



GUIDING SOLUTIONS IN THE
NATURAL ENVIRONMENT

Environmental Assessment

Natural Heritage Features and Functions

Steeles West Station

TTC Toronto-York Spadina Subway Extension

Prepared For:

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1. Introduction

Beacon Environmental was retained by Watters Environmental Group Inc. (Watters Environmental) to undertake an assessment of the natural heritage features and functions as part of the Preliminary Design Report for the Steeles West Station, which is one of the subway stations comprising the Toronto-York Spadina Subway Extension (TYSSE) project. This report provides a detailed assessment of existing natural conditions for the lands associated with the preliminary design for the elements of the Steeles West station. The purpose of this assessment is summarized as follows:

1. Inventory and assessment of flora and fauna associated with the planned development lands;
2. Identification of significant or sensitive natural heritage features or functions on or near the planned development lands;
3. Identification of environmental features that could represent potential constraints for the planned development;
4. Preliminary identification of design and construction mitigation measures (if required); and
5. Identification of potential compensation requirements for natural heritage features (if any).

Terms of Reference for this assessment were submitted to Watters Environmental on April 27, 2009, and generally followed the scope of work pre-established between the YYSSE and Canadian Wildlife Service (undated document).

2. Methodology

2.1 Background Review

Background information pertaining to the natural and physical setting of the subject lands and environs was gathered and reviewed at the outset of the project. These information sources included:

- Spadina Subway Extension – Downsview Station to Steeles Avenue Environmental Assessment. 2006
- Toronto-York Spadina Subway Extension, Downsview Station to Highway 7. CEEA *Canadian Environmental Assessment Act* Screening Report. 2008;
- Ministry of Natural Resources' Natural Heritage Information Centre (NHIC) rare species database; and
- Provisional Ontario Breeding Bird Atlas (OBBA) data for 2000-2005 (<http://www.birdsontario.org/atlas/atlasmain.html>).

Other sources of information, such as aerial photography and topographic maps, were also consulted prior to commencing field assessments.

2.2 Field Investigations

The study for the field investigations was defined to include lands within and directly adjacent to the hydro corridor from Jane Street eastward to Keele Street, and north of Steeles Street to Canadian National Railway Right of Way. In additions, lands directly south Steeles Street were also surveyed Through this area, the study area has an average width of 400 m. Field investigations were undertaken in 2009 over three seasonal periods; namely, early spring, early summer, and late summer. The following details the dates for specific surveys over the study period.

Site Surveys	Field Survey Dates (2009)
Breeding Amphibian Surveys	April 14, May 9, June 24
Breeding Birds	April 14, June 1, June 24
Vascular Plants	June 1, June 24, July 15, July 28
Vegetation Communities	July 28
Aquatic Fisheries Assessment	August 16

Surveys for breeding birds were undertaken from sunrise to 11:00 am. On all occasions the conditions were clear and the temperature did not deviate > 5°C above or below the average temperature for the time of year and it was not raining. In addition to these survey dates in June, birds noted for the site while conducting a general survey of the sites in April and during the amphibian breeding surveys were also included. The breeding bird surveys were undertaken during the breeding bird season, hence all birds in suitable habitat and showing some propensity to breed were assumed to be breeding. Propensity to breed includes exhibiting territorial behaviour such as singing and carrying food or nesting material. Each bird heard or observed was assumed to have a partner and was recorded as a pair. A wandering transect was used such that all areas within each site were approached to within approximately 50 metres to ensure that all birds on the site were recorded. Vegetation was not searched for the presence of nests. Nests are typically very difficult to detect as they are well hidden from predators. It is standard practice to assume that all birds exhibiting breeding behaviour in a given area are breeding and therefore visual observation of nests is not necessary.

Initial assessment of the study area in early April identified a number of small wetland areas that could potentially provide breeding habitat for amphibians (frogs and toads). Three field surveys were undertaken to capture potential breeding by early spring, breeding amphibian, late spring breeders and summer-breeding amphibians. The surveys were conducted following the Bird Studies Canada 2005 - Marsh Monitoring Program Protocol: Amphibian Surveys. The surveys involved visiting the subject lands after dusk to listen for calling males. Calling amphibians were identified to species and chorus activity was assigned a code from the following options:

- 0 no calls;
- 1 individuals of one species can be counted, calls not simultaneous;
- 2 some calls of one species simultaneous, numbers can be reliably estimated; and,
- 3 full chorus, calls continuous and overlapping.

Vascular plants associated with the study area were recorded throughout the study period. This survey period covers early spring to early fall species. A wandering transect was used such that all areas within subject lands were surveyed and different vegetations communities associated with the site were specifically targeted. This assessment did not include landscape plantings associated with commercial buildings, street boulevards or garden plots.

The assessment for potential fish habitat was undertaken by visually inspecting the study area for watercourses, ditches and standing water. This assessment identified the potential for fish habitat to be associated with a deep water pond found within the hydro corridor. The pond was sampled with a pursed seine net to determine the presence or absence of fish.

3. Existing Natural Heritage Conditions

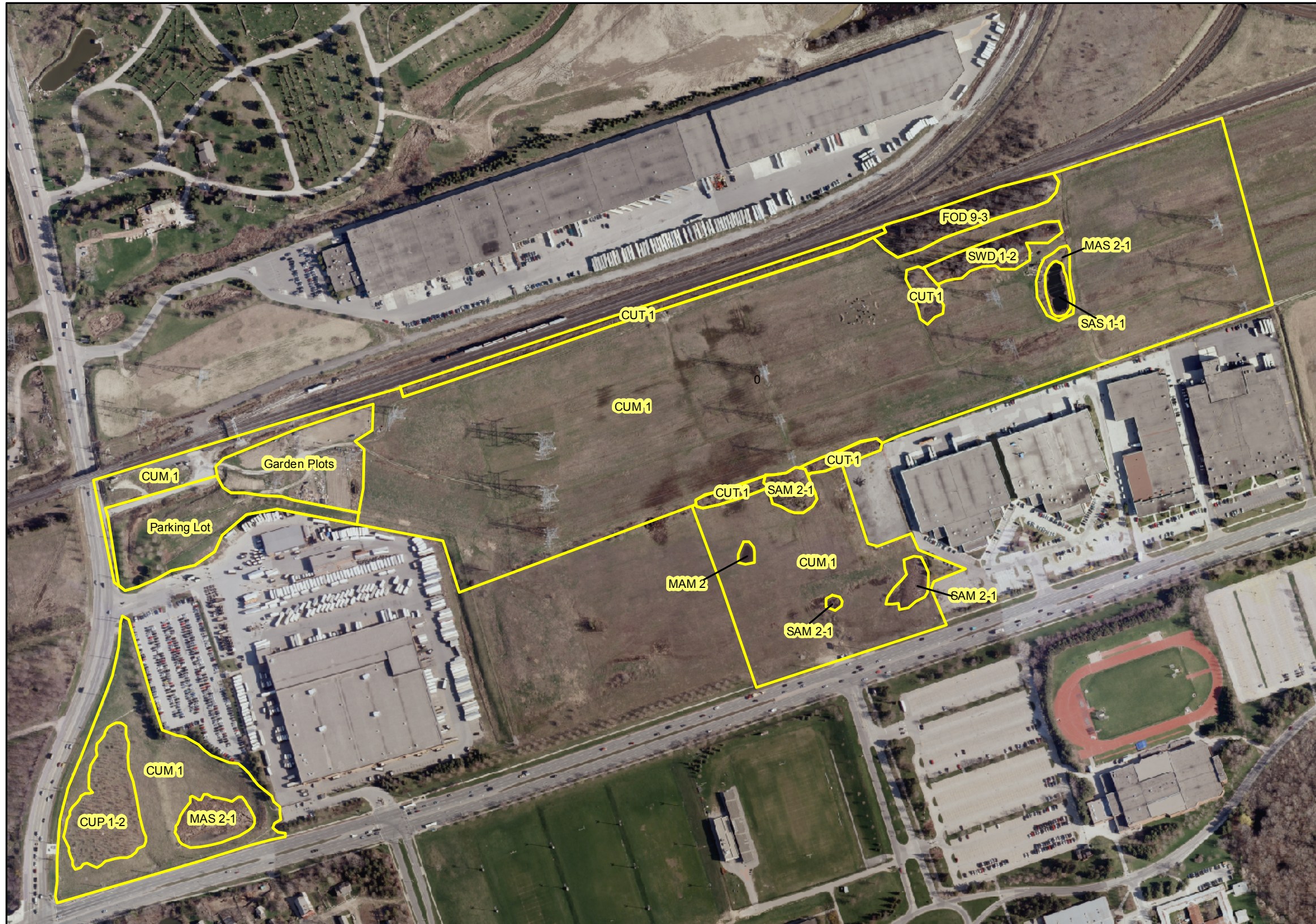
3.1 Aquatic Resources

No fish habitat (spawning, nursery, feeding or migration) occurs on the subject lands. In August a deep water pond was sampled with a seine net to determine potential use by fish such as Stickleback. No fish were captured; however seining of the pond did capture numerous green frog tadpoles and Water Boatman.

3.2 Amphibians

Amphibian surveys were conducted on the subject property during three amphibian breeding periods (i.e. early spring for; Wood Frog (*Rana sylvatica*), Northern Spring Peeper (*Pseudacris crucifer*) and Western Chorus Frog (*Pseudacris triseriata*), late spring for; American Toad (*Bufo americana*), Northern Leopard Frog (*Rana pipiens*), and early summer for and Green Frog (*Rana clamitans*) and Gray Treefrog (*Hyla versicolor*).

For the subject lands, amphibian breeding sites were documented for two wetland areas (**Figure 1**). Three frog species were found to occur; American Toad, Northern Leopard Frog, and Green Frog. Breeding at Site 1 was very minimal, with two (2) calling American Toad, one (1) Northern Leopard Frog, and Two (2) Green Frog. This breeding site is associated with a small old cow pond that has naturalized into a wetland. Standing water was only present in the pond to the end of July. The second breeding site is associated with a larger and deeper historic cow pond. This pond supports permanent standing water, as indicated by the presence of aquatic pondweeds. For this pond with breeding activity included two (2) calling American Toad, four (4) Northern Leopard Frog, and approximately twenty (20) Green Frog. In addition Green Frog was found to be abundant around the edges of the pond in August, and numerous Green Frog tadpoles were sampled from the pond during fish sampling efforts. Based on the field surveys this site is considered to represent productive breeding habitat for Green Frog.



Natural Heritage Features

Figure 1

Steeles West Station

TTC Toronto-York Spadina Subway Extension

Legend

ELC Communities

Code	Description
Cultural Communities	
CUM 1	Mineral Cultural Meadow Ecosite
CUT 1	Mineral Cultural Thicket Ecosite
CUP 1-2	Basswood Deciduous Plantation Type
Upland Communities	
FOD 9-3	Fresh-Moist Bur Oak Deciduous Forest Type
Wetland Communities	
MAS 2-1	Cattail Mineral Shallow Marsh
MAM 2	Mineral Meadow Marsh Ecosite
SAS 1-1	Pondweed Submergent Shallow Aquatic Type
SWD 1-2	Bur Oak Mineral Deciduous Swamp Type

Ortho Photo Base 2007

UTM Zone 17 N, NAD 83

0 37.5 75 150 Meters



1:4,500



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3.3 Birds

Table 1 presents the bird species and estimated numbers of breeding pairs that were recorded on the subject lands. A total of forty two (42) bird species were recorded for the lands associated with the station development property. Of these, thirty (30) species breed in habitats that are found to occur on the subject lands. Of the breeding species, most species occur in a density of 1 to 4 breeding pairs, with the exception of Savannah Sparrow, Brown-headed Cowbird and Red-winged Blackbird, which are the most abundant breeding species.

Much of the bird species diversity associated with the subject lands can be attributed to a small woodlot and marsh/swamp wetland area located in the north-east corner of the subject lands. The woodlands support 1 to 2 pairs of common woodland/forest species such as, Downy Woodpecker, Northern Flicker, Warbling Vireo, Rose-breasted Grosbeak and Baltimore Oriole. The swamp and marsh habitat supports species typical of these environments including American Woodcock, Yellow Warbler, Common Yellowthroat, and Willow Flycatcher.

Table 1: Bird Species and Status for the Steeles West Station Study Area

Common Name	Scientific Name	Est. Number of Breeding Pairs	Provincial S-Ranks / TRCA L-ranks
Canada Goose	<i>Branta canadensis</i>	1	S5 L5
Mallard	<i>Anas Platyrhynchos</i>	1	S5 L5
Turkey Vulture	<i>Cathartes aura</i>	Observed-not breeding/feeding	S4 L4
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Feeding-not breeding	S5 L5
American Kestrel	<i>Falco sparverius</i>	Feeding-not breeding	S5 L5
Killdeer	<i>Charadrius vociferus</i>	2	S5 L5
American Woodcock	<i>Scolopax minor</i>	3	S5 L3
Ring-billed Gull	<i>Larus delawarensis</i>	Feeding-not breeding	S4 L5
Herring Gull	<i>Larus argentatus</i>	Feeding-not breeding	S5 L3
Rock Pigeon	<i>Columbia livia</i>	Observed-not breeding/feeding	SNA L+
Mourning Dove	<i>Zenaida macroura</i>	1	L5
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	1	S4 L3
Common Nighthawk	<i>Chordeiles minor</i>	Feeding-not breeding	S4-L4**
Downy Woodpecker	<i>Picoides pubescens</i>	1	S5 L5
Northern Flicker	<i>Colaptes auratus</i>	1	S5 L4
Willow Flycatcher	<i>Empidonax traillii</i>	4	S5 L4
Eastern Kingbird	<i>Tyrannus tyrannus</i>	2	S5 L5
Northern-Rough-Winged Swallow	<i>Stelgidopteryx serripennis</i>	Feeding-not breeding	S5 L4
Barn Swallow	<i>Hirundo rustica</i>	Feeding-not breeding	S5 L5

Common Name	Scientific Name	Est. Number of Breeding Pairs	Provincial S-Ranks / TRCA L-ranks
Blue Jay	<i>Cyanocitta cristata</i>	1	S5 L5
American Crow	<i>Corvus brachyrhynchos</i>	Feeding-not breeding	S5 L5
American Robin	<i>Turdus migratorius</i>	5	S5 L5
Gray Catbird	<i>Dumetella carolinensis</i>	1	S5 L4
Northern Mockingbird	<i>Minus polyglottos</i>	1	S4 L4
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Feeding-not breeding	S5 L5
European Starling	<i>Sturnus vulgaris</i>	Feeding-not breeding	SNA L+
Warbling Vireo	<i>Vireo gilvus</i>	1	S5 L5
Yellow Warbler	<i>Dendroica petechia</i>	4	S5 L5
Common Yellowthroat	<i>Geothlyphis trichas</i>	3	S5 L4
Northern Cardinal	<i>Cardinalis cardinalis</i>	1	S5 L5
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	1	S5 L4
Chipping Sparrow	<i>Spizella passerina</i>	1	S5 L5
Savannah Sparrow	<i>Passerculus sandwichensis</i>	15	S5 L4
Song Sparrow	<i>Melospiza melodia</i>	5	S5 L5
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	20	S5 L5
Common Grackle	<i>Quiscalus quiscula</i>	2	S5 L5
Brown-headed Cowbird	<i>Molothrus ater</i>	10	S5 L5
Baltimore Oriole	<i>Icterus galbula</i>	1	S5 L5
House Finch	<i>Carpodacus mexicanus</i>	1	SNA L5
American Goldfinch	<i>Cardeulis tristis</i>	5	S5 L5
House Sparrow	<i>Passer domesticus</i>	10+	SNA L+
* See Appendix 1 for Rank Definitions			
** In 2007 the federal Committee on the Status of Wildlife in Canada (COSWIC) designated the Common Nighthawk as Threatened (T) : A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.			

No Provincially rare species (S-rank of S1, S2, or S3) were found to occur. In addition no species listed on Schedules 1 through 5 of the Ontario *Endangered Species Act* were documented for the site.

One species, the Common Nighthawk, was recorded as feeding over the subject lands. This species was listed in 2007 as Threatened by the Federal Committee on the Status of Wildlife in Canada (COSWIC). The species is a nocturnal aerial insectivore. In urban and developed areas, nesting often occurs on flat roof top buildings. The extensive open field lands associated with hydro corridor provides quality insect feeding habitat for the species. A breeding pair utilizes a large breeding territory, and the nesting site in the local area of the Steeles West Station is unknown.

Two species that breed on the subject lands are considered to have an L-rank of L3 by the Toronto and Region Conservation Authority (TRCA), the American Woodcock and Black-billed Cuckoo. An L-rank of L3 indicates that for lands within the TRCA jurisdiction, the species are sensitive to habitat disturbance/loss and are of concern regionally. The American Woodcock is a common bird in Ontario; however it is less common in urbanized environments due to its dependence on forest and wetland

habitats. For the subject lands, breeding and feeding habitat is associated with a number of small wetland pockets and forest swamp. The Black-billed Cuckoo is an old field specialist and due to the decline of this habitat type in southern Ontario, either through land development or establish of tree plantations, this species is now uncommon. One potential nesting pair was identified to occur in the eastern most area of the subject lands.

3.4 Vegetation

The subject lands are highly disturbed and are strongly anthropogenic in nature. The lands are dominated by grasses and field weeds that are in frequently mowed. The only “natural areas” are small woodlot and wetland area located in the north-east corner of the subjects property. Four small pockets of wetland were also found to occur. Vegetation communities for the subject lands were described and mapped (**Figure 1**) following the Ecological Land Classification designations for Southern Ontario (Lee *et al.* 1998).The communities are described below. Common names for plants are used in the following text; however, scientific names for the plants are provided in the plant list in **Appendix 2**.

Cultural Communities

Mineral Cultural Meadow Ecosite (CUM 1)

Cultural Meadow is defined as fields with less than 25% shrub cover and less than 25% tree cover. This vegetation community occurs on over 95% of the subject lands. Through the hydro corridor this community is dominated by Canada and Tall Goldenrods, White Heath Aster, Panicked Aster, New England Aster and Dog Strangling Vine. The dominant grass species include Brome Grass, Orchard Grass, Reed Canary Grass and Kentucky Bluegrass.

Mineral Cultural Thicket Ecosite (CUT1)

Cultural Thicket is defined as shrub dominated fields with less than 25% tree cover and shrub cover greater than 25%. Narrow bands of cultural thicket are associated with old property lines and along the Canadian National Railway Right of Way (ROW). The community is comprised of a mix of shrub species, including Common Buckthorn, Hawthorn, Allegheny Blackberry Staghorn Sumac, Russian Olive, Red-osier Dogwood, and Tartarian Honeysuckle. Young trees include American Elm, Apple, White Ash and Green Ash. The ground cover support grass and weeds species common to the adjacent cultural meadow.

Basswood Deciduous Plantation Type (CUP1-2)

This community is located in the south-west corner of the subject lands and is comprised of planted Basswood trees. The plantation is of young age (10-15 years) and has an open canopy. In addition to the planted Basswood, other young tree species include American Elm and Red Oak. The ground cover is represented by dense growth of field weeds and grasses common to the adjacent cultural meadow.

Upland Communities

Fresh-Moist Bur Oak Deciduous Forest Type (FOD9-3)

This forest stand represents a small remaining fragment of the forest community that once occurred on the subject lands. The canopy is scattered and open and dominated by mature Bur Oak. Many of the trees appear to be in decline with poorly developed crowns and wind throw effects are evident. Other trees species of the canopy include a number of mature large specimen trees of Red Maple that are located at the eastern limit of the community. The subcanopy is dominated by Common Buckthorn, American Hornbeam, and Basswood. Common Buckthorn dominates the shrub layer, with minor representation by Choke Cherry, Tartarian Honeysuckle and Raspberry. The ground cover under dense growth of Buckthorn is sparse and supports mainly seedling Buckthorn. Open canopy areas support a dense growth of Poison Ivy, Virginia Creeper and Dog Strangling Vine. Of note is a small patch of May Apple, a native forest ground cover species.

Wetland Communities

Cattail Mineral Shallow Marsh (MAS2-1)

A narrow band of cattail marsh is associated with the edge of small dug pond located at the eastern limit of the subject lands. Both Broad and Narrow-leaved Cattail occur around the pond. The ground cover of the community supports a number of wetland sedges, and rushes, including; Jointed Rush Canada Rush, Bald Spikerush, Soft Rush, Retrorse Sedge, Porcupine Sedge, and Yellow Sedge.

A small pocket of cattail marsh is associated with a shallow dug pond located in the central portion of the subject lands. This community is primarily a homogenous stand of Cattail. Large Crack Willows along the edges of the community provide significant canopy cover of the Cattail community.

One small pocket of shallow Cattail marsh occurs on the subject lands just north of Steeles Street. This pocket of wetland appears to have recently developed due to alteration of surface water drainage on the lands. The community is dominated by Cattail, but also supports significant stands of Common Reed, Reed Canary Grass, and an abundance of rushes, including Jointed Rush, Duddey's Rush, and Bald Spikerush.

Another Cattail marsh is associated with a stormwater pond located at the corner of Steeles and Jane Street.

Mineral Meadow Marsh Ecosite (MAM2)

A small pocket of meadow marsh is located in the cultural meadow field north of Steeles Street. This community supports standing water in the spring, but is dry by June. The community is dominated by Panicked Aster, with a dense ground cover of Bald Spikerush. Sparse growth of Cattail and Cottongrass Bulrush is also found in the community.

Pondweed Submergent Shallow Aquatic Type (SAS1-1)

This aquatic marsh wetland community has developed in an old deeply dug cow pond (>2m). The pond bottom is covered by chara (a hornwort) and supports a pondweed community dominated by

Flatstem Pondweed. A free floating planting community comprised of Duckweed and Common Water-flaxseed is also present.

Bur Oak Mineral Deciduous Swamp Type (SWD1-2)

A narrow band of treed swamp is located in the north-east corner of the subject lands. The canopy is scattered and open and of mixed species, with Bur Oak representing the primary species. Other tree species include Red Maple and Silver Maple. The understory is represented by young Red Maple and Common Buckthorn. The shrub layer, particularly around the edges of the community is dominated by Red-osier Dogwood. Ground cover is represented by grasses (Fowl Manna-grass and Spreading Bentgrass) and sedges including, Porcupine Sedge, Bladder Sedge, Hop Sedge, and Fringed Sedge.

3.4.1 Flora

An inventory of vascular plants documented 225 species to occur on the subject lands (see Appendix 2 for a complete species list). Of the species recorded, 43 (96) are non-native species primarily represent by field “weeds” and introduced grasses. This high representation of non-native species can be directly attributed to the historic disturbance of the lands and absence of larger areas that support natural vegetation communities. For the plant species recorded, only 22% (50) are represented by trees and shrubs. Many of the tree and shrub species are associated with remnant forest and swamp habitats. The cultural meadow habitat that covers most of the subject lands provides the greatest species diversity, however, a large percentage of the species are non field weed weeds and grasses.

3.4.2 Vascular Plant Rarity

No provincially rare species (S-rank of S1, S2, or S3) where found to occur. In addition, no species that are listed on Schedules 1 through 5 of the Ontario *Endangered Species Act* or the Federal *Species at Risk Act* (COSWIC) were documented for the subject lands. Thirty-three (33) species were recorded that are considered to be locally significant based on criteria for specific geographic/municipal boundaries. **Table 2** presents the locally rare species, their status and general locations on the subject lands. For the species list, it is assumed that for Red Pine, the rarity ranks are for naturally occurring trees. The trees on the subject lands are planted. The vast majority of the locally rare species are wetland species that are located in the wetland areas on the subject lands. Of these the wetland areas the deep dug pond and Bur Oak swamp located in the north-east corner of the subject lands supports greatest number of locally rare plants. The majority of these plants are considered to be rare in the City of Toronto, primarily as a result of historic wetland loss through urbanization. The cultural meadow habitat, that cover over 95% of the subject lands, was found to support only three species of locally rare flora, including, Canada Plum, Field Thistle and Northern Evening-primrose.

Table 2. Locally Rare Species for Subject Lands

Species	GTAA	TRCA	TO/Y	Location on Subject Lands
Red Pine <i>Pinus resinosa</i>	R	L2	R3	A number of planted trees in the corridor
Greenfruit Bur-reed <i>Sparganium emersum</i>	U	L3	R1/	Cattail marsh associated with old dug cow pond

Species	GTAA	TRCA	TO/Y	Location on Subject Lands
Flatstem Pondweed <i>Potamogeton zosteriformis</i>		L2	R2/	Aquatic marsh associated with old dug cow pond
Sago Pondweed <i>Stuckenia pectinata</i>			U/U	Aquatic marsh associated with old dug cow pond
Blue-joint Reedgrass <i>Calamagrostis canadensis</i>			U	Wetland pockets
Poverty Oatgrass <i>Danthonia spicata</i>			U/	Along Railway ROW
Fowl Bluegrass <i>Poa Palustris</i>			U/	Small wetland pocket (MAM2)
Bebb's Sedge <i>Carex bebbii</i>			U/	Wetland pockets
Fringed Sedge <i>Carex Crinita</i> <i>Carex crinita</i>			/U	Treed Swamp (SWD1-2)
Crested Sedge <i>Carex Cristatella</i>		L3		Treed Swamp (SWD1-2)
Yellow Sedge <i>Carex Flava</i>	U	L3	R2/	Wetland pockets
Graceful Sedge <i>Carex gracillima</i>			R3/	Forest stand (FOD9-3)
Porcupine Sedge <i>Carex hystericina</i>			U/	Treed Swamp (SWD1-2)
Bladder Sedge <i>Carex intumescens</i>			R2/	Treed Swamp (SWD1-2)
Wooly Sedge <i>Carex pellita</i>	R		R6/	Forest stand (FOD9-3)
Retorse Sedge <i>Carex retrorsa</i>			R3/	Cattail marsh associated with old dug cow pond Treed Swamp (SWD1-2)
Hop Sedge <i>Carex lupulina</i>		L3	R2/	Treed Swamp (SWD1-2)
Stalk-grain Sedge <i>Carex stipata</i>			U	Wetland pockets
Cottongrass Bulrush <i>Scirpus cyperinus</i>		L3	U/	Wetland pockets
Slender Sedge <i>Carex tenera</i>			U/R3	Forest stand (FOD9-3)
Blunt Broom Sedge <i>Carex tribuloides</i>	R		R3	Forest stand (FOD9-3)
Common Water-flaxseed <i>Spirodela polyrhiza</i>	U	L3	R2	Aquatic marsh associated with old dug cow pond Treed Swamp (SAS1-1)
Joint Rush <i>Juncus articulatus</i>			U/	Wetland pockets
Dudley's Rush <i>Juncus dudleyi</i>			U/	Wetland pockets
Soft Rush <i>Juncus effusus</i>			R6/	Wetland pockets
Autumn Willow <i>Salix serissima</i>	R	L3	/R7	Cattail marsh associated with old dug cow pond

Species	GTAA	TRCA	TO/Y	Location on Subject Lands
Back Walnut <i>Juglans nigra</i>			/R	Forest stand (FOD9-3)
Canada Plum <i>Prunus nigra</i>	U	L3	R6/U	Cultural Thick in central portion of subject lands
Pine Cherry <i>Prunus pensylvanica</i>			U/	Along Railway ROW
Creeping Poison Ivy <i>Rhus radicans (rydbergii)</i>			R5/R6	Forest stand (FOD9-3) Along Railway ROW
Northern Evening-primrose <i>Oenothera parviflora</i>	U			Cultural Meadow through hydro corridor
Common Elderberry <i>Sambucus canadensis</i>			U/	Along Railway ROW
Field Thistle <i>Cirsium discolor</i>	R	L2	R1/R1	Cultural Meadow through hydro corridor
GTAA - Greater Toronto Area TRCA - Lands under the jurisdiction of the Toronto Region Conservation Authority TO – City of Toronto R- Rare U – Uncommon L3 - indicates that for lands within the TRCA jurisdiction, the species are sensitive to habitat disturbance/loss and are of concern regionally.				

3.5 Other Wildlife Attributes

3.5.1 Mammals

The mammals of the settled landscapes of southern Ontario are mostly those species that have benefited from agricultural expansion and other human activities. . Since many of the area sensitive mammal species (i.e., Eastern Wolf, Back Bear), have already been extirpated, the remaining species are generally widespread and common, as were all of the species noted on the subject lands. Mammals species recorded, either visually or through tracks and scat are listed in **Table 3** below.

Table 3. Mammals Species Documented for Study Area and Adjacent Lands

Common Name	Latin Name
Eastern Cottontail	<i>Sylvilagus floridanus</i>
Grey/Black Squirrel	<i>Sciurus carolinensis</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Coyote	<i>Canis latrans</i>
Red Fox	<i>Vulpes vulpes</i>
Raccoon	<i>Procyon lotor</i>
Striped Skunk	<i>Mephitis mephitis</i>
White-tailed Deer	<i>Odocoileus virginianus</i>

3.5.2 Wildlife Habitat

Field habitats generally sustain few snags (standing dead trees), rocks or downed woody debris that would afford cover or nest holes for wildlife. Given the dominance of open grass fields and highly disturbed nature of the hydro corridor, no wildlife habitat that supports concentrations wildlife or local wildlife populations occurs within or adjacent to the subject lands. However, the grass fields west of Keele Street which sustains a heavy cover of dead grasses and forbs does afford good habitat for voles. In addition, the forest and swamp habitats do provide habitat for small numbers local deer, and an active coyote den was found in the Bur Oak forest stand.

3.5.3 Landscape Connectivity

Landscape connectivity, including the concept of wildlife corridors, has become recognized as an important part of natural heritage planning. Although there is not universal agreement on the net benefits of corridors, a wide range of benefits can be attributed to maintaining connectivity within the natural landscape. In the fragmented landscape of southern Ontario, connectivity functions range from low, where major development features (e.g., highways, railways) fragment a pathway, to high, where natural features dominate the landscape and are more or less contiguous.

The subject lands lie within a hydro corridor that runs east-west through a highly developed area, and as such represent a “natural” corridor for the movement of urban adapted mammals such as those that have been identified to occur on the subject lands. Field observations did identify evidence of an established deer trail through the hydro corridor. The hydro corridor does link the Black Creek green space with the West Don River corridor. However, two major roadways cross this corridor, Dufferin Street, and Keele Street, and therefore the corridor function associated with the hydro corridor is significantly impaired. Nevertheless the corridor does support the movement for deer and small mammals such as Raccoon, Striped Skunk, Red Fox and Coyote through the urban environment. Whether this low function corridor that support the movements of urban mammals is a critical wildlife function, or of benefit with respect to maintaining a natural heritage system is in debate.

4. Summary of Key Functions and Attributes

Field investigations of the flora, fauna and wildlife attributes on the subject lands did not identify the occurrence of species designated as Endangered, Threatened or Species at Risk. Review of the NHIC database identified no records of significant species from within one kilometre of the subject lands. In addition no fish habitat is found to occur.

Based on field investigations and analysis, the following attributes have been identified on the subject property:

- Breeding amphibians;
- Wetland marsh habitat and associated flora and fauna;
- Bur Oak swamp wetland and associated flora and fauna
- Bur Oak forest stand associated flora and fauna
- Open field habitat and associated flora and fauna ; and
- Landscape connectivity.

Table 4 provides a summary of the key functions and attributes that have been identified on the subject lands by this study.

Table 4. Summary of Key Functions and Attributes

Key Functions	Attributes	Location
Wetland marsh habitat and associated flora and fauna	<ul style="list-style-type: none"> • Semi natural vegetation community associated with subject lands • Supports populations of locally rare plant species • Supports breeding by locally rare birds 	<ul style="list-style-type: none"> • Five small marsh pockets located in the eastern portion of the subject lands
Bur Oak swamp habitat and associated flora and fauna	<ul style="list-style-type: none"> • Natural vegetation community associated with subject lands • Supports populations of locally rare plant species • Supports breeding by locally rare birds 	<ul style="list-style-type: none"> • North-east corner of subject lands
Bur Oak Forest Stand	<ul style="list-style-type: none"> • Natural vegetation community associated with subject lands • Supports populations of locally rare plant species • Supports breeding by locally rare birds • Supports low function wildlife habitat 	<ul style="list-style-type: none"> • North-east corner of subject lands
Amphibian breeding habitat	<ul style="list-style-type: none"> • Quality breeding habitat for one species of amphibian, the Green Frog 	<ul style="list-style-type: none"> • Aquatic marsh associated with dug pond located in the North-east corner of the subject lands.
Open field habitat and associated flora and fauna	<ul style="list-style-type: none"> • Supports common species of flora • Supports populations of three locally rare plant species • Supports low numbers of birds and mammals 	<ul style="list-style-type: none"> • Throughout subject lands.
Connectivity	<ul style="list-style-type: none"> • Low function wildlife corridor for urban adapted mammal species 	<ul style="list-style-type: none"> • Throughout subject lands

5. Preliminary Design Mitigation and Enhancements

Based on the assessment of existing conditions of the subject lands, no natural heritage features or functions have been identified at a level of significance that would require a re-assessment of the location of the Steeles West Station. In addition, no requirements for significant preliminary design mitigation measures are identified, with the potential exception for the need to maintain a low-level wildlife corridor function. Potential indirect impact of lands adjacent to the station facilities would only

affect low-level natural heritage features or functions that can be mitigated either through enhancement, or compensation measures within the existing hydro corridor.

For the design and construction phases of the project, the following recommendations are made to limit or avoid potential impacts to environmental features.

5.1 Design Mitigation Measures

- Preliminary design to exclude, *if possible*, a project footprint in the location of the north-east corner of the property at the location of Bur Oak forest and swamp and marsh habitat associated with dug cow pond.
 - Should preliminary design maintain the location of the Bur Oak swamp and small marsh wetland, detailed design should ensure that existing surface water flows/volume is maintained to the wetland areas.
 - Should preliminary design result in the loss (in whole or in part) of the wetland habitat or the Bur Oak forest during the detail design phase of the project, enhancement or compensation plans should be developed for TRCA approval and permit.
 - Preliminary design to exclude, *if possible*, a project footprint that completely blocks the urban wildlife movement function through the hydro corridor.

5.2 General Construction Mitigation Measures

- Standard Best Management Practices should be employed during the construction process.
- To help ensure that heavy equipment does not impinge on natural areas and to reduce soil compaction, filter fabric and paige wire fencing should be installed to define the development limit prior to site alteration and it should be maintained during the development process. All silt fencing should be removed when development work is completed and exposed soils stabilized.
- The federal *Migratory Bird Convention Act* protects the nests, eggs and young of most bird species from harm or destruction. As the breeding bird season in southern Ontario is generally from mid-April to mid-July, the clearing of vegetation should be outside of these periods. For any proposed clearing of vegetation within these dates, or where birds may be suspected of nesting outside of typical dates, an ecologist should undertake detailed nest searches immediately prior to site alteration to ensure that no active nests are present. As many woodland species are cavity nesters, this is a particularly difficult task in mature trees.
- Prior to the start of site clearing and grubbing, locally or regionally rare plants that would be impacted should, to the extent possible, be relocated to appropriate habitat within the hydro corridor, or to a location to be determined in consultation with the TRCA.

6. Summary

Beacon Environmental has completed a detailed assessment of the natural heritage features and functions associated with lands where the Steeles West Station of the Toronto-York Spadina Subway Extension is to be located. This assessment was undertaken to identify potential environmental constraints with respect to the development of the design of the station elements.

The study has identified that no significant natural heritage features or functions occur that would represent a high level constraint for the development of the proposed station elements on the subject lands. Based on existing environmental conditions, a number of design mitigation measures were identified for consideration in the finalization of the project design.

Should you have any questions or points for discussion, please do not hesitate to contact the undersigned at (905) 201-7622, ext 224.

Yours truly,

Beacon Environmental



Ron Huizer, B. Sc. (Honours)
Principal

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Appendix 1

Species Status Definitions

Appendix 1

Species Status Definitions

NHIC Provincial S-Rank	
S1	Critically Imperiled —Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.
S2	Imperiled —Imperiled in the nation or province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or province.
S3	Vulnerable —Vulnerable in the nation or province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4	Apparently Secure —Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5	Secure —Common, widespread, and abundant in the nation or province.
SNA	Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities. Often non-native species.

TRCA L-Ranks	
L1	Unable to withstand disturbance; many criteria are very limiting factors; generally occur in high-quality natural areas, in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally
L2	Unable to withstand disturbance; some criteria are very limiting factors; generally occur in high-quality natural areas, in natural matrix; probably rare in the TRCA jurisdiction; of concern regionally
L3	Able to withstand minor disturbance; generally secure in natural matrix; of concern regionally
L4	Able to withstand some disturbance; generally secure in rural matrix; of local concern in urban matrix
L5	Able to withstand high levels of disturbance; generally secure in urban matrix
L+	Introduced

Appendix 2

Plant Species List

Appendix 2

Plant Species List

Scientific Name	English Name	Srank	COSEWIC	COSSARO	York	Toronto	GTA	TRCA
<i>Equisetum arvense</i>	Field Horsetail	S5						L5
<i>Picea glauca</i>	White Spruce	S5						L3
<i>Pinus resinosa</i>	Red Pine	S5			X+	R3	R	L2
<i>Pinus sylvestris</i>	Scotch Pine	SE5						L+
<i>Thuja occidentalis</i>	Eastern White Cedar	S5						L4
<i>Typha angustifolia</i>	Narrow-leaved Cattail	S5						L+
<i>Typha latifolia</i>	Broad-leaf Cattail	S5						L4
<i>Sparganium emersum</i>	Greenfruit Bur-reed	S5				R1	U	L3
<i>Potamogeton zosteriformis</i>	Flatstem Pondweed	S5				R2	R	L2
<i>Stuckenia pectinata</i>	Sago Pondweed	S5			U	U		L4
<i>Alisma tplantago-aquatica</i> (<i>Triviale</i>)	Northern Water-plantain	S5?						L5
<i>Agrostis gigantea</i>	Black Bentgrass	SE5						L+
<i>Agrostis stolonifera</i>	Spreading Bentgrass	S5						L+?
<i>Bromus inermis</i> ssp. <i>inermis</i>	Brome Grass	SE5						L+
<i>Calamagrostis canadensis</i>	Blue-joint Reedgrass	S5				U		L4
<i>Dactylis glomerata</i>	Orchard Grass	SE5						L+
<i>Danthonia spicata</i>	Poverty Oat-grass	S5				U		L4
<i>Elymus repens</i>	Wild-rye	SE5						L+
<i>Festuca rubra</i>	Red Fescue	S5						L+
<i>Glyceria striata</i> var. <i>stricta</i>	Fowl Manna-grass	S4S5						L5
<i>Hordeum jubatum</i> ssp. <i>jubatum</i>	Foxtail Barley	SE5						L+
<i>Panicum capillare</i>	Old Witch Panic-grass	S5						L5
<i>Phalaris arundinacea</i>	Reed Canary Grass	S5						L+?
<i>Phleum pratense</i>	Meadow Timothy	SE5						L+
<i>Phragmites australis</i>	Common Reed	S5						L+?
<i>Poa compressa</i>	Canada Bluegrass	S5						L+
<i>Poa palustris</i>	Fowl Bluegrass	S5				U		L5
<i>Poa pratensis</i> ssp. <i>pratensis</i>	Kentucky Bluegrass	S5						L+
<i>Sporobolus neglectus</i>	Small Dropseed	S4						L+?
<i>Carex bebbii</i>	Bebb's Sedge	S5				U		L5
<i>Carex crinita</i>	Fringed Sedge	S5			U			L5
<i>Carex cristatella</i>	Crested Sedge	S5						L3
<i>Carex flava</i>	Yellow Sedge	S5				R2	U	L3
<i>Carex gracillima</i>	Graceful Sedge	S5				R3		L4
<i>Carex granularis</i>	Meadow Sedge	S5						L5
<i>Carex hystericina</i>	Porcupine Sedge	S5				U		L4
<i>Carex intumescens</i>	Bladder Sedge	S5				R2		L4
<i>Carex lupulina</i>	Hop Sedge	S5				R2		L3
<i>Carex pellita</i>	Woolly Sedge	S5				R6	R	L4
<i>Carex pensylvanica</i>	Pennsylvania Sedge	S5						L4
<i>Carex radiata</i>	Stellate Sedge	S5						L5
<i>Carex retrorsa</i>	Retrorsed Sedge	S5				R3		L4
<i>Carex stipata</i>	Stalk-grain Sedge	S5				U		L5

Scientific Name	English Name	Srank	COSEWIC	COSSARO	York	Toronto	GTA	TRCA
<i>Carex tenera</i>	Slender Sedge	S5			U	R3		L4
<i>Carex tribuloides</i>	Blunt Broom Sedge	S4S5			R3		R	L4
<i>Carex vulpinoidea</i>	Fox Sedge	S5						L5
<i>Eleocharis erythropoda</i>	Bald Spikerush	S5						L5
<i>Schoenoplectus tabernaemontani</i>	Soft-stem Club-rush	S5						L4
<i>Scirpus atrovirens</i>	Dark-green Bulrush	S5						L5
<i>Scirpus cyperinus</i>	Cottongrass Bulrush	S5				U		L3
<i>Lemna minor</i>	Lesser Duckweed	S5						L5
<i>Spirodela polyrhiza</i>	Common Water-flaxseed	S5				R2	U	L3
<i>Juncus articulatus</i>	Jointed Rush	S5				U		L5
<i>Juncus bufonius</i>	Toad Rush	S5						L5
<i>Juncus canadensis</i>	Canada Rush	S5				R1	R	L1
<i>Juncus dudleyi</i>	Dudley's Rush	S5				U		L5
<i>Juncus effusus</i>	Soft Rush	S5				R6		L4
<i>Juncus tenuis</i>	Path Rush	S5						L5
<i>Hemerocallis fulva</i>	Orange Daylily	SE5						L+
<i>Epipactis helleborine</i>	Eastern Helleborine	SE5						L+
<i>Populus deltoides ssp. deltoides</i>	Eastern Cottonwood	SU						L5
<i>Populus tremuloides</i>	Trembling Aspen	S5						L5
<i>Salix eriocephala</i>	Heart-leaved Willow	S5						L5
<i>Salix exigua</i>	Sandbar Willow	S5						L5
<i>Salix fragilis</i>	Crack Willow	SE5						L+
<i>Salix serissima</i>	Autumn Willow	S5			R7	E	R	L3
<i>Salix x rubens</i>	A Willow	SE4						L+
<i>Juglans nigra</i>	Black Walnut	S4			R			L5
<i>Betula papyrifera</i>	Paper Birch	S5						L4
<i>Carpinus caroliniana</i>	American Hornbeam	S5						L4
<i>Quercus macrocarpa</i>	Burr Oak	S5						L4
<i>Quercus rubra</i>	Northern Red Oak	S5						L4
<i>Ulmus americana</i>	American Elm	S5						L5
<i>Polygonum aviculare</i>	Knotweed	SE5						L+
<i>Polygonum convolvulus</i>	Black Bindweed	SE5						L+
<i>Polygonum hydropiper</i>	Marshpepper Smartweed	SE5						L+
<i>Polygonum lapathifolium</i>	Dock-leaf Smartweed	S5						L5
<i>Polygonum persicaria</i>	Lady's Thumb	SE5						L+
<i>Rumex acetosella ssp. acetosella</i>	Sheep Sorrel	SEU						L+
<i>Rumex crispus</i>	Curly Dock	SE5						L+
<i>Chenopodium album var. album</i>	Lamb's-quarters	SE5						L+
<i>Chenopodium glaucum ssp. glaucum</i>	Oak-leaved Goosefoot	SE5						L+
<i>Amaranthus powellii</i>	Green Amaranth	SE5						L+
<i>Portulaca oleracea</i>	Common Purslane	SE5						L+
<i>Arenaria serpyllifolia</i>	Thyme-leaf Sandwort	SE5						L+
<i>Cerastium fontanum</i>	Common Mouse-ear Chickweed	SE5						L+
<i>Dianthus armeria</i>	Deptford-pink	SE5						L+
<i>Saponaria officinalis</i>	Bouncing-bet	SE5						L+
<i>Silene latifolia</i>	Evenig Lychnis	SE5						L+

Scientific Name	English Name	Srank	COSEWIC	COSSARO	York	Toronto	GTA	TRCA
<i>Silene vulgaris</i>	Maiden's Tears	SE5						L+
<i>Stellaria media</i>	Common Starwort	SE5						L+
<i>Actaea rubra</i>	Red Baneberry	S5						L5
<i>Anemone canadensis</i>	Canada Anemone	S5						L5
<i>Anemone virginiana</i>	Thimble Weed	S5						L5
<i>Clematis virginiana</i>	Virginia Virgin-bower	S5						L5
<i>Ranunculus acris</i>	Tall Butter-cup	SE5						L+
<i>Ranunculus sceleratus</i>	Cursed Crowfoot	S5						L5
<i>Thalictrum pubescens</i>	Tall Meadow-rue	S5						L5
<i>Podophyllum peltatum</i>	May Apple	S5						L5
<i>Alliaria petiolata</i>	Garlic Mustard	SE5						L+
<i>Barbarea vulgaris</i>	Yellow Rocket	SE5						L+
<i>Brassica nigra</i>	Black Mustard	SE5						L+
<i>Brassica rapa</i>	Bird's Rape	SE5						L+
<i>Capsella bursa-pastoris</i>	Common Shepherd's Purse	SE5						L+
<i>Hesperis matronalis</i>	Dame's Rocket	SE5						L+
<i>Lepidium campestre</i>	Field Pepper-grass	SE5						L+
<i>Lepidium densiflorum</i>	Dense-flower Pepper-grass	SE5						L+
<i>Thlaspi arvense</i>	Field Penny-cress	SE5						L+
<i>Agrimonia gryposepala</i>	Tall Hairy Groovebur	S5						L5
<i>Crataegus monogyna</i>	English Hawthorn	SE5						L+
<i>Crataegus punctata</i>	Dotted Hawthorn	S5						L5
<i>Crataegus spp</i>	A Hawthorn							
<i>Fragaria virginiana</i>	Virginia Strawberry	S5						L5
<i>Geum aleppicum</i>	Yellow Avens	S5						L5
<i>Malus pumila</i>	Common Apple	SE5						L+
<i>Potentilla norvegica</i>	Norwegian Cinquefoil	S5						L+?
<i>Potentilla recta</i>	Sulphur Cinquefoil	SE5						L+
<i>Prunus nigra</i>	Canada Plum	S4			U	R6	U	L3
<i>Prunus pensylvanica</i>	Pin Cherry	S5				U		L4
<i>Prunus serotina</i>	Wild Black Cherry	S5						L5
<i>Prunus virginiana</i>	Choke Cherry	S5						L5
<i>Pyrus communis</i>	Common Pear	SE4						L+
<i>Rubus allegheniensis</i>	Allegheny Blackberry	S5						L5
<i>Rubus idaeus ssp. melanolasius</i>	Wild Red Raspberry	S5						L5
<i>Rubus occidentalis</i>	Black Raspberry	S5						L5
<i>Sorbus aucuparia</i>	European Mountain-ash	SE4						L+
<i>Spiraea alba</i>	Narrow-leaved Meadow-sweet	S5						L4
<i>Lotus corniculatus</i>	Birds-foot Trefoil	SE5						L+
<i>Medicago lupulina</i>	Black Medic	SE5						L+
<i>Medicago sativa ssp. sativa</i>		SE5						L+
<i>Mellilotus alba</i>	White Sweet Clover	SE5						L+
<i>Mellilotus officinalis</i>	Yellow Sweetclover	SE5						L+
<i>Trifolium campestre</i>	Low Hop Clover	SE5						L+
<i>Trifolium hybridum</i>	Alsike Clover	SE5						L+
<i>Trifolium pratense</i>	Red Clover	SE5						L+
<i>Trifolium repens</i>	White Clover	SE5						L+
<i>Vicia cracca</i>	Tufted Vetch	SE5						L+
<i>Oxalis dillenii</i>	Dillen's Woodsorrel	S5?						L+

Scientific Name	English Name	Srank	COSEWIC	COSSARO	York	Toronto	GTA	TRCA
<i>Geranium robertianum</i>	Herb-robert	SE5						L+
<i>Euphorbia cyparissias</i>	Cypress Spurge	SE5						L+
<i>Rhus radicans ssp. rydbergii</i>	Creeping Poison Ivy	S5			R6	R5		L5
<i>Rhus typhina</i>	Staghorn Sumac	S5						L5
<i>Acer negundo</i>	Box Elder	S5						L+?
<i>Acer rubrum</i>	Red Maple	S5						L4
<i>Acer saccharinum</i>	Silver Maple	S5						L4
<i>Acer saccharum ssp. saccharum</i>	Sugar Maple	S5						L5
<i>Impatiens capensis</i>	Spotted Jewel-weed	S5						L5
<i>Rhamnus cathartica</i>	Common Buckthorn	SE5						L+
<i>Parthenocissus vitacea</i>	Virginia Creeper	S5						L4
<i>Vitis riparia</i>	Riverbank Grape	S5						L5
<i>Tilia americana</i>	American Basswood	S5						L5
<i>Hypericum perforatum</i>	Common St. John's-wort	SE5						L+
<i>Elaeagnus angustifolia</i>	Russian Olive	SE3						L+
<i>Lythrum salicaria</i>	Purple Loosestrife	SE5						L+
<i>Circaea lutetiana</i>	Southern Broadleaf Enchanter's Nightshade	S5						L5
<i>Epilobium hirsutum</i>	Great-hairy Willow-herb	SE5						L+
<i>Epilobium parviflorum</i>	Small-flower Willow-herb	SE4				U		L+
<i>Oenothera parviflora</i>	Northern Evening-primrose	S5?					U	L5
<i>Daucus carota</i>	Wild Carrot	SE5						L+
<i>Pastinaca sativa</i>	Wild Parsnip	SE5						L+
<i>Cornus alternifolia</i>	Alternate-leaf Dogwood	S5						L5
<i>Cornus stolonifera</i>	Red-osier Dogwood	S5						L5
<i>Fraxinus americana</i>	White Ash	S5						L5
<i>Fraxinus pennsylvanica</i>	Green Ash	S5						L5
<i>Syringa vulgaris</i>	Common Lilac	SE5						L+
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	S5						L4
<i>Asclepias syriaca</i>	Kansas Milkweed	S5						L5
<i>Cynanchum rossicum</i>	Dog Strangling Vine	SE5						L+
<i>Convolvulus arvensis</i>	Field Bindweed	SE5						L+
<i>Echium vulgare</i>	Common Viper's-bugloss	SE5						L+
<i>Verbena hastata</i>	Blue Vervain	S5						L5
<i>Verbena urticifolia</i>	White Vervain	S5						L5
<i>Clinopodium vulgare</i>	Field Basil	S5						L5
<i>Leonurus cardiaca</i>	Common Mother-wort	SE5						L+
<i>Mentha arvensis</i>	Corn Mint	S5						L5
<i>Nepeta cataria</i>	Catnip	SE5						L+
<i>Prunella vulgaris ssp. lanceolata</i>	Self-heal	S5						L4
<i>Solanum dulcamara</i>	Climbing Nightshade	SE5						L+
<i>Linaria vulgaris</i>	Butter-and-eggs	SE5						L+
<i>Verbascum thapsus</i>	Great Mullein	SE5						L+
<i>Veronica officinalis</i>	Common Speedwell	SE5						L+
<i>Plantago lanceolata</i>	English Plantain	SE5						L+
<i>Plantago major</i>	Nipple-seed Plantain	SE5						L+
<i>Plantago rugelii</i>	Black-seed Plantain	S5						L5
<i>Galium triflorum</i>	Sweet-scent Bedstraw	S5						L5

Scientific Name	English Name	Srank	COSEWIC	COSSARO	York	Toronto	GTA	TRCA
<i>Galium verum</i>	Yellow Spring Bedstraw	S4S5						L+
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	SE5						L+
<i>Sambucus canadensis</i>	Common Elderberry	S5				U		L5
<i>Viburnum opulus</i>	Guelder-rose Viburnum	SE4						L+
<i>Dipsacus fullonum</i>	Fuller's Teasel	SE5						L+
<i>Achillea millefolium ssp. lanulosa</i>	Seaside Yarrow	S5						L5
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	S5						L5
<i>Anthemis arvensis</i>	Corn Camomile	SE5						L+
<i>Anthemis cotula</i>	Mayweed	SE5						L+
<i>Arctium lappa</i>	Greater Burdock	SE5						L+
<i>Arctium minus ssp. minus</i>	Common Burdock	SE5						L+
<i>Artemisia biennis</i>	Biennial Wormwood	SE5						L+
<i>Carduus crispus</i>	Wetted Thistle	SE						L+
<i>Carduus nutans ssp. nutans</i>	Nodding Thistle	SE5						L+
<i>Chrysanthemum leucanthemum</i>	Oxeye Daisy	SE5						L+
<i>Cichorium intybus</i>	Chicory	SE5						L+
<i>Cirsium arvense</i>	Creeping Thistle	SE5						L+
<i>Cirsium discolor</i>	Field Thistle	S4			R1	R1	R	L2
<i>Cirsium vulgare</i>	Bull Thistle	SE5						L+
<i>Erigeron annuus</i>	White-top Fleabane	S5						L5
<i>Erigeron philadelphicus ssp. philadelphicus</i>	Philadelphia Fleabane	S5						L5
<i>Euthamia graminifolia</i>	Flat-top Fragrant-golden-rod	S5						L5
<i>Hieracium aurantiacum</i>	Orange Hawkweed	SE5						L+
<i>Inula helenium</i>	Elecampane Flower	SE5						L+
<i>Matricaria matricarioides</i>	Pineapple-weed Chamomile	SE5						L+
<i>Rudbeckia hirta</i>	Black-eyed Susan	S5						L4
<i>Solidago altissima</i>	Tall Goldenrod	S5						L5
<i>Solidago canadensis var. canadensis</i>	Canada Goldenrod	S5						L5
<i>Solidago nemoralis ssp. nemoralis</i>	Gray Goldenrod	S5						L5
<i>Solidago rugosa</i>	Rough-leaf Goldenrod	S5						L4
<i>Sonchus oleraceus</i>	Common Sowthistle	SE5						L+
<i>Symphotrichum ericoides var. ericoides</i>	White Heath Aster	S5						
<i>Symphotrichum lanceolatum ssp. lanceolatum</i>	Panicled Aster	S5						L5
<i>Symphotrichum novae-angliae</i>	New England Aster	S5						L5
<i>Taraxacum officinale</i>	Brown-seed Dandelion	SE5						L+
<i>Tragopogon dubius</i>	Meadow Goat's-beard	SE5						L+
<i>Tragopogon pratensis</i>	Meadow Goat's-beard	SE5						L+
<i>Tussilago farfara</i>	Colt's Foot	SE5						L+