

### 38. HIGH PARK ESA

**Size and Location:** 107.7 ha at 1873 Bloor Street West; stretches south from Bloor Street West, west on Parkside Drive and east of Ellis Park Road and Grenadier Pond. The park is separated from Lake Ontario by Lake Shore Boulevard West, the Gardiner Expressway, a CN railway line, and the Queensway. The west side consists of urban residential housing and Grenadier Pond, a large man-modified lake at the southwest corner of the park. The park is bounded to the north by a major arterial road (Bloor Street) and urban development. The park is also bounded to the east by a major arterial road.

**Valley System:** none (Lake Ontario Waterfront)

**Previous Designations:** Designated as an ESA in City of Toronto Official Plan; designated as an ESA by the former City of Toronto; identified as MTRCA ESA 114 (MTRCA 1982); MNR Provincial Life Science ANSI (MNR 1989, 2008)

#### Description

**Landform:** Landform in High Park is significant in that it provides largely intact remnants of the interim period between the recession of Lake Iroquois and the modern lake processes that formed the Toronto Islands. During the height of Lake Iroquois, High Park was under sixty metres of water. During this period, large deposits of sand and other fine material were laid down under water over the present shoreline in the area of High Park. Soil analysis has shown that the soils are sandy loams with a low organic and nutrient content (Eyles 2008, Freeman 2008).

When the glacial outlet opened along the St. Lawrence Valley, Lake Iroquois quickly drained and the resulting new lake shoreline was about 8 kilometres south of High Park at a level much lower than the present Lake Ontario. Rivers and streams that drained into Lake Iroquois then continued southward to the new lower lake level thus eroding deep into the soft sandy sediments that were formerly lake bottom. Water flowing through Spring Creek and Wendigo Creek cut deep steep sided ravines in the Park. A number of smaller ravines fed into these. These ravines and streams accounted for 50% of the Park area. They contained forest vegetation at that time. The land left between the ravines, termed tablelands, was sandy and relatively warm (Eyles 2008, Freeman 2008): hence the subsequent establishment of savannah vegetation that is dependent on nutrient-poor, warmer-than-normal sites.

#### Site Statistics

- 23 vegetation communities; predominantly tallgrass savannah, deciduous forest, cultural woodland and open water, with small areas of mixed forest, swamp and marsh
- 136 L1 to L4 flora species
- 41 L1 to L4 fauna species
- 260 species of flora (incomplete list)
- 80 species of fauna (not including migrants); 67 species of bird (64 with breeding evidence), 4 turtles, 2 snakes, 1 amphibian, and 6 mammals

When the lake outlet rose, due to isostatic rebound, the water level rose to its current location. When this happened, the creek valleys were flooded. The wave action of the present day beaches and resulting sediment movement created a baymouth bar and eventually blocked the mouth of the creeks, trapping ponds behind them. This is the origin of Grenadier Pond on Wendigo Creek and the marshy area at the lower part of Spring Creek. (Eyles 2008, Freeman 2008).

Grenadier Pond provides a significant record of the changes in ponds before and after the baymouth bar, and by extension, the changes in levels of Lake Ontario over the past few thousand years. There were three short intervals of accelerated water level rise in Grenadier Pond, around 4200, 3000 and 2000 years B.P., when water levels rose up to 2 m instantaneously. Sedimentological and paleobotanical data suggest that Grenadier Pond was an open embayment of Lake Ontario between 1970 and 1850 years B.P., when it was isolated by the bar, and therefore sediments deposited prior to this time reflect water levels in Lake Ontario (McCarthy and McAndrews 1988).

Vegetation Communities and Flora: This ESA is part of a mosaic of natural areas east of the Humber River near the Lake Ontario waterfront. Much of the central part of the park is manicured, and is not contained within the ESA. High Park is the last sizeable remaining natural area on the Iroquois Sand Plain. The terrain consists of rolling sandy uplands with steeply incised stream channels (with some modified into man-made ponds) running to Lake Ontario. The park contains a sizeable remnant of black oak savannah, a globally and provincially rare plant community. Savannah and prairie have been maintained and expanded in the upland areas of the park, particularly in the western and central portions, as a result of restoration and management efforts over the past 25 years, including burning and planting. The savannah supports 40 prairie and savannah indicator species, including many that are provincially and regionally rare. The eastern part of the ESA incorporates the Spring Creek Ravine. This ravine supports plant communities typical of cooler, moister forests and bottomlands including many regionally rare species. The slopes are dominated by fresh-moist deciduous forests including red oak, black cherry, red maple and eastern hemlock, with an understory of tall shrubs and spring-flowering herbs. Wetlands along the creek include marsh dominated by Canada bluejoint and thicket swamps dominated by red-osier dogwood and speckled alder. Two man-made ponds at the south end of the ravine, the Upper and Lower Duck Ponds, were not included in the ESA in 1992 because they were manicured ponds where visitors fed ducks, and had very little natural function. However, a wetland has recently been constructed at the inlet to the Lower Duck Pond to assist in treating water quality in Spring Creek (Pries Pers. Comm. 2007). Planted species included soft rush, hard-stem bulrush, common cattail and spike rush. Grazing by Canada Geese has been an ongoing problem for establishing the planted vegetation.

The southwestern part of the ESA consists of Grenadier Pond, an open lake with a fringe of marsh vegetation. It was originally separated from Lake Ontario by a natural barrier, a narrow sandbar, but is now separated by major roads. The flora includes many regionally rare species, and there have been restoration efforts in this pond. The north end of the pond supports shallow submerged and floating-leaved aquatic marsh dominated by pondweeds, emergent marsh dominated by sweet flag and cattail, as well as large areas of unvegetated open water.

Fauna: This site is large and diverse, though with a high edge-to-interior ratio because the centre of the park is manicured and there are many gaps because of roads and other amenities. The diversity of breeding birds is extraordinarily high for a natural area surrounded by an urban landscape. Birds include a wide diversity of adaptable species that can nest in a variety of large and small habitats, such as American robin, black-capped chickadee, northern cardinal and Baltimore oriole. However, there is as great an abundance of species with requirements for specific types of habitat, because of the large extent of many of the habitats in the park in comparison to the small patches in most urban natural areas. Many species of open woodlands breed in the ESA, including warbling vireo, blue-gray gnatcatcher and orchard oriole, the latter two of which have a distribution restricted to the southern part of the province. Thicket-nesting species include house wren, gray catbird, northern mockingbird and eastern kingbird. Wetland species include swamp sparrow and common yellowthroat. Forest-nesting species include wood thrush, red-eyed vireo, yellow-throated vireo and eastern screech-owl. Also possibly nesting are two aerial foraging species, common nighthawk and chimney swift, that are now considered Species at Risk: they nest in older neighbourhoods with suitable habitat (flat roofs and chimneys, respectively), but have become increasingly scarce in urban landscapes. Thirteen cavity-nesting species breed within this ESA, one of which, red-headed woodpecker, is considered Threatened in Canada and Ontario.

Grenadier Pond and the Lower Duck Pond support breeding habitat for American toad. Grenadier Pond provides habitat for four turtle species: snapping turtle, midland painted turtle, Blanding's turtle and pond slider, a non-native species likely released by pet owners. Snake species include eastern garter snake and Dekay's brownsnake. Mammals noted in the ESA include a wide variety of urban fauna including

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abundant grey squirrels and eastern chipmunks, Virginia opossum and raccoon, but also some species with specific requirements for wetlands (muskrat).

### Official Plan ESA Criteria Fulfilled

**Criterion A.** *Habitats for vulnerable, rare or threatened plant and/or animal species and communities that are vulnerable, rare, threatened or endangered within the Province, the City or the Greater Toronto Area: fulfilled.*

- 103 significant flora species
- 6 significant vegetation communities
- 10 significant fauna species

**Criterion B.** *Rare, high quality or unusual landforms created by geomorphological processes within the City or the Greater Toronto Area: not fulfilled.*

- largely intact remnants of the interim period between the recession of Lake Iroquois and the modern lake processes that formed the Toronto Islands

**Criterion C.** *Habitats or communities of flora and fauna that are of a large size or have an unusually high diversity of otherwise commonly encountered biological communities and associated plants and animals: fulfilled.*

- 24 vegetation communities
- 177 L1 to L4 species

**Criterion D.** *Areas where an ecological function contributes appreciably to the healthy maintenance of a natural ecosystem beyond its boundaries, such as serving as a wildlife migratory stopover or concentration point, or serving as a water storage or recharge area: fulfilled.*

- notable area for migrant songbirds: 20% of migrant songbird records are from High Park (Dougan and NSE 2010)
- marshes, swamps and open water areas provide 22.3 ha of water storage area in the park

### Surveys Conducted by the Study Team

- Flora: 16 September 2008, October 20, 2009 (reconnaissance surveys)
- Breeding bird surveys 9, 16, 25 June 2006; 1, 9 July 2006
- Amphibian surveys: April 29, 2006, 1, 24 May 2006, 21 June 2006

### Other Surveys

- January 1996; (TRCA)
- August 1997 (TRCA)
- January/July/September 1998 (TRCA)
- June/July 2000; June/July 2001 (TRCA)
- June, July 2005 (TRCA)
- July 2007 (TRCA)
- ANSI surveys 1989-present (MNR)

### Condition

Generally, this ESA is in very good condition, based on the presence of high diversity of native species and many high-quality plant communities. Restoration efforts to remove non-native species and restore many of the original functions of the habitats within the ESA are ongoing. There is an abundant paved and unpaved path system throughout the area (as well as *ad hoc* paths) but interspersed with undisturbed

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sites. There are some minor encroachment of activities related to parkland function of High Park (noise, light, trampling), as evidenced by diversity of fauna and flora.

### Conclusion

This area qualified as an ESA and should continue to be designated as such. Investigations of adjacent lands identified some additional lands that are also recommended for inclusion in this ESA

### Management Needs

This area and its landform should continue to be protected. The management plan should continue to be followed.

### Significant Species and Communities

Flora								
Scientific Name	Common Name	COSEWIC	MNR	S Rank	L Rank	GTA	Toronto	7E4
<i>Abies balsamea</i>	Balsam Fir			S5	L3	X	R1	R4
<i>Acorus americanus</i>	Sweetflag			S4	L3	R	R2	R3
<i>Agalinis paupercula</i>	Small-flowered Agalinis			S4S5	L1	R	R2	R3
<i>Agrimonia pubescens</i>	Soft Groovebur			S4	L3	R	R1	R1
<i>Alnus incana spp. rugosa</i>	Speckled Alder			S5	L3	X	R4	R10
<i>Andropogon gerardii</i>	Big Bluestem			S4	L3	R	R7	R15
<i>Anemone americana</i>	Round-lobed Hepatica			S5	L2	R	R2	R12
<i>Asclepias exaltata</i>	Poke Milkweed			S4	L2	R	R3	R6
<i>Asclepias tuberosa</i>	Butterfly Milkweed			S4	LX	R	E	R1
<i>Astragalus canadensis</i>	Canadian Milkvetch			S4	L2	R	R1	R1
<i>Aureolaria pedicularia</i>	Fernleaf Yellow False-foxglove			S2?	LX	R	R1	R1
<i>Boehmeria cylindrica</i>	False Nettle			S5	L4	X	R5	U
<i>Botrychium simplex</i>	Least Moonwort			S4?	LX	R	E	E
<i>Brachyletrum erectum</i>	Bearded Shorthusk			S4?	L3	R	R1	R7
<i>Bromus kalmii</i>	Wild Chess			S4	LX	R	E	E
<i>Calystegia spithamea ssp. spithamea</i>	Low Bindweed			S4S5	L3	R	R3	R5
<i>Campanula rotundifolia</i>	American Harebell			S5	L1	R	R3	R7
<i>Carex aquatilis</i>	Aquatic Sedge			S5	L2	R	R3	R3
<i>Carex diandra</i>	Lesser Panicked Sedge			S5	L3	U	E	R1
<i>Carex laevivaginata</i>	Smooth-sheath Sedge			S4	L3	R	R5	R8

Flora								
Scientific Name	Common Name	COSEWIC	MNR	S Rank	L Rank	GTA	Toronto	7E4
<i>Carex lasiocarpa</i>	Slender Sedge			S5	L2	R	E	E
<i>Carex muhlenbergii</i> var. <i>muhlenbergii</i>	Muhlenberg's Sedge			S4S5	L3	R	R3	R3
<i>Carex siccata</i>	Hay Sedge			S5	L3	R	R3	R4
<i>Castilleja coccinea</i>	Scarlet Indian-paintbrush			S5	LX	R	E	E
<i>Ceanothus americanus</i>	New Jersey Tea			S4	L1	R	R3	U
<i>Chimaphila umbellata</i> ssp. <i>cisatlantica</i>	Prince's-pine			S5	L2	R	E	R1
<i>Cirsium muticum</i>	Swamp Thistle			S5	L1	R	E	R1
<i>Clintonia borealis</i>	Clinton Lily			S5	L3	X	R6	R12
<i>Comptonia peregrina</i>	Sweet Fern			S5	L1	R	R3	R5
<i>Corylus americana</i>	American Hazelnut			S5	L3	R	R2	R1
<i>Deschampsia flexuosa</i>	Crinkled Hairgrass			S5	L2	R	R1	R3
<i>Elodea nuttallii</i>	Nuttall's Waterweed			S3	L3	R	R1	R1
<i>Epigaea repens</i>	Trailing Arbutus			S5	L1	R	R2	R5
<i>Equisetum pratense</i>	Meadow Horsetail			S5	L3	R	R1	R12
<i>Erigeron pulchellus</i>	Robin's Plantain			S5	L2	R	R2	R4
<i>Gaultheria hispidula</i>	Creeping Snowberry			S5	L1	R	E	E
<i>Gaultheria procumbens</i>	Wintergreen			S5	L2	U	R5	U
<i>Gaylussacia baccata</i>	Black Huckleberry			S4	L3	R	R2	R8
<i>Gentiana andrewsii</i>	Bottle Gentian			S4	L3	R	R3	R4
<i>Gentianella quinquefolia</i> ssp. <i>quinquefolia</i>	Stiff Gentian			S2	L1	R	E	R1
<i>Gentianopsis crinita</i>	Fringed Gentian			S5	L2	R	R4	R4
<i>Helianthemum bicknellii</i>	Plains Frostweed			S4	L1	R	R2	R4
<i>Helianthemum canadense</i>	Canada Frostweed			S3	L1	R	R2	R2
<i>Helianthus strumosus</i>	Pale-leaf Sunflower			S5	L4	R	R4	R5
<i>Hieracium kalmii</i>	Kalm's Hawkweed			SU	L3	R	R1	R2
<i>Hypericum prolificum</i>	Shrubby St. Johnswort			S2	L1	R	R1	R1

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Scientific Name	Common Name	COSEWIC	MNR	S Rank	L Rank	GTA	Toronto	7E4
<i>Juglans cinerea</i> *	Butternut	END	END-R	S3?	L3	X	X	X
<i>Lechea intermedia</i>	Narrowleaf Pinweed			S4	LX	R	R2	R2
<i>Lespedeza capitata</i>	Round-head Bush-clover			S4	L3	R	R3	R6
<i>Lespedeza hirta</i>	Hairy Bush-clover			S4	L1	R	R1	R4
<i>Liatris cylindracea</i>	Cylindric Blazing Star			S3	L1	R	R1	R1
<i>Lilium philadelphicum</i>	Wood Lily			S5	L1	R	R1	R2
<i>Linum virginianum</i>	Virginia Yellow Flax			S2	LX	R	E	R2
<i>Lobelia inflata</i>	Indian-tobacco			S5	L3	X	R5	U
<i>Lonicera canadensis</i>	Fly Honeysuckle			S5	L3	X	R6	U
<i>Lupinus perennis</i> ssp. <i>perennis</i>	Wild Lupine			S3	L2	R	R2	R3
<i>Luzula multiflora</i> ssp. <i>multiflora</i>	Woodrush			S5	L3	R	R2	R8
<i>Lysimachia quadrifolia</i>	Whorled Loosestrife			S4	L3	R	R1	R2
<i>Mimulus glabratus</i> var. <i>jamesii</i>	Glabrous Monkeyflower			S1	LX	E	E	E
<i>Muhlenbergia frondosa</i>	Wirestem Muhly			S4	L4	R	U	R11
<i>Nymphaea odorata</i>	American Water-lily			S5	L2	X	R	R
<i>Oryzopsis pungens</i>	Slender Mountain-ricegrass			S5	LX	R	E	E
<i>Osmorhiza longistylis</i>	Smooth Sweet-cicely			S5	L3	R	R2	R5
<i>Panicum columbianum</i> var. <i>siccanum</i>	Panic Grass			S4	L2	R	R1	R1
<i>Panicum latifolium</i>	Broad-leaf Witchgrass			S4	L1	R	R1	R3
<i>Panicum xanthophyllum</i>	Slender Dichanthelium			S4	L2	R	R1	R1
<i>Pedicularis lanceolata</i>	Swamp Lousewort			S4	LX	E	E	E
<i>Pinus resinosa</i> *	Red Pine			S5	L2	R	R3	R2
<i>Platanus occidentalis</i>	Sycamore			S4	L1	R	R2	R6
<i>Polygala polygama</i>	Racemed Milkwort			S4	L3	R	E	E
<i>Polygala verticillata</i>	Whorled Milkwort			S4	L1	R	E	R5
<i>Pontederia cordata</i>	Pickerel Weed			S5	L2	R	E	E
<i>Potamogeton amplifolius</i>	Large-leaf Pondweed			S5	L3	R	E	R3
<i>Potentilla paradoxa</i>	Bushy Cinquefoil			S4	L3	R	R6	R10

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Flora								
Scientific Name	Common Name	COSEWIC	MNR	S Rank	L Rank	GTA	Toronto	7E4
<i>Ptelea trifoliata</i> <sup>*P</sup>	Hop Tree			S3		X+	X+LR	
<i>Quercus alba</i> *	White Oak			S5	L2	X	X	X
<i>Quercus velutina</i>	Black Oak			S4	L2	R	R5	R9
<i>Ranunculus fascicularis</i>	Early Buttercup			S4	LX	R	E	E
<i>Ranunculus rhomboideus</i>	Prairie Buttercup			S4	LX	R	E	E
<i>Rhus radicans ssp. negundo</i>	Climbing Poison-ivy			S5	L5	X	R5	X
<i>Rosa carolina</i>	Carolina Rose			S4	L2	R	R5	R5
<i>Rubus flagellaris</i>	Northern Dewberry			S4	L3	R	R4	R7
<i>Sagittaria rigida</i>	Sessile-fruited Arrowhead			S4?	LX	R	E	E
<i>Salix humilis</i>	Upland Willow			S5	L2	R	R3	R4
<i>Sassafras albidum</i>	Sassafras			S4	L4	R	R5	R8
<i>Saxifraga virginiana</i>	Early Saxifrage			S5	L1	R	R1	R5
<i>Schizachyrium scoparium</i>	Little Bluestem			S4	L2	R	R2	R5
<i>Scirpus acutus</i>	Hard-stemmed Bulrush			S5	L3	R	R4	R8
<i>Scirpus pungens</i>	Common Three-square			S5	L4	R	U	R12
<i>Silphium perfoliatum</i> <sup>*P</sup>	Cup-plant			S2	L4	R	R4	R4
<i>Solidago bicolor</i>	White Goldenrod			S4?	L2	R	E	R5
<i>Solidago squarrosa</i>	Squarrose Goldenrod			S4	L2	R	R2	R4
<i>Sorghastrum nutans</i>	Yellow Indian-grass			S4	L2	R	R2	R3
<i>Spiranthes romanzoffiana</i>	Hooded Ladies'-tresses			S5	L1	R	R2	R2
<i>Symphyotrichum laeve</i>	Smooth Blue Aster			S5	L3	R	R3	R6
<i>Symphyotrichum oolentangiense</i>	Sky-blue Aster			S4	L4	R	R6	R7
<i>Taenidia integerrima</i>	Yellow Pimpernel			S4	L1	R	R4	R12
<i>Vaccinium angustifolium</i>	Lowbush Blueberry			S5	L2	R	R2	R10
<i>Vaccinium pallidum</i>	Early Lowbush Blueberry			S4	L1	R	R3	R12
<i>Viburnum trilobum</i> *	Highbush Cranberry			S5	L2	X	R	U

\* not considered a qualifying species

<sup>P</sup> planted

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Vegetation Communities	Provincial Rank	TRCA Rank
Dry-Fresh Red Oak Deciduous Forest		L2
Dry-Fresh Mixed Oak Deciduous Forest/Mineral Cultural Woodland	S3S4	L2/L4
Dry-Fresh Oak - Red Maple Deciduous Forest		L2
Dry-Fresh Hardwood Hemlock Mixed Forest		L3
Pondweed Mixed Shallow Aquatic		L3
Dry Black Oak Tallgrass Savannah	S1	L1

Fauna						
Scientific Name	Common Name	COSEWIC	MNR	S Rank	L Rank	Rare in Ecoregion 7
<i>Aix sponsa</i>	Wood Duck			S5	L3	No
<i>Chordeiles minor</i>	Common Nighthawk	THR		S4B	L4	No
<i>Hylocichla mustelina</i>	Wood Thrush			S4B	L3	No
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	THR	SC	S4B	L3	No
<i>Scolopax minor</i>	American Woodcock			S4B	L3	No
<i>Toxostoma rufum</i>	Brown Thrasher			S4B	L3	No
<i>Vireo flavifrons</i>	Yellow-throated Vireo			S4B	L3	No
<i>Chelydra serpentina</i>	Snapping Turtle	SC		S3	L2	n/a
<i>Chrysemys picta marginata</i>	Midland Painted Turtle			S5	L3	n/a
<i>Emydoidea blandingii</i>	Blanding's Turtle	THR	THR	S3	L1	n/a



