*	5	-3			S5				G5	C	C	x			x							
Evergreen Wood Fern	*Dryopteris intermedia*	5	0			S5				G5	C	C	x			x							
Triploid Wood Fern	*Dryopteris X triploidea*	5	0			SNA				GNA	hyb	C	x			x							
Ostrich Fern	*Matteuccia struthiopteris*	5	0			S5				G5	C	C	x		x								
Sensitive Fern	*Onoclea sensibilis*	4	-3			S5				G5	C	C	x		x	x							
Christmas Fern	*Polystichum acrostichoides*	5	3			S5				G5	C	C	x			x							
Horsetail Family	**Equisetaceae**												x		o	o	x			o			o
Field Horsetail	*Equisetum arvense*	0	0			S5				G5	C	C	x		x	x							
Adder's Tongue Family	**Ophioglossaceae**												x		o	o	x		o	o			o
Rattlesnake Fern	*Botrychium virginianum*	5	3			S5				G5	C	C	x			x							
Royal Fern Family	**Osmundaceae**												x			o							
Interrupted Fern	*Osmunda claytoniana*	7	-1			S5				G5	C	U	x			x							
CONIFERS	**GYMNOSPERMS**												x		o	o							
Cedar Family	**Cupressaceae**												x		o	o							
Eastern White Cedar	*Thuja occidentalis*	4	-3			S5				G5	C	C	x		x	x	x			x			x
Pine Family	**Pinaceae**												x		o	o	x	o	o	o		o	o
European Larch	*Larix decidua*		5	-1		SNA				G5	IX	I	x			x							
Tamarack	*Larix laricina*	7	-3			S5				G5	U	C	x		x								
Norway Spruce	*Picea abies*		5	-1		SNA				G5	IX	I	x		x	x							
White Spruce	*Picea glauca*	6	3			S5				G5	U	U	x		x	x							
Blue Spruce	*Picea pungens*		3			SNA				G5	IR	I	x			x							
Austrian Pine	*Pinus nigra*		5	-1		SNA				GNR	IR	I	x		x	x							
Red Pine	*Pinus resinosa*	8	3			S5				G5	R	R	x			x							
Eastern White Pine	*Pinus strobus*	4	3			S5				G5	C	C	x		x	x	x		x	x			x
Scots Pine	*Pinus sylvestris*		3	-3	2	SNA				GNR	IX	I	x		x	x							
Eastern Hemlock	*Tsuga canadensis*	7	3			S5				G5	C	C	x		x	x	x		x				x
DICOTS	**DICOTYLEDONS**												x		o	o							
Maple Family	**Aceraceae**												x		o	o	x	o	o	o	o	o	
Amur Maple	*Acer ginnala*		5	-2	4	SNA				G--TNR		I	x		x								
Manitoba Maple	*Acer negundo*	0	0		1	S5				G5	C	C	x		x	x	x					x	
Norway Maple	*Acer platanoides*		5	-3	2	SNA				GNR	IU	I	x		x	x	x	x					
Red Maple	*Acer rubrum*	4	0			S5				G5	C	C	x		x	x							
Silver Maple	*Acer saccharinum*	5	-3			S5				G5	C	C	x		x	x							
Sugar Maple	*Acer saccharum*	4	3			S5				G5	C	C	x		x	x							
Freeman's Maple	*Acer X freemanii*	6	-5			SNA				GNA	hyb	C	x		x		x			x			
Sumac or Cashew Family	**Anacardiaceae**												x		o	o	x	o	o	o	o	o	
Smooth Sumac	*Rhus glabra*	7	5			S5				G5	R	R	x		x								

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Eastern Poison-ivy	*Toxicodendron radicans ssp. negundo*	5	-1			S5				G5	C	C	x			x							
Western Poison-ivy	*Toxicodendron rydbergii*	2	0			S5				G--T5	C	C	x		x	x							
Staghorn Sumac	*Rhus typhina*	1	3			S5				G5	C		x		x	x	x	x	x	x		x	
Carrot or Parsley Family	**Apiaceae**												x		o	o	x	o			o		
Spotted Water-hemlock	*Cicuta maculata*	6	-5			S5				G5	C	C	x				x	x					
Wild Carrot	*Daucus carota*		5	-2		SNA				GNR	IC	I	x		x	x	x				x		
Giant Hogweed	*Heracleum mantegazzianum*		0		1	SNA				GNR	IR	I	x			x							
Garden Lovage	*Levisticum officinale*		5	-1		SNA				GNR	IR		x		x								
Sweet-cicely	*Osmorhiza berteroi*	5	3			S4				G5			x			x							
Woolly Sweet-cicely	*Osmorhiza claytonii*	5	0			S5				G5	C	C	x			x							
Anise-root	*Osmorhiza longistylis*	6	3			S5				G5	C	U	x			x							
Wild Parsnip	*Pastinaca sativa*		5	-3		SNA				GNR	IU	I	x		x								
Black Snakeroot	*Sanicula marilandica*	5	3			S5				G5	C	C	x			x							
Yellow Pimpernel	*Taenidia integerrima*	9	5			S4				G5	U	U	x			x							
Dogbane Family	**Apocynaceae**												x		o	o	x				o		
Spreading Dogbane	*Apocynum androsaemifolium*	3	5			S5				G5	C	C	x		x	x							
Indian Hemp	*Apocynum cannabinum*	3	0			S5				G--T5?	C	U	x		x								
Common Periwinkle	*Vinca minor*		5	-2	2	SNA				GNR	IX	I	x		x		x				x		
Ginseng Family	**Araliaceae**												x		o	o	x	o					
Wild Sarsaparilla	*Aralia nudicaulis*	4	3			S5				G5	C	C	x		x	x							
English Ivy	*Hedera helix*				3	SNA					IR		x		x		x	x					
Milkweed Family	**Asclepiadaceae**												x		o	o	x	o					
Swamp Milkweed	*Asclepias incarnata*	6	-5			S5				G5	C	C	x		x								
Common Milkweed	*Asclepias syriaca*	0	5			S5				G5	C	C	x		x	x							
Butterfly Milkweed	*Asclepias tuberosa*	8	5			S4				G5	U	U	x		x								
Whorled Milkweed	*Asclepias verticillata*	6	5			S4				G5	R		x		x								
Black Swallow-wort	*Vincetoxicum nigrum*		5	-2	1	SNA				GNR	IX	I	x			x							
European Swallow-wort	*Vincetoxicum rossicum*		5	-3	1	SNA				GNR	IX	I	x		x		x	x					
Composite or Aster Family	**Asteraceae**												x		o	o	x	o	o	o	o	o	
Common Yarrow	*Achillea millefolium*		3	-1		SNA				G5	IX	I	x		x	x							
Common Ragweed	*Ambrosia artemisiifolia*	0	3			S5				G5	C	C	x		x	x							
Field Pussytoes	*Antennaria neglecta*	3	5			S5				G5	C	C	x			x							
Parlin's Pussytoes	*Antennaria parlinii*	2	5			S5				G5			x		x	x							
Parlin's Pussytoes	*Antennaria parlinii ssp. fallax*	2	5			S5				G5T5	C	C	x		x	x							
Parlin's Pussytoes	*Antennaria parlinii ssp. parlinii*					SU					R		x		x								
Great Burdock	*Arctium lappa*		3			SNA				GNR	IU	I	x		x	x	x	x					
Common Burdock	*Arctium minus*		3	-2		SNA				GNR	IC	I	x			x							
Aster species	*Symphyotrichum sp.*												x			x							
Heart-leaved Aster	*Symphyotrichum cordifolium*	5	5			S5				G5	C	C	x		x	x							
Panicled Aster	*Symphyotrichum lanceolatum*	3	-3			S5				G5	C	C	x		x	x							
Calico Aster	*Symphyotrichum lateriflorum*	3	0			S5				G5	C	C	x			x							
Large-leaved Aster	*Eurybia macrophylla*	5	5			S5				G5	C	C	x			x							
New England Aster	*Symphyotrichum novae-angliae*	2	-3			S5				G5	C	C	x		x	x	x	x					
Oldfield Aster	*Symphyotrichum pilosum*		3			S5				G5T5	C	U	x				x	x			x		
Arrow-leaved Aster	*Symphyotrichum urophyllum*	6	5			S4				G4G5	C		x		x								
Devil's Beggar-ticks	*Bidens frondosa*	3	-3			S5				G5	C	C	x		x	x	x	x					
Nodding Thistle	*Carduus nutans*		3	-1	3	SNA				GNR	IX	I	x			x							
Bachelor's Button	*Centaurea cyanus*		5	-1		SNA				GNR	IR	I	x		x								
Ox-eye Daisy	*Leucanthemum vulgare*		5	-1		SNA				GNR	IC	I	x		x	x							
Chicory	*Cichorium intybus*		5	-1		SNA				GNR	IC	I	x		x								
Canada Thistle	*Cirsium arvense*		3	-1	1	SNA				G5	IC	I	x		x	x							
Bull Thistle	*Cirsium vulgare*		3	-1		SNA				GNR	IC	I	x		x	x							

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Canada Horseweed	*Erigeron canadensis*	0	1			S5				G5		C	x		x								
Eastern Burnweed	*Erechtites hieraciifolius*	2	3			S5				G5	C	U	x			x							
Annual Fleabane	*Erigeron annuus*	0	3			S5				G5	C	C	x		x	x							
Philadelphia Fleabane	*Erigeron philadelphicus*	1	-3			S5				G5	C	C	x		x	x							
Rough Fleabane	*Erigeron strigosus*	4	3			S5				G5	C	C	x			x							
Spotted Joe-pye-weed	*Eutrochium maculatum*	3	-5			S5				G5	C	C	x		x	x							
Grass-leaved Goldenrod	*Euthamia graminifolia*	2	0			S5				G5	C	C	x		x	x							
Common Sunflower	*Helianthus annuus*		3	-1		SNA				G5	IR	I	x		x								
Woodland Sunflower	*Helianthus divaricatus*	7	5			S5				G5	C	U	x			x							
Tall Sunflower	*Helianthus giganteus*	6	-3			S5				G5	U		x			x							
Pale-leaved Woodland Sunflower	*Helianthus strumosus*	7	5			S5				G5	R	R	x			x							
King Devil Hawkweed	*Pilosella floribundum*		5		3	SNA				GNA	hyb	I	x			x							
Elecampane	*Inula helenium*		3	-2	4	SNA				GNR	IU	I	x		x	x							
Prickly Lettuce	*Lactuca serriola*		3	-1		SNA				GNR	IC	I	x		x	x							
Nipplewort	*Lapsana communis*		3	-2	4	SNA				GNR	IX	I	x		x	x							
Black-eyed Susan	*Rudbeckia hirta*	0	3			S5				G5	C	C	x		x								
Cut-leaved Coneflower	*Rudbeckia laciniata*	7	-3			S5				G5	U	U	x		x								
Brown-eyed Susan	*Rudbeckia triloba*		3	-1		SNA				G5	IX	I	x		x								
Common Ragwort	*Senecio vulgaris*		5	-1		SNA				GNR	IX	I	x		x								
Goldenrod Species	*Solidago sp.*												x				x	x					
Tall Goldenrod	*Solidago altissima*	1	3			S5				G5	C	C	x			x							
Cut-leaved Goldenrod	*Solidago arguta*	8	3			S4				G5	R	R	x			x							
Blue-stemmed Goldenrod	*Solidago caesia*	5	3			S5				G5	C	C	x		x	x	x	x					
Canada Goldenrod	*Solidago canadensis var. canadensis*	1	3			S5				G5T5	C	C	x		x	x							
Zig-zag Goldenrod	*Solidago flexicaulis*	6	3			S5				G5	C	C	x		x	x	x	x					
Giant Goldenrod	*Solidago gigantea*	4	-3			S5				G5	C	U	x		x								
Early Goldenrod	*Solidago juncea*	3	5			S5				G5	C	U	x		x	x							
Field Sow-thistle	*Sonchus arvensis*					SNA				GNR	IC		x		x	x							
Common Feverfew	*Tanacetum parthenium*		5	-1	3	SNA				GNR	IR	I	x		x								
Common Tansy	*Tanacetum vulgare*		5	-1		SNA				GNR	IX	I	x		x								
Common Dandelion	*Taraxacum officinale*		3	-2		SNA				G5	IC		x		x	x	x				x		
Yellow Goatsbeard	*Tragopogon dubius*		5	-1		SNA				GNR	IC	I	x		x								
Coltsfoot	*Tussilago farfara*		3	-2		SNA				GNR	IC	I	x		x	x							
Touch-me-not Family	**Balsaminaceae**												x		o	o	x	o			o		
Spotted Jewelweed	*Impatiens capensis*	4	-3			S5				G5	C	C	x		x	x	x	x			x		
Barberry Family	**Berberidaceae**												x		o	o	x	o					
Japanese Barberry	*Berberis thunbergii*		4	-3	3	SNA				GNR	IX	I	x		x	x							
Common Barberry	*Berberis vulgaris*		3	-2	3	SNA				GNR	IX	I	x			x							
Giant Blue Cohosh	*Caulophyllum giganteum*	6	5			S5				G4G5	X	?	x		x								
Blue Cohosh	*Caulophyllum thalictroides*	6	5			S5				G5	X	?	x			x							
Twinleaf	*Jeffersonia diphylla*	10	5			S4				G4	R	U	x		x								
May-apple	*Podophyllum peltatum*	5	3			S5				G5	C	C	x		x	x							
Birch Family	**Betulaceae**												x		o	o	x	o	o				
Yellow Birch	*Betula alleghaniensis*	6	0			S5				G5	C	C	x		x	x							
Paper Birch	*Betula papyrifera*	2	2			S5				G5	C	C	x		x	x	x	x					
Downy Birch	*Betula pubescens ssp. pubescens*					SNA				GNRTNR			x			x							
Blue Beech	*Carpinus caroliniana*										C		x		x	x	x	x					
Beaked Hazelnut	*Corylus cornuta*	5	5			S5				G5	U	C	x			x							
Eastern Hop-hornbeam	*Ostrya virginiana*	4	4			S5				G5	C	C	x		x	x	x	x	x				
Bignonia Family	**Bignoniaceae**												x		o	o							
Trumpet Creeper	*Campsis radicans*	3	0			S2?				G5	R		x		x								
Southern Catalpa	*Catalpa bignonioides*		3	-1		SNA				G4	IR	I	x			x							
Northern Catalpa	*Catalpa speciosa*		3	-1		SNA				G4?	IR	I	x		x	x							
Borage Family	**Boraginaceae**												x		o	o	x	o					
Common Borage	*Borago officinalis*		5	-1		SNA				GNR	IH		x		x								
Hound's-tongue	*Cynoglossum officinale*		5	-1		SNA				GNR	IU	I	x		x								
Common Viper's Bugloss	*Echium vulgare*		5	-2		SNA				GNR	IC	I	x		x								
Virginia Bluebells	*Mertensia virginica*	9	-3			S3				G5	R	R	x		x								
Small Forget-me-not	*Myosotis laxa*	6	-5			S5				G5	C	C	x			x							
True Forget-me-not	*Myosotis scorpioides*		-5	-1	4	SNA				G5	IX	I	x			x							
Woodland Forget-me-not	*Myosotis sylvatica*		5	-1		SNA				G5	IR	I	x		x								
Mustard Family	**Brassicaceae**												x		o	o	x	o	o	o	o		
Garlic Mustard	*Alliaria petiolata*		0	-3	1	SNA				GNR	IC	I	x		x	x	x	x					
Bitter Wintercress	*Barbarea vulgaris*		0	-1	3	SNA				GNR	IC	I	x		x								
Common Shepherd's Purse	*Capsella bursa-pastoris*		1	-1		SNA				GNR	IC	I	x		x								
Cut-leaved Toothwort	*Cardamine concatenata*	6	3			S5				G5	C	C	x		x								
Pennsylvania Bitter-cress	*Cardamine pensylvanica*	6	-4			S5				G5	C	U	x			x							
Spring Draba	*Draba verna*		5	-2		SNA				G?	IU	I	x		x								
Common Dog Mustard	*Erucastrum gallicum*		5	-1		SNA				G5	IX	I	x		x								
Dame's Rocket	*Hesperis matronalis*		5	-3	1	SNA				G4G5	IC	I	x		x	x							

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Field Pepperweed	*Lepidium campestre*		5	-1		SNA				GNR	IC	I	x		x								
Common Peppergrass	*Lepidium densiflorum*		0	-2		SNA				G5	IX	I	x			x								
Annual Honesty	*Lunaria annua*		5	-1		SNA				GNR	IR	I	x		x								
Field Pennycress	*Thlaspi arvense*		5	-1		SNA				GNR	IC	I	x		x								
Boxwood Family	**Buxaceae**												x		o								
Japanese-spurge	*Pachysandra terminalis*				4	SNA				GNR	IR	I	x		x								
Bellflower Family	**Campanulaceae**												x		o	o							
Creeping Bellflower	*Campanula rapunculoides*		5	-2	4	SNA				GNR	IU	I	x		x								
Indian-tobacco	*Lobelia inflata*	3	3			S5				G5	C	C	x			x							
Honeysuckle Family	**Caprifoliaceae**												x		o	o	x	o			o		
Northern Bush Honeysuckle	*Diervilla lonicera*	5	5			S5				G5	C	C	x		x	x							
Canada Fly Honeysuckle	*Lonicera canadensis*	6	3			S5				G5	C	C	x		x	x							
Limber Honeysuckle	*Lonicera dioica*	5	3			S5				G5	C	C	x			x							
Maack's Honeysuckle	*Lonicera maackii*		5	-2	1	SNA				GNR	IR	I	x		x								
Morrow's Honeysuckle	*Lonicera morrowii*		5	-1	1	SNA				GNR	IR	I	x			x							
Tartarian Honeysuckle	*Lonicera tatarica*		3	-3	1	SNA				GNR	IC	X	x			x							
Dwarf Honeysuckle	*Lonicera xylosteum*		5	-2	1	SNA				GNR	IR		x		x	x							
Common Elderberry	*Sambucus canadensis*	5	-2			S5				G5T5	C	C	x		x								
Black Elderberry	*Sambucus nigra*					SNA				G5			x			x							
Red Elderberry	*Sambucus racemosa*	5	2		4	S5				G5	C	C	x		x	x							
Thin-leaved Snowberry	*Symphoricarpos albus*	7	4		4	S5				G5		C	x		x	x							
Maple-leaved Viburnum	*Viburnum acerifolium*	6	5			S5				G5	C	C	x		x	x							
Nannyberry	*Viburnum lentago*	4	0			S5				G5	C	C	x		x	x							
Cranberry Viburnum	*Viburnum opulus*	5	-3			S5				G5		I	x		x	x							
Pink Family	**Caryophyllaceae**												x		o	o	x	o	o	o	o		
Thyme-leaved Sandwort	*Arenaria serpyllifolia*		0	-2		SNA				GNR	IC	I	x		x								
Common Mouse-ear Chickweed	*Cerastium fontanum*		3	-1		SNA				GNR	IC	I	x			x							
Deptford Pink	*Dianthus armeria*		5	-1		SNA				GNR	IC	I	x		x	x							
Sweet William	*Dianthus barbatus*		5	-1		SNA				GNR	IR	I	x		x								
Bouncing-bet	*Saponaria officinalis*		3	-3	3	SNA				GNR	IC	I	x		x								
White Campion	*Silene latifolia*		5	-2		SNA				GNR	IX	I	x		x								
Bladder Campion	*Silene vulgaris*		5	-1		SNA				GNR	IC	I	x		x								
Red Sand-spurrey	*Spergularia rubra*		3	-1		SNA?				G5	IR		x		x								
Common Chickweed	*Stellaria media*		3	-1		SNA				GNR	IC	I	x			x							
Staff-tree Family	**Celastraceae**												x		o	o							
Climbing Bittersweet	*Celastrus scandens*	3	3			S5				G5	C	C	x			x							
Climbing Euonymus	*Euonymus fortunei*		5	-1		SNA				GNR	IR	I	x		x								
Running Strawberry-bush	*Euonymus obovatus*	6	5			S4				G5	C	C	x		x	x							
Goosefoot Family	**Chenopodiaceae**												x		o	o	x	o	o		o		
Common Lamb's Quarters	*Chenopodium album*		3			SNA				G5	IC		x		x	x							
Morning-glory Family	**Convolvulaceae**												x		o	o	x	o			o		
Field Bindweed	*Convolvulus arvensis*		5	-1	3	SNA				GNR	IC	I	x		x								
Dogwood Family	**Cornaceae**												x		o	o	x	o			o		
Alternate-leaved Dogwood	*Cornus alternifolia*	6	3			S5				G5	C	C	x			x							
Grey Dogwood	*Cornus racemosa*	2	0			S5				G5	C	C	x		x	x	x	x					
Round-leaved Dogwood	*Cornus rugosa*	6	5			S5				G5	C	C	x		x	x							
Red-osier Dogwood	*Cornus sericea*	2	-3			S5				G5	C	C	x		x	x	x	x					
Tatarian Dogwood	*Cornus sericea ssp. sericea*												x			x							
Stonecrop Family	**Crassulaceae**												x		o	o	x				o		
Two-row Stonecrop	*Phedimus spurius*		5	-1		SNA				GNR	IR		x		x								
Teasel Family	**Dipsacaceae**												x		o	o	x				o		
Common Teasel	*Dipsacus fullonum*		3	-1	3	SNA				GNR	IC	I	x		x	x	x				x		
Oleaster Family	**Elaeagnaceae**												x		o	o							
Russian Olive	*Elaeagnus angustifolia*		3	-1	3	SNA				GNR	IU	I	x		x	x							
Heath Family	**Ericaceae**												x		o	o	x		o				
Eastern Teaberry	*Gaultheria procumbens*	6	3			S5				G5	C	U	x			x							
Black Huckleberry	*Gaylussacia baccata*	8	3			S4				G5	R	U	x			x							
Early Lowbush Blueberry	*Vaccinium angustifolium*	6	3			S5				G5	C	U	x			x							
Pale Blueberry	*Vaccinium pallidum*	9	5			S4				G5	C	U	x			x							
Spurge Family	**Euphorbiaceae**												x		o	o	x	o	o	o			
Common Three-seeded Mercury	*Acalypha rhomboidea*	0	3			S5				G5	C	C	x			x							
Spotted Spurge	*Euphorbia maculata*		3	-1		SNA				G5?	IC	I	x		x								
Leafy Spurge	*Euphorbia virgata*		5	-2	4	SNA?				GNR	IU	I	x		x								
Pea Family	**Fabaceae**												x		o	o	x	o	o	o	o	o	
American Hog Peanut	*Amphicarpaea bracteata*	4	0			S5				G5	C	C	x			x							
Purple Crown-vetch	*Securigera varia*		5	-2	1	SNA				GNR	IX	I	x		x								
Honey Locust	*Gleditsia triacanthos*	8	0			S2?				G5	R	I	x		x	x							
Everlasting Pea	*Lathyrus latifolius*		5	-1		SNA				GNR	IU	I	x		x								
Garden Bird's-foot Trefoil	*Lotus corniculatus*		3	-2	2	SNA				GNR	IC	I	x		x								
Narrow-leaved Bird's-foot Trefoil	*Lotus tenuis*		3			SNA				GNR			x		x								

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Black Medick	*Medicago lupulina*		3	-1	4	SNA				GNR	IC	I	x		x	x							
Alfalfa	*Medicago sativa ssp. sativa*		5	-1	4	SNA				GNRTNR	IC	I	x		x	x							
White Sweet-clover	*Melilotus albus*		3	-3	2	SNA				G5	IC	I	x		x	x							
Yellow Sweet-clover	*Melilotus officinalis*		3	-1		SNA				GNR	IC	I	x		x								
Black Locust	*Robinia pseudoacacia*		3	-3	2	SNA				G5	IC	I	x		x	x							
Alsike Clover	*Trifolium hybridum*		3	-1		SNA				GNR	IC	I	x		x								
Red Clover	*Trifolium pratense*		3	-2	4	SNA				GNR	IC	I	x		x	x							
White Clover	*Trifolium repens*		3	-1	4	SNA				GNR	IC	I	x		x	x							
Tufted Vetch	*Vicia cracca*		5	-1	2	SNA				GNR	IX	I	x		x	x							
Four-seed Vetch	*Vicia tetrasperma*		5	-1	3	SNA				GNR	IU	I	x			x							
Beech Family	**Fagaceae**												x		o	o	x	o	o	o			
American Beech	*Fagus grandifolia*	6	3			S4				G5	C	C	x		x	x							
White Oak	*Quercus alba*	6	3			S5				G5	C	C	x		x	x	x		x				
Swamp White Oak	*Quercus bicolor*	8	-3			S4				G5	C	R	x		x								
Bur Oak	*Quercus macrocarpa*	5	3			S5				G5	C	C	x		x	x							
English Oak	*Quercus robur*		5			SNA				GNR	IR		x		x	x							
Northern Red Oak	*Quercus rubra*	6	3			S5				G5	C	C	x		x	x	x	x	x	x			
Geranium Family	**Geraniaceae**												x		o	o	x	o					
Common Storksbill	*Erodium cicutarium*		5			SNA				GNR	IR		x		x								
Spotted Geranium	*Geranium maculatum*	6	3			S5				G5	C	C	x		x	x							
Herb-robert	*Geranium robertianum*	2	3	-2		S5				G5	C	I	x		x	x	x	x					
Currant Family	**Grossulariaceae**												x		o	o	x	o					
Eastern Prickly Gooseberry	*Ribes cynosbati*	4	3			S5				G5	C	C	x		x	x							
European Black Currant	*Ribes nigrum*		5	-1		SNA				GNR	IR	I	x		x								
European Red Currant	*Ribes rubrum*		5	-2		SNA				G4G5	IX	I	x		x	x							
St. John's-wort Family	**Guttiferae**												x		o	o	x	o					
Common St. John's-wort	*Hypericum perforatum*		5	-3	4	SNA				GNR	IC	I	x		x	x							
Spotted St. John's-wort	*Hypericum punctatum*	5	0			S5				G5	C	U	x		x								
Witch-hazel Family	**Hamamelidaceae**												x		o	o	x	o					
American Witch-hazel	*Hamamelis virginiana*	6	3			S4S5				G5	C	C	x		x	x	x	x					
Buckeye Family	**Hippocastanaceae**												x		o	o							
Ohio Buckeye	*Aesculus glabra*	10	0			S1				G5	R		x			x							
Ohio Buckeye	*Aesculus glabra var. glabra*	10	-1			S1				G5T5		I	x			x							
Horse Chestnut	*Aesculus hippocastanum*		5	-1	3	SNA				GNR	IR	I	x		x	x							
Water-leaf Family	**Hydrophyllaceae**												x		o	o	x	o					
Virginia Waterleaf	*Hydrophyllum virginianum*	6	0			S5				G5	C	C	x		x	x							
Walnut Family	**Juglandaceae**												x		o	o	x	o					
Bitternut Hickory	*Carya cordiformis*	6	0			S5				G5	C	C	x		x	x	x	x					
Shagbark Hickory	*Carya ovata*	6	3			S5				G5	C	C	x		x	x							
Black Walnut	*Juglans nigra*	5	3			S4?				G5	C	C	x		x	x							
Mint Family	**Lamiaceae**												x		o	o	x	o			o	o	
Creeping Bugleweed	*Ajuga reptans*		5	-1	4	SNA				GNR	IR	I	x		x								
Ground-ivy	*Glechoma hederacea*		5	-2	4	SNA				GNR	IC	I	x		x	x							
American False Pennyroyal	*Hedeoma pulegioides*	6	5			S4				G5	U	U	x		x								
Common Dead-nettle	*Lamium amplexicaule*		5	-1		SNA				GNR	IR	I	x		x								
Yellow Archangel	*Lamium galeobdolon*										IR		x		x								
Spotted Dead-nettle	*Lamium maculatum*		5			SNA				GNR	IR	I	x		x								
Purple Dead-nettle	*Lamium purpureum*		5	-2		SNA				GNR	IR		x		x								
Common Motherwort	*Leonurus cardiaca ssp. cardiaca*		5	-2		SNA				GNRTNR		I	x		x								
American Water-horehound	*Lycopus americanus*	4	-5			S5				G5	C	C	x			x							
Lemon Balm	*Melissa officinalis*		5	-1		SNA				GNR	IR	I	x		x		x	x					
Wild Bergamot	*Monarda fistulosa*	6	3			S5				G5	C		x		x								
Catnip	*Nepeta cataria*		3	-2	4	SNA				GNR	IC	I	x		x	x							
Virginia False Dragonhead	*Physostegia virginiana*	8	-3			S4				G5	R		x		x								
Common Self-heal	*Prunella vulgaris ssp. vulgaris*		0	-1		SNA				G5TU	IR	C	x			x							
Lance-leaved Self-heal	*Prunella vulgaris ssp. lanceolata*	5	5			S5				G5T5	C		x			x							
Loosestrife Family	**Lythraceae**												x		o	o							
Purple Loosestrife	*Lythrum salicaria*		-5	-3	1	SNA				G5	IC	I	x		x	x							
Mallow Family	**Malvaceae**												x		o	o	x				o	o	
Velvetleaf	*Abutilon theophrasti*		3	-1	3	SNA				GNR	IC	I	x		x								
Hollyhock	*Alcea rosea*		5	-1		SNA				GU	IR	I	x		x								
Musk Mallow	*Malva moschata*		5	-1	4	SNA				GNR	IU	I	x		x								
Common Mallow	*Malva neglecta*		5	-1		SNA				GNR	IC	I	x		x								
Indian Pipe Family	**Monotropaceae**												x		o	o	x				o	o	
Indian-pipe	*Monotropa uniflora*	6	3			S5				G5	C	C	x		x	x							
Mulberry Family	**Moraceae**												x		o	o	x				o	o	
White Mulberry	*Morus alba*		0	-3	1	SNA				GNR	IC	I	x		x	x	x				x	x	
Four-O-clock Family	**Nyctaginaceae**												x		o								
Heart-leaved Four O'clock	*Mirabilis nyctaginea*		5	-1		S2				G5	IU	I	x		x								
Olive Family	**Oleaceae**												x		o	o	x	o					

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
White Ash	*Fraxinus americana*	4	3			S4				G4	C	C	x			x							
Black Ash	*Fraxinus nigra*	7	-3			S4	END	END		G5	C	C	x			x							
Green Ash	*Fraxinus pennsylvanica*	3	-3			S4				G5	C	C	x		x	x							
Common Lilac	*Syringa vulgaris*		5	-2	2	SNA				GNR	IX		x		x								
Evening-primrose Family	**Onagraceae**												x		o	o	x	o					
Canada Enchanter's Nightshade	*Circaea canadensis*	3	3			S5				G5	C	C	x		x	x							
Broad-leaf Enchanter's Nighshade	*Circaea canadensis ssp. canadensis*												x			x							
Hairy Willow-herb	*Epilobium ciliatum*										C		x		x								
Purple-veined Willow-herb	*Epilobium coloratum*	3	-5			S5				G5	C	U	x				x	x					
Small-flowered Willow-herb	*Epilobium parviflorum*		3	-1		SNA				GNR	IU	I	x			x							
Northern Evening-primrose	*Oenothera parviflora*	1	3			S5				G5	C	C	x			x							
Meadow Evening-primrose	*Oenothera pilosella*					S2					R		x		x								
Broom-rape Family	**Orobanchaceae**												x		o	o							
Beechdrops	*Epifagus virginiana*	6	5			S5				G5	C	C	x			x							
Wood Sorrel Family	**Oxalidaceae**												x		o	o							
Creeping Wood-sorrel	*Oxalis corniculata*		3	-1		SNA				GNR	IR	I	x		x								
Common Yellow Oxalis	*Oxalis stricta*	0	3			S5				G5	C	C	x			x							
Poppy Family	**Papaveraceae**												x		o	o	x	o					
Bloodroot	*Sanguinaria canadensis*	5	4			S5				G5	C	C	x		x	x							
Plantain Family	**Plantaginaceae**												x		o	o	x	o					
English Plantain	*Plantago lanceolata*		0	-1		SNA				G5	IC	I	x		x								
Common Plantain	*Plantago major*		-1	-1		SNA				G5	IC	I	x		x	x	x	x					
Rugel's Plaintain	*Plantago rugelii*	1	0			S5				G5	C	C	x			x							
Plane-tree Family	**Platanaceae**												x		o	o							
American Sycamore	*Platanus occidentalis*	8	-3			S4				G5	C	R	x		x								
London Plane-tree	*Platanus acerifolia*		5	-1		SNA				GU			x			x							
Phlox Family	**Polemoniaceae**												x		o	o							
Wild Blue Phlox	*Phlox divaricata*	7	3			S4				G5	C	U	x		x								
Fall Phlox	*Phlox paniculata*		3	-1		SNA				G5	IR	I	x		x								
Milkwort Family	**Polygalaceae**												x		o	o							
Gay Wings	*Polygala paucifolia*	6	3			S5				G5	R	U	x			x							
Smartweed Family	**Polygonaceae**												x		o	o	x	o	o	o	o	o	
Prostrate Knotweed	*Polygonum aviculare*		1	-1		SNA				GNR		I	x		x								
Black Bindweed	*Fallopia convolvulus*		1	-1		SNA				GNR	IC		x		x								
Japanese Knotweed	*Fallopia japonica*		3	-1	2	SNA				G?	IX		x		x								
Marsh Hydro-pepper	*Persicaria hydropiper*	4	-5			SNA				GNR	IC	I	x		x	x							
Lady's-thumb	*Persicaria maculosa*		-3	-1		SNA				G3G5	IC	I	x		x	x							
Sheep Sorrel	*Rumex acetosella*		0	-2	3	SNA				GNR	IC	I	x			x							
Curly-leaf Dock	*Rumex crispus*		-1	-2		SNA				GNR	IC	I	x		x	x							
Bitter Dock	*Rumex obtusifolius*		-3	-1		SNA				GNR	IX	I	x		x								
Purslane Family	**Portulacaceae**												x		o	o							
Carolina Spring Beauty	*Claytonia caroliniana*	7	3			S5				G5	U	U	x		x								
Virginia Spring Beauty	*Claytonia virginica*	5	3			S5				G5	C	U	x		x	x							
Purslane	*Portulaca oleracea*	0	1			SNA				GU	IU	I	x		x								
Primrose Family	**Primulaceae**												x		o	o							
Scarlet Pimpernel	*Anagallis arvensis*		4	-1		SNA				GNR	IX	I	x		x								
Fringed Loosestrife	*Lysimachia ciliata*	4	-3			S5				G5	C	C	x		x	x							
English Cowslip	*Primula veris*		-1	-1		SNA				GNR	IR	I	x		x								
Star-flower	*Trientalis borealis*	6	-1			S5				G5	C	C	x			x							
Buttercup Family	**Ranunculaceae**												x		o	o	x	o	o	o	o	o	
White Baneberry	*Actaea pachypoda*	6	5			S5				G5	C	C	x		x	x							
Red Baneberry	*Actaea rubra*	5	5			S5				G5	C	C	x			x							
Sharp-lobed Hepatica	*Anemone acutiloba*	6	5			S5				G5	C	C	x		x	x							
Round-lobed Hepatica	*Anemone americana*	6	5			S5				G5	C	U	x		x	x							
Wood Anemone	*Anemone quinquefolia var. quinquefolia*	7	0			S5				G5T5		C	x		x	x							
Virginia Anemone	*Anemone virginiana*										C		x			x							
Tall Thimbleweed	*Anemone virginiana var. virginiana*	4	5			S5				G5T5	C	C	x			x							
Wild Columbine	*Aquilegia canadensis*	5	1			S5				G5	C	C	x		x								
European Columbine	*Aquilegia vulgaris*		3	-1		SNA				GNR	IR	I	x		x								
Winter Aconite	*Eranthis hyemalis*					SNA				GNR	IR		x		x								
Littleleaf Buttercup	*Ranunculus abortivus*	2	-2			S5				G5	C	C	x		x	x							
Tall Buttercup	*Ranunculus acris*		-2	-2		SNA				G5	IC	I	x		x	x							
Hooked Buttercup	*Ranunculus recurvatus*										C		x		x	x							
Celeryleaf Buttercup	*Ranunculus sceleratus*										C		x		x	x							
Early Meadow-rue	*Thalictrum dioicum*	5	2			S5				G5	C	C	x		x	x							
Tall Meadow-rue	*Thalictrum pubescens*	5	-2			S5				G5	C	C	x			x							
Veiny Meadow-rue	*Thalictrum venulosum*					S5?				G5			x				x	x					
Buckthorn Family	**Rhamnaceae**												x		o	o	x	o	o	o		o	
New Jersey Tea	*Ceanothus americanus*	7	5			S4				G5	R	C	x			x							

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Common Buckthorn	*Rhamnus cathartica*		3	-3	1	SNA				GNR	IC	I	x		x	x	x	x	x	x		x	
Glossy Buckthorn	*Frangula alnus*		-1	-3		SNA				GNR	IU	I	x		x								
Rose Family	**Rosaceae**												x		o	o	x	o	o	o	o		
Tall Hairy Agrimony	*Agrimonia gryposepala*	2	2			S5				G5	C	C	x			x							
Serviceberry species	*Amelanchier sp.*												x			x							
Downy Serviceberry	*Amelanchier arborea*	5	3			S5				G5	C	C	x		x	x	x				x		
Round-leaved Serviceberry	*Amelanchier sanguinea*	7	5			S5				G5	U	U	x			x							
Hawthorn species	*Crataegus sp.*	4	5										x				x			x			
Frosted Hawthorn	*Crataegus pruinosa var. pruinosa*	4	5			S4S5				G5T5	U		x		x	x							
Fireberry Hawthorn	*Crataegus chrysocarpa*	4	5			S5				G5	R	U	x			x							
Kansas Hawthorn	*Crataegus coccinioides*	4	5			S2				G4	R	R	x			x							
Large-thorned Hawthorn	*Crataegus macracantha*	4	5			S5				G5	R	U	x			x							
Big-fruit Hawthorn	*Crataegus macrosperma*	4	5			S5				G5	C	U	x			x							
English Hawthorn	*Crataegus monogyna*		5	-1	3	SNA				G5	IU	I	x			x							
Frosted Hawthorn	*Crataegus pruinosa*	4	5			S5				G5	U	C	x		x	x							
Dotted Hawthorn	*Crataegus punctata*	4	5			S5				G5	C	C	x			x							
Schuette's Hawthorn	*Crataegus schuettei*	4	5			S4				G5?	R	U	x			x							
Mock Strawberry	*Potentilla indica*		4	-1		SNA				G5	IR		x		x								
Woodland Strawberry	*Fragaria vesca ssp. americana*	4	4			S5				G5T5	U	C	x		x	x							
Wild Strawberry	*Fragaria virginiana*	2	1			S5				G5	C	C	x			x							
Yellow Avens	*Geum aleppicum*	2	-1			S5				G5	C	C	x			x							
White Avens	*Geum canadense*	3	0			S5				G5	C	C	x		x	x							
Rough Avens	*Geum laciniatum*	4	-3			S4				G5	C	C	x			x							
Wood Avens	*Geum urbanum*		5	-1		SNA				G5	IX	I	x		x	x	x	x					
Common Apple	*Malus pumila*		5	-1		SNA				G5	IC	I	x			x							
Norwegian Cinquefoil	*Potentilla norvegica*	0	0			S5				G5	C	C	x		x	x							
Rough-fruited Cinquefoil	*Potentilla recta*		5	-2		SNA				GNR	IC	I	x		x	x							
Old-field Cinquefoil	*Potentilla simplex*	3	4			S5				G5	C	U	x		x	x							
Sweet Cherry	*Prunus avium*		5	-2	4	SNA				GNR	IR	I	x		x	x							
Canada Plum	*Prunus nigra*	4	4			S4				G4G5	U	U	x		x								
Black Cherry	*Prunus serotina*	3	3			S5				G5	C	C	x		x	x	x		x	x			
Choke Cherry	*Prunus virginiana*	2	1			S5				G5	C	C	x		x	x							
Common Pear	*Pyrus communis*		5	-1		SNA				G5	IU	I	x			x							
Smooth Rose	*Rosa blanda*	3	3			S5				G5	C	C	x			x							
Dog Rose	*Rosa canina*		5	-1		SNA				GNR	IX	I	x		x								
Pasture Rose	*Rosa carolina*	6	4			S4				G5	C	C	x			x							
Multiflora Rose	*Rosa multiflora*		3	-3	1	SNA				GNR	IC	I	x		x	x							
Rugosa Rose	*Rosa rugosa*		3	-1		SNA				GNR	IR	U	x		x								
Dwarf Raspberry	*Rubus arcticus ssp. acaulis*					S5				G5			x			x							
Common Blackberry	*Rubus allegheniensis*	2	2			S5				G5	C	C	x			x							
American Red Raspberry	*Rubus idaeus*	0	-2			SNA				G5		I	x		x	x							
Wild Red Raspberry	*Rubus sachalinensis var. sachalinensis*	0	-2			S5				G5T5	C	C	x			x							
Black Raspberry	*Rubus occidentalis*	2	5			S5				G5	C	C	x		x	x	x	x					
Purple Flowering Raspberry	*Rubus odoratus*	3	5			S5				G5	C	C	x		x	x							
Dwarf Red Blackberry	*Rubus pubescens*	4	-4			S5				G5	C	C	x			x							
Setose Blackberry	*Rubus setosus*	8	-2			S4				G5	R	R	x			x							
False Spiraea	*Sorbaria sorbifolia*		5	-1	3	SNA				G5	IR	I	x		x								
European Mountain-ash	*Sorbus aucuparia*		5	-2	4	SNA				G5	IX	I	x			x							
Japanese Meadow-sweet	*Spiraea japonica*		5	-1		SNA				G5	IR	I	x		x								
Barren Strawberry	*Geum fragarioides*	5	5			S5				G5	U	C	x			x							
Madder Family	**Rubiaceae**												x		o	o	x	o					
Eastern Buttonbush	*Cephalanthus occidentalis*	7	-5			S5				G5	C	U	x		x								
Cleavers	*Galium aparine*	4	3			S5				G5	C	C	x			x							
Rough Bedstraw	*Galium asprellum*	6	-5			S5				G5	C	C	x			x							
Northern Bedstraw	*Galium boreale*	7	0			S5				G5	U	U	x			x							
Sweet-scented Bedstraw	*Galium odoratum*					SNA				GNR	IR		x		x	x							
Fragrant Bedstraw	*Galium triflorum*	4	2			S5				G5	C	C	x			x							
Willow Family	**Salicaceae**												x		o	o	x	o		o	o		
White Poplar	*Populus alba*		5	-3	2	SNA				G5	IU	I	x			x							
Eastern Cottonwood	*Populus deltoides ssp. deltoides*	4	-1			S5				G5T5	C	C	x			x							
Large-tooth Aspen	*Populus grandidentata*	5	3			S5				G5	C	C	x			x							
Trembling Aspen	*Populus tremuloides*	2	0			S5				G5	C	C	x		x	x							
Willow species	*Salix sp.*												x			x							
White Willow	*Salix alba*		-3	-2	3	SNA				G5	IX	I	x				x	x					
Peach-leaved Willow	*Salix amygdaloides*	6	-3			S5				G5	C	C	x			x							
Pussy Willow	*Salix discolor*	3	-3			S5				G5	C	C	x		x								
Missouri River Willow	*Salix eriocephala*	4	-3			S5				G5	C	C	x			x							
Crack Willow	*Salix fragilis*		-1	-3	3	SE				GNR	IC	I	x			x							
Shining Willow	*Salix lucida*	5	-4			S5				G5	U	U	x			x							
Wisconsin Weeping Willow	*Salix X pendulina*					hyb				GNA	hyb		x			x							

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Hybrid Crack Willow	*Salix X rubens*		-4	-3		hyb				HYB	hyb	I	x			x							
Sandalwood Family	**Santalaceae**												x			o							
Bastard Toad-flax	*Comandra umbellata*	6	3			S5				G5	U	U	x			x							
Saxifrage Family	**Saxifragaceae**												x		o	o	x	o		o	o		
Two-leaved Bishop's Cap	*Mitella diphylla*	5	2			S5				G5	C	C	x			x							
Heartleaf Foamflower	*Tiarella cordifolia*	6	1			S5				G5	C	C	x			x							
Figwort Family	**Scrophulariaceae**												x		o	o	x	o		o	o		
Butter-and-eggs	*Linaria vulgaris*		5	-1	4	SNA				GNR	IC	I	x		x								
Allegheny Monkey-flower	*Mimulus ringens*	6	-5			S5				G5	C	U	x		x								
Foxglove Beard-tongue	*Penstemon digitalis*	6	1			SNA				G5	U	U	x			x							
Common Mullein	*Verbascum thapsus*		5	-2		SNA				GNR	IC	I	x		x	x							
Common Gypsyweed	*Veronica officinalis*		5	-2		SNA				G5	IX	I	x		x	x							
Gray Field Speedwell	*Veronica polita*		5	-1		SNA				GNR	IX	I	x		x								
Thyme-leaved Speedwell	*Veronica serpyllifolia*	0	-3			SNA?				G5	IC	I	x		x	x							
Ailanthus Family	**Simaroubaceae**												x			o							
Tree-of-heaven	*Ailanthus altissima*		5	-1	2	SNA				GNR	IR	I	x			x							
Nightshade Family	**Solanaceae**												x		o	o	x	o		o	o		
Bittersweet Nightshade	*Solanum dulcamara*		0	-2	3	SNA				GNR	IC	I	x		x	x	x				x		
Black Nightshade	*Solanum nigrum*		0	-1		SNA				GNR	IR	I	x			x							
Eastern Black Nightshade	*Solanum ptychanthum*		0	-1		S5				G5	C	C	x		x	x							
Irish Potato	*Solanum tuberosum*		5	-1		SNA				GNR	IR		x		x								
Linden Family	**Tiliaceae**												x		o	o	x	o		o			
American Basswood	*Tilia americana*	4	3			S5				G5	C	C	x		x	x	x	x		x			
Little Leaf Linden	*Tilia cordata*				4	SNA				GNR	IR	I	x			x	x	x					
Elm Family	**Ulmaceae**												x		o	o	x	o		o			
Common Hackberry	*Celtis occidentalis*	8	1			S4				G5	C	R	x		x								
American Elm	*Ulmus americana*	3	-2			S5				G5	C	C	x		x	x	x			x			
Siberian Elm	*Ulmus pumila*		5	-1	2	SNA				GNR	IX	I	x		x	x							
Slippery Elm	*Ulmus rubra*	6	0			S5				G5	C	C	x			x							
Nettle Family	**Urticaceae**												x		o	o	x	o					
Smallspike False Nettle	*Boehmeria cylindrica*	4	-5			S5				G5	C	C	x			x							
Canadian Clearweed	*Pilea pumila*	5	-3			S5				G5	C	C	x		x	x	x	x					
Vervain Family	**Verbenaceae**												x		o	o							
White Vervain	*Verbena urticifolia*	4	-1			S5				G5	C	C	x		x								
Violet Family	**Violaceae**												x		o	o	x	o					
Sand Violet	*Viola sororia var. affinis*	6	-3			S4?				G5	U	U	x			x							
Alpine Violet	*Viola labradorica*					S5				G5	C		x			x							
Sweet Violet	*Viola odorata*		5	-1	4	SNA				GNR	IR	I	x		x								
Downy Yellow Violet	*Viola pubescens*	5	4			S5				G5	C	C	x			x							
Northern Woodland Violet	*Viola sororia var. sororia*	7	3			S5				GNR	C	U	x			x							
Woolly Blue Violet	*Viola sororia*	4	1			S5				G5	C	C	x		x	x							
Grape Family	**Vitaceae**												x		o	o	x	o					
Thicket-creeper	*Parthenocissus vitacea*	3	3			S5				G5	C	C	x			x							
Virginia Creeper	*Parthenocissus quinquefolia*	6	1			S4?				G5	U	?	x		x	x							
Boston Ivy	*Parthenocissus tricuspidata*					SNA				GNR	IR		x		x								
Riverbank Grape	*Vitis riparia*	0	-2			S5				G5	C	C	x		x	x	x	x					
MONOCOTS	**MONOCOTYLEDONS**												x		o	o							
Asparagus Family	**Asparagaceae**												x		o	o							
Garden Asparagus	*Asparagus officinalis*		3	-1		SNA				G5?	IC	I	x			x							
Arum Family	**Araceae**												x		o	o							
Jack-in-the-pulpit	*Arisaema triphyllum*	5	-2			S5				G5	C	C	x		x	x							
Sedge Family	**Cyperaceae**												x		o	o	x	o			o		
Sedge species	*Carex sp.*												x			x							
White Bear Sedge	*Carex albursina*	7	5			S5				G5	C	C	x			x							
Northern Clustered Sedge	*Carex arcta*					S4S5				G5			x			x							
Drooping Wood Sedge	*Carex arctata*	5	5			S5				G5	C	C	x			x							
Bebb's Sedge	*Carex bebbii*	3	-5			S5				G5	C	C	x			x							
Oval-leaf Sedge	*Carex cephalophora*	5	3			S5				G5	C	C	x			x							
Fibrous Rooted Sedge	*Carex communis*	6	5			S5				G5	C	C	x			x							
Slender Woodland Sedge	*Carex digitalis*	7	5			S4S5				G5	C	U	x			x							
Slender Looseflower Sedge	*Carex gracilescens*	7	5			S4				G5?	U	R	x			x							
Graceful Sedge	*Carex gracillima*	4	3			S5				G5	C	C	x			x							
Limestone Meadow Sedge	*Carex granularis*	3	-4			S5				G5	C	C	x			x							
Greater Bladder Sedge	*Carex intumescens*	6	-4			S5				G5	C	C	x		x	x							
Woolly-fruited Sedge	*Carex lasiocarpa*	8	-5			S5				G5	R		x			x							
Broad Loose-flowered Sedge	*Carex laxiflora*	5	0			S5				G5	C	C	x			x							
Nerveless Woodland Sedge	*Carex leptonervia*	5	0			S4				G4	U	C	x			x							
Woolly Sedge	*Carex pellita*	4	-5			S5				G5	C	U	x			x							
Pennsylvania Sedge	*Carex pensylvanica*	5	5			S5				G5	C	C	x			x							
Plantain-leaved Sedge	*Carex plantaginea*	7	5			S5				G5	C	C	x			x							

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Broad-leaved Sedge	*Carex platyphylla*	7	5			S5				G5	U	C	x		x	x							
Eastern Star Sedge	*Carex radiata*	4	5			S4				G4	C	C	x			x							
Rosy Sedge	*Carex rosea*	5	5			S5				G5	C	C	x		x	x							
Burreed Sedge	*Carex sparganioides*	5	0			S5				G5	C	C	x		x	x							
Spiked Sedge	*Carex spicata*		5	-1		SNA				GNR	IC	I	x			x							
Quill Sedge	*Carex tenera*	4	-1			S5				G5	C	C	x			x							
Blunt Broom Sedge	*Carex tribuloides*	5	-4			S4S5				G5	C	U	x			x							
Hairy-fruited Sedge	*Carex trichocarpa*	8	-5			S3				G4	R		x			x							
Blunt Spike-rush	*Eleocharis obtusa*	5	-5			S5				G5	C	U	x			x							
Green Bulrush	*Scirpus atrovirens*	3	-5			S5				G5?	C	C	x			x							
Iris Family	**Iridaceae**												x		o	o							
Japanese Iris	*Iris ensata*					SNA				GNR			x		x								
Yellow Iris	*Iris pseudacorus*		-5	-2	4	SNA				GNR	IU	I	x		x								
Rush Family	**Juncaceae**												x		o	o	x	o					
Soft Rush	*Juncus effusus*										C		x			x							
Common Rush	*Juncus pylaei*	4	-5			S5				G5	C	?	x			x							
Path Rush	*Juncus tenuis*	0	0			S5				G5	C	C	x			x							
Hairy Woodrush	*Luzula acuminata*	6	1			S5				G5	C	U	x			x							
Common Woodrush	*Luzula multiflora ssp. multiflora*	6	3			S5				G5T5	C	U	x			x							
Lily Family	**Liliaceae**												x		o	o	x	o			o		
Wild Leek	*Allium tricoccum*	7	2			S4				G5		C	x			x							
European Lily-of-the-valley	*Convallaria majalis*		5	-2	3	SNA				G5	IX	I	x		x	x							
White Trout-lily	*Erythronium albidum*	8	5			S4				G5	U	U	x		x								
Yellow Trout-lily	*Erythronium americanum*	5	5			S5				G5	C	C	x		x	x							
Snowdrop	*Galanthus nivalis*					SNA				GNR	IR	I	x		x								
Canada Mayflower	*Maianthemum canadense*	5	0			S5				G5	C	C	x			x							
Large False Solomon's Seal	*Maianthemum racemosum*	4	3			S5				G5	C	C	x		x	x							
Starry False Solomon's Seal	*Maianthemum stellatum*	6	1			S5				G5	C	C	x			x							
Common Grape Hyacinth	*Muscari botryoides*		5	-1		SNA				GNR	IR	I	x		x								
Sleepydick	*Ornithogalum umbellatum*		1	-1		SNA				G3G5	IR	I	x		x								
Smooth Solomon's Seal	*Polygonatum biflorum*	8	3			S4				G5	U	R	x			x							
Hairy Solomon's Seal	*Polygonatum pubescens*	5	5			S5				G5	C	C	x			x							
Siberian Squill	*Scilla siberica*		5	-1	2	SNA				GNR	IR	I	x		x								
Rose Twisted-stalk	*Streptopus lanceolatus*	7	0			S5?				G5T5	U	C	x			x							
Red Trillium	*Trillium erectum*	6	1			S5				G5	C	C	x		x								
White Trillium	*Trillium grandiflorum*	5	5			S5				G5	C	C	x		x	x							
Large-flowered Bellwort	*Uvularia grandiflora*	6	5			S5				G5	C	C	x			x							
Orchid Family	**Orchidaceae**												x		o	o	x	o			o		
Broadleaf Helleborine	*Epipactis helleborine*		5	-2		SNA				GNR	IC	I	x		x	x							
Grass Family	**Poaceae**												x		o	o	x	o			o		
Bearded Short-husk	*Brachyelytrum erectum*	7	5			S4?				G5T4T5	U	U	x			x							
Smooth Brome	*Bromus inermis*		5	-3	4	SNA				G5TNR	IC	I	x		x	x							
Japanese Chess	*Bromus japonicus*		3	-1		SNA				GNR	IC	I	x			x							
Hairy Brome	*Bromus pubescens*	7	3			S4				G5	U	C	x			x							
Cheatgrass	*Bromus tectorum*		5	-2		SNA				GNR	IC	I	x		x								
Blue-joint Grass	*Calamagrostis canadensis*	4	-5			S5				G5	C	C	x			x							
Orchard Grass	*Dactylis glomerata*		3	-1	3	SNA				GNR	IC	I	x		x	x							
Large Barnyard Grass	*Echinochloa crus-galli*										IC		x			x							
Common Barnyard Grass	*Echinochloa crus-galli var. crus-galli*		-3	-1		SNA				GNR		I	x			x							
Eastern Bottle-brush Grass	*Elymus hystrix*	5	5			S5				G5	C	C	x			x							
Quack Grass	*Elymus repens*		3	-3	3	SNA				GNR	IC	I	x		x								
Virginia Wild Rye	*Elymus virginicus*										C		x		x								
Nodding Fescue	*Festuca subverticillata*	6	2			S4				G5	C	C	x			x							
American Manna Grass	*Glyceria grandis*	5	-5			S4S5				G5	U	C	x				x	x					
Fowl Manna Grass	*Glyceria striata*	3	-5			S5				G5	C	C	x			x							
Foxtail Grass	*Hordeum jubatum*					SNA				G5T5	IU	I	x		x								
Rice Cut Grass	*Leersia oryzoides*	3	-5			S5				G5	C	C	x		x	x							
White Cut Grass	*Leersia virginica*	6	-3			S4				G5	C	C	x			x							
Annual Rye Grass	*Lolium multiflorum*										IR		x		x								
Mexican Muhly Grass	*Muhlenbergia mexicana var. mexicana*	1	-3			S4				G5	C	C	x			x							
White-grained Mountain-rice	*Oryzopsis asperifolia*	6	5			S5				G5	C	C	x			x							
Black-fruited Mountain-rice	*Piptatherum racemosum*	7	5			S4				G5	U		x			x							
Reed Canary Grass	*Phalaris arundinacea*	0	-4			S5				G5	C	C	x		x	x	x				x		
Timothy	*Phleum pratense*		3	-1		SNA				GNR	IC	I	x		x	x							
Common Reed	*Phragmites australis*	0	-4			SNA				G5T5		C	x		x								
European Reed	*Phragmites australis ssp. australis*		-4	-3	1						IC		x		x								
Bulbous Blue Grass	*Poa bulbosa*		0	-1		SNA				GNR		I	x		x								
Canada Blue Grass	*Poa compressa*	0	2			SNA				GNR	IC	C	x			x							
Wood Blue Grass	*Poa nemoralis*		0	-1		SNA				G5	IX	I	x			x							
Kentucky Blue Grass	*Poa pratensis ssp. pratensis*	0	1		2	S5				G5T	IC	C	x			x							

Table G1 Vegetation List

COMMON NAME	BOTANICAL NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	INVASIVE SPECIES ONTARIO	PROVINCIAL RANK	ESA STATUS	COSEWIC STATUS	SARA STATUS	GLOBAL RANK	REGIONAL STATUS 7E - CAROLINIAN ZONE - 2017	LOCAL STATUS HALTON	All Species	NHIC	iNaturalist	Conservation Halton Data	STUDY AREA	FOD6-5	FOD5-3	FOD2-4	CUM1	CUT1	FOM3-1
Green Bristlegrass	*Setaria viridis*			-1	4	SNA				G?	IC	I	x		x								
Summer Wheat	*Triticum aestivum*		5	-1		SNA				G?	IR	I	x			x							
Pondweed Family	**Potamogetonaceae**												**X**			**o**							
Pondweed species	*Potamogeton sp.*												x			x							
Fennel-leaved Pondweed	*Stuckenia pectinata*	4	-5			S5				G5	U	U	x			x							
Catbrier Family	**Smilacaceae**												**X**			**o**							
Smooth Carrion Flower	*Smilax herbacea*	5	0			S4				G5	C	C	x			x							
Bristly Greenbrier	*Smilax tamnoides*	6	0			S4				G5Q	C	C	x			x							
Cattail Family	**Typhaceae**												**X**			**o**							
Broad-leaved Cattail	*Typha latifolia*	3	-5			S5				G5	C	C	x			x							

Wildlife Species

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations
Accipitridae	**Hawks, Kites, Eagles & Allies**											
Accipiter cooperii	Cooper's Hawk	S4				Level 3 Forest		x	x	x		
Accipiter striatus	Sharp-shinned Hawk	S5				Level 2 Forest			x			
Buteo jamaicensis	Red-tailed Hawk	S5						x	x	x	x	x
Buteo lagopus	Rough-legged Hawk	S1B/S4N							x			
Alaudidae	**Larks**											
Eremophila alpestris	Horned Lark	S4				Level 3 Open Country		x			x	
Alcedinidae	**Kingfishers**											
Megaceryle alcyon	Belted Kingfisher	S5B, S4N						x	x			
Apodidae	**Swifts**											
Chaetura pelagica	Chimney Swift	S3B	THR	THR	THR		x	x			x	
Anatidae	**Ducks, Geese & Swans**											
Aix sponsa	Wood Duck	S5B, S3N				Level 4 Forest		x			x	
Anas platyrhynchos	Mallard	S5						x	x	x	x	
Anas rubripes	American Black Duck	S4				Level 2 Marsh		x				
Branta canadensis	Canada Goose	S5						x	x	x		
Bucephala clangula	Common Goldeneye	S5									x	
Cygnus olor	Mute Swan	SNA						x				
Lophodytes cucullatus	Hooded Merganser	S5				Level 4 Forest		x				
Melanitta fusca	White-winged Scoter	S4B/S5N								x		
Cygnus columbianus	Tundra Swan	S2B, S4N, S3M							x			
Mergus merganser	Common Merganser	S5						x				
Ardeidae	**Herons and Bitterns**											
Ardea herodias	Great Blue Heron	S4						x	x	x		
Butorides virescens	Green Heron	S4B				Level 4 Marsh					x	
Bombycillidae	**Waxwings**											
Bombycilla cedrorum	Cedar Waxwing	S5						x	x		x	
Caprimulgidae	**Nightjars**											
Chordeiles minor	Common Nighthawk	S4B	SC	SC	SC	Level 1 Open Country				x		
Cardinalidae	**Cardinals, Grosbeaks & Allies**											
Cardinalis cardinalis	Northern Cardinal	S5						x	x	x	x	x
Passerina cyanea	Indigo Bunting	S5B						x	x	x	x	
Pheucticus ludovicianus	Rose-breasted Grosbeak	S5B						x	x	x	x	
Piranga olivacea	Scarlet Tanager	S5B				Level 2 Forest			x		x	
Cathartidae	**Vultures**											
Cathartes aura	Turkey Vulture	S5B, S3N				Level 3 Forest		x	x			
Certhiidae	**Creepers**											
Certhia americana	Brown Creeper	S5				Level 2 Forest			x			

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations
Charadriidae	**Plovers**											
Charadrius vociferus	Killdeer	S4B						x	x	x	x	
Columbidae	**Pigeons & Doves**											
Columba livia	Rock Pigeon	SNA						x	x	x		
Zenaida macroura	Mourning Dove	S5						x	x	x		x
Corvidae	**Crows & Jays**											
Corvus brachyrhynchos	American Crow	S5						x	x	x	x	x
Corvus corax	Common Raven	S5						x	x			
Cyanocitta cristata	Blue Jay	S5						x	x	x	x	x
Cuculidae	**Cuckoo & Anis**											
Coccyzus americanus	Yellow-billed Cuckoo	S4B				Level 3 Forest		x			x	
Coccyzus erythropthalmus	Black-billed Cuckoo	S4S5B				Level 2 Forest		x				
Emberizidae	**New World Sparrows & Allies**											
Junco hyemalis	Dark-eyed Junco	S5							x			
Melospiza georgiana	Swamp Sparrow	S5B, S4N				Level 2 Marsh		x	x			
Melospiza melodia	Song Sparrow	S5						x	x	x	x	
Passerculus sandwichensis	Savannah Sparrow	S5B, S3N				Level 1 Open Country		x			x	
Passerella iliaca	Fox Sparrow	S5B, S3N							x			
Pipilo erythrophthalmus	Eastern Towhee	S4B, S3N				Level 2 Forest					x	
Pooecetes gramineus	Vesper Sparrow	S4B				Level 3 Open Country		x			x	
Spizella arborea	American Tree Sparrow	S5							x			
Spizella passerina	Chipping Sparrow	S5B, S3N						x	x		x	
Zonotrichia albicollis	White-throated Sparrow	S5							x			
Zonotrichia leucophrys	White-crowned Sparrow	S5B, S3N							x	x		
Spizella pusilla	Field Sparrow	S4B, S3N				Level 3 Open Country		x			x	
Falconidae	**Carcaras & Falcons**											
Falco columbarius	Merlin	S5							x			
Falco peregrinus	Peregrine Falcon	S4	SC							x		
Falco sparverius	American Kestrel	S4				Level 2 Open Country		x	x			
Fringillidae	**Finches & Allies**											
Haemorhous mexicanus	House Finch	SNA						x	x	x	x	
Haemorhous purpureus	Purple Finch	S5				Level 2 Forest			x			
Spinus tritis	American Goldfinch	S5				Level 3 Open Country		x	x	x	x	x
Hirundinidae	**Swallows**											

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations
Hirundo rustica	Barn Swallow	S4B	SC	SC	THR	Level 4 Open Country	x	x	x	x		
Petrochelidon pyrrhonota	Cliff Swallow	S4S5B				Level 3 Open Country		x				
Riparia riparia	Bank Swallow	S4B	THR	THR	THR	Level 2 Open Country		x				
Stelgidopteryx serripennis	Northern Rough-winged Swallow	S4B				Level 2 Open Country		x				
Tachycineta bicolor	Tree Swallow	S4S5B						x	x		x	
Icteridae	**New World Blackbird**											
Agelaius phoeniceus	Red-winged Blackbird	S5						x	x	x	x	
Dolichonyx oryzivorus	Bobolink	S4B	THR	SC	THR	Level 2 Open Country	x	x				
Icterus galbula	Baltimore Oriole	S4B						x	x	x	x	
Icterus spurius	Orchard Oriole	S4B				Level 3 Forest		x				
Molothrus ater	Brown-headed Cowbird	S5						x	x	x	x	
Quiscalus quiscula	Common Grackle	S5						x	x	x	x	
Sturnella magna	Eastern Meadowlark	S4B, S3N	THR	THR	THR	Level 3 Open Country	x				x	
Laridae	**Gulls, Terns & Skimmers**											
Larus argentatus	Herring Gull	S4B, S5N							x			
Larus delawarensis	Ring-billed Gull	S5							x	x		
Sterna hirundo	Common Tern	S4B				Level 4 Marsh				x		
Mimidae	**Mockingbirds, Thrashers & Allies**											
Dumetella carolinsis	Gray Catbird	S5B, S3N				Level 4 Forest		x	x		x	
Mimus polyglottos	Northern Mockingbird	S4				Level 1 Open Country		x	x			
Toxostoma rufum	Brown Thrasher	S4B				Level 1 Open Country		x	x		x	
Odontophoridae	**New World Quails**											
Colinus virginianus	Northern Bobwhite	S1?	END	END	END	Level 1 Open Country	x					
Pandionidae	**Osprey**											
Pandion haliaetus	Osprey	S5B				Level 3 Marsh			x			
Paridae	**Chickadees and Titmice**											
Poecile atricapillus	Black-capped Chickadee	S5				Level 4 Forest		x	x	x	x	x
Baeolophus bicolor	Tufted Titmouse	S3				Level 3 Forest	x		x			
Parulidae	**Wood Warblers**											
Cardellina canadensis	Canada Warbler	S5B	SC	SC	THR	Level 1 Forest			x			
Cardellina pusilla	Wilson's Warbler	S5B							x			
Geothlypis philadelphia	Mourning Warbler	S5B				Level 2 Forest					x	

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations
Geothylupis trichas	Common Yellowthroat	S5B, S3N						x	x	x	x	
Mniotilta varia	Black-and-white Warbler	S5B				Level 3 Forest			x		x	
Oreothlypis celata	Orange-crowned Warbler	S5B							x			
Oreothlypis peregrina	Tennessee Warbler	S5B							x			
Oreothlypis ruficapilla	Nashville Warbler	S5B				Level 1 Forest			x		x	
Parkesia noveboracensis	Northern Waterthrush	S5B				Level 2 Forest			x			
Seiurus aurocapilla	Ovenbird	S5B				Level 4 Forest			x		x	
Setophaga americana	Northern Parula	S5B							x			
Setophaga caerulescens	Black-throated Blue Warbler	S5B							x		x	
Setophaga castanea	Bay-breasted Warbler	S5B							x			
Setophaga coronata	Yellow Rumped Warbler	S5B, S4N							x			
Setophaga fusca	Blackburnian Warbler	S5B				Level 1 Forest			x			
Setophaga magnolia	Magnolia Warbler	S5B				Level 1 Forest			x		x	
Setophaga pensylvanica	Chestnut-sided warbler	S5B				Level 1 Forest			x		x	
Setophaga petechai	Yellow Warbler	S5B						x	x		x	
Setophaga pinus	Pine Warbler	S5B, S3N				Level 2 Forest			x			
Setophaga ruticilla	American Redstart	S5B				Level 2 Forest			x		x	
Setophaga striata	Blackpoll Warbler	S5B							x			
Setophaga tigrina	Cape May Warbler	S5B							x	x		
Setophaga virens	Black-throated Green Warbler	S5B				Level 1 Forest			x			
Vermivora cyanoptera	Blue-winged Warbler	S4B				Level 1 Forest					x	
Passeridae	**Sparrows**											
Passer domesticus	House Sparrow	SNA						x	x	x	x	
Phalacrocoracidae	**Cormorants**											
Phalacrocorax auritus	Double-crested Cormorant	S5B, S4N							x	x		
Phasianidae	**Patridges, Grouse, Turkeys**											
Meleagris gallopavo	Wild Turkey	S5						x				
Picidae	**Woodpeckers**											
Colaptes auratus	Northern Flicker	S5						x	x	x	x	
Dryocopus pileatus	Pileated Woodpecker	S5				Level 2 Forest		x			x	
Leuconotopicus villosus	Hairy Woodpecker	S5						x	x	x		
Melanerpes carolinus	Red-bellied Woodpecker	S5				Level 3 Forest		x	x			x
Melanerpes erythrocephalus	Red-headed Woodpecker	S3	END	END	END	Level 1 Forest	x				x	
Picoides pubescens	Downy Woodpecker	S5						x	x	x	x	x
Sphyrapicus varius	Yellow-bellied Sapsucker	S5B, S3N				Level 2 Forest			x			
Podicipedidae	**Grebes**											
Podilymbus podiceps	Pied-billed Grebe	S4B, S2N				Level 2 Marsh		x				
Polioptilidae	**Gnatcatchers**											
Polioptila caerulea	Blue-gray Gnatcatcher	S4B				Level 3 Forest			x			
Rallidae	**Railes, Gallinules & Coots**											

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations
Gallinula chloropus	Common Gallinule	S3B						x				
Porzana carolina	Sora	S5B				Level 1 Marsh		x				
Rallus limicola	Virginia Rail	S4S5B				Level 1 Marsh		x				
Regulidae	**Kinglets**											
Regulus calendula	Ruby-crowned Kinglet	S5B, S3N				Level 4 Forest			x			
Regulus satrapa	Golden-crowned Kinglet	S5				Level 2 Forest			x			
Scolopacidae	**Sandpipers, Phalaropes &Allies**											
Actitis macularius	Spotted Sandpiper	S5B				Level 3 Open Country		x				
Scolopax minor	American Woodcock	S4B				Level 4 Forest		x				
Sittidae	**Nutchatches**											
Sitta canadensis	Red-breasted Nuthatch	S5				Level 3 Forest		x	x			
Sitta carolinensis	White-breasted Nuthatch	S5						x	x	x	x	
Stercorariidae	**Skuas**											
Asio otus	Long-eared Owl	S4				Level 1 Forest			x			
Bubo scanidiacus	Snowy Owl	S4N								x		
Bubo virginianus	Great Horned Owl	S4						x			x	
Megascops asio	Eastern Screech Owl	S4							x		x	
Sturnidae	**Starlings**											
Sturnus vulgaris	European Starling	SNA						x	x	x	x	
Trochillidae	**Hummingbirds**											
Archilochus colubris	Ruby-throated Hummingbird	S5B				Level 3 Forest		x	x	x	x	
Troglodytidae	**Wrens**											
Cistothorus palustris	Marsh Wren	S4B, S3N				Level 3 Marsh		x				
Cistothorus platensis	Sedge Wren	S4B				Level 2 Marsh		x				
Thyrothorus ludovicianus	Carolina Wren	S4				Level 3 Forest		x	x			
Troglodytes aedon	House Wren	S5B						x	x	x	x	
Troglodytes hiemalis	Winter Wren	S5B, S4N				Level 3 Forest			x			
Turdidae	**Thrushes**											
Catharus fuscescens	Veery	S5B				Level 3 Forest			x		x	
Catharus guttatus	Hermit Thrush	S5B, S4N							x			
Catharus minimus	Gray-cheeked Thrush	S4?B, S4M							x	x		
Catharus ustulatus	Swainson's Thrush	S5B							x		x	
Hylocichla mustelina	Wood Thrush	S4B	SC	THR	THR	Level 4 Forest			x		x	
Turdus migratorius	American Robin	S5						x	x	x	x	x
Tyrannidae	**Tyrant Flycatchers**											
Contopus cooperi	Olive-sided Flycatcher	S4B	SC	SC	SC					x		
Contopus virens	Eastern Wood-pewee	S4B	SC	SC	SC		x	x	x		x	
Empidonax flaviventris	Yellow-bellied Flycatcher	S5B							x			
Empidonax minimus	Least Flycatcher	S5B							x			

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations
Empidonax traillii	Willow Flycatcher	S4B						x			x	
Myiarchus crinitus	Great Crested Flycatcher	S5B						x	x		x	x
Sayornis phoebe	Eastern Phoebe	S5B				Level 3 Forest		x	x		x	
Tyrannus tyrannus	Eastern Kingbird	S4B				Level 3 Open Country		x			x	
Vireonidae	**Vireos**											
Vireo gilvus	Warbling Vireo	S5B						x	x		x	
Vireo olivaceus	Red-eyed Vireo	S5B						x	x		x	x
Vireo solitarius	Blue-headed Vireo	S5B				Level 3 Forest			x			
Vireo flavifrons	Yellow-throated Vireo	S4B				Level 4 Forest			x		x	
Vireo philadelphicus	Philadelphia Vireo	S5B							x		x	
Total							**8**	**82**	**106**	**44**	**68**	**12**

Notes:

S-rank
S1 - Critically Imperiled
S2 - Imperiled
S3 - Vulnerable
S4 - Apparently Secure
S5 - Secure
SU - Unrankable
SNA - Unranked
SX - Presumed Extirpated
SH - Possibly Extirpated
S#? - Rank Uncertain

ESA
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated

Additional Notes
ESA - *Endangered Species Act*
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - *Species at Risk Act*
NHIC - Natural Heritage Information Centre
OBBA - Ontario Breeding Bird Atlas

COSEWIC
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated
DD - Data Deficient

SARA Schedule
Schedule 1 - Officially protected under SARA
Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1

COSSARO
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXP - Extirpated
DD - Data Deficient

TABLE G2 Bird Species

Species		Conservation Rank					Source					
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Halton	NHIC [1]	OBBA [2]	eBird [3]	iNaturalist [4]	Conservation Halton Data	Montrose Field Observations

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed July 2024. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA

2 Birds Canada et al. 2024. *Ontario Breeding Bird Atlas Data Summary Tool.* NatureCounts platform. Accessed July 2024. https://naturecounts.ca/nc/onatlas/findsquare.jsp

3 Cornell Lab of Ornithology. 2024. *eBird* . Accessed July 2024. https://ebird.org/home

4 iNaturalist. 2024. *Observations* . Accessed July 2024. https://www.inaturalist.org/observations

TABLE G3 Reptile and Amphibian Species

Species		Conservation Rank					Source				
Scientific Name	Common Name	Provincial (S-RANK)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Regional (Peel)	NHIC (1)	ORAA (2)	iNaturalist (3)	Conservation Halton Data	Montrose Observations
Cryptodeira	**Turtles**										
Chelydra serpentina	Snapping Turtle	S4	SC	SC	SC		x	x			
Chrysemys picta marginata	Midland Painted Turtle	S4		SC	SC		x	x			
Emydoidea blandingii	Blanding's Turtle	S3	THR	END	END				x		
Graptemys geographica	Northern Map Turtle	S3	SC	SC	SC			x			
Trachemys scripta elegans	Red-eared Slider	SNA						x			
Squamata	**Snakes**										
Diadophis punctatus	Ring-necked Snake	S4						x			
Lampropeltis triangulum	Eastern Milksnake	S4		SC	SC		x	x			
Nerodia sipedon sipedon	Northern Watersnake	S5						x			
Opheodrys vernalis	Smooth Greensnake	S4						x			
Storeria dekayi	DeKay's Brownsnake	S5						x	x		
Storeria occipitomaculata	Red-bellied snake	S5						x			
Thamnophis sirtalis sirtalis	Eastern Gartersnake	S5						x	x		
Caudata	**Salamanders**										
Ambystoma jeffersonianum	Jefferson Salamander	S2	END	END	END			x			
Ambystoma maculatum	Spotted Salamander	S4						x			
Notophthalmus viridescens viridescens	Red-spotted Newt	S5						x			
Plethodon cinereus	Eastern Red-backed Salamander	S5						x	x	x	
Anura	**Frogs and Toads**										
Anaxyrus americanus	American Toad	S5						x	x		
Hyla versicolor	Gray Treefrog	S5						x			
Lithobates clamitans	Green Frog	S5						x	x		x
Lithobates pipiens	Northern Leopard Frog	S5						x			
Lithobates sylvaticus	Wood Frog	S5						x			
Pseudacris crucifer	Spring Peeper	S5						x			
Pseudacris trisetaria pop. 1	Western Chorus Frog (Great Lakes / St. Lawrence - Canadian Shield population)	S4		THR	THR			x			
Total:							**3**	**22**	**6**	**1**	**1**

Notes:

S-rank	COSEWIC
S1 - Critically Imperiled	NAR - Not at Risk
S2 - Imperiled	SC - Special Concern
S3 - Vulnerable	THR - Threatened
S4 - Apparently Secure	END - Endangered
S5 - Secure	EXT - Extinct
SU - Unrankable	EXP - Extirpated
SNA - Unranked	DD - Data Deficient
SX - Presumed Extirpated	
SH - Possibly Extirpated	SARA Schedule
S#? - Rank Uncertain	Schedule 1 - Officially protected under SARA
	Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
ESA	Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1
SC - Special Concern	
THR - Threatened	COSSARO
END - Endangered	NAR - Not at Risk
EXT - Extinct	SC - Special Concern
EXP - Extirpated	THR - Threatened
	END - Endangered
Additional Notes	EXP - Extirpated
ESA - *Endangered Species Act*	DD - Data Deficient

COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - *Species at Risk Act*
NHIC - Natural Heritage Information Centre
ORAA - Ontario Reptile and Amphibian Atlas

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed July 2024. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA
2 Ontario Nature. 2024. Ontario Reptile and Amphibian Atlas. Accessed July 2024. https://www.ontarioinsects.org/herp/index.html?Sort=1&area2=squaresCounties&records=all&myZoom=5&Lat=42.95&Long=-81.01
3 iNaturalist. 2024. *Observations* . Accessed July 2024. https://www.inaturalist.org/observations

TABLE G4 Fish Species

Species Name		Conservation Rank					Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC [1]	iNaturalist [2]	DFO [3]	LIO [4]	Conservation Halton Data
Anguilliformes											
Anguilla rostrata	American Eel	S1S2	END	THR							x
Cypriniformes											
Carassius auratus	Goldfish	SNA									x
Clinostomus elongatus	Redside Dace	S1	END	END	END		x			x	x
Cyprinus carpio	Common Carp	SNA									x
Nocomis biguttatus	Hornyhead Chub	S4									x
Nocomis micropogon	River Chub	S4									x
Notemigonus crysoleucas	Golden Shiner	S5									x
Notropis atherinoides	Emerald Shiner	S5								x	x
Notropis hudsonius	Spottail Shiner	S5									x
Notropis rubellus	Rosyface Shiner	S4									x
Pimephales notatus	Bluntnose Minnow	S5									x
Pimephales promelas	Fathead Minnow	S5								x	x
Rhinichthys atratulus	Western Blacknose Dace	S5									x
Rhinichthys cataractae	Longnose Dace	S5									x
Semotilus atromaculatus	Creek Chub	S5								x	x
Cyprinella spiloptera	Spotfin Shiner	S4									x
Luxilus cornutus	Common Shiner	S5								x	x
Catostomus commersonii	White Sucker	S5						x		x	x
Hypentelium nigricans	Northern Hog Sucker	S4									x
Esociformes											
Esox lucius	Northern Pike	S5									x
Gasterosteiformes											
Culaea inconstans	Brook Stickleback	S5								x	x
Perciformes											
Morone americana	White Perch	SNA						x			
Ambloplites rupestris	Rock Bass	S5									x
Lepomis gibbosus	Pumpkinseed	S5									x
Lepomis macrochirus	Bluegill	S5									x
Micropterus dolomieu	Smallmouth Bass	S5									x
Micropterus salmoides	Largemouth Bass	S5									x
Etheostoma caeruleum	Rainbow Darter	S4									x
Etheostoma flabellare	Fantail Darter	S4									x
Etheostoma nigrum	Johnny Darter	S5								x	x
Percina caprodes	Logperch	S5									x
Neogobius melanostomus	Round Goby	SNA									x
Salmoniformes											
Oncorhynchus tshawytscha	Chinook Salmon	SNA									x
Siluriformes											
Noturus flavus	Stonecat	S4									x
Ameiurus nebulosus	Brown Bullhead	S5									x
Total							**1**	**2**	**0**	**8**	**34**
Total											

Notes:

S-rank
S1 - Critically Imperiled
S2 - Imperiled
S3 - Vulnerable
S4 - Apparently Secure
S5 - Secure
SU - Unrankable
SNA - Unranked
SX - Presumed Extirpated
SH - Possibly Extirpated
S#? - Rank Uncertain

ESA
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated

COSEWIC
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated
DD - Data Deficient

SARA Schedule
Schedule 1 - Officially protected under SARA
Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1

COSSARO
NAR - Not at Risk
SC - Special Concern
THR - Threatened

TABLE G4 Fish Species

Species Name		Conservation Rank					Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	Local	NHIC [1]	iNaturalist [2]	DFO [3]	LIO [4]	Conservation Halton Data

END - Endangered
EXP - Extirpated
DD - Data Deficient

Additional Notes
ESA - *Endangered Species Act*
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - *Species at Risk Act*
NHIC - Natural Heritage Information Centre
DFO - Fisheries and Oceans Canada
LIO - Land Information Ontario

Sources:
1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed July 2024. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA
2 iNaturalist. 2024. *Observations* . Accessed July 2024. https://www.inaturalist.org/observations
3 Fisheries and Oceans Canada (DFO). 2024. *Aquatic Species at Risk Map* . Accessed July 2024. https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html
4 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Ontario GeoHub* . Open data resource through Land Information Ontario. Accessed July 2024. https://geohub.lio.gov.on.ca/

TABLE G5 Insect Species

Species Name		Conservation Rank				Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC [1]	Ontario Butterfly Atlas [2]	iNaturalist [3]	Ontario Moth Atlas [4]	Montrose Field Observations
Coleoptera	**Beetles**									
Analeptura lineola	Longhorned Beetle	S4S5						x		
Carabus nemoralis	European Ground Beetle	SNA						x		
Coccinella septempunctata	Seven-spotted Ladybird Beetle	SNA						x		
Dytiscus fasciventris	Predaceous Diving Beetle	S4S5						x		
Euphoria inda	Scarab Beetle	S4S5						x		
Tetraopes tetrophthalmus	Longhorned Beetle	SNR						x		
Diptera	**Flies**									
Bombylius major	Large Bee Fly	S5?						x		
Hymenoptera	**Sawflies, Wasps, Bees, and Ants**									
Andrena dunningi	Dunning's Miner Bee	S5						x		
Anthidium manicatum	Wool Carder Bee	SNA						x		
Anthidium oblongatum	Oblong Carder Bee	SNA						x		
Apis mellifera	European Honey Bee	SNA						x		
Bombus bimaculatus	Two-spotted Bumble Bee	S5						x		
Bombus griseocollis	Brown-belted Bumble Bee	S5						x		
Bombus impatiens	Common Eastern Bumble Bee	S5						x		
Bombus rufocinctus	Red-belted Bumble Bee	S5						x		
Xylocopa virginica	Virginia Carpenter Bee	S4S5						x		
Lepidoptera	**Butterflies**									
Aglais milberti	Milbert's Tortoiseshell	S5					x			
Alypia octomaculata	Eight-spotted Forester Moth	S5						x		
Amphion floridensis	Nessus Sphinx	S4							x	
Anatrytone logan	Delaware Skipper	S4					x			
Ancyloxypha numitor	Least Skipper	S5					x			
Anisota finlaysoni	Finlayson's Oakworm Moth	SNR				x			x	
Antheraea polyphemus	Polyphemus Moth	S5							x	
Apantesis nais	Nais Tiger Moth	SNR							x	
Apantesis phalerata	Harnessed Moth	S4?						x	x	
Ascalapha odorata	Black Witch Moth	SNA						x		
Atteva aurea	Ailanthus Webworm Moth	SNR						x		
Battus philenor	Pipevine Swallowtail	SNA					x			
Boloria bellona	Meadow Fritillary	S5					x			
Callophrys niphon	Eastern Pine Elfin	S5					x			
Celastrina lucia	Northern Spring Azure	S5					x			
Celastrina neglecta	Summer Azure	S5					x			
Cercyonis pegala	Common Wood-Nymph	S5					x			
Cisseps fulvicollis	Yellow-collared Scape Moth	SNR							x	
Colias eurytheme	Orange Sulphur	S5					x			
Colias philodice	Clouded Sulphur	S5					x			
Ctenucha virginica	Virginia Ctenucha Moth	S5							x	

TABLE G5 Insect Species

Species Name		Conservation Rank				Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC [1]	Ontario Butterfly Atlas [2]	iNaturalist [3]	Ontario Moth Atlas [4]	Montrose Field Observations
Cupido comyntas	Eastern Tailed Blue	S5					x			
Danaus plexippus	Monarch	S2N,S4B	SC	END	SC		x	x		
Epargyreus clarus	Silver-spotted Skipper	S4					x			
Erynnis baptisiae	Wild Indigo Duskywing	S4					x			
Erynnis icelus	Dreamy Duskywing	S5					x			
Erynnis juvenalis	Juvenal's Duskywing	S5					x			
Estigmene acrea	Salt Marsh Moth	S5							x	
Euchaetes egle	Milkweed Tussock Moth	S4?							x	
Eumorpha achemon	Achemon Sphinx	S3							x	
Euphydryas phaeton	Baltimore Checkerspot	S4					x			
Euphyes dion	Dion Skipper	S4					x			
Euphyes vestris	Dun Skipper	S5					x			
Euptoieta claudia	Variegated Fritillary	SNA					x			
Feltia jaculifera	Dingy Cutworm Moth	S5						x		
Glaucopsyche lygdamus	Silvery Blue	S5					x			
Halysidota tessellaris	Banded Tussock Moth	S5							x	
Haploa lecontei	LeConte's Haploa	S4?							x	
Helicoverpa zea	Corn Earworm Moth	SNR						x		
Hemaris diffinis	Snowberry Clearwing Moth	S4S5							x	
Hemaris thysbe	Hummingbird Clearwing	S5						x	x	
Hyalophora cecropia	Cecropia Moth	S5							x	
Hylephila phyleus	Fiery Skipper	SNA					x			
Idia americalis	American Idia	SNR						x		
Junonia coenia	Common Buckeye	SNA					x			
Lethe anthedon	Northern Pearly-Eye	S5					x			
Lethe appalachia	Appalachian Brown	S4					x			
Lethe eurydice	Eyed Brown	S5					x			
Libytheana carinenta	American Snout	SNA					x			
Limenitis archippus	Viceroy	S5					x			
Limenitis arthemis arthemis	White Admiral	S5					x			
Limenitis arthemis astyanax	Red-spotted Purple	S5					x	x		
Lophocampa caryae	Hickory Tussock Moth	SNR						x	x	
Lophocampa maculata	Spotted Tussock Moth	S4							x	
Lymantria dispar	Gypsy Moth	SNA						x		
Malacosoma americana	Eastern Tent Caterpillar Moth	S5							x	
Malacosoma disstria	Forest Tent Caterpillar Moth	S5							x	
Manduca quinquemaculata	Five-spotted Sphinx Moth	S5							x	
Megisto cymela	Little Wood-Satyr	S5					x			x
Nymphalis antiopa	Mourning Cloak	S5					x	x		
Nymphalis l-album	Compton Tortoiseshell	S5					x			
Paonias excaecata	Blinded Sphinx	S5							x	

TABLE G5 Insect Species

Species Name		Conservation Rank				Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC [1]	Ontario Butterfly Atlas [2]	iNaturalist [3]	Ontario Moth Atlas [4]	Montrose Field Observations
Papilio polyxenes	Black Swallowtail	S5					x	x		
Pholisora catullus	Common Sootywing	S4					x			
Phyciodes cocyta	Northern Crescent	S5					x			
Phyciodes tharos	Pearl Crescent	S4					x			
Pieris oleracea	Mustard White	S4					x			
Pieris rapae	Cabbage White	SNA					x	x		x
Pieris virginiensis	West Virginia White	S3	SC				x			
Plodia interpunctella	Indian-Meal Moth	SNA						x		
Polites mystic	Long Dash Skipper	S5					x			
Polites origenes	Crossline Skipper	S4					x			
Polites peckius	Peck's Skipper	S5						x		
Polites themistocles	Tawny-edged Skipper	S5					x			
Polygonia comma	Eastern Comma	S5					x			
Polygonia interrogationis	Question Mark	S5					x	x		
Polygonia progne	Gray Comma	S5					x	x		
Polyommatus icarus	European Common Blue	SNA					x			
Pyrrharctia isabella	Isabella Tiger Moth	S5						x	x	
Satyrium acadica	Acadian Hairstreak	S4					x			
Satyrium calanus	Banded Hairstreak	S4					x	x		
Satyrium caryaevorus	Hickory Hairstreak	S4					x			
Satyrium liparops	Striped Hairstreak	S5					x			
Sphecodina abbottii	Abbott's Sphinx	S4							x	
Sphinx chersis	Great Ash Sphinx	S5							x	
Spilosoma virginica	Virginian Tiger Moth	S5							x	
Thorybes pylades	Northern Cloudywing	S5					x			
Thymelicus lineola	European Skipper	SNA					x			
Vanessa atalanta	Red Admiral	S5					x	x		
Vanessa cardui	Painted Lady	S5					x	x		
Vanessa virginiensis	American Lady	S5					x	x		
Mantodea	**Mantises**									
Mantis religiosa	Praying Mantis	SNA						x		
Odonata	**Damselflies and Dragonflies**									
Calopteryx maculata	Ebony Jewelwing	S5						x		
Leucorrhinia intacta	Dot-tailed Whiteface	S5						x		
Libellula luctuosa	Widow Skimmer	S5						x		
Tramea lacerata	Black Saddlebags	S4						x		
Orthoptera	**Grasshoppers, Katydids, Crickets, and related insects**									
Melanoplus bivittatus	Two-striped Grasshopper	S5						x		
Neoxabea bipunctata	Two-spotted Tree Cricket	S4						x		
Total						**1**	**57**	**47**	**25**	**2**
Total										

TABLE G5 Insect Species

Species Name		Conservation Rank				Source				
Scientific Name	Common Name	Provincial (S-rank)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC [1]	Ontario Butterfly Atlas [2]	iNaturalist [3]	Ontario Moth Atlas [4]	Montrose Field Observations

Notes:

S-rank
S1 - Critically Imperiled
S2 - Imperiled
S3 - Vulnerable
S4 - Apparently Secure
S5 - Secure
SU - Unrankable
SNA - Unranked
SX - Presumed Extirpated
SH - Possibly Extirpated
S#? - Rank Uncertain

ESA
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated

COSEWIC
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXT - Extinct
EXP - Extirpated
DD - Data Deficient

SARA Schedule
Schedule 1 - Officially protected under SARA
Schedule 2 - threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
Schedule 3 - special concern; may be reassessed for consideration for inclusion to Schedule 1

COSSARO
NAR - Not at Risk
SC - Special Concern
THR - Threatened
END - Endangered
EXP - Extirpated
DD - Data Deficient

Additional Notes
ESA - *Endangered Species Act*
COSEWIC - Committee on the Status of Endangered Wildlife in Canada
SARA - *Species at Risk Act*
NHIC - Natural Heritage Information Centre

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed July 2024. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA

2 Macnaughton, A., Layberry, R., Cavasin, R., Edwards, B., and C. Jones. 2024. *Ontario Butterfly Atlas* . Accessed July 2024. https://www.ontarioinsects.org/atlas/

3 iNaturalist (iNaturalist). 2024. *Observations* . Accessed July 2024. https://www.inaturalist.org/observations

4 Kaposi, D., Macnaughton, A., and B. Edwards. 2024. *Ontario Moth Atlas* . Accessed July 2024. https://www.ontarioinsects.org/moth/index.html

TABLE G6 Mollusc Species

Species		Conservation Rank				Source			
Scientific Name	Common Name	Provincial (S-RANK)	Provincial (ESA)	National (COSEWIC)	National (SARA)	NHIC (1)	iNaturalist (2)	DFO (3)	Montrose Field Observations
Helicidae									
Cepaea nemoralis	Grovesnail	SNA					x		
TOTAL:						**0**	**1**	**0**	**0**

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed July 2024. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natu

2 iNaturalist. 2024. *Observations* . Accessed July 2024. https://www.inaturalist.org/observations

3 Fisheries and Oceans Canada (DFO). 2024. *Aquatic Species at Risk Map* . Accessed July 2024. https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Table G7 Mammal Species

Species Name		Conservation Ranking				Source			
Scientific Name	Common Name	S-RANK	ESA	COSEWIC	SARA	NHIC (1)	Ontario Mammals (2)	iNaturalist (3)	Conservation Halton Data
Artiodactyla	**Deer and Bison**								
Odocoileus virginianus	White-tailed Deer	S5					x		
Carnivora	**Carnivores**								
Canis latrans	Coyote	S5					x		
Lontra canadensis	North American River Otter	S5					x		
Martes americana	American Marten	S5					x		
Mephitis mephitis	Striped Skunk	S5					x		
Mustela frenata	Long-tailed Weasel	SU					x		
Mustela nivalis	Least Weasel	SU					x		
Neogale vison	American Mink	S4					x		
Procyon lotor	Northern Raccoon	S5					x		
Taxidea taxus jacksoni	American Badger (Southwestern population)	S1	END	END	END		x		
Urocyon cinereoargenteus	Gray Fox	S1	THR	THR	THR		x		
Ursus americanus	American Black Bear	S5					x		
Vulpes vulpes	Red Fox	S5					x		
Chiroptera	**Bats**								
Eptesicus fuscus	Big Brown Bat	S4					x		
Lasionycteris noctivagans	Silver-haired Bat	S4	END	END			x		
Lasiurus borealis	Eastern Red Bat	S4	END	END			x		
Lasiurus cinereus	Hoary Bat	S4	END	END			x		
Myotis leibii	Eastern Small-footed Myotis	S2S3	END				x		
Myotis lucifugus	Little Brown Myotis	S3	END	END	END		x		
Myotis septentrionalis	Northern Myotis	S3	END	END	END		x		
Perimyotis subflavus	Tricolored Bat	S3?	END	END	END		x		
Didelphimorphia	**Oppossums**								
Didelphis virginiana	Virginia Opossum	S4					x		
Lagomorphia	**Rabbits and Hares**								
Lepus europaeus	European Hare	SNA					x		
Sylvilagus floridanus	Eastern Cottontail	S5					x	x	x
Rodentia	**Rodents**								
Castor canadensis	Beaver	S5					x		
Erethizon dorsatum	Porcupine	S5					x		
Glaucomys sabrinus	Northern Flying Squirrel	S5					x		
Glaucomys volans	Southern Flying Squirrel	S4					x		
Marmota monax	Woodchuck	S5					x		
Microtus pennsylvanicus	Meadow Vole	S5					x		

Table G7 Mammal Species

Species Name		Conservation Ranking				Source			
Scientific Name	Common Name	S-RANK	ESA	COSEWIC	SARA	NHIC (1)	Ontario Mammals (2)	iNaturalist (3)	Conservation Halton Data
Mus musculus	House Mouse	SNA					x		
Myodes gapperi	Southern Red-backed Vole	S5					x		
Napaeozapus insignis	Woodland Jumping Mouse	S5					x		
Ondatra zibethicus	Muskrat	S5					x		
Peromyscus leucopus	White-footed Mouse	S5					x		
Peromyscus maniculatus	Deer Mouse	S5					x		
Rattus norvegicus	Norway Rat	SNA					x		
Sciurus carolinensis	Grey Squirrel	S5					x		
Synaptomys cooperi	Southern Bog Lemming	S4					x		
Tamias striatus	Eastern Chipmunk	S5					x	x	x
Tamiasciurus hudsonicus	Red Squirrel	S5					x		
Zapus hudsonius	Meadow Jumping Mouse	S5					x		
Soricomorpha									
Blarina brevicauda	Northern Short-tailed Shrew	S5					x		
Condylura cristata	Star-nosed Mole	S5					x		
Parascalops breweri	Hairy-tailed Mole	S4					x		
Sorex cinereus	Masked Shrew	S5					x		
Sorex fumeus	Smoky Shrew	S5					x		
Sorex hoyi	Pygmy Shrew	S4					x		
TOTAL:						**0**	**48**	**2**	**2**

Sources:

1 Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. *Make a Map: Natural Heritage Areas* . Mapping application. Accessed July 2024. https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?

2 Mammal Atlas (see list of potential references below):

iNaturalist. 2024. Ontario Mammals. Accessed July 2024 https://www.inaturalist.org/guides/1327?view=card

Environment and Climate Change Canada (ECCC). 2018a. Recovery Strategy for the Grey Fox (*Urocyon cinereoargenteus*) in Canada. Species at Risk Act Recovery Strategy Series. Environment and Climate Change

Environment and Climate Change Canada (ECCC). 2018b. Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tri-colored Bat (*Perimyotis subflavu* s) in

Humphrey, C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibi* i) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry,

Ministry of the Environment, Conservation and Park (MECP). 2025. American badger. https://www.ontario.ca/page/american-badger

Ontario American Badger Recovery Team. 2010. Recovery strategy for the American Badger (*Taxidea taxus*) in Ontario. Ontario Recovery Strategy Series. Prepared for Ontario Ministry of Natural Resources, Peterborough

3 iNaturalist. 2024. *Observations* . Accessed July 2024. https://www.inaturalist.org/observations

SAR Screening

Table G8 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Avian	Bank Swallow *Riparia riparia*	THR	THR Schedule 1	THR	Yes	- Requires vertical faces in sand or silt deposits; river and lake banks, active/inactive sand and gravel pits, road cuts, soil stockpiles. - Breeding sites are located close to aerial foraging areas such as grasslands, meadows, pastures, and cropland. - Large wetlands used for nocturnal roost sites during post-breeding, migration and wintering periods.	- Common across southern Ontario, especially along Lake Erie and Lake Ontario shorelines and the Saugeen River. - Sparse populations scattered across northern Ontario.	OBBA	**Not Candidate** Vertical faces in banks not present within study area.	No recommendations and nothing further.
Avian	Barn Swallow *Hirundo rustica*	SC	THR Schedule 1	SC	Yes	- Cup-shaped mud nests are built on human-made structures such as open barns, under bridges, and in culverts. - Preferably constructed on rough-cut wood surfaces with right angles. - Foraging habitat includes grassy fields, pastures, cropland, lake and river shorelines, cottage areas and farmyards, islands, wetlands, and tundra. - **TPO, CUM1, MAM, MAS, OAO, SAS1, SAM1, and SAF1, adjacent to suitable nesting structures**.	- From southern Ontario north to Hudson Bay.	NHIC, OBBA, eBird, iNaturalist	**Candidate** Suitable nesting habitat may exist under the bridges on site.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Bobolink *Dolichonyx oryzivorus*	THR	THR Schedule 1	SC	Yes	- Hayfields, pastures, wet prairie, graminoid peatlands, abandoned farm fields dominated by tall grasses, no-till cropland, small-grain fields, restored surface mining sites. - Small nests are often built on the ground in dense grasses. - Typically not abundant in short-grass prairie, alfalfa, or in row crop monocultures (corn, soybean, wheat). - **TPO, TPS, CUM1**.	- Southern Ontario north to James Bay.	NHIC, OBBA	**Not Candidate** Tallgrass habitat not present within the study area.	No recommendations and nothing further.
Avian	Canada Warbler *Cardellina canadensis*	SC	THR Schedule 1	SC	Yes	- Deciduous or coniferous forests with well-developed, dense shrub layer; commonly wet or in riparian areas. - May also include stands regenerating after natural disturbances (ie, logging). - **FOC3, FOC4, FOM6, FOM7, FOM8, FOD6, FOD7, FOD8, FOD9, SWC, SWM and SWD**.	- All of Ontario.	eBird	**Candidate** Suitable habitat may exist in the FOD6-5 community.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Chimney Swift *Chaetura pelagica*	THR	THR Schedule 1	THR	Yes	- Historically included hollow trees. - More commonly found in and around urban settlements, including chimneys and other manmade structures. - Typically close to water. - **TPO, CUM1, MAM, MAS, OAO, SAS1, SAM1, SAF1 adjacent to suitable nesting habitat**.	- Southern Ontario north to Timmins.	NHIC, OBBA, Conservation Halton Data	**Not Candidate** Suitable nesting habitat not present within the study area. There may be habitat in the adjacent residential areas.	No recommendations and nothing further.
Avian	Common Nighthawk *Chordeiles minor*	SC	SC Schedule 1	SC	Yes	- Open areas with little to no ground vegetation; logged or burned areas, rock barrens, peat bogs, lakeshores, dunes, beaches, and mine tailings. - Less commonly found in cultivated fields, orchards, mine tailings, and along gravel roads and railways. - Nesting habitat is typically open and vegetation free; may include grasslands, pastures, marshes, and riverbanks. - May also include mixed and coniferous forests. - **SD, BB, RB, CUM, BO, FOM, FOX and FOD with sparsely vegetated openings**.	- All of Ontario except for coastal regions of James Bay and Hudson Bay.	iNaturalist	**Not Candidate** Open areas with little or no ground vegetation not present within the study area.	No recommendations and nothing further.

Table G8 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Avian	Eastern Meadowlark *Sturnella magna*	THR	THR Schedule 1	THR	Yes	- Moderately tall grasslands; prairies, savannahs, pastures and hayfields, alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, overgrown fields. - Small trees, shrubs, or fence posts used as elevated song perches. - **TPO, TPS, CUM1, CUS, and MAM2**.	- Southern Ontario north to Timmins, as well as Lake of the Woods area.	NHIC	**Not Candidate** Tallgrass habitat not present within the study area.	No recommendations and nothing further.
Avian	Eastern Wood-pewee *Contopus virens*	SC	SC Schedule 1	SC	Yes	- Mid-canopy layer of forest clearings, edges of deciduous and mixed forests, early successional clearings. **- FOC, FOM, FOD, SWD, SWM and CUW**.	- Southern Ontario north to Sudbury.	NHIC, OBBA, eBird, Conservation Halton Data	**Candidate** Suitable habitat may exist in the forested communities: FOD2-4, FOD5-3, FOD6-5, and FOM3-1.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Northern Bobwhite *Colinus virginianus*	END	END Schedule 1	END	No	- Early successional habitat provided by savannahs, grasslands, abandoned farm fields, or along bushy fencerows. - Grasslands that are occasionally burned are ideal. - **TPO, TPS, CUM, CUT, CUS and CUW**.	- Windsor north to London, concentrations near Walpole Island.	NHIC	**Not Candidate** Study area outside of known species range.	No recommendations and nothing further.
Avian	Olive-sided Flycatcher *Contopus cooperi*	SC	SC Schedule 1	SC	Yes	- Coniferous or mixed forests containing white spruce, black spruce, jack pine, or balsam fir, and adjacent to wetlands. - Commonly found along natural forest edges and openings adjacent to rivers, swamps, burned forest, or logged areas. - Requires snags and tall trees for foraging perches. - **CUW, FOC, and FOM**.	- All of Ontario.	iNaturalist	**Candidate** Suitable habitat may exist in the FOM3-1 community.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Peregrine Falcon *Falco peregrinus*	SC	No Status	No Status	No	- Tall, steep cliff ledges or tall buildings from 50 m to 200 m in height, close to large bodies of water. - Can be found in tundra, coastal, prairie or urban areas. - **CLO**.	- Breeding population centered around Lake Superior in northwest Ontario. - May be found migrating across rest of the province.	iNaturalist	**Not Candidate** Cliff ledges and tall buildings not present within the study area.	No recommendations and nothing further.
Avian	Red-headed Woodpecker *Melanerpes erythrocephalus*	END	END Schedule 1	END	Yes	- Woodlands and woodland edges, including oak and beech forests, grasslands, orchards, riparian forests, beaver ponds, burns, parks, golf courses, and cemeteries. - Dead trees used for nesting and perching. - **TPS, TPW, CUW, FOD1, FOD2, FOD4-1, FOD6, FOD7, and FOD9 that are open with an abundance of dead trees**.	- Woodland Caribou Provincial Park southeast to Cornwall.	NHIC, Conservation Halton Data	**Candidate** Suitable habitat may exist in the FOD2-4 and FOD6-5 communities.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Wood Thrush *Hylocichla mustelina*	SC	THR Schedule 1	THR	Yes	- Mature deciduous and mixed forests; moist stands of trees with well-developed undergrowth. - Tall trees are used for singing perches. - Nests are built in live saplings, trees, or shrubs, especially sugar maple or American beech. - Preferably large forest mosaics. - **FOD and FOM greater than 1 ha**.	- Southern Ontario north to Hearst.	eBird, Conservation Halton Data	**Candidate** Suitable habitat may exist in the forested communities: FOD2-4, FOD5-3, FOD6-5, and FOM3-1.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Flora	Black Ash *Fraxinus nigra*	END	No Status	THR	N/A	- Commonly in mixed deciduous-conifer or conifer dominated swamps, with poorly drained soil ph of 4.4 to 8.2; Frequently in very wet, seasonally flooded, habitats including floodplain forests, basins, seepage and lacustrine swamp forests, shoreline forest margins, fens and bogs. - Moderately share-tolerant.	- Northern limit in western Ontario near 53°N with a Southern limit in southwestern Virginia.	Conservation Halton Data	**Not Candidate** Montrose tree inventory confirmed black ash was not present within the study area.	No recommendations and nothing further.

Table G8 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Herpetofauna	Blanding's Turtle (Great Lakes / St. Lawrence population) *Emydoidea blandingii*	THR	END Schedule 1	END	N/A	- Shallow, nutrient-rich habitats; typically large wetlands and shallow lakes with lots of water plants. - Nesting occurs in sand, organic soil, gravel, cobblestone, and soil-filled crevices of rock outcrops. - Overwintering occurs in pools about 1 metre in depth. - **SWT2, SWT3, SWD, SWM, MAS2, SAS1, SAM1, where open water is present**.	- Southern Ontario north to Sudbury, with isolated reports as far north as Timmins.	iNaturalist	**Not Candidate** Wetlands present within the study area are too small.	No recommendations and nothing further.
Herpetofauna	Jefferson Salamander *Ambystoma jeffersonianum*	END	END Schedule 1	END	N/A	- Mature deciduous or mixed upland forest containing, or adjacent to, breeding ponds. - Terrestrial habitat must include small mammal burrows or rock fissures for over-wintering below the frost line. - Breeding ponds are normally ephemeral or vernal woodland pools that dry in late summer. - **FOD where permanent or temporary ponds or pools are present**.	- Most commonly found within the Niagara Escarpment and Carolinian forest regions.	ORAA	**Not Candidate** Woodland breeding pools not present.	No recommendations and nothing further.
Herpetofauna	Northern Map Turtle *Graptemys geographica*	SC	SC Schedule 1	SC	N/A	- Both lakes and rivers, preferably with slow-moving currents, muddy bottoms, high-quality water, and abundant vegetation. - Habitat must contain suitable basking sites such as rocks and deadheads. - Hibernation occurs at the bottom of deep, slow-moving sections of river. - **OAO, SA** with emergent rocks and fallen trees.	- Southern Ontario, primarily on the shores of Georgian Bay, Lake St. Clair, Lake Erie, and Lake Ontario, and along larger rivers including the Thames, Grand, and Ottawa. - Has also been recorded on Manitoulin Island and north of Timmins.	ORAA	**Candidate** Potential habitat may exist in East Morrison Creek.	Appropriate exlusion fencing will be installed prior to proposed works to prevent turtles from entering the work area. It is recommended that the work area is cleared of wildlife prior to proposed works.
Herpetofauna	Snapping Turtle *Chelydra serpentina*	SC	SC Schedule 1	SC	N/A	- Shallow wetland habitats with slow-moving water and soft bottoms; ponds, sloughs, shallow bays, river edges, or slow streams. - Nesting occurs on sandy or gravel banks or man-made structures such as roads, dams, and aggregate pits. - Overwintering occurs underwater, underneath logs, sticks, or overhanging banks, deep in mud in marshy areas, or underneath floating mats of vegetation. - **OAO, SA near gravelly or sandy areas**.	- Primarily southern Ontario north to Timmins; also found near Thunder Bay and Kenora.	NHIC, ORAA	**Candidate** Potential habitat may exist in East Morrison Creek.	Appropriate exlusion fencing will be installed prior to proposed works to prevent turtles from entering the work area. It is recommended that the work area is cleared of wildlife prior to proposed works.
Invertebrates	Monarch *Danaus plexippus*	SC	END Schedule 1	END	N/A	- Open or disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests. - Trees along the north shore of the Great Lakes are used for roosting before migrating across open water. - Caterpillars are confined to meadows and open areas where milkweed grows. - **AL, TP, and CUM where milkweed is present**.	- South of 50° of latitude.	OBA, iNaturalist	**Not Candidate** Milkweed was not observed within the study area.	No recommendations and nothing further.
Invertebrates	West Virginia White *Pieris virginiensis*	SC	No Status	N/A	N/A	- Moist, deciduous woodlots with a supply of Toothwort (the only food source of larvae).	- Southern Ontario north to Eganville as well as Manitoulin Island, eastern shore of Georgian Bay and Lake Huron. - Concentrated in western Lake Ontario region.	OBA	**Not Candidate** Toothwort was not observed within the study area.	No recommendations and nothing further.
Mammals	American Badger (Southwestern population) *Taxidea taxus* (*Taxidea taxus jacksoni*)	END	END Schedule 1	END	N/A	- Tallgrass prairie, sand barrens, farmland, shrublands, alpine areas and wetlands. - Require coherent soils that can be burrowed into without collapsing. - **TPS1, CUM1, CUS, SBO with dry sandy soil**.	- Windsor to Dunnville and north to Owen Sound.	Ontario Mammals	**Not Candidate** Associated ELC communities with dry sandy soil not present within the study area.	No recommendations and nothing further.

Table G8 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Mammals	Eastern Red Bat *Lasiurus borealis*	END	No Status	END	N/A	- Uses treed habitats for roosting and foraging, with a particularly strong dependence on trees as roosting sites, but can also use shrubs -Roost by hanging from branches - Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. - Use both deciduous and coniferous forests, of any age class - Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy - Non-foliage roosts are occasionally used and include shrubs, bridges, and the sides of buildings - Commonly exhibits roost switching	- widely distributed across Ontario - do not overwinter in Canada - Widespread and likely found seasonally in >100 protected areas found below 62–63°N west of Hudson Bay, and below about 54°N east of Hudson Bay in Canada, the USA, and Mexico.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Eastern Small-footed Myotis *Myotis leibii*	END	No Status	No Status	N/A	- Primarily roosts in open, sunny, rocky habitats, including cracks and crevices in cliffs and boulders, in talus slopes, beneath stones on rock barrens and in rock outcrops containing crevices. - Occasionally roosts in buildings (including barns, sheds, and exterior walls). - Maternity roosts have been documented in rocky habitats, on bridge structures, and in or on buildings. - Overwinters in caves and abandoned mines. - Hunts in forests.	- South of Georgian Bay to Lake Erie and east to the Pembroke area, the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park.	Ontario Mammals	**Not Candidate** Rocky habitat for roosting not present within the study area.	No recommendations and nothing further.
Mammals	Gray Fox *Urocyon cinereoargenteus*	THR	THR Schedule 1	THR	N/A	- Deciduous forests and marshes. - Dens are usually found in dense shrubs, close to a water source, or in rocky areas, hollow trees, or underground burrows dug by other animals.	- In recent years, this range has been reduced to west of Lake Superior in the Rainy River District and on Pelee Island in west Lake Erie.	Ontario Mammals	**Not Candidate** Study area outside of known species range.	No recommendations and nothing further.
Mammals	Hoary Bat *Lasiurus cinereus*	END	No Status	END	N/A	- Uses treed habitats for roosting and foraging, with a particularly strong dependence on trees as roosting sites, but can also use shrubs - Roost by hanging from branches - Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. - Use both deciduous and coniferous forests, of any age class - Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy - Non-foliage roosts are occasionally used and include shrubs, bridges, and the sides of buildings - Commonly exhibit roost switching	- widely distributed across Ontario - do not overwinter in Canada - Widespread and likely found seasonally in >100 protected areas found below 62–63°N west of Hudson Bay, and below about 54°N east of Hudson Bay in Canada, the USA, and Mexico.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Little Brown Myotis *Myotis lucifugus*	END	END Schedule 1	END	N/A	- Large-diameter trees, attics, abandoned buildings, and barns often used for summer colonies. - Foraging occurs over water, along waterways, and forest edges, while open areas such as clearcuts or fields are typically avoided. - Hibernacula used in winter include mines and caves that are humid and remain above freezing.	- All across Ontario; concentrated in southern Ontario.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).

Table G8 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Mammals	Northern Myotis *Myotis septentrionalis*	END	END Schedule 1	END	N/A	- Typically within the boreal forest, under loose bark or in the cavities of trees. - Foraging occurs over water, along waterways, and forest edges, while open areas such as clearcuts or fields are typically avoided. - Overwintering occurs in cold and humid sites such as caves or mines. - **FOC, FOM, FOD, SWC, SWM, and SWD where suitable roosting (i.e. cavity trees and trees with loose bark) habitat is available**.	- Forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Silver-haired Bat *Lasionycteris noctivagans*	END	No Status	END	N/A	- Roosting by Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available - Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees - Populus spp. in older forests are ideal roost sites for Silver-haired Bats - Use mostly treed habitats for roosting or foraging, with a particularly strong dependence on trees as roosting sites - Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. - Commonly exhibits roost switching	- Widespread and likely found seasonally in >100 protected areas found below 62–63°N west of Hudson Bay, and below about 54°N east of Hudson Bay in Canada, the USA, and Mexico.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Tri-colored Bat *Perimyotis subflavus*	END	END Schedule 1	END	N/A	- Day roost and maternity colonies are formed in older forests with large-diameter trees, barns, or other structures. - Foraging occurs over water or along streams in a forest. - Winter hibernacula include caves and mines.	- Southern Ontario north to Sudbury.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).

TOTAL	29
Herpetofaunas	4
Avian	13
Aquatics	0
Invertebrates	2
Flora	1
Mammals	9
Molluscs	0

ESA Status	
END	12
THR	6
SC	11
No Status	0
TOTAL SAR	29

Table G9 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Avian	Bank Swallow *Riparia riparia*	THR	THR Schedule 1	THR	Yes	- Requires vertical faces in sand or silt deposits; river and lake banks, active/inactive sand and gravel pits, road cuts, soil stockpiles. - Breeding sites are located close to aerial foraging areas such as grasslands, meadows, pastures, and cropland. - Large wetlands used for nocturnal roost sites during post-breeding, migration and wintering periods.	- Common across southern Ontario, especially along Lake Erie and Lake Ontario shorelines and the Saugeen River. - Sparse populations scattered across northern Ontario.	OBBA	**Not Candidate** Vertical faces in banks not present within study area.	No recommendations and nothing further.
Avian	Barn Swallow *Hirundo rustica*	SC	THR Schedule 1	SC	Yes	- Cup-shaped mud nests are built on human-made structures such as open barns, under bridges, and in culverts. - Preferably constructed on rough-cut wood surfaces with right angles. - Foraging habitat includes grassy fields, pastures, cropland, lake and river shorelines, cottage areas and farmyards, islands, wetlands, and tundra. - **TPO, CUM1, MAM, MAS, OAO, SAS1, SAM1, and SAF1, adjacent to suitable nesting structures**.	- From southern Ontario north to Hudson Bay.	NHIC, OBBA, eBird, iNaturalist	**Candidate** Suitable nesting habitat may exist under the bridges on site.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Bobolink *Dolichonyx oryzivorus*	THR	THR Schedule 1	SC	Yes	- Hayfields, pastures, wet prairie, graminoid peatlands, abandoned farm fields dominated by tall grasses, no-till cropland, small-grain fields, restored surface mining sites. - Small nests are often built on the ground in dense grasses. - Typically not abundant in short-grass prairie, alfalfa, or in row crop monocultures (corn, soybean, wheat). - **TPO, TPS, CUM1**.	- Southern Ontario north to James Bay.	NHIC, OBBA	**Not Candidate** Tallgrass habitat not present within the study area.	No recommendations and nothing further.
Avian	Canada Warbler *Cardellina canadensis*	SC	THR Schedule 1	SC	Yes	- Deciduous or coniferous forests with well-developed, dense shrub layer; commonly wet or in riparian areas. - May also include stands regenerating after natural disturbances (ie, logging). - **FOC3, FOC4, FOM6, FOM7, FOM8, FOD6, FOD7, FOD8, FOD9, SWC, SWM and SWD**.	- All of Ontario.	eBird	**Candidate** Suitable habitat may exist in the FOD6-5 community.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Chimney Swift *Chaetura pelagica*	THR	THR Schedule 1	THR	Yes	- Historically included hollow trees. - More commonly found in and around urban settlements, including chimneys and other manmade structures. - Typically close to water. - **TPO, CUM1, MAM, MAS, OAO, SAS1, SAM1, SAF1 adjacent to suitable nesting habitat**.	- Southern Ontario north to Timmins.	NHIC, OBBA, Conservation Halton Data	**Not Candidate** Suitable nesting habitat not present within the study area. There may be habitat in the adjacent residential areas.	No recommendations and nothing further.
Avian	Common Nighthawk *Chordeiles minor*	SC	SC Schedule 1	SC	Yes	- Open areas with little to no ground vegetation; logged or burned areas, rock barrens, peat bogs, lakeshores, dunes, beaches, and mine tailings. - Less commonly found in cultivated fields, orchards, mine tailings, and along gravel roads and railways. - Nesting habitat is typically open and vegetation free; may include grasslands, pastures, marshes, and riverbanks. - May also include mixed and coniferous forests. - **SD, BB, RB, CUM, BO, FOM, FOX and FOD with sparsely vegetated openings**.	- All of Ontario except for coastal regions of James Bay and Hudson Bay.	iNaturalist	**Not Candidate** Open areas with little or no ground vegetation not present within the study area.	No recommendations and nothing further.

Table G9 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Avian	Eastern Meadowlark *Sturnella magna*	THR	THR Schedule 1	THR	Yes	- Moderately tall grasslands; prairies, savannahs, pastures and hayfields, alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, overgrown fields. - Small trees, shrubs, or fence posts used as elevated song perches. - **TPO, TPS, CUM1, CUS, and MAM2**.	- Southern Ontario north to Timmins, as well as Lake of the Woods area.	NHIC	**Not Candidate** Tallgrass habitat not present within the study area.	No recommendations and nothing further.
Avian	Eastern Wood-pewee *Contopus virens*	SC	SC Schedule 1	SC	Yes	- Mid-canopy layer of forest clearings, edges of deciduous and mixed forests, early successional clearings. **- FOC, FOM, FOD, SWD, SWM and CUW**.	- Southern Ontario north to Sudbury.	NHIC, OBBA, eBird, Conservation Halton Data	**Candidate** Suitable habitat may exist in the forested communities: FOD2-4, FOD5-3, FOD6-5, and FOM3-1.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Northern Bobwhite *Colinus virginianus*	END	END Schedule 1	END	No	- Early successional habitat provided by savannahs, grasslands, abandoned farm fields, or along bushy fencerows. - Grasslands that are occasionally burned are ideal. - **TPO, TPS, CUM, CUT, CUS and CUW**.	- Windsor north to London, concentrations near Walpole Island.	NHIC	**Not Candidate** Study area outside of known species range.	No recommendations and nothing further.
Avian	Olive-sided Flycatcher *Contopus cooperi*	SC	SC Schedule 1	SC	Yes	- Coniferous or mixed forests containing white spruce, black spruce, jack pine, or balsam fir, and adjacent to wetlands. - Commonly found along natural forest edges and openings adjacent to rivers, swamps, burned forest, or logged areas. - Requires snags and tall trees for foraging perches. - **CUW, FOC, and FOM**.	- All of Ontario.	iNaturalist	**Candidate** Suitable habitat may exist in the FOM3-1 community.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Peregrine Falcon *Falco peregrinus*	SC	No Status	No Status	No	- Tall, steep cliff ledges or tall buildings from 50 m to 200 m in height, close to large bodies of water. - Can be found in tundra, coastal, prairie or urban areas. - **CLO**.	- Breeding population centered around Lake Superior in northwest Ontario. - May be found migrating across rest of the province.	iNaturalist	**Not Candidate** Cliff ledges and tall buildings not present within the study area.	No recommendations and nothing further.
Avian	Red-headed Woodpecker *Melanerpes erythrocephalus*	END	END Schedule 1	END	Yes	- Woodlands and woodland edges, including oak and beech forests, grasslands, orchards, riparian forests, beaver ponds, burns, parks, golf courses, and cemeteries. - Dead trees used for nesting and perching. - **TPS, TPW, CUW, FOD1, FOD2, FOD4-1, FOD6, FOD7, and FOD9 that are open with an abundance of dead trees**.	- Woodland Caribou Provincial Park southeast to Cornwall.	NHIC, Conservation Halton Data	**Candidate** Suitable habitat may exist in the FOD2-4 and FOD6-5 communities.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Avian	Wood Thrush *Hylocichla mustelina*	SC	THR Schedule 1	THR	Yes	- Mature deciduous and mixed forests; moist stands of trees with well-developed undergrowth. - Tall trees are used for singing perches. - Nests are built in live saplings, trees, or shrubs, especially sugar maple or American beech. - Preferably large forest mosaics. - **FOD and FOM greater than 1 ha**.	- Southern Ontario north to Hearst.	eBird, Conservation Halton Data	**Candidate** Suitable habitat may exist in the forested communities: FOD2-4, FOD5-3, FOD6-5, and FOM3-1.	Any anticipated vegetation removal should occur outside of the breeding bird window (April 1 to August 31, of any given year).
Flora	Black Ash *Fraxinus nigra*	END	No Status	THR	N/A	- Commonly in mixed deciduous-conifer or conifer dominated swamps, with poorly drained soil ph of 4.4 to 8.2; Frequently in very wet, seasonally flooded, habitats including floodplain forests, basins, seepage and lacustrine swamp forests, shoreline forest margins, fens and bogs. - Moderately share-tolerant.	- Northern limit in western Ontario near 53°N with a Southern limit in southwestern Virginia.	Conservation Halton Data	**Not Candidate** Montrose tree inventory confirmed black ash was not present within the study area.	No recommendations and nothing further.

Table G9 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Herpetofauna	Blanding's Turtle (Great Lakes / St. Lawrence population) *Emydoidea blandingii*	THR	END Schedule 1	END	N/A	- Shallow, nutrient-rich habitats; typically large wetlands and shallow lakes with lots of water plants. - Nesting occurs in sand, organic soil, gravel, cobblestone, and soil-filled crevices of rock outcrops. - Overwintering occurs in pools about 1 metre in depth. - **SWT2, SWT3, SWD, SWM, MAS2, SAS1, SAM1, where open water is present**.	- Southern Ontario north to Sudbury, with isolated reports as far north as Timmins.	iNaturalist	**Not Candidate** Wetlands present within the study area are too small.	No recommendations and nothing further.
Herpetofauna	Jefferson Salamander *Ambystoma jeffersonianum*	END	END Schedule 1	END	N/A	- Mature deciduous or mixed upland forest containing, or adjacent to, breeding ponds. - Terrestrial habitat must include small mammal burrows or rock fissures for over-wintering below the frost line. - Breeding ponds are normally ephemeral or vernal woodland pools that dry in late summer. - **FOD where permanent or temporary ponds or pools are present**.	- Most commonly found within the Niagara Escarpment and Carolinian forest regions.	ORAA	**Not Candidate** Woodland breeding pools not present.	No recommendations and nothing further.
Herpetofauna	Northern Map Turtle *Graptemys geographica*	SC	SC Schedule 1	SC	N/A	- Both lakes and rivers, preferably with slow-moving currents, muddy bottoms, high-quality water, and abundant vegetation. - Habitat must contain suitable basking sites such as rocks and deadheads. - Hibernation occurs at the bottom of deep, slow-moving sections of river. - **OAO, SA** with emergent rocks and fallen trees.	- Southern Ontario, primarily on the shores of Georgian Bay, Lake St. Clair, Lake Erie, and Lake Ontario, and along larger rivers including the Thames, Grand, and Ottawa. - Has also been recorded on Manitoulin Island and north of Timmins.	ORAA	**Candidate** Potential habitat may exist in East Morrison Creek.	Appropriate exlusion fencing will be installed prior to proposed works to prevent turtles from entering the work area. It is recommended that the work area is cleared of wildlife prior to proposed works.
Herpetofauna	Snapping Turtle *Chelydra serpentina*	SC	SC Schedule 1	SC	N/A	- Shallow wetland habitats with slow-moving water and soft bottoms; ponds, sloughs, shallow bays, river edges, or slow streams. - Nesting occurs on sandy or gravel banks or man-made structures such as roads, dams, and aggregate pits. - Overwintering occurs underwater, underneath logs, sticks, or overhanging banks, deep in mud in marshy areas, or underneath floating mats of vegetation. - **OAO, SA near gravelly or sandy areas**.	- Primarily southern Ontario north to Timmins; also found near Thunder Bay and Kenora.	NHIC, ORAA	**Candidate** Potential habitat may exist in East Morrison Creek.	Appropriate exlusion fencing will be installed prior to proposed works to prevent turtles from entering the work area. It is recommended that the work area is cleared of wildlife prior to proposed works.
Invertebrates	Monarch *Danaus plexippus*	SC	END Schedule 1	END	N/A	- Open or disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests. - Trees along the north shore of the Great Lakes are used for roosting before migrating across open water. - Caterpillars are confined to meadows and open areas where milkweed grows. - **AL, TP, and CUM where milkweed is present**.	- South of 50° of latitude.	OBA, iNaturalist	**Not Candidate** Milkweed was not observed within the study area.	No recommendations and nothing further.
Invertebrates	West Virginia White *Pieris virginiensis*	SC	No Status	N/A	N/A	- Moist, deciduous woodlots with a supply of Toothwort (the only food source of larvae).	- Southern Ontario north to Eganville as well as Manitoulin Island, eastern shore of Georgian Bay and Lake Huron. - Concentrated in western Lake Ontario region.	OBA	**Not Candidate** Toothwort was not observed within the study area.	No recommendations and nothing further.
Mammals	American Badger (Southwestern population) *Taxidea taxus* (*Taxidea taxus jacksoni*)	END	END Schedule 1	END	N/A	- Tallgrass prairie, sand barrens, farmland, shrublands, alpine areas and wetlands. - Require coherent soils that can be burrowed into without collapsing. - **TPS1, CUM1, CUS, SBO with dry sandy soil**.	- Windsor to Dunnville and north to Owen Sound.	Ontario Mammals	**Not Candidate** Associated ELC communities with dry sandy soil not present within the study area.	No recommendations and nothing further.

Table G9 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Mammals	Eastern Red Bat *Lasiurus borealis*	END	No Status	END	N/A	- Uses treed habitats for roosting and foraging, with a particularly strong dependence on trees as roosting sites, but can also use shrubs -Roost by hanging from branches - Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. - Use both deciduous and coniferous forests, of any age class - Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy - Non-foliage roosts are occasionally used and include shrubs, bridges, and the sides of buildings - Commonly exhibits roost switching	- widely distributed across Ontario - do not overwinter in Canada - Widespread and likely found seasonally in >100 protected areas found below 62–63°N west of Hudson Bay, and below about 54°N east of Hudson Bay in Canada, the USA, and Mexico.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Eastern Small-footed Myotis *Myotis leibii*	END	No Status	No Status	N/A	- Primarily roosts in open, sunny, rocky habitats, including cracks and crevices in cliffs and boulders, in talus slopes, beneath stones on rock barrens and in rock outcrops containing crevices. - Occasionally roosts in buildings (including barns, sheds, and exterior walls). - Maternity roosts have been documented in rocky habitats, on bridge structures, and in or on buildings. - Overwinters in caves and abandoned mines. - Hunts in forests.	- South of Georgian Bay to Lake Erie and east to the Pembroke area, the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park.	Ontario Mammals	**Not Candidate** Rocky habitat for roosting not present within the study area.	No recommendations and nothing further.
Mammals	Gray Fox *Urocyon cinereoargenteus*	THR	THR Schedule 1	THR	N/A	- Deciduous forests and marshes. - Dens are usually found in dense shrubs, close to a water source, or in rocky areas, hollow trees, or underground burrows dug by other animals.	- In recent years, this range has been reduced to west of Lake Superior in the Rainy River District and on Pelee Island in west Lake Erie.	Ontario Mammals	**Not Candidate** Study area outside of known species range.	No recommendations and nothing further.
Mammals	Hoary Bat *Lasiurus cinereus*	END	No Status	END	N/A	- Uses treed habitats for roosting and foraging, with a particularly strong dependence on trees as roosting sites, but can also use shrubs - Roost by hanging from branches - Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. - Use both deciduous and coniferous forests, of any age class - Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy - Non-foliage roosts are occasionally used and include shrubs, bridges, and the sides of buildings - Commonly exhibit roost switching	- widely distributed across Ontario - do not overwinter in Canada - Widespread and likely found seasonally in >100 protected areas found below 62–63°N west of Hudson Bay, and below about 54°N east of Hudson Bay in Canada, the USA, and Mexico.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Little Brown Myotis *Myotis lucifugus*	END	END Schedule 1	END	N/A	- Large-diameter trees, attics, abandoned buildings, and barns often used for summer colonies. - Foraging occurs over water, along waterways, and forest edges, while open areas such as clearcuts or fields are typically avoided. - Hibernacula used in winter include mines and caves that are humid and remain above freezing.	- All across Ontario; concentrated in southern Ontario.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).

Table G9 Terrestrial Species at Risk Screening

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Protected Under MBCA?	Preferred Habitat	Known Species Range	Source Identifying Species Record	Probability of Occurrence Within Study Area	Conclusions/Recommendations
Mammals	Northern Myotis *Myotis septentrionalis*	END	END Schedule 1	END	N/A	- Typically within the boreal forest, under loose bark or in the cavities of trees. - Foraging occurs over water, along waterways, and forest edges, while open areas such as clearcuts or fields are typically avoided. - Overwintering occurs in cold and humid sites such as caves or mines. - **FOC, FOM, FOD, SWC, SWM, and SWD where suitable roosting (i.e. cavity trees and trees with loose bark) habitat is available**.	- Forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Silver-haired Bat *Lasionycteris noctivagans*	END	No Status	END	N/A	- Roosting by Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available - Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees - Populus spp. in older forests are ideal roost sites for Silver-haired Bats - Use mostly treed habitats for roosting or foraging, with a particularly strong dependence on trees as roosting sites - Foraging habitats are less well known, but likely include the area above aquatic habitats, low-elevation meadows, grasslands, and fields, as well as open-canopied forest, the area above forest canopies, and forest edges. - Commonly exhibits roost switching	- Widespread and likely found seasonally in >100 protected areas found below 62–63°N west of Hudson Bay, and below about 54°N east of Hudson Bay in Canada, the USA, and Mexico.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).
Mammals	Tri-colored Bat *Perimyotis subflavus*	END	END Schedule 1	END	N/A	- Day roost and maternity colonies are formed in older forests with large-diameter trees, barns, or other structures. - Foraging occurs over water or along streams in a forest. - Winter hibernacula include caves and mines.	- Southern Ontario north to Sudbury.	Ontario Mammals	**Candidate** Suitable habitat exists in the forested communities. One candidate bat tree was recorded during the tree inventory.	Any anticipated tree removal should occur outside of the bat roosting window (April 1 to September 30, of any given year).

TOTAL	29
Herpetofaunas	4
Avian	13
Aquatics	0
Invertebrates	2
Flora	1
Mammals	9
Molluscs	0

ESA Status	
END	12
THR	6
SC	11
No Status	0
TOTAL SAR	29

SWH Screening

TABLE G10 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Waterfowl Stopover and Staging Areas (Terrestrial) Rationale: Habitat important for migrating waterfowl.	American Black Duck Blue-winged Teal Gadwall Green-winged Teal Northern Shoveler Tundra Swan American Wigeon Northern Pintail	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or runoff within these Ecosites. Fields with seasonal flooding and waste grain in the Long Point, Rondeau, Pt. Pelee, Lake St. Clair, Grand Bend areas may be important for Tundra Swans.	• Fields with sheet water during Spring (mid March to May). • Field flooding during spring melt and run-off provides important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available [cxlviii]. Information Sources: • Reports and other information available from Conservation Authorities • Sites documented through waterfowl planning processes (eg. EHJV implementation plan). • Field Naturalists Clubs. • Ducks Unlimited Canada . • Natural Heritage Information Center (NHIC) Waterfowl Concentration Area. • Anecdotal information from the landowners, adjacent landowners or local naturalist clubs may be good information in determining occurrence.	• Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • Any mixed aggregations of 100Ⓔ or more individuals required. • SWH MIST [cxlix] Index #7 provides development effects and mitigation measures. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • The flooded Field Ecosite habitat plus a 100 – 300 m radius, dependant on local site conditions and adjacent land use is the significant wildlife habitat [cxlviii].	**SWH type not present.** Fields with seasonal flooding not present.
Waterfowl Stopover and Staging Areas (Aquatic) Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Information Sources: • Environment Canada • Naturalist clubs often are aware of staging / stopover areas. • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (eg. EHJV implementation plan). • Ducks Unlimited projects. • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area.	Studies carried out and verified presence of: • Aggregations of 100Ⓔ or more of listed species for 7 daysⒺ, results in > 700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH [cxlix]. • The combined area of the ELC Ecosites and a 100 m radius area is the SWH [cxlviii]. • Wetland area and shorelines associated with sites identified within the SWHTG [cxlviii] Appendix K [cxlix] are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWH MIST cxlix Index #7 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.

TABLE G10 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Shorebird Migratory Stopover Area Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. Information Sources: • Western hemisphere shorebird reserve network. • Canadian Wildlife Service (CWS) Ontario Shorebird Survey. • Bird Studies Canada. • Ontario Nature. • Local birders and naturalist clubs. • Natural Heritage Information Centre (NHIC) Shorebird Migratory Concentration Area.	Studies confirming: • Presence of 3 or more of listed species and > 1000Ⓔ shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (< 24 hrs) during spring migration, any site with > 100Ⓔ Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC Shoreline Ecosites plus a 100 m radius area [cxlviii]. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #8 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Raptor Wintering Area Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant.	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:** Short-eared Owl Bald Eagle	Hawks / Owls: Combination of ELC Community Series; need to have present one Community Series from each land class Forest: FOD, FOM, FOC. Upland: CUM, CUT, CUS, CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or lakes with open water (hunting area).	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering (hawk / owl) sites need to be > 20 ha [cxlviii, cxlix] with a combination of forest and upland. [xvi, xvii, xviii, xix, xx, xxi]. • Least disturbed sites, idle / fallow or lightly grazed field / meadow (> 15 ha) with adjacent woodlands [cxlix]. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water and large trees and snags available for roosting [cxlix]. Information Sources: • OMNRF Ecologist or Biologist. • Naturalist clubs. • Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area. • Data from Bird Studies Canada. • Results of Christmas Bird Counts. • Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: • One or more Short-eared Owls or; One of more Bald Eagles or; At least10 individuals and two of the listed hawk / owl speciesⒺ. • To be significant a site must be used regularly (3 in 5 years) [cxlix] for a minimum of 20 days by the above number of birdsⒺ. • The habitat area for an Eagle winter site is the Shoreline Forest Ecosites directly adjacent to the prime hunting areaⒺ. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #10 and #11 provides development effects and mitigation measures.	**SWH type not present.** Combination of fields and woodlands not present.

TABLE G10 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Bat Hibernacula Rationale: Bat hibernacula are rare habitats in all Ontario landscapes	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these Ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH. • The locations of bat hibernacula are relatively poorly known. Information Sources • OMNRF for possible locations and contact for local experts. • Natural Heritage Information Centre (NHIC) Bat Hibernaculum. • Ministry of Northern Development and Mines for location of mine shafts. • Clubs that explore caves (eg. Sierra Club). • University Biology Departments with bat experts.	• All sites with confirmed hibernating bats are SWH (E). • The area includes 200 m radius around the entrance of the hibernaculum [cxlviii, ccvii, (E)] for most development types and 1000 m for wind farms [ccv]. • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv]. • SWH MIST [cxlix] Index #1 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings [xxii, xxv, xxvi, xxvii, xxxi] (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario [xxii]. • Maternity colonies located in Mature deciduous or mixed forest stands [ccix, ccx, ccv] with > 10 / ha large diameter (> 25 cm dbh) wildlife trees [ccvii]. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 [ccxiv] or class 1 or 2 [ccxii]. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags / ha are preferred [ccx, lxiv]. Information Sources: • OMNRF for possible locations and contact for local experts. • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; • > 10 Big Brown Bats(E) • > 5 Adult Female Silver haired Bats(E). • The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies(E). • Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv]. • SWH MIST [cxlix] Index #12 provides development effects and mitigation measures.	**Candidate SWH.** SWH type may be present in the forested communities.
Turtle Wintering Areas Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **Special Concern:** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen [cix, cx, cxi, cxii]. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. Information Sources: • EIS studies carried out by Conservation Authorities. • Field Naturalists Clubs. • OMNRF Ecologist or Biologist. • Natural Heritage Information Centre (NHIC).	• Presence of 5 over-wintering Midland Painted Turtles is significant(E). • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant(E). • The mapped ELC Ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar– May) [cvii]. Congregation of turtles is more common where wintering areas are limited and therefore significant [cix, cx, cxi, cxii]. • SWH MIST [cxlix] Index #28 provides development effects and mitigation measures for turtle wintering habitat.	**SWH type not present.** Associated ELC communities not present.
Reptile Hibernaculum Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brown snake Smooth Green Snake Northern Ring-necked Snake **Special Concern:**	For all snakes, habitat may be found in any Ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line [xliv, l, li, lii, cxii]. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Information Sources:	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr / May) and Fall (Sept / Oct) (E). • Note: If there are Special Concern Species present, then site is SWH. • Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often	**SWH type not present.** Associated ELC communities not present.

TABLE G10 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
	Milk snake Eastern Ribbonsnake	on sunny warm days in the spring or fall is a good indicator.	• In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs. • University herpetologists. • Natural Heritage Information Centre (NHIC).	by many of the same individuals of a local population (e.g. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH(E). • SWH MIST [cxlix] Index #13 provides development effects and mitigation measures for snake hibernacula.	
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of colony nests make this habitat signif-icant. An iden-tified colony can be impor-tant to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following Ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed / permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed / permitted Mineral Aggregate Operation. Information Sources: • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas. • Bird Studies Canada; NatureCounts http://www.birdscanada.org/birdmon/ • Field Naturalist Clubs.	Studies confirming: • Presence of 1 or more nesting sites with 8 [cxlix] or more cliff swallow pairs and / or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests [ccvii]. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]. • SWH MIST [cxlix] Index #4 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Colonially- Nesting Bird Breeding Habitat (Trees and Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. Information Sources: • Ontario Breeding Bird Atlas ccv, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony. • Aerial photographs can help identify large heronries. • Reports and other information available from Conservation Authorities. • MNRF District Offices. • Field Naturalist Clubs.	Studies confirming: • Presence of 2(E) or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300 m radius or extent of the Forest Ecosite containing the colony or any island < 15.0 ha with a colony is the SWH [cc, ccvii]. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and / or eggshells. • SWH MIST [cxlix] Index #5 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Colonially- Nesting Bird Breeding Habitat (Ground) Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer’s Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird). MAM1 – 6 MAS1 – 3	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources: • Ontario Breeding Bird Atlas, rare / colonial species records. • Canadian Wildlife Service. • Reports and other information available from Conservation Authorities. • Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area. • MNRF District Offices. • Field Naturalist Clubs.	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, > 5 active nests for Common Tern or > 2 active nests for Caspian Tern(E). • Presence of 5 or more pairs for Brewer’s Blackbird(E). • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant(E). • The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC Ecosites containing the colony or any island < 3.0 ha with a colony is the SWH [cc, ccvii]. • Studies would be done during May / June when actively nesting. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]	**SWH type not present.** Associated ELC communities not present.

TABLE G10 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
		CUM CUT CUS		• SWH MIST [cxlix] Index #6 provides development effects and mitigation measures.	
Migratory Butterfly Stopover Areas Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral **Special Concern**: Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	• A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Erie or Lake Ontario [cxlix]. • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south [xxxii, xxxiii, xxxiv, xxxv, xxxvi]. • The habitat should not be disturbed, fields / meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat [cxlviii, cxlix]. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes [xxxvii, xxxviii, xxxix, xl, xli]. Information Sources: • MNRF District Offices. • Natural Heritage Information Centre (NHIC). • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs. • Toronto Entomologists Association. • Conservation Authorities.	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug / Oct) [xliii]. MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500 / day [xxxvii], significant variation can occur between years and multiple years of sampling should occur [xl, xliii]. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of > 5000 or > 3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant[E]. • SWH MIST [cxlix] Index #16 provides development effects and mitigation measures.	**Candidate SWH.** Associated ELC communities present and site located within 5 km of Lake Ontario.
Landbird Migratory Stopover Rationale: Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: *Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act,* 1997. Schedule 7: Specially Protected Birds (Raptors).	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	• Woodlots > 5 ha[E] in size and within 5 km [iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv] of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2 – 5 ha can be considered for this habitat[E]. • If multiple woodlands are located along the shoreline those Woodlands < 2 km from Lake Erie and Lake Ontario are more significant [cxlix]. • Sites have a variety of habitats; forest, grassland and wetland complexes [cxlix]. • The largest sites are more significant [cxlix]. • Woodlots and forest fragments are important habitats to migrating birds [ccxviii], these features located along the shore and located within 5 km of Lake Erie and Lake Ontario are Candidate SWH [cxlviii]. Information Sources: • Bird Studies Canada. • Ontario Nature. • Local birders and field naturalist clubs. • Ontario Important Bird Areas (IBA) Program.	Studies confirm: • Use of the habitat by > 200 birds / day and with > 35 spp with at least 10 bird spp. recorded on at least 5 different survey dates[E]. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (Mar to May) and fall (Aug to Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #9 provides development effects and mitigation measures.	**Candidate SWH.** Associated ELC communities present and site located within 5 km of Lake Ontario.

TABLE G10 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Deer Winter Congregation Areas Rationale: Deer movement during winter in the southern areas of EcoRegion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions [cxlviii].	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots > 100 ha in size or if large woodlots are rare in a planning area woodlots > 50 ha [E]. • Deer movement during winter in the southern areas of EcoRegion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands [cxlviii]. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer / ha [ccxxiv]. • Woodlots with high densities of deer due to artificial feeding are not significant [E]. Information Sources: • MNRF District Offices. • LIO/NRVIS.	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF [cxlviii]. • Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF [E]. • Studies should be completed during winter (Jan / Feb) when > 20 cm of snow is on the ground using aerial survey techniques [ccxxiv], ground or road surveys or a pellet count deer density survey [ccxxv]. • SWH MIST [cxlix] Index #2 provides development effects and mitigation measures.	**SWH type not present.** Woodland habitat does not meet size requirements.

TABLE G11 Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Study Area
	ELC Ecosite Codes	Habitat Description	Detailed Information and Sources	Defining Criteria	Assessment Details
Cliffs and Talus Slopes Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock > 3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. Information Sources: • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalist Clubs. • Conservation Authorities.	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes [lxxviii]. • SWH MIST [cxlix] Index #21 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Sand Barren Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry.	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always < or equals to 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.	• A sand barren area > 0.5 ha in size(E). Information Sources: • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalist Clubs. • Conservation Authorities.	• Confirm any ELC Vegetation Type for Sand Barrens [lxxviii]. • Site must not be dominated by exotic or introduced species (< 50% vegetative cover are exotic sp.)(E). • SWH MIST [cxlix] Index #20 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Alvar Rationale: Alvars are extremely rare habitats in EcoRegion 7E.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Indicator Species: 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within EcoRegion 7E (E) [cxlix].	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover [lxxviii].	• An Alvar site > 0.5 ha in size [lxxv]. Alvar is particularly rare in EcoRegion 7E where the only known sites are found in the western islands of Lake Erie [cxcix]. Information Sources: • Alvars of Ontario (2000). • Federation of Ontario Naturalists [lxxvi]. • Ontario Nature – Conserving Great Lakes Alvars [ccviii]. • Natural Heritage Information Centre (NHIC) has location information available on their website. • OMNRF Staff. • Field Naturalist Clubs. • Conservation Authorities.	• Field studies that identify four of the five (E) **Alvar Indicator Species** [lxxv, cxlix] at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (< 50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses [lxxv]. • SWH MIST [cxlix] Index #17 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.

TABLE G11 Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Study Area
	ELC Ecosite Codes	Habitat Description	Detailed Information and Sources	Defining Criteria	Assessment Details
Old Growth Forest Rationale: Due to historic logging practices and land clearance for agriculture, old growth forest is rare in EcoRegion 7E.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	• Woodland area is > 0.5 ha Ⓔ. Information Sources: • OMNRF Forest Resource Inventory mapping. • OMNRF Districts. • Field Naturalist Clubs. • Conservation Authorities. • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments.	Field Studies will determine: • If dominant trees species of the are > 140 years old, then the area containing these trees is Significant Wildlife Habitat [cxlviii]. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities [cxlviii] (cut stumps will not be present). • The area of Forest Ecosites combined or an Ecoelement within an Ecosite that contain the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics [lxxviii]. • SWH MIST [cxlix] Index #23 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Savannah Rationale: Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60% [lxxix, lxxx, lxxxi, lxxxii, lxxxiii]. In EcoRegion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	• No minimum size to site Ⓔ. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources: • Natural Heritage Information Centre (NHIC) has location data available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	• Field studies confirm one or more of the Savannah indicator species listed in [cxlix] Appendix N should be present Ⓔ. Note: Savannah plant spp. list from EcoRegion 7E should be used [cxlviii]. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (< 50% vegetation cover are exotic sp.). • SWH MIST [cxlix] Index #18 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover [lxxix, lxxx, lxxxi, lxxxii, lxxxiii]. In EcoRegion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	• No minimum size to site Ⓔ. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources: • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalists Clubs. • Conservation Authorities.	• Field studies confirm one or more of the Prairie indicator species listed in [cxlix] Appendix N should be present Ⓔ. Note: Prairie plant spp. list from EcoRegion 7E should be used [cxlviii]. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (< 50% vegetative cover are exotic sp.). • SWH MIST [cxlix] Index #19 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG [cxlviii]. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	• ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M [cxlviii]. • The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources: • Natural Heritage Information Centre (NHIC) has location information available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	• Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG [cxlviii]. • Area of the ELC Vegetation Type polygon is the SWH. • SWH MIST [cxlix] Index #37 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.

TABLE G12 Specialized Habitats of Wildlife considered SWH

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Waterfowl Nesting Area Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	• A waterfowl nesting area extends 120 m [cxlix] from a wetland (> 0.5 ha) or a wetland (> 0.5 ha) and any small wetlands (0.5 ha) within 120m or a cluster of 3 or more small (< 0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur [cxlix]. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (40cm dbh) in woodlands for cavity nest sites. Information Sources: • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 3 or more nesting pairs for listed species excluding Mallards(E), or; • Presence of 10 or more nesting pairs for listed species including Mallards(E). • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m [cxlviii] from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWH MIST [cxlix] Index #25 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Rationale: Nest sites are fairly uncommon in EcoRegion 7E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey **Special Concern:** Bald Eagle	ELC Forest Community Series: FOD FOM FOC SWD SWM SWC Directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	• Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. • Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). Information Sources: • Natural Heritage Information Centre (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF District. • Check the Ontario Breeding Bird Atlas [ccv] or Rare Breeding Birds in Ontario for species documented. • Reports and other information available from Conservation Authorities. • Field Naturalists Clubs.	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area [cxlviii]. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH [ccvii], maintaining undisturbed shorelines with large trees within this area is important [cxlviii]. • For a Bald Eagle the active nest and a 400 - 800 m radius around the nest is the SWH [cvi, ccvii]. Area of the habitat from 400 - 800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat [cvi]. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for equal or > 3 years or suspected of not being used for > 5 years before being considered not significant [ccvii]. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid August. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]. • SWH MIST [cxlix] Index #26 provides development effects and mitigation measures.	**SWH type not present.** No evidence of nests observed during field visits.

TABLE G12 Specialized Habitats of Wildlife considered SWH

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Woodland Raptor Nesting Habitat Rationale: Nests sites for these species are rarely identified; these area sensitive habitats are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM,SWD and CUP3	• All natural or conifer plantation woodland/forest stands > 30 ha with > 4 ha of interior habitat [lxxxviiii, lxxxix, xc, xci, xciii, xciv, xcv, xcvi, cxxxiii]. Interior habitat determined with a 200 m buffer [cxlviii]. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. Information Sources: • OMNRF Districts. • Check the Ontario Breeding Bird Atlas [ccv] or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 1 or more active nests from species list is considered significant [cxlviii]. • Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH [ccvii] (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200 m radius around the nest is the SWH [ccvii]. • Broad-winged Hawk and Coopers Hawk – A 100 m radius around the nest is the SWH [ccvii]. • Sharp-Shinned Hawk – A 50 m radius around the nest is the SWH [ccvii]. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting / nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWH MIST [cxlix] Index #27 provides development effects and mitigation measures.	**SWH type not present.** Woodland areas do not meet size requirements.
Turtle Nesting Areas Rationale: These habitats are rare and when identified will often be the only breeding site for local populations for turtles.	Midland Painted Turtle **Special Concern:** Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (< 100 m) [cxlviii] or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons, or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes and rivers are most frequently used. Information Sources: • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Centre (NHIC). • Field Naturalist Clubs.	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles[E]. • One or more Northern Map Turtles or Snapping Turtle nesting is a SWH[E]. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 – 100 m around the nesting area dependant on slope, riparian vegetation and adjacent land use in the SWH [cxlviii]. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 – 100 m area of habitat [cxlix]. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWH MIST [cxlix] Index #28 provides development effects and mitigation measures for turtle nesting habitat.	**SWH type not present.** Associated ELC communities not present.
Seeps and Springs Rationale: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps / Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps / springs.	Any forested area (with < 25 % meadow / field / pasture) within headwaters of a stream or river system [cxvii, cxlix]. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species [cxix, cxx, cxxi, cxxii, cxiii, cxiv]. Information Sources: • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists Clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more[E] seeps / springs should be considered SWH. • The area of an ELC Forest Ecosite or an Ecoelement within Ecosite containing the seeps / springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat [cxlviii]. • SWH MIST [cxlix] Index #30 provides development effects and mitigation measures.	**SWH type not present.** Study area not in headwaters.

TABLE G12 Specialized Habitats of Wildlife considered SWH

Specialized Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Amphibian Breeding Habitat (Woodland) Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or shortest distance from forest habitat are more significant because they are more likely to be used due to educed risk to migrating amphibians.	• Presence of a wetland, pond or woodland pool (including vernal pools) > 500 m^2 (about 25 m diameter) [ccvii] within or adjacent (within 120 m) to a woodland (no minimum size) [clxxxii, lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx]. Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat [cxlviii]. Information Sources: • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF Districts and wetland evaluations. • Field Naturalist Clubs. • Canadian Wildlife Service Amphibian Road Call Survey. • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm: • Presence of breeding population of 1 or more of the listed newt / salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) [lxxi] or 2 or more of the listed frog species with Call Level Codes of 3(E). • A combination of observational study and call count surveys [cviii] will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland / wetlands. • The habitat is the wetland area plus a 230 m radius of woodland area [lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx, lxxi]. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWH MIST [cxlix] Index #14 provides development effects and mitigation measures.	**SWH type not present.** Woodland pools not present.
Amphibian Breeding Habitat (Wetland) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these Wetland Ecosites will be isolated (> 120 m) from Woodland Ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) maybe adjacent to woodlands.	• Wetlands > 500 m^2 (about 25 m diameter) [ccvii], supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats [clxxxii]. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources: • Ontario Herpetofaunal Summary Atlas (or other similar atlases). • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of breeding population of 1 or more of the listed newt / salamander species or 2 or more of the listed frog / toad species with at least 20 individuals (adults or eggs masses) [lxxi] or 2 or more of the listed frog/toad species with Call Level Codes of 3(E). or; Wetland with confirmed breeding Bullfrogs are significant(E). • The ELC Ecosite Wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys [cviii] will be required during the spring (March - June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWH MIST [cxlix] Index #15 provides development effects and mitigation measure	**SWH type not present.** Associated ELC communities not present.
Woodland Area-Sensitive Bird Breeding Habitat Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler, Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager, Winter Wren Pileated Woodpecker **Special Concern**: Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (> 60 yrs old) forest stands or woodlots > 30 ha [cv, cxxxi, cxxxii, cxxxiii, cxxxiv, cxxxv, cxxxvi, cxxxvii, cxxxviii, cxxxix, cxl, cxli, cxlii, cxliii, cxliv, cxlv, cxlvi, cl, cli, clii, cliii, cliv, clv, clvi, clvii, clviii, clix]. • Interior forest habitat is at least 200 m from forest edge habitat [clxiv]. Information Sources: • Local birder clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species (E). • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH (E). • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]. • SWH MIST [cxlix] Index #34 provides development effects and mitigation measures.	**SWH type not present.** Forested habitat is not mature and does not meet size requirements.

TABLE G13 Habitats of Species of Conservation Concern considered SWH

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Marsh Breeding Bird Habitat Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present [cxxiv]. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it many be found in upland shrubs or forest a considerable distance from water. Information Sources: • OMNRF District and wetland evaluations. • Field Naturalists Clubs. • Natural Heritage Information Centre (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas.	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren **or** breeding by any combination of 4 or more of the listed species [E]. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH [E]. • Area of the ELC Ecosite is the SWH. • Breeding surveys should be done May / June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]. • SWH MIST [cxlix] Index #35 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Open Country Bird Breeding Habitat Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern:** Short-eared Owl	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows > 30 ha [clx, clxi, clxiii, clxiv, clxv, clxvi, clxvii, clxviii, clxix]. • Grassland not Class 1 or 2 agricultural lands, and not being actively used for farming (e.g. no row cropping or intensive hay or livestock pasturing in the last 5 years) [E]. • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources: • Agricultural land classification maps, Ministry of Agriculture. • Local Bird Clubs. • Ontario Breeding Bird Atlas. • EIS Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species [E]. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC Ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi]. • SWH MIST [cxlix] Index #32 provides development effects and mitigation measures.	**SWH type not present.** Meadow habitat does not meet size requirements..
Shrub / Early Successional Bird Breeding Habitat Rationale: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp: Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of Shrub Ecosites can be complexed into a larger habitat for some bird species.	• Large field areas succeeding to shrub and thicket habitats > 10 ha [clxiv] in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (e.g. no row-cropping, haying or live-stock pasturing in the last 5 years) [E]. • Shrub thicket habitats (> 10 ha) are most likely to support and sustain a diversity of these species [clxxiii]. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources: • Agricultural land classifications maps, Ministry of Agriculture.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species [E]. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH [E]. • The area of the SWH is the contiguous ELC Ecosite field / thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” [ccxi].	**SWH type not present.** Field habitat does not meet size requirements.

TABLE G13 Habitats of Species of Conservation Concern considered SWH

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
	Golden-winged Warbler		• Local Bird Clubs. • Ontario Breeding Bird Atlas. • Reports and other information available from Conservation Authorities.	• SWH MIST [cxlix] Index #33 provides development effects and mitigation measures.	
Terrestrial Crayfish <u>Rationale:</u> Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare [ccii].	Chimney or Digger Crayfish (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish (*Cambarus diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above Meadow Marsh Ecosites can be used by terrestrial crayfish.	• Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground cannot be too moist. Can often be found far from water. • Both species are semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources:</u> • Information sources from “Conservation Status of Freshwater Crayfishes” by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites [cci]. • Area of ELC Ecosite or an Ecoelement area of meadow marsh or swamp within the larger Ecosite area is the SWH. • Surveys should be done in April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals in very difficult [cci]. • SWH MIST [cxlix] Index #36 provides development effects and mitigation measures.	**SWH type not present.** Associated ELC communities not present.
Special Concern and Rare Wildlife Species <u>Rationale:</u> These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	• When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or Provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites [lxxviii]. <u>Information Sources:</u> • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species list with element occurrences data. • NHIC Website “Get Information” – http.//nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas. • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm : • Assessment / inventory of the site for the identified Special Concern or rare species needs to be completed during the time of the year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs to be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat for foraging habitat. • SWH MIST [cxlix] Index #37 provides development effects and mitigation measures.	**Candidate SWH.** Suitable habitat for various Special Concern species may exist within the study area.

TABLE G14 Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
Amphibian Movement Corridors Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all Ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	• Movement corridors between breeding habitat and summer habitat [clxxiv, clxxv, clxxvi, clxxvii, clxxviii, clxxix, clxxx, clxxxi]. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat – Wetland) of this Schedule Ⓔ. Information Sources: • MNRF District Office. • Natural Heritage Information Centre (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant [cxlix]. • Corridors should have at least 15 m of vegetation on both sides of waterway [cxlix] or be up to 200 m [cxlix] wide of woodland habitat and with gaps < 20 m [cxlix]. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat [cxlix]. • SWH MIST [cxlix] Index #40 provides development effects and mitigation measures	**SWH type not present.** Breeding habitat not present.

TABLE G15 Significant Wildlife Habitat Exceptions for EcoDistricts within EcoRegion 7E

EcoDistrict	Wildlife Habitat and Species	Candidate SWH			Confirmed SWH	Study Area
		Ecosite	Habitat Description	Habitat Criteria and Information Sources	Defining Criteria	Assessment Details
7E-2	**Bat Migratory Stopover Area** Rationale: Stopover areas for long distance migrant bats are important during fall migration. Hoary Bat Eastern Red Bat Silver-haired Bat	No specific ELC types.		• Long distance migratory bats typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. • This is the only known bat migratory stopover habitats based on current information. Information Sources: • OMNRF for possible locations and contact for local experts. • University of Waterloo, Biology Department.	• Long Point (42°35'N, 80°30'E, to 42°33'N, 80°03'E) has been identified as a significant stop-over habitat for fall migrating Silver-haired Bats, due to significant increases in abundance, activity and feeding that was documented during fall migration [ccxv]. • The confirmation criteria and habitat areas for this SWH are still being determined. • SWH MIST [cxlix] Index #38 provides development effects and mitigation measures	**SWH type not present.** Study area not within ecodistrict 7E-2.