

# DIXIE - STEELES

<b>Region of Peel</b>	<b>NAI Area # 1336, 2455</b>	<b>Toronto and Region Conservation Authority</b>
<b>City of Brampton</b>	<b>Size: 5 hectares</b>	<b>Watershed: Etobicoke Creek</b>
<b>Con 4 E, Lot 15</b>	<b>Ownership: 100% public (City of Brampton)</b>	<b>Subwatershed: Spring Etobicoke Creek</b>

## General Summary

This small, linear, urban natural area is along Spring Creek and consists predominantly of cultural meadow with cultural savannah, cultural thicket, meadow marsh and shallow marsh.

This natural area has been highly impacted by the urban surroundings. All terrestrial communities have been affected by past human activities, and the wetlands have been impacted by channelizing and by engineering of the stream. All of the communities are open, lacking trees and/or tall shrub elements. Current ongoing disturbance appears to be somewhat less than at nearby natural areas. This area does present good opportunities for restoration efforts though, as it is all publicly owned.

TRCA ELC surveyors, botanists and ornithologists have provided complete data coverage for the core NAI inventories (vegetation communities, plant species, breeding birds) plus incidental observations of other fauna over the delineated area (Table 1). Full species lists are not currently available, however TRCA-tracked species and plant species that dominate vegetation communities are reported on here.

**Table 1: TRCA Field Visits**

<b>Visit Date</b>	<b>Inventory Type</b>
29 Aug. 2001	ELC
30 Aug. 2001	ELC, Flora

## Physical Features

This area is in the Peel Plain physiographic region; characterized by flat to undulating topography. Soils of this region tend to be low- permeability clays, deposited when glacial meltwater ponded up over a layer of low permeability deposits.

Spring Creek, a tributary of Etobicoke Creek, passes through this natural area and is the key hydrological feature of this site. Spring was formerly referred to as East Branch Etobicoke Creek. Here, the Spring Creek watercourse does not take a natural shape. This reach of Spring Creek has been straightened (channelized) and engineered (the creek-bed has been encased in concrete). The practice of channelizing creeks stems is a result of past flood management thinking, when the goal was to drain water off the land as quickly as possible, diverting it (downstream) to prevent flooding. Current water management goals include using the land to detain, absorb, and gradually release water similar to the natural functions of wetlands and ponds. As well, maintaining natural, meandering, well-vegetated watercourses will slow water flows and reduce channel scouring and erosion. Remediation of the creek channel would be appropriate to mitigate past flood control practices that have altered the stream bed, banks and riparian zone.

Spring Creek flows under Steeles Ave. via a culvert at the upstream end of this site. A small drainage ditch joins the creek here and a second ditch drains into the creek from a parking lot, at the downstream end of the site. At the downstream end, Spring Creek is bridged by Alfred Kuehne Blvd., a dead-end road serving the industrial neighbourhood. While the creek channel widens as it passes under Alfred Kuehne Blvd. it appears that there is a small overbank area that would allow for safe

passage of wildlife under the bridge. As well, the road at this end of the site would not be considered to be a barrier to wildlife movement as it is not busy.

## Human History

The former community of Fraser's Corners was located nearby at the crossroads of Dixie Road and Steeles Ave. It was named after the first settler Robert Fraser and had a church built in 1854 (Hicks, 2006). In the early years, this area was in agricultural use.

Since the field work was done in 2001, a cultural meadow community at the northeast corner of the site has been converted to parking lot. (This former community has been excluded from this delineation of the area.)

As a city valleyland, this site is under public ownership and management.

Restoration plantings appear to have been carried out at this site, evidenced by the straight rows of small trees/shrubs in parts of the northwest section of the site.

The site is bordered on the north by Steeles Ave., a busy road serving industrial and commuter traffic and on the south by Alfred Kuehne Blvd., a quiet industrial street. Surrounding land use is industrial, affording no vegetated areas that could support wildlife (as compared to residential lands that often provide shelter and food sources for wildlife in gardens and landscaped yards).

## Vegetation Communities

The general community types present here are meadow marsh (5%), shallow marsh (6%), cultural meadow (80%), cultural thicket (2%) and cultural savannah (7%).

Twelve plant communities were mapped for this area, comprising seven different vegetation types, none of which are provincially rare (Table 2). One community, the Bulrush Mineral Shallow Marsh (MAS2-2), is considered to be a TRCA regional Community of Urban Conservation Concern.

**Table 2: ELC Vegetation Communities**

Map reference *	Vegetation type	Size in hectares	% of natural area
MAM2-2	Reed Canary Grass Mineral Meadow Marsh	0.24	4.87
MAS2-2	Bulrush Mineral Shallow Marsh	0.29	5.88
CUM1-1	Dry-Moist Old Field Meadow (5 communities)	3.05	61.87
CUM1-b	Exotic Cool-season Grass Old Field Meadow	0.89	18.05
CUT1-A	Native Sapling Cultural Thicket (2 communities)	0.11	2.23
CUS1-A1	Native Deciduous Cultural Savannah	0.20	4.06
CUS1-b	Exotic Cultural Savannah	0.15	3.04
	<b>TOTAL AREA INVENTORIED</b>	<b>4.93</b>	

\* Note: The map reference code refers to the vegetation type shown on mapping for this area and also to the Appendix list of species typically encountered in this vegetation type.

## Species Presence

### Vascular Plants

At least 17 species of vascular plants have been observed at this natural area. One species is regionally rare (Table 3). One of the vascular plant species present here is considered to be a TRCA regional Species of Conservation Concern and an additional three species are TRCA regional Species of Urban Conservation Concern (Table 3).

**Table 3: Regionally Rare Species (shown in bold), TRCA Regional Species of Conservation Concern (L1-L3), and TRCA Regional Species of Urban Conservation Concern (L4) (Kaiser, 2001; Toronto and Region Conservation Authority, 2007)**

Scientific name	Common name	S rank	G rank	L-rank
<b>VASCULAR PLANTS</b>				
<b><i>Cinna arundinacea</i></b>	<b>Stout Wood Reedgrass</b>	<b>S4</b>	<b>G5</b>	<b>L3</b>
<i>Salix discolor</i>	Pussy Willow	S5	G5	L4
<i>Schoenoplectus tabernaemontani</i>	Soft-stem Bulrush	S5	G5	L4
<i>Scirpus microcarpus</i>	Red-tinge Bulrush	S5	G5	L4

**Site Condition and Disturbances**

This small natural area has been highly altered by past disturbances including agricultural uses from the mid-late 1800's into the 1900's, both croplands and grazing, and more recent channelization and engineering of the stream and valley post-Hurricane Hazel (post 1954). These urban disturbances have had the most dramatic effect on the ecology of this site, including the removal of floodplain lands (which have been maintained in downstream reaches, so presumably historically present at this site as well) and natural channel meanders, and hardening the creek-bed with concrete to function as a stormwater management drain. Straightening of the stream and grading of the valley sides would have removed all of the original riparian and floodplain vegetation.

To the area's benefit, this site is located in an industrial neighbourhood and is not affected by recreational use and therefore is spared associated disturbances related to trails and trampling.

Localized trash associated with proximity to Steeles Ave. occurs in one community.

Disturbance from earth movement (fill) is relatively widespread, partly historical, and in part more recent. Fill disturbance is associated with the valley margins, likely resulting from activities and building on the adjacent industrial properties.

Exotic and invasive species are found throughout this area. Most of the disturbance is generally light to moderate, unlike the more severe disturbance from invasive species that is evident in other nearby urban natural areas. With well-established open-country plant species in the existing communities, this may limit colonization by many exotic but not necessarily invasive, species. Two of the communities exhibit severe disturbance as invasive species are community dominants.

**Ecological Features and Functions**

By containing a relatively wide variety of habitat types, this natural area supports biodiversity, particularly for species that require more than one habitat type for their life needs.

The wildlife connection under Alfred Kuehne Blvd. provides an important function at this site, supporting linkages to larger natural areas downstream within the valleyland and natural reaches of Spring Creek. Upstream of this natural area, Spring Creek continues for kilometres as a channelized and engineered watercourse within a very narrow corridor between industrial lands and eventually into residential neighbourhoods and manicured parkland. The relatively close proximity of other areas of natural habitat creates above-average potential for wildlife movement between natural areas, species dispersal and recovery from disturbance, creating additional resilience for the ecosystem.

Spring Creek, a tributary of Etobicoke Creek, runs through this site and thus supports the connectivity function of Etobicoke Creek and its tributaries which provide a natural habitat corridor that facilitates the cross-regional movement of wildlife between major provincial corridors.

This area supports one regionally rare plant species.

Based on the above feature, this area should be evaluated to determine if significant wildlife habitat is present in accordance with the Provincial Policy Statement, Region of Peel Official Plan, and Brampton Official Plan.

## **Opportunities**

As this area is a City of Brampton property, there are good opportunities for restoration and enrichment of the quality of the site within current City and/or TRCA programs of ecological restoration and enhancement.

Loss of further habitat should be discouraged, such as manicuring vegetation communities, channel works, etc. as this area is small, and every part is important in contributing to overall ecological function. Manicuring of this area should also be avoided.

It is important to maintain the existing linkage to the natural creek and valleylands downstream of Alfred Kuehne Blvd. to prevent isolation of this area. Where possible the linkage should be enhanced with additional plantings to provide shelter to facilitate wildlife movement and potential genetic exchange with other natural areas. While upstream of this site the creek corridor is highly altered, maintenance of connectivity is also important as there is little other habitat available among the surrounding industrial lands. Migrating birds use creek corridors, so maintaining and enhancing vegetation along the corridors facilitates migration movements. Also, this site would be integral to achieving a large-scale restoration and enhancement of the upper reaches of Spring Creek.

This area consists primarily of open habitat with little height variation in the vegetation communities. Restoration plantings including trees and tall shrubs, which add vegetation structure and complexity would provide more habitat opportunities for wildlife.

Currently, the channelized creek enables the site to drain well, making development of wetland areas challenging. Creation of wetland areas should be explored as this would increase biodiversity and enhance the functioning of this natural area. Opportunities to create wetland areas might be accomplished by creating small barriers to flow in the channel, allowing some water to pond, and doing restoration plantings of wetland species. Outflows of ponded areas could be staggered within the floodplain, not all following the middle of the engineered channel thus restoring a more natural, meandering shape to the watercourse, even if only on a small scale.

Invasive species should be mapped, monitored and controls could be considered.

Additional inventories of mammals, herpetofauna, dragonflies/damselflies and butterflies may be helpful in guiding restoration efforts.

## **Literature Cited**

Hicks, K. A. 2006. **Malton: Farms to Flying**. Friends of the Mississauga Library System, Mississauga, Ontario. Available at <http://www.mississauga.ca/> Last Accessed 23 November 2010.

Kaiser, Jeff. 2001. **The Vascular Plant Flora of the Region of Peel and the Credit River Watershed**. Prepared for: Credit Valley Conservation, the Regional Municipality of Peel, Toronto and Region Conservation Authority.

Toronto and Region Conservation Authority. 2007. **Terrestrial Natural Heritage Program Data Collection Methodology**.

Dixie - Steeles Context Map (NAI Area #1336, 2455)



Dixie - Steeles Vegetation Communities Map (NAI Area # 1336, 2455)

