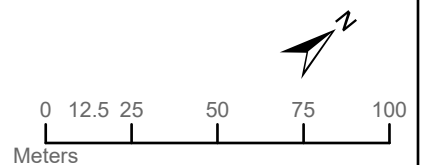


2024 NATURAL AREAS UPDATE

SITE EC13

- █ NATURAL AREAS
- █ VEGETATION COMMUNITIES
- █ SPECIAL MANAGEMENT AREAS
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EC13

CLASSIFICATION Significant Natural Area	Park Name Creditview Wetland	PLANNING DISTRICT East Credit	AREA (Ha) 5.40
CONSERVATION AUTHORITY Credit Valley Conservation	SUBWATERSHED Carolyn Creek	OWNERSHIP Public	SURROUNDING LAND USE Residential- Parkland

GENERAL SUMMARY

EC13 is at the northeast corner of Creditview Road and Eglinton Avenue West. South of Willowvale Gardens and adjacent to Willowvale Fields. The natural area CRR5 (Credit River) is located approximately 500 m to the west; however, there is no linkage to EC13. The entire natural area is fenced.

EC13 is one parcel comprised of a wetland surrounded by cultural communities. Adjacent areas are residential, schools and public recreational parks. EC13 supports wetland species, habitat-generalist wildlife and provides a connection to other natural areas.

PHYSICAL DESCRIPTION

EC13 is a small-sized natural area for the City. This site occurs in a surface depression that contains a perched body of water held above the regional water table. This waterbody is primarily sustained by surface water runoff from the surrounding land catchment area with minor seasonal groundwater contribution. The water is permanent, but seasonal fluctuations do occur. The perched body of water supports a wetland that is underlain by organic soils. The water drained southeastwardly to an intermittent stream in 1996. In 1998 the water was channelled into an east-west facing ditch that drains into a storm sewer in the west. An additional ditch has been installed in the north, directing runoff from the development into the east side of the wetland.

Bedrock geology consists of the grey shales of the Georgian Bay Formation. These are overlain by up to 7.5 m of soils and glacial deposits consisting primarily of imperfectly drained Chinguacousy clay loam formed in Halton till deposits. Along the northern portion of the site, Oneida clay loams

with good drainage are present, and Jeddo clay loams with poor drainage are present in the northeast portion of the site. Soil moisture is wet-mesic to very wet. The northern half of this site is located in the Carolyn Creek subwatershed and the southern half is located in the Wolfedale Creek subwatershed.

There are no known Earth Science features within this area. Hydrological Features within this area include a wetland.

CONDITION

This site is currently in fair condition. Disturbances at this site are minimized as the entire site has been fenced off, and the wetland is not easy to walk through when inundated with water. The primary disturbance is invasive species, which are abundant in the wetland and cultural communities. Additional disturbances include few old unplanned trails, some garbage and dumping along the edges, presence of an old wire fence, historical fire evidence (blackened snags) and natural succession. In previous drought years, numerous walking and biking trails were observed in the natural area. During fieldwork conducted in late 2019 and 2023, standing water (greater than 50 cm deep) was present in the central portion of the wetland. This is a good indication that the hydrological/hydrogeological attributes of the site continue to function properly.

Highly invasive plant species (as regarded by Ontario Invasive Plant Council) include European Reed (*Phragmites australis* ssp. *australis*), Garlic Mustard (*Alliaria petiolata*), Tartarian Honeysuckle (*Lonicera tatarica*), Purple Loosestrife (*Lythrum salicaria*), and European Buckthorn (*Rhamnus cathartica*). Purple Loosestrife is abundant in the wetland, and

European Buckthorn is abundant on the edges of the wetland and in the cultural communities.

ECOLOGICAL LAND CLASSIFICATION

Number of Plant Communities

There are six plant communities within EC13, including Thicket Swamp (SWT3-2), Floating-leaved Shallow Aquatic (SAF1-3), Shallow Marsh (MAS3-7), Cultural Thicket (CUT1), Cultural Savannah (CUS1-1) and Cultural Meadow (CUM1-1). Open space areas of public parks with manicured lawn occur adjacent to some sections of EC13, and some native plantings have occurred in these areas. Community descriptions are appended.

Significant Plant Communities

There is one provincially Significant Plant Communities in EC13, a Willow-Buttonbush Organic Thicket Swamp Type (SWT3-2/ SWT3-4).

The Thicket Swamp (SWT3-2), Floating-leaved Shallow Aquatic (SAF1-3), Shallow Marsh (MAS3-7) are uncommon vegetation communities within the City.

SPECIES RICHNESS

Flora

260 species have been recorded from the site, a high diversity for the City. The native FQI is 57.53 and the native mean coefficient is 4.17, both of which are high values. The native FQI has increased, and the native mean coefficient has decreased from previous values of 57.32 and 4.24, respectively. In total, 70 introduced plant species are present (representing 26.90% of the total number of species present).

One flora species considered at risk within the province and/or nationally has been recorded at this site.

54 locally significant flora species have been noted at this site.

94 Credit Valley Conservation flora species of Conservation Concern (Tier 1-3) have been noted at this site.

Fauna

There are a total of 115 faunal species documented for this site: 95 bird, 8 mammal, 11 amphibian and/or reptile, and 1 insect species.

16 fauna species considered provincially significant or at risk within the province and/or nationally have been noted at this site.

79 Credit Valley Conservation fauna species of Conservation Concern (Tier 1-3) were noted at this site.

MANAGEMENT RECOMMENDATIONS

1. Invasive species, such as Common Reed European Buckthorn and Purple Loosestrife, should be controlled now, as it will become harder as they become more established.
2. Due to the significance of plant communities in EC13 and the potential for invasive species to disturb these communities, invasive species management and restoration is highly recommended at this site. Management of non-native willows may become necessary to maintain the Buttonbush community composition.
3. Consideration should be given to naturalization or restoration of vegetation within the cultural and manicured areas, in order to increase the quality of natural buffer and increase the size of natural area.

REFERENCES

- City of Mississauga (1978)
- Dougan & Associates (2004)
- Ecoplans Limited (1994, 1988)
- Gore & Storrie Limited and R.E. Winter & Associates Limited (1994)
- Kusler and Smardon (1990)
- South Peel Naturalist's Club (1988)

ECOLOGICAL LAND CLASSIFICATION

Cultural Woodland (CUW1)

The Cultural Woodland is located on the higher ground surrounding the wetland and is a remnant of agricultural hedgerows. This community is successional and recently transitioned from classification as a Cultural Thicket (CUT1)/ Cultural Savannah (CUS1) to a Cultural Woodland (CUW1). Some areas still have lower canopy cover. This community is dominated by dense European Buckthorn and Hawthorns (*Crataegus* sp.) as well as the occasional Manitoba Maple (*Acer negundo*), Norway Maple (*A. platanoides*), Basswood (*Tilia americana*), American Elm (*Ulmus americana*), White Oak (*Quercus alba*), and Bur Oak (*Quercus macrocarpa*). The canopy covers 25-60% of the community and is 5-10 m in height. The sub-canopy is more densely vegetated than the canopy (greater than 60% cover and 2-5 m in height) with Hawthorn, European Buckthorn (*Rhamnus cathartica*) and Green Ash (*Fraxinus pennsylvanica*). The understory (1-2 m) is densely vegetated (greater than 60% cover) with Grey Dogwood (*Cornus racemosa*), Red-osier Dogwood (*Cornus sericea*), Choke Cherry (*Prunus virginiana*), and European Buckthorn. The ground layer consists primarily of Enchanter's Nightshade (*Circaea canadensis*), Inserted Virginia Creeper (*Parthenocissus inserta*) and European Buckthorn seedlings. This layer is 0.2-0.5 m in height and cover 25-60% of the community.

Bur-reed Organic Shallow Marsh Type (MAS3-7)

The Bur-reed (*Sparganium eurycarpium*) marsh forms a fringe along the outside edge of the wetland. This marsh is dominated by Broad-leaved Cattail (*Typha latifolia*) and Narrow-leaved Cattail (*Typha angustifolia*) in the canopy (1-2 m, covers > 60%). The understory is entirely dominated by Bur-reed (0.2-0.5 m, covers > 60%) while the ground layer contains Duckweed (*Lemna minor*) (< 0.2 m, covers > 60%). European Reed (*Phragmites australis* ssp. *australis*) is starting to invade this community and is becoming abundant in the north-western patch.

Willow-Buttonbush Organic Thicket Swamp Type (SWT3-2/ SWT3-4)

The Willow- Buttonbush thicket swamp is found in the centre of the wetland and from the open water edge extending to the deepest portion of the wetland where it transitions to a Floating-leaved Shallow Aquatic community. The Willow-buttonbush Thicket Swamp is dominated by Slender Willow (*Salix petiolaris*) with Crack Willow (*Salix fragilis*) in the canopy. The canopy is 10-20 m in height and covers 25-60% of the community. The sub-canopy is densely vegetated (2-10 m, covers > 60%) with Slender Willow. The understory (1-2 m) is dominated by a dense layer of Buttonbush (*Cephalanthus occidentalis*) as well as the occasional Red-osier Dogwood (*Cornus sericea*), Purple Loosestrife (*Lythrum salicaria*), Chokeberry (*Aronia melanocarpa*), and Meadowsweet (*Spiraea alba*). Willows are becoming increasingly abundant than Buttonbush. The ground layer (0.2-0.5 m, covers > 60%) is dominated by Sensitive Fern (*Onoclea sensibilis*), Virginia Chain Fern (*Woodwardia virginica*), and a few sedges (*Carex pseudocyperus*, *C. diandra*, *C. brunnescens* ssp. *brunnescens*). Scattered Red Maple (*Acer rubrum*) and Tamarack (*Larix laricina*) occur in the central section of the larger island. The islands are not continuous but are an aggregation of hummocks separated by channels of water 20-40 cm wide and 30-50 cm deep. These hummocks are composed of organic material densely packed around the woody roots of the Willow and Buttonbush. This organic material is acidic peat; however, the wetland is maintained primarily by surface water, which is not acidic (Ecoplans 1988). This water flushes through the acidic peats and modifies their reaction. Thus, the peat substrates are neither strongly acidic nor strongly alkaline, and as a result, no strong acidophilous typical of acid bogs are present in the wetland (South Peel Field Naturalists 1988).

Duckweed Floating-leaved Shallow Aquatic Type (SAF1-3)

The open water marsh surrounds the island of

thicket swamp. This open water marsh is a dense, continuous mat of floating plants dominated by Duckweeds. Other species present are Watermeal (*Wolffia* spp.) and Pondweeds (*Potamogeton* spp.) (<0.2 m, greater than 60% cover).

Cultural Thicket (CUT1)

The canopy of this community is sparsely vegetated (10-25% cover) with shrubs and saplings (1-2 m in height), including: Black Locust (*Robinia pseudoacacia*), Grey Dogwood, Staghorn Sumac (*Rhus typhina*), and Bur Oak. This community is recently transitioned from a Cultural Meadow (CUM1-1) into a Cultural Thicket (CUT1). The understory is 0.5-1 m in height and covers greater than 60% of the community. There are several old field species present in the understory and ground layer of this community including Canada Goldenrod (*Solidago canadensis*), Bittersweet Nightshade (*Solanum dulcamara*), Smooth Brome (*Bromus inermis*), and Wild Carrot (*Daucus carota*), as well as several species that require wetter conditions including Reed Canary Grass (*Phalaris arundinacea*) and Purple Loosestrife.

Cultural Savannah (CUS1)

This portion was added to the natural area in 2019 after native tree plantings had been established and the understory naturalized. A sparse canopy (approximately 30%) of American Sycamore (*Platanus occidentalis*) and Sugar Maple (*Acer saccharum*) occurs above a Cultural Meadow community. This community may require additional management to prevent the establishment of invasive species.